Appendix C.3

Wells G&H Background/Reference Risk Calculations

TABLE C.3-1

SELECTION OF EXPOSURE PATHWAYS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/ Future *	Surface Water	Surface Water	River/Stream (Stations 23 & 27, SW-04-IP, SW-12-IP, and SW-01-IP)	1-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with low frequency in partially isolated areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
					Young Child	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with low frequency in partially isolated areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
			River/Stream (Stations 23 & 27, SW-04-IP, SW-12-IP, and SW-01-IP)	4-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with high frequency in residential areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
					Young Child	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with high frequency in residential areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
			Wetland (Station 24)	1-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with low frequency in partially isolated areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
					Young Child	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with low frequency in partially isolated areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
			Wetland (Station 24)	4-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with high frequency in residential areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
					Young Child	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with high frequency in residential areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.

TABLE C.3-1

SELECTION OF EXPOSURE PATHWAYS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
			Pond/Lake (Stations 25 & 26, SW-02-IP, and SW-03-IP)	1-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with low frequency in partially isolated areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
					Young Child	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with low frequency in partially isolated areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
			Pond/Lake (Stations 25 & 26, SW-02-IP, and SW-03-IP)	4-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with high frequency in residential areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
					Young Child	Dermal	Ref	Quant	Residents may contact surface water during recreational activities (wading) with high frequency in residential areas.
						Ingestion	Ref	None	Since surface waters are shallow, wading but not swimming is expected, and ingestion is unlikely.
			Pond/Lake (Stations 25 & 26, SW-02-IP, and SW-03-IP)	Recreational User	Adult	Dermal	Ref	Quant	Due to surface water depth, residents may use these areas for swimming.
						Ingestion	Ref	Quant	Due to surface water depth, residents may use these areas for swimming.
					Young Child	Dermal	Ref	Quant	Due to surface water depth, residents may use these areas for swimming.
						Ingestion	Ref	Quant	Due to surface water depth, residents may use these areas for swimming.
Current/ Future [a]	Surface Water	Fish Tissue	Fish from reference areas	Recreational User	Adult	Dermal	Ref	None	Exposure to contaminants in fish unlikely through dermal pathway.
						Ingestion	Ref	Quant	Possibility of contaminants in fish exposed to surface water.
					Older Child	Dermal	Ref	None	Exposure to contaminants in fish unlikely through the dermal pathway.
						Ingestion	Ref	Quant	Possibility of contaminants in fish exposed to surface water.

TABLE C.3-1

SELECTION OF EXPOSURE PATHWAYS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/ Future *	Sediment	Sediment	River/Stream (Stations 23 & 27, SD-04-IP, SD-12-IP, and SD-01-IP)	1-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading) with low frequency in partially isolated areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading) with low frequency in partially isolated areas.
					Young Child	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading) with low frequency in partially isolated areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading) with low frequency in partially isolated areas.
			River/Stream (Stations 23 & 27, SD-04-IP, SD-12-IP, and SD-01-IP)	4-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading) with high frequency in residential areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading) with high frequency in residential areas.
					Young Child	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading) with high frequency in residential areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading) with high frequency in residential areas.
			Wetland (Stations 24, HB, and SA)	1-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading) with low frequency in partially isolated areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading) with low frequency in partially isolated areas.
					Young Child	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading) with low frequency in partially isolated areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading) with low frequency in partially isolated areas.
			Wetland (Stations 24, HB, and SA)	4-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading) with high frequency in residential areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading) with high frequency in residential areas.
					Young Child	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading) with high frequency in residential areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading) with high frequency in residential areas.

TABLE C.3-1

SELECTION OF EXPOSURE PATHWAYS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
			Pond/Lake (Station SD-02-IP)	1-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading and swimming) with low frequency in partially isolated areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading and swimming) with low frequency in partially isolated areas.
					Young Child	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading and swimming) with low frequency in partially isolated areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading and swimming) with low frequency in partially isolated areas.
			Pond/Lake (Station SD-02-IP)	4-Day Recreational User	Adult	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading and swimming) with high frequency in residential areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading and swimming) with high frequency in residential areas.
					Young Child	Dermal	Ref	Quant	Residents may contact sediments during recreational activities (wading and swimming) with high frequency in residential areas.
						Ingestion	Ref	Quant	Residents may contact sediments during recreational activities (wading and swimming) with high frequency in residential areas.

[a] The range of exposure assumptions used are intended to be protective of current as well as future worst-case land use scenarios.

Ref = Reference area

TABLE 6.3-1

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Combined Reference Data*

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
117-81-7	bis(2-Ethylhexyl)phthalate	3.0	J	3.0	J	ug/L	SW-03-01-IP	1 / 11	4 - 5	3	N/A	4.8 C	1.8	AWQC	YES	ASL
5103-74-2	gamma-Chlordane	0.0017	J	0.0017	J	ug/L	SW-24-01	1 / 11	0.0083 - 0.05	0.0017	N/A	0.19 C	0.0021	AWQC	NO	BSL
7429-90-5	Aluminum	21.3		2500		ug/L	SW-01-00-IP	9 / 11	23.5 - 29.2	2500	N/A	N/A	N/A	N/A	NO	NTX
7440-38-2	Arsenic	1.1	J	15.7	J	ug/L	SW-01-00-IP	8 / 11	1 - 1.7	15.7	N/A	0.045 C	0.018	AWQC	YES	ASL
7440-39-3	Barium	15.4		64		ug/L	SW-01-00-IP	11 / 11	N/A	64	N/A	260 N	N/A	N/A	NO	BSL
7440-70-2	Calcium	17700		37000		ug/L	SW-24-01	11 / 11	N/A	37000	N/A	N/A	N/A	N/A	NO	NUT
7440-47-3	Chromium	0.34		9	J	ug/L	SW-03-01-IP	4 / 11	0.25 - 9	9	N/A	11 N	N/A	N/A	NO	BSL
7440-48-4	Cobalt	3	J	7.1	J	ug/L	SW-01-00-IP	2 / 11	0.5 - 3	7.1	N/A	N/A	N/A	N/A	NO	NTX
7440-50-8	Copper	0.45		13.8		ug/L	SW-01-00-IP	8 / 11	0.35 - 1.4	13.8	N/A	150 N	1300	AWQC	NO	BSL
7439-89-6	Iron	118		15800		ug/L	SW-01-00-IP	11 / 11	N/A	15800	N/A	N/A	N/A	N/A	NO	NUT
7439-92-1	Lead	0.665	J	51.4		ug/L	SW-01-00-IP	8 / 11	0.75	51.4	N/A	15 N	N/A	N/A	YES	ASL
7439-95-4	Magnesium	2050		5950		ug/L	SW-24-01	11 / 11	N/A	5950	N/A	N/A	N/A	N/A	NO	NUT
7439-96-5	Manganese	46.4		1960		ug/L	SW-01-00-IP	11 / 11	N/A	1960	N/A	88 N	N/A	N/A	YES	ASL
7439-97-6	Mercury	0.097		0.13		ug/L	SW-24-01	4 / 11	0.04 - 0.087	0.13	N/A	1.1 N	0.05	AWQC	YES	ASL
7440-02-0	Nickel	0.66		6.5	J	ug/L	SW-01-00-IP	9 / 11	0.5 - 1.2	6.5	N/A	73 N	610	AWQC	NO	BSL
7440-09-7	Potassium	1080		6260		ug/L	SW-24-01	5 / 5	N/A	6260	N/A	N/A	N/A	N/A	NO	NUT
7782-49-2	Selenium	1.6	J	1.6	J	ug/L	SW-04-00-IP	1 / 11	1.1 - 1.9	1.6	N/A	18 N	170	AWQC	NO	BSL
7440-23-5	Sodium	42200		86300		ug/L	SW-26-01	5 / 5	N/A	86300	N/A	N/A	N/A	N/A	NO	NUT
7440-62-2	Vanadium	0.85		12	J	ug/L	SW-01-00-IP	6 / 11	0.55 - 2.8	12	N/A	26 N	N/A	N/A	NO	BSL
7440-66-6	Zinc	1.375	J	71.7		ug/L	SW-01-00-IP	7 / 11	1.8 - 9	71.7	N/A	1100 N	9100	AWQC	NO	BSL

* Data presented are from surface water samples SW-23-01, SW-24-01, SW-25-01, SW-26-01, SW-27-01, SW-01-00-IP, SW-02-00-IP, SW-03-00-IP, SW-03-01-IP, SW-04-00-IP, and SW-12-00-IP.

(1) Minimum/maximum detected concentration.

(2) Refer to supporting information for background discussion.

(3) USEPA Region 9 PRGs for tap water (adjusted to an hazard quotient = 0.1 for noncarcinogens), October 1, 2002.
Lead value is is a drinking water criterion protective of blood lead levels in children (USEPA, 2002a).
PRG for chromium VI has been used for chromium.
PRG for chlordane used for gamma-chlordane and alpha-chlordane.
PRG for mecury chloride used for mercury.

(4) Rationale Codes Selection Reason: Above Screening Levels (ASL)
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions: COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
PRG = Preliminary Remedial Goal
N/A = Not Applicable or Not Available
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic
AWQC = Ambient Water Quality Criterion for Human Health (1998b)

TABLE C.3-2.2
COPCs DETECTED IN SURFACE WATER IN RIVER/STREAM REFERENCE SAMPLES

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reference River/Stream [a]

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits
117-81-7	bis(2-Ethylhexyl)phthalate	ND		ND		ug/L	ND	0 / 5	4 - 5
7440-38-2	Arsenic	1.1	J	16	J	ug/L	SW-01-00-IP	4 / 5	2
7439-92-1	Lead (2)	4.0	J	51		ug/L	SW-01-00-IP	3 / 5	1
7439-96-5	Manganese	48		1960		ug/L	SW-01-00-IP	5 / 5	N/A
7439-97-6	Mercury	0.097		0.11		ug/L	SW-23-01	2 / 5	0.04 - 0.087

[a] Data presented are from surface water samples SW-01-00-IP, SW-04-00-IP, SW-12-00-IP, SW-23-01 and SW-27-01; only COPCs selected on Table C.3-2.1 appear

(1) Minimum/maximum detected concentration.

(2) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.

Definitions: COPC = Chemical of Potential Concern
N/A = Not Applicable or Not Available
J = Estimated Value

TABLE C.3-2.3
COPCs DETECTED IN SURFACE WATER IN WETLAND REFERENCE SAMPLES

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reference Wetland [a]

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits
117-81-7	bis(2-Ethylhexyl)phthalate	ND		ND		ug/L	ND	0 / 1	5
7440-38-2	Arsenic	3.2		3.2		ug/L	SW-24-01	1 / 1	N/A
7439-92-1	Lead (2)	6.3		6.3		ug/L	SW-24-01	1 / 1	N/A
7439-96-5	Manganese	520		520		ug/L	SW-24-01	1 / 1	N/A
7439-97-6	Mercury	0.13		0.13		ug/L	SW-24-01	1 / 1	N/A

[a] Data presented are from surface water sample SW-24-01; only COPCs selected on Table C.3-2.1 appear.
(1) Minimum/maximum detected concentration.
(2) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.

Definitions: COPC = Chemical of Potential Concern
N/A = Not Applicable or Not Available
J = Estimated Value

TABLE C.3-2.4
COPCs DETECTED IN SURFACE WATER IN LAKE REFERENCE SAMPLES

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Reference Pond/Lake *

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits
117-81-7	bis(2-Ethylhexyl)phthalate	3	J	3	J	ug/L	SW-03-01-IP	1 / 5	4 - 5
7440-38-2	Arsenic	1.2	J	2.9	J	ug/L	SW-03-01-IP	3 / 5	1 - 1.4
7439-92-1	Lead (2)	0.67	J	3.2	J	ug/L	SW-03-00-IP	4 / 5	1
7439-96-5	Manganese	46		425		ug/L	SW-03-01-IP	5 / 5	N/A
7439-97-6	Mercury	0.12		0.12		ug/L	SW-25-01	1 / 5	0.04 - 0.08

* Data presented are from surface water samples SW-02-00-IP, SW-03-00-IP, SW-03-01-IP, SW-25-01 and SW-26-01; only COPCs selected on Table C.3-2.1 appear.

(1) Minimum/maximum detected concentration.

(2) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.

Definitions: COPC = Chemical of Potential Concern
N/A = Not Applicable or Not Available
J = Estimated Value

TABLE C.3-2.5
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Combined Reference Data *

