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Memorandum

To	Ethan Finkel, EPA Task Order Project Officer	Page	1 of 2
CC	350 Memoranda		
Subject	TO 65 Walton & Lonsbury: Correction of Error in Revised Draft Final Baseline Human Health Risk Assessment, May 2019		

From	Barbara Weir, AECOM Task Order Manager
Date	September 12, 2019

The purpose of this memo is to document an error that was recently discovered and issue corrected replacement pages for the report entitled *Revised Draft Final Baseline Human Health Risk Assessment*, Walton & Lonsbury Superfund Site, Attleboro, Massachusetts dated May 2019 (EPA Contract No. EP-S1-06-01, EPA Task Order No. 0065-RICO-01GM).

While preparing the Section G and Section L ROD tables for the Site, the project human health risk assessor noticed a minor error in the HHRA calculations that only affects one compound (benzo(b)fluoranthene). For this compound, an oral slope factor of 1 (mg/kg-day)-1 was used instead of the correct slope factor of 0.1 (mg/kg-day)-1, which resulted in a 10-fold overestimate of the cancer risk for this compound. The correct unit risk was used for this compound.

Benzo(b)fluoranthene was only identified as a Chemical of Concern (risk-contributing compound) for future residential soil at the Walton & Lonsbury Property for the Feasibility Study, indicating that this error did not substantially affect other media (i.e., the risk was overestimated for this compound, but was not elevated to the degree that this compound was identified as a COC for any other media). If the correct oral slope factor had been used, benzo(b)fluoranthene would have continued to be identified as a residential soil COC for the FS. The residential PRG for this compound in the FS is correct.

There are three text pages and multiple Technical Approach for Risk Assessment (TARA) tables that have been changed to correct this error. The text pages affected are pages ES-4, 5-8, and 6-2. The tables affected are:

Table ES-1
Table 6.1
Tables 7.3 through 7.8 RME&CTE
Tables 7.11 and 7.12 RME&CTE
Tables 9.11 through 9.15 RME&CTE
Tables 9.17 and 9.18 RME&CTE
Tables 9.29 through 9.31 RME&CTE
Table 10.2.RME
Table 10.3.RME

The text changes are itemized below. For page ES-4, another minor error (inclusion of indeno(1,2,3-cd) pyrene) was also corrected.

Page ES-4, Second Bullet:

- Future residents exposed to upland/floodplain surface soil at the W&L Property, due to benzo(a)pyrene, ~~benzo(b)fluoranthene, indeno(1,2,3-cd)pyrene,~~ antimony, arsenic, hexavalent chromium, and thallium;

Page 5-8, second paragraph:

For the W&L Property, the future total receptor CTE ILCRs are within the target risk range for exposure to both surface and surface/subsurface soil. However, the RME ILCRs exceed the target risk range for both surface and surface/subsurface soils on the W&L Property. The future residential RME ILCRs for residential exposure to surface and surface/subsurface soil are $2x10^{-4}$ and $4x10^{-4}$, respectively. The primary risk-contributing compounds are benzo(a)pyrene, arsenic, and hexavalent chromium for surface soil, and benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, arsenic, and hexavalent chromium for surface/subsurface soil.

Page 6-2, second bullet after first full paragraph:

- Future residents exposed to upland/floodplain surface soil at the W&L Property, due to benzo(a)pyrene, ~~benzo(b)fluoranthene,~~ antimony, arsenic, hexavalent chromium, and thallium;

Replacement cover pages noting the date these revisions were made (September 2019), the three replacement text pages, and the replacement tables are attached to this memo.

We suggest that EPA include this memo with attached replacement pages in the administrative record for the Site.

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Prepared for:
US EPA
Boston, MA

Prepared by:
AECOM
Chelmsford, MA
60308115.07
May 2019 (revised Sept 2019)

Baseline Human Health Risk Assessment
Walton & Lonsbury Superfund Site
Attleboro, Massachusetts

EPA Contract No. EP-S1-06-01
EPA Task Order No. 0065-RICO-01GM

Revised Draft Final

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Revised Draft Final

Estimated risks were compared to the EPA target Incremental Lifetime Cancer Risk (ILCR) range of 10^{-6} to 10^{-4} and target hazard index (HI) of 1 for non-carcinogenic effects.

Table ES-1 summarizes the estimated cancer and non-cancer risk for the evaluated receptor/exposure points. For receptors/exposure points with estimated risk in excess of EPA criteria, major contributors to risk (ILCRs >10^{-6} or HIs >1) were identified. Risks were summarized for both the RME and CTE receptors for each of the evaluated exposure points. When risks were estimated for a child and adult receptor, the HIs were presented as the most conservative (i.e., the child HIs), while ILCRs were the sum of the child and adult risks (i.e., a total receptor cancer risk). The risks presented by exposure point have been summed together, as appropriate, when a receptor would be exposed to more than one medium during activities. In cases where the total pathway HI exceeded 1, COPCs having similar target organ effects were summed for each pathway and medium.

Lead in soil and sediment was evaluated through the use of EPA models for children and adults. Potential health risks associated with lead exposure were evaluated by comparing the estimated blood lead level from exposure to lead in soil and sediment to the target blood lead level of 5 µg/dL. Site-specific studies (i.e., soil sieving and *in vitro* bioaccessibility testing) were performed for four of the soil exposure points to more accurately characterize surface soil lead risks. Lead in groundwater was evaluated by comparing monitoring well concentrations to the Safe Drinking Water Act (SDWA) action level of 15 micrograms per liter (µg/L).

The media for which RME exposures for one or more pathways exceeded the target risk range for carcinogens and/or risk criterion for non-carcinogens are summarized below. The risk-contributing contaminant(s) are also summarized below by exposure point:

- Current and future recreational users exposed to surface water at the Bliss Brook exposure point, due to hexavalent chromium;
- Future residents exposed to upland/floodplain surface soil at the W&L Property, due to benzo(a)pyrene, antimony, arsenic, hexavalent chromium, and thallium;
- Future residents exposed to upland/floodplain surface/subsurface soil at the W&L Property, due to benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, antimony, arsenic, hexavalent chromium, and cobalt;
- Future construction worker exposure to shallow groundwater at the W&L Property, due to hexavalent chromium; and
- Future residents exposed to Site-Wide tap water, due to 1,1-dichloroethane, cis-1,2-dichloroethene, trichloroethene, vinyl chloride, 1,4-dioxane, arsenic, hexavalent chromium, cobalt, and manganese.

The lead modeling indicated that surface soil at the Residential Yards West of North Avenue for a current/future residential scenario and surface/subsurface soil at the W&L Property for a future residential scenario have a greater than 5 percent probability that children exposed will have a blood lead level that exceeds the target blood lead level of concern (5 µg/dL).

Total lead exceeded the Safe Drinking Water Act action level of 15 µg/L in three monitoring wells (maximum detected concentration in parenthesis): AE-09S (50 µg/L), DEP-3D (49.7 µg/L), and DEP-5S (108 µg/L). Dissolved lead results for these wells were all less than 15 µg/L except for the

Although not quantitatively evaluated, covered soils in the Residential Yards East of North Avenue have concentrations of hexavalent chromium that would be associated with an ILCR greater than the upper bound of the target risk range (10^{-4}). The hexavalent chromium RSL, associated with an ILCR of 10^{-4}, is 30 mg/kg compared to the hexavalent chromium EPC of 200 mg/kg. Therefore, the ILCR associated with the hexavalent chromium EPC would be approximately $7x10^{-4}$. EPCs for the covered soil are presented in Table 3.7.RME/CTE.

For the W&L Property, the future total receptor CTE ILCRs are within the target risk range for exposure to both surface and surface/subsurface soil. However, the RME ILCRs exceed the target risk range for both surface and surface/subsurface soils on the W&L Property. The future residential RME ILCRs for residential exposure to surface and surface/subsurface soil are $2x10^{-4}$ and $4x10^{-4}$, respectively. The primary risk-contributing compounds are benzo(a)pyrene, arsenic, and hexavalent chromium for surface soil, and benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, arsenic, and hexavalent chromium for surface/subsurface soil.

Recreational Exposure to Soil, Sediment, and Surface Water

The current and future recreational user was evaluated for exposures to wetland/floodplain surface soil, sediment, and surface water located in the Southern Wetland, Bliss Brook, Bungay River/Mechanics Pond, and Downstream of Mechanics Pond exposure points.

The estimated ILCRs for the current and future young child and adult recreational user exposed to wetland/floodplain surface soil, sediment, and surface water for the four exposure points are provided in Tables 7.3.RME/CTE and 7.4.RME/CTE, respectively. For this scenario, ILCRs are calculated assuming incidental ingestion of and dermal contact with soil, ingestion and dermal contact with sediment, and dermal contact with surface water. Incidental ingestion of surface water was also included for the Bungay River/Mechanics Pond exposure point where swimming rather than wading is assumed to occur. The cumulative risks for the current and future recreational user scenario are presented in Table 9.13.RME/CTE through 9.16.RME/CTE for the four exposure points.

The current and future total receptor RME ILCRs for the future young child and adult recreational user at the Southern Wetland, Bungay River/Mechanics Pond, and Downstream of Mechanics Pond exposure points are within the target risk range of 10^{-6} to 10^{-4}. The total receptor CTE ILCRs for these three exposure points are within or below the target risk range.

For Bliss Brook, the current and future total receptor CTE ILCR is within the target risk range. However, the RME ILCR exceeds the target risk range primarily associated with surface water exposure pathway. The future recreational user RME ILCR is $4x10^{-4}$. The primary risk-contributing compound is hexavalent chromium in surface water.

Commercial Worker Exposure to Soil

The estimated ILCRs for the adult commercial worker exposed to surface and surface/subsurface soil at the W&L Property are presented in Table 7.11.RME/CTE for future land use. The cumulative risks for the soil exposure pathways are presented in Tables 9.29.RME/CTE and 9.30.RME/CTE for surface soil and surface/subsurface soil, respectively. Future ILCRs are calculated assuming incidental ingestion of and dermal contact with surface soil and inhalation of fugitive dust and VOCs released from soil. The total receptor RME and CTE ILCRs are within the target risk range of 10^{-6} to 10^{-4}.

- Future commercial workers exposed to upland/floodplain surface soil and surface/subsurface soil at the W&L Property;
- Future construction workers exposed to upland/floodplain surface/subsurface soil at the W&L Property; and
- Future construction workers exposed to shallow groundwater at the Off-Property Areas.

The media for which RME exposures for one or more pathways exceeded the target risk range for carcinogens and/or risk criterion for non-carcinogens are summarized below. The risk-contributing contaminant(s) are also summarized below by exposure point:

- Current and future recreational users exposed to surface water at the Bliss Brook exposure point, due to hexavalent chromium;
- Future residents exposed to upland/floodplain surface soil at the W&L Property, due to benzo(a)pyrene, antimony, arsenic, hexavalent chromium, and thallium;
- Future residents exposed to upland/floodplain surface/subsurface soil at the W&L Property, due to benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, antimony, arsenic, hexavalent chromium, and cobalt;
- Future construction workers exposed to shallow groundwater at the W&L Property, due to hexavalent chromium; and
- Future residents exposed to Site-Wide tap water, due to 1,1-dichloroethane, cis-1,2-dichloroethene, trichloroethene, vinyl chloride, 1,4-dioxane, arsenic, hexavalent chromium, cobalt, and manganese.

Central Tendency Exposure Risk and Hazard

The media for which CTE exposures for one or more pathways were within or below EPA's target risk range for carcinogens (ILCR of 10^{-6} to 10^{-4}) and risk criterion for non-carcinogens (HI of 1) are summarized below by exposure point.

- Current and future residents exposed to site-related VOCs in indoor air at the eleven buildings along Paulette Lane and North Avenue evaluated for the vapor intrusion pathway;
- Current and future residents exposed to floodplain soil at the Residential Yards West of North Avenue and Residential Yards East of North Avenue exposure points;
- Current and future recreational users exposed to wetland/floodplain soil, sediment, and surface water at the Southern Wetland and Bliss Brook exposure points;
- Current and future recreational users exposed to sediment and surface water at the Bungay River/Mechanics Pond and Downstream of Mechanics Pond exposure points;
- Future commercial workers exposed to upland/floodplain surface soil and surface/subsurface soil at the W&L Property;

TABLE ES-1
SUMMARY OF RECEPTOR RISKS
WALTON & LONSBURY SUPERFUND SITE

Exposure Point	Scenario/ Receptor	Exposure Media	RME or CTE	Total Cancer Risks	Total Noncancer Risks	Media > 1E-04 or HI > 1	Major contributors to risk (> 1E-06, HI > 1)
Building A	Current Young Child/Adult Resident	Indoor Air	RME	2E-05	4E-01		N/A
			CTE	4E-06	2E-01		
Building B	Current Young Child/Adult Resident	Indoor Air	RME	3E-05	4E-01		N/A
			CTE	7E-06	3E-01		
Building D	Current Young Child/Adult Resident	Indoor Air	RME	N/A	2E-01		N/A
			CTE	N/A	1E-01		
Building E	Current Young Child/Adult Resident	Indoor Air	RME	2E-05	6E-02		N/A
			CTE	5E-06	4E-02		
Building G	Current Young Child/Adult Resident	Indoor Air	RME	1E-05	8E-02		N/A
			CTE	2E-06	5E-02		
Building H	Current Young Child/Adult Resident	Indoor Air	RME	8E-06	9E-03		N/A
			CTE	2E-06	6E-03		
Building L	Current Young Child/Adult Resident	Indoor Air	RME	9E-06	1E-02		N/A
			CTE	2E-06	7E-03		
Building M	Current Young Child/Adult Resident	Indoor Air	RME	1E-05	3E-01		N/A
			CTE	3E-06	2E-01		
Building N	Current Young Child/Adult Resident	Indoor Air	RME	2E-05	6E-02		N/A
			CTE	4E-06	4E-02		
Building O	Current Young Child/Adult Resident	Indoor Air	RME	7E-06	9E-03		N/A
			CTE	2E-06	6E-03		
Building P	Current Young Child/Adult Resident	Indoor Air	RME	2E-06	3E-02		N/A
			CTE	5E-07	2E-02		
Residential Yards - West of North Avenue	Current/Future Young Child/Adult Resident	Floodplain Surface Soil (0-2 ft)	RME	3E-05	2E+00		N/A (no target organs >1); lead (a)
			CTE	3E-06	6E-01		

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Residential Yards - East of North Avenue	Current/Future Young Child/Adult Resident	Floodplain Surface Soil (0-2 ft)	RME	4E-05	6E-01		N/A
			CTE	7E-06	3E-01		
Southern Wetland	Current/Future Young Child/Adult Rec. User	Wetland/Floodplain Surface Soil (0-2 ft); Sediment; Surface Water	RME	3E-05	1E+00		N/A
			CTE	3E-06	4E-01		
Bliss Brook	Current/Future Young Child/Adult Rec. User	Wetland/Floodplain Surface Soil (0-2 ft); Sediment; Surface Water	RME	**3E-04**	1E+00	Surface Water	(C) - Chromium, Hexavalent
			CTE	1E-05	2E-01		
Bungay River/Mechanics Pond	Current/Future Young Child/Adult Rec. User	Sediment; Surface Water	RME	2E-05	9E-01		N/A
			CTE	1E-06	2E-01		
Downstream of Mechanics Pond	Current/Future Young Child/Adult Rec. User	Sediment; Surface Water	RME	2E-05	2E+00		N/A (no target organs >1)
			CTE	4E-07	1E-01		
Walton & Lonsbury Property	Future Young Child/Adult Resident	Upland/Floodplain Surface Soil (0-2 ft)	RME	**2E-04**	**8E+00**	Surface Soil	(C) - benzo(a)pyrene; arsenic; chromium, hexavalent (NC) - antimony; thallium
			CTE	4E-05	**3E+00**		
Walton & Lonsbury Property	Future Young Child/Adult Resident	Upland/Floodplain Surface/ Subsurface Soil (0-10 ft)	RME	**4E-04**	**1E+01**	Surface/ Subsurface Soil	(C) - benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; dibenz(a,h)anthracene; arsenic; chromium, hexavalent (NC) - antimony; cobalt; lead (a)
			CTE	6E-05	**6E+00**		
Building A	Future Young Child/Adult Resident	Indoor Air	RME	2E-05	4E-01		N/A
			CTE	4E-06	2E-01		
Building B	Future Young Child/Adult Resident	Indoor Air	RME	3E-05	4E-01		N/A
			CTE	7E-06	3E-01		
Building D	Future Young Child/Adult Resident	Indoor Air	RME	N/A	2E-01		N/A
			CTE	N/A	1E-01		
Building E	Future Young Child/Adult Resident	Indoor Air	RME	2E-05	6E-02		N/A
			CTE	5E-06	4E-02		

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Exposure Point	Scenario/ Receptor	Exposure Media	RME or CTE	Total Cancer Risks	Total Noncancer Risks	Media > 1E-04 or HI > 1	Major contributors to risk (> 1E-06, HI > 1)
Building G	Future Young Child/Adult Resident	Indoor Air	RME	3E-05	3E-01		N/A
			CTE	6E-06	2E-01		
Building H	Future Young Child/Adult Resident	Indoor Air	RME	8E-06	9E-03		N/A
			CTE	2E-06	6E-03		
Building L	Future Young Child/Adult Resident	Indoor Air	RME	9E-06	1E-02		N/A
			CTE	2E-06	7E-03		
Building M	Future Young Child/Adult Resident	Indoor Air	RME	1E-05	3E-01		N/A
			CTE	3E-06	2E-01		
Building N	Future Young Child/Adult Resident	Indoor Air	RME	2E-05	7E-02		N/A
			CTE	4E-06	5E-02		
Building O	Future Young Child/Adult Resident	Indoor Air	RME	7E-06	9E-03		N/A
			CTE	2E-06	6E-03		
Building P	Future Young Child/Adult Resident	Indoor Air	RME	2E-06	3E-02		N/A
			CTE	5E-07	2E-02		
Walton & Lonsbury Property	Future Adult Commercial Worker	Upland/Floodplain Surface Soil (0-2 ft)	RME	1E-05	6E-01		N/A
			CTE	2E-06	2E-01		
Walton & Lonsbury Property	Future Adult Commercial Worker	Upland/Floodplain Surface/ Subsurface Soil (0-10 ft)	RME	2E-05	8E-01		N/A
			CTE	3E-06	4E-01		
Walton & Lonsbury Property	Future Adult Construction Worker	Upland/Floodplain Surface/ Subsurface Soil (0-10 ft); Shallow Groundwater; Trench Air	RME	**4E-04**	**1E+01**	Shallow Groundwater	(C) - chromium, hexavalent (NC) - chromium, hexavalent
			CTE	2E-05	8E-01		
Off-Property Areas	Future Adult Construction Worker	Shallow Groundwater; Trench Air	RME	2E-05	1E+00		N/A
			CTE	7E-06	4E-01		

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Exposure Point	Scenario/ Receptor	Exposure Media	RME or CTE	Total Cancer Risks	Total Noncancer Risks	Media > 1E-04 or HI > 1	Major contributors to risk (> 1E-06, HI > 1)
Site-Wide (center of the plume)	Future Young Child/Adult Resident	Groundwater	RME	**7E-01**	**7E+02**	Groundwater	(C) - 1,1-dichloroethane; trichloroethene, vinyl chloride; 1,4-dioxane; arsenic; chromium, hexavalent
			CTE	**1E-01**	**4E+02**		(NC) - cis-1,2-dichloroethene; trichloroethene; chromium, hexavalent; cobalt; manganese

Notes
Bolded values exceed a cancer risk of 1E-04 or a target organ HI of 1.
(a) Lead modeling indicates exceedance of blood lead target in exposed children
HI - Hazard Index
RME - Reasonable Maximum Exposure
CTE - Central Tendency Exposure
(C) - Carcinogenic Risk
(NC) - Noncarcinogenic Risk
N/A - Not Applicable

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

WALTON & LONSBURY SUPERFUND SITE

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal	Absorbed Cancer Slope Factor for Dermal (2)		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units	(1)	Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
1,1,1-Trichloroethane	N/A	N/A	N/A	N/A	N/A	Inadequate	IRIS	06/01/18
1,1,2-Trichloroethane	5.7E-02	$(mg/kg\text{-}day)^{-1}$	(1)	5.7E-02	$(mg/kg\text{-}day)^{-1}$	C	IRIS	06/01/18
1,1-Dichloroethane	5.7E-03	$(mg/kg\text{-}day)^{-1}$	(1)	5.7E-03	$(mg/kg\text{-}day)^{-1}$	C	CalEPA	06/01/18
1,1-Dichloroethene	N/A	N/A	N/A	N/A	N/A	Equivocal	IRIS	06/01/18
1,2,4-Trimethylbenzene	N/A	N/A	N/A	N/A	N/A	Inadequate	IRIS	06/01/18
1,2-Dibromo-3-chloropropane	8.0E-01	$(mg/kg\text{-}day)^{-1}$	(1)	8.0E-01	$(mg/kg\text{-}day)^{-1}$	Likely to be carcinogenic	PPRTV	06/01/18
1,2-Dichloroethane	9.1E-02	$(mg/kg\text{-}day)^{-1}$	(1)	9.1E-02	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	06/01/18
4-Ethyltoluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	5.5E-02	$(mg/kg\text{-}day)^{-1}$	(1)	5.5E-02	$(mg/kg\text{-}day)^{-1}$	A	IRIS	06/01/18
Bromodichloromethane	6.2E-02	$(mg/kg\text{-}day)^{-1}$	(1)	6.2E-02	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	06/01/18
Chloroform	3.1E-02	$(mg/kg\text{-}day)^{-1}$	(1)	3.10E-02	$(mg/kg\text{-}day)^{-1}$	B2	CalEPA	06/01/18
cis-1,2-Dichloroethene	N/A	N/A	N/A	N/A	N/A	Inadequate	IRIS	06/01/18
Ethylbenzene	1.1E-02	$(mg/kg\text{-}day)^{-1}$	(1)	1.10E-02	$(mg/kg\text{-}day)^{-1}$	N/A	CalEPA	06/01/18
Tetrachloroethene	2.1E-03	$(mg/kg\text{-}day)^{-1}$	(1)	2.1E-03	$(mg/kg\text{-}day)^{-1}$	Likely	IRIS	06/01/18
Trichloroethene	4.6E-02	$(mg/kg\text{-}day)^{-1}$	(1)	4.6E-02	$(mg/kg\text{-}day)^{-1}$	Carcinogenic to humans	IRIS	06/01/18
Vinyl chloride	7.2E-01	$(mg/kg\text{-}day)^{-1}$	(1)	7.2E-01	$(mg/kg\text{-}day)^{-1}$	A	IRIS	06/01/18
1,4-Dioxane	1.0E-01	$(mg/kg\text{-}day)^{-1}$	(1)	1.0E-01	$(mg/kg\text{-}day)^{-1}$	Likely	IRIS	06/01/18
Benzo(a)anthracene	1.0E-01	$(mg/kg\text{-}day)^{-1}$	(1)	1.0E-01	$(mg/kg\text{-}day)^{-1}$	Carcinogenic to humans	IRIS	06/01/18
Benzo(a)pyrene	1.0E+00	$(mg/kg\text{-}day)^{-1}$	(1)	1.0E+00	$(mg/kg\text{-}day)^{-1}$	Carcinogenic to humans	IRIS	06/01/18
Benzo(b)fluoranthene	1.0E-01	$(mg/kg\text{-}day)^{-1}$	(1)	1.0E-01	$(mg/kg\text{-}day)^{-1}$	Carcinogenic to humans	IRIS	06/01/18
Benzo(k)fluoranthene	1.0E-02	$(mg/kg\text{-}day)^{-1}$	(1)	1.0E-02	$(mg/kg\text{-}day)^{-1}$	Carcinogenic to humans	IRIS	06/01/18
Carbazole	2.0E-02	$(mg/kg\text{-}day)^{-1}$	(1)	2.0E-02	$(mg/kg\text{-}day)^{-1}$	B2	HEAST	1997
Dibenz(a,h)anthracene	1.0E+00	$(mg/kg\text{-}day)^{-1}$	(1)	1.0E+00	$(mg/kg\text{-}day)^{-1}$	Carcinogenic to humans	IRIS	06/01/18
Indeno(1,2,3-cd)pyrene	1.0E-01	$(mg/kg\text{-}day)^{-1}$	(1)	1.0E-01	$(mg/kg\text{-}day)^{-1}$	Carcinogenic to humans	IRIS	06/01/18
Naphthalene	N/A	N/A	N/A	N/A	N/A	C	IRIS	06/01/18
4,4'-DDD	2.4E-01	$(mg/kg\text{-}day)^{-1}$	(1)	2.4E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	06/01/18
4,4'-DDT	3.4E-01	$(mg/kg\text{-}day)^{-1}$	(1)	3.4E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	06/01/18
Endrin aldehyde	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aroclor-1260	2E+00	$(mg/kg\text{-}day)^{-1}$	(1)	2.0E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	06/01/18

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

WALTON & LONSBURY SUPERFUND SITE

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (1)	Absorbed Cancer Slope Factor for Dermal (2)		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units		Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
Aluminum	N/A	N/A	0.01	N/A	N/A	Inadequate	PPRTV	06/01/18
Antimony	N/A	N/A	0.15	N/A	N/A	Inadequate	PPRTV	06/01/18
Arsenic	1.5E+00	$(mg/kg\text{-}day)^{-1}$	(1)	1.5E+00	$(mg/kg\text{-}day)^{-1}$	A	IRIS	06/01/18
Barium	N/A	N/A	N/A	N/A	N/A	D	IRIS	06/01/18
Cadmium (water)	N/A	N/A	N/A	N/A	N/A	D	IRIS	06/01/18
Cadmium (other media)	N/A	N/A	N/A	N/A	N/A	D	IRIS	06/01/18
Chromium	N/A	N/A	N/A	N/A	N/A	D	IRIS	06/01/18
Chromium, Hexavalent	5.0E-01	$(mg/kg\text{-}day)^{-1}$	0.025	2.0E+01	$(mg/kg\text{-}day)^{-1}$	NA	NJDEP	06/01/18
Cobalt	N/A	N/A	(1)	N/A	N/A	Likely	PPRTV	06/01/18
Copper	N/A	N/A	N/A	N/A	N/A	D	IRIS	06/01/18
Cyanide	N/A	N/A	N/A	N/A	N/A	Inadequate	IRIS	06/01/18
Iron	N/A	N/A	(1)	N/A	N/A	Inadequate	PPRTV	06/01/18
Lead	N/A	N/A	N/A	N/A	N/A	B2	IRIS	06/01/18
Manganese	N/A	N/A	0.04	N/A	N/A	D	IRIS	06/01/18
Mercury (other media)	N/A	N/A	N/A	N/A	N/A	C	IRIS	06/01/18
Mercury (water)	N/A	N/A	N/A	N/A	N/A	C	IRIS	06/01/18
Nickel	N/A	N/A	N/A	N/A	N/A	NA	IRIS	06/01/18
Silver	N/A	N/A	N/A	N/A	N/A	D	IRIS	06/01/18
Thallium	N/A	N/A	(1)	N/A	N/A	Inadequate	IRIS	06/01/18
Vanadium	N/A	N/A	(1)	N/A	N/A	Inadequate	PPRTV	06/01/18

IRIS = Integrated Risk Information System

PPRTV = Provisional Peer Reviewed Toxicity Value

NJDEP = New Jersey Department of Environmental Protection

HEAST = Health Effects Assessment Summary Tables

CalEPA = California Environmental Protection Agency, Office of Environmental Health Hazard Assessment

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

(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)

Slope factor for chromium is based on chromium III, insoluble salts.

N/A = Not Applicable/Not Available

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)

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Wetland/Floodplain Surface Soil (0-2 ft)	Southern Wetland	Ingestion													
				Trichloroethene	1E-01	mg/kg	7.6E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	4.2E-10	2.7E-08	mg/kg-day	5.0E-04	mg/kg-day	5.3E-05
				Benzo(a)anthracene	2E+00	mg/kg	1.2E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.5E-08	4.3E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	8.2E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.6E-07	2.9E-07	mg/kg-day	3.0E-04	mg/kg-day	9.6E-04
				Benzo(b)fluoranthene	2E+00	mg/kg	1.5E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.0E-08	5.3E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	5.8E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.2E-09	2.0E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	1.8E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.7E-08	6.4E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	5.8E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-08	2.0E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	8E-02	mg/kg	6.0E-09	mg/kg-day	N/A	N/A	N/A	2.1E-08	mg/kg-day	2.0E-02	mg/kg-day	1.0E-06
				4,4'-DDT	9E-01	mg/kg	6.6E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.2E-08	2.3E-07	mg/kg-day	5.0E-04	mg/kg-day	4.6E-04
				Endrin aldehyde	3E-02	mg/kg	2.6E-09	mg/kg-day	N/A	N/A	N/A	9.2E-09	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	6.5E-04	mg/kg-day	N/A	N/A	N/A	2.3E-03	mg/kg-day	1.0E+00	mg/kg-day	2.3E-03
				Antimony	3E+00	mg/kg	2.2E-07	mg/kg-day	N/A	N/A	N/A	7.8E-07	mg/kg-day	4.0E-04	mg/kg-day	1.9E-03
				Arsenic	3E+00	mg/kg	1.3E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.0E-07	4.6E-07	mg/kg-day	3.0E-04	mg/kg-day	1.5E-03
				Chromium	8E+03	mg/kg	5.8E-04	mg/kg-day	N/A	N/A	N/A	2.0E-03	mg/kg-day	1.5E+00	mg/kg-day	1.4E-03
				Chromium, Hexavalent	2E+01	mg/kg	1.4E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.4E-06	4.7E-06	mg/kg-day	3.0E-03	mg/kg-day	1.6E-03
				Cobalt	3E+01	mg/kg	2.4E-06	mg/kg-day	N/A	N/A	N/A	8.3E-06	mg/kg-day	3.0E-04	mg/kg-day	2.8E-02
				Copper	3E+02	mg/kg	2.3E-05	mg/kg-day	N/A	N/A	N/A	8.0E-05	mg/kg-day	4.0E-02	mg/kg-day	2.0E-03
				Cyanide	2E+00	mg/kg	1.6E-07	mg/kg-day	N/A	N/A	N/A	5.4E-07	mg/kg-day	1.0E-03	mg/kg-day	5.4E-04
				Iron	2E+04	mg/kg	1.3E-03	mg/kg-day	N/A	N/A	N/A	4.6E-03	mg/kg-day	7.0E-01	mg/kg-day	6.6E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	7E+02	mg/kg	5.3E-05	mg/kg-day	N/A	N/A	N/A	1.8E-04	mg/kg-day	2.4E-02	mg/kg-day	7.7E-03
				Nickel	1E+02	mg/kg	8.3E-06	mg/kg-day	N/A	N/A	N/A	2.9E-05	mg/kg-day	2.0E-02	mg/kg-day	1.5E-03
				Silver	1E+02	mg/kg	8.6E-06	mg/kg-day	N/A	N/A	N/A	3.0E-05	mg/kg-day	5.0E-03	mg/kg-day	6.0E-03
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	1.5E-06	mg/kg-day	N/A	N/A	N/A	5.2E-06	mg/kg-day	5.0E-03	mg/kg-day	1.0E-03
			Exp. Route Total								2E-06					6E-02

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	1E-01	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	6.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.3E-08	2.4E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	4.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	9.0E-08	1.6E-07	mg/kg-day	3.0E-04	mg/kg-day	5.2E-04
				Benzo(b)fluoranthene	2E+00	mg/kg	8.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.6E-08	2.9E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	3.2E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	6.3E-10	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	1.0E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.0E-08	3.5E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	3.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.3E-09	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	8E-02	mg/kg	3.3E-09	mg/kg-day	N/A	N/A	N/A	1.1E-08	mg/kg-day	2.0E-02	mg/kg-day	5.7E-07
				4,4'-DDT	9E-01	mg/kg	8.3E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.8E-09	2.9E-08	mg/kg-day	5.0E-04	mg/kg-day	5.8E-05
				Endrin aldehyde	3E-02	mg/kg	1.1E-09	mg/kg-day	N/A	N/A	N/A	3.9E-09	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	3E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	2.8E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.2E-08	9.8E-08	mg/kg-day	3.0E-04	mg/kg-day	3.3E-04
				Chromium	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	2E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	7E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-07					9E-04
		Exposure Point Total									2E-06					6E-02

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	1.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.3E-08	5.8E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.8E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.6E-07	6.2E-07	mg/kg-day	3.0E-04	mg/kg-day	2.1E-03
				Benzo(b)fluoranthene	3E+00	mg/kg	2.0E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.0E-08	6.9E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	1.5E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	3.0E-09	5.3E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	7E-01	mg/kg	5.0E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	9.9E-10	1.7E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	8E-01	mg/kg	6.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.2E-07	2.1E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	4E+00	mg/kg	2.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.5E-08	9.6E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	1.1E-08	mg/kg-day	N/A	N/A	N/A	4.0E-08	mg/kg-day	2.0E-02	mg/kg-day	2.0E-06
				4,4'-DDT	2E-02	mg/kg	1.1E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	3.9E-10	4.0E-09	mg/kg-day	5.0E-04	mg/kg-day	8.0E-06
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	6.6E-04	mg/kg-day	N/A	N/A	N/A	2.3E-03	mg/kg-day	1.0E+00	mg/kg-day	2.3E-03
				Antimony	1E+00	mg/kg	9.0E-08	mg/kg-day	N/A	N/A	N/A	3.1E-07	mg/kg-day	4.0E-04	mg/kg-day	7.9E-04
				Arsenic	1E+01	mg/kg	4.4E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.7E-07	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5.2E-03
				Chromium	1E+03	mg/kg	9.0E-05	mg/kg-day	N/A	N/A	N/A	3.1E-04	mg/kg-day	1.5E+00	mg/kg-day	2.1E-04
				Chromium, Hexavalent	5E+00	mg/kg	3.8E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.8E-07	1.3E-06	mg/kg-day	3.0E-03	mg/kg-day	4.4E-04
				Cobalt	6E+00	mg/kg	4.9E-07	mg/kg-day	N/A	N/A	N/A	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	5.7E-03
				Copper	5E+01	mg/kg	3.6E-06	mg/kg-day	N/A	N/A	N/A	1.2E-05	mg/kg-day	4.0E-02	mg/kg-day	3.1E-04
				Cyanide	1E+00	mg/kg	1.1E-07	mg/kg-day	N/A	N/A	N/A	3.7E-07	mg/kg-day	1.0E-03	mg/kg-day	3.7E-04
				Iron	2E+04	mg/kg	1.4E-03	mg/kg-day	N/A	N/A	N/A	4.8E-03	mg/kg-day	7.0E-01	mg/kg-day	6.9E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	mg/kg	8.2E-05	mg/kg-day	N/A	N/A	N/A	2.9E-04	mg/kg-day	2.4E-02	mg/kg-day	1.2E-02
				Nickel	1E+01	mg/kg	1.1E-06	mg/kg-day	N/A	N/A	N/A	3.9E-06	mg/kg-day	2.0E-02	mg/kg-day	2.0E-04
				Silver	2E+01	mg/kg	1.3E-06	mg/kg-day	N/A	N/A	N/A	4.6E-06	mg/kg-day	5.0E-03	mg/kg-day	9.1E-04
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	1.3E-06	mg/kg-day	N/A	N/A	N/A	4.5E-06	mg/kg-day	5.0E-03	mg/kg-day	9.0E-04
			Exp. Route Total								2E-06					4E-02

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	9.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.8E-08	3.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	9.7E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.9E-07	3.4E-07	mg/kg-day	3.0E-04	mg/kg-day	1.1E-03
				Benzo(b)fluoranthene	3E+00	mg/kg	1.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.2E-08	3.8E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	8.4E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.7E-09	2.9E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	7E-01	mg/kg	2.1E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	4.2E-10	7.3E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	8E-01	mg/kg	3.4E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.7E-08	1.2E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	4E+00	mg/kg	1.5E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.0E-08	5.3E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	6.3E-09	mg/kg-day	N/A	N/A	N/A	2.2E-08	mg/kg-day	2.0E-02	mg/kg-day	1.1E-06
				4,4'-DDT	2E-02	mg/kg	1.5E-10	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	4.9E-11	5.1E-10	mg/kg-day	5.0E-04	mg/kg-day	1.0E-06
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+01	mg/kg	9.4E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.4E-07	3.3E-07	mg/kg-day	3.0E-04	mg/kg-day	1.1E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	5E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	6E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	5E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								5E-07					2E-03
		Exposure Point Total									2E-06					4E-02
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Southern Wetland	Ingestion													
				Trichloroethene	5E-03	mg/kg	1.3E-10	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	7.2E-12	4.5E-10	mg/kg-day	5.0E-04	mg/kg-day	9.1E-07
				Benzo(a)anthracene	7E-01	mg/kg	1.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.5E-09	6.1E-08	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	9E-01	mg/kg	2.2E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.4E-08	7.6E-08	mg/kg-day	3.0E-04	mg/kg-day	2.5E-04
				Benzo(b)fluoranthene	1E+00	mg/kg	3.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.0E-09	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	3.7E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	7.5E-11	1.3E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	4E-01	mg/kg	1.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.1E-08	3.7E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	2.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.1E-09	7.2E-08	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E+00	mg/kg	3.0E-08	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	7.3E-09	1.1E-07	mg/kg-day	3.0E-05	mg/kg-day	3.5E-03
				Aroclor-1260	ND	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	9E+03	mg/kg	2.2E-04	mg/kg-day	N/A	N/A	N/A	7.8E-04	mg/kg-day	1.0E+00	mg/kg-day	7.8E-04
				Antimony	1E+01	mg/kg	3.2E-07	mg/kg-day	N/A	N/A	N/A	1.1E-06	mg/kg-day	4.0E-04	mg/kg-day	2.8E-03
				Arsenic	1E+01	mg/kg	1.8E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.7E-07	6.2E-07	mg/kg-day	3.0E-04	mg/kg-day	2.1E-03
				Cadmium (other media)	1E+00	mg/kg	2.6E-08	mg/kg-day	N/A	N/A	N/A	9.1E-08	mg/kg-day	1.0E-03	mg/kg-day	9.1E-05
				Chromium	1E+04	mg/kg	3.2E-04	mg/kg-day	N/A	N/A	N/A	1.1E-03	mg/kg-day	1.5E+00	mg/kg-day	7.6E-04
				Chromium, Hexavalent	3E+01	mg/kg	6.9E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	6.9E-07	2.4E-06	mg/kg-day	3.0E-03	mg/kg-day	8.0E-04
				Cobalt	4E+01	mg/kg	9.4E-07	mg/kg-day	N/A	N/A	N/A	3.3E-06	mg/kg-day	3.0E-04	mg/kg-day	1.1E-02
				Copper	4E+02	mg/kg	1.1E-05	mg/kg-day	N/A	N/A	N/A	3.9E-05	mg/kg-day	4.0E-02	mg/kg-day	9.8E-04
				Cyanide	6E+01	mg/kg	1.6E-06	mg/kg-day	N/A	N/A	N/A	5.5E-06	mg/kg-day	1.0E-03	mg/kg-day	5.5E-03
				Iron	2E+04	mg/kg	4.9E-04	mg/kg-day	N/A	N/A	N/A	1.7E-03	mg/kg-day	7.0E-01	mg/kg-day	2.5E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	8.5E-06	mg/kg-day	N/A	N/A	N/A	3.0E-05	mg/kg-day	2.4E-02	mg/kg-day	1.2E-03
				Mercury (other media)	3E-01	mg/kg	6.7E-09	mg/kg-day	N/A	N/A	N/A	2.4E-08	mg/kg-day	1.0E-04	mg/kg-day	2.4E-04
				Nickel	2E+02	mg/kg	3.9E-06	mg/kg-day	N/A	N/A	N/A	1.4E-05	mg/kg-day	2.0E-02	mg/kg-day	6.8E-04
				Silver	3E+02	mg/kg	8.5E-06	mg/kg-day	N/A	N/A	N/A	3.0E-05	mg/kg-day	5.0E-03	mg/kg-day	6.0E-03
				Thallium	2E+00	mg/kg	3.8E-08	mg/kg-day	N/A	N/A	N/A	1.3E-07	mg/kg-day	1.0E-05	mg/kg-day	1.3E-02
				Vanadium	3E+01	mg/kg	6.9E-07	mg/kg-day	N/A	N/A	N/A	2.4E-06	mg/kg-day	5.0E-03	mg/kg-day	4.8E-04
			Exp. Route Total								1E-06					5E-02

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-03	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	7E-01	mg/kg	4.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.2E-09	1.4E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	9E-01	mg/kg	5.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.0E-07	1.8E-07	mg/kg-day	3.0E-04	mg/kg-day	6.0E-04
				Benzo(b)fluoranthene	1E+00	mg/kg	7.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.4E-08	2.5E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	6.8E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.4E-10	2.4E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	4E-01	mg/kg	2.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	5.0E-08	8.7E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	4.9E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.7E-09	1.7E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E+00	mg/kg	5.5E-08	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	1.3E-08	1.9E-07	mg/kg-day	3.0E-05	mg/kg-day	6.4E-03
				Aroclor-1260	ND	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+01	mg/kg	1.6E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.4E-07	5.6E-07	mg/kg-day	3.0E-04	mg/kg-day	1.9E-03
				Cadmium (other media)	1E+00	mg/kg	4.7E-10	mg/kg-day	N/A	N/A	N/A	1.7E-09	mg/kg-day	2.5E-05	mg/kg-day	6.6E-05
				Chromium	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	3E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	4E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	4E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	6E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								4E-07					9E-03
		Exposure Point Total									1E-06					6E-02

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Ingestion													
				Trichloroethene	7E-01	mg/kg	5.2E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	2.9E-09	1.8E-07	mg/kg-day	5.0E-04	mg/kg-day	3.7E-04
				Benzo(a)anthracene	2E+00	mg/kg	1.2E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.3E-08	4.1E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.3E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.5E-07	4.4E-07	mg/kg-day	3.0E-04	mg/kg-day	1.5E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	1.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.2E-08	3.9E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	2.1E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	4.2E-10	7.3E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	3E-01	mg/kg	2.6E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	5.3E-08	9.2E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	7.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.4E-08	2.5E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E-02	mg/kg	9.8E-10	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	2.3E-10	3.4E-09	mg/kg-day	3.0E-05	mg/kg-day	1.1E-04
				Aroclor-1260	3E-02	mg/kg	2.2E-09	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	4.4E-09	7.7E-09	mg/kg-day	2.0E-05	mg/kg-day	3.9E-04
				Aluminum	7E+03	mg/kg	5.4E-04	mg/kg-day	N/A	N/A	N/A	1.9E-03	mg/kg-day	1.0E+00	mg/kg-day	1.9E-03
				Antimony	2E+00	mg/kg	1.3E-07	mg/kg-day	N/A	N/A	N/A	4.4E-07	mg/kg-day	4.0E-04	mg/kg-day	1.1E-03
				Arsenic	4E+00	mg/kg	2.0E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.0E-07	7.1E-07	mg/kg-day	3.0E-04	mg/kg-day	2.4E-03
				Cadmium (other media)	7E-01	mg/kg	5.5E-08	mg/kg-day	N/A	N/A	N/A	1.9E-07	mg/kg-day	1.0E-03	mg/kg-day	1.9E-04
				Chromium	3E+03	mg/kg	2.4E-04	mg/kg-day	N/A	N/A	N/A	8.3E-04	mg/kg-day	1.5E+00	mg/kg-day	5.5E-04
				Chromium, Hexavalent	5E+01	mg/kg	3.7E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.7E-06	1.3E-05	mg/kg-day	3.0E-03	mg/kg-day	4.3E-03
				Cobalt	7E+00	mg/kg	5.3E-07	mg/kg-day	N/A	N/A	N/A	1.8E-06	mg/kg-day	3.0E-04	mg/kg-day	6.1E-03
				Copper	3E+01	mg/kg	2.6E-06	mg/kg-day	N/A	N/A	N/A	9.2E-06	mg/kg-day	4.0E-02	mg/kg-day	2.3E-04
				Cyanide	3E-01	mg/kg	2.6E-08	mg/kg-day	N/A	N/A	N/A	9.0E-08	mg/kg-day	1.0E-03	mg/kg-day	9.0E-05
				Iron	1E+04	mg/kg	1.1E-03	mg/kg-day	N/A	N/A	N/A	3.7E-03	mg/kg-day	7.0E-01	mg/kg-day	5.3E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	6E+02	mg/kg	4.4E-05	mg/kg-day	N/A	N/A	N/A	1.6E-04	mg/kg-day	2.4E-02	mg/kg-day	6.5E-03
				Mercury (other media)	2E-01	mg/kg	1.2E-08	mg/kg-day	N/A	N/A	N/A	4.1E-08	mg/kg-day	1.0E-04	mg/kg-day	4.1E-04
				Nickel	2E+01	mg/kg	1.2E-06	mg/kg-day	N/A	N/A	N/A	4.4E-06	mg/kg-day	2.0E-02	mg/kg-day	2.2E-04
				Silver	5E+00	mg/kg	3.7E-07	mg/kg-day	N/A	N/A	N/A	1.3E-06	mg/kg-day	5.0E-03	mg/kg-day	2.6E-04
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	9E+00	mg/kg	7.0E-07	mg/kg-day	N/A	N/A	N/A	2.5E-06	mg/kg-day	5.0E-03	mg/kg-day	4.9E-04
			Exp. Route Total								4E-06					3E-02

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	7E-01	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	2.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.5E-08	9.6E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	3.0E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	5.9E-07	1.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3.5E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	2.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.2E-08	9.1E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	3.8E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	7.5E-10	1.3E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	3E-01	mg/kg	6.2E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.2E-07	2.2E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	1.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.4E-08	5.9E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E-02	mg/kg	1.8E-09	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	4.2E-10	6.2E-09	mg/kg-day	3.0E-05	mg/kg-day	2.1E-04
				Aroclor-1260	3E-02	mg/kg	5.6E-09	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	1.1E-08	2.0E-08	mg/kg-day	2.0E-05	mg/kg-day	9.8E-04
				Aluminum	7E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E+00	mg/kg	1.8E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.7E-07	6.4E-07	mg/kg-day	3.0E-04	mg/kg-day	2.1E-03
				Cadmium (other media)	7E-01	mg/kg	1.0E-09	mg/kg-day	N/A	N/A	N/A	3.5E-09	mg/kg-day	2.5E-05	mg/kg-day	1.4E-04
				Chromium	3E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	5E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	7E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	6E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	5E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	9E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-06					7E-03
		Exposure Point Total									6E-06					4E-02

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bungay River/ Mechanics Pond	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	1.0E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.1E-08	3.6E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.1E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.2E-07	3.8E-07	mg/kg-day	3.0E-04	mg/kg-day	1.3E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	1.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.6E-08	4.5E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	7E-01	mg/kg	5.3E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.1E-07	1.9E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	7.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.5E-08	2.5E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	3E-01	mg/kg	2.0E-08	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	4.8E-09	6.9E-08	mg/kg-day	3.0E-05	mg/kg-day	2.3E-03
				Aroclor-1260	2E-01	mg/kg	1.4E-08	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	2.9E-08	5.0E-08	mg/kg-day	2.0E-05	mg/kg-day	2.5E-03
				Aluminum	1E+04	mg/kg	7.3E-04	mg/kg-day	N/A	N/A	N/A	2.6E-03	mg/kg-day	1.0E+00	mg/kg-day	2.6E-03
				Antimony	7E-01	mg/kg	5.0E-08	mg/kg-day	N/A	N/A	N/A	1.8E-07	mg/kg-day	4.0E-04	mg/kg-day	4.4E-04
				Arsenic	5E+00	mg/kg	2.3E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.5E-07	8.1E-07	mg/kg-day	3.0E-04	mg/kg-day	2.7E-03
				Cadmium (other media)	1E+01	mg/kg	1.1E-06	mg/kg-day	N/A	N/A	N/A	3.8E-06	mg/kg-day	1.0E-03	mg/kg-day	3.8E-03
				Chromium	2E+03	mg/kg	1.3E-04	mg/kg-day	N/A	N/A	N/A	4.6E-04	mg/kg-day	1.5E+00	mg/kg-day	3.0E-04
				Chromium, Hexavalent	9E+00	mg/kg	6.9E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	6.9E-07	2.4E-06	mg/kg-day	3.0E-03	mg/kg-day	8.1E-04
				Cobalt	8E+00	mg/kg	6.4E-07	mg/kg-day	N/A	N/A	N/A	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	7.5E-03
				Copper	1E+03	mg/kg	1.0E-04	mg/kg-day	N/A	N/A	N/A	3.7E-04	mg/kg-day	4.0E-02	mg/kg-day	9.2E-03
				Cyanide	3E-01	mg/kg	2.4E-08	mg/kg-day	N/A	N/A	N/A	8.5E-08	mg/kg-day	1.0E-03	mg/kg-day	8.5E-05
				Iron	2E+04	mg/kg	1.2E-03	mg/kg-day	N/A	N/A	N/A	4.1E-03	mg/kg-day	7.0E-01	mg/kg-day	5.8E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	mg/kg	3.7E-05	mg/kg-day	N/A	N/A	N/A	1.3E-04	mg/kg-day	2.4E-02	mg/kg-day	5.4E-03
				Mercury (other media)	2E+00	mg/kg	1.9E-07	mg/kg-day	N/A	N/A	N/A	6.5E-07	mg/kg-day	1.0E-04	mg/kg-day	6.5E-03
				Nickel	2E+02	mg/kg	1.9E-05	mg/kg-day	N/A	N/A	N/A	6.7E-05	mg/kg-day	2.0E-02	mg/kg-day	3.3E-03
				Silver	1E+02	mg/kg	7.8E-06	mg/kg-day	N/A	N/A	N/A	2.7E-05	mg/kg-day	5.0E-03	mg/kg-day	5.5E-03
				Thallium	7E-01	mg/kg	5.3E-08	mg/kg-day	N/A	N/A	N/A	1.9E-07	mg/kg-day	1.0E-05	mg/kg-day	1.9E-02
				Vanadium	1E+01	mg/kg	1.0E-06	mg/kg-day	N/A	N/A	N/A	3.7E-06	mg/kg-day	5.0E-03	mg/kg-day	7.3E-04
			Exp. Route Total								1E-06					8E-02

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	2.4E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.9E-08	8.5E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	2.6E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	5.1E-07	9.0E-07	mg/kg-day	3.0E-04	mg/kg-day	3.0E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	3.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.1E-08	1.1E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	7E-01	mg/kg	1.3E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.5E-07	4.4E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.4E-08	6.0E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	3E-01	mg/kg	3.6E-08	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	8.6E-09	1.3E-07	mg/kg-day	3.0E-05	mg/kg-day	4.2E-03
				Aroclor-1260	2E-01	mg/kg	3.6E-08	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	7.2E-08	1.3E-07	mg/kg-day	2.0E-05	mg/kg-day	6.3E-03
				Aluminum	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	7E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	5E+00	mg/kg	2.1E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.1E-07	7.3E-07	mg/kg-day	3.0E-04	mg/kg-day	2.4E-03
				Cadmium (other media)	1E+01	mg/kg	2.0E-08	mg/kg-day	N/A	N/A	N/A	6.9E-08	mg/kg-day	2.5E-05	mg/kg-day	2.8E-03
				Chromium	2E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	9E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	8E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	7E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-06					2E-02
		Exposure Point Total									3E-06					1E-01

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Downstream of Mechanics Pond	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(a)pyrene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Benzo(b)fluoranthene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Carbazole	N/A	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				4,4'-DDD	N/A	mg/kg	N/A	N/A	2.4E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-05	mg/kg-day	N/A
				Aroclor-1260	N/A	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	8E+03	mg/kg	6.0E-04	mg/kg-day	N/A	N/A	N/A	2.1E-03	mg/kg-day	1.0E+00	mg/kg-day	2.1E-03
				Antimony	3E-01	mg/kg	2.5E-08	mg/kg-day	N/A	N/A	N/A	8.8E-08	mg/kg-day	4.0E-04	mg/kg-day	2.2E-04
				Arsenic	3E+01	mg/kg	1.4E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.1E-06	5.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1.7E-02
				Cadmium (other media)	2E+00	mg/kg	1.1E-07	mg/kg-day	N/A	N/A	N/A	4.0E-07	mg/kg-day	1.0E-03	mg/kg-day	4.0E-04
				Chromium	2E+02	mg/kg	1.2E-05	mg/kg-day	N/A	N/A	N/A	4.1E-05	mg/kg-day	1.5E+00	mg/kg-day	2.7E-05
				Chromium, Hexavalent	3E+00	mg/kg	2.5E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	2.5E-07	8.8E-07	mg/kg-day	3.0E-03	mg/kg-day	2.9E-04
				Cobalt	4E+00	mg/kg	3.2E-07	mg/kg-day	N/A	N/A	N/A	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	3.7E-03
				Copper	1E+02	mg/kg	9.9E-06	mg/kg-day	N/A	N/A	N/A	3.5E-05	mg/kg-day	4.0E-02	mg/kg-day	8.7E-04
				Cyanide	3E+00	mg/kg	2.4E-07	mg/kg-day	N/A	N/A	N/A	8.3E-07	mg/kg-day	1.0E-03	mg/kg-day	8.3E-04
				Iron	3E+05	mg/kg	2.3E-02	mg/kg-day	N/A	N/A	N/A	8.1E-02	mg/kg-day	7.0E-01	mg/kg-day	1.2E-01
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	2E+03	mg/kg	1.6E-04	mg/kg-day	N/A	N/A	N/A	5.6E-04	mg/kg-day	2.4E-02	mg/kg-day	2.3E-02
				Mercury (other media)	4E-01	mg/kg	2.9E-08	mg/kg-day	N/A	N/A	N/A	1.0E-07	mg/kg-day	1.0E-04	mg/kg-day	1.0E-03
				Nickel	2E+01	mg/kg	1.1E-06	mg/kg-day	N/A	N/A	N/A	4.0E-06	mg/kg-day	2.0E-02	mg/kg-day	2.0E-04
				Silver	3E+01	mg/kg	1.9E-06	mg/kg-day	N/A	N/A	N/A	6.7E-06	mg/kg-day	5.0E-03	mg/kg-day	1.3E-03
				Thallium	3E-01	mg/kg	2.2E-08	mg/kg-day	N/A	N/A	N/A	7.7E-08	mg/kg-day	1.0E-05	mg/kg-day	7.7E-03
				Vanadium	3E+01	mg/kg	2.3E-06	mg/kg-day	N/A	N/A	N/A	8.1E-06	mg/kg-day	5.0E-03	mg/kg-day	1.6E-03
			Exp. Route Total								2E-06					2E-01

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(a)pyrene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Benzo(b)fluoranthene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Carbazole	N/A	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				4,4'-DDD	N/A	mg/kg	N/A	N/A	2.4E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-05	mg/kg-day	N/A
				Aroclor-1260	N/A	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+01	mg/kg	1.3E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.9E-06	4.5E-06	mg/kg-day	3.0E-04	mg/kg-day	1.5E-02
				Cadmium (other media)	2E+00	mg/kg	2.1E-09	mg/kg-day	N/A	N/A	N/A	7.3E-09	mg/kg-day	2.5E-05	mg/kg-day	2.9E-04
				Chromium	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	3E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	4E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	3E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	3E+05	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	2E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	4E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-06					2E-02
		Exposure Point Total									4E-06					2E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Water	Surface Water	Southern Wetland	Dermal													
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	2E+00	ug/L	1.6E-07	mg/kg-day	N/A	N/A	N/A	5.7E-07	mg/kg-day	2.0E-03	mg/kg-day	2.9E-04
				Trichloroethene	3E+00	ug/L	2.0E-07	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.1E-08	7.0E-07	mg/kg-day	5.0E-04	mg/kg-day	1.4E-03
				Vinyl chloride	6E-02	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	6E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	2E+03	ug/L	7.8E-06	mg/kg-day	N/A	N/A	N/A	2.7E-05	mg/kg-day	1.0E+00	mg/kg-day	2.7E-05
				Antimony	2E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	2E-01	ug/L	9.3E-10	mg/kg-day	N/A	N/A	N/A	3.3E-09	mg/kg-day	2.5E-05	mg/kg-day	1.3E-04
				Chromium	3E+02	ug/L	1.3E-06	mg/kg-day	N/A	N/A	N/A	4.6E-06	mg/kg-day	2.0E-02	mg/kg-day	2.3E-04
				Chromium, Hexavalent	6E-01	ug/L	5.9E-09	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	2.4E-07	2.1E-08	mg/kg-day	7.5E-05	mg/kg-day	2.7E-04
				Cobalt	1E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	4E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	7E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	ug/L	4.9E-06	mg/kg-day	N/A	N/A	N/A	1.7E-05	mg/kg-day	9.6E-04	mg/kg-day	1.8E-02
				Silver	7E+00	ug/L	2.1E-08	mg/kg-day	N/A	N/A	N/A	7.2E-08	mg/kg-day	2.0E-04	mg/kg-day	3.6E-04
				Thallium	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								2E-07					2E-02
		Exposure Point Total									2E-07					2E-02

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Dermal													
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	2E-01	ug/L	4.9E-08	mg/kg-day	N/A	N/A	N/A	1.7E-07	mg/kg-day	2.0E-03	mg/kg-day	8.6E-05
				Trichloroethene	2E-01	ug/L	5.4E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	3.0E-09	1.9E-07	mg/kg-day	5.0E-04	mg/kg-day	3.8E-04
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	4E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	3E+03	ug/L	4.1E-05	mg/kg-day	N/A	N/A	N/A	1.4E-04	mg/kg-day	1.0E+00	mg/kg-day	1.4E-04
				Antimony	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	6E-01	ug/L	8.1E-09	mg/kg-day	N/A	N/A	N/A	2.8E-08	mg/kg-day	2.5E-05	mg/kg-day	1.1E-03
				Chromium	7E+02	ug/L	9.7E-06	mg/kg-day	N/A	N/A	N/A	3.4E-05	mg/kg-day	2.0E-02	mg/kg-day	1.7E-03
				Chromium, Hexavalent	1E+02	ug/L	2.7E-06	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	1.1E-04	9.5E-06	mg/kg-day	7.5E-05	mg/kg-day	1.3E-01
				Cobalt	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	8E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	ug/L	1.9E-05	mg/kg-day	N/A	N/A	N/A	6.7E-05	mg/kg-day	9.6E-04	mg/kg-day	7.0E-02
				Silver	2E-02	ug/L	1.5E-10	mg/kg-day	N/A	N/A	N/A	5.2E-10	mg/kg-day	2.0E-04	mg/kg-day	2.6E-06
				Thallium	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								1E-04					2E-01
		Exposure Point Total									1E-04					2E-01

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bungay River/ Mechanics Pond	Ingestion													
				Bromodichloromethane	4E-01	ug/L	7.3E-09	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	4.5E-10	2.6E-08	mg/kg-day	2.0E-02	mg/kg-day	1.3E-06
				Chloroform	2E+00	ug/L	4.2E-08	mg/kg-day	3.1E-02	(mg/kg-day) $^{-1}$	1.3E-09	1.5E-07	mg/kg-day	1.0E-02	mg/kg-day	1.5E-05
				cis-1,2-Dichloroethene	2E-01	ug/L	3.0E-09	mg/kg-day	N/A	N/A	N/A	1.1E-08	mg/kg-day	2.0E-03	mg/kg-day	5.3E-06
				Trichloroethene	5E-02	ug/L	9.6E-10	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	5.3E-11	3.4E-09	mg/kg-day	5.0E-04	mg/kg-day	6.7E-06
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	8.9E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.9E-10	3.1E-08	mg/kg-day	3.0E-02	mg/kg-day	1.0E-06
				Aluminum	4E+02	ug/L	7.8E-06	mg/kg-day	N/A	N/A	N/A	2.7E-05	mg/kg-day	1.0E+00	mg/kg-day	2.7E-05
				Antimony	6E-01	ug/L	1.1E-08	mg/kg-day	N/A	N/A	N/A	4.0E-08	mg/kg-day	4.0E-04	mg/kg-day	1.0E-04
				Arsenic	4E-01	ug/L	7.8E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.2E-08	2.7E-08	mg/kg-day	3.0E-04	mg/kg-day	9.1E-05
				Cadmium (water)	2E-01	ug/L	4.0E-09	mg/kg-day	N/A	N/A	N/A	1.4E-08	mg/kg-day	5.0E-04	mg/kg-day	2.8E-05
				Chromium	1E+01	ug/L	2.8E-07	mg/kg-day	N/A	N/A	N/A	9.7E-07	mg/kg-day	1.5E+00	mg/kg-day	6.5E-07
				Chromium, Hexavalent	4E-01	ug/L	8.1E-09	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	8.1E-09	2.8E-08	mg/kg-day	3.0E-03	mg/kg-day	9.4E-06
				Cobalt	1E+00	ug/L	2.5E-08	mg/kg-day	N/A	N/A	N/A	8.7E-08	mg/kg-day	3.0E-04	mg/kg-day	2.9E-04
				Cyanide	3E+00	ug/L	5.3E-08	mg/kg-day	N/A	N/A	N/A	1.9E-07	mg/kg-day	1.0E-03	mg/kg-day	1.9E-04
				Iron	2E+03	ug/L	4.6E-05	mg/kg-day	N/A	N/A	N/A	1.6E-04	mg/kg-day	7.0E-01	mg/kg-day	2.3E-04
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	ug/L	6.4E-06	mg/kg-day	N/A	N/A	N/A	2.3E-05	mg/kg-day	2.4E-02	mg/kg-day	9.4E-04
				Silver	5E-01	ug/L	8.9E-09	mg/kg-day	N/A	N/A	N/A	3.1E-08	mg/kg-day	5.0E-03	mg/kg-day	6.2E-06
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								2E-08					2E-03

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Bromodichloromethane	4E-01	ug/L	3.4E-08	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	2.1E-09	1.2E-07	mg/kg-day	2.0E-02	mg/kg-day	6.0E-06
				Chloroform	2E+00	ug/L	2.2E-07	mg/kg-day	3.1E-02	(mg/kg-day) $^{-1}$	6.8E-09	7.6E-07	mg/kg-day	1.0E-02	mg/kg-day	7.6E-05
				cis-1,2-Dichloroethene	2E-01	ug/L	2.7E-08	mg/kg-day	N/A	N/A	N/A	9.4E-08	mg/kg-day	2.0E-03	mg/kg-day	4.7E-05
				Trichloroethene	5E-02	ug/L	9.2E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	5.1E-10	3.2E-08	mg/kg-day	5.0E-04	mg/kg-day	6.4E-05
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	4E+02	ug/L	3.1E-06	mg/kg-day	N/A	N/A	N/A	1.1E-05	mg/kg-day	1.0E+00	mg/kg-day	1.1E-05
				Antimony	6E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E-01	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	2E-01	ug/L	1.6E-09	mg/kg-day	N/A	N/A	N/A	5.5E-09	mg/kg-day	2.5E-05	mg/kg-day	2.2E-04
				Chromium	1E+01	ug/L	1.1E-07	mg/kg-day	N/A	N/A	N/A	3.8E-07	mg/kg-day	2.0E-02	mg/kg-day	2.0E-05
				Chromium, Hexavalent	4E-01	ug/L	6.3E-09	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	2.5E-07	2.2E-08	mg/kg-day	7.5E-05	mg/kg-day	3.0E-04
				Cobalt	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	ug/L	2.5E-06	mg/kg-day	N/A	N/A	N/A	8.9E-06	mg/kg-day	9.6E-04	mg/kg-day	9.2E-03
				Silver	5E-01	ug/L	2.1E-09	mg/kg-day	N/A	N/A	N/A	7.3E-09	mg/kg-day	2.0E-04	mg/kg-day	3.7E-05
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								3E-07					1E-02
		Exposure Point Total									3E-07					1E-02

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Downstream of Mechanics Pond	Dermal													
				Bromodichloromethane	4E-01	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	2E+00	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	7E-01	ug/L	1.5E-07	mg/kg-day	N/A	N/A	N/A	5.3E-07	mg/kg-day	2.0E-03	mg/kg-day	2.7E-04
				Trichloroethene	8E-02	ug/L	1.6E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	9.1E-10	5.7E-08	mg/kg-day	5.0E-04	mg/kg-day	1.1E-04
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	8E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	3E+01	ug/L	4.1E-07	mg/kg-day	N/A	N/A	N/A	1.4E-06	mg/kg-day	1.0E+00	mg/kg-day	1.4E-06
				Antimony	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E-01	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	1E-01	ug/L	1.4E-09	mg/kg-day	N/A	N/A	N/A	4.8E-09	mg/kg-day	2.5E-05	mg/kg-day	1.9E-04
				Chromium	3E+00	ug/L	3.5E-08	mg/kg-day	N/A	N/A	N/A	1.2E-07	mg/kg-day	2.0E-02	mg/kg-day	6.2E-06
				Chromium, Hexavalent	1E+00	ug/L	3.1E-08	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	1.2E-06	1.1E-07	mg/kg-day	7.5E-05	mg/kg-day	1.5E-03
				Cobalt	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	5E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	3E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	ug/L	1.6E-05	mg/kg-day	N/A	N/A	N/A	5.5E-05	mg/kg-day	9.6E-04	mg/kg-day	5.7E-02
				Silver	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								1E-06					6E-02
		Exposure Point Total									1E-06					6E-02
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 (mg/kg-day)$^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 (mg/kg-day)$^{-1}$]. Use of the adult-based CSF [4.6E-2 (mg/kg-day)$^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x CAF (0.804)] x 10/20 +
[intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x MAF (0.202) x 1 + intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x CAF (0.804)] x 10/20

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Wetland/Floodplain Surface Soil (0-2 ft)	Southern Wetland	Ingestion													
				Trichloroethene	1E-01	mg/kg	4.4E-10	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	2.5E-11	4.4E-09	mg/kg-day	5.0E-04	mg/kg-day	8.9E-06
				Benzo(a)anthracene	2E+00	mg/kg	7.2E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.4E-09	7.2E-08	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	4.8E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	9.6E-09	4.8E-08	mg/kg-day	3.0E-04	mg/kg-day	1.6E-04
				Benzo(b)fluoranthene	2E+00	mg/kg	8.8E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.8E-09	8.8E-08	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	3.4E-09	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	6.7E-11	3.4E-08	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	1.1E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.1E-09	1.1E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	3.4E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.7E-10	3.4E-08	mg/kg-day	N/A	N/A	N/A
				Naphthalene	8E-02	mg/kg	3.5E-10	mg/kg-day	N/A	N/A	N/A	3.5E-09	mg/kg-day	2.0E-02	mg/kg-day	1.7E-07
				4,4'-DDT	9E-01	mg/kg	3.8E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	1.3E-09	3.8E-08	mg/kg-day	5.0E-04	mg/kg-day	7.7E-05
				Endrin aldehyde	3E-02	mg/kg	1.5E-10	mg/kg-day	N/A	N/A	N/A	1.5E-09	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	3.8E-05	mg/kg-day	N/A	N/A	N/A	3.8E-04	mg/kg-day	1.0E+00	mg/kg-day	3.8E-04
				Antimony	3E+00	mg/kg	1.3E-08	mg/kg-day	N/A	N/A	N/A	1.3E-07	mg/kg-day	4.0E-04	mg/kg-day	3.2E-04
				Arsenic	3E+00	mg/kg	7.7E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.2E-08	7.7E-08	mg/kg-day	3.0E-04	mg/kg-day	2.6E-04
				Chromium	8E+03	mg/kg	3.4E-05	mg/kg-day	N/A	N/A	N/A	3.4E-04	mg/kg-day	1.5E+00	mg/kg-day	2.3E-04
				Chromium, Hexavalent	2E+01	mg/kg	7.9E-08	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	7.9E-08	7.9E-07	mg/kg-day	3.0E-03	mg/kg-day	2.6E-04
				Cobalt	3E+01	mg/kg	1.4E-07	mg/kg-day	N/A	N/A	N/A	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	4.6E-03
				Copper	3E+02	mg/kg	1.3E-06	mg/kg-day	N/A	N/A	N/A	1.3E-05	mg/kg-day	4.0E-02	mg/kg-day	3.3E-04
				Cyanide	2E+00	mg/kg	9.1E-09	mg/kg-day	N/A	N/A	N/A	9.1E-08	mg/kg-day	1.0E-03	mg/kg-day	9.1E-05
				Iron	2E+04	mg/kg	7.7E-05	mg/kg-day	N/A	N/A	N/A	7.7E-04	mg/kg-day	7.0E-01	mg/kg-day	1.1E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	7E+02	mg/kg	3.1E-06	mg/kg-day	N/A	N/A	N/A	3.1E-05	mg/kg-day	2.4E-02	mg/kg-day	1.3E-03
				Nickel	1E+02	mg/kg	4.8E-07	mg/kg-day	N/A	N/A	N/A	4.8E-06	mg/kg-day	2.0E-02	mg/kg-day	2.4E-04
				Silver	1E+02	mg/kg	5.0E-07	mg/kg-day	N/A	N/A	N/A	5.0E-06	mg/kg-day	5.0E-03	mg/kg-day	1.0E-03
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	8.7E-08	mg/kg-day	N/A	N/A	N/A	8.7E-07	mg/kg-day	5.0E-03	mg/kg-day	1.7E-04
			Exp. Route Total								1E-07					1E-02

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	1E-01	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	7.9E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.6E-09	7.9E-08	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	5.2E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.0E-08	5.2E-08	mg/kg-day	3.0E-04	mg/kg-day	1.7E-04
				Benzo(b)fluoranthene	2E+00	mg/kg	9.6E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.9E-09	9.6E-08	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	3.7E-09	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	7.4E-11	3.7E-08	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	1.2E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.3E-09	1.2E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	3.7E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.4E-10	3.7E-08	mg/kg-day	N/A	N/A	N/A
				Naphthalene	8E-02	mg/kg	3.8E-10	mg/kg-day	N/A	N/A	N/A	3.8E-09	mg/kg-day	2.0E-02	mg/kg-day	1.9E-07
				4,4'-DDT	9E-01	mg/kg	9.7E-10	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	3.3E-10	9.7E-09	mg/kg-day	5.0E-04	mg/kg-day	1.9E-05
				Endrin aldehyde	3E-02	mg/kg	1.3E-10	mg/kg-day	N/A	N/A	N/A	1.3E-09	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	3E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	3.3E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.9E-09	3.3E-08	mg/kg-day	3.0E-04	mg/kg-day	1.1E-04
				Chromium	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	2E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	7E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-08					3E-04
		Exposure Point Total									1E-07					1E-02

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	9.6E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.9E-09	9.6E-08	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.0E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.1E-08	1.0E-07	mg/kg-day	3.0E-04	mg/kg-day	3.5E-04
				Benzo(b)fluoranthene	3E+00	mg/kg	1.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.3E-09	1.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	8.9E-09	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.8E-10	8.9E-08	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	9.4E-10	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.9E-11	9.4E-09	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	9.2E-10	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.8E-09	9.2E-09	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	3.7E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.4E-10	3.7E-08	mg/kg-day	N/A	N/A	N/A
				Naphthalene	3E-02	mg/kg	1.5E-10	mg/kg-day	N/A	N/A	N/A	1.5E-09	mg/kg-day	2.0E-02	mg/kg-day	7.6E-08
				4,4'-DDT	2E-02	mg/kg	6.7E-11	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.3E-11	6.7E-10	mg/kg-day	5.0E-04	mg/kg-day	1.3E-06
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	3.8E-05	mg/kg-day	N/A	N/A	N/A	3.8E-04	mg/kg-day	1.0E+00	mg/kg-day	3.8E-04
				Antimony	1E+00	mg/kg	5.2E-09	mg/kg-day	N/A	N/A	N/A	5.2E-08	mg/kg-day	4.0E-04	mg/kg-day	1.3E-04
				Arsenic	1E+01	mg/kg	2.6E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.9E-08	2.6E-07	mg/kg-day	3.0E-04	mg/kg-day	8.6E-04
				Chromium	1E+03	mg/kg	5.2E-06	mg/kg-day	N/A	N/A	N/A	5.2E-05	mg/kg-day	1.5E+00	mg/kg-day	3.5E-05
				Chromium, Hexavalent	5E+00	mg/kg	2.2E-08	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	2.2E-08	2.2E-07	mg/kg-day	3.0E-03	mg/kg-day	7.4E-05
				Cobalt	6E+00	mg/kg	2.9E-08	mg/kg-day	N/A	N/A	N/A	2.9E-07	mg/kg-day	3.0E-04	mg/kg-day	9.6E-04
				Copper	5E+01	mg/kg	2.1E-07	mg/kg-day	N/A	N/A	N/A	2.1E-06	mg/kg-day	4.0E-02	mg/kg-day	5.2E-05
				Cyanide	1E+00	mg/kg	6.2E-09	mg/kg-day	N/A	N/A	N/A	6.2E-08	mg/kg-day	1.0E-03	mg/kg-day	6.2E-05
				Iron	2E+04	mg/kg	8.1E-05	mg/kg-day	N/A	N/A	N/A	8.1E-04	mg/kg-day	7.0E-01	mg/kg-day	1.2E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	mg/kg	4.8E-06	mg/kg-day	N/A	N/A	N/A	4.8E-05	mg/kg-day	2.4E-02	mg/kg-day	2.0E-03
				Nickel	1E+01	mg/kg	6.6E-08	mg/kg-day	N/A	N/A	N/A	6.6E-07	mg/kg-day	2.0E-02	mg/kg-day	3.3E-05
				Silver	2E+01	mg/kg	7.6E-08	mg/kg-day	N/A	N/A	N/A	7.6E-07	mg/kg-day	5.0E-03	mg/kg-day	1.5E-04
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	7.5E-08	mg/kg-day	N/A	N/A	N/A	7.5E-07	mg/kg-day	5.0E-03	mg/kg-day	1.5E-04
			Exp. Route Total								9E-08					6E-03

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	1.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.1E-09	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.3E-08	1.1E-07	mg/kg-day	3.0E-04	mg/kg-day	3.8E-04
				Benzo(b)fluoranthene	3E+00	mg/kg	1.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.5E-09	1.3E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	9.8E-09	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	2.0E-10	9.8E-08	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	8.0E-10	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.6E-11	8.0E-09	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	1.0E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.0E-09	1.0E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	4.1E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.1E-10	4.1E-08	mg/kg-day	N/A	N/A	N/A
				Naphthalene	3E-02	mg/kg	1.7E-10	mg/kg-day	N/A	N/A	N/A	1.7E-09	mg/kg-day	2.0E-02	mg/kg-day	8.4E-08
				4,4'-DDT	2E-02	mg/kg	1.7E-11	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	5.8E-12	1.7E-10	mg/kg-day	5.0E-04	mg/kg-day	3.4E-07
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+01	mg/kg	1.1E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.6E-08	1.1E-07	mg/kg-day	3.0E-04	mg/kg-day	3.6E-04
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	5E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	6E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	5E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								5E-08					7E-04
		Exposure Point Total									1E-07					7E-03
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Southern Wetland	Ingestion													
				Trichloroethene	5E-03	mg/kg	2.3E-11	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.3E-12	2.3E-10	mg/kg-day	5.0E-04	mg/kg-day	4.5E-07
				Benzo(a)anthracene	7E-01	mg/kg	3.1E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.1E-10	3.1E-08	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	9E-01	mg/kg	3.8E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.6E-09	3.8E-08	mg/kg-day	3.0E-04	mg/kg-day	1.3E-04
				Benzo(b)fluoranthene	1E+00	mg/kg	5.3E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.1E-09	5.3E-08	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	6.5E-10	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.3E-11	6.5E-09	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	4E-01	mg/kg	1.9E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.7E-09	1.9E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	3.6E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.2E-10	3.6E-08	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E+00	mg/kg	5.3E-09	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	1.3E-09	5.3E-08	mg/kg-day	3.0E-05	mg/kg-day	1.8E-03
				Aroclor-1260	ND	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	2E+04	mg/kg	7.6E-05	mg/kg-day	N/A	N/A	N/A	7.6E-04	mg/kg-day	1.0E+00	mg/kg-day	7.6E-04
				Antimony	1E+01	mg/kg	5.7E-08	mg/kg-day	N/A	N/A	N/A	5.7E-07	mg/kg-day	4.0E-04	mg/kg-day	1.4E-03
				Arsenic	1E+01	mg/kg	3.1E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.7E-08	3.1E-07	mg/kg-day	3.0E-04	mg/kg-day	1.0E-03
				Cadmium (other media)	1E+00	mg/kg	4.6E-09	mg/kg-day	N/A	N/A	N/A	4.6E-08	mg/kg-day	1.0E-03	mg/kg-day	4.6E-05
				Chromium	1E+04	mg/kg	5.7E-05	mg/kg-day	N/A	N/A	N/A	5.7E-04	mg/kg-day	1.5E+00	mg/kg-day	3.8E-04
				Chromium, Hexavalent	3E+01	mg/kg	1.2E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.2E-07	1.2E-06	mg/kg-day	3.0E-03	mg/kg-day	4.0E-04
				Cobalt	4E+01	mg/kg	1.7E-07	mg/kg-day	N/A	N/A	N/A	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	5.5E-03
				Copper	4E+02	mg/kg	2.0E-06	mg/kg-day	N/A	N/A	N/A	2.0E-05	mg/kg-day	4.0E-02	mg/kg-day	4.9E-04
				Cyanide	6E+01	mg/kg	2.8E-07	mg/kg-day	N/A	N/A	N/A	2.8E-06	mg/kg-day	1.0E-03	mg/kg-day	2.8E-03
				Iron	2E+04	mg/kg	8.6E-05	mg/kg-day	N/A	N/A	N/A	8.6E-04	mg/kg-day	7.0E-01	mg/kg-day	1.2E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.5E-06	mg/kg-day	N/A	N/A	N/A	1.5E-05	mg/kg-day	2.4E-02	mg/kg-day	6.2E-04
				Mercury (other media)	3E-01	mg/kg	1.2E-09	mg/kg-day	N/A	N/A	N/A	1.2E-08	mg/kg-day	1.0E-04	mg/kg-day	1.2E-04
				Nickel	2E+02	mg/kg	6.8E-07	mg/kg-day	N/A	N/A	N/A	6.8E-06	mg/kg-day	2.0E-02	mg/kg-day	3.4E-04
				Silver	3E+02	mg/kg	1.5E-06	mg/kg-day	N/A	N/A	N/A	1.5E-05	mg/kg-day	5.0E-03	mg/kg-day	3.0E-03
				Thallium	2E+00	mg/kg	6.7E-09	mg/kg-day	N/A	N/A	N/A	6.7E-08	mg/kg-day	1.0E-05	mg/kg-day	6.7E-03
				Vanadium	3E+01	mg/kg	1.2E-07	mg/kg-day	N/A	N/A	N/A	1.2E-06	mg/kg-day	5.0E-03	mg/kg-day	2.4E-04
			Exp. Route Total								2E-07					3E-02

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-03	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	7E-01	mg/kg	1.4E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.9E-09	1.4E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	9E-01	mg/kg	1.8E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.6E-08	1.8E-07	mg/kg-day	3.0E-04	mg/kg-day	6.0E-04
				Benzo(b)fluoranthene	1E+00	mg/kg	2.5E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.0E-09	2.5E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	2.4E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	4.7E-11	2.4E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	4E-01	mg/kg	8.7E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.7E-08	8.7E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	1.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.4E-09	1.7E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E+00	mg/kg	1.9E-08	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	4.6E-09	1.9E-07	mg/kg-day	3.0E-05	mg/kg-day	6.4E-03
				Aroclor-1260	ND	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+01	mg/kg	5.6E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.4E-08	5.6E-07	mg/kg-day	3.0E-04	mg/kg-day	1.9E-03
				Cadmium (other media)	1E+00	mg/kg	1.7E-10	mg/kg-day	N/A	N/A	N/A	1.7E-09	mg/kg-day	2.5E-05	mg/kg-day	6.6E-05
				Chromium	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	3E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	4E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	4E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	6E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-07					9E-03
		Exposure Point Total									3E-07					4E-02

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Ingestion													
				Trichloroethene	7E-01	mg/kg	3.1E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.7E-10	3.1E-08	mg/kg-day	5.0E-04	mg/kg-day	6.1E-05
				Benzo(a)anthracene	2E+00	mg/kg	6.8E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.4E-09	6.8E-08	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	7.3E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.5E-08	7.3E-08	mg/kg-day	3.0E-04	mg/kg-day	2.4E-04
				Benzo(b)fluoranthene	1E+00	mg/kg	6.5E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.3E-09	6.5E-08	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	1.2E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	2.4E-11	1.2E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	3E-01	mg/kg	1.5E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.1E-09	1.5E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	4.2E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.4E-10	4.2E-08	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E-02	mg/kg	5.7E-11	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	1.4E-11	5.7E-10	mg/kg-day	3.0E-05	mg/kg-day	1.9E-05
				Aroclor-1260	3E-02	mg/kg	1.3E-10	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	2.6E-10	1.3E-09	mg/kg-day	2.0E-05	mg/kg-day	6.5E-05
				Aluminum	2E+04	mg/kg	7.2E-05	mg/kg-day	N/A	N/A	N/A	7.2E-04	mg/kg-day	1.0E+00	mg/kg-day	7.2E-04
				Antimony	2E+00	mg/kg	7.3E-09	mg/kg-day	N/A	N/A	N/A	7.3E-08	mg/kg-day	4.0E-04	mg/kg-day	1.8E-04
				Arsenic	4E+00	mg/kg	1.2E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.8E-08	1.2E-07	mg/kg-day	3.0E-04	mg/kg-day	3.9E-04
				Cadmium (other media)	7E-01	mg/kg	3.2E-09	mg/kg-day	N/A	N/A	N/A	3.2E-08	mg/kg-day	1.0E-03	mg/kg-day	3.2E-05
				Chromium	3E+03	mg/kg	1.4E-05	mg/kg-day	N/A	N/A	N/A	1.4E-04	mg/kg-day	1.5E+00	mg/kg-day	9.2E-05
				Chromium, Hexavalent	5E+01	mg/kg	2.2E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	2.2E-07	2.2E-06	mg/kg-day	3.0E-03	mg/kg-day	7.2E-04
				Cobalt	7E+00	mg/kg	3.1E-08	mg/kg-day	N/A	N/A	N/A	3.1E-07	mg/kg-day	3.0E-04	mg/kg-day	1.0E-03
				Copper	3E+01	mg/kg	1.5E-07	mg/kg-day	N/A	N/A	N/A	1.5E-06	mg/kg-day	4.0E-02	mg/kg-day	3.8E-05
				Cyanide	3E-01	mg/kg	1.5E-09	mg/kg-day	N/A	N/A	N/A	1.5E-08	mg/kg-day	1.0E-03	mg/kg-day	1.5E-05
				Iron	1E+04	mg/kg	6.2E-05	mg/kg-day	N/A	N/A	N/A	6.2E-04	mg/kg-day	7.0E-01	mg/kg-day	8.9E-04
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	6E+02	mg/kg	2.6E-06	mg/kg-day	N/A	N/A	N/A	2.6E-05	mg/kg-day	2.4E-02	mg/kg-day	1.1E-03
				Mercury (other media)	2E-01	mg/kg	6.9E-10	mg/kg-day	N/A	N/A	N/A	6.9E-09	mg/kg-day	1.0E-04	mg/kg-day	6.9E-05
				Nickel	2E+01	mg/kg	7.3E-08	mg/kg-day	N/A	N/A	N/A	7.3E-07	mg/kg-day	2.0E-02	mg/kg-day	3.6E-05
				Silver	5E+00	mg/kg	2.2E-08	mg/kg-day	N/A	N/A	N/A	2.2E-07	mg/kg-day	5.0E-03	mg/kg-day	4.3E-05
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	9E+00	mg/kg	4.1E-08	mg/kg-day	N/A	N/A	N/A	4.1E-07	mg/kg-day	5.0E-03	mg/kg-day	8.2E-05
			Exp. Route Total								3E-07					6E-03

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	7E-01	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	3.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.4E-09	3.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	3.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.9E-08	3.5E-07	mg/kg-day	3.0E-04	mg/kg-day	1.2E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	3.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.1E-09	3.0E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	4.4E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	8.8E-11	4.4E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	3E-01	mg/kg	7.2E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.4E-08	7.2E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	2.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.9E-09	2.0E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E-02	mg/kg	2.1E-10	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	4.9E-11	2.1E-09	mg/kg-day	3.0E-05	mg/kg-day	6.9E-05
				Aroclor-1260	3E-02	mg/kg	6.5E-10	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	1.3E-09	6.5E-09	mg/kg-day	2.0E-05	mg/kg-day	3.3E-04
				Aluminum	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E+00	mg/kg	2.1E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.2E-08	2.1E-07	mg/kg-day	3.0E-04	mg/kg-day	7.1E-04
				Cadmium (other media)	7E-01	mg/kg	1.2E-10	mg/kg-day	N/A	N/A	N/A	1.2E-09	mg/kg-day	2.5E-05	mg/kg-day	4.7E-05
				Chromium	3E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	5E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	7E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	6E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	5E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	9E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-07					2E-03
		Exposure Point Total									4E-07					8E-03

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bungay River/ Mechanics Pond	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	6.0E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-09	6.0E-08	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	6.3E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.3E-08	6.3E-08	mg/kg-day	3.0E-04	mg/kg-day	2.1E-04
				Benzo(b)fluoranthene	2E+00	mg/kg	7.6E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.5E-09	7.6E-08	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	7E-01	mg/kg	3.1E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.2E-09	3.1E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	4.2E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.5E-10	4.2E-08	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	3E-01	mg/kg	1.2E-09	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	2.8E-10	1.2E-08	mg/kg-day	3.0E-05	mg/kg-day	3.9E-04
				Aroclor-1260	2E-01	mg/kg	8.3E-10	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	1.7E-09	8.3E-09	mg/kg-day	2.0E-05	mg/kg-day	4.2E-04
				Aluminum	1E+04	mg/kg	5.3E-05	mg/kg-day	N/A	N/A	N/A	5.3E-04	mg/kg-day	1.0E+00	mg/kg-day	5.3E-04
				Antimony	7E-01	mg/kg	2.9E-09	mg/kg-day	N/A	N/A	N/A	2.9E-08	mg/kg-day	4.0E-04	mg/kg-day	7.4E-05
				Arsenic	5E+00	mg/kg	1.3E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.0E-08	1.3E-07	mg/kg-day	3.0E-04	mg/kg-day	4.5E-04
				Cadmium (other media)	1E+01	mg/kg	6.4E-08	mg/kg-day	N/A	N/A	N/A	6.4E-07	mg/kg-day	1.0E-03	mg/kg-day	6.4E-04
				Chromium	2E+03	mg/kg	7.6E-06	mg/kg-day	N/A	N/A	N/A	7.6E-05	mg/kg-day	1.5E+00	mg/kg-day	5.1E-05
				Chromium, Hexavalent	9E+00	mg/kg	4.0E-08	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	4.0E-08	4.0E-07	mg/kg-day	3.0E-03	mg/kg-day	1.3E-04
				Cobalt	8E+00	mg/kg	3.8E-08	mg/kg-day	N/A	N/A	N/A	3.8E-07	mg/kg-day	3.0E-04	mg/kg-day	1.3E-03
				Copper	1E+03	mg/kg	6.1E-06	mg/kg-day	N/A	N/A	N/A	6.1E-05	mg/kg-day	4.0E-02	mg/kg-day	1.5E-03
				Cyanide	3E-01	mg/kg	1.4E-09	mg/kg-day	N/A	N/A	N/A	1.4E-08	mg/kg-day	1.0E-03	mg/kg-day	1.4E-05
				Iron	2E+04	mg/kg	6.8E-05	mg/kg-day	N/A	N/A	N/A	6.8E-04	mg/kg-day	7.0E-01	mg/kg-day	9.6E-04
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	mg/kg	2.1E-06	mg/kg-day	N/A	N/A	N/A	2.1E-05	mg/kg-day	2.4E-02	mg/kg-day	8.9E-04
				Mercury (other media)	2E+00	mg/kg	1.1E-08	mg/kg-day	N/A	N/A	N/A	1.1E-07	mg/kg-day	1.0E-04	mg/kg-day	1.1E-03
				Nickel	2E+02	mg/kg	1.1E-06	mg/kg-day	N/A	N/A	N/A	1.1E-05	mg/kg-day	2.0E-02	mg/kg-day	5.5E-04
				Silver	1E+02	mg/kg	4.6E-07	mg/kg-day	N/A	N/A	N/A	4.6E-06	mg/kg-day	5.0E-03	mg/kg-day	9.1E-04
				Thallium	7E-01	mg/kg	3.1E-09	mg/kg-day	N/A	N/A	N/A	3.1E-08	mg/kg-day	1.0E-05	mg/kg-day	3.1E-03
				Vanadium	1E+01	mg/kg	6.1E-08	mg/kg-day	N/A	N/A	N/A	6.1E-07	mg/kg-day	5.0E-03	mg/kg-day	1.2E-04
			Exp. Route Total								9E-08					1E-02

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	2.8E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.7E-09	2.8E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	3.0E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.0E-08	3.0E-07	mg/kg-day	3.0E-04	mg/kg-day	1.0E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	3.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.1E-09	3.6E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	7E-01	mg/kg	1.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.9E-08	1.5E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	2.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.0E-09	2.0E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	3E-01	mg/kg	4.2E-09	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	1.0E-09	4.2E-08	mg/kg-day	3.0E-05	mg/kg-day	1.4E-03
				Aroclor-1260	2E-01	mg/kg	4.2E-09	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	8.4E-09	4.2E-08	mg/kg-day	2.0E-05	mg/kg-day	2.1E-03
				Aluminum	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	7E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	5E+00	mg/kg	2.4E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.7E-08	2.4E-07	mg/kg-day	3.0E-04	mg/kg-day	8.1E-04
				Cadmium (other media)	1E+01	mg/kg	2.3E-09	mg/kg-day	N/A	N/A	N/A	2.3E-08	mg/kg-day	2.5E-05	mg/kg-day	9.3E-04
				Chromium	2E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	9E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	8E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	7E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-07					6E-03
		Exposure Point Total									2E-07					2E-02

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Downstream of Mechanics Pond	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(a)pyrene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Benzo(b)fluoranthene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Carbazole	N/A	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				4,4'-DDD	N/A	mg/kg	N/A	N/A	2.4E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-05	mg/kg-day	N/A
				Aroclor-1260	N/A	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	6E+03	mg/kg	2.5E-05	mg/kg-day	N/A	N/A	N/A	2.5E-04	mg/kg-day	1.0E+00	mg/kg-day	2.5E-04
				Antimony	2E-01	mg/kg	9.3E-10	mg/kg-day	N/A	N/A	N/A	9.3E-09	mg/kg-day	4.0E-04	mg/kg-day	2.3E-05
				Arsenic	1E+01	mg/kg	3.0E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.5E-08	3.0E-07	mg/kg-day	3.0E-04	mg/kg-day	1.0E-03
				Cadmium (other media)	1E+00	mg/kg	4.7E-09	mg/kg-day	N/A	N/A	N/A	4.7E-08	mg/kg-day	1.0E-03	mg/kg-day	4.7E-05
				Chromium	9E+01	mg/kg	3.9E-07	mg/kg-day	N/A	N/A	N/A	3.9E-06	mg/kg-day	1.5E+00	mg/kg-day	2.6E-06
				Chromium, Hexavalent	2E+00	mg/kg	7.5E-09	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	7.5E-09	7.5E-08	mg/kg-day	3.0E-03	mg/kg-day	2.5E-05
				Cobalt	3E+00	mg/kg	1.2E-08	mg/kg-day	N/A	N/A	N/A	1.2E-07	mg/kg-day	3.0E-04	mg/kg-day	3.9E-04
				Copper	8E+01	mg/kg	3.5E-07	mg/kg-day	N/A	N/A	N/A	3.5E-06	mg/kg-day	4.0E-02	mg/kg-day	8.6E-05
				Cyanide	1E+00	mg/kg	4.8E-09	mg/kg-day	N/A	N/A	N/A	4.8E-08	mg/kg-day	1.0E-03	mg/kg-day	4.8E-05
				Iron	1E+05	mg/kg	4.7E-04	mg/kg-day	N/A	N/A	N/A	4.7E-03	mg/kg-day	7.0E-01	mg/kg-day	6.7E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	9E+02	mg/kg	3.9E-06	mg/kg-day	N/A	N/A	N/A	3.9E-05	mg/kg-day	2.4E-02	mg/kg-day	1.6E-03
				Mercury (other media)	3E-01	mg/kg	1.4E-09	mg/kg-day	N/A	N/A	N/A	1.4E-08	mg/kg-day	1.0E-04	mg/kg-day	1.4E-04
				Nickel	1E+01	mg/kg	4.9E-08	mg/kg-day	N/A	N/A	N/A	4.9E-07	mg/kg-day	2.0E-02	mg/kg-day	2.5E-05
				Silver	1E+01	mg/kg	4.7E-08	mg/kg-day	N/A	N/A	N/A	4.7E-07	mg/kg-day	5.0E-03	mg/kg-day	9.4E-05
				Thallium	3E-01	mg/kg	1.3E-09	mg/kg-day	N/A	N/A	N/A	1.3E-08	mg/kg-day	1.0E-05	mg/kg-day	1.3E-03
				Vanadium	2E+01	mg/kg	7.7E-08	mg/kg-day	N/A	N/A	N/A	7.7E-07	mg/kg-day	5.0E-03	mg/kg-day	1.5E-04
			Exp. Route Total								5E-08					1E-02

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(a)pyrene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Benzo(b)fluoranthene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Carbazole	N/A	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				4,4'-DDD	N/A	mg/kg	N/A	N/A	2.4E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-05	mg/kg-day	N/A
				Aroclor-1260	N/A	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	6E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+01	mg/kg	5.5E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.2E-08	5.5E-07	mg/kg-day	3.0E-04	mg/kg-day	1.8E-03
				Cadmium (other media)	1E+00	mg/kg	1.7E-10	mg/kg-day	N/A	N/A	N/A	1.7E-09	mg/kg-day	2.5E-05	mg/kg-day	6.8E-05
				Chromium	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	2E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	3E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	8E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+05	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	9E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								8E-08					2E-03
		Exposure Point Total									1E-07					1E-02
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Water	Surface Water	Southern Wetland	Dermal													
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	2E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				Trichloroethene	3E+00	ug/L	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Vinyl chloride	6E-02	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	6E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	2E+03	ug/L	9.1E-07	mg/kg-day	N/A	N/A	N/A	9.1E-06	mg/kg-day	1.0E+00	mg/kg-day	9.1E-06
				Antimony	2E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	2E-01	ug/L	1.1E-10	mg/kg-day	N/A	N/A	N/A	1.1E-09	mg/kg-day	2.5E-05	mg/kg-day	4.4E-05
				Chromium	3E+02	ug/L	1.5E-07	mg/kg-day	N/A	N/A	N/A	1.5E-06	mg/kg-day	2.0E-02	mg/kg-day	7.8E-05
				Chromium, Hexavalent	6E-01	ug/L	6.9E-10	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	2.7E-08	6.9E-09	mg/kg-day	7.5E-05	mg/kg-day	9.2E-05
				Cobalt	1E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	4E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	7E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Silver	7E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								3E-08					2E-04
		Exposure Point Total									3E-08					2E-04

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Dermal													
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	2E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				Trichloroethene	2E-01	ug/L	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	4E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	3E+03	ug/L	1.6E-06	mg/kg-day	N/A	N/A	N/A	1.6E-05	mg/kg-day	1.0E+00	mg/kg-day	1.6E-05
				Antimony	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	6E-01	ug/L	3.1E-10	mg/kg-day	N/A	N/A	N/A	3.1E-09	mg/kg-day	2.5E-05	mg/kg-day	1.3E-04
				Chromium	7E+02	ug/L	3.8E-07	mg/kg-day	N/A	N/A	N/A	3.8E-06	mg/kg-day	2.0E-02	mg/kg-day	1.9E-04
				Chromium, Hexavalent	1E+02	ug/L	1.1E-07	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	4.2E-06	1.1E-06	mg/kg-day	7.5E-05	mg/kg-day	1.4E-02
				Cobalt	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	8E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Silver	2E-02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								4E-06					1E-02
		Exposure Point Total									4E-06					1E-02

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bungay River/ Mechanics Pond	Ingestion													
				Bromodichloromethane	4E-01	ug/L	8.5E-10	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	5.3E-11	8.5E-09	mg/kg-day	2.0E-02	mg/kg-day	4.3E-07
				Chloroform	7E-01	ug/L	1.5E-09	mg/kg-day	3.1E-02	(mg/kg-day) $^{-1}$	4.7E-11	1.5E-08	mg/kg-day	1.0E-02	mg/kg-day	1.5E-06
				cis-1,2-Dichloroethene	2E-01	ug/L	3.5E-10	mg/kg-day	N/A	N/A	N/A	3.5E-09	mg/kg-day	2.0E-03	mg/kg-day	1.8E-06
				Trichloroethene	5E-02	ug/L	1.1E-10	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	6.2E-12	1.1E-09	mg/kg-day	5.0E-04	mg/kg-day	2.2E-06
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	1.0E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.0E-10	1.0E-08	mg/kg-day	3.0E-02	mg/kg-day	3.5E-07
				Aluminum	4E+02	ug/L	9.1E-07	mg/kg-day	N/A	N/A	N/A	9.1E-06	mg/kg-day	1.0E+00	mg/kg-day	9.1E-06
				Antimony	6E-01	ug/L	1.3E-09	mg/kg-day	N/A	N/A	N/A	1.3E-08	mg/kg-day	4.0E-04	mg/kg-day	3.3E-05
				Arsenic	4E-01	ug/L	9.1E-10	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.4E-09	9.1E-09	mg/kg-day	3.0E-04	mg/kg-day	3.0E-05
				Cadmium (water)	2E-01	ug/L	4.7E-10	mg/kg-day	N/A	N/A	N/A	4.7E-09	mg/kg-day	5.0E-04	mg/kg-day	9.4E-06
				Chromium	1E+01	ug/L	3.2E-08	mg/kg-day	N/A	N/A	N/A	3.2E-07	mg/kg-day	1.5E+00	mg/kg-day	2.2E-07
				Chromium, Hexavalent	4E-01	ug/L	9.4E-10	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	9.4E-10	9.4E-09	mg/kg-day	3.0E-03	mg/kg-day	3.1E-06
				Cobalt	5E-01	ug/L	1.2E-09	mg/kg-day	N/A	N/A	N/A	1.2E-08	mg/kg-day	3.0E-04	mg/kg-day	4.0E-05
				Cyanide	3E+00	ug/L	6.2E-09	mg/kg-day	N/A	N/A	N/A	6.2E-08	mg/kg-day	1.0E-03	mg/kg-day	6.2E-05
				Iron	2E+03	ug/L	5.4E-06	mg/kg-day	N/A	N/A	N/A	5.4E-05	mg/kg-day	7.0E-01	mg/kg-day	7.7E-05
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	ug/L	7.5E-07	mg/kg-day	N/A	N/A	N/A	7.5E-06	mg/kg-day	2.4E-02	mg/kg-day	3.1E-04
				Silver	5E-01	ug/L	1.0E-09	mg/kg-day	N/A	N/A	N/A	1.0E-08	mg/kg-day	5.0E-03	mg/kg-day	2.1E-06
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								3E-09					6E-04

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Bromodichloromethane	4E-01	ug/L	4.0E-09	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	2.5E-10	4.0E-08	mg/kg-day	2.0E-02	mg/kg-day	2.0E-06
				Chloroform	7E-01	ug/L	7.9E-09	mg/kg-day	3.1E-02	(mg/kg-day) $^{-1}$	2.4E-10	7.9E-08	mg/kg-day	1.0E-02	mg/kg-day	7.9E-06
				cis-1,2-Dichloroethene	2E-01	ug/L	3.1E-09	mg/kg-day	N/A	N/A	N/A	3.1E-08	mg/kg-day	2.0E-03	mg/kg-day	1.6E-05
				Trichloroethene	5E-02	ug/L	1.1E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	6.0E-11	1.1E-08	mg/kg-day	5.0E-04	mg/kg-day	2.1E-05
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	4E+02	ug/L	3.6E-07	mg/kg-day	N/A	N/A	N/A	3.6E-06	mg/kg-day	1.0E+00	mg/kg-day	3.6E-06
				Antimony	6E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E-01	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	2E-01	ug/L	1.8E-10	mg/kg-day	N/A	N/A	N/A	1.8E-09	mg/kg-day	2.5E-05	mg/kg-day	7.4E-05
				Chromium	1E+01	ug/L	1.3E-08	mg/kg-day	N/A	N/A	N/A	1.3E-07	mg/kg-day	2.0E-02	mg/kg-day	6.5E-06
				Chromium, Hexavalent	4E-01	ug/L	7.4E-10	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	3.0E-08	7.4E-09	mg/kg-day	7.5E-05	mg/kg-day	9.8E-05
				Cobalt	5E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	ug/L	3.0E-07	mg/kg-day	N/A	N/A	N/A	3.0E-06	mg/kg-day	9.6E-04	mg/kg-day	3.1E-03
				Silver	5E-01	ug/L	2.4E-10	mg/kg-day	N/A	N/A	N/A	2.4E-09	mg/kg-day	2.0E-04	mg/kg-day	1.2E-05
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								3E-08					3E-03
		Exposure Point Total									3E-08					4E-03

TABLE 7.3.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Downstream of Mechanics Pond	Dermal													
				Bromodichloromethane	3E-01	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	8E-01	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	4E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				Trichloroethene	8E-02	ug/L	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	2E+01	ug/L	8.9E-09	mg/kg-day	N/A	N/A	N/A	8.9E-08	mg/kg-day	1.0E+00	mg/kg-day	8.9E-08
				Antimony	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E-01	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	1E-01	ug/L	5.4E-11	mg/kg-day	N/A	N/A	N/A	5.4E-10	mg/kg-day	2.5E-05	mg/kg-day	2.1E-05
				Chromium	2E+00	ug/L	1.0E-09	mg/kg-day	N/A	N/A	N/A	1.0E-08	mg/kg-day	2.0E-02	mg/kg-day	5.1E-07
				Chromium, Hexavalent	5E-01	ug/L	5.4E-10	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	2.2E-08	5.4E-09	mg/kg-day	7.5E-05	mg/kg-day	7.2E-05
				Cobalt	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Silver	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								2E-08					9E-05
		Exposure Point Total									2E-08					9E-05
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 (mg/kg-day)$^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 (mg/kg-day)$^{-1}$]. Use of the adult-based CSF [4.6E-2 (mg/kg-day)$^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x CAF (0.804)] x 10/20 +
[intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x MAF (0.202) x 1 + intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x CAF (0.804)] x 10/20

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Wetland/Floodplain Surface Soil (0-2 ft)	Southern Wetland	Ingestion													
				Trichloroethene	1E-01	mg/kg	2.4E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	2.1E-09	2.8E-07	mg/kg-day	5.0E-04	mg/kg-day	5.7E-04
				Benzo(a)anthracene	2E+00	mg/kg	3.9E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.1E-07	4.6E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	2.6E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.4E-06	3.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1.0E-02
				Benzo(b)fluoranthene	2E+00	mg/kg	4.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.6E-07	5.6E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	1.8E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	9.8E-09	2.1E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	5.9E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.1E-07	6.8E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	1.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.8E-08	2.2E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	8E-02	mg/kg	1.9E-08	mg/kg-day	N/A	N/A	N/A	2.2E-07	mg/kg-day	2.0E-02	mg/kg-day	1.1E-05
				4,4'-DDT	9E-01	mg/kg	2.1E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	7.2E-08	2.5E-06	mg/kg-day	5.0E-04	mg/kg-day	4.9E-03
				Endrin aldehyde	3E-02	mg/kg	8.4E-09	mg/kg-day	N/A	N/A	N/A	9.8E-08	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	2.1E-03	mg/kg-day	N/A	N/A	N/A	2.4E-02	mg/kg-day	1.0E+00	mg/kg-day	2.4E-02
				Antimony	3E+00	mg/kg	7.1E-07	mg/kg-day	N/A	N/A	N/A	8.3E-06	mg/kg-day	4.0E-04	mg/kg-day	2.1E-02
				Arsenic	3E+00	mg/kg	4.2E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.4E-07	5.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1.7E-02
				Chromium	8E+03	mg/kg	1.9E-03	mg/kg-day	N/A	N/A	N/A	2.2E-02	mg/kg-day	1.5E+00	mg/kg-day	1.4E-02
				Chromium, Hexavalent	2E+01	mg/kg	4.3E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.2E-05	5.0E-05	mg/kg-day	3.0E-03	mg/kg-day	1.7E-02
				Cobalt	3E+01	mg/kg	7.5E-06	mg/kg-day	N/A	N/A	N/A	8.8E-05	mg/kg-day	3.0E-04	mg/kg-day	2.9E-01
				Copper	3E+02	mg/kg	7.3E-05	mg/kg-day	N/A	N/A	N/A	8.6E-04	mg/kg-day	4.0E-02	mg/kg-day	2.1E-02
				Cyanide	2E+00	mg/kg	5.0E-07	mg/kg-day	N/A	N/A	N/A	5.8E-06	mg/kg-day	1.0E-03	mg/kg-day	5.8E-03
				Iron	2E+04	mg/kg	4.2E-03	mg/kg-day	N/A	N/A	N/A	4.9E-02	mg/kg-day	7.0E-01	mg/kg-day	7.0E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	7E+02	mg/kg	1.7E-04	mg/kg-day	N/A	N/A	N/A	2.0E-03	mg/kg-day	2.4E-02	mg/kg-day	8.2E-02
				Nickel	1E+02	mg/kg	2.7E-05	mg/kg-day	N/A	N/A	N/A	3.1E-04	mg/kg-day	2.0E-02	mg/kg-day	1.6E-02
				Silver	1E+02	mg/kg	2.7E-05	mg/kg-day	N/A	N/A	N/A	3.2E-04	mg/kg-day	5.0E-03	mg/kg-day	6.4E-02
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	4.8E-06	mg/kg-day	N/A	N/A	N/A	5.6E-05	mg/kg-day	5.0E-03	mg/kg-day	1.1E-02
			Exp. Route Total								1E-05					7E-01

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	1E-01	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	1.2E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.5E-08	1.4E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	8.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.3E-07	9.4E-07	mg/kg-day	3.0E-04	mg/kg-day	3.1E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	1.5E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.9E-08	1.7E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	5.7E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	3.0E-09	6.6E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	1.8E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	9.6E-08	2.1E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	5.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.0E-08	6.6E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	8E-02	mg/kg	5.9E-09	mg/kg-day	N/A	N/A	N/A	6.9E-08	mg/kg-day	2.0E-02	mg/kg-day	3.4E-06
				4,4'-DDT	9E-01	mg/kg	1.5E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	5.1E-09	1.7E-07	mg/kg-day	5.0E-04	mg/kg-day	3.5E-04
				Endrin aldehyde	3E-02	mg/kg	2.0E-09	mg/kg-day	N/A	N/A	N/A	2.3E-08	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	3E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	5.0E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	7.6E-08	5.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2.0E-03
				Chromium	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	2E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	7E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								8E-07					5E-03
		Exposure Point Total									2E-05					7E-01

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	5.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.8E-07	6.2E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	5.7E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.0E-06	6.6E-06	mg/kg-day	3.0E-04	mg/kg-day	2.2E-02
				Benzo(b)fluoranthene	3E+00	mg/kg	6.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.4E-07	7.4E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	4.9E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	2.6E-08	5.7E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	7E-01	mg/kg	1.6E-07	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	3.2E-09	1.9E-06	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	8E-01	mg/kg	2.0E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.0E-06	2.3E-06	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	4E+00	mg/kg	8.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.7E-07	1.0E-05	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	3.7E-08	mg/kg-day	N/A	N/A	N/A	4.3E-07	mg/kg-day	2.0E-02	mg/kg-day	2.1E-05
				4,4'-DDT	2E-02	mg/kg	3.7E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	1.2E-09	4.3E-08	mg/kg-day	5.0E-04	mg/kg-day	8.5E-05
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	2.1E-03	mg/kg-day	N/A	N/A	N/A	2.5E-02	mg/kg-day	1.0E+00	mg/kg-day	2.5E-02
				Antimony	1E+00	mg/kg	2.9E-07	mg/kg-day	N/A	N/A	N/A	3.4E-06	mg/kg-day	4.0E-04	mg/kg-day	8.4E-03
				Arsenic	1E+01	mg/kg	1.4E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.1E-06	1.7E-05	mg/kg-day	3.0E-04	mg/kg-day	5.5E-02
				Chromium	1E+03	mg/kg	2.9E-04	mg/kg-day	N/A	N/A	N/A	3.4E-03	mg/kg-day	1.5E+00	mg/kg-day	2.2E-03
				Chromium, Hexavalent	5E+00	mg/kg	1.2E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.2E-06	1.4E-05	mg/kg-day	3.0E-03	mg/kg-day	4.7E-03
				Cobalt	6E+00	mg/kg	1.6E-06	mg/kg-day	N/A	N/A	N/A	1.8E-05	mg/kg-day	3.0E-04	mg/kg-day	6.1E-02
				Copper	5E+01	mg/kg	1.1E-05	mg/kg-day	N/A	N/A	N/A	1.3E-04	mg/kg-day	4.0E-02	mg/kg-day	3.3E-03
				Cyanide	1E+00	mg/kg	3.4E-07	mg/kg-day	N/A	N/A	N/A	4.0E-06	mg/kg-day	1.0E-03	mg/kg-day	4.0E-03
				Iron	2E+04	mg/kg	4.4E-03	mg/kg-day	N/A	N/A	N/A	5.2E-02	mg/kg-day	7.0E-01	mg/kg-day	7.4E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	mg/kg	2.6E-04	mg/kg-day	N/A	N/A	N/A	3.1E-03	mg/kg-day	2.4E-02	mg/kg-day	1.3E-01
				Nickel	1E+01	mg/kg	3.6E-06	mg/kg-day	N/A	N/A	N/A	4.2E-05	mg/kg-day	2.0E-02	mg/kg-day	2.1E-03
				Silver	2E+01	mg/kg	4.2E-06	mg/kg-day	N/A	N/A	N/A	4.9E-05	mg/kg-day	5.0E-03	mg/kg-day	9.7E-03
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	4.1E-06	mg/kg-day	N/A	N/A	N/A	4.8E-05	mg/kg-day	5.0E-03	mg/kg-day	9.6E-03
			Exp. Route Total								1E-05					4E-01

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	1.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.7E-08	1.9E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.8E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	9.3E-07	2.0E-06	mg/kg-day	3.0E-04	mg/kg-day	6.8E-03
				Benzo(b)fluoranthene	3E+00	mg/kg	2.0E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.0E-07	2.3E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	1.5E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	8.0E-09	1.8E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	7E-01	mg/kg	3.8E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	7.5E-10	4.4E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	8E-01	mg/kg	6.0E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.2E-07	7.0E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	4E+00	mg/kg	2.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.4E-07	3.2E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	1.1E-08	mg/kg-day	N/A	N/A	N/A	1.3E-07	mg/kg-day	2.0E-02	mg/kg-day	6.6E-06
				4,4'-DDT	2E-02	mg/kg	2.6E-10	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	8.9E-11	3.0E-09	mg/kg-day	5.0E-04	mg/kg-day	6.1E-06
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+01	mg/kg	1.7E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.5E-07	2.0E-06	mg/kg-day	3.0E-04	mg/kg-day	6.5E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	5E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	6E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	5E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-06					1E-02
		Exposure Point Total									1E-05					4E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Southern Wetland	Ingestion													
				Trichloroethene	5E-03	mg/kg	4.2E-10	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	3.6E-11	4.8E-09	mg/kg-day	5.0E-04	mg/kg-day	9.7E-06
				Benzo(a)anthracene	7E-01	mg/kg	5.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.0E-08	6.5E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	9E-01	mg/kg	7.0E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.7E-07	8.1E-07	mg/kg-day	3.0E-04	mg/kg-day	2.7E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	9.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.1E-08	1.1E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	1.2E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	2.4E-10	1.4E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	4E-01	mg/kg	3.4E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.8E-07	4.0E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	6.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.5E-08	7.7E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E+00	mg/kg	9.7E-08	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	2.3E-08	1.1E-06	mg/kg-day	3.0E-05	mg/kg-day	3.8E-02
				Aroclor-1260	ND	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	9E+03	mg/kg	7.1E-04	mg/kg-day	N/A	N/A	N/A	8.3E-03	mg/kg-day	1.0E+00	mg/kg-day	8.3E-03
				Antimony	1E+01	mg/kg	1.0E-06	mg/kg-day	N/A	N/A	N/A	1.2E-05	mg/kg-day	4.0E-04	mg/kg-day	3.0E-02
				Arsenic	1E+01	mg/kg	5.7E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.5E-07	6.6E-06	mg/kg-day	3.0E-04	mg/kg-day	2.2E-02
				Cadmium (other media)	1E+00	mg/kg	8.4E-08	mg/kg-day	N/A	N/A	N/A	9.8E-07	mg/kg-day	1.0E-03	mg/kg-day	9.8E-04
				Chromium	1E+04	mg/kg	1.0E-03	mg/kg-day	N/A	N/A	N/A	1.2E-02	mg/kg-day	1.5E+00	mg/kg-day	8.1E-03
				Chromium, Hexavalent	3E+01	mg/kg	2.2E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	5.9E-06	2.6E-05	mg/kg-day	3.0E-03	mg/kg-day	8.5E-03
				Cobalt	4E+01	mg/kg	3.0E-06	mg/kg-day	N/A	N/A	N/A	3.5E-05	mg/kg-day	3.0E-04	mg/kg-day	1.2E-01
				Copper	4E+02	mg/kg	3.6E-05	mg/kg-day	N/A	N/A	N/A	4.2E-04	mg/kg-day	4.0E-02	mg/kg-day	1.0E-02
				Cyanide	6E+01	mg/kg	5.0E-06	mg/kg-day	N/A	N/A	N/A	5.9E-05	mg/kg-day	1.0E-03	mg/kg-day	5.9E-02
				Iron	2E+04	mg/kg	1.6E-03	mg/kg-day	N/A	N/A	N/A	1.8E-02	mg/kg-day	7.0E-01	mg/kg-day	2.6E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	2.7E-05	mg/kg-day	N/A	N/A	N/A	3.2E-04	mg/kg-day	2.4E-02	mg/kg-day	1.3E-02
				Mercury (other media)	3E-01	mg/kg	2.1E-08	mg/kg-day	N/A	N/A	N/A	2.5E-07	mg/kg-day	1.0E-04	mg/kg-day	2.5E-03
				Nickel	2E+02	mg/kg	1.2E-05	mg/kg-day	N/A	N/A	N/A	1.5E-04	mg/kg-day	2.0E-02	mg/kg-day	7.3E-03
				Silver	3E+02	mg/kg	2.7E-05	mg/kg-day	N/A	N/A	N/A	3.2E-04	mg/kg-day	5.0E-03	mg/kg-day	6.4E-02
				Thallium	2E+00	mg/kg	1.2E-07	mg/kg-day	N/A	N/A	N/A	1.4E-06	mg/kg-day	1.0E-05	mg/kg-day	1.4E-01
				Vanadium	3E+01	mg/kg	2.2E-06	mg/kg-day	N/A	N/A	N/A	2.6E-05	mg/kg-day	5.0E-03	mg/kg-day	5.1E-03
			Exp. Route Total								7E-06					6E-01