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
78-93-3	2-Butanone	0.23		0.68		mg/Kg	SD-02-00-IP	2 / 14	0.01 - 0.048	0.68	N/A	730 N	N/A	N/A	NO	BSL
67-64-1	Acetone	0.057	J	2.2	J	mg/Kg	SD-02-00-IP	4 / 15	0.01 - 0.22	2.2	N/A	160 N	N/A	N/A	NO	BSL
75-15-0	Carbon Disulfide	0.003	J	0.003	J	mg/Kg	SD-27-03-FW	1 / 14	0.01 - 0.046	0.003	N/A	36 N	N/A	N/A	NO	BSL
79-20-9	Methyl Acetate	0.0240		0.2100		mg/Kg	SD-01-00-IP-TR	4 / 4	0.01 - 0.055	0.2100	N/A	2200 N	N/A	N/A	NO	BSL
108-88-3	Toluene	0.0079	J	0.01	J	mg/Kg	SD-SA-01-TR	2 / 15	0.01 - 0.055	0.01	N/A	52 N	N/A	N/A	NO	BSL
91-57-6	2-Methylnaphthalene	0.023	J	0.36	J	mg/Kg	SD-24-02-FW	4 / 16	0.067 - 1	0.36	N/A	5.6 N	N/A	N/A	NO	BSL
106-44-5	4-Methylphenol	0.190	J	0.19	J	mg/Kg	SD-01-00-IP	1 / 11	0.32 - 2.1	0.19	N/A	31 N	N/A	N/A	NO	BSL
83-32-9	Acenaphthene	0.05	J	1.4	J	mg/Kg	SD-24-02-FW	5 / 16	0.067 - 1	1.4	N/A	370 N	N/A	N/A	NO	BSL
208-96-8	Acenaphthylene	0.044	J	0.8	J	mg/Kg	SD-24-02-FW	8 / 16	0.067 - 1	0.8	N/A	5.6 N	N/A	N/A	NO	BSL
120-12-7	Anthracene	0.048	J	1.9	J	mg/Kg	SD-24-02-FW	9 / 16	0.067 - 1	1.9	N/A	2200 N	N/A	N/A	NO	BSL
56-55-3	Benzo(a)anthracene	0.11	J	5.9		mg/Kg	SD-24-02-FW	12 / 16	0.067 - 1	5.9	N/A	0.62 C	N/A	N/A	YES	ASL
50-32-8	Benzo(a)pyrene	0.13	J	5.5		mg/Kg	SD-24-02-FW	12 / 16	0.067 - 1	5.5	N/A	0.062 C	N/A	N/A	YES	ASL
205-99-2	Benzo(b)fluoranthene	0.18	J	10		mg/Kg	SD-24-02-FW	13 / 16	0.067 - 1	10	N/A	0.62 C	N/A	N/A	YES	ASL
191-24-2	Benzo(g,h,i)perylene	0.21	J	1.4		mg/Kg	SD-04-00-IP	6 / 16	0.067 - 1	1.4	N/A	5.6 N	N/A	N/A	NO	BSL
207-08-9	Benzo(k)fluoranthene	0.4		9.6		mg/Kg	SD-24-02-FW	10 / 16	0.067 - 1	9.6	N/A	6.2 C	N/A	N/A	YES	ASL
117-81-7	bis(2-Ethylhexyl)phthalate	0.094	J	0.43	J	mg/Kg	SD-24-03-FW	6 / 15	0.23 - 2.1	0.43	N/A	35 C	N/A	N/A	NO	BSL
85-68-7	Butylbenzylphthalate	0.047	J	0.087	J	mg/Kg	SD-24-03-FW	2 / 15	0.23 - 2.1	0.087	N/A	1200 N	N/A	N/A	NO	BSL
86-74-8	Carbazole	0.048	J	0.99	J	mg/Kg	SD-24-02-FW	5 / 15	0.23 - 1	0.99	N/A	24 C	N/A	N/A	NO	BSL
218-01-9	Chrysene	0.14	J	7.3		mg/Kg	SD-24-02-FW	12 / 16	0.067 - 1	7.3	N/A	62 C	N/A	N/A	NO	BSL
53-70-3	Dibenz(a,h)anthracene	0.11	J	0.5	J	mg/Kg	SD-24-02-FW	6 / 16	0.067 - 1	0.5	N/A	0.062 C	N/A	N/A	YES	ASL
132-64-9	Dibenzofuran	0.12	J	1	J	mg/Kg	SD-24-02-FW	3 / 15	0.23 - 1	1	N/A	29 N	N/A	N/A	NO	BSL
84-66-2	Diethylphthalate	0.048	J	0.23	J	mg/Kg	SD-24-02-FW	3 / 16	0.23 - 1	0.23	N/A	4900 N	N/A	N/A	NO	BSL
84-74-2	Di-n-butylphthalate	0.16	J	0.16	J	mg/Kg	SD-27-02-FW	1 / 15	0.23 - 2.1	0.16	N/A	610 N	N/A	N/A	NO	BSL
206-44-0	Fluoranthene	0.071	J	15		mg/Kg	SD-24-02-FW	14 / 16	0.067 - 1	15	N/A	230 N	N/A	N/A	NO	BSL
86-73-7	Fluorene	0.044	J	2.8		mg/Kg	SD-24-02-FW	8 / 16	0.067 - 1	2.8	N/A	270 N	N/A	N/A	NO	BSL
193-39-5	Indeno(1,2,3-cd)pyrene	0.16	J	1.8		mg/Kg	SD-04-00-IP	8 / 16	0.067 - 1	1.8	N/A	0.62 C	N/A	N/A	YES	ASL
91-20-3	Naphthalene	0.023	J	0.52	J	mg/Kg	SD-24-02-FW	4 / 12	0.067 - 1	0.52	N/A	5.6 N	N/A	N/A	NO	BSL
85-01-8	Phenanthrene	0.17	J	12		mg/Kg	SD-24-02-FW	12 / 16	0.067 - 1	12	N/A	5.6 N	N/A	N/A	YES	ASL
129-00-0	Pyrene	0.081	J	11		mg/Kg	SD-24-02-FW	13 / 16	0.067 - 1	11	N/A	230 N	N/A	N/A	NO	BSL

TABLE C.3-2.5
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Combined Reference Data *

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
72-54-8	4,4'-DDD	0.0045		0.39		mg/Kg	SD-24-03-ME	13 / 16	0.0019 - 0.021	0.39	N/A	2.4 C	N/A	N/A	NO	BSL
72-55-9	4,4'-DDE	0.0035	J	0.47	J	mg/Kg	SD-01-00-IP	12 / 16	0.00079 - 0.0036	0.47	N/A	1.7 C	N/A	N/A	NO	BSL
50-29-3	4,4'-DDT	0.0022		0.18	J	mg/Kg	SD-01-00-IP	10 / 16	0.00079 - 0.006	0.18	N/A	1.7 C	N/A	N/A	NO	BSL
309-00-2	Aldrin	0.00029	J	0.0016	J	mg/Kg	SD-24-02-FW	3 / 16	0.00076 - 0.011	0.0016	N/A	0.028 C	N/A	N/A	NO	BSL
319-84-6	alpha-BHC	0.00031	J	0.00031	J	mg/Kg	SD-24-02-FW	1 / 16	0.00076 - 0.011	0.00031	N/A	0.09 C	N/A	N/A	NO	BSL
5103-71-9	alpha-Chlordane	0.002	J	0.023	J	mg/Kg	SD-01-00-IP	3 / 16	0.00079 - 0.011	0.023	N/A	1.6 C	N/A	N/A	NO	BSL
12672-29-6	Aroclor 1248	0.29	J	0.29	J	mg/Kg	SD-24-03-ME	1 / 16	0.003 - 0.22	0.29	N/A	0.22 C	N/A	N/A	YES	ASL
11096-82-5	Aroclor 1260	0.2		0.2		mg/Kg	SD-24-03-ME	1 / 16	0.003 - 0.22	0.2	N/A	0.22 C	N/A	N/A	NO	BSL
319-85-7	beta-BHC	0.0004	J	0.00075	J	mg/Kg	SD-23-01-FW	2 / 16	0.00076 - 0.011	0.00075	N/A	0.32 C	N/A	N/A	NO	BSL
60-57-1	Dieldrin	0.0011	J	0.018		mg/Kg	SD-24-02-FW	5 / 16	0.00076 - 0.0048	0.018	N/A	0.03 C	N/A	N/A	NO	BSL
959-98-8	Endosulfan I	0.00022	J	0.035	J	mg/Kg	SD-27-02-FW	3 / 16	0.00076 - 0.0031	0.035	N/A	37 N	N/A	N/A	NO	BSL
33213-65-9	Endosulfan II	0.0023	J	0.0071		mg/Kg	SD-24-02-FW	3 / 16	0.00076 - 0.022	0.0071	N/A	37 N	N/A	N/A	NO	BSL
1031-07-8	Endosulfan Sulfate	0.0066		0.0091	J	mg/Kg	SD-27-02-FW	2 / 16	0.00076 - 0.022	0.0091	N/A	37 N	N/A	N/A	NO	BSL
72-20-8	Endrin	0.0003	J	0.0051		mg/Kg	SD-24-02-FW	3 / 16	0.00076 - 0.022	0.0051	N/A	1.8 N	N/A	N/A	NO	BSL
7421-36-3	Endrin Aldehyde	0.0011	J	0.0059	J	mg/Kg	SD-24-03-ME	2 / 12	0.0019 - 0.022	0.0059	N/A	1.8 N	N/A	N/A	NO	BSL
53494-70-5	Endrin Ketone	0.0027	J	0.0061	J	mg/Kg	SD-27-02-FW	3 / 16	0.00076 - 0.022	0.0061	N/A	1.8 N	N/A	N/A	NO	BSL
58-89-9	gamma-BHC (Lindane)	0.0019	J	0.0019	J	mg/Kg	SD-24-02-FW	1 / 16	0.00076 - 0.011	0.0019	N/A	0.44 C	N/A	N/A	NO	BSL
5103-74-2	gamma-Chlordane	0.00031	J	0.0046		mg/Kg	SD-24-03-FW	4 / 16	0.00076 - 0.011	0.0046	N/A	1.6 C	N/A	N/A	NO	BSL
76-44-8	Heptachlor	0.00084	J	0.00084	J	mg/Kg	SD-24-02-FW	1 / 16	0.00076 - 0.011	0.00084	N/A	0.11 C	N/A	N/A	NO	BSL
1024-57-3	Heptachlor Epoxide	0.00048	J	0.0014	J	mg/Kg	SD-24-02-FW	2 / 16	0.00076 - 0.011	0.0014	N/A	0.053 C	N/A	N/A	NO	BSL

TABLE C.3-2.5
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Combined Reference Data *

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background Value (2)	Screening Toxicity Value (3)	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for Contaminant Deletion or Selection (4)
7429-90-5	Aluminum	1100		14300		mg/Kg	SD-SA-01-TR	17 / 17	3.5 - 9.14	14300	N/A	N/A	N/A	N/A	NO	NTX
7440-36-0	Antimony	0.5	J	5.8		mg/Kg	SD-04-00-IP-TR	13 / 17	0.087 - 1.4	5.8	N/A	3.1 N	N/A	N/A	YES	ASL
7440-38-2	Arsenic	3.8		44.5		mg/Kg	SD-04-00-IP-TR	17 / 17	0.22 - 1	44.5	N/A	0.39 C	N/A	N/A	YES	ASL
7440-39-3	Barium	5.7		173		mg/Kg	SD-04-00-IP-TR	17 / 17	0.018 - 0.4	173	N/A	540 N	N/A	N/A	NO	BSL
7440-41-7	Beryllium	0.15		1.2		mg/Kg	SD-24-03-FW	14 / 17	0.027 - 0.22	1.2	N/A	15 N	N/A	N/A	NO	BSL
7440-43-9	Cadmium	0.08899		6.1		mg/Kg	SD-04-00-IP	15 / 17	0.053 - 0.6	6.1	N/A	3.7 N	N/A	N/A	YES	ASL
7440-70-2	Calcium	610		10900		mg/Kg	SD-01-00-IP-TR	13 / 13	1.8 - 2.14	10900	N/A	N/A	N/A	N/A	NO	NUT
7440-47-3	Chromium	10.3	J	512		mg/Kg	SD-04-00-IP-TR	17 / 17	0.055 - 1	512	N/A	30 C	N/A	N/A	YES	ASL
7440-48-4	Cobalt	0.76		21.8	J	mg/Kg	SD-04-00-IP-TR	17 / 17	0.36 - 0.37	21.8	N/A	N/A	N/A	N/A	NO	BSL
7440-50-8	Copper	1.9		344		mg/Kg	SD-04-00-IP-TR	17 / 17	0.082 - 0.44	344	N/A	310 N	N/A	N/A	YES	ASL
7439-89-6	Iron	2040		51600		mg/Kg	SD-04-00-IP-TR	17 / 17	0.57 - 1.4	51600	N/A	N/A	N/A	N/A	NO	NTX
7439-92-1	Lead	5.6	J	581		mg/Kg	SD-24-03-FW	17 / 17	0.27 - 0.6	581	N/A	400 N	N/A	N/A	YES	ASL
7439-95-4	Magnesium	324		4370		mg/Kg	SD-24-03-FW	13 / 13	3.5 - 15.18	4370	N/A	N/A	N/A	N/A	NO	NUT
7439-96-5	Manganese	12.6	J	1980		mg/Kg	SD-04-00-IP-TR	17 / 17	0.018 - 0.24	1980	N/A	180 N	N/A	N/A	YES	ASL
7439-97-6	Mercury	0.021	J	0.71		mg/Kg	SD-24-03-ME	13 / 16	0.005 - 0.02	0.71	N/A	0.61 N	N/A	N/A	YES	ASL
7440-02-0	Nickel	1.1		27.3		mg/Kg	SD-HB-00-TR	17 / 17	0.15 - 0.8	27.3	N/A	160 N	N/A	N/A	NO	BSL
7440-09-7	Potassium	126		1170	J	mg/Kg	SD-24-03-ME	13 / 13	2.7 - 4.38	1170	N/A	N/A	N/A	N/A	NO	NUT
7782-49-2	Selenium	0.91	J	3	J	mg/Kg	SD-23-03-FW	7 / 17	0.053 - 1	3	N/A	39 N	N/A	N/A	NO	BSL
7440-22-4	Silver	0.085	J	2.9		mg/Kg	SD-24-03-FW	6 / 16	0.01 - 1	2.9	N/A	39 N	N/A	N/A	NO	BSL
7440-23-5	Sodium	66.5		516		mg/Kg	SD-24-03-ME	11 / 13	0.22 - 98.04	516	N/A	N/A	N/A	N/A	NO	NUT
7440-62-2	Vanadium	2.5		148		mg/Kg	SD-24-03-FW	17 / 17	0.073 - 0.64	148	N/A	55 N	N/A	N/A	YES	ASL
7440-66-6	Zinc	10.4	J	611	J	mg/Kg	SD-04-00-IP-TR	17 / 17	0.16 - 1.7	611	N/A	2300 N	N/A	N/A	NO	BSL

* Data presented are from sediment samples SD-01-00-IP, SD-01-00-IP-TR, SD-02-00-IP, SD-04-00-IP, SD-04-00-IP-TR, SD-12-00-IP, SD-23-01-FW, SD-23-02-FW, SD-23-03-FW, SD-24-01-FW, SD-24-02-FW, SD-24-03-FW, SD-24-03-ME, SD-27-02-FW, SD-27-03-FW, SD-HB-00-TR, and SD-SA-01-TR.