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-03	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	7E-01	mg/kg	1.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.2E-09	2.0E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	9E-01	mg/kg	2.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.1E-07	2.5E-07	mg/kg-day	3.0E-04	mg/kg-day	8.4E-04
				Benzo(b)fluoranthene	1E+00	mg/kg	3.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.6E-08	3.5E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	2.8E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	5.7E-11	3.3E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	4E-01	mg/kg	1.0E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	5.6E-08	1.2E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	2.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.1E-08	2.4E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E+00	mg/kg	2.3E-08	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	5.5E-09	2.7E-07	mg/kg-day	3.0E-05	mg/kg-day	9.0E-03
				Aroclor-1260	ND	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+01	mg/kg	6.7E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.0E-07	7.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2.6E-03
				Cadmium (other media)	1E+00	mg/kg	2.0E-10	mg/kg-day	N/A	N/A	N/A	2.3E-09	mg/kg-day	2.5E-05	mg/kg-day	9.3E-05
				Chromium	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	3E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	4E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	4E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	6E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								3E-07					1E-02
		Exposure Point Total									8E-06					6E-01

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Ingestion													
				Trichloroethene	7E-01	mg/kg	1.7E-07	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.5E-08	2.0E-06	mg/kg-day	5.0E-04	mg/kg-day	3.9E-03
				Benzo(a)anthracene	2E+00	mg/kg	3.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.0E-07	4.3E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	4.0E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.1E-06	4.7E-06	mg/kg-day	3.0E-04	mg/kg-day	1.6E-02
				Benzo(b)fluoranthene	1E+00	mg/kg	3.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.9E-07	4.1E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	6.6E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.3E-09	7.8E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	3E-01	mg/kg	8.4E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.5E-07	9.8E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	2.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-07	2.7E-06	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E-02	mg/kg	3.1E-09	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	7.5E-10	3.6E-08	mg/kg-day	3.0E-05	mg/kg-day	1.2E-03
				Aroclor-1260	3E-02	mg/kg	7.1E-09	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	1.4E-08	8.3E-08	mg/kg-day	2.0E-05	mg/kg-day	4.1E-03
				Aluminum	7E+03	mg/kg	1.7E-03	mg/kg-day	N/A	N/A	N/A	2.0E-02	mg/kg-day	1.0E+00	mg/kg-day	2.0E-02
				Antimony	2E+00	mg/kg	4.0E-07	mg/kg-day	N/A	N/A	N/A	4.7E-06	mg/kg-day	4.0E-04	mg/kg-day	1.2E-02
				Arsenic	4E+00	mg/kg	6.5E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.7E-07	7.5E-06	mg/kg-day	3.0E-04	mg/kg-day	2.5E-02
				Cadmium (other media)	7E-01	mg/kg	1.8E-07	mg/kg-day	N/A	N/A	N/A	2.1E-06	mg/kg-day	1.0E-03	mg/kg-day	2.1E-03
				Chromium	3E+03	mg/kg	7.6E-04	mg/kg-day	N/A	N/A	N/A	8.8E-03	mg/kg-day	1.5E+00	mg/kg-day	5.9E-03
				Chromium, Hexavalent	5E+01	mg/kg	1.2E-05	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.2E-05	1.4E-04	mg/kg-day	3.0E-03	mg/kg-day	4.6E-02
				Cobalt	7E+00	mg/kg	1.7E-06	mg/kg-day	N/A	N/A	N/A	2.0E-05	mg/kg-day	3.0E-04	mg/kg-day	6.6E-02
				Copper	3E+01	mg/kg	8.4E-06	mg/kg-day	N/A	N/A	N/A	9.8E-05	mg/kg-day	4.0E-02	mg/kg-day	2.4E-03
				Cyanide	3E-01	mg/kg	8.3E-08	mg/kg-day	N/A	N/A	N/A	9.6E-07	mg/kg-day	1.0E-03	mg/kg-day	9.6E-04
				Iron	1E+04	mg/kg	3.4E-03	mg/kg-day	N/A	N/A	N/A	4.0E-02	mg/kg-day	7.0E-01	mg/kg-day	5.7E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	6E+02	mg/kg	1.4E-04	mg/kg-day	N/A	N/A	N/A	1.7E-03	mg/kg-day	2.4E-02	mg/kg-day	6.9E-02
				Mercury (other media)	2E-01	mg/kg	3.8E-08	mg/kg-day	N/A	N/A	N/A	4.4E-07	mg/kg-day	1.0E-04	mg/kg-day	4.4E-03
				Nickel	2E+01	mg/kg	4.0E-06	mg/kg-day	N/A	N/A	N/A	4.7E-05	mg/kg-day	2.0E-02	mg/kg-day	2.3E-03
				Silver	5E+00	mg/kg	1.2E-06	mg/kg-day	N/A	N/A	N/A	1.4E-05	mg/kg-day	5.0E-03	mg/kg-day	2.8E-03
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	9E+00	mg/kg	2.2E-06	mg/kg-day	N/A	N/A	N/A	2.6E-05	mg/kg-day	5.0E-03	mg/kg-day	5.2E-03
			Exp. Route Total								4E-05					3E-01

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	7E-01	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	1.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.1E-08	1.3E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.2E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.6E-07	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	4.8E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	1.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.9E-08	1.3E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	1.6E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	3.2E-10	1.8E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	3E-01	mg/kg	2.6E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.4E-07	3.0E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	7.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.8E-08	8.3E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E-02	mg/kg	7.4E-10	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	1.8E-10	8.7E-09	mg/kg-day	3.0E-05	mg/kg-day	2.9E-04
				Aroclor-1260	3E-02	mg/kg	2.4E-09	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	4.7E-09	2.7E-08	mg/kg-day	2.0E-05	mg/kg-day	1.4E-03
				Aluminum	7E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E+00	mg/kg	7.7E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.1E-07	8.9E-07	mg/kg-day	3.0E-04	mg/kg-day	3.0E-03
				Cadmium (other media)	7E-01	mg/kg	4.2E-10	mg/kg-day	N/A	N/A	N/A	4.9E-09	mg/kg-day	2.5E-05	mg/kg-day	2.0E-04
				Chromium	3E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	5E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	7E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	6E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	5E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	9E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-06					1E-02
		Exposure Point Total									4E-05					4E-01

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bungay River/ Mechanics Pond	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	3.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.8E-07	3.9E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	3.5E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.9E-06	4.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1.4E-02
				Benzo(b)fluoranthene	2E+00	mg/kg	4.2E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.2E-07	4.8E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	7E-01	mg/kg	1.7E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	9.1E-07	2.0E-06	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	2.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-07	2.7E-06	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	3E-01	mg/kg	6.3E-08	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	1.5E-08	7.4E-07	mg/kg-day	3.0E-05	mg/kg-day	2.5E-02
				Aroclor-1260	2E-01	mg/kg	4.6E-08	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	9.1E-08	5.3E-07	mg/kg-day	2.0E-05	mg/kg-day	2.7E-02
				Aluminum	1E+04	mg/kg	2.3E-03	mg/kg-day	N/A	N/A	N/A	2.7E-02	mg/kg-day	1.0E+00	mg/kg-day	2.7E-02
				Antimony	7E-01	mg/kg	1.6E-07	mg/kg-day	N/A	N/A	N/A	1.9E-06	mg/kg-day	4.0E-04	mg/kg-day	4.7E-03
				Arsenic	5E+00	mg/kg	7.4E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.1E-06	8.6E-06	mg/kg-day	3.0E-04	mg/kg-day	2.9E-02
				Cadmium (other media)	1E+01	mg/kg	3.5E-06	mg/kg-day	N/A	N/A	N/A	4.1E-05	mg/kg-day	1.0E-03	mg/kg-day	4.1E-02
				Chromium	2E+03	mg/kg	4.2E-04	mg/kg-day	N/A	N/A	N/A	4.9E-03	mg/kg-day	1.5E+00	mg/kg-day	3.3E-03
				Chromium, Hexavalent	9E+00	mg/kg	2.2E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	5.9E-06	2.6E-05	mg/kg-day	3.0E-03	mg/kg-day	8.6E-03
				Cobalt	8E+00	mg/kg	2.1E-06	mg/kg-day	N/A	N/A	N/A	2.4E-05	mg/kg-day	3.0E-04	mg/kg-day	8.0E-02
				Copper	1E+03	mg/kg	3.4E-04	mg/kg-day	N/A	N/A	N/A	3.9E-03	mg/kg-day	4.0E-02	mg/kg-day	9.8E-02
				Cyanide	3E-01	mg/kg	7.8E-08	mg/kg-day	N/A	N/A	N/A	9.1E-07	mg/kg-day	1.0E-03	mg/kg-day	9.1E-04
				Iron	2E+04	mg/kg	3.7E-03	mg/kg-day	N/A	N/A	N/A	4.3E-02	mg/kg-day	7.0E-01	mg/kg-day	6.2E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	mg/kg	1.2E-04	mg/kg-day	N/A	N/A	N/A	1.4E-03	mg/kg-day	2.4E-02	mg/kg-day	5.7E-02
				Mercury (other media)	2E+00	mg/kg	6.0E-07	mg/kg-day	N/A	N/A	N/A	7.0E-06	mg/kg-day	1.0E-04	mg/kg-day	7.0E-02
				Nickel	2E+02	mg/kg	6.1E-05	mg/kg-day	N/A	N/A	N/A	7.1E-04	mg/kg-day	2.0E-02	mg/kg-day	3.6E-02
				Silver	1E+02	mg/kg	2.5E-05	mg/kg-day	N/A	N/A	N/A	2.9E-04	mg/kg-day	5.0E-03	mg/kg-day	5.8E-02
				Thallium	7E-01	mg/kg	1.7E-07	mg/kg-day	N/A	N/A	N/A	2.0E-06	mg/kg-day	1.0E-05	mg/kg-day	2.0E-01
				Vanadium	1E+01	mg/kg	3.3E-06	mg/kg-day	N/A	N/A	N/A	3.9E-05	mg/kg-day	5.0E-03	mg/kg-day	7.8E-03
			Exp. Route Total								1E-05					8E-01

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	1.0E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.5E-08	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.1E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	5.7E-07	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4.2E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	1.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.8E-08	1.5E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	7E-01	mg/kg	5.3E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.8E-07	6.2E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	7.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.8E-08	8.4E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	3E-01	mg/kg	1.5E-08	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	3.6E-09	1.8E-07	mg/kg-day	3.0E-05	mg/kg-day	5.9E-03
				Aroclor-1260	2E-01	mg/kg	1.5E-08	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	3.0E-08	1.8E-07	mg/kg-day	2.0E-05	mg/kg-day	8.9E-03
				Aluminum	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	7E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	5E+00	mg/kg	8.8E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.3E-07	1.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3.4E-03
				Cadmium (other media)	1E+01	mg/kg	8.3E-09	mg/kg-day	N/A	N/A	N/A	9.7E-08	mg/kg-day	2.5E-05	mg/kg-day	3.9E-03
				Chromium	2E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	9E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	8E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	7E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-06					3E-02
		Exposure Point Total									1E-05					9E-01

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Downstream of Mechanics Pond	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(a)pyrene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Benzo(b)fluoranthene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Carbazole	N/A	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				4,4'-DDD	N/A	mg/kg	N/A	N/A	2.4E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-05	mg/kg-day	N/A
				Aroclor-1260	N/A	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	8E+03	mg/kg	1.9E-03	mg/kg-day	N/A	N/A	N/A	2.2E-02	mg/kg-day	1.0E+00	mg/kg-day	2.2E-02
				Antimony	3E-01	mg/kg	8.1E-08	mg/kg-day	N/A	N/A	N/A	9.4E-07	mg/kg-day	4.0E-04	mg/kg-day	2.4E-03
				Arsenic	3E+01	mg/kg	4.5E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.8E-06	5.3E-05	mg/kg-day	3.0E-04	mg/kg-day	1.8E-01
				Cadmium (other media)	2E+00	mg/kg	3.7E-07	mg/kg-day	N/A	N/A	N/A	4.3E-06	mg/kg-day	1.0E-03	mg/kg-day	4.3E-03
				Chromium	2E+02	mg/kg	3.7E-05	mg/kg-day	N/A	N/A	N/A	4.4E-04	mg/kg-day	1.5E+00	mg/kg-day	2.9E-04
				Chromium, Hexavalent	3E+00	mg/kg	8.1E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	2.1E-06	9.4E-06	mg/kg-day	3.0E-03	mg/kg-day	3.1E-03
				Cobalt	4E+00	mg/kg	1.0E-06	mg/kg-day	N/A	N/A	N/A	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4.0E-02
				Copper	1E+02	mg/kg	3.2E-05	mg/kg-day	N/A	N/A	N/A	3.7E-04	mg/kg-day	4.0E-02	mg/kg-day	9.3E-03
				Cyanide	3E+00	mg/kg	7.6E-07	mg/kg-day	N/A	N/A	N/A	8.8E-06	mg/kg-day	1.0E-03	mg/kg-day	8.8E-03
				Iron	3E+05	mg/kg	7.4E-02	mg/kg-day	N/A	N/A	N/A	8.6E-01	mg/kg-day	7.0E-01	mg/kg-day	1.2E+00
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	2E+03	mg/kg	5.1E-04	mg/kg-day	N/A	N/A	N/A	6.0E-03	mg/kg-day	2.4E-02	mg/kg-day	2.5E-01
				Mercury (other media)	4E-01	mg/kg	9.3E-08	mg/kg-day	N/A	N/A	N/A	1.1E-06	mg/kg-day	1.0E-04	mg/kg-day	1.1E-02
				Nickel	2E+01	mg/kg	3.7E-06	mg/kg-day	N/A	N/A	N/A	4.3E-05	mg/kg-day	2.0E-02	mg/kg-day	2.1E-03
				Silver	3E+01	mg/kg	6.1E-06	mg/kg-day	N/A	N/A	N/A	7.2E-05	mg/kg-day	5.0E-03	mg/kg-day	1.4E-02
				Thallium	3E-01	mg/kg	7.1E-08	mg/kg-day	N/A	N/A	N/A	8.3E-07	mg/kg-day	1.0E-05	mg/kg-day	8.3E-02
				Vanadium	3E+01	mg/kg	7.4E-06	mg/kg-day	N/A	N/A	N/A	8.7E-05	mg/kg-day	5.0E-03	mg/kg-day	1.7E-02
			Exp. Route Total								9E-06					2E+00

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(a)pyrene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Benzo(b)fluoranthene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Carbazole	N/A	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				4,4'-DDD	N/A	mg/kg	N/A	N/A	2.4E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-05	mg/kg-day	N/A
				Aroclor-1260	N/A	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+01	mg/kg	5.4E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.1E-07	6.3E-06	mg/kg-day	3.0E-04	mg/kg-day	2.1E-02
				Cadmium (other media)	2E+00	mg/kg	8.7E-10	mg/kg-day	N/A	N/A	N/A	1.0E-08	mg/kg-day	2.5E-05	mg/kg-day	4.1E-04
				Chromium	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	3E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	4E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	3E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	3E+05	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	2E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	4E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								8E-07					2E-02
		Exposure Point Total									1E-05					2E+00
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Water	Surface Water	Southern Wetland	Dermal													
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	2E+00	ug/L	1.0E-07	mg/kg-day	N/A	N/A	N/A	1.2E-06	mg/kg-day	2.0E-03	mg/kg-day	6.0E-04
				Trichloroethene	3E+00	ug/L	1.3E-07	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.1E-08	1.5E-06	mg/kg-day	5.0E-04	mg/kg-day	2.9E-03
				Vinyl chloride	6E-02	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	6E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	2E+03	ug/L	4.9E-06	mg/kg-day	N/A	N/A	N/A	5.7E-05	mg/kg-day	1.0E+00	mg/kg-day	5.7E-05
				Antimony	2E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	2E-01	ug/L	5.9E-10	mg/kg-day	N/A	N/A	N/A	6.9E-09	mg/kg-day	2.5E-05	mg/kg-day	2.7E-04
				Chromium	3E+02	ug/L	8.2E-07	mg/kg-day	N/A	N/A	N/A	9.5E-06	mg/kg-day	2.0E-02	mg/kg-day	4.9E-04
				Chromium, Hexavalent	6E-01	ug/L	3.7E-09	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	4.0E-07	4.3E-08	mg/kg-day	7.5E-05	mg/kg-day	5.8E-04
				Cobalt	1E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	4E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	7E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	ug/L	3.1E-06	mg/kg-day	N/A	N/A	N/A	3.6E-05	mg/kg-day	9.6E-04	mg/kg-day	3.8E-02
				Silver	7E+00	ug/L	1.3E-08	mg/kg-day	N/A	N/A	N/A	1.5E-07	mg/kg-day	2.0E-04	mg/kg-day	7.6E-04
				Thallium	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								4E-07					4E-02
		Exposure Point Total									4E-07					4E-02

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Dermal													
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	2E-01	ug/L	3.1E-08	mg/kg-day	N/A	N/A	N/A	3.6E-07	mg/kg-day	2.0E-03	mg/kg-day	1.8E-04
				Trichloroethene	2E-01	ug/L	3.4E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	2.9E-09	3.9E-07	mg/kg-day	5.0E-04	mg/kg-day	7.9E-04
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	4E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	3E+03	ug/L	2.6E-05	mg/kg-day	N/A	N/A	N/A	3.0E-04	mg/kg-day	1.0E+00	mg/kg-day	3.0E-04
				Antimony	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	6E-01	ug/L	5.1E-09	mg/kg-day	N/A	N/A	N/A	5.9E-08	mg/kg-day	2.5E-05	mg/kg-day	2.4E-03
				Chromium	7E+02	ug/L	6.1E-06	mg/kg-day	N/A	N/A	N/A	7.1E-05	mg/kg-day	2.0E-02	mg/kg-day	3.6E-03
				Chromium, Hexavalent	1E+02	ug/L	1.7E-06	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	1.8E-04	2.0E-05	mg/kg-day	7.5E-05	mg/kg-day	2.7E-01
				Cobalt	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	8E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	ug/L	1.2E-05	mg/kg-day	N/A	N/A	N/A	1.4E-04	mg/kg-day	9.6E-04	mg/kg-day	1.5E-01
				Silver	2E-02	ug/L	9.4E-11	mg/kg-day	N/A	N/A	N/A	1.1E-09	mg/kg-day	2.0E-04	mg/kg-day	5.5E-06
				Thallium	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								2E-04					4E-01
		Exposure Point Total									2E-04					4E-01

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bungay River/ Mechanics Pond	Ingestion													
				Bromodichloromethane	4E-01	ug/L	3.9E-08	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	2.4E-09	1.4E-07	mg/kg-day	2.0E-02	mg/kg-day	6.8E-06
				Chloroform	2E+00	ug/L	2.2E-07	mg/kg-day	3.1E-02	(mg/kg-day) $^{-1}$	6.9E-09	7.8E-07	mg/kg-day	1.0E-02	mg/kg-day	7.8E-05
				cis-1,2-Dichloroethene	2E-01	ug/L	1.6E-08	mg/kg-day	N/A	N/A	N/A	5.7E-08	mg/kg-day	2.0E-03	mg/kg-day	2.8E-05
				Trichloroethene	5E-02	ug/L	5.1E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	4.4E-10	1.8E-08	mg/kg-day	5.0E-04	mg/kg-day	3.6E-05
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	4.8E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.8E-09	1.7E-07	mg/kg-day	3.0E-02	mg/kg-day	5.5E-06
				Aluminum	4E+02	ug/L	4.2E-05	mg/kg-day	N/A	N/A	N/A	1.5E-04	mg/kg-day	1.0E+00	mg/kg-day	1.5E-04
				Antimony	6E-01	ug/L	6.1E-08	mg/kg-day	N/A	N/A	N/A	2.1E-07	mg/kg-day	4.0E-04	mg/kg-day	5.3E-04
				Arsenic	4E-01	ug/L	4.2E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.2E-08	1.5E-07	mg/kg-day	3.0E-04	mg/kg-day	4.8E-04
				Cadmium (water)	2E-01	ug/L	2.1E-08	mg/kg-day	N/A	N/A	N/A	7.5E-08	mg/kg-day	5.0E-04	mg/kg-day	1.5E-04
				Chromium	1E+01	ug/L	1.5E-06	mg/kg-day	N/A	N/A	N/A	5.2E-06	mg/kg-day	1.5E+00	mg/kg-day	3.4E-06
				Chromium, Hexavalent	4E-01	ug/L	4.3E-08	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.1E-07	1.5E-07	mg/kg-day	3.0E-03	mg/kg-day	5.0E-05
				Cobalt	1E+00	ug/L	1.3E-07	mg/kg-day	N/A	N/A	N/A	4.6E-07	mg/kg-day	3.0E-04	mg/kg-day	1.5E-03
				Cyanide	3E+00	ug/L	2.8E-07	mg/kg-day	N/A	N/A	N/A	9.9E-07	mg/kg-day	1.0E-03	mg/kg-day	9.9E-04
				Iron	2E+03	ug/L	2.5E-04	mg/kg-day	N/A	N/A	N/A	8.7E-04	mg/kg-day	7.0E-01	mg/kg-day	1.2E-03
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	ug/L	3.4E-05	mg/kg-day	N/A	N/A	N/A	1.2E-04	mg/kg-day	2.4E-02	mg/kg-day	5.0E-03
				Silver	5E-01	ug/L	4.7E-08	mg/kg-day	N/A	N/A	N/A	1.7E-07	mg/kg-day	5.0E-03	mg/kg-day	3.3E-05
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								2E-07					1E-02

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Bromodichloromethane	4E-01	ug/L	1.8E-08	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	1.1E-09	2.1E-07	mg/kg-day	2.0E-02	mg/kg-day	1.0E-05
				Chloroform	2E+00	ug/L	1.1E-07	mg/kg-day	3.1E-02	(mg/kg-day) $^{-1}$	3.5E-09	1.3E-06	mg/kg-day	1.0E-02	mg/kg-day	1.3E-04
				cis-1,2-Dichloroethene	2E-01	ug/L	1.4E-08	mg/kg-day	N/A	N/A	N/A	1.6E-07	mg/kg-day	2.0E-03	mg/kg-day	8.1E-05
				Trichloroethene	5E-02	ug/L	4.8E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	4.1E-10	5.6E-08	mg/kg-day	5.0E-04	mg/kg-day	1.1E-04
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	4E+02	ug/L	1.6E-06	mg/kg-day	N/A	N/A	N/A	1.9E-05	mg/kg-day	1.0E+00	mg/kg-day	1.9E-05
				Antimony	6E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E-01	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	2E-01	ug/L	8.2E-10	mg/kg-day	N/A	N/A	N/A	9.6E-09	mg/kg-day	2.5E-05	mg/kg-day	3.8E-04
				Chromium	1E+01	ug/L	5.6E-08	mg/kg-day	N/A	N/A	N/A	6.6E-07	mg/kg-day	2.0E-02	mg/kg-day	3.4E-05
				Chromium, Hexavalent	4E-01	ug/L	3.3E-09	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	3.5E-07	3.8E-08	mg/kg-day	7.5E-05	mg/kg-day	5.1E-04
				Cobalt	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	ug/L	1.3E-06	mg/kg-day	N/A	N/A	N/A	1.5E-05	mg/kg-day	9.6E-04	mg/kg-day	1.6E-02
				Silver	5E-01	ug/L	1.1E-09	mg/kg-day	N/A	N/A	N/A	1.3E-08	mg/kg-day	2.0E-04	mg/kg-day	6.3E-05
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								4E-07					2E-02
		Exposure Point Total									5E-07					3E-02

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Downstream of Mechanics Pond	Dermal													
				Bromodichloromethane	4E-01	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	2E+00	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	7E-01	ug/L	9.6E-08	mg/kg-day	N/A	N/A	N/A	1.1E-06	mg/kg-day	2.0E-03	mg/kg-day	5.6E-04
				Trichloroethene	8E-02	ug/L	1.0E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	8.9E-10	1.2E-07	mg/kg-day	5.0E-04	mg/kg-day	2.4E-04
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	8E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	3E+01	ug/L	2.6E-07	mg/kg-day	N/A	N/A	N/A	3.0E-06	mg/kg-day	1.0E+00	mg/kg-day	3.0E-06
				Antimony	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E-01	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	1E-01	ug/L	8.7E-10	mg/kg-day	N/A	N/A	N/A	1.0E-08	mg/kg-day	2.5E-05	mg/kg-day	4.1E-04
				Chromium	3E+00	ug/L	2.2E-08	mg/kg-day	N/A	N/A	N/A	2.5E-07	mg/kg-day	2.0E-02	mg/kg-day	1.3E-05
				Chromium, Hexavalent	1E+00	ug/L	2.0E-08	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	2.1E-06	2.3E-07	mg/kg-day	7.5E-05	mg/kg-day	3.0E-03
				Cobalt	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	5E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	3E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	ug/L	9.9E-06	mg/kg-day	N/A	N/A	N/A	1.2E-04	mg/kg-day	9.6E-04	mg/kg-day	1.2E-01
				Silver	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								2E-06					1E-01
		Exposure Point Total									2E-06					1E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 (mg/kg-day)$^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 (mg/kg-day)$^{-1}$]. Use of the adult-based CSF [4.6E-2 (mg/kg-day)$^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x MAF (0.202) x 10 + intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x CAF (0.804)] x 2/6 + [intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x CAF (0.804)] x 4/6

Inhalation:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the unit risk factor (URF) by tumor effects [kidney URF = 1E-06 (ug/m^3)$^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver URF = 3.1E-6 (ug/m^3)$^{-1}$]. Use of the adult-based URF [4.1E-6 (ug/m^3)$^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver URF/adult-based URF = 0.756 and a mutagenic adjustment factor (MAF) = kidney URF/adult-based URF = 0.244.

Inhalation early-life cancer risk = [intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x MAF (0.244) x 10 + intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x CAF (0.756)] x 2/6 + [intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x MAF (0.244) x 3 + intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x CAF (0.756)] x 4/6

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Wetland/Floodplain Surface Soil (0-2 ft)	Southern Wetland	Ingestion													
				Trichloroethene	1E-01	mg/kg	1.4E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.2E-10	4.7E-08	mg/kg-day	5.0E-04	mg/kg-day	9.5E-05
				Benzo(a)anthracene	2E+00	mg/kg	2.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-08	7.6E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.8E-08	5.1E-07	mg/kg-day	3.0E-04	mg/kg-day	1.7E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	2.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.4E-08	9.3E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	1.0E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	5.5E-10	3.6E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	3.3E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.7E-08	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	1.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.5E-09	3.6E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	8E-02	mg/kg	1.1E-09	mg/kg-day	N/A	N/A	N/A	3.7E-08	mg/kg-day	2.0E-02	mg/kg-day	1.9E-06
				4,4'-DDT	9E-01	mg/kg	1.2E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	4.0E-09	4.1E-07	mg/kg-day	5.0E-04	mg/kg-day	8.2E-04
				Endrin aldehyde	3E-02	mg/kg	4.7E-10	mg/kg-day	N/A	N/A	N/A	1.6E-08	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	1.2E-04	mg/kg-day	N/A	N/A	N/A	4.0E-03	mg/kg-day	1.0E+00	mg/kg-day	4.0E-03
				Antimony	3E+00	mg/kg	3.9E-08	mg/kg-day	N/A	N/A	N/A	1.4E-06	mg/kg-day	4.0E-04	mg/kg-day	3.5E-03
				Arsenic	3E+00	mg/kg	2.4E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.5E-08	8.3E-07	mg/kg-day	3.0E-04	mg/kg-day	2.8E-03
				Chromium	8E+03	mg/kg	1.0E-04	mg/kg-day	N/A	N/A	N/A	3.6E-03	mg/kg-day	1.5E+00	mg/kg-day	2.4E-03
				Chromium, Hexavalent	2E+01	mg/kg	2.4E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	6.4E-07	8.4E-06	mg/kg-day	3.0E-03	mg/kg-day	2.8E-03
				Cobalt	3E+01	mg/kg	4.2E-07	mg/kg-day	N/A	N/A	N/A	1.5E-05	mg/kg-day	3.0E-04	mg/kg-day	4.9E-02
				Copper	3E+02	mg/kg	4.1E-06	mg/kg-day	N/A	N/A	N/A	1.4E-04	mg/kg-day	4.0E-02	mg/kg-day	3.6E-03
				Cyanide	2E+00	mg/kg	2.8E-08	mg/kg-day	N/A	N/A	N/A	9.7E-07	mg/kg-day	1.0E-03	mg/kg-day	9.7E-04
				Iron	2E+04	mg/kg	2.3E-04	mg/kg-day	N/A	N/A	N/A	8.2E-03	mg/kg-day	7.0E-01	mg/kg-day	1.2E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	7E+02	mg/kg	9.4E-06	mg/kg-day	N/A	N/A	N/A	3.3E-04	mg/kg-day	2.4E-02	mg/kg-day	1.4E-02
				Nickel	1E+02	mg/kg	1.5E-06	mg/kg-day	N/A	N/A	N/A	5.2E-05	mg/kg-day	2.0E-02	mg/kg-day	2.6E-03
				Silver	1E+02	mg/kg	1.5E-06	mg/kg-day	N/A	N/A	N/A	5.3E-05	mg/kg-day	5.0E-03	mg/kg-day	1.1E-02
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	2.7E-07	mg/kg-day	N/A	N/A	N/A	9.3E-06	mg/kg-day	5.0E-03	mg/kg-day	1.9E-03
			Exp. Route Total								8E-07					1E-01

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	1E-01	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	1.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.2E-09	4.7E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	9.0E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.8E-08	3.1E-07	mg/kg-day	3.0E-04	mg/kg-day	1.0E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	1.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.8E-09	5.8E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	6.3E-09	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	3.4E-10	2.2E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	2.0E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.1E-08	7.0E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	6.3E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.4E-09	2.2E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	8E-02	mg/kg	6.5E-10	mg/kg-day	N/A	N/A	N/A	2.3E-08	mg/kg-day	2.0E-02	mg/kg-day	1.1E-06
				4,4'-DDT	9E-01	mg/kg	1.7E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	5.7E-10	5.8E-08	mg/kg-day	5.0E-04	mg/kg-day	1.2E-04
				Endrin aldehyde	3E-02	mg/kg	2.2E-10	mg/kg-day	N/A	N/A	N/A	7.7E-09	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	3E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	5.6E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.4E-09	2.0E-07	mg/kg-day	3.0E-04	mg/kg-day	6.5E-04
				Chromium	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	2E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	7E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								9E-08					2E-03
		Exposure Point Total									9E-07					1E-01

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	2.9E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.6E-08	1.0E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	3.2E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.7E-07	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	3.7E-03
				Benzo(b)fluoranthene	3E+00	mg/kg	3.5E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.9E-08	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	2.7E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.4E-09	9.5E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	2.9E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	5.8E-11	1.0E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	2.8E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.5E-08	9.8E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	1.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.0E-09	3.9E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	3E-02	mg/kg	4.6E-10	mg/kg-day	N/A	N/A	N/A	1.6E-08	mg/kg-day	2.0E-02	mg/kg-day	8.1E-07
				4,4'-DDT	2E-02	mg/kg	2.0E-10	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	6.9E-11	7.1E-09	mg/kg-day	5.0E-04	mg/kg-day	1.4E-05
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.2E-04	mg/kg-day	N/A	N/A	N/A	4.1E-03	mg/kg-day	1.0E+00	mg/kg-day	4.1E-03
				Antimony	1E+00	mg/kg	1.6E-08	mg/kg-day	N/A	N/A	N/A	5.6E-07	mg/kg-day	4.0E-04	mg/kg-day	1.4E-03
				Arsenic	1E+01	mg/kg	7.9E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.2E-07	2.8E-06	mg/kg-day	3.0E-04	mg/kg-day	9.2E-03
				Chromium	1E+03	mg/kg	1.6E-05	mg/kg-day	N/A	N/A	N/A	5.6E-04	mg/kg-day	1.5E+00	mg/kg-day	3.7E-04
				Chromium, Hexavalent	5E+00	mg/kg	6.7E-08	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.8E-07	2.4E-06	mg/kg-day	3.0E-03	mg/kg-day	7.8E-04
				Cobalt	6E+00	mg/kg	8.8E-08	mg/kg-day	N/A	N/A	N/A	3.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1.0E-02
				Copper	5E+01	mg/kg	6.3E-07	mg/kg-day	N/A	N/A	N/A	2.2E-05	mg/kg-day	4.0E-02	mg/kg-day	5.5E-04
				Cyanide	1E+00	mg/kg	1.9E-08	mg/kg-day	N/A	N/A	N/A	6.6E-07	mg/kg-day	1.0E-03	mg/kg-day	6.6E-04
				Iron	2E+04	mg/kg	2.5E-04	mg/kg-day	N/A	N/A	N/A	8.6E-03	mg/kg-day	7.0E-01	mg/kg-day	1.2E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	mg/kg	1.5E-05	mg/kg-day	N/A	N/A	N/A	5.1E-04	mg/kg-day	2.4E-02	mg/kg-day	2.1E-02
				Nickel	1E+01	mg/kg	2.0E-07	mg/kg-day	N/A	N/A	N/A	7.0E-06	mg/kg-day	2.0E-02	mg/kg-day	3.5E-04
				Silver	2E+01	mg/kg	2.3E-07	mg/kg-day	N/A	N/A	N/A	8.1E-06	mg/kg-day	5.0E-03	mg/kg-day	1.6E-03
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	2.3E-07	mg/kg-day	N/A	N/A	N/A	8.0E-06	mg/kg-day	5.0E-03	mg/kg-day	1.6E-03
			Exp. Route Total								5E-07					7E-02

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	1.8E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.6E-09	6.3E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.9E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.0E-07	6.8E-07	mg/kg-day	3.0E-04	mg/kg-day	2.3E-03
				Benzo(b)fluoranthene	3E+00	mg/kg	2.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-08	7.6E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	1.7E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	8.9E-10	5.9E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	1.4E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	2.7E-11	4.8E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	1.7E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	9.2E-09	6.1E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	7.0E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.7E-09	2.4E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	3E-02	mg/kg	2.9E-10	mg/kg-day	N/A	N/A	N/A	1.0E-08	mg/kg-day	2.0E-02	mg/kg-day	5.0E-07
				4,4'-DDT	2E-02	mg/kg	2.9E-11	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	9.9E-12	1.0E-09	mg/kg-day	5.0E-04	mg/kg-day	2.0E-06
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+01	mg/kg	1.9E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.8E-08	6.5E-07	mg/kg-day	3.0E-04	mg/kg-day	2.2E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	5E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	6E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	5E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-07					4E-03
		Exposure Point Total									7E-07					7E-02
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Sediment	Sediment	Southern Wetland	Ingestion													
				Trichloroethene	5E-03	mg/kg	6.9E-11	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	6.0E-12	2.4E-09	mg/kg-day	5.0E-04	mg/kg-day	4.8E-06
				Benzo(a)anthracene	7E-01	mg/kg	9.3E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.0E-09	3.3E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	9E-01	mg/kg	1.2E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.2E-08	4.1E-07	mg/kg-day	3.0E-04	mg/kg-day	1.4E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	1.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.6E-09	5.6E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	2.0E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	4.0E-11	7.0E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	4E-01	mg/kg	5.7E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.0E-08	2.0E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	1.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.9E-09	3.9E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E+00	mg/kg	1.6E-08	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	3.9E-09	5.7E-07	mg/kg-day	3.0E-05	mg/kg-day	1.9E-02
				Aroclor-1260	ND	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	2E+04	mg/kg	2.3E-04	mg/kg-day	N/A	N/A	N/A	8.1E-03	mg/kg-day	1.0E+00	mg/kg-day	8.1E-03
				Antimony	1E+01	mg/kg	1.7E-07	mg/kg-day	N/A	N/A	N/A	6.1E-06	mg/kg-day	4.0E-04	mg/kg-day	1.5E-02
				Arsenic	1E+01	mg/kg	9.5E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.4E-07	3.3E-06	mg/kg-day	3.0E-04	mg/kg-day	1.1E-02
				Cadmium (other media)	1E+00	mg/kg	1.4E-08	mg/kg-day	N/A	N/A	N/A	4.9E-07	mg/kg-day	1.0E-03	mg/kg-day	4.9E-04
				Chromium	1E+04	mg/kg	1.7E-04	mg/kg-day	N/A	N/A	N/A	6.1E-03	mg/kg-day	1.5E+00	mg/kg-day	4.0E-03
				Chromium, Hexavalent	3E+01	mg/kg	3.7E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	9.8E-07	1.3E-05	mg/kg-day	3.0E-03	mg/kg-day	4.3E-03
				Cobalt	4E+01	mg/kg	5.0E-07	mg/kg-day	N/A	N/A	N/A	1.8E-05	mg/kg-day	3.0E-04	mg/kg-day	5.9E-02
				Copper	4E+02	mg/kg	6.0E-06	mg/kg-day	N/A	N/A	N/A	2.1E-04	mg/kg-day	4.0E-02	mg/kg-day	5.2E-03
				Cyanide	6E+01	mg/kg	8.4E-07	mg/kg-day	N/A	N/A	N/A	2.9E-05	mg/kg-day	1.0E-03	mg/kg-day	2.9E-02
				Iron	2E+04	mg/kg	2.6E-04	mg/kg-day	N/A	N/A	N/A	9.2E-03	mg/kg-day	7.0E-01	mg/kg-day	1.3E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	4.6E-06	mg/kg-day	N/A	N/A	N/A	1.6E-04	mg/kg-day	2.4E-02	mg/kg-day	6.6E-03
				Mercury (other media)	3E-01	mg/kg	3.6E-09	mg/kg-day	N/A	N/A	N/A	1.3E-07	mg/kg-day	1.0E-04	mg/kg-day	1.3E-03
				Nickel	2E+02	mg/kg	2.1E-06	mg/kg-day	N/A	N/A	N/A	7.3E-05	mg/kg-day	2.0E-02	mg/kg-day	3.6E-03
				Silver	3E+02	mg/kg	4.6E-06	mg/kg-day	N/A	N/A	N/A	1.6E-04	mg/kg-day	5.0E-03	mg/kg-day	3.2E-02
				Thallium	2E+00	mg/kg	2.0E-08	mg/kg-day	N/A	N/A	N/A	7.1E-07	mg/kg-day	1.0E-05	mg/kg-day	7.1E-02
				Vanadium	3E+01	mg/kg	3.7E-07	mg/kg-day	N/A	N/A	N/A	1.3E-05	mg/kg-day	5.0E-03	mg/kg-day	2.6E-03
			Exp. Route Total								1E-06					3E-01

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-03	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	7E-01	mg/kg	5.7E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.1E-09	2.0E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	9E-01	mg/kg	7.2E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.8E-08	2.5E-07	mg/kg-day	3.0E-04	mg/kg-day	8.4E-04
				Benzo(b)fluoranthene	1E+00	mg/kg	9.9E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.3E-09	3.5E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	9.5E-10	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.9E-11	3.3E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	4E-01	mg/kg	3.5E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.9E-08	1.2E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	8E-01	mg/kg	6.8E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.6E-09	2.4E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E+00	mg/kg	7.7E-09	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	1.8E-09	2.7E-07	mg/kg-day	3.0E-05	mg/kg-day	9.0E-03
				Aroclor-1260	ND	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+01	mg/kg	2.2E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.4E-08	7.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2.6E-03
				Cadmium (other media)	1E+00	mg/kg	6.6E-11	mg/kg-day	N/A	N/A	N/A	2.3E-09	mg/kg-day	2.5E-05	mg/kg-day	9.3E-05
				Chromium	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	3E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	4E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	4E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	6E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-07					1E-02
		Exposure Point Total									1E-06					3E-01

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Ingestion													
				Trichloroethene	7E-01	mg/kg	9.3E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	8.1E-10	3.3E-07	mg/kg-day	5.0E-04	mg/kg-day	6.5E-04
				Benzo(a)anthracene	2E+00	mg/kg	2.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.1E-08	7.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	2.2E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.2E-07	7.8E-07	mg/kg-day	3.0E-04	mg/kg-day	2.6E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	2.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.1E-08	6.9E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	3.7E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	7.4E-11	1.3E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	3E-01	mg/kg	4.7E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.5E-08	1.6E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	1.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.8E-09	4.5E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E-02	mg/kg	1.7E-10	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	4.2E-11	6.1E-09	mg/kg-day	3.0E-05	mg/kg-day	2.0E-04
				Aroclor-1260	3E-02	mg/kg	3.9E-10	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	7.9E-10	1.4E-08	mg/kg-day	2.0E-05	mg/kg-day	6.9E-04
				Aluminum	2E+04	mg/kg	2.2E-04	mg/kg-day	N/A	N/A	N/A	7.6E-03	mg/kg-day	1.0E+00	mg/kg-day	7.6E-03
				Antimony	2E+00	mg/kg	2.2E-08	mg/kg-day	N/A	N/A	N/A	7.8E-07	mg/kg-day	4.0E-04	mg/kg-day	1.9E-03
				Arsenic	4E+00	mg/kg	3.6E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.4E-08	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4.2E-03
				Cadmium (other media)	7E-01	mg/kg	9.9E-09	mg/kg-day	N/A	N/A	N/A	3.5E-07	mg/kg-day	1.0E-03	mg/kg-day	3.5E-04
				Chromium	3E+03	mg/kg	4.2E-05	mg/kg-day	N/A	N/A	N/A	1.5E-03	mg/kg-day	1.5E+00	mg/kg-day	9.8E-04
				Chromium, Hexavalent	5E+01	mg/kg	6.6E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.8E-06	2.3E-05	mg/kg-day	3.0E-03	mg/kg-day	7.7E-03
				Cobalt	7E+00	mg/kg	9.4E-08	mg/kg-day	N/A	N/A	N/A	3.3E-06	mg/kg-day	3.0E-04	mg/kg-day	1.1E-02
				Copper	3E+01	mg/kg	4.7E-07	mg/kg-day	N/A	N/A	N/A	1.6E-05	mg/kg-day	4.0E-02	mg/kg-day	4.1E-04
				Cyanide	3E-01	mg/kg	4.6E-09	mg/kg-day	N/A	N/A	N/A	1.6E-07	mg/kg-day	1.0E-03	mg/kg-day	1.6E-04
				Iron	1E+04	mg/kg	1.9E-04	mg/kg-day	N/A	N/A	N/A	6.6E-03	mg/kg-day	7.0E-01	mg/kg-day	9.5E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	6E+02	mg/kg	7.9E-06	mg/kg-day	N/A	N/A	N/A	2.8E-04	mg/kg-day	2.4E-02	mg/kg-day	1.2E-02
				Mercury (other media)	2E-01	mg/kg	2.1E-09	mg/kg-day	N/A	N/A	N/A	7.3E-08	mg/kg-day	1.0E-04	mg/kg-day	7.3E-04
				Nickel	2E+01	mg/kg	2.2E-07	mg/kg-day	N/A	N/A	N/A	7.8E-06	mg/kg-day	2.0E-02	mg/kg-day	3.9E-04
				Silver	5E+00	mg/kg	6.6E-08	mg/kg-day	N/A	N/A	N/A	2.3E-06	mg/kg-day	5.0E-03	mg/kg-day	4.6E-04
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	9E+00	mg/kg	1.2E-07	mg/kg-day	N/A	N/A	N/A	4.4E-06	mg/kg-day	5.0E-03	mg/kg-day	8.7E-04
			Exp. Route Total								2E-06					6E-02

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	7E-01	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	1.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.8E-09	4.5E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.4E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.4E-08	4.8E-07	mg/kg-day	3.0E-04	mg/kg-day	1.6E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	1.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.5E-09	4.3E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	1.8E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	3.5E-11	6.1E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	3E-01	mg/kg	2.9E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.5E-08	1.0E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	7.9E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.2E-09	2.8E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	1E-02	mg/kg	8.2E-11	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	2.0E-11	2.9E-09	mg/kg-day	3.0E-05	mg/kg-day	9.6E-05
				Aroclor-1260	3E-02	mg/kg	2.6E-10	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	5.2E-10	9.2E-09	mg/kg-day	2.0E-05	mg/kg-day	4.6E-04
				Aluminum	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E+00	mg/kg	8.5E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.3E-08	3.0E-07	mg/kg-day	3.0E-04	mg/kg-day	9.9E-04
				Cadmium (other media)	7E-01	mg/kg	4.7E-11	mg/kg-day	N/A	N/A	N/A	1.6E-09	mg/kg-day	2.5E-05	mg/kg-day	6.6E-05
				Chromium	3E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	5E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	7E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	6E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	5E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	9E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-07					3E-03
		Exposure Point Total									2E-06					7E-02

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bungay River/ Mechanics Pond	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	1.8E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.8E-09	6.4E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.9E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.0E-07	6.8E-07	mg/kg-day	3.0E-04	mg/kg-day	2.3E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	2.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-08	8.1E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	7E-01	mg/kg	9.5E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	5.1E-08	3.3E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.9E-09	4.5E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	3E-01	mg/kg	3.5E-09	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	8.5E-10	1.2E-07	mg/kg-day	3.0E-05	mg/kg-day	4.1E-03
				Aroclor-1260	2E-01	mg/kg	2.5E-09	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	5.1E-09	8.9E-08	mg/kg-day	2.0E-05	mg/kg-day	4.4E-03
				Aluminum	1E+04	mg/kg	1.6E-04	mg/kg-day	N/A	N/A	N/A	5.6E-03	mg/kg-day	1.0E+00	mg/kg-day	5.6E-03
				Antimony	7E-01	mg/kg	9.0E-09	mg/kg-day	N/A	N/A	N/A	3.1E-07	mg/kg-day	4.0E-04	mg/kg-day	7.8E-04
				Arsenic	5E+00	mg/kg	4.1E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.2E-08	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	4.8E-03
				Cadmium (other media)	1E+01	mg/kg	1.9E-07	mg/kg-day	N/A	N/A	N/A	6.8E-06	mg/kg-day	1.0E-03	mg/kg-day	6.8E-03
				Chromium	2E+03	mg/kg	2.3E-05	mg/kg-day	N/A	N/A	N/A	8.1E-04	mg/kg-day	1.5E+00	mg/kg-day	5.4E-04
				Chromium, Hexavalent	9E+00	mg/kg	1.2E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.3E-07	4.3E-06	mg/kg-day	3.0E-03	mg/kg-day	1.4E-03
				Cobalt	8E+00	mg/kg	1.1E-07	mg/kg-day	N/A	N/A	N/A	4.0E-06	mg/kg-day	3.0E-04	mg/kg-day	1.3E-02
				Copper	1E+03	mg/kg	1.9E-05	mg/kg-day	N/A	N/A	N/A	6.5E-04	mg/kg-day	4.0E-02	mg/kg-day	1.6E-02
				Cyanide	3E-01	mg/kg	4.3E-09	mg/kg-day	N/A	N/A	N/A	1.5E-07	mg/kg-day	1.0E-03	mg/kg-day	1.5E-04
				Iron	2E+04	mg/kg	2.1E-04	mg/kg-day	N/A	N/A	N/A	7.2E-03	mg/kg-day	7.0E-01	mg/kg-day	1.0E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	mg/kg	6.5E-06	mg/kg-day	N/A	N/A	N/A	2.3E-04	mg/kg-day	2.4E-02	mg/kg-day	9.5E-03
				Mercury (other media)	2E+00	mg/kg	3.3E-08	mg/kg-day	N/A	N/A	N/A	1.2E-06	mg/kg-day	1.0E-04	mg/kg-day	1.2E-02
				Nickel	2E+02	mg/kg	3.4E-06	mg/kg-day	N/A	N/A	N/A	1.2E-04	mg/kg-day	2.0E-02	mg/kg-day	5.9E-03
				Silver	1E+02	mg/kg	1.4E-06	mg/kg-day	N/A	N/A	N/A	4.9E-05	mg/kg-day	5.0E-03	mg/kg-day	9.7E-03
				Thallium	7E-01	mg/kg	9.5E-09	mg/kg-day	N/A	N/A	N/A	3.3E-07	mg/kg-day	1.0E-05	mg/kg-day	3.3E-02
				Vanadium	1E+01	mg/kg	1.9E-07	mg/kg-day	N/A	N/A	N/A	6.5E-06	mg/kg-day	5.0E-03	mg/kg-day	1.3E-03
			Exp. Route Total								6E-07					1E-01

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	1.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.1E-09	4.0E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.2E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.4E-08	4.2E-07	mg/kg-day	3.0E-04	mg/kg-day	1.4E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	1.4E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.6E-09	5.0E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	7E-01	mg/kg	5.9E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.1E-08	2.1E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	8.0E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.3E-09	2.8E-07	mg/kg-day	N/A	N/A	N/A
				4,4'-DDD	3E-01	mg/kg	1.7E-09	mg/kg-day	2.4E-01	(mg/kg-day) $^{-1}$	4.0E-10	5.9E-08	mg/kg-day	3.0E-05	mg/kg-day	2.0E-03
				Aroclor-1260	2E-01	mg/kg	1.7E-09	mg/kg-day	2.0E+00	(mg/kg-day) $^{-1}$	3.4E-09	5.9E-08	mg/kg-day	2.0E-05	mg/kg-day	3.0E-03
				Aluminum	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	7E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	5E+00	mg/kg	9.7E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.5E-08	3.4E-07	mg/kg-day	3.0E-04	mg/kg-day	1.1E-03
				Cadmium (other media)	1E+01	mg/kg	9.3E-10	mg/kg-day	N/A	N/A	N/A	3.2E-08	mg/kg-day	2.5E-05	mg/kg-day	1.3E-03
				Chromium	2E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	9E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	8E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	7E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-07					9E-03
		Exposure Point Total									7E-07					2E-01

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Downstream of Mechanics Pond	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(a)pyrene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Benzo(b)fluoranthene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Carbazole	N/A	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				4,4'-DDD	N/A	mg/kg	N/A	N/A	2.4E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-05	mg/kg-day	N/A
				Aroclor-1260	N/A	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	6E+03	mg/kg	7.6E-05	mg/kg-day	N/A	N/A	N/A	2.7E-03	mg/kg-day	1.0E+00	mg/kg-day	2.7E-03
				Antimony	2E-01	mg/kg	2.8E-09	mg/kg-day	N/A	N/A	N/A	9.9E-08	mg/kg-day	4.0E-04	mg/kg-day	2.5E-04
				Arsenic	1E+01	mg/kg	9.2E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.4E-07	3.2E-06	mg/kg-day	3.0E-04	mg/kg-day	1.1E-02
				Cadmium (other media)	1E+00	mg/kg	1.4E-08	mg/kg-day	N/A	N/A	N/A	5.0E-07	mg/kg-day	1.0E-03	mg/kg-day	5.0E-04
				Chromium	9E+01	mg/kg	1.2E-06	mg/kg-day	N/A	N/A	N/A	4.2E-05	mg/kg-day	1.5E+00	mg/kg-day	2.8E-05
				Chromium, Hexavalent	2E+00	mg/kg	2.3E-08	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	6.1E-08	8.0E-07	mg/kg-day	3.0E-03	mg/kg-day	2.7E-04
				Cobalt	3E+00	mg/kg	3.6E-08	mg/kg-day	N/A	N/A	N/A	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4.2E-03
				Copper	8E+01	mg/kg	1.1E-06	mg/kg-day	N/A	N/A	N/A	3.7E-05	mg/kg-day	4.0E-02	mg/kg-day	9.2E-04
				Cyanide	1E+00	mg/kg	1.5E-08	mg/kg-day	N/A	N/A	N/A	5.1E-07	mg/kg-day	1.0E-03	mg/kg-day	5.1E-04
				Iron	1E+05	mg/kg	1.4E-03	mg/kg-day	N/A	N/A	N/A	5.0E-02	mg/kg-day	7.0E-01	mg/kg-day	7.1E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	9E+02	mg/kg	1.2E-05	mg/kg-day	N/A	N/A	N/A	4.2E-04	mg/kg-day	2.4E-02	mg/kg-day	1.7E-02
				Mercury (other media)	3E-01	mg/kg	4.2E-09	mg/kg-day	N/A	N/A	N/A	1.5E-07	mg/kg-day	1.0E-04	mg/kg-day	1.5E-03
				Nickel	1E+01	mg/kg	1.5E-07	mg/kg-day	N/A	N/A	N/A	5.2E-06	mg/kg-day	2.0E-02	mg/kg-day	2.6E-04
				Silver	1E+01	mg/kg	1.4E-07	mg/kg-day	N/A	N/A	N/A	5.0E-06	mg/kg-day	5.0E-03	mg/kg-day	1.0E-03
				Thallium	3E-01	mg/kg	3.9E-09	mg/kg-day	N/A	N/A	N/A	1.4E-07	mg/kg-day	1.0E-05	mg/kg-day	1.4E-02
				Vanadium	2E+01	mg/kg	2.4E-07	mg/kg-day	N/A	N/A	N/A	8.2E-06	mg/kg-day	5.0E-03	mg/kg-day	1.6E-03
			Exp. Route Total								2E-07					1E-01

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Benzo(a)pyrene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Benzo(b)fluoranthene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Carbazole	N/A	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	N/A	mg/kg	N/A	N/A	1.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	N/A	mg/kg	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				4,4'-DDD	N/A	mg/kg	N/A	N/A	2.4E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-05	mg/kg-day	N/A
				Aroclor-1260	N/A	mg/kg	N/A	N/A	2.0E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-05	mg/kg-day	N/A
				Aluminum	6E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+01	mg/kg	2.2E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.3E-08	7.7E-07	mg/kg-day	3.0E-04	mg/kg-day	2.6E-03
				Cadmium (other media)	1E+00	mg/kg	6.8E-11	mg/kg-day	N/A	N/A	N/A	2.4E-09	mg/kg-day	2.5E-05	mg/kg-day	9.5E-05
				Chromium	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	2E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	3E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	8E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+05	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	9E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (other media)	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	3E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								3E-08					3E-03
		Exposure Point Total									2E-07					1E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Water	Surface Water	Southern Wetland	Dermal													
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	2E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				Trichloroethene	3E+00	ug/L	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Vinyl chloride	6E-02	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	6E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	2E+03	ug/L	5.5E-07	mg/kg-day	N/A	N/A	N/A	1.9E-05	mg/kg-day	1.0E+00	mg/kg-day	1.9E-05
				Antimony	2E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	1E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	2E-01	ug/L	6.5E-11	mg/kg-day	N/A	N/A	N/A	2.3E-09	mg/kg-day	2.5E-05	mg/kg-day	9.2E-05
				Chromium	3E+02	ug/L	9.1E-08	mg/kg-day	N/A	N/A	N/A	3.2E-06	mg/kg-day	2.0E-02	mg/kg-day	1.6E-04
				Chromium, Hexavalent	6E-01	ug/L	4.1E-10	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	4.4E-08	1.4E-08	mg/kg-day	7.5E-05	mg/kg-day	1.9E-04
				Cobalt	1E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	4E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	7E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Silver	7E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								4E-08					5E-04
		Exposure Point Total									4E-08					5E-04

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bliss Brook	Dermal													
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	2E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				Trichloroethene	2E-01	ug/L	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	4E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	3E+03	ug/L	9.5E-07	mg/kg-day	N/A	N/A	N/A	3.3E-05	mg/kg-day	1.0E+00	mg/kg-day	3.3E-05
				Antimony	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	6E-01	ug/L	1.9E-10	mg/kg-day	N/A	N/A	N/A	6.6E-09	mg/kg-day	2.5E-05	mg/kg-day	2.6E-04
				Chromium	7E+02	ug/L	2.3E-07	mg/kg-day	N/A	N/A	N/A	7.9E-06	mg/kg-day	2.0E-02	mg/kg-day	4.0E-04
				Chromium, Hexavalent	1E+02	ug/L	6.3E-08	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	6.8E-06	2.2E-06	mg/kg-day	7.5E-05	mg/kg-day	3.0E-02
				Cobalt	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	8E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	1E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Silver	2E-02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								7E-06					3E-02
		Exposure Point Total									7E-06					3E-02

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Bungay River/ Mechanics Pond	Ingestion													
				Bromodichloromethane	4E-01	ug/L	1.3E-09	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	8.0E-11	4.5E-08	mg/kg-day	2.0E-02	mg/kg-day	2.3E-06
				Chloroform	7E-01	ug/L	2.3E-09	mg/kg-day	3.1E-02	(mg/kg-day) $^{-1}$	7.2E-11	8.1E-08	mg/kg-day	1.0E-02	mg/kg-day	8.1E-06
				cis-1,2-Dichloroethene	2E-01	ug/L	5.4E-10	mg/kg-day	N/A	N/A	N/A	1.9E-08	mg/kg-day	2.0E-03	mg/kg-day	9.4E-06
				Trichloroethene	5E-02	ug/L	1.7E-10	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.5E-11	6.0E-09	mg/kg-day	5.0E-04	mg/kg-day	1.2E-05
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	1.6E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.6E-10	5.5E-08	mg/kg-day	3.0E-02	mg/kg-day	1.8E-06
				Aluminum	4E+02	ug/L	1.4E-06	mg/kg-day	N/A	N/A	N/A	4.9E-05	mg/kg-day	1.0E+00	mg/kg-day	4.9E-05
				Antimony	6E-01	ug/L	2.0E-09	mg/kg-day	N/A	N/A	N/A	7.1E-08	mg/kg-day	4.0E-04	mg/kg-day	1.8E-04
				Arsenic	4E-01	ug/L	1.4E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.1E-09	4.8E-08	mg/kg-day	3.0E-04	mg/kg-day	1.6E-04
				Cadmium (water)	2E-01	ug/L	7.2E-10	mg/kg-day	N/A	N/A	N/A	2.5E-08	mg/kg-day	5.0E-04	mg/kg-day	5.0E-05
				Chromium	1E+01	ug/L	4.9E-08	mg/kg-day	N/A	N/A	N/A	1.7E-06	mg/kg-day	1.5E+00	mg/kg-day	1.1E-06
				Chromium, Hexavalent	4E-01	ug/L	1.4E-09	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.8E-09	5.0E-08	mg/kg-day	3.0E-03	mg/kg-day	1.7E-05
				Cobalt	5E-01	ug/L	1.8E-09	mg/kg-day	N/A	N/A	N/A	6.5E-08	mg/kg-day	3.0E-04	mg/kg-day	2.2E-04
				Cyanide	3E+00	ug/L	9.4E-09	mg/kg-day	N/A	N/A	N/A	3.3E-07	mg/kg-day	1.0E-03	mg/kg-day	3.3E-04
				Iron	2E+03	ug/L	8.2E-06	mg/kg-day	N/A	N/A	N/A	2.9E-04	mg/kg-day	7.0E-01	mg/kg-day	4.1E-04
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	ug/L	1.1E-06	mg/kg-day	N/A	N/A	N/A	4.0E-05	mg/kg-day	2.4E-02	mg/kg-day	1.7E-03
				Silver	5E-01	ug/L	1.6E-09	mg/kg-day	N/A	N/A	N/A	5.5E-08	mg/kg-day	5.0E-03	mg/kg-day	1.1E-05
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								6E-09					3E-03

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Bromodichloromethane	4E-01	ug/L	2.0E-09	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	1.2E-10	6.9E-08	mg/kg-day	2.0E-02	mg/kg-day	3.4E-06
				Chloroform	7E-01	ug/L	3.9E-09	mg/kg-day	3.1E-02	(mg/kg-day) $^{-1}$	1.2E-10	1.4E-07	mg/kg-day	1.0E-02	mg/kg-day	1.4E-05
				cis-1,2-Dichloroethene	2E-01	ug/L	1.5E-09	mg/kg-day	N/A	N/A	N/A	5.4E-08	mg/kg-day	2.0E-03	mg/kg-day	2.7E-05
				Trichloroethene	5E-02	ug/L	5.3E-10	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	4.6E-11	1.9E-08	mg/kg-day	5.0E-04	mg/kg-day	3.7E-05
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	4E+02	ug/L	1.8E-07	mg/kg-day	N/A	N/A	N/A	6.2E-06	mg/kg-day	1.0E+00	mg/kg-day	6.2E-06
				Antimony	6E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E-01	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	2E-01	ug/L	9.1E-11	mg/kg-day	N/A	N/A	N/A	3.2E-09	mg/kg-day	2.5E-05	mg/kg-day	1.3E-04
				Chromium	1E+01	ug/L	6.3E-09	mg/kg-day	N/A	N/A	N/A	2.2E-07	mg/kg-day	2.0E-02	mg/kg-day	1.1E-05
				Chromium, Hexavalent	4E-01	ug/L	3.6E-10	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	3.9E-08	1.3E-08	mg/kg-day	7.5E-05	mg/kg-day	1.7E-04
				Cobalt	5E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	ug/L	1.5E-07	mg/kg-day	N/A	N/A	N/A	5.1E-06	mg/kg-day	9.6E-04	mg/kg-day	5.3E-03
				Silver	5E-01	ug/L	1.2E-10	mg/kg-day	N/A	N/A	N/A	4.2E-09	mg/kg-day	2.0E-04	mg/kg-day	2.1E-05
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								4E-08					6E-03
		Exposure Point Total									5E-08					9E-03

TABLE 7.4.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Downstream of Mechanics Pond	Dermal													
				Bromodichloromethane	3E-01	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chloroform	8E-01	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				cis-1,2-Dichloroethene	4E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				Trichloroethene	8E-02	ug/L	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Vinyl chloride	ND	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-02	mg/kg-day	N/A
				Aluminum	2E+01	ug/L	5.4E-09	mg/kg-day	N/A	N/A	N/A	1.9E-07	mg/kg-day	1.0E+00	mg/kg-day	1.9E-07
				Antimony	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E-01	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cadmium (water)	1E-01	ug/L	3.2E-11	mg/kg-day	N/A	N/A	N/A	1.1E-09	mg/kg-day	2.5E-05	mg/kg-day	4.5E-05
				Chromium	2E+00	ug/L	6.0E-10	mg/kg-day	N/A	N/A	N/A	2.1E-08	mg/kg-day	2.0E-02	mg/kg-day	1.1E-06
				Chromium, Hexavalent	5E-01	ug/L	3.2E-10	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	3.4E-08	1.1E-08	mg/kg-day	7.5E-05	mg/kg-day	1.5E-04
				Cobalt	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Cyanide	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Silver	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
			Exp. Route Total								3E-08					2E-04
		Exposure Point Total									3E-08					2E-04
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 (mg/kg-day)$^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 (mg/kg-day)$^{-1}$]. Use of the adult-based CSF [4.6E-2 (mg/kg-day)$^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x MAF (0.202) x 10 + intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x CAF (0.804)] x 2/6 + [intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x CAF (0.804)] x 4/6

Inhalation:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the unit risk factor (URF) by tumor effects [kidney URF = 1E-06 (ug/m^3)$^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver URF = 3.1E-6 (ug/m^3)$^{-1}$]. Use of the adult-based URF [4.1E-6 (ug/m^3)$^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver URF/adult-based URF = 0.756 and a mutagenic adjustment factor (MAF) = kidney URF/adult-based URF = 0.244.

Inhalation early-life cancer risk = [intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x MAF (0.244) x 10 + intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x CAF (0.756)] x 2/6 + [intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x MAF (0.244) x 3 + intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x CAF (0.756)] x 4/6

TABLE 7.5.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Floodplain Surface Soil (0-2 ft)	Residential Yards - West of North Avenue	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	4.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.6E-08	1.7E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	3.6E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.2E-07	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4.2E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	6.0E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-07	2.1E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	6E-01	mg/kg	1.9E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	3.8E-09	6.7E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	7.2E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.4E-07	2.5E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	3.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.7E-08	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				4,4'-DDT	2E+00	mg/kg	6.2E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.1E-07	2.2E-06	mg/kg-day	5.0E-04	mg/kg-day	4.3E-03
				Endrin aldehyde	5E-02	mg/kg	1.6E-08	mg/kg-day	N/A	N/A	N/A	5.6E-08	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	2.8E-03	mg/kg-day	N/A	N/A	N/A	9.8E-03	mg/kg-day	1.0E+00	mg/kg-day	9.8E-03
				Antimony	5E+00	mg/kg	1.7E-06	mg/kg-day	N/A	N/A	N/A	6.0E-06	mg/kg-day	4.0E-04	mg/kg-day	1.5E-02
				Arsenic	7E+00	mg/kg	1.4E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.0E-06	4.7E-06	mg/kg-day	3.0E-04	mg/kg-day	1.6E-02
				Chromium	2E+03	mg/kg	7.1E-04	mg/kg-day	N/A	N/A	N/A	2.5E-03	mg/kg-day	1.5E+00	mg/kg-day	1.7E-03
				Chromium, Hexavalent	3E-02	mg/kg	1.0E-08	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.0E-08	3.6E-08	mg/kg-day	3.0E-03	mg/kg-day	1.2E-05
				Cobalt	6E+00	mg/kg	2.1E-06	mg/kg-day	N/A	N/A	N/A	7.2E-06	mg/kg-day	3.0E-04	mg/kg-day	2.4E-02
				Copper	9E+01	mg/kg	3.0E-05	mg/kg-day	N/A	N/A	N/A	1.0E-04	mg/kg-day	4.0E-02	mg/kg-day	2.6E-03
				Cyanide	4E+00	mg/kg	1.5E-06	mg/kg-day	N/A	N/A	N/A	5.3E-06	mg/kg-day	1.0E-03	mg/kg-day	5.3E-03
				Iron	2E+04	mg/kg	6.7E-03	mg/kg-day	N/A	N/A	N/A	2.3E-02	mg/kg-day	7.0E-01	mg/kg-day	3.3E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	4E+02	mg/kg	1.4E-04	mg/kg-day	N/A	N/A	N/A	5.0E-04	mg/kg-day	2.4E-02	mg/kg-day	2.1E-02
				Nickel	2E+01	mg/kg	5.4E-06	mg/kg-day	N/A	N/A	N/A	1.9E-05	mg/kg-day	2.0E-02	mg/kg-day	9.5E-04
				Silver	6E+01	mg/kg	2.0E-05	mg/kg-day	N/A	N/A	N/A	6.9E-05	mg/kg-day	5.0E-03	mg/kg-day	1.4E-02
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	3E+01	mg/kg	1.1E-05	mg/kg-day	N/A	N/A	N/A	3.9E-05	mg/kg-day	5.0E-03	mg/kg-day	7.8E-03
			Exp. Route Total								3E-06					2E-01

TABLE 7.5.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	2.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.3E-08	9.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	2.0E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.9E-07	6.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2.3E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	3.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.6E-08	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	6E-01	mg/kg	1.1E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	2.1E-09	3.7E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	3.9E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.9E-08	1.4E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.7E-08	6.4E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				4,4'-DDT	2E+00	mg/kg	7.8E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.7E-08	2.7E-07	mg/kg-day	5.0E-04	mg/kg-day	5.5E-04
				Endrin aldehyde	5E-02	mg/kg	6.8E-09	mg/kg-day	N/A	N/A	N/A	2.4E-08	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	5E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	7E+00	mg/kg	2.9E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	4.3E-07	1.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3.3E-03
				Chromium	2E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	3E-02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	6E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	4E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	4E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	6E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-06					6E-03

TABLE 7.5.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.1E-06	(ug/m3) $^{-1}$	N/A	N/A	N/A	2.0E+00	ug/m3	N/A
				Benzo(a)anthracene	1E+00	mg/kg	5.9E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	7.0E-12	2.0E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	4.4E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	5.3E-11	1.5E-07	ug/m3	2.0E-03	ug/m3	7.7E-05
				Benzo(b)fluoranthene	2E+00	mg/kg	7.3E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	8.8E-12	2.6E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	6E-01	mg/kg	2.4E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	2.8E-13	8.2E-08	ug/m3	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	8.8E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.1E-11	3.1E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	4.1E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	4.9E-12	1.4E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	3.4E-05	(ug/m3) $^{-1}$	N/A	N/A	N/A	3.0E+00	ug/m3	N/A
				4,4'-DDT	2E+00	mg/kg	7.6E-08	ug/m3	9.7E-05	(ug/m3) $^{-1}$	7.3E-12	2.6E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	5E-02	mg/kg	2.0E-09	ug/m3	N/A	N/A	N/A	6.9E-09	ug/m3	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	3.4E-04	ug/m3	N/A	N/A	N/A	1.2E-03	ug/m3	5.0E+00	ug/m3	2.4E-04
				Antimony	5E+00	mg/kg	2.1E-07	ug/m3	N/A	N/A	N/A	7.3E-07	ug/m3	N/A	N/A	N/A
				Arsenic	7E+00	mg/kg	2.8E-07	ug/m3	4.3E-03	(ug/m3) $^{-1}$	1.2E-09	9.7E-07	ug/m3	1.5E-02	ug/m3	6.5E-05
				Chromium	2E+03	mg/kg	8.8E-05	ug/m3	N/A	N/A	N/A	3.1E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	3E-02	mg/kg	1.3E-09	ug/m3	8.4E-02	(ug/m3) $^{-1}$	2.1E-10	4.4E-09	ug/m3	1.0E-01	ug/m3	4.4E-08
				Cobalt	6E+00	mg/kg	2.5E-07	ug/m3	9.0E-03	(ug/m3) $^{-1}$	2.3E-09	8.8E-07	ug/m3	6.0E-03	ug/m3	1.5E-04
				Copper	9E+01	mg/kg	3.6E-06	ug/m3	N/A	N/A	N/A	1.3E-05	ug/m3	N/A	N/A	N/A
				Cyanide	4E+00	mg/kg	1.8E-07	ug/m3	N/A	N/A	N/A	6.5E-07	ug/m3	N/A	N/A	N/A
				Iron	2E+04	mg/kg	8.2E-04	ug/m3	N/A	N/A	N/A	2.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	4E+02	mg/kg	1.8E-05	ug/m3	N/A	N/A	N/A	6.1E-05	ug/m3	5.0E-02	ug/m3	1.2E-03
				Nickel	2E+01	mg/kg	6.7E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	1.7E-10	2.3E-06	ug/m3	9.0E-02	ug/m3	2.6E-05
				Silver	6E+01	mg/kg	2.4E-06	ug/m3	N/A	N/A	N/A	8.5E-06	ug/m3	N/A	N/A	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Vanadium	3E+01	mg/kg	1.4E-06	ug/m3	N/A	N/A	N/A	4.8E-06	ug/m3	1.0E-01	ug/m3	4.8E-05
			Exp. Route Total								4E-09					2E-03
		Exposure Point Total									4E-06					2E-01

TABLE 7.5.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Residential Yards - East of North Avenue	Ingestion													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	4.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.2E-08	1.4E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	4.5E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	8.9E-07	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5.2E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	4.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.6E-08	1.7E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	3.8E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	7.5E-09	1.3E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	3.3E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	6.5E-10	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	6.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.3E-07	2.3E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	2.9E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.9E-08	1.0E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	6.5E-09	mg/kg-day	N/A	N/A	N/A	2.3E-08	mg/kg-day	2.0E-02	mg/kg-day	1.1E-06
				4,4'-DDT	1E-02	mg/kg	3.8E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	1.3E-09	1.3E-08	mg/kg-day	5.0E-04	mg/kg-day	2.6E-05
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	2.8E-03	mg/kg-day	N/A	N/A	N/A	9.9E-03	mg/kg-day	1.0E+00	mg/kg-day	9.9E-03
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-04	mg/kg-day	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Chromium	4E+02	mg/kg	1.4E-04	mg/kg-day	N/A	N/A	N/A	5.0E-04	mg/kg-day	1.5E+00	mg/kg-day	3.3E-04
				Chromium, Hexavalent	7E+00	mg/kg	2.4E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	2.4E-06	8.4E-06	mg/kg-day	3.0E-03	mg/kg-day	2.8E-03
				Cobalt	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	6.7E-03	mg/kg-day	N/A	N/A	N/A	2.3E-02	mg/kg-day	7.0E-01	mg/kg-day	3.3E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.4E-02	mg/kg-day	N/A
				Nickel	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								4E-06					5E-02

TABLE 7.5.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	2.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.5E-08	7.9E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	2.4E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.9E-07	8.6E-07	mg/kg-day	3.0E-04	mg/kg-day	2.9E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	2.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.3E-08	9.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	2.1E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	4.1E-09	7.2E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	1.4E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	2.7E-10	4.8E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	3.6E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.1E-08	1.3E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	1.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.2E-08	5.7E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	3.6E-09	mg/kg-day	N/A	N/A	N/A	1.3E-08	mg/kg-day	2.0E-02	mg/kg-day	6.3E-07
				4,4'-DDT	1E-02	mg/kg	4.8E-10	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	1.6E-10	1.7E-09	mg/kg-day	5.0E-04	mg/kg-day	3.3E-06
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Chromium	4E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	7E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								7E-07					3E-03

TABLE 7.5.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.1E-06	(ug/m3) $^{-1}$	N/A	N/A	N/A	2.0E+00	ug/m3	N/A
				Benzo(a)anthracene	1E+00	mg/kg	5.0E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	6.0E-12	1.8E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	5.5E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	6.5E-11	1.9E-07	ug/m3	2.0E-03	ug/m3	9.5E-05
				Benzo(b)fluoranthene	1E+00	mg/kg	5.9E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	7.1E-12	2.1E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	4.6E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	5.5E-13	1.6E-07	ug/m3	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	4.0E-09	ug/m3	N/A	N/A	N/A	1.4E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	8.0E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	9.6E-12	2.8E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	3.6E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	4.3E-12	1.3E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	8.0E-10	ug/m3	3.4E-05	(ug/m3) $^{-1}$	2.7E-14	2.8E-09	ug/m3	3.0E+00	ug/m3	9.3E-10
				4,4'-DDT	1E-02	mg/kg	4.6E-10	ug/m3	9.7E-05	(ug/m3) $^{-1}$	4.5E-14	1.6E-09	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	3.5E-04	ug/m3	N/A	N/A	N/A	1.2E-03	ug/m3	5.0E+00	ug/m3	2.4E-04
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	4.3E-03	(ug/m3) $^{-1}$	N/A	N/A	N/A	1.5E-02	ug/m3	N/A
				Chromium	4E+02	mg/kg	1.8E-05	ug/m3	N/A	N/A	N/A	6.1E-05	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	7E+00	mg/kg	2.9E-07	ug/m3	8.4E-02	(ug/m3) $^{-1}$	5.0E-08	1.0E-06	ug/m3	1.0E-01	ug/m3	1.0E-05
				Cobalt	N/A	mg/kg	N/A	N/A	9.0E-03	(ug/m3) $^{-1}$	N/A	N/A	N/A	6.0E-03	ug/m3	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Iron	2E+04	mg/kg	8.2E-04	ug/m3	N/A	N/A	N/A	2.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-02	ug/m3	N/A
				Nickel	N/A	mg/kg	N/A	N/A	2.6E-04	(ug/m3) $^{-1}$	N/A	N/A	N/A	9.0E-02	ug/m3	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-01	ug/m3	N/A
			Exp. Route Total								5E-08					3E-04
		Exposure Point Total									4E-06					5E-02
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

TABLE 7.5.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 $(mg/kg\text{-}day)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 $(mg/kg\text{-}day)^{-1}$]. Use of the adult-based CSF [4.6E-2 $(mg/kg\text{-}day)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 10/20 +
[intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 1 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 10/20

Inhalation:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26), but only for exposure to the kidneys. This requires splitting the unit risk factor (URF) by tumor effects [kidney URF = 1E-06 $(ug/m^3)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver URF = 3.1E-6 $(ug/m^3)^{-1}$]. Use of the adult-based URF [4.1E-6 $(ug/m^3)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver URF/adult-based URF = 0.756 and a mutagenic adjustment factor (MAF) = kidney URF/adult-based URF = 0.244.

Inhalation early-life cancer risk = [intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 3 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 10/20 +
[intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 1 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 10/20

TABLE 7.5.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Floodplain Surface Soil (0-2 ft)	Residential Yards - West of North Avenue	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	8E-01	mg/kg	4.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.2E-09	4.6E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	6E-01	mg/kg	3.6E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.2E-08	3.6E-07	mg/kg-day	3.0E-04	mg/kg-day	1.2E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	6.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-08	6.1E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	3E-01	mg/kg	1.9E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	3.9E-10	1.9E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	8.1E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.6E-08	8.1E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	6E-01	mg/kg	3.5E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.0E-09	3.5E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				4,4'-DDT	1E+00	mg/kg	6.7E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.3E-08	6.7E-07	mg/kg-day	5.0E-04	mg/kg-day	1.3E-03
				Endrin aldehyde	3E-02	mg/kg	2.0E-09	mg/kg-day	N/A	N/A	N/A	2.0E-08	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	4.9E-04	mg/kg-day	N/A	N/A	N/A	4.9E-03	mg/kg-day	1.0E+00	mg/kg-day	4.9E-03
				Antimony	2E+00	mg/kg	1.2E-07	mg/kg-day	N/A	N/A	N/A	1.2E-06	mg/kg-day	4.0E-04	mg/kg-day	2.9E-03
				Arsenic	4E+00	mg/kg	1.4E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.1E-07	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	4.6E-03
				Chromium	2E+03	mg/kg	1.3E-04	mg/kg-day	N/A	N/A	N/A	1.3E-03	mg/kg-day	1.5E+00	mg/kg-day	8.3E-04
				Chromium, Hexavalent	3E-02	mg/kg	1.8E-09	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.8E-09	1.8E-08	mg/kg-day	3.0E-03	mg/kg-day	6.0E-06
				Cobalt	5E+00	mg/kg	2.8E-07	mg/kg-day	N/A	N/A	N/A	2.8E-06	mg/kg-day	3.0E-04	mg/kg-day	9.3E-03
				Copper	5E+01	mg/kg	2.8E-06	mg/kg-day	N/A	N/A	N/A	2.8E-05	mg/kg-day	4.0E-02	mg/kg-day	7.0E-04
				Cyanide	2E+00	mg/kg	1.4E-07	mg/kg-day	N/A	N/A	N/A	1.4E-06	mg/kg-day	1.0E-03	mg/kg-day	1.4E-03
				Iron	2E+04	mg/kg	1.2E-03	mg/kg-day	N/A	N/A	N/A	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	1.7E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.6E-05	mg/kg-day	N/A	N/A	N/A	1.6E-04	mg/kg-day	2.4E-02	mg/kg-day	6.8E-03
				Nickel	1E+01	mg/kg	6.4E-07	mg/kg-day	N/A	N/A	N/A	6.4E-06	mg/kg-day	2.0E-02	mg/kg-day	3.2E-04
				Silver	2E+01	mg/kg	1.3E-06	mg/kg-day	N/A	N/A	N/A	1.3E-05	mg/kg-day	5.0E-03	mg/kg-day	2.5E-03
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	9.8E-07	mg/kg-day	N/A	N/A	N/A	9.8E-06	mg/kg-day	5.0E-03	mg/kg-day	2.0E-03
			Exp. Route Total								3E-07					6E-02

TABLE 7.5.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	8E-01	mg/kg	5.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.0E-08	5.0E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	6E-01	mg/kg	3.9E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.9E-08	3.9E-07	mg/kg-day	3.0E-04	mg/kg-day	1.3E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	6.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.3E-08	6.6E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	3E-01	mg/kg	2.1E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	4.3E-10	2.1E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	8.9E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.8E-08	8.9E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	6E-01	mg/kg	3.8E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.7E-09	3.8E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				4,4'-DDT	1E+00	mg/kg	1.7E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	5.8E-09	1.7E-07	mg/kg-day	5.0E-04	mg/kg-day	3.4E-04
				Endrin aldehyde	3E-02	mg/kg	1.7E-09	mg/kg-day	N/A	N/A	N/A	1.7E-08	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E+00	mg/kg	5.8E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.8E-08	5.8E-07	mg/kg-day	3.0E-04	mg/kg-day	1.9E-03
				Chromium	2E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	3E-02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	5E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	5E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-07					4E-03

TABLE 7.5.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.1E-06	(ug/m3) $^{-1}$	N/A	N/A	N/A	2.0E+00	ug/m3	N/A
				Benzo(a)anthracene	8E-01	mg/kg	1.1E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.3E-12	1.1E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	6E-01	mg/kg	8.8E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.1E-11	8.8E-08	ug/m3	2.0E-03	ug/m3	4.4E-05
				Benzo(b)fluoranthene	1E+00	mg/kg	1.5E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.8E-12	1.5E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	3E-01	mg/kg	4.7E-09	ug/m3	6.0E-06	(ug/m3) $^{-1}$	5.7E-14	4.7E-08	ug/m3	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	2.0E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	2.4E-12	2.0E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	6E-01	mg/kg	8.6E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.0E-12	8.6E-08	ug/m3	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	3.4E-05	(ug/m3) $^{-1}$	N/A	N/A	N/A	3.0E+00	ug/m3	N/A
				4,4'-DDT	1E+00	mg/kg	1.6E-08	ug/m3	9.7E-05	(ug/m3) $^{-1}$	1.6E-12	1.6E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	3E-02	mg/kg	4.8E-10	ug/m3	N/A	N/A	N/A	4.8E-09	ug/m3	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	1.2E-04	ug/m3	N/A	N/A	N/A	1.2E-03	ug/m3	5.0E+00	ug/m3	2.4E-04
				Antimony	2E+00	mg/kg	2.9E-08	ug/m3	N/A	N/A	N/A	2.9E-07	ug/m3	N/A	N/A	N/A
				Arsenic	4E+00	mg/kg	5.7E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	2.4E-10	5.7E-07	ug/m3	1.5E-02	ug/m3	3.8E-05
				Chromium	2E+03	mg/kg	3.1E-05	ug/m3	N/A	N/A	N/A	3.1E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	3E-02	mg/kg	4.4E-10	ug/m3	8.4E-02	(ug/m3) $^{-1}$	7.4E-11	4.4E-09	ug/m3	1.0E-01	ug/m3	4.4E-08
				Cobalt	5E+00	mg/kg	6.8E-08	ug/m3	9.0E-03	(ug/m3) $^{-1}$	6.1E-10	6.8E-07	ug/m3	6.0E-03	ug/m3	1.1E-04
				Copper	5E+01	mg/kg	6.9E-07	ug/m3	N/A	N/A	N/A	6.9E-06	ug/m3	N/A	N/A	N/A
				Cyanide	2E+00	mg/kg	3.4E-08	ug/m3	N/A	N/A	N/A	3.4E-07	ug/m3	N/A	N/A	N/A
				Iron	2E+04	mg/kg	2.9E-04	ug/m3	N/A	N/A	N/A	2.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	4.0E-06	ug/m3	N/A	N/A	N/A	4.0E-05	ug/m3	5.0E-02	ug/m3	8.0E-04
				Nickel	1E+01	mg/kg	1.6E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	4.1E-11	1.6E-06	ug/m3	9.0E-02	ug/m3	1.7E-05
				Silver	2E+01	mg/kg	3.1E-07	ug/m3	N/A	N/A	N/A	3.1E-06	ug/m3	N/A	N/A	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	2.4E-07	ug/m3	N/A	N/A	N/A	2.4E-06	ug/m3	1.0E-01	ug/m3	2.4E-05
			Exp. Route Total								1E-09					1E-03
		Exposure Point Total									6E-07					6E-02

TABLE 7.5.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Residential Yards - East of North Avenue	Ingestion													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	7.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.4E-08	7.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	7.8E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.6E-07	7.8E-07	mg/kg-day	3.0E-04	mg/kg-day	2.6E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	8.4E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.7E-08	8.4E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	6.6E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.3E-09	6.6E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	5.7E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.1E-10	5.7E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	1.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.3E-08	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	5.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.0E-08	5.2E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	1.1E-09	mg/kg-day	N/A	N/A	N/A	1.1E-08	mg/kg-day	2.0E-02	mg/kg-day	5.7E-07
				4,4'-DDT	1E-02	mg/kg	6.6E-10	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.2E-10	6.6E-09	mg/kg-day	5.0E-04	mg/kg-day	1.3E-05
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	5.0E-04	mg/kg-day	N/A	N/A	N/A	5.0E-03	mg/kg-day	1.0E+00	mg/kg-day	5.0E-03
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-04	mg/kg-day	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Chromium	4E+02	mg/kg	2.5E-05	mg/kg-day	N/A	N/A	N/A	2.5E-04	mg/kg-day	1.5E+00	mg/kg-day	1.7E-04
				Chromium, Hexavalent	7E+00	mg/kg	4.2E-07	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	4.2E-07	4.2E-06	mg/kg-day	3.0E-03	mg/kg-day	1.4E-03
				Cobalt	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	1.2E-03	mg/kg-day	N/A	N/A	N/A	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	1.7E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.4E-02	mg/kg-day	N/A
				Nickel	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								6E-07					3E-02

TABLE 7.5.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	7.9E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.6E-08	7.9E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	8.6E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.7E-07	8.6E-07	mg/kg-day	3.0E-04	mg/kg-day	2.9E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	9.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.8E-08	9.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	7.2E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.4E-09	7.2E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	4.8E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	9.6E-11	4.8E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	1.3E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.5E-08	1.3E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	5.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.1E-08	5.7E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	1.3E-09	mg/kg-day	N/A	N/A	N/A	1.3E-08	mg/kg-day	2.0E-02	mg/kg-day	6.3E-07
				4,4'-DDT	1E-02	mg/kg	1.7E-10	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	5.7E-11	1.7E-09	mg/kg-day	5.0E-04	mg/kg-day	3.3E-06
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Chromium	4E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	7E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-07					3E-03

TABLE 7.5.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.1E-06	(ug/m3) $^{-1}$	N/A	N/A	N/A	2.0E+00	ug/m3	N/A
				Benzo(a)anthracene	1E+00	mg/kg	1.8E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	2.1E-12	1.8E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.9E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	2.3E-11	1.9E-07	ug/m3	2.0E-03	ug/m3	9.5E-05
				Benzo(b)fluoranthene	1E+00	mg/kg	2.1E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	2.5E-12	2.1E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	1.6E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	1.9E-13	1.6E-07	ug/m3	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	1.4E-09	ug/m3	N/A	N/A	N/A	1.4E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	2.8E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	3.3E-12	2.8E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	1.3E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.5E-12	1.3E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	2.8E-10	ug/m3	3.4E-05	(ug/m3) $^{-1}$	9.5E-15	2.8E-09	ug/m3	3.0E+00	ug/m3	9.3E-10
				4,4'-DDT	1E-02	mg/kg	1.6E-10	ug/m3	9.7E-05	(ug/m3) $^{-1}$	1.6E-14	1.6E-09	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	1.2E-04	ug/m3	N/A	N/A	N/A	1.2E-03	ug/m3	5.0E+00	ug/m3	2.4E-04
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	4.3E-03	(ug/m3) $^{-1}$	N/A	N/A	N/A	1.5E-02	ug/m3	N/A
				Chromium	4E+02	mg/kg	6.1E-06	ug/m3	N/A	N/A	N/A	6.1E-05	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	7E+00	mg/kg	1.0E-07	ug/m3	8.4E-02	(ug/m3) $^{-1}$	1.7E-08	1.0E-06	ug/m3	1.0E-01	ug/m3	1.0E-05
				Cobalt	N/A	mg/kg	N/A	N/A	9.0E-03	(ug/m3) $^{-1}$	N/A	N/A	N/A	6.0E-03	ug/m3	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Iron	2E+04	mg/kg	2.9E-04	ug/m3	N/A	N/A	N/A	2.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-02	ug/m3	N/A
				Nickel	N/A	mg/kg	N/A	N/A	2.6E-04	(ug/m3) $^{-1}$	N/A	N/A	N/A	9.0E-02	ug/m3	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-01	ug/m3	N/A
			Exp. Route Total								2E-08					3E-04
		Exposure Point Total									9E-07					3E-02
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

TABLE 7.5.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 $(mg/kg\text{-}day)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 $(mg/kg\text{-}day)^{-1}$]. Use of the adult-based CSF [4.6E-2 $(mg/kg\text{-}day)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 10/20 +
[intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 1 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 10/20

Inhalation:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26), but only for exposure to the kidneys. This requires splitting the unit risk factor (URF) by tumor effects [kidney URF = 1E-06 $(ug/m^3)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver URF = 3.1E-6 $(ug/m^3)^{-1}$]. Use of the adult-based URF [4.1E-6 $(ug/m^3)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver URF/adult-based URF = 0.756 and a mutagenic adjustment factor (MAF) = kidney URF/adult-based URF = 0.244.

Inhalation early-life cancer risk = [intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 3 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 10/20 +
[intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 1 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 10/20

TABLE 7.6.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Floodplain Surface Soil (0-2 ft)	Residential Yards - West of North Avenue	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	1.5E-06	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.2E-07	1.8E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.2E-06	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.1E-06	1.3E-05	mg/kg-day	3.0E-04	mg/kg-day	4.5E-02
				Benzo(b)fluoranthene	2E+00	mg/kg	1.9E-06	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.0E-06	2.2E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	6E-01	mg/kg	6.1E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	3.3E-08	7.2E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	2.3E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.2E-06	2.7E-06	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.1E-06	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.7E-07	1.2E-05	mg/kg-day	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				4,4'-DDT	2E+00	mg/kg	2.0E-06	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	6.7E-07	2.3E-05	mg/kg-day	5.0E-04	mg/kg-day	4.6E-02
				Endrin aldehyde	5E-02	mg/kg	5.2E-08	mg/kg-day	N/A	N/A	N/A	6.0E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	9.0E-03	mg/kg-day	N/A	N/A	N/A	1.0E-01	mg/kg-day	1.0E+00	mg/kg-day	1.0E-01
				Antimony	5E+00	mg/kg	5.5E-06	mg/kg-day	N/A	N/A	N/A	6.4E-05	mg/kg-day	4.0E-04	mg/kg-day	1.6E-01
				Arsenic	7E+00	mg/kg	4.3E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.5E-06	5.1E-05	mg/kg-day	3.0E-04	mg/kg-day	1.7E-01
				Chromium	2E+03	mg/kg	2.3E-03	mg/kg-day	N/A	N/A	N/A	2.7E-02	mg/kg-day	1.5E+00	mg/kg-day	1.8E-02
				Chromium, Hexavalent	3E-02	mg/kg	3.3E-08	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	8.8E-08	3.8E-07	mg/kg-day	3.0E-03	mg/kg-day	1.3E-04
				Cobalt	6E+00	mg/kg	6.6E-06	mg/kg-day	N/A	N/A	N/A	7.7E-05	mg/kg-day	3.0E-04	mg/kg-day	2.6E-01
				Copper	9E+01	mg/kg	9.5E-05	mg/kg-day	N/A	N/A	N/A	1.1E-03	mg/kg-day	4.0E-02	mg/kg-day	2.8E-02
				Cyanide	4E+00	mg/kg	4.8E-06	mg/kg-day	N/A	N/A	N/A	5.6E-05	mg/kg-day	1.0E-03	mg/kg-day	5.6E-02
				Iron	2E+04	mg/kg	2.1E-02	mg/kg-day	N/A	N/A	N/A	2.5E-01	mg/kg-day	7.0E-01	mg/kg-day	3.6E-01
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	4E+02	mg/kg	4.6E-04	mg/kg-day	N/A	N/A	N/A	5.3E-03	mg/kg-day	2.4E-02	mg/kg-day	2.2E-01
				Nickel	2E+01	mg/kg	1.7E-05	mg/kg-day	N/A	N/A	N/A	2.0E-04	mg/kg-day	2.0E-02	mg/kg-day	1.0E-02
				Silver	6E+01	mg/kg	6.3E-05	mg/kg-day	N/A	N/A	N/A	7.4E-04	mg/kg-day	5.0E-03	mg/kg-day	1.5E-01
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	3E+01	mg/kg	3.6E-05	mg/kg-day	N/A	N/A	N/A	4.2E-04	mg/kg-day	5.0E-03	mg/kg-day	8.4E-02
			Exp. Route Total								2E-05					2E+00

TABLE 7.6.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	4.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.5E-07	5.5E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	3.5E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.9E-06	4.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1.4E-02
				Benzo(b)fluoranthene	2E+00	mg/kg	5.9E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.2E-07	6.9E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	6E-01	mg/kg	1.9E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.0E-08	2.2E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	7.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.8E-07	8.3E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	3.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.8E-07	3.8E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				4,4'-DDT	2E+00	mg/kg	1.4E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	4.8E-08	1.6E-06	mg/kg-day	5.0E-04	mg/kg-day	3.3E-03
				Endrin aldehyde	5E-02	mg/kg	1.2E-08	mg/kg-day	N/A	N/A	N/A	1.4E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	5E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	7E+00	mg/kg	5.1E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	7.7E-07	6.0E-06	mg/kg-day	3.0E-04	mg/kg-day	2.0E-02
				Chromium	2E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	3E-02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	6E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	4E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	4E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	6E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	3E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								4E-06					4E-02

TABLE 7.6.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.1E-06	(ug/m3) $^{-1}$	N/A	N/A	N/A	2.0E+00	ug/m3	N/A
				Benzo(a)anthracene	1E+00	mg/kg	1.8E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	5.6E-12	2.0E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.3E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	4.2E-11	1.5E-07	ug/m3	2.0E-03	ug/m3	7.7E-05
				Benzo(b)fluoranthene	2E+00	mg/kg	2.2E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	7.1E-12	2.6E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	6E-01	mg/kg	7.1E-09	ug/m3	6.0E-06	(ug/m3) $^{-1}$	2.3E-13	8.2E-08	ug/m3	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	2.6E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	8.5E-12	3.1E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.2E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	3.9E-12	1.4E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	3.4E-05	(ug/m3) $^{-1}$	N/A	N/A	N/A	3.0E+00	ug/m3	N/A
				4,4'-DDT	2E+00	mg/kg	2.3E-08	ug/m3	9.7E-05	(ug/m3) $^{-1}$	2.2E-12	2.6E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	5E-02	mg/kg	5.9E-10	ug/m3	N/A	N/A	N/A	6.9E-09	ug/m3	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	1.0E-04	ug/m3	N/A	N/A	N/A	1.2E-03	ug/m3	5.0E+00	ug/m3	2.4E-04
				Antimony	5E+00	mg/kg	6.3E-08	ug/m3	N/A	N/A	N/A	7.3E-07	ug/m3	N/A	N/A	N/A
				Arsenic	7E+00	mg/kg	8.3E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	3.6E-10	9.7E-07	ug/m3	1.5E-02	ug/m3	6.5E-05
				Chromium	2E+03	mg/kg	2.6E-05	ug/m3	N/A	N/A	N/A	3.1E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	3E-02	mg/kg	3.8E-10	ug/m3	8.4E-02	(ug/m3) $^{-1}$	1.7E-10	4.4E-09	ug/m3	1.0E-01	ug/m3	4.4E-08
				Cobalt	6E+00	mg/kg	7.6E-08	ug/m3	9.0E-03	(ug/m3) $^{-1}$	6.8E-10	8.8E-07	ug/m3	6.0E-03	ug/m3	1.5E-04
				Copper	9E+01	mg/kg	1.1E-06	ug/m3	N/A	N/A	N/A	1.3E-05	ug/m3	N/A	N/A	N/A
				Cyanide	4E+00	mg/kg	5.5E-08	ug/m3	N/A	N/A	N/A	6.5E-07	ug/m3	N/A	N/A	N/A
				Iron	2E+04	mg/kg	2.4E-04	ug/m3	N/A	N/A	N/A	2.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	4E+02	mg/kg	5.3E-06	ug/m3	N/A	N/A	N/A	6.1E-05	ug/m3	5.0E-02	ug/m3	1.2E-03
				Nickel	2E+01	mg/kg	2.0E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	5.2E-11	2.3E-06	ug/m3	9.0E-02	ug/m3	2.6E-05
				Silver	6E+01	mg/kg	7.3E-07	ug/m3	N/A	N/A	N/A	8.5E-06	ug/m3	N/A	N/A	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Vanadium	3E+01	mg/kg	4.1E-07	ug/m3	N/A	N/A	N/A	4.8E-06	ug/m3	1.0E-01	ug/m3	4.8E-05
			Exp. Route Total								1E-09					2E-03
		Exposure Point Total									2E-05					2E+00

TABLE 7.6.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Residential Yards - East of North Avenue	Ingestion													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	1.3E-06	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.0E-07	1.5E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.4E-06	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.6E-06	1.7E-05	mg/kg-day	3.0E-04	mg/kg-day	5.5E-02
				Benzo(b)fluoranthene	1E+00	mg/kg	1.5E-06	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.2E-07	1.8E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	1.2E-06	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	6.4E-08	1.4E-05	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	1.0E-07	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	2.1E-09	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	2.1E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.1E-06	2.4E-06	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	9.4E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.0E-07	1.1E-05	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	2.1E-08	mg/kg-day	N/A	N/A	N/A	2.4E-07	mg/kg-day	2.0E-02	mg/kg-day	1.2E-05
				4,4'-DDT	1E-02	mg/kg	1.2E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	4.1E-09	1.4E-07	mg/kg-day	5.0E-04	mg/kg-day	2.8E-04
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	9.1E-03	mg/kg-day	N/A	N/A	N/A	1.1E-01	mg/kg-day	1.0E+00	mg/kg-day	1.1E-01
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-04	mg/kg-day	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Chromium	4E+02	mg/kg	4.6E-04	mg/kg-day	N/A	N/A	N/A	5.3E-03	mg/kg-day	1.5E+00	mg/kg-day	3.6E-03
				Chromium, Hexavalent	7E+00	mg/kg	7.7E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	2.1E-05	9.0E-05	mg/kg-day	3.0E-03	mg/kg-day	3.0E-02
				Cobalt	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	2.1E-02	mg/kg-day	N/A	N/A	N/A	2.5E-01	mg/kg-day	7.0E-01	mg/kg-day	3.6E-01
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.4E-02	mg/kg-day	N/A
				Nickel	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								3E-05					6E-01

TABLE 7.6.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	4.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.2E-07	4.7E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	4.4E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.3E-06	5.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1.7E-02
				Benzo(b)fluoranthene	1E+00	mg/kg	4.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.5E-07	5.5E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	3.7E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	2.0E-08	4.3E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	2.5E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	4.9E-10	2.9E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	6.4E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.4E-07	7.5E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	2.9E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.6E-07	3.4E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	6.4E-09	mg/kg-day	N/A	N/A	N/A	7.5E-08	mg/kg-day	2.0E-02	mg/kg-day	3.7E-06
				4,4'-DDT	1E-02	mg/kg	8.6E-10	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.9E-10	1.0E-08	mg/kg-day	5.0E-04	mg/kg-day	2.0E-05
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Chromium	4E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	7E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								3E-06					2E-02

TABLE 7.6.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.1E-06	(ug/m3) $^{-1}$	N/A	N/A	N/A	2.0E+00	ug/m3	N/A
				Benzo(a)anthracene	1E+00	mg/kg	1.5E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	4.8E-12	1.8E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.6E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	5.2E-11	1.9E-07	ug/m3	2.0E-03	ug/m3	9.5E-05
				Benzo(b)fluoranthene	1E+00	mg/kg	1.8E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	5.6E-12	2.1E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	1.4E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	4.4E-13	1.6E-07	ug/m3	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	1.2E-09	ug/m3	N/A	N/A	N/A	1.4E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	2.4E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	7.7E-12	2.8E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	1.1E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	3.5E-12	1.3E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	2.4E-10	ug/m3	3.4E-05	(ug/m3) $^{-1}$	8.1E-15	2.8E-09	ug/m3	3.0E+00	ug/m3	9.3E-10
				4,4'-DDT	1E-02	mg/kg	1.4E-10	ug/m3	9.7E-05	(ug/m3) $^{-1}$	1.3E-14	1.6E-09	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	1.0E-04	ug/m3	N/A	N/A	N/A	1.2E-03	ug/m3	5.0E+00	ug/m3	2.4E-04
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	4.3E-03	(ug/m3) $^{-1}$	N/A	N/A	N/A	1.5E-02	ug/m3	N/A
				Chromium	4E+02	mg/kg	5.3E-06	ug/m3	N/A	N/A	N/A	6.1E-05	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	7E+00	mg/kg	8.8E-08	ug/m3	8.4E-02	(ug/m3) $^{-1}$	4.0E-08	1.0E-06	ug/m3	1.0E-01	ug/m3	1.0E-05
				Cobalt	N/A	mg/kg	N/A	N/A	9.0E-03	(ug/m3) $^{-1}$	N/A	N/A	N/A	6.0E-03	ug/m3	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Iron	2E+04	mg/kg	2.5E-04	ug/m3	N/A	N/A	N/A	2.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-02	ug/m3	N/A
				Nickel	N/A	mg/kg	N/A	N/A	2.6E-04	(ug/m3) $^{-1}$	N/A	N/A	N/A	9.0E-02	ug/m3	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-01	ug/m3	N/A
			Exp. Route Total								4E-08					3E-04
		Exposure Point Total									3E-05					6E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

TABLE 7.6.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 $(mg/kg\text{-}day)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 $(mg/kg\text{-}day)^{-1}$]. Use of the adult-based CSF [4.6E-2 $(mg/kg\text{-}day)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 10 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 2/6 +
[intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 4/6

Inhalation:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the unit risk factor (URF) by tumor effects [kidney URF = 1E-06 $(ug/m^3)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver URF = 3.1E-6 $(ug/m^3)^{-1}$]. Use of the adult-based URF [4.1E-6 $(ug/m^3)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver URF/adult-based URF = 0.756 and a mutagenic adjustment factor (MAF) = kidney URF/adult-based URF = 0.244.

Inhalation early-life cancer risk = [intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 10 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 2/6 +
[intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 3 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 4/6

TABLE 7.6.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Floodplain Surface Soil (0-2 ft)	Residential Yards - West of North Avenue	Ingestion													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	8E-01	mg/kg	1.4E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.5E-08	4.9E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	6E-01	mg/kg	1.1E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	5.8E-07	3.8E-06	mg/kg-day	3.0E-04	mg/kg-day	1.3E-02
				Benzo(b)fluoranthene	1E+00	mg/kg	1.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.8E-08	6.5E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	3E-01	mg/kg	5.9E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	3.1E-09	2.1E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	2.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.3E-07	8.6E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	6E-01	mg/kg	1.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.7E-08	3.7E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				4,4'-DDT	1E+00	mg/kg	2.0E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	7.0E-08	7.2E-06	mg/kg-day	5.0E-04	mg/kg-day	1.4E-02
				Endrin aldehyde	3E-02	mg/kg	6.0E-09	mg/kg-day	N/A	N/A	N/A	2.1E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	1.5E-03	mg/kg-day	N/A	N/A	N/A	5.2E-02	mg/kg-day	1.0E+00	mg/kg-day	5.2E-02
				Antimony	2E+00	mg/kg	3.6E-07	mg/kg-day	N/A	N/A	N/A	1.2E-05	mg/kg-day	4.0E-04	mg/kg-day	3.1E-02
				Arsenic	4E+00	mg/kg	4.2E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	6.3E-07	1.5E-05	mg/kg-day	3.0E-04	mg/kg-day	4.9E-02
				Chromium	2E+03	mg/kg	3.8E-04	mg/kg-day	N/A	N/A	N/A	1.3E-02	mg/kg-day	1.5E+00	mg/kg-day	8.9E-03
				Chromium, Hexavalent	3E-02	mg/kg	5.5E-09	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.5E-08	1.9E-07	mg/kg-day	3.0E-03	mg/kg-day	6.4E-05
				Cobalt	5E+00	mg/kg	8.5E-07	mg/kg-day	N/A	N/A	N/A	3.0E-05	mg/kg-day	3.0E-04	mg/kg-day	9.9E-02
				Copper	5E+01	mg/kg	8.5E-06	mg/kg-day	N/A	N/A	N/A	3.0E-04	mg/kg-day	4.0E-02	mg/kg-day	7.5E-03
				Cyanide	2E+00	mg/kg	4.2E-07	mg/kg-day	N/A	N/A	N/A	1.5E-05	mg/kg-day	1.0E-03	mg/kg-day	1.5E-02
				Iron	2E+04	mg/kg	3.6E-03	mg/kg-day	N/A	N/A	N/A	1.2E-01	mg/kg-day	7.0E-01	mg/kg-day	1.8E-01
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	4.9E-05	mg/kg-day	N/A	N/A	N/A	1.7E-03	mg/kg-day	2.4E-02	mg/kg-day	7.2E-02
				Nickel	1E+01	mg/kg	1.9E-06	mg/kg-day	N/A	N/A	N/A	6.8E-05	mg/kg-day	2.0E-02	mg/kg-day	3.4E-03
				Silver	2E+01	mg/kg	3.8E-06	mg/kg-day	N/A	N/A	N/A	1.3E-04	mg/kg-day	5.0E-03	mg/kg-day	2.7E-02
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	3.0E-06	mg/kg-day	N/A	N/A	N/A	1.0E-04	mg/kg-day	5.0E-03	mg/kg-day	2.1E-02
			Exp. Route Total								2E-06					6E-01

TABLE 7.6.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	8E-01	mg/kg	8.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.6E-08	3.0E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	6E-01	mg/kg	6.8E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.6E-07	2.4E-06	mg/kg-day	3.0E-04	mg/kg-day	7.9E-03
				Benzo(b)fluoranthene	1E+00	mg/kg	1.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.1E-08	4.0E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	3E-01	mg/kg	3.6E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.9E-09	1.3E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	2.0E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	1.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	8.1E-08	5.3E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	6E-01	mg/kg	6.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.5E-08	2.3E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				4,4'-DDT	1E+00	mg/kg	2.9E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	9.9E-09	1.0E-06	mg/kg-day	5.0E-04	mg/kg-day	2.0E-03
				Endrin aldehyde	3E-02	mg/kg	2.8E-09	mg/kg-day	N/A	N/A	N/A	9.9E-08	mg/kg-day	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	4E+00	mg/kg	1.0E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.5E-07	3.5E-06	mg/kg-day	3.0E-04	mg/kg-day	1.2E-02
				Chromium	2E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	3E-02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	5E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	5E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								7E-07					2E-02

TABLE 7.6.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	ND	mg/kg	N/A	N/A	4.1E-06	(ug/m3) $^{-1}$	N/A	N/A	N/A	2.0E+00	ug/m3	N/A
				Benzo(a)anthracene	8E-01	mg/kg	3.2E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.0E-12	1.1E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	6E-01	mg/kg	2.5E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	8.1E-12	8.8E-08	ug/m3	2.0E-03	ug/m3	4.4E-05
				Benzo(b)fluoranthene	1E+00	mg/kg	4.2E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.4E-12	1.5E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	3E-01	mg/kg	1.4E-09	ug/m3	6.0E-06	(ug/m3) $^{-1}$	4.3E-14	4.7E-08	ug/m3	N/A	N/A	N/A
				Carbazole	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	5.7E-10	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.8E-12	2.0E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	6E-01	mg/kg	2.4E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	7.8E-13	8.6E-08	ug/m3	N/A	N/A	N/A
				Naphthalene	ND	mg/kg	N/A	N/A	3.4E-05	(ug/m3) $^{-1}$	N/A	N/A	N/A	3.0E+00	ug/m3	N/A
				4,4'-DDT	1E+00	mg/kg	4.7E-09	ug/m3	9.7E-05	(ug/m3) $^{-1}$	4.6E-13	1.6E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	3E-02	mg/kg	1.4E-10	ug/m3	N/A	N/A	N/A	4.8E-09	ug/m3	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	3.4E-05	ug/m3	N/A	N/A	N/A	1.2E-03	ug/m3	5.0E+00	ug/m3	2.4E-04
				Antimony	2E+00	mg/kg	8.2E-09	ug/m3	N/A	N/A	N/A	2.9E-07	ug/m3	N/A	N/A	N/A
				Arsenic	4E+00	mg/kg	1.6E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	6.9E-11	5.7E-07	ug/m3	1.5E-02	ug/m3	3.8E-05
				Chromium	2E+03	mg/kg	8.8E-06	ug/m3	N/A	N/A	N/A	3.1E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	3E-02	mg/kg	1.3E-10	ug/m3	8.4E-02	(ug/m3) $^{-1}$	5.6E-11	4.4E-09	ug/m3	1.0E-01	ug/m3	4.4E-08
				Cobalt	5E+00	mg/kg	1.9E-08	ug/m3	9.0E-03	(ug/m3) $^{-1}$	1.7E-10	6.8E-07	ug/m3	6.0E-03	ug/m3	1.1E-04
				Copper	5E+01	mg/kg	2.0E-07	ug/m3	N/A	N/A	N/A	6.9E-06	ug/m3	N/A	N/A	N/A
				Cyanide	2E+00	mg/kg	9.6E-09	ug/m3	N/A	N/A	N/A	3.4E-07	ug/m3	N/A	N/A	N/A
				Iron	2E+04	mg/kg	8.2E-05	ug/m3	N/A	N/A	N/A	2.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.1E-06	ug/m3	N/A	N/A	N/A	4.0E-05	ug/m3	5.0E-02	ug/m3	8.0E-04
				Nickel	1E+01	mg/kg	4.5E-08	ug/m3	2.6E-04	(ug/m3) $^{-1}$	1.2E-11	1.6E-06	ug/m3	9.0E-02	ug/m3	1.7E-05
				Silver	2E+01	mg/kg	8.8E-08	ug/m3	N/A	N/A	N/A	3.1E-06	ug/m3	N/A	N/A	N/A
				Thallium	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	6.8E-08	ug/m3	N/A	N/A	N/A	2.4E-06	ug/m3	1.0E-01	ug/m3	2.4E-05
			Exp. Route Total								3E-10					1E-03
		Exposure Point Total									2E-06					6E-01

TABLE 7.6.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Residential Yards - East of North Avenue	Ingestion													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	2.2E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-07	7.7E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	2.4E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.3E-06	8.3E-06	mg/kg-day	3.0E-04	mg/kg-day	2.8E-02
				Benzo(b)fluoranthene	1E+00	mg/kg	2.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.4E-07	8.9E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	2.0E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.1E-08	7.0E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	1.7E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	3.5E-10	6.1E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	3.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.9E-07	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	1.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.4E-08	5.5E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	3.5E-09	mg/kg-day	N/A	N/A	N/A	1.2E-07	mg/kg-day	2.0E-02	mg/kg-day	6.1E-06
				4,4'-DDT	1E-02	mg/kg	2.0E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	6.8E-10	7.0E-08	mg/kg-day	5.0E-04	mg/kg-day	1.4E-04
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	1.5E-03	mg/kg-day	N/A	N/A	N/A	5.3E-02	mg/kg-day	1.0E+00	mg/kg-day	5.3E-02
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-04	mg/kg-day	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Chromium	4E+02	mg/kg	7.6E-05	mg/kg-day	N/A	N/A	N/A	2.7E-03	mg/kg-day	1.5E+00	mg/kg-day	1.8E-03
				Chromium, Hexavalent	7E+00	mg/kg	1.3E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.4E-06	4.5E-05	mg/kg-day	3.0E-03	mg/kg-day	1.5E-02
				Cobalt	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	3.6E-03	mg/kg-day	N/A	N/A	N/A	1.2E-01	mg/kg-day	7.0E-01	mg/kg-day	1.8E-01
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.4E-02	mg/kg-day	N/A
				Nickel	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								5E-06					3E-01

TABLE 7.6.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	1E+00	mg/kg	1.4E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.2E-08	4.7E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.5E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.8E-07	5.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1.7E-02
				Benzo(b)fluoranthene	1E+00	mg/kg	1.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.4E-08	5.5E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	1.2E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	6.6E-09	4.3E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	8.2E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.6E-10	2.9E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	2.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.1E-07	7.5E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	9.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.2E-08	3.4E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	2.1E-09	mg/kg-day	N/A	N/A	N/A	7.5E-08	mg/kg-day	2.0E-02	mg/kg-day	3.7E-06
				4,4'-DDT	1E-02	mg/kg	2.9E-10	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	9.7E-11	1.0E-08	mg/kg-day	5.0E-04	mg/kg-day	2.0E-05
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Chromium	4E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	7E+00	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	2E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-06					2E-02

TABLE 7.6.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	N/A	mg/kg	N/A	N/A	4.1E-06	(ug/m3) $^{-1}$	N/A	N/A	N/A	2.0E+00	ug/m3	N/A
				Benzo(a)anthracene	1E+00	mg/kg	5.0E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.6E-12	1.8E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	5.5E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.7E-11	1.9E-07	ug/m3	2.0E-03	ug/m3	9.5E-05
				Benzo(b)fluoranthene	1E+00	mg/kg	5.9E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.9E-12	2.1E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	1E+00	mg/kg	4.6E-09	ug/m3	6.0E-06	(ug/m3) $^{-1}$	1.5E-13	1.6E-07	ug/m3	N/A	N/A	N/A
				Carbazole	1E-01	mg/kg	4.0E-10	ug/m3	N/A	N/A	N/A	1.4E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	2E-01	mg/kg	8.0E-10	ug/m3	6.0E-04	(ug/m3) $^{-1}$	2.6E-12	2.8E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	9E-01	mg/kg	3.6E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.2E-12	1.3E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-02	mg/kg	8.0E-11	ug/m3	3.4E-05	(ug/m3) $^{-1}$	2.7E-15	2.8E-09	ug/m3	3.0E+00	ug/m3	9.3E-10
				4,4'-DDT	1E-02	mg/kg	4.6E-11	ug/m3	9.7E-05	(ug/m3) $^{-1}$	4.5E-15	1.6E-09	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	ND	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Aluminum	8E+03	mg/kg	3.5E-05	ug/m3	N/A	N/A	N/A	1.2E-03	ug/m3	5.0E+00	ug/m3	2.4E-04
				Antimony	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Arsenic	N/A	mg/kg	N/A	N/A	4.3E-03	(ug/m3) $^{-1}$	N/A	N/A	N/A	1.5E-02	ug/m3	N/A
				Chromium	4E+02	mg/kg	1.8E-06	ug/m3	N/A	N/A	N/A	6.1E-05	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	7E+00	mg/kg	2.9E-08	ug/m3	8.4E-02	(ug/m3) $^{-1}$	1.3E-08	1.0E-06	ug/m3	1.0E-01	ug/m3	1.0E-05
				Cobalt	N/A	mg/kg	N/A	N/A	9.0E-03	(ug/m3) $^{-1}$	N/A	N/A	N/A	6.0E-03	ug/m3	N/A
				Copper	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Cyanide	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Iron	2E+04	mg/kg	8.2E-05	ug/m3	N/A	N/A	N/A	2.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-02	ug/m3	N/A
				Nickel	N/A	mg/kg	N/A	N/A	2.6E-04	(ug/m3) $^{-1}$	N/A	N/A	N/A	9.0E-02	ug/m3	N/A
				Silver	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Thallium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Vanadium	N/A	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-01	ug/m3	N/A
			Exp. Route Total								1E-08					3E-04
		Exposure Point Total									6E-06					3E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

TABLE 7.6.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 (mg/kg-day)$^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 (mg/kg-day)$^{-1}$]. Use of the adult-based CSF [4.6E-2 (mg/kg-day)$^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x MAF (0.202) x 10 + intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x CAF (0.804)] x 2/6 +
[intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF (mg/kg-day)$^{-1}$ x CAF (0.804)] x 4/6

Inhalation:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the unit risk factor (URF) by tumor effects [kidney URF = 1E-06 (ug/m^3)$^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver URF = 3.1E-6 (ug/m^3)$^{-1}$]. Use of the adult-based URF [4.1E-6 (ug/m^3)$^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver URF/adult-based URF = 0.756 and a mutagenic adjustment factor (MAF) = kidney URF/adult-based URF = 0.244.