(1) Minimum/maximum detected concentration.
(2) Refer to supporting information for background discussion.
(3) USEPA Region 9 PRGs for residential soil (adjusted to an hazard quotient = 0.1 for noncarcinogens), October 1, 2002.
The most conservative PRG for all noncarcinogenic PAHs has been used for 2-methylnaphthalene, acenaphthylene, benzo(g,h,i)perylene and phenanthrene.
The most conservative PRG for all BHCs has been used for delta-BHC.
PRG for endosulfan has been used for endosulfan I, endosulfan II, and endosulfan sulfate.
PRG for endrin has been used for endrin aldehyde and endrin ketone.
PRG for chromium VI used for chromium.
PRG for methylmercury used for mercury.
PRG for cis-1,2-dichloroethene has been used for 1,2-dichloroethene (total)
The screening toxicity value for lead is the residential soil lead guidance level of 400 mg/Kg (USEPA, 1994a).
(4) Rationale Codes Selection Reason: Above Screening Levels (ASL)
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)

Definitions:
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
PRG = Preliminary Remedial Goal
N/A = Not Applicable or Not Available
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic

TABLE C.3-2.o
COPCs DETECTED IN SEDIMENT IN RIVER/STREAM REFERENCE SAMPLES

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reference River/Stream *

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits
56-55-3	Benzo(a)anthracene	0.21	J	1.8		mg/Kg	SD-23-02-FW	7 / 9	0.38 - 0.6
50-32-8	Benzo(a)pyrene	0.25	J	2.1		mg/Kg	SD-04-00-IP	7 / 9	0.38 - 0.6
205-99-2	Benzo(b)fluoranthene	0.21	J	3.0		mg/Kg	SD-04-00-IP	8 / 9	0.38 - 0.6
207-08-9	Benzo(k)fluoranthene	0.54	J	2.2		mg/Kg	SD-04-00-IP	6 / 9	0.38 - 0.6
53-70-3	Dibenz(a,h)anthracene	0.11	J	0.35	J	mg/Kg	SD-04-00-IP	4 / 9	0.38 - 0.6
193-39-5	Indeno(1,2,3-cd)pyrene	0.16	J	1.8		mg/Kg	SD-04-00-IP	5 / 9	0.38 - 0.6
85-01-8	Phenanthrene	0.22	J	3.0		mg/Kg	SD-23-02-FW	7 / 9	0.38 - 0.6
12672-29-6	Aroclor 1248	ND		ND		mg/Kg	ND	0 / 9	0.003 - 0.22
7440-36-0	Antimony	0.56	J	5.6		mg/Kg	SD-04-00-IP-TR	8 / 10	0.43 - 0.74
7440-38-2	Arsenic	4.1		44.5		mg/Kg	SD-04-00-IP-TR	10 / 10	1
7440-43-9	Cadmium	0.087		6.1		mg/Kg	SD-04-00-IP	8 / 10	0.053 - 0.6
7440-47-3	Chromium	12	J	512		mg/Kg	SD-04-00-IP-TR	10 / 10	1
7440-50-8	Copper	2		344		mg/Kg	SD-04-00-IP-TR	10 / 10	0.44
7439-92-1	Lead	5.6	J	369		mg/Kg	SD-04-00-IP-TR	10 / 10	0.6
7439-96-5	Manganese	13	J	1980		mg/Kg	SD-04-00-IP-TR	10 / 10	0.24
7439-97-6	Mercury	0	J	0.6		mg/Kg	SD-04-00-IP	7 / 9	0.0095 - 0.02
7440-62-2	Vanadium	2.5		54		mg/Kg	SD-04-00-IP-TR	10 / 10	0.64

* Data presented are from sediment samples SD-01-00-IP, SD-01-00-IP-TR, SD-04-00-IP, SD-04-00-IP-TR, SD-12-00-IP, SD-23-01-FW, SD-23-02-FW, SD-23-03-FW, SD-27-02-FW and SD-27-03-FW; only COPCs selected on Table C.3-2.5 appear.

(1) Minimum/maximum detected concentration.

(2) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.

Definitions: COPC = Chemical of Potential Concern
N/A = Not Applicable or Not Available
ND = Not Detected
J = Estimated Value

TABLE C.3-2.7
COPCs DETECTED IN SEDIMENT IN WETLAND REFERENCE SAMPLES

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reference Wetland *

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits
56-55-3	Benzo(a)anthracene	0.11	J	5.9		mg/Kg	SD-24-02-FW	5 / 6	0.067 - 0.46
50-32-8	Benzo(a)pyrene	0.13	J	5.5		mg/Kg	SD-24-02-FW	5 / 6	0.067 - 0.46
205-99-2	Benzo(b)fluoranthene	0.18	J	10		mg/Kg	SD-24-02-FW	5 / 6	0.067 - 0.46
207-08-9	Benzo(k)fluoranthene	0.40		9.6		mg/Kg	SD-24-02-FW	4 / 6	0.067 - 0.46
53-70-3	Dibenz(a,h)anthracene	0.12	J	0.50	J	mg/Kg	SD-24-02-FW	2 / 6	0.067 - 0.46
193-39-5	Indeno(1,2,3-cd)pyrene	0.21	J	1.7	J	mg/Kg	SD-24-02-FW	3 / 6	0.067 - 0.46
85-01-8	Phenanthrene	0.17	J	12		mg/Kg	SD-24-02-FW	5 / 6	0.067 - 0.57
12672-29-6	Aroclor 1248	0.29	J	0.29	J	mg/Kg	SD-24-03-ME	1 / 6	0.0032 - 0.046
7440-36-0	Antimony	0.5	J	1.2	J	mg/Kg	SD-24-03-ME	4 / 6	0.067 - 1.4
7440-38-2	Arsenic	3.8		40.6		mg/Kg	SD-24-03-FW	6 / 6	0.22 - 1
7440-43-9	Cadmium	0.22		2.9		mg/Kg	SD-HB-00-TR	6 / 6	0.35 - 0.6
7440-47-3	Chromium	10	J	410	J	mg/Kg	SD-24-03-ME	6 / 6	0.055 - 1
7440-50-8	Copper	12		130		mg/Kg	SD-24-03-ME	6 / 6	0.082 - 0.44
7439-92-1	Lead	74		581		mg/Kg	SD-24-03-FW	6 / 6	0.27 - 0.6
7439-96-5	Manganese	50	J	263		mg/Kg	SD-SA-01-TR	6 / 6	0.018 - 0.24
7439-97-6	Mercury	0	J	0.71		mg/Kg	SD-24-03-ME	5 / 6	0.005 - 0.02
7440-62-2	Vanadium	7.1		148		mg/Kg	SD-24-03-FW	6 / 6	0.073 - 0.64

* Data presented are from sediment samples SD-24-01-FW, SD-24-02-FW, SD-24-03-FW, SD-24-03-ME, SD-HB-00-TR, and SD-SA-01-TR; only COPCs selected on Table C.3-2.5 appear.

(1) Minimum/maximum detected concentration.

(2) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.

Definitions: COPC = Chemical of Potential Concern
N/A = Not Applicable or Not Available
J = Estimated Value

TABLE C.3-2.8
COPCs DETECTED IN SEDIMENT IN POND/LAKE REFERENCE SAMPLES

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Reference Pond/Lake *

CAS Number	Chemical	Minimum Concentration (1)	Minimum Qualifier	Maximum Concentration (1)	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits
56-55-3	Benzo(a)anthracene	ND		ND		mg/Kg	ND	0 / 1	1
50-32-8	Benzo(a)pyrene	ND		ND		mg/Kg	ND	0 / 1	1
205-99-2	Benzo(b)fluoranthene	ND		ND		mg/Kg	ND	0 / 1	1
207-08-9	Benzo(k)fluoranthene	ND		ND		mg/Kg	ND	0 / 1	1
53-70-3	Dibenz(a,h)anthracene	ND		ND		mg/Kg	ND	0 / 1	1
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ND		mg/Kg	ND	0 / 1	1
85-01-8	Phenanthrene	ND		ND		mg/Kg	ND	0 / 1	1
12672-29-6	Aroclor 1248	ND		ND		mg/Kg	ND	0 / 1	0.0104
7440-36-0	Antimony	1.4	J	1.4	J	mg/Kg	SD-02-00-IP	1 / 1	N/A
7440-38-2	Arsenic	29.9		30		mg/Kg	SD-02-00-IP	1 / 1	N/A
7440-43-9	Cadmium	2.9		2.9		mg/Kg	SD-02-00-IP	1 / 1	N/A
7440-47-3	Chromium	155	J	155	J	mg/Kg	SD-02-00-IP	1 / 1	N/A
7440-50-8	Copper	66		65.7		mg/Kg	SD-02-00-IP	1 / 1	N/A
7439-92-1	Lead	197		197		mg/Kg	SD-02-00-IP	1 / 1	N/A
7439-96-5	Manganese	837		837		mg/Kg	SD-02-00-IP	1 / 1	N/A
7439-97-6	Mercury	0.4		0.35		mg/Kg	SD-02-00-IP	1 / 1	N/A
7440-62-2	Vanadium	52		52		mg/Kg	SD-02-00-IP	1 / 1	N/A

* Data presented are from sediment sample SD-02-00-IP; only COPCs selected on Table C.3-2.5 appear.
(1) Minimum/maximum detected concentration.
(2) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.

Definitions: COPC = Chemical of Potential Concern
N/A = Not Applicable or Not Available
J = Estimated Value

TABLE C.3-2.9
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Fish Tissue
Exposure Point: Combined Reference Data*

CAS Number	Chemical	(1) Minimum Concentration	Minimum Qualifier	(1) Maximum Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	(2) Background Value	(3) Screening Toxicity Value		Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	(4) Rationale for Contaminant Deletion or Selection
191-24-2	Benzo(g,h,i)perylene	0.40	J	0.40	J	mg/kg	LF-LB-08-F	1 / 12	0.41 - 1.65	0.40	N/A	2.7	N	N/A	N/A	NO	BSL
72-54-8	4,4'-DDD	0.0060	J	0.0060	J	mg/kg	LF-LB-15-F	1 / 13	0.00049 - 0.002	0.0060	N/A	0.013	C	N/A	N/A	NO	BSL
72-55-9	4,4'-DDE	0.0028		0.032	J	mg/kg	LF-LB-15-F	12 / 12	N/A	0.032	N/A	0.0093	C	N/A	N/A	YES	ASL
5103-71-9	alpha-Chlordane	0.00029	J	0.00033	J	mg/kg	LF-LB-01-F	3 / 13	0.00026 - 0.001	0.00033	N/A	0.009	C	N/A	N/A	NO	BSL
11096-82-5	Aroclor-1260	0.0051		0.13	J	mg/kg	LF-LB-15-F	13 / 13	N/A	0.13	N/A	0.0016	C	N/A	N/A	YES	ASL
76-44-8	Heptachlor	0.00039	J	0.00039	J	mg/kg	LF-LB-01-F	1 / 13	0.00025 - 0.001	0.00038	N/A	0.0007	C	N/A	N/A	NO	BSL
1024-57-3	Heptachlor epoxide	0.00034	J	0.00034	J	mg/kg	LF-LB-01-F	1 / 13	0.00028 - 0.001	0.00034	N/A	0.00035	C	N/A	N/A	NO	BSL
7429-90-5	Aluminum	0.48	J	0.48	J	mg/kg	LF-LB-03-F	1 / 13	0.24 - 1.4	0.48	N/A	N/A		N/A	N/A	NO	NTX
7440-47-3	Chromium	0.057	J	0.087	J	mg/kg	LF-LB-10-F	10 / 13	0.036 - 0.05	0.087	N/A	0.41	N	N/A	N/A	NO	BSL
7440-48-4	Cobalt	0.044	J	0.049	J	mg/kg	LF-LB-03-F	5 / 13	0.0195 - 0.025	0.049	N/A	N/A		N/A	N/A	NO	BSL
7440-50-8	Copper	0.12		0.16		mg/kg	LF-LB-08-F	5 / 13	0.095 - 0.285	0.16	N/A	0.54	N	N/A	N/A	NO	BSL
7439-89-6	Iron	6.0	J	25	J	mg/kg	LF-LB-15-F	4 / 13	1.75 - 4	25	N/A	N/A		N/A	N/A	NO	NUT
7439-92-1	Lead	0.059		0.061		mg/kg	LF-LB-14-F	3 / 13	0.033 - 0.0455	0.061	N/A	N/A		N/A	N/A	YES	(5)
7439-97-6	Mercury	0.13		1.0		mg/kg	LF-LB-09-F	10 / 13	0.0125 - 0.075	1.0	N/A	0.014	N	N/A	N/A	YES	ASL
7440-09-7	Potassium	3560	J	4650	J	mg/kg	LF-LB-14-F	13 / 13	N/A	4650	N/A	N/A		N/A	N/A	NO	NUT
7782-49-2	Selenium	0.52	J	0.80	J	mg/kg	LF-LB-06-F	13 / 13	N/A	0.80	N/A	0.68	N	N/A	N/A	YES	ASL
7440-66-6	Zinc	3.6		6.3		mg/kg	LF-LB-14-F	9 / 13	2.15 - 2.8	6.3	N/A	41	N	N/A	N/A	NO	BSL

* Data presented are from all fish tissue samples LF-LB-01-F, LF-LB-02-F, LF-LB-03-F, LF-LB-04-F, LF-LB-05-F, LF-LB-06-F, LF-LB-07-F, LF-LB-08-F, LF-LB-09-F, LF-LB-10-F, LF-LB-14-F, LF-LB-15-F, and LF-LB-16-F.

(1) Minimum/maximum detected concentration.

(2) Refer to supporting information for background discussion.

(3) USEPA Region III RBCs for fish (adjusted to an hazard quotient = 0.1 for noncarcinogens), October 9, 2002.
RBC for chlordane has been used for alpha-chlordane.
RBC for PCBs has been used for Aroclor-1260.
RBC for chromium VI has been used for chromium.
RBC for methylmercury has been used for mercury.
RBC for naphthalene has been used for benzo(g,h,i)perylene.

(4) Rationale Codes Selection Reason: Above Screening Levels (ASL)
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)

(5) Retained for comparison purposes.