Inhalation early-life cancer risk = [intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x MAF (0.244) x 10 + intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x CAF (0.756)] x 2/6 +
[intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x MAF (0.244) x 3 + intake/exposure concentration (ug/m^3) x adult-based URF (ug/m^3)$^{-1}$ x CAF (0.756)] x 4/6

TABLE 7.7.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	1.6E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	8.9E-10	5.6E-08	mg/kg-day	5.0E-04	mg/kg-day	1.1E-04
				Benzo(a)anthracene	2E+00	mg/kg	5.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.1E-07	2.0E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	4.6E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	9.2E-07	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5.4E-03
				Benzo(b)fluoranthene	9E-01	mg/kg	3.2E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.4E-08	1.1E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	2.6E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	5.3E-09	9.2E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	9.2E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.8E-09	3.2E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	3.8E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.7E-08	1.3E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	2.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.7E-08	8.2E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	4.8E-08	mg/kg-day	N/A	N/A	N/A	1.7E-07	mg/kg-day	2.0E-02	mg/kg-day	8.4E-06
				4,4'-DDT	2E+00	mg/kg	8.2E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.8E-07	2.9E-06	mg/kg-day	5.0E-04	mg/kg-day	5.8E-03
				Endrin aldehyde	3E+00	mg/kg	9.2E-07	mg/kg-day	N/A	N/A	N/A	3.2E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	3.2E-03	mg/kg-day	N/A	N/A	N/A	1.1E-02	mg/kg-day	1.0E+00	mg/kg-day	1.1E-02
				Antimony	1E+02	mg/kg	4.3E-05	mg/kg-day	N/A	N/A	N/A	1.5E-04	mg/kg-day	4.0E-04	mg/kg-day	3.8E-01
				Arsenic	3E+00	mg/kg	6.3E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.4E-07	2.2E-06	mg/kg-day	3.0E-04	mg/kg-day	7.3E-03
				Chromium	1E+03	mg/kg	4.1E-04	mg/kg-day	N/A	N/A	N/A	1.4E-03	mg/kg-day	1.5E+00	mg/kg-day	9.5E-04
				Chromium, Hexavalent	6E+01	mg/kg	2.0E-05	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	2.0E-05	7.0E-05	mg/kg-day	3.0E-03	mg/kg-day	2.3E-02
				Cobalt	9E+00	mg/kg	3.1E-06	mg/kg-day	N/A	N/A	N/A	1.1E-05	mg/kg-day	3.0E-04	mg/kg-day	3.7E-02
				Copper	1E+02	mg/kg	3.5E-05	mg/kg-day	N/A	N/A	N/A	1.2E-04	mg/kg-day	4.0E-02	mg/kg-day	3.0E-03
				Cyanide	2E-01	mg/kg	8.2E-08	mg/kg-day	N/A	N/A	N/A	2.9E-07	mg/kg-day	1.0E-03	mg/kg-day	2.9E-04
				Iron	1E+04	mg/kg	4.5E-03	mg/kg-day	N/A	N/A	N/A	1.6E-02	mg/kg-day	7.0E-01	mg/kg-day	2.2E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	9.8E-05	mg/kg-day	N/A	N/A	N/A	3.4E-04	mg/kg-day	2.4E-02	mg/kg-day	1.4E-02
				Nickel	1E+01	mg/kg	4.5E-06	mg/kg-day	N/A	N/A	N/A	1.6E-05	mg/kg-day	2.0E-02	mg/kg-day	7.9E-04
				Silver	5E-01	mg/kg	1.8E-07	mg/kg-day	N/A	N/A	N/A	6.4E-07	mg/kg-day	5.0E-03	mg/kg-day	1.3E-04
				Thallium	2E+00	mg/kg	7.2E-07	mg/kg-day	N/A	N/A	N/A	2.5E-06	mg/kg-day	1.0E-05	mg/kg-day	2.5E-01
				Vanadium	2E+01	mg/kg	6.3E-06	mg/kg-day	N/A	N/A	N/A	2.2E-05	mg/kg-day	5.0E-03	mg/kg-day	4.4E-03
			Exp. Route Total								2E-05					8E-01

TABLE 7.7.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	3.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.1E-08	1.1E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	2.5E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	5.1E-07	8.9E-07	mg/kg-day	3.0E-04	mg/kg-day	3.0E-03
				Benzo(b)fluoranthene	9E-01	mg/kg	1.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.5E-08	6.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	1.4E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	2.9E-09	5.1E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	3.9E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	7.8E-10	1.4E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	2.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.2E-08	7.4E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	1.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.6E-08	4.5E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	2.6E-08	mg/kg-day	N/A	N/A	N/A	9.2E-08	mg/kg-day	2.0E-02	mg/kg-day	4.6E-06
				4,4'-DDT	2E+00	mg/kg	1.0E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	3.5E-08	3.6E-07	mg/kg-day	5.0E-04	mg/kg-day	7.3E-04
				Endrin aldehyde	3E+00	mg/kg	3.9E-07	mg/kg-day	N/A	N/A	N/A	1.4E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	1.3E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.0E-07	4.6E-07	mg/kg-day	3.0E-04	mg/kg-day	1.5E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	6E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	9E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	5E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								9E-07					5E-03

TABLE 7.7.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	2.0E-09	ug/m3	4.1E-06	(ug/m3) $^{-1}$	1.0E-14	6.9E-09	ug/m3	2.0E+00	ug/m3	3.4E-09
				Benzo(a)anthracene	2E+00	mg/kg	6.8E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	8.2E-12	2.4E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	5.7E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	6.8E-11	2.0E-07	ug/m3	2.0E-03	ug/m3	9.9E-05
				Benzo(b)fluoranthene	9E-01	mg/kg	3.9E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	4.7E-12	1.4E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	3.2E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	3.9E-13	1.1E-07	ug/m3	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	1.1E-08	ug/m3	N/A	N/A	N/A	4.0E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	4.7E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	5.6E-12	1.6E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	2.9E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	3.4E-12	1.0E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	5.9E-09	ug/m3	3.4E-05	(ug/m3) $^{-1}$	2.0E-13	2.1E-08	ug/m3	3.0E+00	ug/m3	6.9E-09
				4,4'-DDT	2E+00	mg/kg	1.0E-07	ug/m3	9.7E-05	(ug/m3) $^{-1}$	9.8E-12	3.5E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	3E+00	mg/kg	1.1E-07	ug/m3	N/A	N/A	N/A	4.0E-07	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	4.0E-04	ug/m3	N/A	N/A	N/A	1.4E-03	ug/m3	5.0E+00	ug/m3	2.8E-04
				Antimony	1E+02	mg/kg	5.3E-06	ug/m3	N/A	N/A	N/A	1.9E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	1.3E-07	ug/m3	4.3E-03	(ug/m3) $^{-1}$	5.5E-10	4.5E-07	ug/m3	1.5E-02	ug/m3	3.0E-05
				Chromium	1E+03	mg/kg	5.0E-05	ug/m3	N/A	N/A	N/A	1.8E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	6E+01	mg/kg	2.5E-06	ug/m3	8.4E-02	(ug/m3) $^{-1}$	4.1E-07	8.6E-06	ug/m3	1.0E-01	ug/m3	8.6E-05
				Cobalt	9E+00	mg/kg	3.8E-07	ug/m3	9.0E-03	(ug/m3) $^{-1}$	3.5E-09	1.3E-06	ug/m3	6.0E-03	ug/m3	2.2E-04
				Copper	1E+02	mg/kg	4.2E-06	ug/m3	N/A	N/A	N/A	1.5E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	1.0E-08	ug/m3	N/A	N/A	N/A	3.5E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	5.5E-04	ug/m3	N/A	N/A	N/A	1.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.2E-05	ug/m3	N/A	N/A	N/A	4.2E-05	ug/m3	5.0E-02	ug/m3	8.4E-04
				Nickel	1E+01	mg/kg	5.5E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	1.4E-10	1.9E-06	ug/m3	9.0E-02	ug/m3	2.2E-05
				Silver	5E-01	mg/kg	2.3E-08	ug/m3	N/A	N/A	N/A	7.9E-08	ug/m3	N/A	N/A	N/A
				Thallium	2E+00	mg/kg	8.8E-08	ug/m3	N/A	N/A	N/A	3.1E-07	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	7.7E-07	ug/m3	N/A	N/A	N/A	2.7E-06	ug/m3	1.0E-01	ug/m3	2.7E-05
			Exp. Route Total								4E-07					2E-03
		Exposure Point Total									2E-05					8E-01
	Exposure Medium Total										N/A					N/A

TABLE 7.7.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
	Upland/Floodplain Surface/Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	1.8E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.0E-09	6.3E-08	mg/kg-day	5.0E-04	mg/kg-day	1.3E-04
				Benzo(a)anthracene	3E+00	mg/kg	9.4E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.9E-07	3.3E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	7.8E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.6E-06	2.7E-06	mg/kg-day	3.0E-04	mg/kg-day	9.1E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	8.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.7E-07	2.9E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	6.4E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.3E-08	2.2E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	8.5E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.7E-09	3.0E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	2.0E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.0E-07	6.9E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	4.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.6E-08	1.7E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	8.5E-08	mg/kg-day	N/A	N/A	N/A	3.0E-07	mg/kg-day	2.0E-02	mg/kg-day	1.5E-05
				4,4'-DDT	2E+00	mg/kg	5.4E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	1.8E-07	1.9E-06	mg/kg-day	5.0E-04	mg/kg-day	3.8E-03
				Endrin aldehyde	2E+00	mg/kg	6.1E-07	mg/kg-day	N/A	N/A	N/A	2.1E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	3.1E-03	mg/kg-day	N/A	N/A	N/A	1.1E-02	mg/kg-day	1.0E+00	mg/kg-day	1.1E-02
				Antimony	9E+01	mg/kg	2.9E-05	mg/kg-day	N/A	N/A	N/A	1.0E-04	mg/kg-day	4.0E-04	mg/kg-day	2.6E-01
				Arsenic	3E+00	mg/kg	6.5E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.8E-07	2.3E-06	mg/kg-day	3.0E-04	mg/kg-day	7.6E-03
				Chromium	1E+03	mg/kg	4.0E-04	mg/kg-day	N/A	N/A	N/A	1.4E-03	mg/kg-day	1.5E+00	mg/kg-day	9.3E-04
				Chromium, Hexavalent	1E+02	mg/kg	3.5E-05	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.5E-05	1.2E-04	mg/kg-day	3.0E-03	mg/kg-day	4.0E-02
				Cobalt	1E+02	mg/kg	5.0E-05	mg/kg-day	N/A	N/A	N/A	1.8E-04	mg/kg-day	3.0E-04	mg/kg-day	5.9E-01
				Copper	2E+02	mg/kg	5.3E-05	mg/kg-day	N/A	N/A	N/A	1.9E-04	mg/kg-day	4.0E-02	mg/kg-day	4.6E-03
				Cyanide	2E-01	mg/kg	7.2E-08	mg/kg-day	N/A	N/A	N/A	2.5E-07	mg/kg-day	1.0E-03	mg/kg-day	2.5E-04
				Iron	1E+04	mg/kg	4.6E-03	mg/kg-day	N/A	N/A	N/A	1.6E-02	mg/kg-day	7.0E-01	mg/kg-day	2.3E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.0E-04	mg/kg-day	N/A	N/A	N/A	3.5E-04	mg/kg-day	2.4E-02	mg/kg-day	1.5E-02
				Nickel	1E+01	mg/kg	4.3E-06	mg/kg-day	N/A	N/A	N/A	1.5E-05	mg/kg-day	2.0E-02	mg/kg-day	7.5E-04
				Silver	2E+00	mg/kg	6.2E-07	mg/kg-day	N/A	N/A	N/A	2.2E-06	mg/kg-day	5.0E-03	mg/kg-day	4.4E-04
				Thallium	8E-01	mg/kg	2.9E-07	mg/kg-day	N/A	N/A	N/A	1.0E-06	mg/kg-day	1.0E-05	mg/kg-day	1.0E-01
				Vanadium	2E+01	mg/kg	6.1E-06	mg/kg-day	N/A	N/A	N/A	2.1E-05	mg/kg-day	5.0E-03	mg/kg-day	4.2E-03
			Exp. Route Total								4E-05					1E+00

TABLE 7.7.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	3E+00	mg/kg	5.2E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.0E-07	1.8E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	4.3E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	8.6E-07	1.5E-06	mg/kg-day	3.0E-04	mg/kg-day	5.0E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	4.5E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.1E-08	1.6E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	3.5E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	7.0E-09	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	3.6E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	7.1E-10	1.3E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	1.1E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.2E-07	3.8E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	2.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.3E-08	9.2E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	4.7E-08	mg/kg-day	N/A	N/A	N/A	1.6E-07	mg/kg-day	2.0E-02	mg/kg-day	8.2E-06
				4,4'-DDT	2E+00	mg/kg	6.8E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.3E-08	2.4E-07	mg/kg-day	5.0E-04	mg/kg-day	4.8E-04
				Endrin aldehyde	2E+00	mg/kg	2.6E-07	mg/kg-day	N/A	N/A	N/A	9.0E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	1.4E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.1E-07	4.8E-07	mg/kg-day	3.0E-04	mg/kg-day	1.6E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	1E+02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	8E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-06					7E-03

TABLE 7.7.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	2.2E-09	ug/m3	4.1E-06	(ug/m3) $^{-1}$	1.1E-14	7.7E-09	ug/m3	2.0E+00	ug/m3	3.8E-09
				Benzo(a)anthracene	3E+00	mg/kg	1.2E-07	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.4E-11	4.0E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	9.6E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.1E-10	3.4E-07	ug/m3	2.0E-03	ug/m3	1.7E-04
				Benzo(b)fluoranthene	2E+00	mg/kg	1.0E-07	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.2E-11	3.6E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	7.8E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	9.3E-13	2.7E-07	ug/m3	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	1.0E-08	ug/m3	N/A	N/A	N/A	3.6E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	2.4E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	2.9E-11	8.5E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	5.9E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	7.1E-12	2.1E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	1.0E-08	ug/m3	3.4E-05	(ug/m3) $^{-1}$	3.6E-13	3.7E-08	ug/m3	3.0E+00	ug/m3	1.2E-08
				4,4'-DDT	2E+00	mg/kg	6.6E-08	ug/m3	9.7E-05	(ug/m3) $^{-1}$	6.4E-12	2.3E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	2E+00	mg/kg	7.5E-08	ug/m3	N/A	N/A	N/A	2.6E-07	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	3.9E-04	ug/m3	N/A	N/A	N/A	1.3E-03	ug/m3	5.0E+00	ug/m3	2.7E-04
				Antimony	9E+01	mg/kg	3.6E-06	ug/m3	N/A	N/A	N/A	1.3E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	1.3E-07	ug/m3	4.3E-03	(ug/m3) $^{-1}$	5.7E-10	4.7E-07	ug/m3	1.5E-02	ug/m3	3.1E-05
				Chromium	1E+03	mg/kg	4.9E-05	ug/m3	N/A	N/A	N/A	1.7E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	1E+02	mg/kg	4.2E-06	ug/m3	8.4E-02	(ug/m3) $^{-1}$	7.1E-07	1.5E-05	ug/m3	1.0E-01	ug/m3	1.5E-04
				Cobalt	1E+02	mg/kg	6.2E-06	ug/m3	9.0E-03	(ug/m3) $^{-1}$	5.5E-08	2.2E-05	ug/m3	6.0E-03	ug/m3	3.6E-03
				Copper	2E+02	mg/kg	6.5E-06	ug/m3	N/A	N/A	N/A	2.3E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	8.8E-09	ug/m3	N/A	N/A	N/A	3.1E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	5.7E-04	ug/m3	N/A	N/A	N/A	2.0E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.2E-05	ug/m3	N/A	N/A	N/A	4.3E-05	ug/m3	5.0E-02	ug/m3	8.7E-04
				Nickel	1E+01	mg/kg	5.2E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	1.4E-10	1.8E-06	ug/m3	9.0E-02	ug/m3	2.0E-05
				Silver	2E+00	mg/kg	7.6E-08	ug/m3	N/A	N/A	N/A	2.7E-07	ug/m3	N/A	N/A	N/A
				Thallium	8E-01	mg/kg	3.5E-08	ug/m3	N/A	N/A	N/A	1.2E-07	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	7.4E-07	ug/m3	N/A	N/A	N/A	2.6E-06	ug/m3	1.0E-01	ug/m3	2.6E-05
			Exp. Route Total								8E-07					5E-03
		Exposure Point Total									4E-05					1E+00
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

TABLE 7.7.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 $(mg/kg\text{-}day)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 $(mg/kg\text{-}day)^{-1}$]. Use of the adult-based CSF [4.6E-2 $(mg/kg\text{-}day)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 10/20 +
[intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 1 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 10/20

Inhalation:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26), but only for exposure to the kidneys. This requires splitting the unit risk factor (URF) by tumor effects [kidney URF = 1E-06 $(ug/m^3)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver URF = 3.1E-6 $(ug/m^3)^{-1}$]. Use of the adult-based URF [4.1E-6 $(ug/m^3)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver URF/adult-based URF = 0.756 and a mutagenic adjustment factor (MAF) = kidney URF/adult-based URF = 0.244.

Inhalation early-life cancer risk = [intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 3 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 10/20 +
[intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 1 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 10/20

TABLE 7.7.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	2.8E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.6E-10	2.8E-08	mg/kg-day	5.0E-04	mg/kg-day	5.6E-05
				Benzo(a)anthracene	2E+00	mg/kg	9.8E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.0E-08	9.8E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	8.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.6E-07	8.1E-07	mg/kg-day	3.0E-04	mg/kg-day	2.7E-03
				Benzo(b)fluoranthene	9E-01	mg/kg	5.6E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.1E-08	5.6E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	4.6E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	9.2E-10	4.6E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	1.6E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	3.2E-10	1.6E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	6.7E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.3E-08	6.7E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	4.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.2E-09	4.1E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	8.4E-09	mg/kg-day	N/A	N/A	N/A	8.4E-08	mg/kg-day	2.0E-02	mg/kg-day	4.2E-06
				4,4'-DDT	3E-01	mg/kg	1.9E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	6.5E-09	1.9E-07	mg/kg-day	5.0E-04	mg/kg-day	3.8E-04
				Endrin aldehyde	3E-01	mg/kg	2.1E-08	mg/kg-day	N/A	N/A	N/A	2.1E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	5.7E-04	mg/kg-day	N/A	N/A	N/A	5.7E-03	mg/kg-day	1.0E+00	mg/kg-day	5.7E-03
				Antimony	1E+02	mg/kg	7.6E-06	mg/kg-day	N/A	N/A	N/A	7.6E-05	mg/kg-day	4.0E-04	mg/kg-day	1.9E-01
				Arsenic	3E+00	mg/kg	1.1E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.6E-07	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	3.7E-03
				Chromium	1E+03	mg/kg	7.2E-05	mg/kg-day	N/A	N/A	N/A	7.2E-04	mg/kg-day	1.5E+00	mg/kg-day	4.8E-04
				Chromium, Hexavalent	6E+01	mg/kg	3.5E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.5E-06	3.5E-05	mg/kg-day	3.0E-03	mg/kg-day	1.2E-02
				Cobalt	9E+00	mg/kg	5.5E-07	mg/kg-day	N/A	N/A	N/A	5.5E-06	mg/kg-day	3.0E-04	mg/kg-day	1.8E-02
				Copper	1E+02	mg/kg	6.0E-06	mg/kg-day	N/A	N/A	N/A	6.0E-05	mg/kg-day	4.0E-02	mg/kg-day	1.5E-03
				Cyanide	2E-01	mg/kg	1.4E-08	mg/kg-day	N/A	N/A	N/A	1.4E-07	mg/kg-day	1.0E-03	mg/kg-day	1.4E-04
				Iron	1E+04	mg/kg	7.8E-04	mg/kg-day	N/A	N/A	N/A	7.8E-03	mg/kg-day	7.0E-01	mg/kg-day	1.1E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.7E-05	mg/kg-day	N/A	N/A	N/A	1.7E-04	mg/kg-day	2.4E-02	mg/kg-day	7.2E-03
				Nickel	1E+01	mg/kg	7.9E-07	mg/kg-day	N/A	N/A	N/A	7.9E-06	mg/kg-day	2.0E-02	mg/kg-day	3.9E-04
				Silver	5E-01	mg/kg	3.2E-08	mg/kg-day	N/A	N/A	N/A	3.2E-07	mg/kg-day	5.0E-03	mg/kg-day	6.4E-05
				Thallium	1E+00	mg/kg	6.9E-08	mg/kg-day	N/A	N/A	N/A	6.9E-07	mg/kg-day	1.0E-05	mg/kg-day	6.9E-02
				Vanadium	2E+01	mg/kg	1.1E-06	mg/kg-day	N/A	N/A	N/A	1.1E-05	mg/kg-day	5.0E-03	mg/kg-day	2.2E-03
			Exp. Route Total								4E-06					3E-01

TABLE 7.7.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	1.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.1E-08	1.1E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	8.9E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.8E-07	8.9E-07	mg/kg-day	3.0E-04	mg/kg-day	3.0E-03
				Benzo(b)fluoranthene	9E-01	mg/kg	6.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-08	6.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	5.1E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.0E-09	5.1E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	1.4E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	2.7E-10	1.4E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	7.4E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.5E-08	7.4E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	4.5E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.9E-09	4.5E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	9.2E-09	mg/kg-day	N/A	N/A	N/A	9.2E-08	mg/kg-day	2.0E-02	mg/kg-day	4.6E-06
				4,4'-DDT	3E-01	mg/kg	4.8E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	1.6E-09	4.8E-08	mg/kg-day	5.0E-04	mg/kg-day	9.6E-05
				Endrin aldehyde	3E-01	mg/kg	1.7E-08	mg/kg-day	N/A	N/A	N/A	1.7E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	4.6E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	7.0E-08	4.6E-07	mg/kg-day	3.0E-04	mg/kg-day	1.5E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	6E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	9E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	5E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								3E-07					5E-03

TABLE 7.7.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	6.9E-10	ug/m3	4.1E-06	(ug/m3) $^{-1}$	3.5E-15	6.9E-09	ug/m3	2.0E+00	ug/m3	3.4E-09
				Benzo(a)anthracene	2E+00	mg/kg	2.4E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	2.9E-12	2.4E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	2.0E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	2.4E-11	2.0E-07	ug/m3	2.0E-03	ug/m3	9.9E-05
				Benzo(b)fluoranthene	9E-01	mg/kg	1.4E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.7E-12	1.4E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	1.1E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	1.4E-13	1.1E-07	ug/m3	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	4.0E-09	ug/m3	N/A	N/A	N/A	4.0E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	1.6E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	2.0E-12	1.6E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	1.0E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.2E-12	1.0E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	2.1E-09	ug/m3	3.4E-05	(ug/m3) $^{-1}$	7.0E-14	2.1E-08	ug/m3	3.0E+00	ug/m3	6.9E-09
				4,4'-DDT	3E-01	mg/kg	4.7E-09	ug/m3	9.7E-05	(ug/m3) $^{-1}$	4.5E-13	4.7E-08	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	3E-01	mg/kg	5.1E-09	ug/m3	N/A	N/A	N/A	5.1E-08	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.4E-04	ug/m3	N/A	N/A	N/A	1.4E-03	ug/m3	5.0E+00	ug/m3	2.8E-04
				Antimony	1E+02	mg/kg	1.9E-06	ug/m3	N/A	N/A	N/A	1.9E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	4.5E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	1.9E-10	4.5E-07	ug/m3	1.5E-02	ug/m3	3.0E-05
				Chromium	1E+03	mg/kg	1.8E-05	ug/m3	N/A	N/A	N/A	1.8E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	6E+01	mg/kg	8.6E-07	ug/m3	8.4E-02	(ug/m3) $^{-1}$	1.4E-07	8.6E-06	ug/m3	1.0E-01	ug/m3	8.6E-05
				Cobalt	9E+00	mg/kg	1.3E-07	ug/m3	9.0E-03	(ug/m3) $^{-1}$	1.2E-09	1.3E-06	ug/m3	6.0E-03	ug/m3	2.2E-04
				Copper	1E+02	mg/kg	1.5E-06	ug/m3	N/A	N/A	N/A	1.5E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	3.5E-09	ug/m3	N/A	N/A	N/A	3.5E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	1.9E-04	ug/m3	N/A	N/A	N/A	1.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	4.2E-06	ug/m3	N/A	N/A	N/A	4.2E-05	ug/m3	5.0E-02	ug/m3	8.4E-04
				Nickel	1E+01	mg/kg	1.9E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	5.0E-11	1.9E-06	ug/m3	9.0E-02	ug/m3	2.2E-05
				Silver	5E-01	mg/kg	7.9E-09	ug/m3	N/A	N/A	N/A	7.9E-08	ug/m3	N/A	N/A	N/A
				Thallium	1E+00	mg/kg	1.7E-08	ug/m3	N/A	N/A	N/A	1.7E-07	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	2.7E-07	ug/m3	N/A	N/A	N/A	2.7E-06	ug/m3	1.0E-01	ug/m3	2.7E-05
			Exp. Route Total								1E-07					2E-03
		Exposure Point Total									4E-06					3E-01
	Exposure Medium Total										N/A					N/A

TABLE 7.7.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
	Upland/Floodplain Surface/Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	3.1E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.7E-10	3.1E-08	mg/kg-day	5.0E-04	mg/kg-day	6.3E-05
				Benzo(a)anthracene	3E+00	mg/kg	1.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.3E-08	1.6E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.4E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.7E-07	1.4E-06	mg/kg-day	3.0E-04	mg/kg-day	4.6E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	1.5E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.9E-08	1.5E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	1.1E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	2.2E-09	1.1E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	1.5E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	3.0E-10	1.5E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	3.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.9E-08	3.5E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	8.4E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.7E-08	8.4E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	1.5E-08	mg/kg-day	N/A	N/A	N/A	1.5E-07	mg/kg-day	2.0E-02	mg/kg-day	7.5E-06
				4,4'-DDT	2E+00	mg/kg	9.4E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	3.2E-08	9.4E-07	mg/kg-day	5.0E-04	mg/kg-day	1.9E-03
				Endrin aldehyde	2E+00	mg/kg	1.1E-07	mg/kg-day	N/A	N/A	N/A	1.1E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	5.5E-04	mg/kg-day	N/A	N/A	N/A	5.5E-03	mg/kg-day	1.0E+00	mg/kg-day	5.5E-03
				Antimony	9E+01	mg/kg	5.1E-06	mg/kg-day	N/A	N/A	N/A	5.1E-05	mg/kg-day	4.0E-04	mg/kg-day	1.3E-01
				Arsenic	3E+00	mg/kg	1.1E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.7E-07	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	3.8E-03
				Chromium	1E+03	mg/kg	7.0E-05	mg/kg-day	N/A	N/A	N/A	7.0E-04	mg/kg-day	1.5E+00	mg/kg-day	4.6E-04
				Chromium, Hexavalent	1E+02	mg/kg	6.1E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	6.1E-06	6.1E-05	mg/kg-day	3.0E-03	mg/kg-day	2.0E-02
				Cobalt	1E+02	mg/kg	8.8E-06	mg/kg-day	N/A	N/A	N/A	8.8E-05	mg/kg-day	3.0E-04	mg/kg-day	2.9E-01
				Copper	2E+02	mg/kg	9.3E-06	mg/kg-day	N/A	N/A	N/A	9.3E-05	mg/kg-day	4.0E-02	mg/kg-day	2.3E-03
				Cyanide	2E-01	mg/kg	1.3E-08	mg/kg-day	N/A	N/A	N/A	1.3E-07	mg/kg-day	1.0E-03	mg/kg-day	1.3E-04
				Iron	1E+04	mg/kg	8.1E-04	mg/kg-day	N/A	N/A	N/A	8.1E-03	mg/kg-day	7.0E-01	mg/kg-day	1.2E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.8E-05	mg/kg-day	N/A	N/A	N/A	1.8E-04	mg/kg-day	2.4E-02	mg/kg-day	7.4E-03
				Nickel	1E+01	mg/kg	7.5E-07	mg/kg-day	N/A	N/A	N/A	7.5E-06	mg/kg-day	2.0E-02	mg/kg-day	3.7E-04
				Silver	2E+00	mg/kg	1.1E-07	mg/kg-day	N/A	N/A	N/A	1.1E-06	mg/kg-day	5.0E-03	mg/kg-day	2.2E-04
				Thallium	8E-01	mg/kg	5.1E-08	mg/kg-day	N/A	N/A	N/A	5.1E-07	mg/kg-day	1.0E-05	mg/kg-day	5.1E-02
				Vanadium	2E+01	mg/kg	1.1E-06	mg/kg-day	N/A	N/A	N/A	1.1E-05	mg/kg-day	5.0E-03	mg/kg-day	2.1E-03
			Exp. Route Total								7E-06					5E-01

TABLE 7.7.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	3E+00	mg/kg	1.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.6E-08	1.8E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.5E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.0E-07	1.5E-06	mg/kg-day	3.0E-04	mg/kg-day	5.0E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	1.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.2E-08	1.6E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	1.2E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	2.4E-09	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	1.3E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	2.5E-10	1.3E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	3.8E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.6E-08	3.8E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	9.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.8E-08	9.2E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	1.6E-08	mg/kg-day	N/A	N/A	N/A	1.6E-07	mg/kg-day	2.0E-02	mg/kg-day	8.2E-06
				4,4'-DDT	2E+00	mg/kg	2.4E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	8.1E-09	2.4E-07	mg/kg-day	5.0E-04	mg/kg-day	4.8E-04
				Endrin aldehyde	2E+00	mg/kg	9.0E-08	mg/kg-day	N/A	N/A	N/A	9.0E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	4.8E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	7.2E-08	4.8E-07	mg/kg-day	3.0E-04	mg/kg-day	1.6E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	1E+02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	8E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								5E-07					7E-03

TABLE 7.7.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	7.7E-10	ug/m3	4.1E-06	(ug/m3) $^{-1}$	3.9E-15	7.7E-09	ug/m3	2.0E+00	ug/m3	3.8E-09
				Benzo(a)anthracene	3E+00	mg/kg	4.0E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	4.8E-12	4.0E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	3.4E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	4.0E-11	3.4E-07	ug/m3	2.0E-03	ug/m3	1.7E-04
				Benzo(b)fluoranthene	2E+00	mg/kg	3.6E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	4.3E-12	3.6E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	2.7E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	3.3E-13	2.7E-07	ug/m3	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	3.6E-09	ug/m3	N/A	N/A	N/A	3.6E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	8.5E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.0E-11	8.5E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	2.1E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	2.5E-12	2.1E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	3.7E-09	ug/m3	3.4E-05	(ug/m3) $^{-1}$	1.2E-13	3.7E-08	ug/m3	3.0E+00	ug/m3	1.2E-08
				4,4'-DDT	2E+00	mg/kg	2.3E-08	ug/m3	9.7E-05	(ug/m3) $^{-1}$	2.2E-12	2.3E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	2E+00	mg/kg	2.6E-08	ug/m3	N/A	N/A	N/A	2.6E-07	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.3E-04	ug/m3	N/A	N/A	N/A	1.3E-03	ug/m3	5.0E+00	ug/m3	2.7E-04
				Antimony	9E+01	mg/kg	1.3E-06	ug/m3	N/A	N/A	N/A	1.3E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	4.7E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	2.0E-10	4.7E-07	ug/m3	1.5E-02	ug/m3	3.1E-05
				Chromium	1E+03	mg/kg	1.7E-05	ug/m3	N/A	N/A	N/A	1.7E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	1E+02	mg/kg	1.5E-06	ug/m3	8.4E-02	(ug/m3) $^{-1}$	2.5E-07	1.5E-05	ug/m3	1.0E-01	ug/m3	1.5E-04
				Cobalt	1E+02	mg/kg	2.2E-06	ug/m3	9.0E-03	(ug/m3) $^{-1}$	1.9E-08	2.2E-05	ug/m3	6.0E-03	ug/m3	3.6E-03
				Copper	2E+02	mg/kg	2.3E-06	ug/m3	N/A	N/A	N/A	2.3E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	3.1E-09	ug/m3	N/A	N/A	N/A	3.1E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	2.0E-04	ug/m3	N/A	N/A	N/A	2.0E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	4.3E-06	ug/m3	N/A	N/A	N/A	4.3E-05	ug/m3	5.0E-02	ug/m3	8.7E-04
				Nickel	1E+01	mg/kg	1.8E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	4.8E-11	1.8E-06	ug/m3	9.0E-02	ug/m3	2.0E-05
				Silver	2E+00	mg/kg	2.7E-08	ug/m3	N/A	N/A	N/A	2.7E-07	ug/m3	N/A	N/A	N/A
				Thallium	8E-01	mg/kg	1.2E-08	ug/m3	N/A	N/A	N/A	1.2E-07	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	2.6E-07	ug/m3	N/A	N/A	N/A	2.6E-06	ug/m3	1.0E-01	ug/m3	2.6E-05
			Exp. Route Total								3E-07					5E-03
		Exposure Point Total									8E-06					5E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

TABLE 7.7.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 $(mg/kg\text{-}day)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 $(mg/kg\text{-}day)^{-1}$]. Use of the adult-based CSF [4.6E-2 $(mg/kg\text{-}day)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 10/20 +
[intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 1 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 10/20

Inhalation:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 3 for 10/20 of the result (ages 7-16) and an ADAF of 1 for 10/20 of the result (ages 17-26), but only for exposure to the kidneys. This requires splitting the unit risk factor (URF) by tumor effects [kidney URF = 1E-06 $(ug/m^3)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver URF = 3.1E-6 $(ug/m^3)^{-1}$]. Use of the adult-based URF [4.1E-6 $(ug/m^3)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver URF/adult-based URF = 0.756 and a mutagenic adjustment factor (MAF) = kidney URF/adult-based URF = 0.244.

Inhalation early-life cancer risk = [intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 3 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 10/20 +
[intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 1 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 10/20

TABLE 7.8.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	5.1E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	4.4E-09	6.0E-07	mg/kg-day	5.0E-04	mg/kg-day	1.2E-03
				Benzo(a)anthracene	2E+00	mg/kg	1.8E-06	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.5E-07	2.1E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.5E-06	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.9E-06	1.7E-05	mg/kg-day	3.0E-04	mg/kg-day	5.8E-02
				Benzo(b)fluoranthene	9E-01	mg/kg	1.0E-06	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.5E-07	1.2E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	8.4E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	4.5E-08	9.8E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	3.0E-07	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	5.9E-09	3.5E-06	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	1.2E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.5E-07	1.4E-06	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	7.5E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.0E-07	8.7E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	1.5E-07	mg/kg-day	N/A	N/A	N/A	1.8E-06	mg/kg-day	2.0E-02	mg/kg-day	8.9E-05
				4,4'-DDT	2E+00	mg/kg	2.6E-06	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	8.9E-07	3.1E-05	mg/kg-day	5.0E-04	mg/kg-day	6.1E-02
				Endrin aldehyde	3E+00	mg/kg	3.0E-06	mg/kg-day	N/A	N/A	N/A	3.5E-05	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.0E-02	mg/kg-day	N/A	N/A	N/A	1.2E-01	mg/kg-day	1.0E+00	mg/kg-day	1.2E-01
				Antimony	1E+02	mg/kg	1.4E-04	mg/kg-day	N/A	N/A	N/A	1.6E-03	mg/kg-day	4.0E-04	mg/kg-day	4.0E+00
				Arsenic	3E+00	mg/kg	2.0E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.0E-06	2.3E-05	mg/kg-day	3.0E-04	mg/kg-day	7.8E-02
				Chromium	1E+03	mg/kg	1.3E-03	mg/kg-day	N/A	N/A	N/A	1.5E-02	mg/kg-day	1.5E+00	mg/kg-day	1.0E-02
				Chromium, Hexavalent	6E+01	mg/kg	6.4E-05	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.7E-04	7.5E-04	mg/kg-day	3.0E-03	mg/kg-day	2.5E-01
				Cobalt	9E+00	mg/kg	1.0E-05	mg/kg-day	N/A	N/A	N/A	1.2E-04	mg/kg-day	3.0E-04	mg/kg-day	3.9E-01
				Copper	1E+02	mg/kg	1.1E-04	mg/kg-day	N/A	N/A	N/A	1.3E-03	mg/kg-day	4.0E-02	mg/kg-day	3.2E-02
				Cyanide	2E-01	mg/kg	2.6E-07	mg/kg-day	N/A	N/A	N/A	3.1E-06	mg/kg-day	1.0E-03	mg/kg-day	3.1E-03
				Iron	1E+04	mg/kg	1.4E-02	mg/kg-day	N/A	N/A	N/A	1.7E-01	mg/kg-day	7.0E-01	mg/kg-day	2.4E-01
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	3.1E-04	mg/kg-day	N/A	N/A	N/A	3.7E-03	mg/kg-day	2.4E-02	mg/kg-day	1.5E-01
				Nickel	1E+01	mg/kg	1.4E-05	mg/kg-day	N/A	N/A	N/A	1.7E-04	mg/kg-day	2.0E-02	mg/kg-day	8.4E-03
				Silver	5E-01	mg/kg	5.9E-07	mg/kg-day	N/A	N/A	N/A	6.9E-06	mg/kg-day	5.0E-03	mg/kg-day	1.4E-03
				Thallium	2E+00	mg/kg	2.3E-06	mg/kg-day	N/A	N/A	N/A	2.7E-05	mg/kg-day	1.0E-05	mg/kg-day	2.7E+00
				Vanadium	2E+01	mg/kg	2.0E-05	mg/kg-day	N/A	N/A	N/A	2.3E-04	mg/kg-day	5.0E-03	mg/kg-day	4.7E-02
			Exp. Route Total								2E-04					8E+00

TABLE 7.8.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	5.5E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.9E-07	6.4E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	4.6E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.4E-06	5.3E-06	mg/kg-day	3.0E-04	mg/kg-day	1.8E-02
				Benzo(b)fluoranthene	9E-01	mg/kg	3.2E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.7E-07	3.7E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	2.6E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.4E-08	3.0E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	7.0E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.4E-09	8.2E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	3.8E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.0E-07	4.4E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	2.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-07	2.7E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	4.7E-08	mg/kg-day	N/A	N/A	N/A	5.5E-07	mg/kg-day	2.0E-02	mg/kg-day	2.8E-05
				4,4'-DDT	2E+00	mg/kg	1.9E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	6.4E-08	2.2E-06	mg/kg-day	5.0E-04	mg/kg-day	4.4E-03
				Endrin aldehyde	3E+00	mg/kg	7.0E-07	mg/kg-day	N/A	N/A	N/A	8.2E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	2.4E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.6E-07	2.8E-06	mg/kg-day	3.0E-04	mg/kg-day	9.3E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	6E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	9E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	5E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								4E-06					3E-02

TABLE 7.8.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	5.9E-10	ug/m3	4.1E-06	(ug/m3) $^{-1}$	5.0E-15	6.9E-09	ug/m3	2.0E+00	ug/m3	3.4E-09
				Benzo(a)anthracene	2E+00	mg/kg	2.0E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	6.5E-12	2.4E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.7E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	5.4E-11	2.0E-07	ug/m3	2.0E-03	ug/m3	9.9E-05
				Benzo(b)fluoranthene	9E-01	mg/kg	1.2E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	3.8E-12	1.4E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	9.7E-09	ug/m3	6.0E-06	(ug/m3) $^{-1}$	3.1E-13	1.1E-07	ug/m3	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	3.4E-09	ug/m3	N/A	N/A	N/A	4.0E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	1.4E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	4.5E-12	1.6E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	8.6E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	2.7E-12	1.0E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	1.8E-09	ug/m3	3.4E-05	(ug/m3) $^{-1}$	6.0E-14	2.1E-08	ug/m3	3.0E+00	ug/m3	6.9E-09
				4,4'-DDT	2E+00	mg/kg	3.0E-08	ug/m3	9.7E-05	(ug/m3) $^{-1}$	2.9E-12	3.5E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	3E+00	mg/kg	3.4E-08	ug/m3	N/A	N/A	N/A	4.0E-07	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.2E-04	ug/m3	N/A	N/A	N/A	1.4E-03	ug/m3	5.0E+00	ug/m3	2.8E-04
				Antimony	1E+02	mg/kg	1.6E-06	ug/m3	N/A	N/A	N/A	1.9E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	3.9E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	1.7E-10	4.5E-07	ug/m3	1.5E-02	ug/m3	3.0E-05
				Chromium	1E+03	mg/kg	1.5E-05	ug/m3	N/A	N/A	N/A	1.8E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	6E+01	mg/kg	7.4E-07	ug/m3	8.4E-02	(ug/m3) $^{-1}$	3.3E-07	8.6E-06	ug/m3	1.0E-01	ug/m3	8.6E-05
				Cobalt	9E+00	mg/kg	1.2E-07	ug/m3	9.0E-03	(ug/m3) $^{-1}$	1.0E-09	1.3E-06	ug/m3	6.0E-03	ug/m3	2.2E-04
				Copper	1E+02	mg/kg	1.3E-06	ug/m3	N/A	N/A	N/A	1.5E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	3.0E-09	ug/m3	N/A	N/A	N/A	3.5E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	1.6E-04	ug/m3	N/A	N/A	N/A	1.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	3.6E-06	ug/m3	N/A	N/A	N/A	4.2E-05	ug/m3	5.0E-02	ug/m3	8.4E-04
				Nickel	1E+01	mg/kg	1.7E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	4.3E-11	1.9E-06	ug/m3	9.0E-02	ug/m3	2.2E-05
				Silver	5E-01	mg/kg	6.8E-09	ug/m3	N/A	N/A	N/A	7.9E-08	ug/m3	N/A	N/A	N/A
				Thallium	2E+00	mg/kg	2.6E-08	ug/m3	N/A	N/A	N/A	3.1E-07	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	2.3E-07	ug/m3	N/A	N/A	N/A	2.7E-06	ug/m3	1.0E-01	ug/m3	2.7E-05
			Exp. Route Total								3E-07					2E-03
		Exposure Point Total									2E-04					8E+00
	Exposure Medium Total										N/A					N/A

TABLE 7.8.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
	Upland/Floodplain Surface/Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	5.7E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	5.0E-09	6.7E-07	mg/kg-day	5.0E-04	mg/kg-day	1.3E-03
				Benzo(a)anthracene	3E+00	mg/kg	3.0E-06	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.6E-06	3.5E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	2.5E-06	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.3E-05	2.9E-05	mg/kg-day	3.0E-04	mg/kg-day	9.7E-02
				Benzo(b)fluoranthene	2E+00	mg/kg	2.7E-06	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.4E-06	3.1E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	2.0E-06	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.1E-07	2.4E-05	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	2.7E-07	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	5.4E-09	3.2E-06	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	6.3E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.4E-06	7.4E-06	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.5E-06	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.2E-07	1.8E-05	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	2.7E-07	mg/kg-day	N/A	N/A	N/A	3.2E-06	mg/kg-day	2.0E-02	mg/kg-day	1.6E-04
				4,4'-DDT	2E+00	mg/kg	1.7E-06	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	5.8E-07	2.0E-05	mg/kg-day	5.0E-04	mg/kg-day	4.0E-02
				Endrin aldehyde	2E+00	mg/kg	1.9E-06	mg/kg-day	N/A	N/A	N/A	2.3E-05	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.0E-02	mg/kg-day	N/A	N/A	N/A	1.2E-01	mg/kg-day	1.0E+00	mg/kg-day	1.2E-01
				Antimony	9E+01	mg/kg	9.4E-05	mg/kg-day	N/A	N/A	N/A	1.1E-03	mg/kg-day	4.0E-04	mg/kg-day	2.7E+00
				Arsenic	3E+00	mg/kg	2.1E-06	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.1E-06	2.4E-05	mg/kg-day	3.0E-04	mg/kg-day	8.1E-02
				Chromium	1E+03	mg/kg	1.3E-03	mg/kg-day	N/A	N/A	N/A	1.5E-02	mg/kg-day	1.5E+00	mg/kg-day	9.9E-03
				Chromium, Hexavalent	1E+02	mg/kg	1.1E-04	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.0E-04	1.3E-03	mg/kg-day	3.0E-03	mg/kg-day	4.3E-01
				Cobalt	1E+02	mg/kg	1.6E-04	mg/kg-day	N/A	N/A	N/A	1.9E-03	mg/kg-day	3.0E-04	mg/kg-day	6.2E+00
				Copper	2E+02	mg/kg	1.7E-04	mg/kg-day	N/A	N/A	N/A	2.0E-03	mg/kg-day	4.0E-02	mg/kg-day	5.0E-02
				Cyanide	2E-01	mg/kg	2.3E-07	mg/kg-day	N/A	N/A	N/A	2.7E-06	mg/kg-day	1.0E-03	mg/kg-day	2.7E-03
				Iron	1E+04	mg/kg	1.5E-02	mg/kg-day	N/A	N/A	N/A	1.7E-01	mg/kg-day	7.0E-01	mg/kg-day	2.5E-01
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	3.2E-04	mg/kg-day	N/A	N/A	N/A	3.8E-03	mg/kg-day	2.4E-02	mg/kg-day	1.6E-01
				Nickel	1E+01	mg/kg	1.4E-05	mg/kg-day	N/A	N/A	N/A	1.6E-04	mg/kg-day	2.0E-02	mg/kg-day	8.0E-03
				Silver	2E+00	mg/kg	2.0E-06	mg/kg-day	N/A	N/A	N/A	2.3E-05	mg/kg-day	5.0E-03	mg/kg-day	4.6E-03
				Thallium	8E-01	mg/kg	9.3E-07	mg/kg-day	N/A	N/A	N/A	1.1E-05	mg/kg-day	1.0E-05	mg/kg-day	1.1E+00
				Vanadium	2E+01	mg/kg	1.9E-05	mg/kg-day	N/A	N/A	N/A	2.3E-04	mg/kg-day	5.0E-03	mg/kg-day	4.5E-02
			Exp. Route Total								3E-04					1E+01

TABLE 7.8.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	3E+00	mg/kg	9.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.0E-07	1.1E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	7.7E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.1E-06	9.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3.0E-02
				Benzo(b)fluoranthene	2E+00	mg/kg	8.2E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.4E-07	9.5E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	6.3E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	3.3E-08	7.3E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	6.4E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.3E-09	7.5E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	2.0E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.0E-06	2.3E-06	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	4.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.5E-07	5.5E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	8.4E-08	mg/kg-day	N/A	N/A	N/A	9.8E-07	mg/kg-day	2.0E-02	mg/kg-day	4.9E-05
				4,4'-DDT	2E+00	mg/kg	1.2E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	4.2E-08	1.4E-06	mg/kg-day	5.0E-04	mg/kg-day	2.9E-03
				Endrin aldehyde	2E+00	mg/kg	4.6E-07	mg/kg-day	N/A	N/A	N/A	5.4E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	2.5E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.7E-07	2.9E-06	mg/kg-day	3.0E-04	mg/kg-day	9.7E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	1E+02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	8E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								7E-06					4E-02

TABLE 7.8.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	6.6E-10	ug/m3	4.1E-06	(ug/m3) $^{-1}$	5.6E-15	7.7E-09	ug/m3	2.0E+00	ug/m3	3.8E-09
				Benzo(a)anthracene	3E+00	mg/kg	3.5E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.1E-11	4.0E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	2.9E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	9.2E-11	3.4E-07	ug/m3	2.0E-03	ug/m3	1.7E-04
				Benzo(b)fluoranthene	2E+00	mg/kg	3.0E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	9.8E-12	3.6E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	2.3E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	7.5E-13	2.7E-07	ug/m3	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	3.1E-09	ug/m3	N/A	N/A	N/A	3.6E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	7.3E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	2.3E-11	8.5E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.8E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	5.7E-12	2.1E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	3.1E-09	ug/m3	3.4E-05	(ug/m3) $^{-1}$	1.1E-13	3.7E-08	ug/m3	3.0E+00	ug/m3	1.2E-08
				4,4'-DDT	2E+00	mg/kg	2.0E-08	ug/m3	9.7E-05	(ug/m3) $^{-1}$	1.9E-12	2.3E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	2E+00	mg/kg	2.2E-08	ug/m3	N/A	N/A	N/A	2.6E-07	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.2E-04	ug/m3	N/A	N/A	N/A	1.3E-03	ug/m3	5.0E+00	ug/m3	2.7E-04
				Antimony	9E+01	mg/kg	1.1E-06	ug/m3	N/A	N/A	N/A	1.3E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	4.0E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	1.7E-10	4.7E-07	ug/m3	1.5E-02	ug/m3	3.1E-05
				Chromium	1E+03	mg/kg	1.5E-05	ug/m3	N/A	N/A	N/A	1.7E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	1E+02	mg/kg	1.3E-06	ug/m3	8.4E-02	(ug/m3) $^{-1}$	5.7E-07	1.5E-05	ug/m3	1.0E-01	ug/m3	1.5E-04
				Cobalt	1E+02	mg/kg	1.8E-06	ug/m3	9.0E-03	(ug/m3) $^{-1}$	1.7E-08	2.2E-05	ug/m3	6.0E-03	ug/m3	3.6E-03
				Copper	2E+02	mg/kg	2.0E-06	ug/m3	N/A	N/A	N/A	2.3E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	2.6E-09	ug/m3	N/A	N/A	N/A	3.1E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	1.7E-04	ug/m3	N/A	N/A	N/A	2.0E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	3.7E-06	ug/m3	N/A	N/A	N/A	4.3E-05	ug/m3	5.0E-02	ug/m3	8.7E-04
				Nickel	1E+01	mg/kg	1.6E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	4.1E-11	1.8E-06	ug/m3	9.0E-02	ug/m3	2.0E-05
				Silver	2E+00	mg/kg	2.3E-08	ug/m3	N/A	N/A	N/A	2.7E-07	ug/m3	N/A	N/A	N/A
				Thallium	8E-01	mg/kg	1.1E-08	ug/m3	N/A	N/A	N/A	1.2E-07	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	2.2E-07	ug/m3	N/A	N/A	N/A	2.6E-06	ug/m3	1.0E-01	ug/m3	2.6E-05
			Exp. Route Total								6E-07					5E-03
		Exposure Point Total									3E-04					1E+01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

TABLE 7.8.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 $(mg/kg\text{-}day)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 $(mg/kg\text{-}day)^{-1}$]. Use of the adult-based CSF [4.6E-2 $(mg/kg\text{-}day)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 10 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 2/6 +
[intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 4/6

Inhalation:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the unit risk factor (URF) by tumor effects [kidney URF = 1E-06 $(ug/m^3)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver URF = 3.1E-6 $(ug/m^3)^{-1}$]. Use of the adult-based URF [4.1E-6 $(ug/m^3)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver URF/adult-based URF = 0.756 and a mutagenic adjustment factor (MAF) = kidney URF/adult-based URF = 0.244.