Definitions: SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
RBC = Risk-Based Concentration
N/A = Not Applicable or Not Available
J = Estimated Value
C = Carcinogenic
N = Non-Carcinogenic

TABLE C.3-3.1
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: River/Stream

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Detected Concentration (1)	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Arsenic	µg/L	4.5E+00	1.2E+01	1.6E+01	J	µg/L	1.2E+01	95% UCL	(2)	1.2E+01	95% UCL	(3)
Lead (4)	µg/L	1.2E+01	9.5E+01	5.1E+01		µg/L	5.1E+01	Max		1.2E+01	Mean	
Manganese	µg/L	6.5E+02	1.4E+03	2.0E+03		µg/L	1.4E+03	95% UCL		1.4E+03	95% UCL	
Mercury	µg/L	5.8E-02	9.9E-02	1.1E-01		µg/L	9.9E-02	95% UCL		9.9E-02	95% UCL	

(1) Data are from surface water samples SW-01-00-IP, SW-04-00-IP, SW-12-00-IP, SW-23-01 and SW-27-01; only COPCs selected on Table C.3-2.1 and detected at this exposure point appear.
(2) Due to the small sample size, the maximum detected concentration is used.
(3) When the maximum detected concentration is selected as the RME EPC, the arithmetic mean concentration is selected as the CT EPC.
(4) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.
- - Not detected at this exposure point.
J = Estimated Concentration
Max = Maximum Detected Concentration
N/A = Not Applicable
UCL = Upper Confidence Limit
EPC = Exposure Point Concentration

TABLE C.3-3.2
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Wetland

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Detected Concentration (1)	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Arsenic	µg/L	3.2E+00	N/A	3.2E+00		µg/L	3.2E+00	Max	(2)	3.2E+00	Max	(2)
Lead (3)	µg/L	6.3E+00	N/A	6.3E+00		µg/L	6.3E+00	Max	(2)	6.3E+00	Max	(2)
Manganese	µg/L	5.2E+02	N/A	5.2E+02		µg/L	5.2E+02	Max	(2)	5.2E+02	Max	(2)
Mercury	µg/L	1.3E-01	N/A	1.3E-01		µg/L	1.3E-01	Max	(2)	1.3E-01	Max	(2)

(1) Data are from surface water sample SW-24-01; only COPCs selected on Table C.3-2.1 and detected at this exposure point appear.
(2) Due to the small sample size, the maximum detected concentration is used.
(3) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.
- - Not detected at this exposure point.
J = Estimated Concentration
Max = Maximum Detected Concentration
N/A = Not Applicable
UCL = Upper Confidence Limit
EPC = Exposure Point Concentration

TABLE C.3-3.3
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Detected Concentration (1)	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
bis(2-Ethylhexyl)phthalate	µg/L	2.5E+00	2.8E+00	3.0E+00	J	µg/L	2.8E+00	95% UCL		2.8E+00	95% UCL	
Arsenic	µg/L	1.6E+00	2.8E+00	2.9E+00	J	µg/L	2.8E+00	95% UCL		2.8E+00	95% UCL	
Lead [4]	µg/L	1.6E+00	2.8E+00	3.2E+00	J	µg/L	2.8E+00	95% UCL		2.8E+00	95% UCL	
Manganese	µg/L	2.4E+02	3.7E+02	4.3E+02		µg/L	3.7E+02	95% UCL		3.7E+02	95% UCL	
Mercury	µg/L	4.3E-02	1.2E-01	1.2E-01		µg/L	1.2E-01	Max	(2)	4.3E-02	Mean	(3)

(1) Data are from surface water samples SW-25-01, SW-26-01, SW-02-00-IP, SW-03-00-IP, and SW-03-01-IP; only COPCs selected on Table C.3-2.1 and detected at this exposure point appear.
(2) Due to the small sample size, the maximum detected concentration is used.
(3) When the maximum detected concentration is selected as the RME EPC, the arithmetic mean concentration is selected as the CT EPC.
(4) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.
- - Not detected at this exposure point.
J = Estimated Concentration
Max = Maximum Detected Concentration
N/A = Not Applicable
UCL = Upper Confidence Limit
EPC = Exposure Point Concentration

TABLE C.3-3.4
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: River/Stream

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Detected Concentration (1)	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	mg/kg	1.8E+00	1.3E+00	1.8E+00		mg/kg	1.3E+00	95% UCL		1.3E+00	95% UCL	
Benzo(a)pyrene	mg/kg	2.1E+00	1.4E+00	2.1E+00		mg/kg	1.4E+00	95% UCL		1.4E+00	95% UCL	
Benzo(b)fluoranthene	mg/kg	3.0E+00	1.8E+00	3.0E+00		mg/kg	1.8E+00	95% UCL		1.8E+00	95% UCL	
Benzo(k)fluoranthene	mg/kg	2.2E+00	1.6E+00	2.2E+00		mg/kg	1.6E+00	95% UCL		1.6E+00	95% UCL	
Dibenz(a,h)anthracene	mg/kg	3.5E-01	2.8E-01	3.5E-01	J	mg/kg	2.8E-01	95% UCL		2.8E-01	95% UCL	
Indeno(1,2,3-cd)pyrene	mg/kg	1.8E+00	1.5E+00	1.8E+00		mg/kg	1.5E+00	95% UCL		1.5E+00	95% UCL	
Phenanthrene	mg/kg	3.0E+00	1.7E+00	3.0E+00		mg/kg	1.7E+00	95% UCL		1.7E+00	95% UCL	
Aroclor 1248	mg/kg	ND	ND	ND		mg/kg	ND	Max	(2)	ND	Max	(2)
Antimony	mg/kg	5.6E+00	3.5E+00	5.6E+00		mg/kg	3.5E+00	95% UCL		3.5E+00	95% UCL	
Arsenic	mg/kg	4.5E+01	2.6E+01	4.5E+01		mg/kg	2.6E+01	95% UCL		2.6E+01	95% UCL	
Cadmium	mg/kg	6.1E+00	1.5E+01	6.1E+00		mg/kg	6.1E+00	Max	(2)	6.1E+00	Max	(2)
Chromium	mg/kg	5.1E+02	3.5E+02	5.1E+02		mg/kg	3.5E+02	95% UCL		3.5E+02	95% UCL	
Copper	mg/kg	3.4E+02	5.2E+02	3.4E+02		mg/kg	3.4E+02	Max	(2)	3.4E+02	Max	(2)
Lead[4]	mg/kg	3.7E+02	7.3E+02	3.7E+02		mg/kg	3.7E+02	Max	(2)	3.7E+02	Max	(2)
Manganese	mg/kg	2.0E+03	4.2E+03	2.0E+03		mg/kg	2.0E+03	Max	(2)	2.0E+03	Max	(2)
Mercury	mg/kg	6.0E-01	1.5E+00	6.0E-01		mg/kg	6.0E-01	Max	(2)	6.0E-01	Max	(2)
Vanadium	mg/kg	5.4E+01	3.4E+01	5.4E+01		mg/kg	3.4E+01	95% UCL		3.4E+01	95% UCL	

(1) Data presented are from sediment samples SD-01-00-IP, SD-01-00-IP-TR, SD-04-00-IP, SD-04-00-IP-TR, SD-12-00-IP, SD-23-01-FW, SD-23-02-FW, SD-23-03-FW, SD-27-02-FW, and SD-27-03-FW; only COPCs selected on Table C.3-2.5 and detected at this exposure point appear.
(2) Due to the small sample size, the maximum detected concentration is used.
(3) When the maximum detected concentration is selected as the RME EPC, the arithmetic mean concentration is selected as the CT EPC.
(4) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.
J = Estimated Concentration
Max = Maximum Detected Concentration
N/A = Not Applicable
UCL = Upper Confidence Limit
EPC = Exposure Point Concentration
RME = Reasonable Maximum Exposure
CT = Central Tendency

TABLE C.3-3.5
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Wetland

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Detected Concentration (1)	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	mg/kg	5.9E+00	3.8E+00	5.9E+00		mg/kg	3.8E+00	95% UCL		3.8E+00	95% UCL	
Benzo(a)pyrene	mg/kg	5.5E+00	3.2E+00	5.5E+00		mg/kg	3.2E+00	95% UCL		3.2E+00	95% UCL	
Benzo(b)fluoranthene	mg/kg	1.0E+01	6.0E+00	1.0E+01		mg/kg	6.0E+00	95% UCL		6.0E+00	95% UCL	
Benzo(k)fluoranthene	mg/kg	9.6E+00	1.1E+01	9.6E+00		mg/kg	9.6E+00	Max	(2)	9.6E+00	Max	(2)
Dibenz(a,h)anthracene	mg/kg	5.0E-01	3.5E-01	5.0E-01	J	mg/kg	3.5E-01	95% UCL		3.5E-01	95% UCL	
Indeno(1,2,3-cd)pyrene	mg/kg	1.7E+00	3.2E+00	1.7E+00	J	mg/kg	1.7E+00	Max	(2)	1.7E+00	Max	(2)
Phenanthrene	mg/kg	1.2E+01	1.2E+01	1.2E+01		mg/kg	1.2E+01	95% UCL		1.2E+01	95% UCL	
Aroclor 1248	mg/kg	2.9E-01	2.6E-01	2.9E-01	J	mg/kg	2.6E-01	95% UCL		2.6E-01	95% UCL	
Antimony	mg/kg	1.2E+00	1.0E+00	1.2E+00	J	mg/kg	1.0E+00	95% UCL		1.0E+00	95% UCL	
Arsenic	mg/kg	4.1E+01	3.3E+01	4.1E+01		mg/kg	3.3E+01	95% UCL		3.3E+01	95% UCL	
Cadmium	mg/kg	2.9E+00	2.2E+00	2.9E+00		mg/kg	2.2E+00	95% UCL		2.2E+00	95% UCL	
Chromium	mg/kg	4.1E+02	8.4E+02	4.1E+02	J	mg/kg	4.1E+02	Max	(2)	4.1E+02	Max	(2)
Copper	mg/kg	1.3E+02	9.3E+01	1.3E+02		mg/kg	9.3E+01	95% UCL		9.3E+01	95% UCL	
Lead[4]	mg/kg	5.8E+02	5.2E+02	5.8E+02		mg/kg	5.2E+02	95% UCL		5.2E+02	95% UCL	
Manganese	mg/kg	2.6E+02	2.1E+02	2.6E+02		mg/kg	2.1E+02	95% UCL		2.1E+02	95% UCL	
Mercury	mg/kg	7.1E-01	2.4E+00	7.1E-01		mg/kg	7.1E-01	Max	(2)	7.1E-01	Max	(2)
Vanadium	mg/kg	1.5E+02	9.9E+01	1.5E+02		mg/kg	9.9E+01	95% UCL		9.9E+01	95% UCL	

(1) Data presented are from sediment samples SD-24-01-FW, SD-24-02-FW, SD-24-03-FW, SD-24-03-ME, SD-HB-00-TR, and SD-SA-01-TR; only COPCs selected on Table C.3-2.5 and detected at this exposure point appear.
(2) Due to the small sample size, the maximum detected concentration is used.
(3) When the maximum detected concentration is selected as the RME EPC, the arithmetic mean concentration is selected as the CT EPC.
(4) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.
J = Estimated Concentration
Max = Maximum Detected Concentration
N/A = Not Applicable
UCL = Upper Confidence Limit
EPC = Exposure Point Concentration
RME = Reasonable Maximum Exposure
CT = Central Tendency

TABLE C.3-3.6
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: Pond/Lake

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL	Maximum Detected Concentration (1)	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Benzo(a)anthracene	mg/kg	ND	ND	ND		mg/kg	ND	Max	(2)	ND	Max	(2)
Benzo(a)pyrene	mg/kg	ND	ND	ND		mg/kg	ND	Max	(2)	ND	Max	(2)
Benzo(b)fluoranthene	mg/kg	ND	ND	ND		mg/kg	ND	Max	(2)	ND	Max	(2)
Benzo(k)fluoranthene	mg/kg	ND	ND	ND		mg/kg	ND	Max	(2)	ND	Max	(2)
Dibenz(a,h)anthracene	mg/kg	ND	ND	ND		mg/kg	ND	Max	(2)	ND	Max	(2)
Indeno(1,2,3-cd)pyrene	mg/kg	ND	ND	ND		mg/kg	ND	Max	(2)	ND	Max	(2)
Phenanthrene	mg/kg	ND	ND	ND		mg/kg	ND	Max	(2)	ND	Max	(2)
Aroclor 1248	mg/kg	ND	ND	ND		mg/kg	ND	Max	(2)	ND	Max	(2)
Antimony	mg/kg	1.4E+00	N/A	1.4E+00	J	mg/kg	1.4E+00	Max	(2)	1.4E+00	Max	(2)
Arsenic	mg/kg	3.0E+01	N/A	3.0E+01		mg/kg	3.0E+01	Max	(2)	3.0E+01	Max	(2)
Cadmium	mg/kg	2.9E+00	N/A	2.9E+00		mg/kg	2.9E+00	Max	(2)	2.9E+00	Max	(2)
Chromium	mg/kg	1.6E+02	N/A	1.6E+02	J	mg/kg	1.6E+02	Max	(2)	1.6E+02	Max	(2)
Copper	mg/kg	6.6E+01	N/A	6.6E+01		mg/kg	6.6E+01	Max	(2)	6.6E+01	Max	(2)
Lead[4]	mg/kg	2.0E+02	N/A	2.0E+02		mg/kg	2.0E+02	Max	(2)	2.0E+02	Max	(2)
Manganese	mg/kg	8.4E+02	N/A	8.4E+02		mg/kg	8.4E+02	Max	(2)	8.4E+02	Max	(2)
Mercury	mg/kg	3.5E-01	N/A	3.5E-01		mg/kg	3.5E-01	Max	(2)	3.5E-01	Max	(2)
Vanadium	mg/kg	5.2E+01	N/A	5.2E+01		mg/kg	5.2E+01	Max	(2)	5.2E+01	Max	(2)

(1) Data presented are from sediment sample SD-02-00-IP; only COPCs selected on Table C.3-2.5 and detected at this exposure point appear.
(2) Due to the small sample size, the maximum detected concentration is used.
(3) When the maximum detected concentration is selected as the RME EPC, the arithmetic mean concentration is selected as the CT EPC.
(4) Since lead cannot be quantitatively evaluated, it has been retained on this table for comparative purposes.
J = Estimated Concentration
Max = Maximum Detected Concentration
N/A = Not Applicable
UCL = Upper Confidence Limit
EPC = Exposure Point Concentration
RME = Reasonable Maximum Exposure
CT = Central Tendency

TABLE C.3-3.7
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current / Future
Medium: Surface Water
Exposure Medium: Fish Tissue
Exposure Point: Fillet, Reference Locations

Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL of Normal Data	Maximum Detected Concentration (1)	Maximum Qualifier	EPC Units	Reasonable Maximum Exposure			Central Tendency		
							Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
4,4'-DDE	mg/kg	1.2E-03	3.2E-03	3.2E-02	J	mg/kg	3.2E-03	95% UCL		3.2E-03	95% UCL	
Aroclor-1260	mg/kg	2.2E-02	6.3E-02	1.3E-01	J	mg/kg	6.3E-02	95% UCL		6.3E-02	95% UCL	
Lead	mg/kg	4.3E-02	4.9E-02	6.1E-02		mg/kg	4.9E-02	95% UCL		4.9E-02	95% UCL	
Mercury	mg/kg	3.9E-01	5.3E-01	1.0E+00		mg/kg	5.3E-01	95% UCL		5.3E-01	95% UCL	
Selenium	mg/kg	6.1E-01	6.4E-01	8.0E-01	J	mg/kg	6.4E-01	95% UCL		6.4E-01	95% UCL	

(1) Data are from fish samples LF-LB-01-F, LF-LB-02-F, LF-LB-03-F, LF-LB-04-F, LF-LB-05-F, LF-LB-06-F, LF-LB-07-F, LF-LB-08-F, LF-LB-09-F, LF-LB-10-F, LF-LB-14-F, LF-LB-15-F & LF-LB-16-F; only COPCs selected on Table C.3-2.9 and detected for this exposure point appear.
(2) Due to the small sample size, the maximum detected concentration is used.
(3) When the maximum detected concentration is selected as the RME EPC, the arithmetic mean concentration is selected as the CT EPC.
J = Estimated Concentration
Max = Maximum Detected Concentration
N/A = Not Applicable
UCL = Upper Confidence Limit
EPC = Exposure Point Concentration
RME = Reasonable Maximum Exposure
CT = Central Tendency

TABLE C.3-4.1
VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: All Stations
Receptor Population: 1-Day Recreational User
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Dermal	CW	Chemical Concentration in Water	µg/L	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	
	DA	Dose Absorbed per Unit Area per Event	mg/cm^2-event	see Appendix C.7	USEPA, 2001b	see Appendix C.7	USEPA, 2001b	Organics:
	SA	Skin Surface Area Available for Contact	cm^2	5,700	USEPA, 2001b	5,700	USEPA, 2001b	Chronic Daily Intake (CDI) (mg/kg-day) =
	PC	Permeability Constant	cm/hr	chemical specific	USEPA, 2001b	chemical specific	USEPA, 2001b	$\frac{DA \times SA \times EV \times EF \times ED}{BW \times AT}$
	ET	Event Time	hrs/event	1	Prof. Judgement	0.5	Prof. Judgement	
	EV	Event Frequency	events/day	1	Prof. Judgement	1	Prof. Judgement	
	EF	Exposure Frequency	days/year	26	assumption	26	assumption	Inorganics:
	ED	Exposure Duration	years	24	USEPA, 1994b	7	USEPA, 1994b	CDI (mg/kg-day) =
	BW	Body Weight	kg	70	USEPA, 1994b	70	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	$\frac{CW \times SA \times PC \times ET \times EV \times EF \times ED \times CF1 \times CF2}{BW \times AT}$
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	
	CF1	Conversion Factor 1	L/cm^3	0.001	--	0.001	--	
	CF2	Conversion Factor 2	mg/µg	0.001	--	0.001	--	

TABLE C.3-4.2
VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: All Stations
Receptor Population: 1-Day Recreational User
Receptor Age: Young Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Dermal	CW	Chemical Concentration in Water	µg/L	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	
	DA	Dose Absorbed per Unit Area per Event	mg/cm^2-event	see Appendix C.7	USEPA, 2001b	see Appendix C.7	USEPA, 2001b	Organics:
	SA	Skin Surface Area Available for Contact	cm^2	2,800	USEPA, 2001b	2,800	USEPA, 2001b	Chronic Daily Intake (CDI) (mg/kg-day) =
	PC	Permeability Constant	cm/hr	chemical specific	USEPA, 2001b	chemical specific	USEPA, 2001b	$\frac{DA \times SA \times EV \times EF \times ED}{BW \times AT}$
	ET	Event Time	hrs/event	1	Prof. Judgement	0.5	Prof. Judgement	
	EV	Event Frequency	events/day	1	Prof. Judgement	1	Prof. Judgement	
	EF	Exposure Frequency	days/year	26	assumption	26	assumption	Inorganics:
	ED	Exposure Duration	years	6	USEPA, 1994b	2	USEPA, 1994b	CDI (mg/kg-day) =
	BW	Body Weight	kg	15	USEPA, 1994b	15	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	$\frac{CW \times SA \times PC \times ET \times EV \times EF \times ED \times CF1 \times CF2}{BW \times AT}$
	AT-N	Averaging Time (Non-Cancer)	days	2,190	USEPA, 1989	730	USEPA, 1989	
	CF1	Conversion Factor 1	L/cm^3	0.001	--	0.001	--	
	CF2	Conversion Factor 2	mg/µg	0.001	--	0.001	--	

TABLE C.3-4.3

VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: All Stations
Receptor Population: 4-Day Recreational User
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Dermal	CW	Chemical Concentration in Water	µg/L	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	
	DA	Dose Absorbed per Unit Area per Event	mg/cm^2-event	see Appendix C.7	USEPA, 2001b	see Appendix C.7	USEPA, 2001b	Organics:
	SA	Skin Surface Area Available for Contact	cm^2	5,700	USEPA, 2001b	5,700	USEPA, 2001b	Chronic Daily Intake (CDI) (mg/kg-day) =
	PC	Permeability Constant	cm/hr	chemical specific	USEPA, 2001b	chemical specific	USEPA, 2001b	$\frac{DA \times SA \times EV \times EF \times ED}{BW \times AT}$
	ET	Event Time	hrs/event	1	Prof. Judgement	0.5	Prof. Judgement	
	EV	Event Frequency	events/day	1	Prof. Judgement	1	Prof. Judgement	
	EF	Exposure Frequency	days/year	104	assumption	78	assumption	Inorganics:
	ED	Exposure Duration	years	24	USEPA, 1994b	7	USEPA, 1994b	CDI (mg/kg-day) =
	BW	Body Weight	kg	70	USEPA, 1994b	70	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	$\frac{CW \times SA \times PC \times ET \times EV \times EF \times ED \times CF1 \times CF2}{BW \times AT}$
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	
	CF1	Conversion Factor 1	L/cm^3	0.001	--	0.001	--	
	CF2	Conversion Factor 2	mg/µg	0.001	--	0.001	--	

TABLE C.3-4.4
VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: All Stations
Receptor Population: 4-Day Recreational User
Receptor Age: Young Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Dermal	CW	Chemical Concentration in Water	µg/L	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	see Tables C.3-3.1 and C.3-3.2	
	DA	Dose Absorbed per Unit Area per Event	mg/cm^2-event	see Appendix C.7	USEPA, 2001b	see Appendix C.7	USEPA, 2001b	Organics:
	SA	Skin Surface Area Available for Contact	cm^2	2,800	USEPA, 2001b	2,800	USEPA, 2001b	Chronic Daily Intake (CDI) (mg/kg-day) =
	PC	Permeability Constant	cm/hr	chemical specific	USEPA, 2001b	chemical specific	USEPA, 2001b	$\frac{DA \times SA \times EV \times EF \times ED}{BW \times AT}$
	ET	Event Time	hrs/event	1	Prof. Judgement	0.5	Prof. Judgement	
	EV	Event Frequency	events/day	1	Prof. Judgement	1	Prof. Judgement	
	EF	Exposure Frequency	days/year	104	assumption	78	assumption	Inorganics:
	ED	Exposure Duration	years	6	USEPA, 1994b	2	USEPA, 1994b	CDI (mg/kg-day) =
	BW	Body Weight	kg	15	USEPA, 1994b	15	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	$\frac{CW \times SA \times PC \times ET \times EV \times EF \times ED \times CF1 \times CF2}{BW \times AT}$
	AT-N	Averaging Time (Non-Cancer)	days	2,190	USEPA, 1989	730	USEPA, 1989	
	CF1	Conversion Factor 1	L/cm^3	0.001	--	0.001	--	
	CF2	Conversion Factor 2	mg/µg	0.001	--	0.001	--	

TABLE C.3-4.5
VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CW	Chemical Concentration in Water	µg/L	see Table C.3-3.3	see Table C.3-3.3	see Table C.3-3.3	see Table C.3-3.3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR	Ingestion Rate of Water	mL/hr	50	USEPA, 1989	50	USEPA, 1989	$\frac{CW \times IR \times ET \times EF \times ED \times CF1 \times CF2}{BW \times AT}$
	ET	Exposure Time	hrs/day	1	Prof. Judgement	0.5	Prof. Judgement	
	EF	Exposure Frequency	days/year	39	assumption	5	assumption	
	ED	Exposure Duration	years	24	USEPA, 1994b	7	USEPA, 1994b	
	BW	Body Weight	kg	70	USEPA, 1994b	70	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	
	CF1	Conversion Factor 1	mg/µg	0.001	--	0.001	--	
	CF2	Conversion Factor 2	L/mL	0.001	--	0.001	--	
Dermal	CW	Chemical Concentration in Water	µg/L	see Table C.3-3.3	see Table C.3-3.3	see Table C.3-3.3	see Table C.3-3.3	Organics:
	DA	Dose Absorbed per Unit Area per Event	mg/cm²-event	see Appendix C.7	USEPA, 2001b	see Appendix C.7	USEPA, 2001b	Chronic Daily Intake (CDI) (mg/kg-day) =
	SA	Skin Surface Area Available for Contact	cm²	18,000	USEPA, 2001b	18,000	USEPA, 2001b	
	PC	Permeability Constant	cm/hr	chemical specific	USEPA, 2001b	chemical specific	USEPA, 2001b	$\frac{DA \times SA \times EV \times EF \times ED}{BW \times AT}$
	ET	Event Time	hrs/event	1	Prof. Judgement	0.5	Prof. Judgement	
	EV	Event Frequency	event/day	1	Prof. Judgement	1	Prof. Judgement	
	EF	Exposure Frequency	days/year	39	assumption	5	assumption	Inorganics:
	ED	Exposure Duration	years	24	USEPA, 1994b	7	USEPA, 1994b	CDI (mg/kg-day) =
	BW	Body Weight	kg	70	USEPA, 1994b	70	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	$\frac{CW \times SA \times PC \times ET \times EV \times EF \times ED \times CF1 \times CF2}{BW \times AT}$
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	
	CF1	Conversion Factor 1	L/cm³	0.001	--	0.001	--	
	CF2	Conversion Factor 2	mg/µg	0.001	--	0.001	--	

TABLE C.3-4.6
VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: Recreational User
Receptor Age: Young Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CW	Chemical Concentration in Water	µg/L	see Table C.3-3.3	see Table C.3-3.3	see Table C.3-3.3	see Table C.3-3.3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR	Ingestion Rate of Water	mL/hr	50	USEPA, 1989	50	USEPA, 1989	$\frac{CW \times IR \times ET \times EF \times ED \times CF1 \times CF2}{BW \times AT}$
	ET	Exposure Time	hrs/day	1	Prof. Judgement	0.5	Prof. Judgement	
	EF	Exposure Frequency	days/year	39	assumption	5	assumption	
	ED	Exposure Duration	years	6	USEPA, 1994b	2	USEPA, 1994b	
	BW	Body Weight	kg	15	USEPA, 1994b	15	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	2,190	USEPA, 1989	730	USEPA, 1989	
	CF1	Conversion Factor 1	mg/µg	0.001	--	0.001	--	
	CF2	Conversion Factor 2	L/mL	0.001	--	0.001	--	
Dermal	CW	Chemical Concentration in Water	µg/L	see Table C.3-3.3	see Table C.3-3.3	see Table C.3-3.3	see Table C.3-3.3	Organics:
	DA	Dose Absorbed per Unit Area per Event	mg/cm²-event	see Appendix C.7	USEPA, 2001b	see Appendix C.7	USEPA, 2001b	Chronic Daily Intake (CDI) (mg/kg-day) =
	SA	Skin Surface Area Available for Contact	cm²	6,600	USEPA, 2001b	6,600	USEPA, 2001b	
	PC	Permeability Constant	cm/hr	chemical specific	USEPA, 2001b	chemical specific	USEPA, 2001b	$\frac{DA \times SA \times EV \times EF \times ED}{BW \times AT}$
	ET	Event Time	hrs/event	1	Prof. Judgement	0.5	Prof. Judgement	
	EV	Event Frequency	event/day	1	Prof. Judgement	1	Prof. Judgement	
	EF	Exposure Frequency	days/year	39	assumption	5	assumption	Inorganics:
	ED	Exposure Duration	years	6	USEPA, 1994b	2	USEPA, 1994b	CDI (mg/kg-day) =
	BW	Body Weight	kg	15	USEPA, 1994b	15	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	$\frac{CW \times SA \times PC \times ET \times EV \times EF \times ED \times CF1 \times CF2}{BW \times AT}$
	AT-N	Averaging Time (Non-Cancer)	days	2,190	USEPA, 1989	730	USEPA, 1989	
	CF1	Conversion Factor 1	L/cm³	0.001	--	0.001	--	
	CF2	Conversion Factor 2	mg/µg	0.001	--	0.001	--	

TABLE C.3-4.7

VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: All Stations
Receptor Population: 1-Day Recreational User
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Sediment	mg/kg	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR	Ingestion Rate of Sediment	mg/day	100	USEPA, 1994b	50	USEPA, 1994b	$\frac{CS \times IR \times FI \times EF \times ED \times CF}{BW \times AT}$
	FI	Fraction Ingested	unitless	0.5	Prof. Judgement	0.5	Prof. Judgement	
	EF	Exposure Frequency	days/year	26	assumption	26	assumption	
	ED	Exposure Duration	years	24	USEPA, 1994b	7	USEPA, 1994b	
	BW	Body Weight	kg	70	USEPA, 1994b	70	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	
	CF	Conversion Factor	kg/mg	0.000001	--	0.000001	--	
Dermal	CS	Chemical Concentration in Soil	mg/kg	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	CDI (mg/kg-day) =
	SA	Skin Surface Area Available for Contact	cm^2	5,700	USEPA, 2001b	5,700	USEPA, 2001b	$\frac{CS \times SA \times AF \times EF \times ED \times DAF \times CF}{BW \times AT}$
	AF	Skin Adherence Factor	mg/cm^2-day	0.07	USEPA, 2001b	0.07	USEPA, 2001b	
	EF	Exposure Frequency	days/year	26	assumption	26	assumption	
	ED	Exposure Duration	years	24	USEPA, 1994b	7	USEPA, 1994b	
	DAF	Dermal Absorption Factor	--	chemical specific	--	chemical specific	--	
	BW	Body Weight	kg	70	USEPA, 1994b	70	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	
	CF	Conversion Factor	kg/mg	0.000001	--	0.000001	--	