Inhalation early-life cancer risk = [intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 10 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 2/6 +
[intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 3 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 4/6

TABLE 7.8.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	8.6E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	7.4E-10	3.0E-07	mg/kg-day	5.0E-04	mg/kg-day	6.0E-04
				Benzo(a)anthracene	2E+00	mg/kg	3.0E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.6E-07	1.0E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	2.5E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.3E-06	8.6E-06	mg/kg-day	3.0E-04	mg/kg-day	2.9E-02
				Benzo(b)fluoranthene	9E-01	mg/kg	1.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.1E-08	6.0E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	1.4E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	7.5E-09	4.9E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	4.9E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	9.9E-10	1.7E-06	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	2.0E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.1E-07	7.2E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	1.2E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.6E-08	4.3E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	2.6E-08	mg/kg-day	N/A	N/A	N/A	8.9E-07	mg/kg-day	2.0E-02	mg/kg-day	4.5E-05
				4,4'-DDT	3E-01	mg/kg	5.8E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.0E-08	2.0E-06	mg/kg-day	5.0E-04	mg/kg-day	4.1E-03
				Endrin aldehyde	3E-01	mg/kg	6.3E-08	mg/kg-day	N/A	N/A	N/A	2.2E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.7E-03	mg/kg-day	N/A	N/A	N/A	6.1E-02	mg/kg-day	1.0E+00	mg/kg-day	6.1E-02
				Antimony	1E+02	mg/kg	2.3E-05	mg/kg-day	N/A	N/A	N/A	8.1E-04	mg/kg-day	4.0E-04	mg/kg-day	2.0E+00
				Arsenic	3E+00	mg/kg	3.4E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.0E-07	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	3.9E-02
				Chromium	1E+03	mg/kg	2.2E-04	mg/kg-day	N/A	N/A	N/A	7.6E-03	mg/kg-day	1.5E+00	mg/kg-day	5.1E-03
				Chromium, Hexavalent	6E+01	mg/kg	1.1E-05	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	2.9E-05	3.8E-04	mg/kg-day	3.0E-03	mg/kg-day	1.3E-01
				Cobalt	9E+00	mg/kg	1.7E-06	mg/kg-day	N/A	N/A	N/A	5.9E-05	mg/kg-day	3.0E-04	mg/kg-day	2.0E-01
				Copper	1E+02	mg/kg	1.8E-05	mg/kg-day	N/A	N/A	N/A	6.4E-04	mg/kg-day	4.0E-02	mg/kg-day	1.6E-02
				Cyanide	2E-01	mg/kg	4.4E-08	mg/kg-day	N/A	N/A	N/A	1.5E-06	mg/kg-day	1.0E-03	mg/kg-day	1.5E-03
				Iron	1E+04	mg/kg	2.4E-03	mg/kg-day	N/A	N/A	N/A	8.3E-02	mg/kg-day	7.0E-01	mg/kg-day	1.2E-01
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	5.2E-05	mg/kg-day	N/A	N/A	N/A	1.8E-03	mg/kg-day	2.4E-02	mg/kg-day	7.6E-02
				Nickel	1E+01	mg/kg	2.4E-06	mg/kg-day	N/A	N/A	N/A	8.4E-05	mg/kg-day	2.0E-02	mg/kg-day	4.2E-03
				Silver	5E-01	mg/kg	9.8E-08	mg/kg-day	N/A	N/A	N/A	3.4E-06	mg/kg-day	5.0E-03	mg/kg-day	6.9E-04
				Thallium	1E+00	mg/kg	2.1E-07	mg/kg-day	N/A	N/A	N/A	7.4E-06	mg/kg-day	1.0E-05	mg/kg-day	7.4E-01
				Vanadium	2E+01	mg/kg	3.3E-06	mg/kg-day	N/A	N/A	N/A	1.2E-04	mg/kg-day	5.0E-03	mg/kg-day	2.3E-02
			Exp. Route Total								3E-05					3E+00

TABLE 7.8.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	1.8E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.8E-08	6.4E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.5E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	8.1E-07	5.3E-06	mg/kg-day	3.0E-04	mg/kg-day	1.8E-02
				Benzo(b)fluoranthene	9E-01	mg/kg	1.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.6E-08	3.7E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	8.7E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	4.6E-09	3.0E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	2.3E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	4.7E-10	8.2E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	1.3E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.7E-08	4.4E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	7.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.1E-08	2.7E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	1.6E-08	mg/kg-day	N/A	N/A	N/A	5.5E-07	mg/kg-day	2.0E-02	mg/kg-day	2.8E-05
				4,4'-DDT	3E-01	mg/kg	8.2E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.8E-09	2.9E-07	mg/kg-day	5.0E-04	mg/kg-day	5.8E-04
				Endrin aldehyde	3E-01	mg/kg	3.0E-08	mg/kg-day	N/A	N/A	N/A	1.0E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	8.0E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.2E-07	2.8E-06	mg/kg-day	3.0E-04	mg/kg-day	9.3E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	6E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	9E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	5E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-06					3E-02

TABLE 7.8.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	2.0E-10	ug/m3	4.1E-06	(ug/m3) $^{-1}$	1.7E-15	6.9E-09	ug/m3	2.0E+00	ug/m3	3.4E-09
				Benzo(a)anthracene	2E+00	mg/kg	6.8E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	2.2E-12	2.4E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	5.7E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.8E-11	2.0E-07	ug/m3	2.0E-03	ug/m3	9.9E-05
				Benzo(b)fluoranthene	9E-01	mg/kg	3.9E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.3E-12	1.4E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	3.2E-09	ug/m3	6.0E-06	(ug/m3) $^{-1}$	1.0E-13	1.1E-07	ug/m3	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	1.1E-09	ug/m3	N/A	N/A	N/A	4.0E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	4.7E-10	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.5E-12	1.6E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	2.9E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	9.1E-13	1.0E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	5.9E-10	ug/m3	3.4E-05	(ug/m3) $^{-1}$	2.0E-14	2.1E-08	ug/m3	3.0E+00	ug/m3	6.9E-09
				4,4'-DDT	3E-01	mg/kg	1.3E-09	ug/m3	9.7E-05	(ug/m3) $^{-1}$	1.3E-13	4.7E-08	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	3E-01	mg/kg	1.4E-09	ug/m3	N/A	N/A	N/A	5.1E-08	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	4.0E-05	ug/m3	N/A	N/A	N/A	1.4E-03	ug/m3	5.0E+00	ug/m3	2.8E-04
				Antimony	1E+02	mg/kg	5.3E-07	ug/m3	N/A	N/A	N/A	1.9E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	1.3E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	5.5E-11	4.5E-07	ug/m3	1.5E-02	ug/m3	3.0E-05
				Chromium	1E+03	mg/kg	5.0E-06	ug/m3	N/A	N/A	N/A	1.8E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	6E+01	mg/kg	2.5E-07	ug/m3	8.4E-02	(ug/m3) $^{-1}$	1.1E-07	8.6E-06	ug/m3	1.0E-01	ug/m3	8.6E-05
				Cobalt	9E+00	mg/kg	3.8E-08	ug/m3	9.0E-03	(ug/m3) $^{-1}$	3.5E-10	1.3E-06	ug/m3	6.0E-03	ug/m3	2.2E-04
				Copper	1E+02	mg/kg	4.2E-07	ug/m3	N/A	N/A	N/A	1.5E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	1.0E-09	ug/m3	N/A	N/A	N/A	3.5E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	5.5E-05	ug/m3	N/A	N/A	N/A	1.9E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.2E-06	ug/m3	N/A	N/A	N/A	4.2E-05	ug/m3	5.0E-02	ug/m3	8.4E-04
				Nickel	1E+01	mg/kg	5.5E-08	ug/m3	2.6E-04	(ug/m3) $^{-1}$	1.4E-11	1.9E-06	ug/m3	9.0E-02	ug/m3	2.2E-05
				Silver	5E-01	mg/kg	2.3E-09	ug/m3	N/A	N/A	N/A	7.9E-08	ug/m3	N/A	N/A	N/A
				Thallium	1E+00	mg/kg	4.8E-09	ug/m3	N/A	N/A	N/A	1.7E-07	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	7.7E-08	ug/m3	N/A	N/A	N/A	2.7E-06	ug/m3	1.0E-01	ug/m3	2.7E-05
			Exp. Route Total								1E-07					2E-03
		Exposure Point Total									3E-05					3E+00
	Exposure Medium Total										N/A					N/A

TABLE 7.8.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
	Upland/Floodplain Surface/Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	9.6E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	8.3E-10	3.3E-07	mg/kg-day	5.0E-04	mg/kg-day	6.7E-04
				Benzo(a)anthracene	3E+00	mg/kg	5.0E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.7E-07	1.8E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	4.2E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.2E-06	1.5E-05	mg/kg-day	3.0E-04	mg/kg-day	4.9E-02
				Benzo(b)fluoranthene	2E+00	mg/kg	4.4E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.4E-07	1.5E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	3.4E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.8E-08	1.2E-05	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	4.5E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	9.0E-10	1.6E-06	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	1.1E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	5.6E-07	3.7E-06	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	2.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.4E-07	9.0E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	4.5E-08	mg/kg-day	N/A	N/A	N/A	1.6E-06	mg/kg-day	2.0E-02	mg/kg-day	8.0E-05
				4,4'-DDT	2E+00	mg/kg	2.9E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	9.7E-08	1.0E-05	mg/kg-day	5.0E-04	mg/kg-day	2.0E-02
				Endrin aldehyde	2E+00	mg/kg	3.2E-07	mg/kg-day	N/A	N/A	N/A	1.1E-05	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.7E-03	mg/kg-day	N/A	N/A	N/A	5.9E-02	mg/kg-day	1.0E+00	mg/kg-day	5.9E-02
				Antimony	9E+01	mg/kg	1.6E-05	mg/kg-day	N/A	N/A	N/A	5.5E-04	mg/kg-day	4.0E-04	mg/kg-day	1.4E+00
				Arsenic	3E+00	mg/kg	3.5E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.2E-07	1.2E-05	mg/kg-day	3.0E-04	mg/kg-day	4.1E-02
				Chromium	1E+03	mg/kg	2.1E-04	mg/kg-day	N/A	N/A	N/A	7.4E-03	mg/kg-day	1.5E+00	mg/kg-day	4.9E-03
				Chromium, Hexavalent	1E+02	mg/kg	1.8E-05	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	4.9E-05	6.5E-04	mg/kg-day	3.0E-03	mg/kg-day	2.2E-01
				Cobalt	1E+02	mg/kg	2.7E-05	mg/kg-day	N/A	N/A	N/A	9.4E-04	mg/kg-day	3.0E-04	mg/kg-day	3.1E+00
				Copper	2E+02	mg/kg	2.8E-05	mg/kg-day	N/A	N/A	N/A	9.9E-04	mg/kg-day	4.0E-02	mg/kg-day	2.5E-02
				Cyanide	2E-01	mg/kg	3.8E-08	mg/kg-day	N/A	N/A	N/A	1.3E-06	mg/kg-day	1.0E-03	mg/kg-day	1.3E-03
				Iron	1E+04	mg/kg	2.5E-03	mg/kg-day	N/A	N/A	N/A	8.6E-02	mg/kg-day	7.0E-01	mg/kg-day	1.2E-01
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	5.4E-05	mg/kg-day	N/A	N/A	N/A	1.9E-03	mg/kg-day	2.4E-02	mg/kg-day	7.9E-02
				Nickel	1E+01	mg/kg	2.3E-06	mg/kg-day	N/A	N/A	N/A	8.0E-05	mg/kg-day	2.0E-02	mg/kg-day	4.0E-03
				Silver	2E+00	mg/kg	3.3E-07	mg/kg-day	N/A	N/A	N/A	1.2E-05	mg/kg-day	5.0E-03	mg/kg-day	2.3E-03
				Thallium	8E-01	mg/kg	1.5E-07	mg/kg-day	N/A	N/A	N/A	5.4E-06	mg/kg-day	1.0E-05	mg/kg-day	5.4E-01
				Vanadium	2E+01	mg/kg	3.2E-06	mg/kg-day	N/A	N/A	N/A	1.1E-04	mg/kg-day	5.0E-03	mg/kg-day	2.3E-02
			Exp. Route Total								5E-05					6E+00

TABLE 7.8.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	3E+00	mg/kg	3.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.7E-07	1.1E-05	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	2.6E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.4E-06	9.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3.0E-02
				Benzo(b)fluoranthene	2E+00	mg/kg	2.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.5E-07	9.5E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	2.1E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.1E-08	7.3E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	2.1E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	4.3E-10	7.5E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	6.5E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.5E-07	2.3E-06	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.4E-08	5.5E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	2.8E-08	mg/kg-day	N/A	N/A	N/A	9.8E-07	mg/kg-day	2.0E-02	mg/kg-day	4.9E-05
				4,4'-DDT	2E+00	mg/kg	4.1E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	1.4E-08	1.4E-06	mg/kg-day	5.0E-04	mg/kg-day	2.9E-03
				Endrin aldehyde	2E+00	mg/kg	1.5E-07	mg/kg-day	N/A	N/A	N/A	5.4E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	8.3E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.2E-07	2.9E-06	mg/kg-day	3.0E-04	mg/kg-day	9.7E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	1E+02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	8E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								2E-06					4E-02

TABLE 7.8.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	2.2E-10	ug/m3	4.1E-06	(ug/m3) $^{-1}$	1.9E-15	7.7E-09	ug/m3	2.0E+00	ug/m3	3.8E-09
				Benzo(a)anthracene	3E+00	mg/kg	1.2E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	3.7E-12	4.0E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	9.6E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	3.1E-11	3.4E-07	ug/m3	2.0E-03	ug/m3	1.7E-04
				Benzo(b)fluoranthene	2E+00	mg/kg	1.0E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	3.3E-12	3.6E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	7.8E-09	ug/m3	6.0E-06	(ug/m3) $^{-1}$	2.5E-13	2.7E-07	ug/m3	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	1.0E-09	ug/m3	N/A	N/A	N/A	3.6E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	2.4E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	7.8E-12	8.5E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	5.9E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.9E-12	2.1E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	1.0E-09	ug/m3	3.4E-05	(ug/m3) $^{-1}$	3.6E-14	3.7E-08	ug/m3	3.0E+00	ug/m3	1.2E-08
				4,4'-DDT	2E+00	mg/kg	6.6E-09	ug/m3	9.7E-05	(ug/m3) $^{-1}$	6.4E-13	2.3E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	2E+00	mg/kg	7.5E-09	ug/m3	N/A	N/A	N/A	2.6E-07	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	3.9E-05	ug/m3	N/A	N/A	N/A	1.3E-03	ug/m3	5.0E+00	ug/m3	2.7E-04
				Antimony	9E+01	mg/kg	3.6E-07	ug/m3	N/A	N/A	N/A	1.3E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	1.3E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	5.7E-11	4.7E-07	ug/m3	1.5E-02	ug/m3	3.1E-05
				Chromium	1E+03	mg/kg	4.9E-06	ug/m3	N/A	N/A	N/A	1.7E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	1E+02	mg/kg	4.2E-07	ug/m3	8.4E-02	(ug/m3) $^{-1}$	1.9E-07	1.5E-05	ug/m3	1.0E-01	ug/m3	1.5E-04
				Cobalt	1E+02	mg/kg	6.2E-07	ug/m3	9.0E-03	(ug/m3) $^{-1}$	5.5E-09	2.2E-05	ug/m3	6.0E-03	ug/m3	3.6E-03
				Copper	2E+02	mg/kg	6.5E-07	ug/m3	N/A	N/A	N/A	2.3E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	8.8E-10	ug/m3	N/A	N/A	N/A	3.1E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	5.7E-05	ug/m3	N/A	N/A	N/A	2.0E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.2E-06	ug/m3	N/A	N/A	N/A	4.3E-05	ug/m3	5.0E-02	ug/m3	8.7E-04
				Nickel	1E+01	mg/kg	5.2E-08	ug/m3	2.6E-04	(ug/m3) $^{-1}$	1.4E-11	1.8E-06	ug/m3	9.0E-02	ug/m3	2.0E-05
				Silver	2E+00	mg/kg	7.6E-09	ug/m3	N/A	N/A	N/A	2.7E-07	ug/m3	N/A	N/A	N/A
				Thallium	8E-01	mg/kg	3.5E-09	ug/m3	N/A	N/A	N/A	1.2E-07	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	7.4E-08	ug/m3	N/A	N/A	N/A	2.6E-06	ug/m3	1.0E-01	ug/m3	2.6E-05
			Exp. Route Total								2E-07					5E-03
		Exposure Point Total									6E-05					6E+00
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

TABLE 7.8.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	

Notes

Blue shading indicates early-life cancer risk calculations for carcinogenic PAHs and chromium (VI) calculated by multiplying the result by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6).

(1) Yellow shading indicates that a relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

Ingestion/Dermal:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the cancer slope factor (CSF) by tumor effects [kidney CSF = 9.3E-03 $(mg/kg\text{-}day)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver CSF = 3.7E-2 $(mg/kg\text{-}day)^{-1}$]. Use of the adult-based CSF [4.6E-2 $(mg/kg\text{-}day)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver CSF/adult-based CSF = 0.804 and a mutagenic adjustment factor (MAF) = kidney CSF/adult-based CSF = 0.202.

Ingestion/dermal early-life cancer risk = [intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 10 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 2/6 +
[intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x MAF (0.202) x 3 + intake/exposure concentration (mg/kg-day) x adult-based CSF $(mg/kg\text{-}day)^{-1}$ x CAF (0.804)] x 4/6

Inhalation:

Blue shading indicates early-life cancer risk calculations for trichloroethene calculated by multiplying the intake/exposure concentration by the default age-dependent adjustment factor (ADAF) of 10 for 2/6 of the result (ages 1-2) and an ADAF of 3 for 4/6 of the result (ages 3-6), but only for exposure to the kidneys. This requires splitting the unit risk factor (URF) by tumor effects [kidney URF = 1E-06 $(ug/m^3)^{-1}$ and non-Hodgkins lymphoma (NHL)+Liver URF = 3.1E-6 $(ug/m^3)^{-1}$]. Use of the adult-based URF [4.1E-6 $(ug/m^3)^{-1}$] results in development of a cancer adjustment factor (CAF) = NHL+Liver URF/adult-based URF = 0.756 and a mutagenic adjustment factor (MAF) = kidney URF/adult-based URF = 0.244.

Inhalation early-life cancer risk = [intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 10 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 2/6 +
[intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x MAF (0.244) x 3 + intake/exposure concentration (ug/m^3) x adult-based URF $(ug/m^3)^{-1}$ x CAF (0.756)] x 4/6

TABLE 7.11.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	1.4E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	6.6E-10	4.0E-08	mg/kg-day	5.0E-04	mg/kg-day	8.0E-05
				Benzo(a)anthracene	2E+00	mg/kg	5.0E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.0E-08	1.4E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	4.1E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.1E-07	1.2E-06	mg/kg-day	3.0E-04	mg/kg-day	3.9E-03
				Benzo(b)fluoranthene	9E-01	mg/kg	2.9E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.9E-08	8.0E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	2.4E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	2.4E-09	6.6E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	8.3E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.7E-09	2.3E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	3.4E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.4E-08	9.6E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	2.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.1E-08	5.8E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	4.3E-08	mg/kg-day	N/A	N/A	N/A	1.2E-07	mg/kg-day	2.0E-02	mg/kg-day	6.0E-06
				4,4'-DDT	2E+00	mg/kg	7.3E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.5E-07	2.1E-06	mg/kg-day	5.0E-04	mg/kg-day	4.1E-03
				Endrin aldehyde	3E+00	mg/kg	8.3E-07	mg/kg-day	N/A	N/A	N/A	2.3E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	2.9E-03	mg/kg-day	N/A	N/A	N/A	8.1E-03	mg/kg-day	1.0E+00	mg/kg-day	8.1E-03
				Antimony	1E+02	mg/kg	3.9E-05	mg/kg-day	N/A	N/A	N/A	1.1E-04	mg/kg-day	4.0E-04	mg/kg-day	2.7E-01
				Arsenic	3E+00	mg/kg	5.6E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.4E-07	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5.2E-03
				Chromium	1E+03	mg/kg	3.7E-04	mg/kg-day	N/A	N/A	N/A	1.0E-03	mg/kg-day	1.5E+00	mg/kg-day	6.8E-04
				Chromium, Hexavalent	6E+01	mg/kg	1.8E-05	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	9.0E-06	5.0E-05	mg/kg-day	3.0E-03	mg/kg-day	1.7E-02
				Cobalt	9E+00	mg/kg	2.8E-06	mg/kg-day	N/A	N/A	N/A	7.8E-06	mg/kg-day	3.0E-04	mg/kg-day	2.6E-02
				Copper	1E+02	mg/kg	3.1E-05	mg/kg-day	N/A	N/A	N/A	8.6E-05	mg/kg-day	4.0E-02	mg/kg-day	2.2E-03
				Cyanide	2E-01	mg/kg	7.3E-08	mg/kg-day	N/A	N/A	N/A	2.1E-07	mg/kg-day	1.0E-03	mg/kg-day	2.1E-04
				Iron	1E+04	mg/kg	4.0E-03	mg/kg-day	N/A	N/A	N/A	1.1E-02	mg/kg-day	7.0E-01	mg/kg-day	1.6E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	8.8E-05	mg/kg-day	N/A	N/A	N/A	2.5E-04	mg/kg-day	2.4E-02	mg/kg-day	1.0E-02
				Nickel	1E+01	mg/kg	4.0E-06	mg/kg-day	N/A	N/A	N/A	1.1E-05	mg/kg-day	2.0E-02	mg/kg-day	5.6E-04
				Silver	5E-01	mg/kg	1.6E-07	mg/kg-day	N/A	N/A	N/A	4.6E-07	mg/kg-day	5.0E-03	mg/kg-day	9.2E-05
				Thallium	2E+00	mg/kg	6.4E-07	mg/kg-day	N/A	N/A	N/A	1.8E-06	mg/kg-day	1.0E-05	mg/kg-day	1.8E-01
				Vanadium	2E+01	mg/kg	5.6E-06	mg/kg-day	N/A	N/A	N/A	1.6E-05	mg/kg-day	5.0E-03	mg/kg-day	3.1E-03
			Exp. Route Total								1E-05					5E-01

TABLE 7.11.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	2.7E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.7E-08	7.7E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	2.3E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	2.3E-07	6.4E-07	mg/kg-day	3.0E-04	mg/kg-day	2.1E-03
				Benzo(b)fluoranthene	9E-01	mg/kg	1.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.6E-08	4.4E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	1.3E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.3E-09	3.6E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	3.5E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	7.0E-10	9.8E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	1.9E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.9E-08	5.3E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	1.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.1E-08	3.2E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	2.4E-08	mg/kg-day	N/A	N/A	N/A	6.6E-08	mg/kg-day	2.0E-02	mg/kg-day	3.3E-06
				4,4'-DDT	2E+00	mg/kg	9.3E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	3.2E-08	2.6E-07	mg/kg-day	5.0E-04	mg/kg-day	5.2E-04
				Endrin aldehyde	3E+00	mg/kg	3.5E-07	mg/kg-day	N/A	N/A	N/A	9.8E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	1.2E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.8E-07	3.3E-07	mg/kg-day	3.0E-04	mg/kg-day	1.1E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	6E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	9E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	5E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								5E-07					4E-03

TABLE 7.11.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	2.8E-09	ug/m3	4.1E-06	(ug/m3) $^{-1}$	1.2E-14	7.9E-09	ug/m3	2.0E+00	ug/m3	3.9E-09
				Benzo(a)anthracene	2E+00	mg/kg	9.7E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	5.8E-12	2.7E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	8.1E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	4.9E-11	2.3E-07	ug/m3	2.0E-03	ug/m3	1.1E-04
				Benzo(b)fluoranthene	9E-01	mg/kg	5.6E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	3.4E-12	1.6E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	4.6E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	2.8E-13	1.3E-07	ug/m3	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	1.6E-08	ug/m3	N/A	N/A	N/A	4.5E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	6.7E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	4.0E-12	1.9E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	4.1E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	2.4E-12	1.1E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	8.4E-09	ug/m3	3.4E-05	(ug/m3) $^{-1}$	2.9E-13	2.4E-08	ug/m3	3.0E+00	ug/m3	7.8E-09
				4,4'-DDT	2E+00	mg/kg	1.4E-07	ug/m3	9.7E-05	(ug/m3) $^{-1}$	1.4E-11	4.0E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	3E+00	mg/kg	1.6E-07	ug/m3	N/A	N/A	N/A	4.5E-07	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	5.7E-04	ug/m3	N/A	N/A	N/A	1.6E-03	ug/m3	5.0E+00	ug/m3	3.2E-04
				Antimony	1E+02	mg/kg	7.6E-06	ug/m3	N/A	N/A	N/A	2.1E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	1.8E-07	ug/m3	4.3E-03	(ug/m3) $^{-1}$	7.9E-10	5.1E-07	ug/m3	1.5E-02	ug/m3	3.4E-05
				Chromium	1E+03	mg/kg	7.2E-05	ug/m3	N/A	N/A	N/A	2.0E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	6E+01	mg/kg	3.5E-06	ug/m3	8.4E-02	(ug/m3) $^{-1}$	3.0E-07	9.9E-06	ug/m3	1.0E-01	ug/m3	9.9E-05
				Cobalt	9E+00	mg/kg	5.5E-07	ug/m3	9.0E-03	(ug/m3) $^{-1}$	4.9E-09	1.5E-06	ug/m3	6.0E-03	ug/m3	2.6E-04
				Copper	1E+02	mg/kg	6.0E-06	ug/m3	N/A	N/A	N/A	1.7E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	1.4E-08	ug/m3	N/A	N/A	N/A	4.0E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	7.8E-04	ug/m3	N/A	N/A	N/A	2.2E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.7E-05	ug/m3	N/A	N/A	N/A	4.8E-05	ug/m3	5.0E-02	ug/m3	9.6E-04
				Nickel	1E+01	mg/kg	7.9E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	2.1E-10	2.2E-06	ug/m3	9.0E-02	ug/m3	2.5E-05
				Silver	5E-01	mg/kg	3.2E-08	ug/m3	N/A	N/A	N/A	9.0E-08	ug/m3	N/A	N/A	N/A
				Thallium	2E+00	mg/kg	1.3E-07	ug/m3	N/A	N/A	N/A	3.5E-07	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	1.1E-06	ug/m3	N/A	N/A	N/A	3.1E-06	ug/m3	1.0E-01	ug/m3	3.1E-05
			Exp. Route Total								3E-07					2E-03
		Exposure Point Total									1E-05					6E-01
	Exposure Medium Total										N/A					N/A

TABLE 7.11.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
	Upland/Floodplain Surface/Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	1.6E-08	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	7.4E-10	4.5E-08	mg/kg-day	5.0E-04	mg/kg-day	9.0E-05
				Benzo(a)anthracene	3E+00	mg/kg	8.4E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.4E-08	2.4E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	7.0E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.0E-07	2.0E-06	mg/kg-day	3.0E-04	mg/kg-day	6.5E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	7.4E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.4E-08	2.1E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	5.7E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	5.7E-09	1.6E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	7.6E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.5E-09	2.1E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	1.8E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.8E-07	4.9E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	4.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.3E-08	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	7.6E-08	mg/kg-day	N/A	N/A	N/A	2.1E-07	mg/kg-day	2.0E-02	mg/kg-day	1.1E-05
				4,4'-DDT	2E+00	mg/kg	4.8E-07	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	1.6E-07	1.3E-06	mg/kg-day	5.0E-04	mg/kg-day	2.7E-03
				Endrin aldehyde	2E+00	mg/kg	5.4E-07	mg/kg-day	N/A	N/A	N/A	1.5E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	2.8E-03	mg/kg-day	N/A	N/A	N/A	7.9E-03	mg/kg-day	1.0E+00	mg/kg-day	7.9E-03
				Antimony	9E+01	mg/kg	2.6E-05	mg/kg-day	N/A	N/A	N/A	7.3E-05	mg/kg-day	4.0E-04	mg/kg-day	1.8E-01
				Arsenic	3E+00	mg/kg	5.8E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	8.8E-07	1.6E-06	mg/kg-day	3.0E-04	mg/kg-day	5.5E-03
				Chromium	1E+03	mg/kg	3.5E-04	mg/kg-day	N/A	N/A	N/A	9.9E-04	mg/kg-day	1.5E+00	mg/kg-day	6.6E-04
				Chromium, Hexavalent	1E+02	mg/kg	3.1E-05	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.5E-05	8.7E-05	mg/kg-day	3.0E-03	mg/kg-day	2.9E-02
				Cobalt	1E+02	mg/kg	4.5E-05	mg/kg-day	N/A	N/A	N/A	1.3E-04	mg/kg-day	3.0E-04	mg/kg-day	4.2E-01
				Copper	2E+02	mg/kg	4.7E-05	mg/kg-day	N/A	N/A	N/A	1.3E-04	mg/kg-day	4.0E-02	mg/kg-day	3.3E-03
				Cyanide	2E-01	mg/kg	6.4E-08	mg/kg-day	N/A	N/A	N/A	1.8E-07	mg/kg-day	1.0E-03	mg/kg-day	1.8E-04
				Iron	1E+04	mg/kg	4.1E-03	mg/kg-day	N/A	N/A	N/A	1.2E-02	mg/kg-day	7.0E-01	mg/kg-day	1.7E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	9.0E-05	mg/kg-day	N/A	N/A	N/A	2.5E-04	mg/kg-day	2.4E-02	mg/kg-day	1.1E-02
				Nickel	1E+01	mg/kg	3.8E-06	mg/kg-day	N/A	N/A	N/A	1.1E-05	mg/kg-day	2.0E-02	mg/kg-day	5.3E-04
				Silver	2E+00	mg/kg	5.6E-07	mg/kg-day	N/A	N/A	N/A	1.6E-06	mg/kg-day	5.0E-03	mg/kg-day	3.1E-04
				Thallium	8E-01	mg/kg	2.6E-07	mg/kg-day	N/A	N/A	N/A	7.2E-07	mg/kg-day	1.0E-05	mg/kg-day	7.2E-02
				Vanadium	2E+01	mg/kg	5.4E-06	mg/kg-day	N/A	N/A	N/A	1.5E-05	mg/kg-day	5.0E-03	mg/kg-day	3.0E-03
			Exp. Route Total								2E-05					8E-01

TABLE 7.11.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	3E+00	mg/kg	4.6E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.6E-08	1.3E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	3.8E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.8E-07	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	3.6E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	4.1E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.1E-08	1.1E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	3.1E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	3.1E-09	8.7E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	3.2E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	6.4E-10	9.0E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	9.7E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	9.7E-08	2.7E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	2.4E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.4E-08	6.6E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	4.2E-08	mg/kg-day	N/A	N/A	N/A	1.2E-07	mg/kg-day	2.0E-02	mg/kg-day	5.9E-06
				4,4'-DDT	2E+00	mg/kg	6.1E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.1E-08	1.7E-07	mg/kg-day	5.0E-04	mg/kg-day	3.4E-04
				Endrin aldehyde	2E+00	mg/kg	2.3E-07	mg/kg-day	N/A	N/A	N/A	6.4E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	1.2E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.9E-07	3.5E-07	mg/kg-day	3.0E-04	mg/kg-day	1.2E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	1E+02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	8E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								8E-07					5E-03

TABLE 7.11.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	3.1E-09	ug/m3	4.1E-06	(ug/m3) $^{-1}$	1.3E-14	8.8E-09	ug/m3	2.0E+00	ug/m3	4.4E-09
				Benzo(a)anthracene	3E+00	mg/kg	1.6E-07	ug/m3	6.0E-05	(ug/m3) $^{-1}$	9.9E-12	4.6E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.4E-07	ug/m3	6.0E-04	(ug/m3) $^{-1}$	8.2E-11	3.8E-07	ug/m3	2.0E-03	ug/m3	1.9E-04
				Benzo(b)fluoranthene	2E+00	mg/kg	1.5E-07	ug/m3	6.0E-05	(ug/m3) $^{-1}$	8.7E-12	4.1E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	1.1E-07	ug/m3	6.0E-06	(ug/m3) $^{-1}$	6.7E-13	3.1E-07	ug/m3	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	1.5E-08	ug/m3	N/A	N/A	N/A	4.1E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	3.5E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	2.1E-11	9.7E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	8.4E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	5.1E-12	2.4E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	1.5E-08	ug/m3	3.4E-05	(ug/m3) $^{-1}$	5.1E-13	4.2E-08	ug/m3	3.0E+00	ug/m3	1.4E-08
				4,4'-DDT	2E+00	mg/kg	9.4E-08	ug/m3	9.7E-05	(ug/m3) $^{-1}$	9.1E-12	2.6E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	2E+00	mg/kg	1.1E-07	ug/m3	N/A	N/A	N/A	3.0E-07	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	5.5E-04	ug/m3	N/A	N/A	N/A	1.5E-03	ug/m3	5.0E+00	ug/m3	3.1E-04
				Antimony	9E+01	mg/kg	5.1E-06	ug/m3	N/A	N/A	N/A	1.4E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	1.9E-07	ug/m3	4.3E-03	(ug/m3) $^{-1}$	8.2E-10	5.3E-07	ug/m3	1.5E-02	ug/m3	3.6E-05
				Chromium	1E+03	mg/kg	7.0E-05	ug/m3	N/A	N/A	N/A	1.9E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	1E+02	mg/kg	6.1E-06	ug/m3	8.4E-02	(ug/m3) $^{-1}$	5.1E-07	1.7E-05	ug/m3	1.0E-01	ug/m3	1.7E-04
				Cobalt	1E+02	mg/kg	8.8E-06	ug/m3	9.0E-03	(ug/m3) $^{-1}$	7.9E-08	2.5E-05	ug/m3	6.0E-03	ug/m3	4.1E-03
				Copper	2E+02	mg/kg	9.3E-06	ug/m3	N/A	N/A	N/A	2.6E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	1.3E-08	ug/m3	N/A	N/A	N/A	3.5E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	8.1E-04	ug/m3	N/A	N/A	N/A	2.3E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.8E-05	ug/m3	N/A	N/A	N/A	5.0E-05	ug/m3	5.0E-02	ug/m3	9.9E-04
				Nickel	1E+01	mg/kg	7.5E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	1.9E-10	2.1E-06	ug/m3	9.0E-02	ug/m3	2.3E-05
				Silver	2E+00	mg/kg	1.1E-07	ug/m3	N/A	N/A	N/A	3.1E-07	ug/m3	N/A	N/A	N/A
				Thallium	8E-01	mg/kg	5.1E-08	ug/m3	N/A	N/A	N/A	1.4E-07	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	1.1E-06	ug/m3	N/A	N/A	N/A	3.0E-06	ug/m3	1.0E-01	ug/m3	3.0E-05
			Exp. Route Total								6E-07					6E-03
		Exposure Point Total									2E-05					8E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

Notes

(1) A relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

TABLE 7.11.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	2.6E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.2E-10	2.0E-08	mg/kg-day	5.0E-04	mg/kg-day	4.0E-05
				Benzo(a)anthracene	2E+00	mg/kg	9.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	9.0E-09	7.0E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	7.4E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	7.4E-08	5.8E-07	mg/kg-day	3.0E-04	mg/kg-day	1.9E-03
				Benzo(b)fluoranthene	9E-01	mg/kg	5.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.2E-09	4.0E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	4.2E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	4.2E-10	3.3E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	1.5E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	3.0E-10	1.2E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	6.2E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.2E-09	4.8E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	3.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.7E-09	2.9E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	7.7E-09	mg/kg-day	N/A	N/A	N/A	6.0E-08	mg/kg-day	2.0E-02	mg/kg-day	3.0E-06
				4,4'-DDT	3E-01	mg/kg	1.7E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	5.9E-09	1.4E-07	mg/kg-day	5.0E-04	mg/kg-day	2.7E-04
				Endrin aldehyde	3E-01	mg/kg	1.9E-08	mg/kg-day	N/A	N/A	N/A	1.5E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	5.2E-04	mg/kg-day	N/A	N/A	N/A	4.1E-03	mg/kg-day	1.0E+00	mg/kg-day	4.1E-03
				Antimony	1E+02	mg/kg	7.0E-06	mg/kg-day	N/A	N/A	N/A	5.4E-05	mg/kg-day	4.0E-04	mg/kg-day	1.4E-01
				Arsenic	3E+00	mg/kg	1.0E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.5E-07	7.9E-07	mg/kg-day	3.0E-04	mg/kg-day	2.6E-03
				Chromium	1E+03	mg/kg	6.6E-05	mg/kg-day	N/A	N/A	N/A	5.1E-04	mg/kg-day	1.5E+00	mg/kg-day	3.4E-04
				Chromium, Hexavalent	6E+01	mg/kg	3.2E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.6E-06	2.5E-05	mg/kg-day	3.0E-03	mg/kg-day	8.4E-03
				Cobalt	9E+00	mg/kg	5.0E-07	mg/kg-day	N/A	N/A	N/A	3.9E-06	mg/kg-day	3.0E-04	mg/kg-day	1.3E-02
				Copper	1E+02	mg/kg	5.5E-06	mg/kg-day	N/A	N/A	N/A	4.3E-05	mg/kg-day	4.0E-02	mg/kg-day	1.1E-03
				Cyanide	2E-01	mg/kg	1.3E-08	mg/kg-day	N/A	N/A	N/A	1.0E-07	mg/kg-day	1.0E-03	mg/kg-day	1.0E-04
				Iron	1E+04	mg/kg	7.2E-04	mg/kg-day	N/A	N/A	N/A	5.6E-03	mg/kg-day	7.0E-01	mg/kg-day	8.0E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.6E-05	mg/kg-day	N/A	N/A	N/A	1.2E-04	mg/kg-day	2.4E-02	mg/kg-day	5.1E-03
				Nickel	1E+01	mg/kg	7.3E-07	mg/kg-day	N/A	N/A	N/A	5.6E-06	mg/kg-day	2.0E-02	mg/kg-day	2.8E-04
				Silver	5E-01	mg/kg	3.0E-08	mg/kg-day	N/A	N/A	N/A	2.3E-07	mg/kg-day	5.0E-03	mg/kg-day	4.6E-05
				Thallium	1E+00	mg/kg	6.3E-08	mg/kg-day	N/A	N/A	N/A	4.9E-07	mg/kg-day	1.0E-05	mg/kg-day	4.9E-02
				Vanadium	2E+01	mg/kg	1.0E-06	mg/kg-day	N/A	N/A	N/A	7.8E-06	mg/kg-day	5.0E-03	mg/kg-day	1.6E-03
			Exp. Route Total								2E-06					2E-01

TABLE 7.11.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	2E+00	mg/kg	4.9E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.9E-09	3.8E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	4.1E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.1E-08	3.2E-07	mg/kg-day	3.0E-04	mg/kg-day	1.1E-03
				Benzo(b)fluoranthene	9E-01	mg/kg	2.8E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.8E-09	2.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	2.3E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	2.3E-10	1.8E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	6.3E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.3E-10	4.9E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	3.4E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.4E-09	2.6E-08	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	2.1E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.1E-09	1.6E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	4.2E-09	mg/kg-day	N/A	N/A	N/A	3.3E-08	mg/kg-day	2.0E-02	mg/kg-day	1.6E-06
				4,4'-DDT	3E-01	mg/kg	2.2E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	7.5E-10	1.7E-08	mg/kg-day	5.0E-04	mg/kg-day	3.4E-05
				Endrin aldehyde	3E-01	mg/kg	8.0E-09	mg/kg-day	N/A	N/A	N/A	6.3E-08	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	2.1E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.2E-08	1.7E-07	mg/kg-day	3.0E-04	mg/kg-day	5.5E-04
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	6E+01	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	9E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	5E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	1E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								9E-08					2E-03

TABLE 7.11.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	5.1E-10	ug/m3	4.1E-06	(ug/m3) $^{-1}$	2.1E-15	3.9E-09	ug/m3	2.0E+00	ug/m3	2.0E-09
				Benzo(a)anthracene	2E+00	mg/kg	1.8E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.1E-12	1.4E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	1E+00	mg/kg	1.5E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	8.7E-12	1.1E-07	ug/m3	2.0E-03	ug/m3	5.7E-05
				Benzo(b)fluoranthene	9E-01	mg/kg	1.0E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	6.1E-13	7.9E-08	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	8E-01	mg/kg	8.3E-09	ug/m3	6.0E-06	(ug/m3) $^{-1}$	5.0E-14	6.5E-08	ug/m3	N/A	N/A	N/A
				Carbazole	3E-01	mg/kg	2.9E-09	ug/m3	N/A	N/A	N/A	2.3E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	1E-01	mg/kg	1.2E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	7.3E-13	9.4E-09	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	7E-01	mg/kg	7.3E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	4.4E-13	5.7E-08	ug/m3	N/A	N/A	N/A
				Naphthalene	1E-01	mg/kg	1.5E-09	ug/m3	3.4E-05	(ug/m3) $^{-1}$	5.1E-14	1.2E-08	ug/m3	3.0E+00	ug/m3	3.9E-09
				4,4'-DDT	3E-01	mg/kg	3.4E-09	ug/m3	9.7E-05	(ug/m3) $^{-1}$	3.3E-13	2.7E-08	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	3E-01	mg/kg	3.7E-09	ug/m3	N/A	N/A	N/A	2.9E-08	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.0E-04	ug/m3	N/A	N/A	N/A	7.9E-04	ug/m3	5.0E+00	ug/m3	1.6E-04
				Antimony	1E+02	mg/kg	1.4E-06	ug/m3	N/A	N/A	N/A	1.1E-05	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	3.3E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	1.4E-10	2.6E-07	ug/m3	1.5E-02	ug/m3	1.7E-05
				Chromium	1E+03	mg/kg	1.3E-05	ug/m3	N/A	N/A	N/A	1.0E-04	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	6E+01	mg/kg	6.3E-07	ug/m3	8.4E-02	(ug/m3) $^{-1}$	5.3E-08	4.9E-06	ug/m3	1.0E-01	ug/m3	4.9E-05
				Cobalt	9E+00	mg/kg	9.9E-08	ug/m3	9.0E-03	(ug/m3) $^{-1}$	8.9E-10	7.7E-07	ug/m3	6.0E-03	ug/m3	1.3E-04
				Copper	1E+02	mg/kg	1.1E-06	ug/m3	N/A	N/A	N/A	8.5E-06	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	2.6E-09	ug/m3	N/A	N/A	N/A	2.0E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	1.4E-04	ug/m3	N/A	N/A	N/A	1.1E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	3.1E-06	ug/m3	N/A	N/A	N/A	2.4E-05	ug/m3	5.0E-02	ug/m3	4.8E-04
				Nickel	1E+01	mg/kg	1.4E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	3.7E-11	1.1E-06	ug/m3	9.0E-02	ug/m3	1.2E-05
				Silver	5E-01	mg/kg	5.8E-09	ug/m3	N/A	N/A	N/A	4.5E-08	ug/m3	N/A	N/A	N/A
				Thallium	1E+00	mg/kg	1.2E-08	ug/m3	N/A	N/A	N/A	9.7E-08	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	2.0E-07	ug/m3	N/A	N/A	N/A	1.5E-06	ug/m3	1.0E-01	ug/m3	1.5E-05
			Exp. Route Total								5E-08					9E-04
		Exposure Point Total									2E-06					2E-01
	Exposure Medium Total										N/A					N/A

TABLE 7.11.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
	Upland/Floodplain Surface/Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	2.9E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.3E-10	2.2E-08	mg/kg-day	5.0E-04	mg/kg-day	4.5E-05
				Benzo(a)anthracene	3E+00	mg/kg	1.5E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.5E-08	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.3E-07	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.3E-07	9.8E-07	mg/kg-day	3.0E-04	mg/kg-day	3.3E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	1.3E-07	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.3E-08	1.0E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	1.0E-07	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.0E-09	7.9E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	1.4E-08	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	2.7E-10	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	3.2E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	3.2E-08	2.5E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	7.7E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.7E-09	6.0E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	1.4E-08	mg/kg-day	N/A	N/A	N/A	1.1E-07	mg/kg-day	2.0E-02	mg/kg-day	5.3E-06
				4,4'-DDT	2E+00	mg/kg	8.6E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	2.9E-08	6.7E-07	mg/kg-day	5.0E-04	mg/kg-day	1.3E-03
				Endrin aldehyde	2E+00	mg/kg	9.8E-08	mg/kg-day	N/A	N/A	N/A	7.6E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	5.1E-04	mg/kg-day	N/A	N/A	N/A	3.9E-03	mg/kg-day	1.0E+00	mg/kg-day	3.9E-03
				Antimony	9E+01	mg/kg	4.7E-06	mg/kg-day	N/A	N/A	N/A	3.7E-05	mg/kg-day	4.0E-04	mg/kg-day	9.1E-02
				Arsenic	3E+00	mg/kg	1.1E-07	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	1.6E-07	8.2E-07	mg/kg-day	3.0E-04	mg/kg-day	2.7E-03
				Chromium	1E+03	mg/kg	6.4E-05	mg/kg-day	N/A	N/A	N/A	5.0E-04	mg/kg-day	1.5E+00	mg/kg-day	3.3E-04
				Chromium, Hexavalent	1E+02	mg/kg	5.6E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	2.8E-06	4.3E-05	mg/kg-day	3.0E-03	mg/kg-day	1.4E-02
				Cobalt	1E+02	mg/kg	8.1E-06	mg/kg-day	N/A	N/A	N/A	6.3E-05	mg/kg-day	3.0E-04	mg/kg-day	2.1E-01
				Copper	2E+02	mg/kg	8.5E-06	mg/kg-day	N/A	N/A	N/A	6.6E-05	mg/kg-day	4.0E-02	mg/kg-day	1.7E-03
				Cyanide	2E-01	mg/kg	1.2E-08	mg/kg-day	N/A	N/A	N/A	8.9E-08	mg/kg-day	1.0E-03	mg/kg-day	8.9E-05
				Iron	1E+04	mg/kg	7.4E-04	mg/kg-day	N/A	N/A	N/A	5.8E-03	mg/kg-day	7.0E-01	mg/kg-day	8.3E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.6E-05	mg/kg-day	N/A	N/A	N/A	1.3E-04	mg/kg-day	2.4E-02	mg/kg-day	5.3E-03
				Nickel	1E+01	mg/kg	6.9E-07	mg/kg-day	N/A	N/A	N/A	5.3E-06	mg/kg-day	2.0E-02	mg/kg-day	2.7E-04
				Silver	2E+00	mg/kg	1.0E-07	mg/kg-day	N/A	N/A	N/A	7.8E-07	mg/kg-day	5.0E-03	mg/kg-day	1.6E-04
				Thallium	8E-01	mg/kg	4.7E-08	mg/kg-day	N/A	N/A	N/A	3.6E-07	mg/kg-day	1.0E-05	mg/kg-day	3.6E-02
				Vanadium	2E+01	mg/kg	9.7E-07	mg/kg-day	N/A	N/A	N/A	7.6E-06	mg/kg-day	5.0E-03	mg/kg-day	1.5E-03
			Exp. Route Total								3E-06					4E-01

TABLE 7.11.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	3E+00	mg/kg	8.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.3E-09	6.5E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	6.9E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.9E-08	5.4E-07	mg/kg-day	3.0E-04	mg/kg-day	1.8E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	7.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.3E-09	5.7E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	5.6E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	5.6E-10	4.4E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	5.8E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.2E-10	4.5E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	1.8E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.8E-08	1.4E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	4.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.3E-09	3.3E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	7.5E-09	mg/kg-day	N/A	N/A	N/A	5.9E-08	mg/kg-day	2.0E-02	mg/kg-day	2.9E-06
				4,4'-DDT	2E+00	mg/kg	1.1E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	3.7E-09	8.5E-08	mg/kg-day	5.0E-04	mg/kg-day	1.7E-04
				Endrin aldehyde	2E+00	mg/kg	4.1E-08	mg/kg-day	N/A	N/A	N/A	3.2E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	2.2E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.3E-08	1.7E-07	mg/kg-day	3.0E-04	mg/kg-day	5.8E-04
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	1E+02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	7.5E-05	mg/kg-day	N/A
				Cobalt	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Copper	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-03	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	8E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5.0E-03	mg/kg-day	N/A
			Exp. Route Total								1E-07					3E-03

TABLE 7.11.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	5.6E-10	ug/m3	4.1E-06	(ug/m3) $^{-1}$	2.3E-15	4.4E-09	ug/m3	2.0E+00	ug/m3	2.2E-09
				Benzo(a)anthracene	3E+00	mg/kg	3.0E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.8E-12	2.3E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	2.5E-08	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.5E-11	1.9E-07	ug/m3	2.0E-03	ug/m3	9.6E-05
				Benzo(b)fluoranthene	2E+00	mg/kg	2.6E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.6E-12	2.0E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	2.0E-08	ug/m3	6.0E-06	(ug/m3) $^{-1}$	1.2E-13	1.6E-07	ug/m3	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	2.7E-09	ug/m3	N/A	N/A	N/A	2.1E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	6.2E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	3.7E-12	4.9E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.5E-08	ug/m3	6.0E-05	(ug/m3) $^{-1}$	9.1E-13	1.2E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	2.7E-09	ug/m3	3.4E-05	(ug/m3) $^{-1}$	9.1E-14	2.1E-08	ug/m3	3.0E+00	ug/m3	7.0E-09
				4,4'-DDT	2E+00	mg/kg	1.7E-08	ug/m3	9.7E-05	(ug/m3) $^{-1}$	1.6E-12	1.3E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	2E+00	mg/kg	1.9E-08	ug/m3	N/A	N/A	N/A	1.5E-07	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	9.9E-05	ug/m3	N/A	N/A	N/A	7.7E-04	ug/m3	5.0E+00	ug/m3	1.5E-04
				Antimony	9E+01	mg/kg	9.2E-07	ug/m3	N/A	N/A	N/A	7.2E-06	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	3.4E-08	ug/m3	4.3E-03	(ug/m3) $^{-1}$	1.5E-10	2.7E-07	ug/m3	1.5E-02	ug/m3	1.8E-05
				Chromium	1E+03	mg/kg	1.3E-05	ug/m3	N/A	N/A	N/A	9.7E-05	ug/m3	N/A	N/A	N/A
				Chromium, Hexavalent	1E+02	mg/kg	1.1E-06	ug/m3	8.4E-02	(ug/m3) $^{-1}$	9.2E-08	8.5E-06	ug/m3	1.0E-01	ug/m3	8.5E-05
				Cobalt	1E+02	mg/kg	1.6E-06	ug/m3	9.0E-03	(ug/m3) $^{-1}$	1.4E-08	1.2E-05	ug/m3	6.0E-03	ug/m3	2.1E-03
				Copper	2E+02	mg/kg	1.7E-06	ug/m3	N/A	N/A	N/A	1.3E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	2.3E-09	ug/m3	N/A	N/A	N/A	1.8E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	1.5E-04	ug/m3	N/A	N/A	N/A	1.1E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	3.2E-06	ug/m3	N/A	N/A	N/A	2.5E-05	ug/m3	5.0E-02	ug/m3	5.0E-04
				Nickel	1E+01	mg/kg	1.3E-07	ug/m3	2.6E-04	(ug/m3) $^{-1}$	3.5E-11	1.0E-06	ug/m3	9.0E-02	ug/m3	1.2E-05
				Silver	2E+00	mg/kg	2.0E-08	ug/m3	N/A	N/A	N/A	1.5E-07	ug/m3	N/A	N/A	N/A
				Thallium	8E-01	mg/kg	9.1E-09	ug/m3	N/A	N/A	N/A	7.1E-08	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	1.9E-07	ug/m3	N/A	N/A	N/A	1.5E-06	ug/m3	1.0E-01	ug/m3	1.5E-05
			Exp. Route Total								1E-07					3E-03
		Exposure Point Total									3E-06					4E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
										Total of Receptor Risks Across All Media	N/A				Total of Receptor Hazards Across All Media	N/A

Notes

(1) A relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

TABLE 7.12.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Upland/Floodplain Surface/Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	1.1E-09	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	4.9E-11	7.4E-08	mg/kg-day	5.0E-04	mg/kg-day	1.5E-04
				Benzo(a)anthracene	3E+00	mg/kg	5.5E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	5.5E-09	3.9E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	4.6E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.6E-08	3.2E-06	mg/kg-day	3.0E-04	mg/kg-day	1.1E-02
				Benzo(b)fluoranthene	2E+00	mg/kg	4.9E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	4.9E-09	3.4E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	3.7E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	3.7E-10	2.6E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	5.0E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.0E-10	3.5E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	1.2E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.2E-08	8.2E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	2.8E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.8E-09	2.0E-06	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	5.0E-09	mg/kg-day	N/A	N/A	N/A	3.5E-07	mg/kg-day	6.0E-01	mg/kg-day	5.9E-07
				4,4'-DDT	2E+00	mg/kg	3.2E-08	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	1.1E-08	2.2E-06	mg/kg-day	5.0E-04	mg/kg-day	4.4E-03
				Endrin aldehyde	2E+00	mg/kg	3.6E-08	mg/kg-day	N/A	N/A	N/A	2.5E-06	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.9E-04	mg/kg-day	N/A	N/A	N/A	1.3E-02	mg/kg-day	1.0E+00	mg/kg-day	1.3E-02
				Antimony	9E+01	mg/kg	1.7E-06	mg/kg-day	N/A	N/A	N/A	1.2E-04	mg/kg-day	4.0E-04	mg/kg-day	3.0E-01
				Arsenic	3E+00	mg/kg	3.9E-08	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	5.8E-08	2.7E-06	mg/kg-day	3.0E-04	mg/kg-day	9.0E-03
				Chromium	1E+03	mg/kg	2.3E-05	mg/kg-day	N/A	N/A	N/A	1.6E-03	mg/kg-day	1.5E+00	mg/kg-day	1.1E-03
				Chromium, Hexavalent	1E+02	mg/kg	2.0E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.0E-06	1.4E-04	mg/kg-day	5.0E-03	mg/kg-day	2.9E-02
				Cobalt	1E+02	mg/kg	3.0E-06	mg/kg-day	N/A	N/A	N/A	2.1E-04	mg/kg-day	3.0E-03	mg/kg-day	6.9E-02
				Copper	2E+02	mg/kg	3.1E-06	mg/kg-day	N/A	N/A	N/A	2.2E-04	mg/kg-day	1.0E-02	mg/kg-day	2.2E-02
				Cyanide	2E-01	mg/kg	4.2E-09	mg/kg-day	N/A	N/A	N/A	3.0E-07	mg/kg-day	2.0E-02	mg/kg-day	1.5E-05
				Iron	1E+04	mg/kg	2.7E-04	mg/kg-day	N/A	N/A	N/A	1.9E-02	mg/kg-day	7.0E-01	mg/kg-day	2.7E-02
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	6.0E-06	mg/kg-day	N/A	N/A	N/A	4.2E-04	mg/kg-day	2.4E-02	mg/kg-day	1.7E-02
				Nickel	1E+01	mg/kg	2.5E-07	mg/kg-day	N/A	N/A	N/A	1.8E-05	mg/kg-day	2.0E-02	mg/kg-day	8.8E-04
				Silver	2E+00	mg/kg	3.7E-08	mg/kg-day	N/A	N/A	N/A	2.6E-06	mg/kg-day	5.0E-03	mg/kg-day	5.1E-04
				Thallium	8E-01	mg/kg	1.7E-08	mg/kg-day	N/A	N/A	N/A	1.2E-06	mg/kg-day	4.0E-05	mg/kg-day	3.0E-02
				Vanadium	2E+01	mg/kg	3.6E-07	mg/kg-day	N/A	N/A	N/A	2.5E-05	mg/kg-day	1.0E-02	mg/kg-day	2.5E-03
			Exp. Route Total								1E-06					5E-01

TABLE 7.12.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	3E+00	mg/kg	2.3E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.3E-09	1.6E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.9E-08	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.9E-08	1.3E-06	mg/kg-day	3.0E-04	mg/kg-day	4.5E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	2.0E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.0E-09	1.4E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	1.6E-08	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	1.6E-10	1.1E-06	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	1.6E-09	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	3.2E-11	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	4.9E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	4.9E-09	3.4E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.2E-08	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	1.2E-09	8.3E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	2.1E-09	mg/kg-day	N/A	N/A	N/A	1.5E-07	mg/kg-day	6.0E-01	mg/kg-day	2.4E-07
				4,4'-DDT	2E+00	mg/kg	3.0E-09	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	1.0E-09	2.1E-07	mg/kg-day	5.0E-04	mg/kg-day	4.3E-04
				Endrin aldehyde	2E+00	mg/kg	1.1E-08	mg/kg-day	N/A	N/A	N/A	8.0E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	6.2E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.3E-09	4.3E-07	mg/kg-day	3.0E-04	mg/kg-day	1.4E-03
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	1E+02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.3E-04	mg/kg-day	N/A
				Cobalt	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				Copper	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	8E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
			Exp. Route Total								4E-08					6E-03

TABLE 7.12.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	6.3E-11	ug/m3	4.1E-06	(ug/m3) $^{-1}$	2.6E-16	4.4E-09	ug/m3	2.0E+00	ug/m3	2.2E-09
				Benzo(a)anthracene	3E+00	mg/kg	3.3E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	2.0E-13	2.3E-07	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	2.7E-09	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.6E-12	1.9E-07	ug/m3	2.0E-03	ug/m3	9.6E-05
				Benzo(b)fluoranthene	2E+00	mg/kg	2.9E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.7E-13	2.0E-07	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	2.2E-09	ug/m3	6.0E-06	(ug/m3) $^{-1}$	1.3E-14	1.6E-07	ug/m3	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	3.0E-10	ug/m3	N/A	N/A	N/A	2.1E-08	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	6.9E-10	ug/m3	6.0E-04	(ug/m3) $^{-1}$	4.2E-13	4.9E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	1.7E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	1.0E-13	1.2E-07	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	3.0E-10	ug/m3	3.4E-05	(ug/m3) $^{-1}$	1.0E-14	2.1E-08	ug/m3	3.0E+00	ug/m3	7.0E-09
				4,4'-DDT	2E+00	mg/kg	1.9E-09	ug/m3	9.7E-05	(ug/m3) $^{-1}$	1.8E-13	1.3E-07	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	2E+00	mg/kg	2.1E-09	ug/m3	N/A	N/A	N/A	1.5E-07	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	1.1E-05	ug/m3	N/A	N/A	N/A	7.7E-04	ug/m3	5.0E+00	ug/m3	1.5E-04
				Antimony	9E+01	mg/kg	1.0E-07	ug/m3	N/A	N/A	N/A	7.2E-06	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	3.8E-09	ug/m3	4.3E-03	(ug/m3) $^{-1}$	1.6E-11	2.7E-07	ug/m3	1.5E-02	ug/m3	1.8E-05
				Chromium	1E+03	mg/kg	1.4E-06	ug/m3	N/A	N/A	N/A	9.7E-05	ug/m3	5.0E+00	ug/m3	1.9E-05
				Chromium, Hexavalent	1E+02	mg/kg	1.2E-07	ug/m3	8.4E-02	(ug/m3) $^{-1}$	1.0E-08	8.5E-06	ug/m3	3.0E-01	ug/m3	2.8E-05
				Cobalt	1E+02	mg/kg	1.8E-07	ug/m3	9.0E-03	(ug/m3) $^{-1}$	1.6E-09	1.2E-05	ug/m3	2.0E-02	ug/m3	6.2E-04
				Copper	2E+02	mg/kg	1.9E-07	ug/m3	N/A	N/A	N/A	1.3E-05	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	2.5E-10	ug/m3	N/A	N/A	N/A	1.8E-08	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	1.6E-05	ug/m3	N/A	N/A	N/A	1.1E-03	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	3.5E-07	ug/m3	N/A	N/A	N/A	2.5E-05	ug/m3	1.5E-01	ug/m3	1.7E-04
				Nickel	1E+01	mg/kg	1.5E-08	ug/m3	2.6E-04	(ug/m3) $^{-1}$	3.9E-12	1.0E-06	ug/m3	2.0E-01	ug/m3	5.2E-06
				Silver	2E+00	mg/kg	2.2E-09	ug/m3	N/A	N/A	N/A	1.5E-07	ug/m3	N/A	N/A	N/A
				Thallium	8E-01	mg/kg	1.0E-09	ug/m3	N/A	N/A	N/A	7.1E-08	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	2.1E-08	ug/m3	N/A	N/A	N/A	1.5E-06	ug/m3	1.0E-01	ug/m3	1.5E-05
			Exp. Route Total								1E-08					1E-03
		Exposure Point Total									1E-06					5E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A

TABLE 7.12.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Shallow Groundwater	Walton & Lonsbury Property	Ingestion													
				1,1,1-Trichloroethane	4E+02	ug/L	1.2E-06	mg/kg-day	N/A	N/A	N/A	8.7E-05	mg/kg-day	7.0E+00	mg/kg-day	1.2E-05
				1,1,2-Trichloroethane	5E-01	ug/L	1.6E-09	mg/kg-day	5.7E-02	(mg/kg-day)$^{-1}$	9.1E-11	1.1E-07	mg/kg-day	4.0E-03	mg/kg-day	2.8E-05
				1,1-Dichloroethane	1E+02	ug/L	3.6E-07	mg/kg-day	5.7E-03	(mg/kg-day)$^{-1}$	2.1E-09	2.5E-05	mg/kg-day	2.0E+00	mg/kg-day	1.3E-05
				1,1-Dichloroethene	8E+01	ug/L	2.4E-07	mg/kg-day	N/A	N/A	N/A	1.7E-05	mg/kg-day	9.0E-03	mg/kg-day	1.9E-03
				1,2-Dibromo-3-chloropropane	ND	ug/L	N/A	N/A	8.0E-01	(mg/kg-day)$^{-1}$	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				1,2-Dichloroethane	ND	ug/L	N/A	N/A	9.1E-02	(mg/kg-day)$^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Benzene	4E-01	ug/L	1.3E-09	mg/kg-day	5.5E-02	(mg/kg-day)$^{-1}$	7.2E-11	9.2E-08	mg/kg-day	1.0E-02	mg/kg-day	9.2E-06
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day)$^{-1}$	N/A	N/A	N/A	8.0E-03	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day)$^{-1}$	N/A	N/A	N/A	1.0E-01	mg/kg-day	N/A
				cis-1,2-Dichloroethene	1E+02	ug/L	4.2E-07	mg/kg-day	N/A	N/A	N/A	3.0E-05	mg/kg-day	2.0E-02	mg/kg-day	1.5E-03
				Tetrachloroethene	3E+00	ug/L	1.1E-08	mg/kg-day	2.1E-03	(mg/kg-day)$^{-1}$	2.2E-11	7.4E-07	mg/kg-day	1.0E-01	mg/kg-day	7.4E-06
				Trichloroethene	6E+00	ug/L	1.9E-08	mg/kg-day	4.6E-02	(mg/kg-day)$^{-1}$	8.9E-10	1.4E-06	mg/kg-day	5.0E-04	mg/kg-day	2.7E-03
				Vinyl chloride	3E+01	ug/L	7.7E-08	mg/kg-day	7.2E-01	(mg/kg-day)$^{-1}$	5.6E-08	5.4E-06	mg/kg-day	3.0E-03	mg/kg-day	1.8E-03
				1,4-Dioxane	5E-01	ug/L	1.5E-09	mg/kg-day	1.0E-01	(mg/kg-day)$^{-1}$	1.5E-10	1.1E-07	mg/kg-day	5.0E-01	mg/kg-day	2.2E-07
				Aluminum	5E+03	ug/L	1.4E-05	mg/kg-day	N/A	N/A	N/A	1.0E-03	mg/kg-day	1.0E+00	mg/kg-day	1.0E-03
				Antimony	2E+00	ug/L	4.7E-09	mg/kg-day	N/A	N/A	N/A	3.3E-07	mg/kg-day	4.0E-04	mg/kg-day	8.2E-04
				Arsenic	3E+00	ug/L	8.1E-09	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	1.2E-08	5.7E-07	mg/kg-day	3.0E-04	mg/kg-day	1.9E-03
				Barium	1E+02	ug/L	3.3E-07	mg/kg-day	N/A	N/A	N/A	2.3E-05	mg/kg-day	2.0E-01	mg/kg-day	1.2E-04
				Cadmium (water)	5E-01	ug/L	1.5E-09	mg/kg-day	N/A	N/A	N/A	1.1E-07	mg/kg-day	5.0E-04	mg/kg-day	2.1E-04
				Chromium	1E+04	ug/L	4.1E-05	mg/kg-day	N/A	N/A	N/A	2.9E-03	mg/kg-day	1.5E+00	mg/kg-day	1.9E-03
				Chromium, Hexavalent	4E+04	ug/L	1.1E-04	mg/kg-day	5.0E-01	(mg/kg-day)$^{-1}$	5.6E-05	7.9E-03	mg/kg-day	5.0E-03	mg/kg-day	1.6E+00
				Cobalt	3E+02	ug/L	8.7E-07	mg/kg-day	N/A	N/A	N/A	6.1E-05	mg/kg-day	3.0E-03	mg/kg-day	2.0E-02
				Copper	1E+02	ug/L	4.4E-07	mg/kg-day	N/A	N/A	N/A	3.1E-05	mg/kg-day	1.0E-02	mg/kg-day	3.1E-03
				Cyanide	6E+00	ug/L	1.8E-08	mg/kg-day	N/A	N/A	N/A	1.3E-06	mg/kg-day	2.0E-02	mg/kg-day	6.5E-05
				Iron	1E+04	ug/L	3.1E-05	mg/kg-day	N/A	N/A	N/A	2.1E-03	mg/kg-day	7.0E-01	mg/kg-day	3.1E-03
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	ug/L	1.6E-06	mg/kg-day	N/A	N/A	N/A	1.1E-04	mg/kg-day	2.4E-02	mg/kg-day	4.7E-03
				Mercury (water)	2E-01	ug/L	4.9E-10	mg/kg-day	N/A	N/A	N/A	3.4E-08	mg/kg-day	2.0E-03	mg/kg-day	1.7E-05
				Nickel	1E+01	ug/L	3.2E-08	mg/kg-day	N/A	N/A	N/A	2.3E-06	mg/kg-day	2.0E-02	mg/kg-day	1.1E-04
				Vanadium	9E+00	ug/L	2.7E-08	mg/kg-day	N/A	N/A	N/A	1.9E-06	mg/kg-day	1.0E-02	mg/kg-day	1.9E-04
			Exp. Route Total								6E-05					2E+00

TABLE 7.12.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				1,1,1-Trichloroethane	4E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E+00	mg/kg-day	N/A
				1,1,2-Trichloroethane	5E-01	ug/L	N/A	N/A	5.7E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	4.0E-03	mg/kg-day	N/A
				1,1-Dichloroethane	1E+02	ug/L	N/A	N/A	5.7E-03	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E+00	mg/kg-day	N/A
				1,1-Dichloroethene	8E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.0E-03	mg/kg-day	N/A
				1,2-Dibromo-3-chloropropane	ND	ug/L	N/A	N/A	8.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				1,2-Dichloroethane	ND	ug/L	N/A	N/A	9.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Benzene	4E-01	ug/L	N/A	N/A	5.5E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	8.0E-03	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-01	mg/kg-day	N/A
				cis-1,2-Dichloroethene	1E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Tetrachloroethene	3E+00	ug/L	6.5E-08	mg/kg-day	2.1E-03	(mg/kg-day) $^{-1}$	1.4E-10	4.5E-06	mg/kg-day	1.0E-01	mg/kg-day	4.5E-05
				Trichloroethene	6E+00	ug/L	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Vinyl chloride	3E+01	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-01	mg/kg-day	N/A
				Aluminum	5E+03	ug/L	1.0E-06	mg/kg-day	N/A	N/A	N/A	7.1E-05	mg/kg-day	1.0E+00	mg/kg-day	7.1E-05
				Antimony	2E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Barium	1E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4E-02	mg/kg-day	N/A
				Cadmium (water)	5E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.5E-05	mg/kg-day	N/A
				Chromium	1E+04	ug/L	2.9E-06	mg/kg-day	N/A	N/A	N/A	2.0E-04	mg/kg-day	2.0E-02	mg/kg-day	1.0E-02
				Chromium, Hexavalent	4E+04	ug/L	1.6E-05	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	3.2E-04	1.1E-03	mg/kg-day	1.3E-04	mg/kg-day	8.9E+00
				Cobalt	3E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				Copper	1E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				Cyanide	6E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Iron	1E+04	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (water)	2E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4E-04	mg/kg-day	N/A
				Nickel	1E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Vanadium	9E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
			Exp. Route Total								3E-04					9E+00
		Exposure Point Total									4E-04					1E+01

TABLE 7.12.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Off-Property Areas	Ingestion													
				1,1,1-Trichloroethane	5E+02	ug/L	1.4E-06	mg/kg-day	N/A	N/A	N/A	1.0E-04	mg/kg-day	7.0E+00	mg/kg-day	1.4E-05
				1,1,2-Trichloroethane	ND	ug/L	N/A	N/A	5.7E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	4.0E-03	mg/kg-day	N/A
				1,1-Dichloroethane	3E+02	ug/L	9.6E-07	mg/kg-day	5.7E-03	(mg/kg-day) $^{-1}$	5.4E-09	6.7E-05	mg/kg-day	2.0E+00	mg/kg-day	3.3E-05
				1,1-Dichloroethene	6E+01	ug/L	1.9E-07	mg/kg-day	N/A	N/A	N/A	1.3E-05	mg/kg-day	9.0E-03	mg/kg-day	1.5E-03
				1,2-Dibromo-3-chloropropane	ND	ug/L	N/A	N/A	8.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				1,2-Dichloroethane	ND	ug/L	N/A	N/A	9.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Benzene	3E-01	ug/L	9.4E-10	mg/kg-day	5.5E-02	(mg/kg-day) $^{-1}$	5.2E-11	6.6E-08	mg/kg-day	1.0E-02	mg/kg-day	6.6E-06
				Bromodichloromethane	6E-01	ug/L	1.7E-09	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	1.0E-10	1.2E-07	mg/kg-day	8.0E-03	mg/kg-day	1.5E-05
				Chloroform	1E+00	ug/L	4.0E-09	mg/kg-day	3.1E-02	(mg/kg-day) $^{-1}$	1.2E-10	2.8E-07	mg/kg-day	1.0E-01	mg/kg-day	2.8E-06
				cis-1,2-Dichloroethene	1E+02	ug/L	3.3E-07	mg/kg-day	N/A	N/A	N/A	2.3E-05	mg/kg-day	2.0E-02	mg/kg-day	1.2E-03
				Tetrachloroethene	3E+00	ug/L	1.0E-08	mg/kg-day	2.1E-03	(mg/kg-day) $^{-1}$	2.1E-11	7.1E-07	mg/kg-day	1.0E-01	mg/kg-day	7.1E-06
				Trichloroethene	3E+02	ug/L	8.4E-07	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	3.9E-08	5.9E-05	mg/kg-day	5.0E-04	mg/kg-day	1.2E-01
				Vinyl chloride	3E+00	ug/L	8.4E-09	mg/kg-day	7.2E-01	(mg/kg-day) $^{-1}$	6.1E-09	5.9E-07	mg/kg-day	3.0E-03	mg/kg-day	2.0E-04
				1,4-Dioxane	3E+00	ug/L	8.7E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	8.7E-10	6.1E-07	mg/kg-day	5.0E-01	mg/kg-day	1.2E-06
				Aluminum	4E+03	ug/L	1.1E-05	mg/kg-day	N/A	N/A	N/A	8.0E-04	mg/kg-day	1.0E+00	mg/kg-day	8.0E-04
				Antimony	1E+00	ug/L	2.9E-09	mg/kg-day	N/A	N/A	N/A	2.0E-07	mg/kg-day	4.0E-04	mg/kg-day	5.1E-04
				Arsenic	2E+00	ug/L	6.1E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	9.1E-09	4.2E-07	mg/kg-day	3.0E-04	mg/kg-day	1.4E-03
				Barium	2E+02	ug/L	5.0E-07	mg/kg-day	N/A	N/A	N/A	3.5E-05	mg/kg-day	2.0E-01	mg/kg-day	1.8E-04
				Cadmium (water)	7E-01	ug/L	2.2E-09	mg/kg-day	N/A	N/A	N/A	1.5E-07	mg/kg-day	5.0E-04	mg/kg-day	3.1E-04
				Chromium	6E+03	ug/L	1.8E-05	mg/kg-day	N/A	N/A	N/A	1.3E-03	mg/kg-day	1.5E+00	mg/kg-day	8.5E-04
				Chromium, Hexavalent	2E+03	ug/L	7.0E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	3.5E-06	4.9E-04	mg/kg-day	5.0E-03	mg/kg-day	9.8E-02
				Cobalt	9E+01	ug/L	2.7E-07	mg/kg-day	N/A	N/A	N/A	1.9E-05	mg/kg-day	3.0E-03	mg/kg-day	6.3E-03
				Copper	3E+01	ug/L	8.7E-08	mg/kg-day	N/A	N/A	N/A	6.1E-06	mg/kg-day	1.0E-02	mg/kg-day	6.1E-04
				Cyanide	8E+00	ug/L	2.5E-08	mg/kg-day	N/A	N/A	N/A	1.8E-06	mg/kg-day	2.0E-02	mg/kg-day	8.8E-05
				Iron	2E+04	ug/L	5.4E-05	mg/kg-day	N/A	N/A	N/A	3.8E-03	mg/kg-day	7.0E-01	mg/kg-day	5.4E-03
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	4E+03	ug/L	1.1E-05	mg/kg-day	N/A	N/A	N/A	7.5E-04	mg/kg-day	2.4E-02	mg/kg-day	3.1E-02
				Mercury (water)	5E-02	ug/L	1.4E-10	mg/kg-day	N/A	N/A	N/A	9.8E-09	mg/kg-day	2.0E-03	mg/kg-day	4.9E-06
				Nickel	1E+01	ug/L	4.2E-08	mg/kg-day	N/A	N/A	N/A	3.0E-06	mg/kg-day	2.0E-02	mg/kg-day	1.5E-04
				Vanadium	6E+00	ug/L	1.8E-08	mg/kg-day	N/A	N/A	N/A	1.3E-06	mg/kg-day	1.0E-02	mg/kg-day	1.3E-04
			Exp. Route Total								4E-06					3E-01

TABLE 7.12.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				1,1,1-Trichloroethane	5E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E+00	mg/kg-day	N/A
				1,1,2-Trichloroethane	ND	ug/L	N/A	N/A	5.7E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	4.0E-03	mg/kg-day	N/A
				1,1-Dichloroethane	3E+02	ug/L	N/A	N/A	5.7E-03	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E+00	mg/kg-day	N/A
				1,1-Dichloroethene	6E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.0E-03	mg/kg-day	N/A
				1,2-Dibromo-3-chloropropane	ND	ug/L	N/A	N/A	8.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				1,2-Dichloroethane	ND	ug/L	N/A	N/A	9.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Benzene	3E-01	ug/L	N/A	N/A	5.5E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				Bromodichloromethane	6E-01	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	8.0E-03	mg/kg-day	N/A
				Chloroform	1E+00	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-01	mg/kg-day	N/A
				cis-1,2-Dichloroethene	1E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Tetrachloroethene	3E+00	ug/L	6.2E-08	mg/kg-day	2.1E-03	(mg/kg-day) $^{-1}$	1.3E-10	4.4E-06	mg/kg-day	1.0E-01	mg/kg-day	4.4E-05
				Trichloroethene	3E+02	ug/L	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Vinyl chloride	3E+00	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	3E+00	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-01	mg/kg-day	N/A
				Aluminum	4E+03	ug/L	8.1E-07	mg/kg-day	N/A	N/A	N/A	5.7E-05	mg/kg-day	1.0E+00	mg/kg-day	5.7E-05
				Antimony	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	2E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Barium	2E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4E-02	mg/kg-day	N/A
				Cadmium (water)	7E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.5E-05	mg/kg-day	N/A
				Chromium	6E+03	ug/L	1.3E-06	mg/kg-day	N/A	N/A	N/A	9.0E-05	mg/kg-day	2.0E-02	mg/kg-day	4.6E-03
				Chromium, Hexavalent	2E+03	ug/L	9.9E-07	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	2.0E-05	6.9E-05	mg/kg-day	1.3E-04	mg/kg-day	5.5E-01
				Cobalt	9E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				Copper	3E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				Cyanide	8E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Iron	2E+04	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	4E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (water)	5E-02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4E-04	mg/kg-day	N/A
				Nickel	1E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Vanadium	6E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
			Exp. Route Total								2E-05					6E-01
		Exposure Point Total									2E-05					8E-01
	Exposure Medium Total										N/A					N/A

TABLE 7.12.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
	Trench Air	Walton & Lonsbury Property	Inhalation	1,1-Dichloroethane	3E+00	ug/m^3	4.1E-03	ug/m3	1.6E-06	(ug/m3)$^{-1}$	6.6E-09	2.9E-01	mg/kg-day	N/A	N/A	N/A
			Exp. Route Total								7E-09					0E+00
		Exposure Point Total									7E-09					0E+00
		Off-Property Areas	Inhalation	1,1-Dichloroethane	7E+00	ug/m^3	1.1E-02	ug/m3	1.6E-06	(ug/m3)$^{-1}$	1.7E-08	7.6E-01	mg/kg-day	N/A	N/A	N/A
				Trichloroethene	6E+00	ug/m^3	9.2E-03	ug/m3	4.1E-06	(ug/m3)$^{-1}$	3.8E-08	6.5E-01	mg/kg-day	2.0E+00	ug/m3	3.2E-01
			Exp. Route Total								6E-08					3E-01
		Exposure Point Total									6E-08					3E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
							Total of Receptor Risks Across All Media				N/A	Total of Receptor Hazards Across All Media				N/A

Notes

(1) A relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

TABLE 7.12.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Upland/Floodplain Surface/Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Ingestion													
				Trichloroethene	5E-02	mg/kg	3.4E-10	mg/kg-day	4.6E-02	(mg/kg-day)$^{-1}$	1.6E-11	2.4E-08	mg/kg-day	5.0E-04	mg/kg-day	4.7E-05
				Benzo(a)anthracene	3E+00	mg/kg	1.8E-08	mg/kg-day	1.0E-01	(mg/kg-day)$^{-1}$	1.8E-09	1.2E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	1.5E-08	mg/kg-day	1.0E+00	(mg/kg-day)$^{-1}$	1.5E-08	1.0E-06	mg/kg-day	3.0E-04	mg/kg-day	3.4E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	1.6E-08	mg/kg-day	1.0E-01	(mg/kg-day)$^{-1}$	1.6E-09	1.1E-06	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	1.2E-08	mg/kg-day	1.0E-02	(mg/kg-day)$^{-1}$	1.2E-10	8.4E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	1.6E-09	mg/kg-day	2.0E-02	(mg/kg-day)$^{-1}$	3.2E-11	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	3.7E-09	mg/kg-day	1.0E+00	(mg/kg-day)$^{-1}$	3.7E-09	2.6E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	9.1E-09	mg/kg-day	1.0E-01	(mg/kg-day)$^{-1}$	9.1E-10	6.4E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	1.6E-09	mg/kg-day	N/A	N/A	N/A	1.1E-07	mg/kg-day	6.0E-01	mg/kg-day	1.9E-07
				4,4'-DDT	2E+00	mg/kg	1.0E-08	mg/kg-day	3.4E-01	(mg/kg-day)$^{-1}$	3.4E-09	7.1E-07	mg/kg-day	5.0E-04	mg/kg-day	1.4E-03
				Endrin aldehyde	2E+00	mg/kg	1.1E-08	mg/kg-day	N/A	N/A	N/A	8.0E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	5.9E-05	mg/kg-day	N/A	N/A	N/A	4.2E-03	mg/kg-day	1.0E+00	mg/kg-day	4.2E-03
				Antimony	9E+01	mg/kg	5.5E-07	mg/kg-day	N/A	N/A	N/A	3.9E-05	mg/kg-day	4.0E-04	mg/kg-day	9.7E-02
				Arsenic	3E+00	mg/kg	1.2E-08	mg/kg-day	1.5E+00	(mg/kg-day)$^{-1}$	1.9E-08	8.6E-07	mg/kg-day	3.0E-04	mg/kg-day	2.9E-03
				Chromium	1E+03	mg/kg	7.5E-06	mg/kg-day	N/A	N/A	N/A	5.2E-04	mg/kg-day	1.5E+00	mg/kg-day	3.5E-04
				Chromium, Hexavalent	1E+02	mg/kg	6.5E-07	mg/kg-day	5.0E-01	(mg/kg-day)$^{-1}$	3.3E-07	4.6E-05	mg/kg-day	5.0E-03	mg/kg-day	9.1E-03
				Cobalt	1E+02	mg/kg	9.5E-07	mg/kg-day	N/A	N/A	N/A	6.6E-05	mg/kg-day	3.0E-03	mg/kg-day	2.2E-02
				Copper	2E+02	mg/kg	1.0E-06	mg/kg-day	N/A	N/A	N/A	7.0E-05	mg/kg-day	1.0E-02	mg/kg-day	7.0E-03
				Cyanide	2E-01	mg/kg	1.3E-09	mg/kg-day	N/A	N/A	N/A	9.4E-08	mg/kg-day	2.0E-02	mg/kg-day	4.7E-06
				Iron	1E+04	mg/kg	8.7E-05	mg/kg-day	N/A	N/A	N/A	6.1E-03	mg/kg-day	7.0E-01	mg/kg-day	8.7E-03
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.9E-06	mg/kg-day	N/A	N/A	N/A	1.3E-04	mg/kg-day	2.4E-02	mg/kg-day	5.6E-03
				Nickel	1E+01	mg/kg	8.1E-08	mg/kg-day	N/A	N/A	N/A	5.6E-06	mg/kg-day	2.0E-02	mg/kg-day	2.8E-04
				Silver	2E+00	mg/kg	1.2E-08	mg/kg-day	N/A	N/A	N/A	8.2E-07	mg/kg-day	5.0E-03	mg/kg-day	1.6E-04
				Thallium	8E-01	mg/kg	5.5E-09	mg/kg-day	N/A	N/A	N/A	3.8E-07	mg/kg-day	4.0E-05	mg/kg-day	9.5E-03
				Vanadium	2E+01	mg/kg	1.1E-07	mg/kg-day	N/A	N/A	N/A	8.0E-06	mg/kg-day	1.0E-02	mg/kg-day	8.0E-04
			Exp. Route Total								4E-07					2E-01

TABLE 7.12.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				Trichloroethene	5E-02	mg/kg	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Benzo(a)anthracene	3E+00	mg/kg	7.4E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	7.4E-10	5.2E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	6.1E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	6.1E-09	4.3E-07	mg/kg-day	3.0E-04	mg/kg-day	1.4E-03
				Benzo(b)fluoranthene	2E+00	mg/kg	6.5E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	6.5E-10	4.6E-07	mg/kg-day	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	5.0E-09	mg/kg-day	1.0E-02	(mg/kg-day) $^{-1}$	5.0E-11	3.5E-07	mg/kg-day	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	5.1E-10	mg/kg-day	2.0E-02	(mg/kg-day) $^{-1}$	1.0E-11	3.6E-08	mg/kg-day	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	1.6E-09	mg/kg-day	1.0E+00	(mg/kg-day) $^{-1}$	1.6E-09	1.1E-07	mg/kg-day	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	3.8E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	3.8E-10	2.6E-07	mg/kg-day	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	6.7E-10	mg/kg-day	N/A	N/A	N/A	4.7E-08	mg/kg-day	6.0E-01	mg/kg-day	7.8E-08
				4,4'-DDT	2E+00	mg/kg	9.7E-10	mg/kg-day	3.4E-01	(mg/kg-day) $^{-1}$	3.3E-10	6.8E-08	mg/kg-day	5.0E-04	mg/kg-day	1.4E-04
				Endrin aldehyde	2E+00	mg/kg	3.7E-09	mg/kg-day	N/A	N/A	N/A	2.6E-07	mg/kg-day	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E+00	mg/kg-day	N/A
				Antimony	9E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	mg/kg	2.0E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	3.0E-09	1.4E-07	mg/kg-day	3.0E-04	mg/kg-day	4.6E-04
				Chromium	1E+03	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Chromium, Hexavalent	1E+02	mg/kg	N/A	N/A	2.0E+01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.3E-04	mg/kg-day	N/A
				Cobalt	1E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				Copper	2E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				Cyanide	2E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Iron	1E+04	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Nickel	1E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Silver	2E+00	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-04	mg/kg-day	N/A
				Thallium	8E-01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.0E-05	mg/kg-day	N/A
				Vanadium	2E+01	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
			Exp. Route Total								1E-08					2E-03

TABLE 7.12.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Inhalation of fugitive dust													
				Trichloroethene	5E-02	mg/kg	2.0E-11	ug/m3	4.1E-06	(ug/m3) $^{-1}$	8.2E-17	1.4E-09	ug/m3	2.0E+00	ug/m3	7.0E-10
				Benzo(a)anthracene	3E+00	mg/kg	1.1E-09	ug/m3	6.0E-05	(ug/m3) $^{-1}$	6.3E-14	7.4E-08	ug/m3	N/A	N/A	N/A
				Benzo(a)pyrene	2E+00	mg/kg	8.8E-10	ug/m3	6.0E-04	(ug/m3) $^{-1}$	5.3E-13	6.1E-08	ug/m3	2.0E-03	ug/m3	3.1E-05
				Benzo(b)fluoranthene	2E+00	mg/kg	9.3E-10	ug/m3	6.0E-05	(ug/m3) $^{-1}$	5.6E-14	6.5E-08	ug/m3	N/A	N/A	N/A
				Benzo(k)fluoranthene	2E+00	mg/kg	7.1E-10	ug/m3	6.0E-06	(ug/m3) $^{-1}$	4.3E-15	5.0E-08	ug/m3	N/A	N/A	N/A
				Carbazole	2E-01	mg/kg	9.5E-11	ug/m3	N/A	N/A	N/A	6.6E-09	ug/m3	N/A	N/A	N/A
				Dibenz(a,h)anthracene	6E-01	mg/kg	2.2E-10	ug/m3	6.0E-04	(ug/m3) $^{-1}$	1.3E-13	1.6E-08	ug/m3	N/A	N/A	N/A
				Indeno(1,2,3-cd)pyrene	1E+00	mg/kg	5.4E-10	ug/m3	6.0E-05	(ug/m3) $^{-1}$	3.2E-14	3.8E-08	ug/m3	N/A	N/A	N/A
				Naphthalene	2E-01	mg/kg	9.6E-11	ug/m3	3.4E-05	(ug/m3) $^{-1}$	3.2E-15	6.7E-09	ug/m3	3.0E+00	ug/m3	2.2E-09
				4,4'-DDT	2E+00	mg/kg	6.0E-10	ug/m3	9.7E-05	(ug/m3) $^{-1}$	5.8E-14	4.2E-08	ug/m3	N/A	N/A	N/A
				Endrin aldehyde	2E+00	mg/kg	6.8E-10	ug/m3	N/A	N/A	N/A	4.8E-08	ug/m3	N/A	N/A	N/A
				Aluminum	9E+03	mg/kg	3.5E-06	ug/m3	N/A	N/A	N/A	2.5E-04	ug/m3	5.0E+00	ug/m3	4.9E-05
				Antimony	9E+01	mg/kg	3.3E-08	ug/m3	N/A	N/A	N/A	2.3E-06	ug/m3	N/A	N/A	N/A
				Arsenic	3E+00	mg/kg	1.2E-09	ug/m3	4.3E-03	(ug/m3) $^{-1}$	5.3E-12	8.5E-08	ug/m3	1.5E-02	ug/m3	5.7E-06
				Chromium	1E+03	mg/kg	4.5E-07	ug/m3	N/A	N/A	N/A	3.1E-05	ug/m3	5.0E+00	ug/m3	6.2E-06
				Chromium, Hexavalent	1E+02	mg/kg	3.9E-08	ug/m3	8.4E-02	(ug/m3) $^{-1}$	3.3E-09	2.7E-06	ug/m3	3.0E-01	ug/m3	9.1E-06
				Cobalt	1E+02	mg/kg	5.6E-08	ug/m3	9.0E-03	(ug/m3) $^{-1}$	5.1E-10	3.9E-06	ug/m3	2.0E-02	ug/m3	2.0E-04
				Copper	2E+02	mg/kg	5.9E-08	ug/m3	N/A	N/A	N/A	4.2E-06	ug/m3	N/A	N/A	N/A
				Cyanide	2E-01	mg/kg	8.0E-11	ug/m3	N/A	N/A	N/A	5.6E-09	ug/m3	N/A	N/A	N/A
				Iron	1E+04	mg/kg	5.2E-06	ug/m3	N/A	N/A	N/A	3.6E-04	ug/m3	N/A	N/A	N/A
				Lead	See Attachment E	mg/kg	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	3E+02	mg/kg	1.1E-07	ug/m3	N/A	N/A	N/A	7.9E-06	ug/m3	1.5E-01	ug/m3	5.3E-05
				Nickel	1E+01	mg/kg	4.8E-09	ug/m3	2.6E-04	(ug/m3) $^{-1}$	1.2E-12	3.4E-07	ug/m3	2.0E-01	ug/m3	1.7E-06
				Silver	2E+00	mg/kg	7.0E-10	ug/m3	N/A	N/A	N/A	4.9E-08	ug/m3	N/A	N/A	N/A
				Thallium	8E-01	mg/kg	3.2E-10	ug/m3	N/A	N/A	N/A	2.3E-08	ug/m3	N/A	N/A	N/A
				Vanadium	2E+01	mg/kg	6.8E-09	ug/m3	N/A	N/A	N/A	4.8E-07	ug/m3	1.0E-01	ug/m3	4.8E-06
			Exp. Route Total								4E-09					4E-04
		Exposure Point Total									4E-07					2E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A

TABLE 7.12.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Shallow Groundwater	Walton & Lonsbury Property	Ingestion													
				1,1,1-Trichloroethane	4E+02	ug/L	4.0E-07	mg/kg-day	N/A	N/A	N/A	2.8E-05	mg/kg-day	7.0E+00	mg/kg-day	4.0E-06
				1,1,2-Trichloroethane	5E-01	ug/L	5.1E-10	mg/kg-day	5.7E-02	$(mg/kg\text{-}day)^{-1}$	2.9E-11	3.6E-08	mg/kg-day	4.0E-03	mg/kg-day	8.9E-06
				1,1-Dichloroethane	1E+02	ug/L	1.2E-07	mg/kg-day	5.7E-03	$(mg/kg\text{-}day)^{-1}$	6.6E-10	8.1E-06	mg/kg-day	2.0E+00	mg/kg-day	4.0E-06
				1,1-Dichloroethene	8E+01	ug/L	7.7E-08	mg/kg-day	N/A	N/A	N/A	5.4E-06	mg/kg-day	9.0E-03	mg/kg-day	6.0E-04
				1,2-Dibromo-3-chloropropane	ND	ug/L	N/A	N/A	8.0E-01	$(mg/kg\text{-}day)^{-1}$	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				1,2-Dichloroethane	ND	ug/L	N/A	N/A	9.1E-02	$(mg/kg\text{-}day)^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Benzene	4E-01	ug/L	4.2E-10	mg/kg-day	5.5E-02	$(mg/kg\text{-}day)^{-1}$	2.3E-11	2.9E-08	mg/kg-day	1.0E-02	mg/kg-day	2.9E-06
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	$(mg/kg\text{-}day)^{-1}$	N/A	N/A	N/A	8.0E-03	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	$(mg/kg\text{-}day)^{-1}$	N/A	N/A	N/A	1.0E-01	mg/kg-day	N/A
				cis-1,2-Dichloroethene	1E+02	ug/L	1.4E-07	mg/kg-day	N/A	N/A	N/A	9.5E-06	mg/kg-day	2.0E-02	mg/kg-day	4.7E-04
				Tetrachloroethene	3E+00	ug/L	3.4E-09	mg/kg-day	2.1E-03	$(mg/kg\text{-}day)^{-1}$	7.1E-12	2.4E-07	mg/kg-day	1.0E-01	mg/kg-day	2.4E-06
				Trichloroethene	6E+00	ug/L	6.2E-09	mg/kg-day	4.6E-02	$(mg/kg\text{-}day)^{-1}$	2.8E-10	4.3E-07	mg/kg-day	5.0E-04	mg/kg-day	8.7E-04
				Vinyl chloride	3E+01	ug/L	2.5E-08	mg/kg-day	7.2E-01	$(mg/kg\text{-}day)^{-1}$	1.8E-08	1.7E-06	mg/kg-day	3.0E-03	mg/kg-day	5.8E-04
				1,4-Dioxane	5E-01	ug/L	4.9E-10	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	4.9E-11	3.5E-08	mg/kg-day	5.0E-01	mg/kg-day	6.9E-08
				Aluminum	5E+03	ug/L	4.6E-06	mg/kg-day	N/A	N/A	N/A	3.2E-04	mg/kg-day	1.0E+00	mg/kg-day	3.2E-04
				Antimony	2E+00	ug/L	1.5E-09	mg/kg-day	N/A	N/A	N/A	1.0E-07	mg/kg-day	4.0E-04	mg/kg-day	2.6E-04
				Arsenic	3E+00	ug/L	2.6E-09	mg/kg-day	1.5E+00	$(mg/kg\text{-}day)^{-1}$	3.9E-09	1.8E-07	mg/kg-day	3.0E-04	mg/kg-day	6.0E-04
				Barium	1E+02	ug/L	1.1E-07	mg/kg-day	N/A	N/A	N/A	7.4E-06	mg/kg-day	2.0E-01	mg/kg-day	3.7E-05
				Cadmium (water)	5E-01	ug/L	4.8E-10	mg/kg-day	N/A	N/A	N/A	3.4E-08	mg/kg-day	5.0E-04	mg/kg-day	6.7E-05
				Chromium	1E+04	ug/L	1.3E-05	mg/kg-day	N/A	N/A	N/A	9.2E-04	mg/kg-day	1.5E+00	mg/kg-day	6.2E-04
				Chromium, Hexavalent	7E+03	ug/L	6.4E-06	mg/kg-day	5.0E-01	$(mg/kg\text{-}day)^{-1}$	3.2E-06	4.5E-04	mg/kg-day	5.0E-03	mg/kg-day	8.9E-02
				Cobalt	3E+02	ug/L	2.8E-07	mg/kg-day	N/A	N/A	N/A	1.9E-05	mg/kg-day	3.0E-03	mg/kg-day	6.5E-03
				Copper	1E+02	ug/L	1.4E-07	mg/kg-day	N/A	N/A	N/A	1.0E-05	mg/kg-day	1.0E-02	mg/kg-day	1.0E-03
				Cyanide	6E+00	ug/L	5.9E-09	mg/kg-day	N/A	N/A	N/A	4.1E-07	mg/kg-day	2.0E-02	mg/kg-day	2.1E-05
				Iron	1E+04	ug/L	9.8E-06	mg/kg-day	N/A	N/A	N/A	6.8E-04	mg/kg-day	7.0E-01	mg/kg-day	9.8E-04
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	ug/L	5.2E-07	mg/kg-day	N/A	N/A	N/A	3.6E-05	mg/kg-day	2.4E-02	mg/kg-day	1.5E-03
				Mercury (water)	1E-01	ug/L	1.0E-10	mg/kg-day	N/A	N/A	N/A	7.2E-09	mg/kg-day	2.0E-03	mg/kg-day	3.6E-06
				Nickel	1E+01	ug/L	1.0E-08	mg/kg-day	N/A	N/A	N/A	7.2E-07	mg/kg-day	2.0E-02	mg/kg-day	3.6E-05
				Vanadium	3E+00	ug/L	2.9E-09	mg/kg-day	N/A	N/A	N/A	2.0E-07	mg/kg-day	1.0E-02	mg/kg-day	2.0E-05
			Exp. Route Total								3E-06					1E-01

TABLE 7.12.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				1,1,1-Trichloroethane	4E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E+00	mg/kg-day	N/A
				1,1,2-Trichloroethane	5E-01	ug/L	N/A	N/A	5.7E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	4.0E-03	mg/kg-day	N/A
				1,1-Dichloroethane	1E+02	ug/L	N/A	N/A	5.7E-03	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E+00	mg/kg-day	N/A
				1,1-Dichloroethene	8E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.0E-03	mg/kg-day	N/A
				1,2-Dibromo-3-chloropropane	ND	ug/L	N/A	N/A	8.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				1,2-Dichloroethane	ND	ug/L	N/A	N/A	9.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Benzene	4E-01	ug/L	N/A	N/A	5.5E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				Bromodichloromethane	ND	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	8.0E-03	mg/kg-day	N/A
				Chloroform	ND	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-01	mg/kg-day	N/A
				cis-1,2-Dichloroethene	1E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Tetrachloroethene	3E+00	ug/L	2.1E-08	mg/kg-day	2.1E-03	(mg/kg-day) $^{-1}$	4.4E-11	1.5E-06	mg/kg-day	1.0E-01	mg/kg-day	1.5E-05
				Trichloroethene	6E+00	ug/L	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Vinyl chloride	3E+01	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	5E-01	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-01	mg/kg-day	N/A
				Aluminum	5E+03	ug/L	3.2E-07	mg/kg-day	N/A	N/A	N/A	2.3E-05	mg/kg-day	1.0E+00	mg/kg-day	2.3E-05
				Antimony	2E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	3E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Barium	1E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4E-02	mg/kg-day	N/A
				Cadmium (water)	5E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.5E-05	mg/kg-day	N/A
				Chromium	1E+04	ug/L	9.3E-07	mg/kg-day	N/A	N/A	N/A	6.5E-05	mg/kg-day	2.0E-02	mg/kg-day	3.3E-03
				Chromium, Hexavalent	7E+03	ug/L	9.0E-07	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	1.8E-05	6.3E-05	mg/kg-day	1.3E-04	mg/kg-day	5.0E-01
				Cobalt	3E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				Copper	1E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				Cyanide	6E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Iron	1E+04	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	5E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (water)	1E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4E-04	mg/kg-day	N/A
				Nickel	1E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Vanadium	3E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
			Exp. Route Total								2E-05					5E-01
		Exposure Point Total									2E-05					6E-01

TABLE 7.12.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
		Off-Property Areas	Ingestion													
				1,1,1-Trichloroethane	5E+02	ug/L	4.6E-07	mg/kg-day	N/A	N/A	N/A	3.2E-05	mg/kg-day	7.0E+00	mg/kg-day	4.6E-06
				1,1,2-Trichloroethane	ND	ug/L	N/A	N/A	5.7E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	4.0E-03	mg/kg-day	N/A
				1,1-Dichloroethane	3E+02	ug/L	3.1E-07	mg/kg-day	5.7E-03	(mg/kg-day) $^{-1}$	1.7E-09	2.1E-05	mg/kg-day	2.0E+00	mg/kg-day	1.1E-05
				1,1-Dichloroethene	6E+01	ug/L	6.1E-08	mg/kg-day	N/A	N/A	N/A	4.2E-06	mg/kg-day	9.0E-03	mg/kg-day	4.7E-04
				1,2-Dibromo-3-chloropropane	ND	ug/L	N/A	N/A	8.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				1,2-Dichloroethane	ND	ug/L	N/A	N/A	9.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Benzene	3E-01	ug/L	3.0E-10	mg/kg-day	5.5E-02	(mg/kg-day) $^{-1}$	1.7E-11	2.1E-08	mg/kg-day	1.0E-02	mg/kg-day	2.1E-06
				Bromodichloromethane	4E-01	ug/L	4.3E-10	mg/kg-day	6.2E-02	(mg/kg-day) $^{-1}$	2.7E-11	3.0E-08	mg/kg-day	8.0E-03	mg/kg-day	3.8E-06
				Chloroform	1E+00	ug/L	1.3E-09	mg/kg-day	3.1E-02	(mg/kg-day) $^{-1}$	3.9E-11	8.9E-08	mg/kg-day	1.0E-01	mg/kg-day	8.9E-07
				cis-1,2-Dichloroethene	1E+02	ug/L	1.1E-07	mg/kg-day	N/A	N/A	N/A	7.4E-06	mg/kg-day	2.0E-02	mg/kg-day	3.7E-04
				Tetrachloroethene	3E+00	ug/L	3.2E-09	mg/kg-day	2.1E-03	(mg/kg-day) $^{-1}$	6.8E-12	2.3E-07	mg/kg-day	1.0E-01	mg/kg-day	2.3E-06
				Trichloroethene	3E+02	ug/L	2.7E-07	mg/kg-day	4.6E-02	(mg/kg-day) $^{-1}$	1.2E-08	1.9E-05	mg/kg-day	5.0E-04	mg/kg-day	3.8E-02
				Vinyl chloride	3E+00	ug/L	2.7E-09	mg/kg-day	7.2E-01	(mg/kg-day) $^{-1}$	1.9E-09	1.9E-07	mg/kg-day	3.0E-03	mg/kg-day	6.3E-05
				1,4-Dioxane	3E+00	ug/L	2.8E-09	mg/kg-day	1.0E-01	(mg/kg-day) $^{-1}$	2.8E-10	2.0E-07	mg/kg-day	5.0E-01	mg/kg-day	3.9E-07
				Aluminum	4E+03	ug/L	3.7E-06	mg/kg-day	N/A	N/A	N/A	2.6E-04	mg/kg-day	1.0E+00	mg/kg-day	2.6E-04
				Antimony	1E+00	ug/L	9.3E-10	mg/kg-day	N/A	N/A	N/A	6.5E-08	mg/kg-day	4.0E-04	mg/kg-day	1.6E-04
				Arsenic	2E+00	ug/L	1.9E-09	mg/kg-day	1.5E+00	(mg/kg-day) $^{-1}$	2.9E-09	1.4E-07	mg/kg-day	3.0E-04	mg/kg-day	4.5E-04
				Barium	2E+02	ug/L	1.6E-07	mg/kg-day	N/A	N/A	N/A	1.1E-05	mg/kg-day	2.0E-01	mg/kg-day	5.6E-05
				Cadmium (water)	7E-01	ug/L	7.1E-10	mg/kg-day	N/A	N/A	N/A	4.9E-08	mg/kg-day	5.0E-04	mg/kg-day	9.9E-05
				Chromium	6E+03	ug/L	5.8E-06	mg/kg-day	N/A	N/A	N/A	4.1E-04	mg/kg-day	1.5E+00	mg/kg-day	2.7E-04
				Chromium, Hexavalent	2E+03	ug/L	2.2E-06	mg/kg-day	5.0E-01	(mg/kg-day) $^{-1}$	1.1E-06	1.6E-04	mg/kg-day	5.0E-03	mg/kg-day	3.1E-02
				Cobalt	9E+01	ug/L	8.7E-08	mg/kg-day	N/A	N/A	N/A	6.1E-06	mg/kg-day	3.0E-03	mg/kg-day	2.0E-03
				Copper	3E+01	ug/L	2.8E-08	mg/kg-day	N/A	N/A	N/A	1.9E-06	mg/kg-day	1.0E-02	mg/kg-day	1.9E-04
				Cyanide	8E+00	ug/L	8.1E-09	mg/kg-day	N/A	N/A	N/A	5.7E-07	mg/kg-day	2.0E-02	mg/kg-day	2.8E-05
				Iron	2E+04	ug/L	1.7E-05	mg/kg-day	N/A	N/A	N/A	1.2E-03	mg/kg-day	7.0E-01	mg/kg-day	1.7E-03
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	4E+03	ug/L	3.5E-06	mg/kg-day	N/A	N/A	N/A	2.4E-04	mg/kg-day	2.4E-02	mg/kg-day	1.0E-02
				Mercury (water)	5E-02	ug/L	4.5E-11	mg/kg-day	N/A	N/A	N/A	3.2E-09	mg/kg-day	2.0E-03	mg/kg-day	1.6E-06
				Nickel	1E+01	ug/L	1.4E-08	mg/kg-day	N/A	N/A	N/A	9.5E-07	mg/kg-day	2.0E-02	mg/kg-day	4.7E-05
				Vanadium	6E+00	ug/L	5.7E-09	mg/kg-day	N/A	N/A	N/A	4.0E-07	mg/kg-day	1.0E-02	mg/kg-day	4.0E-05
			Exp. Route Total								1E-06					9E-02

TABLE 7.12.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
			Dermal													
				1,1,1-Trichloroethane	5E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E+00	mg/kg-day	N/A
				1,1,2-Trichloroethane	ND	ug/L	N/A	N/A	5.7E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	4.0E-03	mg/kg-day	N/A
				1,1-Dichloroethane	3E+02	ug/L	N/A	N/A	5.7E-03	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E+00	mg/kg-day	N/A
				1,1-Dichloroethene	6E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.0E-03	mg/kg-day	N/A
				1,2-Dibromo-3-chloropropane	ND	ug/L	N/A	N/A	8.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-03	mg/kg-day	N/A
				1,2-Dichloroethane	ND	ug/L	N/A	N/A	9.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Benzene	3E-01	ug/L	N/A	N/A	5.5E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				Bromodichloromethane	4E-01	ug/L	N/A	N/A	6.2E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	8.0E-03	mg/kg-day	N/A
				Chloroform	1E+00	ug/L	N/A	N/A	3.1E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	1.0E-01	mg/kg-day	N/A
				cis-1,2-Dichloroethene	1E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Tetrachloroethene	3E+00	ug/L	2.0E-08	mg/kg-day	2.1E-03	(mg/kg-day) $^{-1}$	4.2E-11	1.4E-06	mg/kg-day	1.0E-01	mg/kg-day	1.4E-05
				Trichloroethene	3E+02	ug/L	N/A	N/A	4.6E-02	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-04	mg/kg-day	N/A
				Vinyl chloride	3E+00	ug/L	N/A	N/A	7.2E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				1,4-Dioxane	3E+00	ug/L	N/A	N/A	1.0E-01	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	5.0E-01	mg/kg-day	N/A
				Aluminum	4E+03	ug/L	2.6E-07	mg/kg-day	N/A	N/A	N/A	1.8E-05	mg/kg-day	1.0E+00	mg/kg-day	1.8E-05
				Antimony	1E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.0E-05	mg/kg-day	N/A
				Arsenic	2E+00	ug/L	N/A	N/A	1.5E+00	(mg/kg-day) $^{-1}$	N/A	N/A	N/A	3.0E-04	mg/kg-day	N/A
				Barium	2E+02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4E-02	mg/kg-day	N/A
				Cadmium (water)	7E-01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.5E-05	mg/kg-day	N/A
				Chromium	6E+03	ug/L	4.1E-07	mg/kg-day	N/A	N/A	N/A	2.9E-05	mg/kg-day	2.0E-02	mg/kg-day	1.5E-03
				Chromium, Hexavalent	2E+03	ug/L	3.2E-07	mg/kg-day	2.0E+01	(mg/kg-day) $^{-1}$	6.3E-06	2.2E-05	mg/kg-day	1.3E-04	mg/kg-day	1.8E-01
				Cobalt	9E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0E-03	mg/kg-day	N/A
				Copper	3E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
				Cyanide	8E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.0E-02	mg/kg-day	N/A
				Iron	2E+04	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	7.0E-01	mg/kg-day	N/A
				Lead	See Attachment E	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Manganese	4E+03	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9.6E-04	mg/kg-day	N/A
				Mercury (water)	5E-02	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.4E-04	mg/kg-day	N/A
				Nickel	1E+01	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.0E-04	mg/kg-day	N/A
				Vanadium	6E+00	ug/L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.0E-02	mg/kg-day	N/A
			Exp. Route Total								6E-06					2E-01
		Exposure Point Total									7E-06					3E-01
	Exposure Medium Total										N/A					N/A

TABLE 7.12.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration (1)		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration (1)		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
	Trench Air	Walton & Lonsbury Property	Inhalation	1,1-Dichloroethane	3E+00	ug/m^3	1.3E-03	ug/m3	1.6E-06	(ug/m3)$^{-1}$	2.1E-09	9.2E-02	mg/kg-day	N/A	N/A	N/A
			Exp. Route Total								2E-09					0E+00
		Exposure Point Total									2E-09					0E+00
		Off-Property Areas	Inhalation	1,1-Dichloroethane	7E+00	ug/m^3	3.5E-03	ug/m3	1.6E-06	(ug/m3)$^{-1}$	5.6E-09	2.4E-01	mg/kg-day	N/A	N/A	N/A
				Trichloroethene	6E+00	ug/m^3	3.0E-03	ug/m3	4.1E-06	(ug/m3)$^{-1}$	1.2E-08	2.1E-01	mg/kg-day	2.0E+00	ug/m3	1.0E-01
			Exp. Route Total								2E-08					1E-01
		Exposure Point Total									2E-08					1E-01
	Exposure Medium Total										N/A					N/A
Medium Total											N/A					N/A
							Total of Receptor Risks Across All Media				N/A	Total of Receptor Hazards Across All Media				N/A

Notes

(1) A relative bioavailability factor of 0.6 (60%) was applied to the soil arsenic ingestion intake calculation.