TABLE C.3-4.8
VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: All Stations
Receptor Population: 1-Day Recreational User
Receptor Age: Young Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Sediment	mg/kg	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR	Ingestion Rate of Sediment	mg/day	200	USEPA, 1994b	100	USEPA, 1994b	$\frac{CS \times IR \times FI \times EF \times ED \times CF}{BW \times AT}$
	FI	Fraction Ingested	unitless	0.5	Prof. Judgement	0.5	Prof. Judgement	
	EF	Exposure Frequency	days/year	26	assumption	26	assumption	
	ED	Exposure Duration	years	6	USEPA, 1994b	2	USEPA, 1994b	
	BW	Body Weight	kg	15	USEPA, 1994b	15	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	2,190	USEPA, 1989	730	USEPA, 1989	
	CF	Conversion Factor	kg/mg	0.000001	--	0.000001	--	
Dermal	CS	Chemical Concentration in Soil	mg/kg	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	CDI (mg/kg-day) =
	SA	Skin Surface Area Available for Contact	cm^2	2,800	USEPA, 2001b	2,800	USEPA, 2001b	$\frac{CS \times SA \times AF \times EF \times ED \times DAF \times CF}{BW \times AT}$
	AF	Skin Adherence Factor	mg/cm^2-day	0.3	USEPA, 2001b	0.3	USEPA, 2001b	
	EF	Exposure Frequency	days/year	26	assumption	26	assumption	
	ED	Exposure Duration	years	6	USEPA, 1994b	2	USEPA, 1994b	
	DAF	Dermal Absorption Factor	--	chemical specific	--	chemical specific	--	
	BW	Body Weight	kg	15	USEPA, 1994b	15	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	2,190	USEPA, 1989	730	USEPA, 1989	
	CF	Conversion Factor	kg/mg	0.000001	--	0.000001	--	

TABLE C.3-4.9
VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: All Stations
Receptor Population: 4-Day Recreational User
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Sediment	mg/kg	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR	Ingestion Rate of Sediment	mg/day	100	USEPA, 1994b	50	USEPA, 1994b	$\frac{CS \times IR \times FI \times EF \times ED \times CF}{BW \times AT}$
	FI	Fraction Ingested	unitless	0.5	Prof. Judgement	0.5	Prof. Judgement	
	EF	Exposure Frequency	days/year	104	assumption	78	assumption	
	ED	Exposure Duration	years	24	USEPA, 1994b	7	USEPA, 1994b	
	BW	Body Weight	kg	70	USEPA, 1994b	70	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	
	CF	Conversion Factor	kg/mg	0.000001	--	0.000001	--	
Dermal	CS	Chemical Concentration in Soil	mg/kg	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	CDI (mg/kg-day) =
	SA	Skin Surface Area Available for Contact	cm^2	5,700	USEPA, 2001b	5,700	USEPA, 2001b	$\frac{CS \times SA \times AF \times EF \times ED \times DAF \times CF}{BW \times AT}$
	AF	Skin Adherence Factor	mg/cm^2-day	0.07	USEPA, 2001b	0.07	USEPA, 2001b	
	EF	Exposure Frequency	days/year	104	assumption	78	assumption	
	ED	Exposure Duration	years	24	USEPA, 1994b	7	USEPA, 1994b	
	DAF	Dermal Absorption Factor	--	chemical specific	--	chemical specific	--	
	BW	Body Weight	kg	70	USEPA, 1994b	70	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	
	CF	Conversion Factor	kg/mg	0.000001	--	0.000001	--	

TABLE C.3-4.10

VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: All Stations
Receptor Population: 4-Day Recreational User
Receptor Age: Young Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CS	Chemical Concentration in Sediment	mg/kg	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR	Ingestion Rate of Sediment	mg/day	200	USEPA, 1994b	100	USEPA, 1994b	$\frac{CS \times IR \times FI \times EF \times ED \times CF}{BW \times AT}$
	FI	Fraction Ingested	unitless	0.5	Prof. Judgement	0.5	Prof. Judgement	
	EF	Exposure Frequency	days/year	104	assumption	78	assumption	
	ED	Exposure Duration	years	6	USEPA, 1994b	2	USEPA, 1994b	
	BW	Body Weight	kg	15	USEPA, 1994b	15	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	2,190	USEPA, 1989	730	USEPA, 1989	
	CF	Conversion Factor	kg/mg	0.000001	--	0.000001	--	
Dermal	CS	Chemical Concentration in Soil	mg/kg	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	see Tables C.3-3.1 through C.3-3.3	CDI (mg/kg-day) =
	SA	Skin Surface Area Available for Contact	cm^2	2,800	USEPA, 2001b	2,800	USEPA, 2001b	$\frac{CS \times SA \times AF \times EF \times ED \times DAF \times CF}{BW \times AT}$
	AF	Skin Adherence Factor	mg/cm^2-day	0.3	USEPA, 2001b	0.3	USEPA, 2001b	
	EF	Exposure Frequency	days/year	104	assumption	78	assumption	
	ED	Exposure Duration	years	6	USEPA, 1994b	2	USEPA, 1994b	
	DAF	Dermal Absorption Factor	--	chemical specific	--	chemical specific	--	
	BW	Body Weight	kg	15	USEPA, 1994b	15	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	2,190	USEPA, 1989	730	USEPA, 1989	
	CF	Conversion Factor	kg/mg	0.000001	--	0.000001	--	

TABLE C.3-4.11
VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Fish Tissue
Exposure Point: Aberjona River Reaches
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CF	Chemical Concentration in Fish	mg/kg	see Table C.3-3.7	see Table C.3-3.7	see Table C.3-3.7	see Table C.3-3.7	Chronic Daily Intake (CDI) (mg/kg-day) =
	IR	Ingestion Rate of Fish	mg/day	6,700	USEPA, 1994b	6,700	USEPA, 1994b	$\frac{CF \times IR \times EF \times ED \times FI \times CF1}{BW \times AT}$
	EF	Exposure Frequency	days/year	365	USEPA, 1994b	365	USEPA, 1994b	
	ED	Exposure Duration	years	24	USEPA, 1994b	7	USEPA, 1994b	
	FI	Fraction Ingested From Site	--	1	assumption	0.5	assumption	
	BW	Body Weight	kg	70	USEPA, 1994b	70	USEPA, 1994b	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	8,760	USEPA, 1989	2,555	USEPA, 1989	
	CF1	Conversion Factor	kg/mg	0.000001	--	0.000001	--	

TABLE C.3-4.12
VALUES USED FOR DAILY INTAKE CALCULATIONS

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Fish Tissue
Exposure Point: Aberjona River Reaches
Receptor Population: Recreational User
Receptor Age: Older Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CT Value	CT Rationale/ Reference	Intake Equation/ Model Name
Ingestion	CF	Chemical Concentration in Fish	mg/kg	see Table C.3-3.7	see Table C.3-3.7	see Table C.3-3.7	see Table C.3-3.7	Chronic Daily Intake (CDI) (mg/kg-day) = $\frac{CF \times IR \times EF \times ED \times FI \times CF1}{BW \times AT}$
	IR	Ingestion Rate of Fish	mg/day	3,350	assumption	3,350	assumption	
	EF	Exposure Frequency	days/year	365	USEPA, 1994b	365	USEPA, 1994b	
	ED	Exposure Duration	years	6	USEPA, 1994b	2	USEPA, 1994b	
	FI	Fraction Ingested From Site	--	1	assumption	0.5	assumption	
	BW	Body Weight	kg	31	USEPA, 1989	31	USEPA, 1989	
	AT-C	Averaging Time (Cancer)	days	25,550	USEPA, 1989	25,550	USEPA, 1989	
	AT-N	Averaging Time (Non-Cancer)	days	2,190	USEPA, 1989	730	USEPA, 1989	
	CF1	Conversion Factor	kg/mg	0.000001	---	0.000001	--	

TABLE C
NON-CANCER TOXICITY DATA – ORAL/DERMAL

WELLS G&H SUPERFUND SITE OU3

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Oral to Dermal Adjustment Factor (1)	Adjusted Dermal RfD (2)	Units	Primary Target Organ	Combined Uncertainty/Modifying Factors	Sources of RfD: Target Organ	Dates of RfD: Target Organ (MM/DD/YY)
Benzo(a)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(a)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(b)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzo(k)fluoranthene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
bis(2-Ethylhexyl)phthalate	Chronic	2E-02	mg/kg-day	(4)	2.E-02	mg/kg-day	Liver	1000	IRIS	02/01/03
Dibenz(a,h)anthracene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Phenanthrene [3]	Chronic	2E-02	mg/kg-day	(4)	2.E-02	mg/kg-day	Growth	3000	IRIS	02/01/03
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor 1248 [3]	Chronic	2E-05	mg/kg-day	(4)	2E-05	mg/kg-day	Immune System	300	IRIS	02/01/03
Aroclor 1260 [3]	Chronic	2E-05	mg/kg-day	(4)	2E-05	mg/kg-day	Immune System	300	IRIS	02/01/03
Antimony	Chronic	4E-04	mg/kg-day	0.15	6E-05	mg/kg-day	Blood	1000	IRIS	02/01/03
Arsenic	Chronic	3E-04	mg/kg-day	(4)	3E-04	mg/kg-day	Skin	3	IRIS	02/01/03
Cadmium (food)	Chronic	1E-03	mg/kg-day	0.01	1E-05	mg/kg-day	Kidney	10	IRIS	02/01/03
Chromium IV	Chronic	3E-03	mg/kg-day	0.013	3.9E-05	mg/kg-day	NOAEL	300	IRIS	02/01/03
Copper	Chronic	4E-02	mg/kg-day	N/A	N/A	N/A	Gastrointestinal System	300	HEAST	07/01/97
Lead [6]										
Manganese (water)	Chronic	2E-02	mg/kg-day	0.04	9.6E-04	mg/kg-day	Nervous System	1	IRIS	02/01/03
Manganese (other media)	Chronic	7E-02	mg/kg-day	0.04	2.8E-03	mg/kg-day	Nervous System	1	IRIS	02/01/03
Mercury (inorganic)	Chronic	3E-04	mg/kg-day	0.07	2.1E-05	mg/kg-day	Immune System	1000	IRIS	02/01/03
Mecury (organic)	Chronic	1E-04	mg/kg-day	(4)	1E-04	mg/kg-day	Nervous System	10	IRIS	02/01/03
Selenium	Chronic	5E-03	mg/kg-day	N/A	N/A	N/A	Liver	3	IRIS	02/01/03
Vanadium	Chronic	9E-03	mg/kg-day	0.026	2.3E-04	mg/kg-day	NOAEL	100	IRIS	02/01/03

(1) Antimony oral absorption efficiency from ATSDR, 1997.
Cadmium oral absorption efficiency from McLellan et al., 1978.
Chromium oral absorption efficiency from Donaldson and Barreras, 1966.
Manganese oral absorption efficiency from Davidsson et al., 1989.
Mercury oral absorption efficiency from USEPA, 2000.
Vanadium oral absorption efficiency from Conklin et al., 1982.

(2) Calculated as: (oral RfD) x (oral to dermal adjustment factor).

(3) RfD for Aroclor 1254 used as a surrogate for Aroclor 1248 and Aroclor 1260.
RfDs for managanese are based on total allowable intake (10 mg/day) minus the background intake (5 mg/day). The remaining intake (5 mg/day) is divided by 70 kg.
RfD for naphthalene used as a surrogate for phenanthrene.
RfD for chromium is based on Chromium VI.
RfD for mercury (inorganic) based on mercuric chloride; for mercury (organic), based on methylmercury.

(4) Oral absorption efficiency exceeds 50%. Therefore, no adjustment of the oral reference dose is necessary.

(5) Permeability constants (Kp) used for surface water absorption calculations: 1E-03 cm/hr for arsenic, manganese, and mercury (USEPA, 2001b); for organics, see Appendix C.7.

(6) Retained for comparison purposes.

IRIS = Integrated Risk Information System
HEAST = Health Effects Assessment Summary Tables
N/A = Not Applicable

TABLE
CANCER TOXICITY DATA -- ORAL/DERMAL

WELLS G&H SUPERFUND SITE OU3

Chemical of Potential Concern	Oral Cancer Slope Factor	Oral to Dermal Adjustment Factor	Adjusted Dermal Cancer Slope Factor (2)	Units	Weight of Evidence Category	Source	Date (MM/DD/YY)
Benzo(a)anthracene	7.3E-01	(1)	7.3E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	02/01/03
Benzo(a)pyrene	7.3E+00	(1)	7.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	02/01/03
Benzo(b)fluoranthene	7.3E-01	(1)	7.3E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	02/01/03
Benzo(k)fluoranthene	7.3E-02	(1)	7.3E-02	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	02/01/03
bis(2-Ethylhexyl)phthala	1.4E-02	(1)	1.4E-02	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	02/01/03
Dibenz(a,h)anthracene	7.3E+00	(1)	7.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	02/01/03
Indeno(1,2,3-cd)pyrene	7.3E-01	(1)	7.3E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	02/01/03
Phenanthrene	N/A	N/A	N/A	N/A	D	IRIS	02/01/03
4,4'-DDE	3.4E-01	N/A	N/A	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	02/01/03
Aroclor 1248	2.0E+00	(1)	2.0E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	02/01/03
Aroclor 1260	2.0E+00	(1)	2.0E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	02/01/03
Antimony	N/A	N/A	N/A	N/A	D	IRIS	02/01/03
Arsenic	1.5E+00	(1)	1.5E+00	$(mg/kg\text{-}day)^{-1}$	A	IRIS	02/01/03
Cadmium	N/A	N/A	N/A	N/A	D	IRIS	02/01/03
Chromium IV	N/A	N/A	N/A	N/A	D	IRIS	02/01/03
Copper	N/A	N/A	N/A	N/A	D	IRIS	02/01/03
Lead (3)							
Manganese	N/A	N/A	N/A	N/A	D	IRIS	02/01/03
Mercury (inorganic)	N/A	N/A	N/A	N/A	C	IRIS	02/01/03
Mercury (organic)	N/A	N/A	N/A	N/A	C	IRIS	02/01/03
Selenium	N/A	N/A	N/A	N/A	D	IRIS	02/01/03
Vanadium	N/A	N/A	N/A	N/A	D	IRIS	02/01/03

IRIS = Integrated Risk Information System

NCEA = National Center for Environmental Assessment

RME = Reasonable Maximum Exposure

CT = Central Tendency

N/A = Not Applicable

Slope factor for benzo(a)pyrene, along with the appropriate relative potency factor (USEPA, 1993), used for the other carcinogenic PAHs.

For PCBs, the RME slope factor is presented. A slope factor of 1 $(mg/kg\text{-}day)^{-1}$ is used for CT risk estimates.

EPA Group:

A - Human carcinogen

B1 - Probable human carcinogen - indicates that limited human data are available

B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans

C - Possible human carcinogen

D - Not classifiable as a human carcinogen (by the oral route)

E - Evidence of noncarcinogenicity

Weight of evidence for mercury (inorganic) based on mercuric chloride; for mercury (organic), based on methylmercury.

(1) Oral absorption efficiency exceeds 50%. Therefore, no adjustment of the oral slope factor is necessary.

(2) Calculated as: (oral slope factor) / (oral to dermal adjustment factor)

(3) Retained for comparison purposes.

TABLE C.3-7.1.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: River/Stream
Receptor Population: 1-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	1.2E+01	µg/L	1.2E+01	µg/L	M	7.1E-06	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.4E-04
	Lead												
	Manganese	1.4E+03	µg/L	1.4E+03	µg/L	M	8.1E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	8.4E-03
	Mercury	9.9E-02	µg/L	9.9E-02	µg/L	M	5.7E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	2.7E-05
	(Total)												8.7E-03
												Total Hazard Index Across All Exposure Routes/Pathways	9E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.1.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: River/Stream
Receptor Population: 1-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	1.2E+01	µg/L	1.2E+01	µg/L	M	3.5E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.2E-04
	Lead												
	Manganese	1.4E+03	µg/L	1.4E+03	µg/L	M	4.0E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	4.2E-03
	Mercury	9.9E-02	µg/L	9.9E-02	µg/L	M	2.9E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	1.4E-05
	(Total)												4.3E-03
												Total Hazard Index Across All Exposure Routes/Pathways	4E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.2.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: River/Stream
Receptor Population: 1-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	1.2E+01	µg/L	1.2E+01	µg/L	M	1.6E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	5.4E-04
	Lead												
	Manganese	1.4E+03	µg/L	1.4E+03	µg/L	M	1.9E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	1.9E-02
	Mercury	9.9E-02	µg/L	9.9E-02	µg/L	M	1.3E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	6.3E-05
	(Total)												2.0E-02
												Total Hazard Index Across All Exposure Routes/Pathways	2E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.2.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: River/Stream
Receptor Population: 1-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	1.2E+01	µg/L	1.2E+01	µg/L	M	8.1E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.7E-04
	Lead												
	Manganese	1.4E+03	µg/L	1.4E+03	µg/L	M	9.3E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	9.7E-03
	Mercury	9.9E-02	µg/L	9.9E-02	µg/L	M	6.6E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	3.1E-05
	(Total)												1.0E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.3.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: River/Stream
Receptor Population: 4-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	1.2E+01	µg/L	1.2E+01	µg/L	M	2.8E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	9.4E-04
	Lead												
	Manganese	1.4E+03	µg/L	1.4E+03	µg/L	M	3.2E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	3.4E-02
	Mercury	9.9E-02	µg/L	9.9E-02	µg/L	M	2.3E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	1.1E-04
	(Total)												3.5E-02
												Total Hazard Index Across All Exposure Routes/Pathways	3E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.3.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: River/Stream
Receptor Population: 4-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	1.2E+01	µg/L	1.2E+01	µg/L	M	1.1E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	3.5E-04
	Lead												
	Manganese	1.4E+03	µg/L	1.4E+03	µg/L	M	1.2E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	1.3E-02
	Mercury	9.9E-02	µg/L	9.9E-02	µg/L	M	8.6E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	4.1E-05
	(Total)												1.3E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
-- Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.4.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: River/Stream
Receptor Population: 4-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	1.2E+01	µg/L	1.2E+01	µg/L	M	6.5E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.2E-03
	Lead												
	Manganese	1.4E+03	µg/L	1.4E+03	µg/L	M	7.4E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	7.7E-02
	Mercury	9.9E-02	µg/L	9.9E-02	µg/L	M	5.3E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	2.5E-04
	(Total)												8.0E-02
												Total Hazard Index Across All Exposure Routes/Pathways	8E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.4.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: River/Stream
Receptor Population: 4-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	1.2E+01	µg/L	1.2E+01	µg/L	M	2.4E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	8.1E-04
	Lead												
	Manganese	1.4E+03	µg/L	1.4E+03	µg/L	M	2.8E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	2.9E-02
	Mercury	9.9E-02	µg/L	9.9E-02	µg/L	M	2.0E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	9.4E-05
	(Total)												3.0E-02
												Total Hazard Index Across All Exposure Routes/Pathways	3E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.5.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Wetland
Receptor Population: 1-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	3.2E+00	µg/L	3.2E+00	µg/L	M	1.9E-06	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	6.2E-05
	Manganese	5.2E+02	µg/L	5.2E+02	µg/L	M	3.0E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	3.1E-03
	Lead												
	Mercury (Total)	1.3E-01	µg/L	1.3E-01	µg/L	M	7.5E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	3.6E-05
													3.2E-03
												Total Hazard Index Across All Exposure Routes/Pathways	3E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.5.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Wetland
Receptor Population: 1-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	3.2E+00	µg/L	3.2E+00	µg/L	M	9.3E-09	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	3.1E-05
	Manganese	5.2E+02	µg/L	5.2E+02	µg/L	M	1.5E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	1.6E-03
	Lead												
	Mercury (Total)	1.3E-01	µg/L	1.3E-01	µg/L	M	3.8E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	1.8E-05
													1.6E-03
												Total Hazard Index Across All Exposure Routes/Pathways	2E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.6.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Wetland
Receptor Population: 1-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	3.2E+00	µg/L	3.2E+00	µg/L	M	4.3E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.4E-04
	Manganese	5.2E+02	µg/L	5.2E+02	µg/L	M	6.9E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	7.2E-03
	Lead												
	Mercury (Total)	1.3E-01	µg/L	1.3E-01	µg/L	M	1.7E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	8.2E-05
													7.4E-03
												Total Hazard Index Across All Exposure Routes/Pathways	7E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.6.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Wetland
Receptor Population: 1-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	3.2E+00	µg/L	3.2E+00	µg/L	M	2.1E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	7.1E-05
	Manganese	5.2E+02	µg/L	5.2E+02	µg/L	M	3.5E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	3.6E-03
	Lead												
	Mercury	1.3E-01	µg/L	1.3E-01	µg/L	M	8.6E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	4.1E-05
	(Total)												3.7E-03
												Total Hazard Index Across All Exposure Routes/Pathways	4E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.7.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Wetland
Receptor Population: 4-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	3.2E+00	µg/L	3.2E+00	µg/L	M	7.4E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.5E-04
	Lead												
	Manganese	5.2E+02	µg/L	5.2E+02	µg/L	M	1.2E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	1.3E-02
	Mercury	1.3E-01	µg/L	1.3E-01	µg/L	M	3.0E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	1.4E-04
	(Total)												1.3E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.7.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Wetland
Receptor Population: 4-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	3.2E+00	µg/L	3.2E+00	µg/L	M	2.8E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	9.3E-05
	Lead												
	Manganese	5.2E+02	µg/L	5.2E+02	µg/L	M	4.5E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	4.7E-03
	Mercury	1.3E-01	µg/L	1.3E-01	µg/L	M	1.1E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	5.4E-05
	(Total)												4.9E-03
												Total Hazard Index Across All Exposure Routes/Pathways	5E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.8.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Wetland
Receptor Population: 4-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	3.2E+00	µg/L	3.2E+00	µg/L	M	1.7E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	5.7E-04
	Lead												
	Manganese	5.2E+02	µg/L	5.2E+02	µg/L	M	2.8E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	2.9E-02
	Mercury	1.3E-01	µg/L	1.3E-01	µg/L	M	6.9E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	3.3E-04
	(Total)												3.0E-02
										Total Hazard Index Across All Exposure Routes/Pathways			3E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
-- = Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.8.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Wetland
Receptor Population: 4-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	Arsenic	3.2E+00	µg/L	3.2E+00	µg/L	M	6.4E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.1E-04
	Lead												
	Manganese	5.2E+02	µg/L	5.2E+02	µg/L	M	1.0E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	1.1E-02
	Mercury	1.3E-01	µg/L	1.3E-01	µg/L	M	2.6E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	1.2E-04
	(Total)												1.1E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.9.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion													
	bis(2-Ethylhexyl)p	2.8E+00	µg/L	2.8E+00	µg/L	M	2.2E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	1.1E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	2.1E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	7.0E-04
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	2.9E-05	mg/kg-day	2.4E-02	mg/kg-day	N/A	N/A	1.2E-03
	Mercury	1.2E-01	µg/L	1.2E-01	µg/L	M	9.8E-09	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.9E-05
	(Total)												1.9E-03
Dermal													
	bis(2-Ethylhexyl)p	2.8E+00	µg/L	2.8E+00	µg/L	M	1.9E-06	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	9.7E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	7.6E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.5E-04
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	1.0E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	1.1E-02
	Mercury	1.2E-01	µg/L	1.2E-01	µg/L	M	3.2E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	1.5E-04
	(Total)												1.1E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.9.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion	bis(2-Ethylhexyl)p	2.8E+00	µg/L	2.8E+00	µg/L	M	1.4E-08	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	6.9E-07
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	1.3E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	4.5E-05
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	1.8E-06	mg/kg-day	2.4E-02	mg/kg-day	N/A	N/A	7.6E-05
	Mercury	4.3E-02	µg/L	4.3E-02	µg/L	M	2.1E-10	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	7.0E-07
	(Total)												1.2E-04
Dermal	bis(2-Ethylhexyl)p	2.8E+00	µg/L	2.8E+00	µg/L	M	1.2E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	6.2E-06
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	4.9E-09	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.6E-05
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	6.6E-07	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	6.9E-04
	Mercury	4.3E-02	µg/L	4.3E-02	µg/L	M	7.6E-11	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	3.6E-06
	(Total)												7.1E-04
												Total Hazard Index Across All Exposure Routes/Pathways	8E-04

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.10.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion													
	bis(2-Ethylhexyl)p	2.8E+00	µg/L	2.8E+00	µg/L	M	1.0E-06	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	5.1E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	9.8E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	3.3E-03
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	1.3E-04	mg/kg-day	2.4E-02	mg/kg-day	N/A	N/A	5.6E-03
	Mercury	1.2E-01	µg/L	1.2E-01	µg/L	M	4.1E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.4E-04
	(Total)												9.0E-03
Dermal													
	bis(2-Ethylhexyl)p	2.8E+00	µg/L	2.8E+00	µg/L	M	3.3E-06	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	1.7E-04
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	1.3E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	4.3E-04
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	1.8E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	1.8E-02
	Mercury	1.2E-01	µg/L	1.2E-01	µg/L	M	5.4E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	2.6E-04
	(Total)												1.9E-02
												Total Hazard Index Across All Exposure Routes/Pathways	3E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.10.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion													
	bis(2-Ethylhexyl)p	2.8E+00	µg/L	2.8E+00	µg/L	M	6.5E-08	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	3.2E-06
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	6.3E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.1E-04
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	8.6E-06	mg/kg-day	2.4E-02	mg/kg-day	N/A	N/A	3.6E-04
	Mercury	4.3E-02	µg/L	4.3E-02	µg/L	M	9.8E-10	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	3.3E-06
	(Total)												5.7E-04
Dermal													
	bis(2-Ethylhexyl)p	2.8E+00	µg/L	2.8E+00	µg/L	M	2.1E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	1.1E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	8.3E-09	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.8E-05
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	1.1E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	1.2E-03
	Mercury	4.3E-02	µg/L	4.3E-02	µg/L	M	1.3E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	6.2E-06
	(Total)												1.2E-03
												Total Hazard Index Across All Exposure Routes/Pathways	2E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.11.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: 1-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal	bis(2-Ethylhexyl)phtha	2.8E+00	µg/L	2.8E+00	µg/L	M	4.1E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	2.1E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	1.6E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	5.3E-05
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	2.2E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	2.3E-03
	Mercury	1.2E-01	µg/L	1.2E-01	µg/L	M	6.7E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	3.2E-05
	(Total)												2.4E-03
												Total Hazard Index Across All Exposure Routes/Pathways	2E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.11.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: 1-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal	bis(2-Ethylhexyl)phtha	2.8E+00	µg/L	2.8E+00	µg/L	M	2.1E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	1.0E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	8.0E-09	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.7E-05
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	1.1E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	1.1E-03
	Mercury (Total)	4.3E-02	µg/L	4.3E-02	µg/L	M	1.2E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	5.9E-06
													1.2E-03
												Total Hazard Index Across All Exposure Routes/Pathways	1E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.12.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: 1-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal	bis(2-Ethylhexyl)phtha	2.8E+00	µg/L	2.8E+00	µg/L	M	9.4E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	4.7E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	3.7E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.2E-04
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	5.0E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	5.2E-03
	Mercury	1.2E-01	µg/L	1.2E-01	µg/L	M	1.5E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	7.3E-05
	(Total)												5.4E-03
												Total Hazard Index Across All Exposure Routes/Pathways	5E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.12.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: 1-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	bis(2-Ethylhexyl)phtha	2.8E+00	µg/L	2.8E+00	µg/L	M	4.7E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	2.4E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	1.8E-06	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	6.1E-05
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	2.5E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	2.6E-03
	Mercury	4.3E-02	µg/L	4.3E-02	µg/L	M	2.9E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	1.4E-05
	(Total)												2.7E-03
												Total Hazard Index Across All Exposure Routes/Pathways	3E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.13.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: 4-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal	bis(2-Ethylhexyl)phtha	2.8E+00	µg/L	2.8E+00	µg/L	M	1.6E-08	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	8.2E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	6.4E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.1E-04
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	8.7E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	9.1E-03
	Mercury	1.2E-01	µg/L	1.2E-01	µg/L	M	2.7E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	1.3E-04
	(Total)												9.5E-03
												Total Hazard Index Across All Exposure Routes/Pathways	9E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.13.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: 4-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal	bis(2-Ethylhexyl)phtha	2.8E+00	µg/L	2.8E+00	µg/L	M	6.2E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	3.1E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	2.4E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	8.0E-05
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	3.3E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	3.4E-03
	Mercury	4.3E-02	µg/L	4.3E-02	µg/L	M	3.7E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	1.8E-05
	(Total)												3.5E-03
												Total Hazard Index Across All Exposure Routes/Pathways	4E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.14.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: 4-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal													
	bis(2-Ethylhexyl)phtha	2.8E+00	µg/L	2.8E+00	µg/L	M	3.8E-08	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	1.9E-04
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	1.5E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	4.9E-04
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	2.0E-05	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	2.1E-02
	Mercury	1.2E-01	µg/L	1.2E-01	µg/L	M	6.1E-09	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	2.9E-04
	(Total)												2.2E-02
												Total Hazard Index Across All Exposure Routes/Pathways	2E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.14.CT
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Surface Water
Exposure Medium: Surface Water
Exposure Point: Pond/Lake
Receptor Population: 4-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Dermal	bis(2-Ethylhexyl)phtha	2.8E+00	µg/L	2.8E+00	µg/L	M	1.4E-06	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	7.1E-05
	Arsenic	2.8E+00	µg/L	2.8E+00	µg/L	M	5.5E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.8E-04
	Lead												
	Manganese	3.7E+02	µg/L	3.7E+02	µg/L	M	7.5E-06	mg/kg-day	9.6E-04	mg/kg-day	N/A	N/A	7.8E-03
	Mercury (Total)	4.3E-02	µg/L	4.3E-02	µg/L	M	8.6E-10	mg/kg-day	2.1E-05	mg/kg-day	N/A	N/A	4.1E-05
													8.1E-03
												Total Hazard Index Across All Exposure Routes/Pathways	8E-03

(1) Medium-Specific (M) EPC selected for hazard calculation.
- - Not detected at this exposure point.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.15.RME
CALCULATION OF NON-CANCER HAZ[illegible]
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: River/Stream
Receptor Population: 1-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	6.6E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	7.2E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	9.2E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	8.2E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	1.4E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	7.7E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	8.5E-08	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	4.2E-06
	Antimony	3.5E+00	mg/kg	3.5E+00	mg/kg	M	1.8E-07	mg/kg-day	4.0E-04	mg/kg-day	N/A	N/A	4.5E-04
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	4.5E-03
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	3.1E-07	mg/kg-day	1.0E-03	mg/kg-day	N/A	N/A	3.1E-04
	Chromium	3.5E+02	mg/kg	3.5E+02	mg/kg	M	1.8E-05	mg/kg-day	3.0E-03	mg/kg-day	N/A	N/A	6.0E-03
	Copper	3.4E+02	mg/kg	3.4E+02	mg/kg	M	1.8E-05	mg/kg-day	4.0E-02	mg/kg-day	N/A	N/A	4.4E-04
	Lead												
	Manganese	2.0E+03	mg/kg	2.0E+03	mg/kg	M	1.0E-04	mg/kg-day	7.0E-02	mg/kg-day	N/A	N/A	1.4E-03
	Mercury	6.0E-01	mg/kg	6.0E-01	mg/kg	M	3.1E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.0E-04
	Vanadium	3.4E+01	mg/kg	3.4E+01	mg/kg	M	1.7E-06	mg/kg-day	9.0E-03	mg/kg-day	N/A	N/A	1.9E-04
	(Total)												1.3E-02
Dermal													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	6.8E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	7.4E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	9.5E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	8.5E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	1.5E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	8.0E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	8.8E-08	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	4.4E-06
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	3.2E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.1E-03
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	2.5E-08	mg/kg-day	1.0E-05	mg/kg-day	N/A	N/A	2.5E-03
	(Total)												3.6E-03
												Total Hazard Index Across All Exposure Routes/Pathways	2E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7
CALCULATION OF NON-C[illegible] HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: River/Stream
Receptor Population: 1-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	3.3E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	3.6E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	4.6E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	4.1E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	7.2E-09	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	3.9E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	4.2E-08	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	2.1E-06
	Antimony	3.5E+00	mg/kg	3.5E+00	mg/kg	M	8.9E-08	mg/kg-day	4.0E-04	mg/kg-day	N/A	N/A	2.2E-04
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	6.7E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.2E-03
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	1.6E-07	mg/kg-day	1.0E-03	mg/kg-day	N/A	N/A	1.6E-04
	Chromium	3.5E+02	mg/kg	3.5E+02	mg/kg	M	9.0E-06	mg/kg-day	3.0E-03	mg/kg-day	N/A	N/A	3.0E-03
	Copper	3.4E+02	mg/kg	3.4E+02	mg/kg	M	8.8E-06	mg/kg-day	4.0E-02	mg/kg-day	N/A	N/A	2.2E-04
	Lead												
	Manganese	2.0E+03	mg/kg	2.0E+03	mg/kg	M	5.0E-05	mg/kg-day	7.0E-02	mg/kg-day	N/A	N/A	7.2E-04
	Mercury	6.0E-01	mg/kg	6.0E-01	mg/kg	M	1.5E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	5.1E-06
	Vanadium	3.4E+01	mg/kg	3.4E+01	mg/kg	M	8.7E-07	mg/kg-day	9.0E-03	mg/kg-day	N/A	N/A	9.7E-05
	(Total)												6.7E-03
Dermal													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	6.8E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	7.4E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	9.5E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	8.5E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	1.5E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	8.0E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	8.8E-08	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	4.4E-06
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	3.2E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.1E-03
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	2.5E-08	mg/kg-day	1.0E-05	mg/kg-day	N/A	N/A	2.5E-03
	(Total)												3.6E-03
												Total Hazard Index Across All Exposure Routes/Pathways	1E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.16.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: River/Stream
Receptor Population: 1-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	6.2E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	6.7E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	8.6E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	7.7E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	1.3E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	7.2E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	7.9E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	4.0E-05
	Antimony	3.5E+00	mg/kg	3.5E+00	mg/kg	M	1.7E-06	mg/kg-day	4.0E-04	mg/kg-day	N/A	N/A	4.2E-03
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	1.3E-05	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	4.2E-02
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	2.9E-06	mg/kg-day	1.0E-03	mg/kg-day	N/A	N/A	2.9E-03
	Chromium	3.5E+02	mg/kg	3.5E+02	mg/kg	M	1.7E-04	mg/kg-day	3.0E-03	mg/kg-day	N/A	N/A	5.6E-02
	Copper	3.4E+02	mg/kg	3.4E+02	mg/kg	M	1.6E-04	mg/kg-day	4.0E-02	mg/kg-day	N/A	N/A	4.1E-03
	Lead												
	Manganese	2.0E+03	mg/kg	2.0E+03	mg/kg	M	9.4E-04	mg/kg-day	7.0E-02	mg/kg-day	N/A	N/A	1.3E-02
	Mercury	6.0E-01	mg/kg	6.0E-01	mg/kg	M	2.8E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	9.5E-04
	Vanadium	3.4E+01	mg/kg	3.4E+01	mg/kg	M	1.6E-05	mg/kg-day	9.0E-03	mg/kg-day	N/A	N/A	1.8E-03
	(Total)												1.3E-01
Dermal													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	6.7E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	7.3E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	9.4E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	8.4E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	1.5E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	7.9E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	8.6E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	4.3E-05
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	3.2E-06	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.1E-02
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	2.4E-07	mg/kg-day	1.0E-05	mg/kg-day	N/A	N/A	2.4E-02
	(Total)												3.5E-02
										Total Hazard Index Across All Exposure Routes/Pathways			2E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3
CALCULATION OF NON-CANCER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: River/Stream
Receptor Population: 1-Day Recreational User
Receptor Age: Young Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	3.1E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	3.3E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	4.3E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	3.8E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	6.7E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	3.6E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	4.0E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	2.0E-05
	Antimony	3.5E+00	mg/kg	3.5E+00	mg/kg	M	8.3E-07	mg/kg-day	4.0E-04	mg/kg-day	N/A	N/A	2.1E-03
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	6.3E-06	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	2.1E-02
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	1.4E-06	mg/kg-day	1.0E-03	mg/kg-day	N/A	N/A	1.4E-03
	Chromium	3.5E+02	mg/kg	3.5E+02	mg/kg	M	8.4E-05	mg/kg-day	3.0E-03	mg/kg-day	N/A	N/A	2.8E-02
	Copper	3.4E+02	mg/kg	3.4E+02	mg/kg	M	8.2E-05	mg/kg-day	4.0E-02	mg/kg-day	N/A	N/A	2.0E-03
	Lead												
	Manganese	2.0E+03	mg/kg	2.0E+03	mg/kg	M	4.7E-04	mg/kg-day	7.0E-02	mg/kg-day	N/A	N/A	6.7E-03
	Mercury	6.0E-01	mg/kg	6.0E-01	mg/kg	M	1.4E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	4.7E-04
	Vanadium	3.4E+01	mg/kg	3.4E+01	mg/kg	M	8.1E-06	mg/kg-day	9.0E-03	mg/kg-day	N/A	N/A	9.0E-04
	(Total)												8.3E-02
Dermal													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	6.7E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	7.3E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	9.4E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	8.4E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	1.5E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	7.9E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	8.6E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	4.3E-05
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	3.2E-06	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.1E-02
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	2.4E-07	mg/kg-day	1.0E-06	mg/kg-day	N/A	N/A	2.4E-02
	(Total)												3.5E-02
												Total Hazard Index Across All Exposure Routes/Pathways	1E-01

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.3-7.17.RME
CALCULATION OF NON-CANCER HAZARDS
REASONABLE MAXIMUM EXPOSURE

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: River/Stream
Receptor Population: 4-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	2.6E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	2.9E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	3.7E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	3.3E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	5.8E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	3.1E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	3.4E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	1.7E-05
	Antimony	3.5E+00	mg/kg	3.5E+00	mg/kg	M	7.2E-07	mg/kg-day	4.0E-04	mg/kg-day	N/A	N/A	1.8E-03
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	5.4E-06	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.8E-02
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	1.2E-06	mg/kg-day	1.0E-03	mg/kg-day	N/A	N/A	1.2E-03
	Chromium	3.5E+02	mg/kg	3.5E+02	mg/kg	M	7.2E-05	mg/kg-day	3.0E-03	mg/kg-day	N/A	N/A	2.4E-02
	Copper	3.4E+02	mg/kg	3.4E+02	mg/kg	M	7.0E-05	mg/kg-day	4.0E-02	mg/kg-day	N/A	N/A	1.8E-03
	Lead												
	Manganese	2.0E+03	mg/kg	2.0E+03	mg/kg	M	4.0E-04	mg/kg-day	7.0E-02	mg/kg-day	N/A	N/A	5.8E-03
	Mercury	6.0E-01	mg/kg	6.0E-01	mg/kg	M	1.2E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	4.1E-04
	Vanadium	3.4E+01	mg/kg	3.4E+01	mg/kg	M	7.0E-06	mg/kg-day	9.0E-03	mg/kg-day	N/A	N/A	7.7E-04
	(Total)												5.4E-02
Dermal													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	2.7E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	3.0E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	3.8E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	3.4E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	6.0E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	3.2E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	3.5E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	1.8E-05
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	4.3E-03
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	9.9E-08	mg/kg-day	1.0E-05	mg/kg-day	N/A	N/A	9.9E-03
	(Total)												1.4E-02
												Total Hazard Index Across All Exposure Routes/Pathways	7E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose

TABLE C.[illegible]
CALCULATION OF NON-[illegible]CER HAZARDS
CENTRAL TENDENCY

WELLS G&H SUPERFUND SITE OU3

Scenario Timeframe: Current/Future
Medium: Sediment
Exposure Medium: Sediment
Exposure Point: River/Stream
Receptor Population: 4-Day Recreational User
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value	Route EPC Units	EPC Selected for Hazard Calculation (1)	Intake (Non-Cancer)	Intake (Non-Cancer) Units	Reference Dose	Reference Dose Units	Reference Concentration	Reference Concentration Units	Hazard Quotient
Ingestion													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	9.9E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	1.1E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	1.4E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	1.2E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	2.2E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	1.2E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	1.3E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	6.3E-06
	Antimony	3.5E+00	mg/kg	3.5E+00	mg/kg	M	2.7E-07	mg/kg-day	4.0E-04	mg/kg-day	N/A	N/A	6.7E-04
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	2.0E-06	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	6.7E-03
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	4.7E-07	mg/kg-day	1.0E-03	mg/kg-day	N/A	N/A	4.7E-04
	Chromium	3.5E+02	mg/kg	3.5E+02	mg/kg	M	2.7E-05	mg/kg-day	3.0E-03	mg/kg-day	N/A	N/A	9.0E-03
	Copper	3.4E+02	mg/kg	3.4E+02	mg/kg	M	2.6E-05	mg/kg-day	4.0E-02	mg/kg-day	N/A	N/A	6.6E-04
	Lead												
	Manganese	2.0E+03	mg/kg	2.0E+03	mg/kg	M	1.5E-04	mg/kg-day	7.0E-02	mg/kg-day	N/A	N/A	2.2E-03
	Mercury	6.0E-01	mg/kg	6.0E-01	mg/kg	M	4.6E-08	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	1.5E-04
	Vanadium	3.4E+01	mg/kg	3.4E+01	mg/kg	M	2.6E-06	mg/kg-day	9.0E-03	mg/kg-day	N/A	N/A	2.9E-04
	(Total)												2.0E-02
Dermal													
	Benzo(a)anthracene	1.3E+00	mg/kg	1.3E+00	mg/kg	M	2.1E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(a)pyrene	1.4E+00	mg/kg	1.4E+00	mg/kg	M	2.2E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(b)fluoranthene	1.8E+00	mg/kg	1.8E+00	mg/kg	M	2.8E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Benzo(k)fluoranthene	1.6E+00	mg/kg	1.6E+00	mg/kg	M	2.6E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Dibenz(a,h)anthracene	2.8E-01	mg/kg	2.8E-01	mg/kg	M	4.5E-08	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Indeno(1,2,3-cd)pyrene	1.5E+00	mg/kg	1.5E+00	mg/kg	M	2.4E-07	mg/kg-day	N/A	N/A	N/A	N/A	N/A
	Phenanthrene	1.7E+00	mg/kg	1.7E+00	mg/kg	M	2.6E-07	mg/kg-day	2.0E-02	mg/kg-day	N/A	N/A	1.3E-05
	Arsenic	2.6E+01	mg/kg	2.6E+01	mg/kg	M	9.7E-07	mg/kg-day	3.0E-04	mg/kg-day	N/A	N/A	3.2E-03
	Cadmium	6.1E+00	mg/kg	6.1E+00	mg/kg	M	7.4E-08	mg/kg-day	1.0E-05	mg/kg-day	N/A	N/A	7.4E-03
	(Total)												1.1E-02
												Total Hazard Index Across All Exposure Routes/Pathways	3E-02

(1) Medium-Specific (M) EPC selected for hazard calculation.
N/A = Not Applicable
EPC = Exposure Point Concentration
Hazard Quotient = Non-Cancer Intake / Reference Dose