TABLE 9.11.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Floodplain Surface Soil (0-2 ft)	Residential Yards - West of North Avenue	Trichloroethene	N/A	N/A	N/A	- -	N/A	Cardiovascular/ Developmental/ Immune System	N/A	N/A	N/A	N/A
			Benzo(a)anthracene	9E-07	1E-11	3E-07	- -	1E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	7E-06	1E-10	2E-06	- -	9E-06	Developmental	4E-02	8E-05	1E-02	6E-02
			Benzo(b)fluoranthene	1E-06	2E-11	4E-07	- -	2E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	4E-08	5E-13	1E-08	- -	5E-08	N/A	N/A	N/A	N/A	N/A
			Carbazole	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	1E-06	2E-11	5E-07	- -	2E-06	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	6E-07	9E-12	2E-07	- -	8E-07	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	N/A	N/A	- -	N/A	Blood	N/A	N/A	N/A	N/A
			4,4'-DDT	9E-07	1E-11	7E-08	- -	1E-06	Liver	5E-02	N/A	3E-03	5E-02
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	1E-01	2E-04	N/A	1E-01
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	2E-01	N/A	N/A	2E-01
			Arsenic	9E-06	2E-09	1E-06	- -	1E-05	Skin	2E-01	6E-05	2E-02	2E-01
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	2E-02	N/A	N/A	2E-02
			Chromium, Hexavalent	1E-07	4E-10	N/A	- -	1E-07	Gastrointestinal	1E-04	4E-08	N/A	1E-04
			Cobalt	N/A	3E-09	N/A	- -	3E-09	Endocrine	3E-01	1E-04	N/A	3E-01
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	3E-02	N/A	N/A	3E-02
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	6E-02	N/A	N/A	6E-02
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	4E-01	N/A	N/A	4E-01
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	2E-01	1E-03	N/A	2E-01
			Nickel	N/A	2E-10	N/A	- -	2E-10	Kidney	1E-02	3E-05	N/A	1E-02
			Silver	N/A	N/A	N/A	- -	N/A	Skin	1E-01	N/A	N/A	1E-01
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	N/A	N/A	N/A	N/A
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	8E-02	5E-05	N/A	8E-02
			Chemical Total	2E-05	5E-09	5E-06	- -	3E-05		2E+00	2E-03	4E-02	2E+00
			Radionuclide Total										

TABLE 9.11.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						3E-05					2E+00
	Exposure Medium Total							3E-05					2E+00
Medium Total								3E-05					2E+00
Receptor Total								3E-05					2E+00

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 3E-05

Total Hazard Across All Media: 2E+00

Total Blood HI =	2E-01
Total Cardiovascular HI =	N/A
Total Developmental HI =	2E-01
Total Endocrine HI =	3E-01
Total Gastrointestinal HI =	4E-01
Total Immune System HI =	N/A
Total Kidney HI =	1E-02
Total Liver HI =	7E-02
Total Nervous System HI =	2E-01
Total Reproductive HI =	6E-02
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	4E-01

TABLE 9.11.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Floodplain Surface Soil (0-2 ft)	Residential Yards - West of North Avenue	Trichloroethene	N/A	N/A	N/A	- -	N/A	Cardiovascular/ Developmental/ Immune System	N/A	N/A	N/A	N/A
			Benzo(a)anthracene	8E-08	2E-12	6E-08	- -	1E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	7E-07	2E-11	4E-07	- -	1E-06	Developmental	1E-02	4E-05	8E-03	2E-02
			Benzo(b)fluoranthene	1E-07	3E-12	7E-08	- -	2E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	4E-09	1E-13	2E-09	- -	6E-09	N/A	N/A	N/A	N/A	N/A
			Carbazole	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	1E-07	4E-12	1E-07	- -	2E-07	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	6E-08	2E-12	4E-08	- -	1E-07	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	N/A	N/A	- -	N/A	Blood	N/A	N/A	N/A	N/A
			4,4'-DDT	9E-08	2E-12	2E-08	- -	1E-07	Liver	1E-02	N/A	2E-03	2E-02
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	5E-02	2E-04	N/A	5E-02
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	3E-02	N/A	N/A	3E-02
			Arsenic	8E-07	3E-10	2E-07	- -	1E-06	Skin	5E-02	4E-05	1E-02	6E-02
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	9E-03	N/A	N/A	9E-03
			Chromium, Hexavalent	2E-08	1E-10	N/A	- -	2E-08	Gastrointestinal	6E-05	4E-08	N/A	6E-05
			Cobalt	N/A	8E-10	N/A	- -	8E-10	Endocrine	1E-01	1E-04	N/A	1E-01
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	7E-03	N/A	N/A	7E-03
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	1E-02	N/A	N/A	1E-02
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-01	N/A	N/A	2E-01
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	7E-02	8E-04	N/A	7E-02
			Nickel	N/A	5E-11	N/A	- -	5E-11	Kidney	3E-03	2E-05	N/A	3E-03
			Silver	N/A	N/A	N/A	- -	N/A	Skin	3E-02	N/A	N/A	3E-02
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	N/A	N/A	N/A	N/A
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	2E-02	2E-05	N/A	2E-02
			Chemical Total	2E-06	1E-09	1E-06	- -	3E-06		6E-01	1E-03	2E-02	6E-01
			Radionuclide Total										

TABLE 9.11.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						3E-06					6E-01
	Exposure Medium Total							3E-06					6E-01
Medium Total								3E-06					6E-01
Receptor Total								3E-06					6E-01

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 3E-06

Total Hazard Across All Media: 6E-01

Total Blood HI =	3E-02
Total Cardiovascular HI =	N/A
Total Developmental HI =	7E-02
Total Endocrine HI =	1E-01
Total Gastrointestinal HI =	2E-01
Total Immune System HI =	N/A
Total Kidney HI =	3E-03
Total Liver HI =	3E-02
Total Nervous System HI =	7E-02
Total Reproductive HI =	1E-02
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	1E-01

TABLE 9.12.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Floodplain Surface Soil (0-2 ft)	Residential Yards - East of North Avenue	Trichloroethene	N/A	N/A	N/A	- -	N/A	Cardiovascular/ Developmental/ Immune System	N/A	N/A	N/A	N/A
			Benzo(a)anthracene	8E-07	1E-11	3E-07	- -	1E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	8E-06	1E-10	3E-06	- -	1E-05	Developmental	6E-02	1E-04	2E-02	7E-02
			Benzo(b)fluoranthene	9E-07	1E-11	3E-07	- -	1E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	7E-08	1E-12	2E-08	- -	1E-07	N/A	N/A	N/A	N/A	N/A
			Carbazole	3E-09	N/A	8E-10	- -	4E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	1E-06	2E-11	4E-07	- -	2E-06	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	6E-07	8E-12	2E-07	- -	7E-07	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	4E-14	N/A	- -	4E-14	Blood	1E-05	9E-10	4E-06	2E-05
			4,4'-DDT	5E-09	6E-14	5E-10	- -	6E-09	Liver	3E-04	N/A	2E-05	3E-04
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	1E-01	2E-04	N/A	1E-01
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	N/A	N/A	N/A	N/A
			Arsenic	N/A	N/A	N/A	- -	N/A	Skin	N/A	N/A	N/A	N/A
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	4E-03	N/A	N/A	4E-03
			Chromium, Hexavalent	2E-05	9E-08	N/A	- -	2E-05	Gastrointestinal	3E-02	1E-05	N/A	3E-02
			Cobalt	N/A	N/A	N/A	- -	N/A	Endocrine	N/A	N/A	N/A	N/A
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	N/A	N/A	N/A	N/A
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	N/A	N/A	N/A	N/A
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	4E-01	N/A	N/A	4E-01
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	N/A	N/A	N/A	N/A
			Nickel	N/A	N/A	N/A	- -	N/A	Kidney	N/A	N/A	N/A	N/A
			Silver	N/A	N/A	N/A	- -	N/A	Skin	N/A	N/A	N/A	N/A
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	N/A	N/A	N/A	N/A
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	N/A	N/A	N/A	N/A
			Chemical Total	4E-05	9E-08	4E-06	- -	4E-05		6E-01	3E-04	2E-02	6E-01
			Radionuclide Total										

TABLE 9.12.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						4E-05					6E-01
	Exposure Medium Total							4E-05					6E-01
Medium Total								4E-05					6E-01
Receptor Total								4E-05					6E-01

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 4E-05

Total Hazard Across All Media: 6E-01

Total Blood HI =	2E-05
Total Cardiovascular HI =	N/A
Total Developmental HI =	2E-01
Total Endocrine HI =	N/A
Total Gastrointestinal HI =	4E-01
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Liver HI =	4E-03
Total Nervous System HI =	N/A
Total Reproductive HI =	N/A
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	N/A

TABLE 9.12.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Floodplain Surface Soil (0-2 ft)	Residential Yards - East of North Avenue	Trichloroethene	N/A	N/A	N/A	- -	N/A	Cardiovascular/ Developmental/ Immune System	N/A	N/A	N/A	N/A
			Benzo(a)anthracene	1E-07	4E-12	9E-08	- -	2E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1E-06	4E-11	1E-06	- -	2E-06	Developmental	3E-02	1E-04	2E-02	4E-02
			Benzo(b)fluoranthene	2E-07	4E-12	1E-07	- -	3E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	1E-08	3E-13	8E-09	- -	2E-08	N/A	N/A	N/A	N/A	N/A
			Carbazole	5E-10	N/A	3E-10	- -	7E-10	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	2E-07	6E-12	1E-07	- -	3E-07	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	9E-08	3E-12	6E-08	- -	2E-07	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	1E-14	N/A	- -	1E-14	Blood	6E-06	9E-10	4E-06	1E-05
			4,4'-DDT	9E-10	2E-14	2E-10	- -	1E-09	Liver	1E-04	N/A	2E-05	2E-04
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	5E-02	2E-04	N/A	5E-02
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	N/A	N/A	N/A	N/A
			Arsenic	N/A	N/A	N/A	- -	N/A	Skin	N/A	N/A	N/A	N/A
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	2E-03	N/A	N/A	2E-03
			Chromium, Hexavalent	4E-06	3E-08	N/A	- -	4E-06	Gastrointestinal	1E-02	1E-05	N/A	1E-02
			Cobalt	N/A	N/A	N/A	- -	N/A	Endocrine	N/A	N/A	N/A	N/A
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	N/A	N/A	N/A	N/A
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	N/A	N/A	N/A	N/A
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-01	N/A	N/A	2E-01
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	N/A	N/A	N/A	N/A
			Nickel	N/A	N/A	N/A	- -	N/A	Kidney	N/A	N/A	N/A	N/A
			Silver	N/A	N/A	N/A	- -	N/A	Skin	N/A	N/A	N/A	N/A
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	N/A	N/A	N/A	N/A
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	N/A	N/A	N/A	N/A
			Chemical Total	6E-06	3E-08	1E-06	- -	7E-06		3E-01	3E-04	2E-02	3E-01
			Radionuclide Total										

TABLE 9.12.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						7E-06					3E-01
	Exposure Medium Total							7E-06					3E-01
Medium Total								7E-06					3E-01
Receptor Total								7E-06					3E-01

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 7E-06

Total Hazard Across All Media: 3E-01

Total Blood HI =	1E-05
Total Cardiovascular HI =	N/A
Total Developmental HI =	1E-01
Total Endocrine HI =	N/A
Total Gastrointestinal HI =	2E-01
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Liver HI =	2E-03
Total Nervous System HI =	N/A
Total Reproductive HI =	N/A
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	N/A

TABLE 9.13.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Wetland/Floodplain Surface Soil (0-2 ft)	Southern Wetland											
			Trichloroethene	3E-09	- -	N/A	- -	3E-09	Cardiovascular/ Developmental/ Immune System	6E-04	- -	N/A	6E-04
			Benzo(a)anthracene	2E-07	- -	8E-08	- -	3E-07	N/A	N/A	- -	N/A	N/A
			Benzo(a)pyrene	2E-06	- -	5E-07	- -	2E-06	Developmental	1E-02	- -	3E-03	1E-02
			Benzo(b)fluoranthene	3E-07	- -	1E-07	- -	4E-07	N/A	N/A	- -	N/A	N/A
			Benzo(k)fluoranthene	1E-08	- -	4E-09	- -	1E-08	N/A	N/A	- -	N/A	N/A
			Carbazole	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Dibenz(a,h)anthracene	3E-07	- -	1E-07	- -	5E-07	N/A	N/A	- -	N/A	N/A
			Indeno(1,2,3-cd)pyrene	1E-07	- -	4E-08	- -	1E-07	N/A	N/A	- -	N/A	N/A
			Naphthalene	N/A	- -	N/A	- -	N/A	Blood	1E-05	- -	3E-06	1E-05
			4,4'-DDT	9E-08	- -	8E-09	- -	1E-07	Liver	5E-03	- -	3E-04	5E-03
			Endrin aldehyde	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	2E-02	- -	N/A	2E-02
			Antimony	N/A	- -	N/A	- -	N/A	Blood	2E-02	- -	N/A	2E-02
			Arsenic	8E-07	- -	1E-07	- -	1E-06	Skin	2E-02	- -	2E-03	2E-02
			Chromium	N/A	- -	N/A	- -	N/A	Liver	1E-02	- -	N/A	1E-02
			Chromium, Hexavalent	1E-05	- -	N/A	- -	1E-05	Gastrointestinal	2E-02	- -	N/A	2E-02
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	3E-01	- -	N/A	3E-01
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	2E-02	- -	N/A	2E-02
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	6E-03	- -	N/A	6E-03
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	7E-02	- -	N/A	7E-02
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	8E-02	- -	N/A	8E-02
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	2E-02	- -	N/A	2E-02
			Silver	N/A	- -	N/A	- -	N/A	Skin	6E-02	- -	N/A	6E-02
			Thallium	N/A	- -	N/A	- -	N/A	Skin	N/A	- -	N/A	N/A
			Vanadium	N/A	- -	N/A	- -	N/A	Skin	1E-02	- -	N/A	1E-02
			Chemical Total	2E-05	- -	1E-06	- -	2E-05		7E-01	- -	5E-03	7E-01
			Radionuclide Total										
		Exposure Point Total						2E-05					7E-01
	Exposure Medium Total							2E-05					7E-01
Medium Total								2E-05					7E-01

TABLE 9.13.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Southern Wetland											
			Trichloroethene	4E-11	- -	N/A	- -	4E-11	Cardiovascular/ Developmental/ Immune System	1E-05	- -	N/A	1E-05
			Benzo(a)anthracene	3E-08	- -	2E-08	- -	5E-08	N/A	N/A	- -	N/A	N/A
			Benzo(a)pyrene	4E-07	- -	2E-07	- -	6E-07	Developmental	3E-03	- -	8E-04	4E-03
			Benzo(b)fluoranthene	6E-08	- -	3E-08	- -	9E-08	N/A	N/A	- -	N/A	N/A
			Carbazole	3E-10	- -	2E-10	- -	5E-10	N/A	N/A	- -	N/A	N/A
			Dibenz(a,h)anthracene	2E-07	- -	1E-07	- -	3E-07	N/A	N/A	- -	N/A	N/A
			Indeno(1,2,3-cd)pyrene	4E-08	- -	2E-08	- -	6E-08	N/A	N/A	- -	N/A	N/A
			4,4'-DDD	3E-08	- -	2E-08	- -	5E-08	Liver	4E-02	- -	9E-03	5E-02
			Aroclor-1260	N/A	- -	N/A	- -	N/A	Immune System/Skin	N/A	- -	N/A	N/A
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	8E-03	- -	N/A	8E-03
			Antimony	N/A	- -	N/A	- -	N/A	Blood	3E-02	- -	N/A	3E-02
			Arsenic	1E-06	- -	3E-07	- -	1E-06	Skin	2E-02	- -	3E-03	2E-02
			Cadmium (other media)	N/A	- -	N/A	- -	N/A	Kidney	1E-03	- -	9E-05	1E-03
			Chromium	N/A	- -	N/A	- -	N/A	Liver	8E-03	- -	N/A	8E-03
			Chromium, Hexavalent	7E-06	- -	N/A	- -	7E-06	Gastrointestinal	9E-03	- -	N/A	9E-03
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	1E-01	- -	N/A	1E-01
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	1E-02	- -	N/A	1E-02
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	6E-02	- -	N/A	6E-02
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	3E-02	- -	N/A	3E-02
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	1E-02	- -	N/A	1E-02
			Mercury (other media)	N/A	- -	N/A	- -	N/A	Developmental	3E-03	- -	N/A	3E-03
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	7E-03	- -	N/A	7E-03
			Silver	N/A	- -	N/A	- -	N/A	Skin	6E-02	- -	N/A	6E-02
			Thallium	N/A	- -	N/A	- -	N/A	Skin	1E-01	- -	N/A	1E-01
			Vanadium	N/A	- -	N/A	- -	N/A	Skin	5E-03	- -	N/A	5E-03
			Chemical Total	8E-06	- -	8E-07	- -	9E-06		6E-01	- -	1E-02	6E-01
			Radionuclide Total										
		Exposure Point Total						9E-06					6E-01
	Exposure Medium Total							9E-06					6E-01
Medium Total								9E-06					6E-01

TABLE 9.13.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Southern Wetland											
			Bromodichloromethane	- -	- -	N/A	- -	N/A	Kidney	- -	- -	N/A	N/A
			Chloroform	- -	- -	N/A	- -	N/A	Liver	- -	- -	N/A	N/A
			cis-1,2-Dichloroethene	- -	- -	N/A	- -	N/A	Kidney	- -	- -	6E-04	6E-04
			Trichloroethene	- -	- -	2E-08	- -	2E-08	Cardiovascular/ Developmental/ Immune System	- -	- -	3E-03	3E-03
			Vinyl chloride	- -	- -	N/A	- -	N/A	Liver	- -	- -	N/A	N/A
			1,4-Dioxane	- -	- -	N/A	- -	N/A	Liver/Kidney	- -	- -	N/A	N/A
			Aluminum	- -	- -	N/A	- -	N/A	Developmental	- -	- -	6E-05	6E-05
			Antimony	- -	- -	N/A	- -	N/A	Blood	- -	- -	N/A	N/A
			Arsenic	- -	- -	N/A	- -	N/A	Skin	- -	- -	N/A	N/A
			Cadmium (water)	- -	- -	N/A	- -	N/A	Kidney	- -	- -	3E-04	3E-04
			Chromium	- -	- -	N/A	- -	N/A	Liver	- -	- -	5E-04	5E-04
			Chromium, Hexavalent	- -	- -	6E-07	- -	6E-07	Gastrointestinal	- -	- -	6E-04	6E-04
			Cobalt	- -	- -	N/A	- -	N/A	Endocrine	- -	- -	N/A	N/A
			Cyanide	- -	- -	N/A	- -	N/A	Reproductive	- -	- -	N/A	N/A
			Iron	- -	- -	N/A	- -	N/A	Gastrointestinal	- -	- -	N/A	N/A
			Lead	- -	- -	N/A	- -	N/A	N/A	- -	- -	N/A	N/A
			Manganese	- -	- -	N/A	- -	N/A	Nervous System	- -	- -	4E-02	4E-02
			Silver	- -	- -	N/A	- -	N/A	Skin	- -	- -	8E-04	8E-04
			Thallium	- -	- -	N/A	- -	N/A	Skin	- -	- -	N/A	N/A
			Chemical Total	- -	- -	7E-07	- -	7E-07		- -	- -	4E-02	4E-02
			Radionuclide Total										
		Exposure Point Total						7E-07					4E-02
	Exposure Medium Total							7E-07					4E-02
Medium Total								7E-07					4E-02
Receptor Total								3E-05					1E+00

TABLE 9.13.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 3E-05

Total Hazard Across All Media: 1E+00

Total Blood HI =	5E-02
Total Cardiovascular HI =	4E-03
Total Developmental HI =	6E-02
Total Endocrine HI =	4E-01
Total Gastrointestinal HI =	2E-01
Total Immune System HI =	4E-03
Total Kidney HI =	2E-02
Total Liver HI =	7E-02
Total Nervous System HI =	1E-01
Total Reproductive HI =	6E-02
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	3E-01

TABLE 9.13.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Wetland/Floodplain Surface Soil (0-2 ft)	Southern Wetland											
			Trichloroethene	1E-10	- -	N/A	- -	1E-10	Cardiovascular/ Developmental/ Immune System	9E-05	- -	N/A	9E-05
			Benzo(a)anthracene	1E-08	- -	9E-09	- -	2E-08	N/A	N/A	- -	N/A	N/A
			Benzo(a)pyrene	9E-08	- -	6E-08	- -	1E-07	Developmental	2E-03	- -	1E-03	3E-03
			Benzo(b)fluoranthene	2E-08	- -	1E-08	- -	3E-08	N/A	N/A	- -	N/A	N/A
			Benzo(k)fluoranthene	6E-10	- -	4E-10	- -	1E-09	N/A	N/A	- -	N/A	N/A
			Carbazole	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Dibenz(a,h)anthracene	2E-08	- -	1E-08	- -	3E-08	N/A	N/A	- -	N/A	N/A
			Indeno(1,2,3-cd)pyrene	6E-09	- -	4E-09	- -	1E-08	N/A	N/A	- -	N/A	N/A
			Naphthalene	N/A	- -	N/A	- -	N/A	Blood	2E-06	- -	1E-06	3E-06
			4,4'-DDT	5E-09	- -	9E-10	- -	6E-09	Liver	8E-04	- -	1E-04	9E-04
			Endrin aldehyde	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	4E-03	- -	N/A	4E-03
			Antimony	N/A	- -	N/A	- -	N/A	Blood	3E-03	- -	N/A	3E-03
			Arsenic	5E-08	- -	1E-08	- -	6E-08	Skin	3E-03	- -	7E-04	3E-03
			Chromium	N/A	- -	N/A	- -	N/A	Liver	2E-03	- -	N/A	2E-03
			Chromium, Hexavalent	7E-07	- -	N/A	- -	7E-07	Gastrointestinal	3E-03	- -	N/A	3E-03
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	5E-02	- -	N/A	5E-02
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	4E-03	- -	N/A	4E-03
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	1E-03	- -	N/A	1E-03
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	1E-02	- -	N/A	1E-02
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	1E-02	- -	N/A	1E-02
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	3E-03	- -	N/A	3E-03
			Silver	N/A	- -	N/A	- -	N/A	Skin	1E-02	- -	N/A	1E-02
			Thallium	N/A	- -	N/A	- -	N/A	Skin	N/A	- -	N/A	N/A
			Vanadium	N/A	- -	N/A	- -	N/A	Skin	2E-03	- -	N/A	2E-03
			Chemical Total	9E-07	- -	1E-07	- -	1E-06		1E-01	- -	2E-03	1E-01
			Radionuclide Total										
		Exposure Point Total						1E-06					1E-01
	Exposure Medium Total							1E-06					1E-01
Medium Total								1E-06					1E-01

TABLE 9.13.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Southern Wetland											
			Trichloroethene	7E-12	- -	N/A	- -	7E-12	Cardiovascular/ Developmental/ Immune System	5E-06	- -	N/A	5E-06
			Benzo(a)anthracene	6E-09	- -	6E-09	- -	1E-08	N/A	N/A	- -	N/A	N/A
			Benzo(a)pyrene	7E-08	- -	7E-08	- -	1E-07	Developmental	1E-03	- -	8E-04	2E-03
			Benzo(b)fluoranthene	1E-08	- -	1E-08	- -	2E-08	N/A	N/A	- -	N/A	N/A
			Carbazole	5E-11	- -	7E-11	- -	1E-10	N/A	N/A	- -	N/A	N/A
			Dibenz(a,h)anthracene	3E-08	- -	4E-08	- -	7E-08	N/A	N/A	- -	N/A	N/A
			Indeno(1,2,3-cd)pyrene	7E-09	- -	7E-09	- -	1E-08	N/A	N/A	- -	N/A	N/A
			4,4'-DDD	5E-09	- -	6E-09	- -	1E-08	Liver	2E-02	- -	9E-03	3E-02
			Aroclor-1260	N/A	- -	N/A	- -	N/A	Immune System/Skin	N/A	- -	N/A	N/A
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	8E-03	- -	N/A	8E-03
			Antimony	N/A	- -	N/A	- -	N/A	Blood	2E-02	- -	N/A	2E-02
			Arsenic	2E-07	- -	1E-07	- -	3E-07	Skin	1E-02	- -	3E-03	1E-02
			Cadmium (other media)	N/A	- -	N/A	- -	N/A	Kidney	5E-04	- -	9E-05	6E-04
			Chromium	N/A	- -	N/A	- -	N/A	Liver	4E-03	- -	N/A	4E-03
			Chromium, Hexavalent	1E-06	- -	N/A	- -	1E-06	Gastrointestinal	4E-03	- -	N/A	4E-03
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	6E-02	- -	N/A	6E-02
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	5E-03	- -	N/A	5E-03
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	3E-02	- -	N/A	3E-02
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	1E-02	- -	N/A	1E-02
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	7E-03	- -	N/A	7E-03
			Mercury (other media)	N/A	- -	N/A	- -	N/A	Developmental	1E-03	- -	N/A	1E-03
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	4E-03	- -	N/A	4E-03
			Silver	N/A	- -	N/A	- -	N/A	Skin	3E-02	- -	N/A	3E-02
			Thallium	N/A	- -	N/A	- -	N/A	Skin	7E-02	- -	N/A	7E-02
			Vanadium	N/A	- -	N/A	- -	N/A	Skin	3E-03	- -	N/A	3E-03
			Chemical Total	1E-06	- -	3E-07	- -	2E-06		3E-01	- -	1E-02	3E-01
			Radionuclide Total										
		Exposure Point Total						2E-06					3E-01
	Exposure Medium Total							2E-06					3E-01
Medium Total								2E-06					3E-01

TABLE 9.13.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Southern Wetland											
			Bromodichloromethane	- -	- -	N/A	- -	N/A	Kidney	- -	- -	N/A	N/A
			Chloroform	- -	- -	N/A	- -	N/A	Liver	- -	- -	N/A	N/A
			cis-1,2-Dichloroethene	- -	- -	N/A	- -	N/A	Kidney	- -	- -	N/A	N/A
			Trichloroethene	- -	- -	N/A	- -	N/A	Cardiovascular/ Developmental/ Immune System	- -	- -	N/A	N/A
			Vinyl chloride	- -	- -	N/A	- -	N/A	Liver	- -	- -	N/A	N/A
			1,4-Dioxane	- -	- -	N/A	- -	N/A	Liver/Kidney	- -	- -	N/A	N/A
			Aluminum	- -	- -	N/A	- -	N/A	Developmental	- -	- -	2E-05	2E-05
			Antimony	- -	- -	N/A	- -	N/A	Blood	- -	- -	N/A	N/A
			Arsenic	- -	- -	N/A	- -	N/A	Skin	- -	- -	N/A	N/A
			Cadmium (water)	- -	- -	N/A	- -	N/A	Kidney	- -	- -	9E-05	9E-05
			Chromium	- -	- -	N/A	- -	N/A	Liver	- -	- -	2E-04	2E-04
			Chromium, Hexavalent	- -	- -	7E-08	- -	7E-08	Gastrointestinal	- -	- -	2E-04	2E-04
			Cobalt	- -	- -	N/A	- -	N/A	Endocrine	- -	- -	N/A	N/A
			Cyanide	- -	- -	N/A	- -	N/A	Reproductive	- -	- -	N/A	N/A
			Iron	- -	- -	N/A	- -	N/A	Gastrointestinal	- -	- -	N/A	N/A
			Lead	- -	- -	N/A	- -	N/A	N/A	- -	- -	N/A	N/A
			Manganese	- -	- -	N/A	- -	N/A	Nervous System	- -	- -	N/A	N/A
			Silver	- -	- -	N/A	- -	N/A	Skin	- -	- -	N/A	N/A
			Thallium	- -	- -	N/A	- -	N/A	Skin	- -	- -	N/A	N/A
			Chemical Total	- -	- -	7E-08	- -	7E-08		- -	- -	5E-04	5E-04
			Radionuclide Total										
		Exposure Point Total						7E-08					5E-04
	Exposure Medium Total							7E-08					5E-04
Medium Total								7E-08					5E-04
Receptor Total								3E-06					4E-01

TABLE 9.13.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 3E-06

Total Hazard Across All Media: 4E-01

Total Blood HI =	2E-02
Total Cardiovascular HI =	1E-04
Total Developmental HI =	2E-02
Total Endocrine HI =	1E-01
Total Gastrointestinal HI =	4E-02
Total Immune System HI =	1E-04
Total Kidney HI =	7E-03
Total Liver HI =	4E-02
Total Nervous System HI =	2E-02
Total Reproductive HI =	3E-02
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	1E-01

TABLE 9.14.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Wetland/Floodplain Surface Soil (0-2 ft)	Bliss Brook											
			Trichloroethene	N/A	- -	N/A	- -	N/A	Cardiovascular/ Developmental/ Immune System	N/A	- -	N/A	N/A
			Benzo(a)anthracene	3E-07	- -	1E-07	- -	4E-07	N/A	N/A	- -	N/A	N/A
			Benzo(a)pyrene	3E-06	- -	1E-06	- -	5E-06	Developmental	2E-02	- -	7E-03	3E-02
			Benzo(b)fluoranthene	4E-07	- -	1E-07	- -	5E-07	N/A	N/A	- -	N/A	N/A
			Benzo(k)fluoranthene	3E-08	- -	1E-08	- -	4E-08	N/A	N/A	- -	N/A	N/A
			Carbazole	4E-09	- -	1E-09	- -	5E-09	N/A	N/A	- -	N/A	N/A
			Dibenz(a,h)anthracene	1E-06	- -	4E-07	- -	2E-06	N/A	N/A	- -	N/A	N/A
			Indeno(1,2,3-cd)pyrene	5E-07	- -	2E-07	- -	7E-07	N/A	N/A	- -	N/A	N/A
			Naphthalene	N/A	- -	N/A	- -	N/A	Blood	2E-05	- -	7E-06	3E-05
			4,4'-DDT	2E-09	- -	1E-10	- -	2E-09	Liver	9E-05	- -	6E-06	9E-05
			Endrin aldehyde	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	2E-02	- -	N/A	2E-02
			Antimony	N/A	- -	N/A	- -	N/A	Blood	8E-03	- -	N/A	8E-03
			Arsenic	3E-06	- -	4E-07	- -	3E-06	Skin	6E-02	- -	7E-03	6E-02
			Chromium	N/A	- -	N/A	- -	N/A	Liver	2E-03	- -	N/A	2E-03
			Chromium, Hexavalent	4E-06	- -	N/A	- -	4E-06	Gastrointestinal	5E-03	- -	N/A	5E-03
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	6E-02	- -	N/A	6E-02
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	3E-03	- -	N/A	3E-03
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	4E-03	- -	N/A	4E-03
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	7E-02	- -	N/A	7E-02
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	1E-01	- -	N/A	1E-01
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	2E-03	- -	N/A	2E-03
			Silver	N/A	- -	N/A	- -	N/A	Skin	1E-02	- -	N/A	1E-02
			Thallium	N/A	- -	N/A	- -	N/A	Skin	N/A	- -	N/A	N/A
			Vanadium	N/A	- -	N/A	- -	N/A	Skin	1E-02	- -	N/A	1E-02
			Chemical Total	1E-05	- -	2E-06	- -	1E-05		4E-01	- -	1E-02	4E-01
			Radionuclide Total										
		Exposure Point Total						1E-05					4E-01
	Exposure Medium Total							1E-05					4E-01
Medium Total								1E-05					4E-01

TABLE 9.14.RME
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
REASONABLE MAXIMUM EXPOSURE
WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Bliss Brook											
			Trichloroethene	2E-08	- -	N/A	- -	2E-08	Cardiovascular/ Developmental/ Immune System	4E-03	- -	N/A	4E-03
			Benzo(a)anthracene	2E-07	- -	1E-07	- -	3E-07	N/A	N/A	- -	N/A	N/A
			Benzo(a)pyrene	2E-06	- -	1E-06	- -	4E-06	Developmental	2E-02	- -	5E-03	2E-02
			Benzo(b)fluoranthene	2E-07	- -	1E-07	- -	3E-07	N/A	N/A	- -	N/A	N/A
			Carbazole	2E-09	- -	1E-09	- -	3E-09	N/A	N/A	- -	N/A	N/A
			Dibenz(a,h)anthracene	5E-07	- -	3E-07	- -	8E-07	N/A	N/A	- -	N/A	N/A
			Indeno(1,2,3-cd)pyrene	1E-07	- -	7E-08	- -	2E-07	N/A	N/A	- -	N/A	N/A
			4,4'-DDD	1E-09	- -	6E-10	- -	2E-09	Liver	1E-03	- -	3E-04	2E-03
			Aroclor-1260	2E-08	- -	2E-08	- -	3E-08	Immune System/Skin	4E-03	- -	1E-03	6E-03
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	2E-02	- -	N/A	2E-02
			Antimony	N/A	- -	N/A	- -	N/A	Blood	1E-02	- -	N/A	1E-02
			Arsenic	1E-06	- -	4E-07	- -	2E-06	Skin	3E-02	- -	3E-03	3E-02
			Cadmium (other media)	N/A	- -	N/A	- -	N/A	Kidney	2E-03	- -	2E-04	2E-03
			Chromium	N/A	- -	N/A	- -	N/A	Liver	6E-03	- -	N/A	6E-03
			Chromium, Hexavalent	4E-05	- -	N/A	- -	4E-05	Gastrointestinal	5E-02	- -	N/A	5E-02
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	7E-02	- -	N/A	7E-02
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	2E-03	- -	N/A	2E-03
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	1E-03	- -	N/A	1E-03
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	6E-02	- -	N/A	6E-02
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	7E-02	- -	N/A	7E-02
			Mercury (other media)	N/A	- -	N/A	- -	N/A	Developmental	4E-03	- -	N/A	4E-03
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	2E-03	- -	N/A	2E-03
			Silver	N/A	- -	N/A	- -	N/A	Skin	3E-03	- -	N/A	3E-03
			Thallium	N/A	- -	N/A	- -	N/A	Skin	N/A	- -	N/A	N/A
			Vanadium	N/A	- -	N/A	- -	N/A	Skin	5E-03	- -	N/A	5E-03
			Chemical Total	4E-05	- -	2E-06	- -	4E-05		3E-01	- -	1E-02	4E-01
			Radionuclide Total										
		Exposure Point Total						4E-05					4E-01
	Exposure Medium Total							4E-05					4E-01
Medium Total								4E-05					4E-01

TABLE 9.14.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Bliss Brook											
			Bromodichloromethane	- -	- -	N/A	- -	N/A	Kidney	- -	- -	N/A	N/A
			Chloroform	- -	- -	N/A	- -	N/A	Liver	- -	- -	N/A	N/A
			cis-1,2-Dichloroethene	- -	- -	N/A	- -	N/A	Kidney	- -	- -	2E-04	2E-04
			Trichloroethene	- -	- -	6E-09	- -	6E-09	Cardiovascular/ Developmental/ Immune System	- -	- -	8E-04	8E-04
			Vinyl chloride	- -	- -	N/A	- -	N/A	Liver	- -	- -	N/A	N/A
			1,4-Dioxane	- -	- -	N/A	- -	N/A	Liver/Kidney	- -	- -	N/A	N/A
			Aluminum	- -	- -	N/A	- -	N/A	Developmental	- -	- -	3E-04	3E-04
			Antimony	- -	- -	N/A	- -	N/A	Blood	- -	- -	N/A	N/A
			Arsenic	- -	- -	N/A	- -	N/A	Skin	- -	- -	N/A	N/A
			Cadmium (water)	- -	- -	N/A	- -	N/A	Kidney	- -	- -	2E-03	2E-03
			Chromium	- -	- -	N/A	- -	N/A	Liver	- -	- -	4E-03	4E-03
			Chromium, Hexavalent	- -	- -	3E-04	- -	3E-04	Gastrointestinal	- -	- -	3E-01	3E-01
			Cobalt	- -	- -	N/A	- -	N/A	Endocrine	- -	- -	N/A	N/A
			Cyanide	- -	- -	N/A	- -	N/A	Reproductive	- -	- -	N/A	N/A
			Iron	- -	- -	N/A	- -	N/A	Gastrointestinal	- -	- -	N/A	N/A
			Lead	- -	- -	N/A	- -	N/A	N/A	- -	- -	N/A	N/A
			Manganese	- -	- -	N/A	- -	N/A	Nervous System	- -	- -	1E-01	1E-01
			Silver	- -	- -	N/A	- -	N/A	Skin	- -	- -	5E-06	5E-06
			Thallium	- -	- -	N/A	- -	N/A	Skin	- -	- -	N/A	N/A
			Chemical Total	- -	- -	3E-04	- -	3E-04		- -	- -	4E-01	4E-01
			Radionuclide Total										
		Exposure Point Total						3E-04					4E-01
	Exposure Medium Total							3E-04					4E-01
Medium Total								3E-04					4E-01
Receptor Total								3E-04					1E+00

TABLE 9.14.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 3E-04

Total Hazard Across All Media: 1E+00

Total Blood HI =	2E-02
Total Cardiovascular HI =	5E-03
Total Developmental HI =	1E-01
Total Endocrine HI =	1E-01
Total Gastrointestinal HI =	5E-01
Total Immune System HI =	1E-02
Total Kidney HI =	9E-03
Total Liver HI =	1E-02
Total Nervous System HI =	3E-01
Total Reproductive HI =	5E-03
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	1E-01

TABLE 9.14.CTE
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY EXPOSURE
WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Wetland/Floodplain Surface Soil (0-2 ft)	Bliss Brook											
			Trichloroethene	N/A	- -	N/A	- -	N/A	Cardiovascular/ Developmental/ Immune System	N/A	- -	N/A	N/A
			Benzo(a)anthracene	2E-08	- -	1E-08	- -	3E-08	N/A	N/A	- -	N/A	N/A
			Benzo(a)pyrene	2E-07	- -	1E-07	- -	3E-07	Developmental	4E-03	- -	2E-03	6E-03
			Benzo(b)fluoranthene	2E-08	- -	1E-08	- -	4E-08	N/A	N/A	- -	N/A	N/A
			Benzo(k)fluoranthene	2E-09	- -	1E-09	- -	3E-09	N/A	N/A	- -	N/A	N/A
			Carbazole	8E-11	- -	4E-11	- -	1E-10	N/A	N/A	- -	N/A	N/A
			Dibenz(a,h)anthracene	2E-08	- -	1E-08	- -	3E-08	N/A	N/A	- -	N/A	N/A
			Indeno(1,2,3-cd)pyrene	7E-09	- -	5E-09	- -	1E-08	N/A	N/A	- -	N/A	N/A
			Naphthalene	N/A	- -	N/A	- -	N/A	Blood	8E-07	- -	5E-07	1E-06
			4,4'-DDT	9E-11	- -	2E-11	- -	1E-10	Liver	1E-05	- -	2E-06	2E-05
			Endrin aldehyde	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	4E-03	- -	N/A	4E-03
			Antimony	N/A	- -	N/A	- -	N/A	Blood	1E-03	- -	N/A	1E-03
			Arsenic	2E-07	- -	4E-08	- -	2E-07	Skin	9E-03	- -	2E-03	1E-02
			Chromium	N/A	- -	N/A	- -	N/A	Liver	4E-04	- -	N/A	4E-04
			Chromium, Hexavalent	2E-07	- -	N/A	- -	2E-07	Gastrointestinal	8E-04	- -	N/A	8E-04
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	1E-02	- -	N/A	1E-02
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	6E-04	- -	N/A	6E-04
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	7E-04	- -	N/A	7E-04
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	1E-02	- -	N/A	1E-02
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	2E-02	- -	N/A	2E-02
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	4E-04	- -	N/A	4E-04
			Silver	N/A	- -	N/A	- -	N/A	Skin	2E-03	- -	N/A	2E-03
			Thallium	N/A	- -	N/A	- -	N/A	Skin	N/A	- -	N/A	N/A
			Vanadium	N/A	- -	N/A	- -	N/A	Skin	2E-03	- -	N/A	2E-03
			Chemical Total	6E-07	- -	2E-07	- -	8E-07		7E-02	- -	4E-03	7E-02
			Radionuclide Total										
		Exposure Point Total						8E-07					7E-02
	Exposure Medium Total							8E-07					7E-02
Medium Total								8E-07					7E-02

TABLE 9.14.CTE
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY EXPOSURE
WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Bliss Brook	Trichloroethene	1E-09	- -	N/A	- -	1E-09	Cardiovascular/ Developmental/ Immune System	7E-04	- -	N/A	7E-04
			Benzo(a)anthracene	1E-08	- -	1E-08	- -	3E-08	N/A	N/A	- -	N/A	N/A
			Benzo(a)pyrene	1E-07	- -	1E-07	- -	3E-07	Developmental	3E-03	- -	2E-03	4E-03
			Benzo(b)fluoranthene	1E-08	- -	1E-08	- -	2E-08	N/A	N/A	- -	N/A	N/A
			Carbazole	1E-10	- -	1E-10	- -	2E-10	N/A	N/A	- -	N/A	N/A
			Dibenz(a,h)anthracene	3E-08	- -	3E-08	- -	6E-08	N/A	N/A	- -	N/A	N/A
			Indeno(1,2,3-cd)pyrene	8E-09	- -	8E-09	- -	2E-08	N/A	N/A	- -	N/A	N/A
			4,4'-DDD	6E-11	- -	7E-11	- -	1E-10	Liver	2E-04	- -	1E-04	3E-04
			Aroclor-1260	1E-09	- -	2E-09	- -	3E-09	Immune System/Skin	7E-04	- -	5E-04	1E-03
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	8E-03	- -	N/A	8E-03
			Antimony	N/A	- -	N/A	- -	N/A	Blood	2E-03	- -	N/A	2E-03
			Arsenic	7E-08	- -	4E-08	- -	1E-07	Skin	4E-03	- -	1E-03	5E-03
			Cadmium (other media)	N/A	- -	N/A	- -	N/A	Kidney	3E-04	- -	7E-05	4E-04
			Chromium	N/A	- -	N/A	- -	N/A	Liver	1E-03	- -	N/A	1E-03
			Chromium, Hexavalent	2E-06	- -	N/A	- -	2E-06	Gastrointestinal	8E-03	- -	N/A	8E-03
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	1E-02	- -	N/A	1E-02
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	4E-04	- -	N/A	4E-04
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	2E-04	- -	N/A	2E-04
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	9E-03	- -	N/A	9E-03
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	1E-02	- -	N/A	1E-02
			Mercury (other media)	N/A	- -	N/A	- -	N/A	Developmental	7E-04	- -	N/A	7E-04
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	4E-04	- -	N/A	4E-04
			Silver	N/A	- -	N/A	- -	N/A	Skin	5E-04	- -	N/A	5E-04
			Thallium	N/A	- -	N/A	- -	N/A	Skin	N/A	- -	N/A	N/A
			Vanadium	N/A	- -	N/A	- -	N/A	Skin	9E-04	- -	N/A	9E-04
			Chemical Total	2E-06	- -	3E-07	- -	2E-06		6E-02	- -	3E-03	7E-02
			Radionuclide Total										
		Exposure Point Total						2E-06					7E-02
	Exposure Medium Total							2E-06					7E-02
Medium Total								2E-06					7E-02

TABLE 9.14.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Bliss Brook											
			Bromodichloromethane	- -	- -	N/A	- -	N/A	Kidney	- -	- -	N/A	N/A
			Chloroform	- -	- -	N/A	- -	N/A	Liver	- -	- -	N/A	N/A
			cis-1,2-Dichloroethene	- -	- -	N/A	- -	N/A	Kidney	- -	- -	N/A	N/A
			Trichloroethene	- -	- -	N/A	- -	N/A	Cardiovascular/ Developmental/ Immune System	- -	- -	N/A	N/A
			Vinyl chloride	- -	- -	N/A	- -	N/A	Liver	- -	- -	N/A	N/A
			1,4-Dioxane	- -	- -	N/A	- -	N/A	Liver/Kidney	- -	- -	N/A	N/A
			Aluminum	- -	- -	N/A	- -	N/A	Developmental	- -	- -	3E-05	3E-05
			Antimony	- -	- -	N/A	- -	N/A	Blood	- -	- -	N/A	N/A
			Arsenic	- -	- -	N/A	- -	N/A	Skin	- -	- -	N/A	N/A
			Cadmium (water)	- -	- -	N/A	- -	N/A	Kidney	- -	- -	3E-04	3E-04
			Chromium	- -	- -	N/A	- -	N/A	Liver	- -	- -	4E-04	4E-04
			Chromium, Hexavalent	- -	- -	1E-05	- -	1E-05	Gastrointestinal	- -	- -	3E-02	3E-02
			Cobalt	- -	- -	N/A	- -	N/A	Endocrine	- -	- -	N/A	N/A
			Cyanide	- -	- -	N/A	- -	N/A	Reproductive	- -	- -	N/A	N/A
			Iron	- -	- -	N/A	- -	N/A	Gastrointestinal	- -	- -	N/A	N/A
			Lead	- -	- -	N/A	- -	N/A	N/A	- -	- -	N/A	N/A
			Manganese	- -	- -	N/A	- -	N/A	Nervous System	- -	- -	N/A	N/A
			Silver	- -	- -	N/A	- -	N/A	Skin	- -	- -	N/A	N/A
			Thallium	- -	- -	N/A	- -	N/A	Skin	- -	- -	N/A	N/A
			Chemical Total	- -	- -	1E-05	- -	1E-05		- -	- -	3E-02	3E-02
			Radionuclide Total										
		Exposure Point Total						1E-05					3E-02
	Exposure Medium Total							1E-05					3E-02
Medium Total								1E-05					3E-02
Receptor Total								1E-05					2E-01

TABLE 9.14.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 1E-05

Total Hazard Across All Media: 2E-01

Total Blood HI =	3E-03
Total Cardiovascular HI =	7E-04
Total Developmental HI =	2E-02
Total Endocrine HI =	2E-02
Total Gastrointestinal HI =	6E-02
Total Immune System HI =	2E-03
Total Kidney HI =	1E-03
Total Liver HI =	2E-03
Total Nervous System HI =	3E-02
Total Reproductive HI =	8E-04
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	2E-02

TABLE 9.15.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Bungay River/ Mechanics Pond											
			Trichloroethene	N/A	- -	N/A	- -	N/A	Cardiovascular/ Developmental/ Immune System	N/A	- -	N/A	N/A
			Benzo(a)anthracene	2E-07	- -	1E-07	- -	3E-07	N/A	N/A	- -	N/A	N/A
			Benzo(a)pyrene	2E-06	- -	1E-06	- -	3E-06	Developmental	1E-02	- -	4E-03	2E-02
			Benzo(b)fluoranthene	2E-07	- -	1E-07	- -	4E-07	N/A	N/A	- -	N/A	N/A
			Carbazole	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Dibenz(a,h)anthracene	1E-06	- -	5E-07	- -	2E-06	N/A	N/A	- -	N/A	N/A
			Indeno(1,2,3-cd)pyrene	1E-07	- -	7E-08	- -	2E-07	N/A	N/A	- -	N/A	N/A
			4,4'-DDD	2E-08	- -	1E-08	- -	3E-08	Liver	2E-02	- -	6E-03	3E-02
			Aroclor-1260	1E-07	- -	1E-07	- -	2E-07	Immune System/Skin	3E-02	- -	9E-03	4E-02
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	3E-02	- -	N/A	3E-02
			Antimony	N/A	- -	N/A	- -	N/A	Blood	5E-03	- -	N/A	5E-03
			Arsenic	1E-06	- -	4E-07	- -	2E-06	Skin	3E-02	- -	3E-03	3E-02
			Cadmium (other media)	N/A	- -	N/A	- -	N/A	Kidney	4E-02	- -	4E-03	4E-02
			Chromium	N/A	- -	N/A	- -	N/A	Liver	3E-03	- -	N/A	3E-03
			Chromium, Hexavalent	7E-06	- -	N/A	- -	7E-06	Gastrointestinal	9E-03	- -	N/A	9E-03
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	8E-02	- -	N/A	8E-02
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	1E-01	- -	N/A	1E-01
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	9E-04	- -	N/A	9E-04
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	6E-02	- -	N/A	6E-02
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	6E-02	- -	N/A	6E-02
			Mercury (other media)	N/A	- -	N/A	- -	N/A	Developmental	7E-02	- -	N/A	7E-02
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	4E-02	- -	N/A	4E-02
			Silver	N/A	- -	N/A	- -	N/A	Skin	6E-02	- -	N/A	6E-02
			Thallium	N/A	- -	N/A	- -	N/A	Skin	2E-01	- -	N/A	2E-01
			Vanadium	N/A	- -	N/A	- -	N/A	Skin	8E-03	- -	N/A	8E-03
			Chemical Total	1E-05	- -	2E-06	- -	1E-05		8E-01	- -	3E-02	9E-01
			Radionuclide Total										
		Exposure Point Total						1E-05					9E-01
	Exposure Medium Total							1E-05					9E-01
Medium Total								1E-05					9E-01

TABLE 9.15.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Bungay River/ Mechanics Pond											
			Bromodichloromethane	3E-09	- -	3E-09	- -	6E-09	Kidney	7E-06	- -	1E-05	2E-05
			Chloroform	8E-09	- -	1E-08	- -	2E-08	Liver	8E-05	- -	1E-04	2E-04
			cis-1,2-Dichloroethene	N/A	- -	N/A	- -	N/A	Kidney	3E-05	- -	8E-05	1E-04
			Trichloroethene	5E-10	- -	9E-10	- -	1E-09	Cardiovascular/ Developmental/ Immune System	4E-05	- -	1E-04	1E-04
			Vinyl chloride	N/A	- -	N/A	- -	N/A	Liver	N/A	- -	N/A	N/A
			1,4-Dioxane	6E-09	- -	N/A	- -	6E-09	Liver/Kidney	6E-06	- -	N/A	6E-06
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	1E-04	- -	2E-05	2E-04
			Antimony	N/A	- -	N/A	- -	N/A	Blood	5E-04	- -	N/A	5E-04
			Arsenic	7E-08	- -	N/A	- -	7E-08	Skin	5E-04	- -	N/A	5E-04
			Cadmium (water)	N/A	- -	N/A	- -	N/A	Kidney	2E-04	- -	4E-04	5E-04
			Chromium	N/A	- -	N/A	- -	N/A	Liver	3E-06	- -	3E-05	4E-05
			Chromium, Hexavalent	1E-07	- -	6E-07	- -	7E-07	Gastrointestinal	5E-05	- -	5E-04	6E-04
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	2E-03	- -	N/A	2E-03
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	1E-03	- -	N/A	1E-03
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	1E-03	- -	N/A	1E-03
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	5E-03	- -	2E-02	2E-02
			Silver	N/A	- -	N/A	- -	N/A	Skin	3E-05	- -	6E-05	1E-04
			Thallium	N/A	- -	N/A	- -	N/A	Skin	N/A	- -	N/A	N/A
			Chemical Total	2E-07	- -	6E-07	- -	8E-07		1E-02	- -	2E-02	3E-02
			Radionuclide Total										
		Exposure Point Total						8E-07					3E-02
	Exposure Medium Total							8E-07					3E-02
Medium Total								8E-07					3E-02
Receptor Total								2E-05					9E-01

TABLE 9.15.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 2E-05

Total Hazard Across All Media: 9E-01

Total Blood HI =	5E-03
Total Cardiovascular HI =	1E-04
Total Developmental HI =	1E-01
Total Endocrine HI =	8E-02
Total Gastrointestinal HI =	2E-01
Total Immune System HI =	4E-02
Total Kidney HI =	8E-02
Total Liver HI =	3E-02
Total Nervous System HI =	8E-02
Total Reproductive HI =	2E-03
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	3E-01

TABLE 9.15.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Sediment	Sediment	Bungay River/ Mechanics Pond											
			Trichloroethene	N/A	- -	N/A	- -	N/A	Cardiovascular/ Developmental/ Immune System	N/A	- -	N/A	N/A
			Benzo(a)anthracene	1E-08	- -	1E-08	- -	2E-08	N/A	N/A	- -	N/A	N/A
			Benzo(a)pyrene	1E-07	- -	1E-07	- -	2E-07	Developmental	2E-03	- -	1E-03	4E-03
			Benzo(b)fluoranthene	1E-08	- -	1E-08	- -	3E-08	N/A	N/A	- -	N/A	N/A
			Carbazole	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Dibenz(a,h)anthracene	6E-08	- -	6E-08	- -	1E-07	N/A	N/A	- -	N/A	N/A
			Indeno(1,2,3-cd)pyrene	8E-09	- -	8E-09	- -	2E-08	N/A	N/A	- -	N/A	N/A
			4,4'-DDD	1E-09	- -	1E-09	- -	3E-09	Liver	4E-03	- -	2E-03	6E-03
			Aroclor-1260	7E-09	- -	1E-08	- -	2E-08	Immune System/Skin	4E-03	- -	3E-03	7E-03
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	6E-03	- -	N/A	6E-03
			Antimony	N/A	- -	N/A	- -	N/A	Blood	8E-04	- -	N/A	8E-04
			Arsenic	8E-08	- -	5E-08	- -	1E-07	Skin	5E-03	- -	1E-03	6E-03
			Cadmium (other media)	N/A	- -	N/A	- -	N/A	Kidney	7E-03	- -	1E-03	8E-03
			Chromium	N/A	- -	N/A	- -	N/A	Liver	5E-04	- -	N/A	5E-04
			Chromium, Hexavalent	4E-07	- -	N/A	- -	4E-07	Gastrointestinal	1E-03	- -	N/A	1E-03
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	1E-02	- -	N/A	1E-02
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	2E-02	- -	N/A	2E-02
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	2E-04	- -	N/A	2E-04
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	1E-02	- -	N/A	1E-02
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	1E-02	- -	N/A	1E-02
			Mercury (other media)	N/A	- -	N/A	- -	N/A	Developmental	1E-02	- -	N/A	1E-02
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	6E-03	- -	N/A	6E-03
			Silver	N/A	- -	N/A	- -	N/A	Skin	1E-02	- -	N/A	1E-02
			Thallium	N/A	- -	N/A	- -	N/A	Skin	3E-02	- -	N/A	3E-02
			Vanadium	N/A	- -	N/A	- -	N/A	Skin	1E-03	- -	N/A	1E-03
			Chemical Total	7E-07	- -	3E-07	- -	9E-07		1E-01	- -	9E-03	2E-01
			Radionuclide Total										
		Exposure Point Total						9E-07					2E-01
	Exposure Medium Total							9E-07					2E-01
Medium Total								9E-07					2E-01

TABLE 9.15.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Water	Surface Water	Bungay River/ Mechanics Pond											
			Bromodichloromethane	1E-10	- -	4E-10	- -	5E-10	Kidney	2E-06	- -	3E-06	6E-06
			Chloroform	1E-10	- -	4E-10	- -	5E-10	Liver	8E-06	- -	1E-05	2E-05
			cis-1,2-Dichloroethene	N/A	- -	N/A	- -	N/A	Kidney	9E-06	- -	3E-05	4E-05
			Trichloroethene	2E-11	- -	1E-10	- -	1E-10	Cardiovascular/ Developmental/ Immune System	1E-05	- -	4E-05	5E-05
			Vinyl chloride	N/A	- -	N/A	- -	N/A	Liver	N/A	- -	N/A	N/A
			1,4-Dioxane	3E-10	- -	N/A	- -	3E-10	Liver/Kidney	2E-06	- -	N/A	2E-06
			Aluminum	N/A	- -	N/A	- -	N/A	Developmental	5E-05	- -	6E-06	5E-05
			Antimony	N/A	- -	N/A	- -	N/A	Blood	2E-04	- -	N/A	2E-04
			Arsenic	3E-09	- -	N/A	- -	3E-09	Skin	2E-04	- -	N/A	2E-04
			Cadmium (water)	N/A	- -	N/A	- -	N/A	Kidney	5E-05	- -	1E-04	2E-04
			Chromium	N/A	- -	N/A	- -	N/A	Liver	1E-06	- -	1E-05	1E-05
			Chromium, Hexavalent	5E-09	- -	7E-08	- -	7E-08	Gastrointestinal	2E-05	- -	2E-04	2E-04
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	2E-04	- -	N/A	2E-04
			Cyanide	N/A	- -	N/A	- -	N/A	Reproductive	3E-04	- -	N/A	3E-04
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	4E-04	- -	N/A	4E-04
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	2E-03	- -	5E-03	7E-03
			Silver	N/A	- -	N/A	- -	N/A	Skin	1E-05	- -	2E-05	3E-05
			Thallium	N/A	- -	N/A	- -	N/A	Skin	N/A	- -	N/A	N/A
			Chemical Total	9E-09	- -	7E-08	- -	8E-08		3E-03	- -	6E-03	9E-03
			Radionuclide Total										
		Exposure Point Total						8E-08					9E-03
	Exposure Medium Total							8E-08					9E-03
Medium Total								8E-08					9E-03
Receptor Total								1E-06					2E-01

TABLE 9.15.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Current/Future
Receptor Population: Recreational User
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total

- - = Not Evaluated

N/A = Not Applicable

Total Risk Across All Media: 1E-06

Total Hazard Across All Media: 2E-01

Total Blood HI =	1E-03
Total Cardiovascular HI =	5E-05
Total Developmental HI =	2E-02
Total Endocrine HI =	1E-02
Total Gastrointestinal HI =	3E-02
Total Immune System HI =	7E-03
Total Kidney HI =	1E-02
Total Liver HI =	7E-03
Total Nervous System HI =	2E-02
Total Reproductive HI =	5E-04
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	6E-02

TABLE 9.17.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Trichloroethene	5E-09	2E-14	N/A	- -	5E-09	Cardiovascular/ Developmental/ Immune System	1E-03	3E-09	N/A	1E-03
			Benzo(a)anthracene	1E-06	1E-11	4E-07	- -	1E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	9E-06	1E-10	3E-06	- -	1E-05	Developmental	6E-02	1E-04	2E-02	8E-02
			Benzo(b)fluoranthene	6E-07	8E-12	2E-07	- -	8E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	5E-08	7E-13	2E-08	- -	7E-08	N/A	N/A	N/A	N/A	N/A
			Carbazole	8E-09	N/A	2E-09	- -	1E-08	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	7E-07	1E-11	2E-07	- -	1E-06	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	4E-07	6E-12	1E-07	- -	6E-07	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	3E-13	N/A	- -	3E-13	Blood	9E-05	7E-09	3E-05	1E-04
			4,4'-DDT	1E-06	1E-11	1E-07	- -	1E-06	Liver	6E-02	N/A	4E-03	7E-02
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	1E-01	3E-04	N/A	1E-01
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	4E+00	N/A	N/A	4E+00
			Arsenic	4E-06	7E-10	6E-07	- -	5E-06	Skin	8E-02	3E-05	9E-03	9E-02
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	1E-02	N/A	N/A	1E-02
			Chromium, Hexavalent	2E-04	7E-07	N/A	- -	2E-04	Gastrointestinal	3E-01	9E-05	N/A	3E-01
			Cobalt	N/A	4E-09	N/A	- -	4E-09	Endocrine	4E-01	2E-04	N/A	4E-01
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	3E-02	N/A	N/A	3E-02
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	3E-03	N/A	N/A	3E-03
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-01	N/A	N/A	2E-01
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	2E-01	8E-04	N/A	2E-01
			Nickel	N/A	2E-10	N/A	- -	2E-10	Kidney	8E-03	2E-05	N/A	8E-03
			Silver	N/A	N/A	N/A	- -	N/A	Skin	1E-03	N/A	N/A	1E-03
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	3E+00	N/A	N/A	3E+00
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	5E-02	3E-05	N/A	5E-02
			Chemical Total	2E-04	8E-07	5E-06	- -	2E-04		8E+00	2E-03	3E-02	8E+00
			Radionuclide Total										

TABLE 9.17.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						2E-04					8E+00
	Exposure Medium Total							2E-04					8E+00
Medium Total								2E-04					8E+00
Receptor Total								2E-04					8E+00

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 2E-04

Total Hazard Across All Media: 8E+00

Total Blood HI =	4E+00
Total Cardiovascular HI =	1E-03
Total Developmental HI =	2E-01
Total Endocrine HI =	4E-01
Total Gastrointestinal HI =	5E-01
Total Immune System HI =	1E-03
Total Kidney HI =	8E-03
Total Liver HI =	8E-02
Total Nervous System HI =	2E-01
Total Reproductive HI =	3E-03
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	3E+00

TABLE 9.17.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Trichloroethene	9E-10	5E-15	N/A	- -	9E-10	Cardiovascular/ Developmental/ Immune System	6E-04	3E-09	N/A	6E-04
			Benzo(a)anthracene	2E-07	5E-12	1E-07	- -	3E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1E-06	4E-11	1E-06	- -	2E-06	Developmental	3E-02	1E-04	2E-02	5E-02
			Benzo(b)fluoranthene	1E-07	3E-12	7E-08	- -	2E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	8E-09	2E-13	6E-09	- -	1E-08	N/A	N/A	N/A	N/A	N/A
			Carbazole	1E-09	N/A	7E-10	- -	2E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	1E-07	3E-12	8E-08	- -	2E-07	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	7E-08	2E-12	5E-08	- -	1E-07	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	9E-14	N/A	- -	9E-14	Blood	4E-05	7E-09	3E-05	7E-05
			4,4'-DDT	3E-08	6E-13	4E-09	- -	3E-08	Liver	4E-03	N/A	6E-04	5E-03
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	6E-02	3E-04	N/A	6E-02
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	2E+00	N/A	N/A	2E+00
			Arsenic	7E-07	2E-10	2E-07	- -	9E-07	Skin	4E-02	3E-05	9E-03	5E-02
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	5E-03	N/A	N/A	5E-03
			Chromium, Hexavalent	3E-05	3E-07	N/A	- -	3E-05	Gastrointestinal	1E-01	9E-05	N/A	1E-01
			Cobalt	N/A	2E-09	N/A	- -	2E-09	Endocrine	2E-01	2E-04	N/A	2E-01
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-02	N/A	N/A	2E-02
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	2E-03	N/A	N/A	2E-03
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	1E-01	N/A	N/A	1E-01
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	8E-02	8E-04	N/A	8E-02
			Nickel	N/A	6E-11	N/A	- -	6E-11	Kidney	4E-03	2E-05	N/A	4E-03
			Silver	N/A	N/A	N/A	- -	N/A	Skin	7E-04	N/A	N/A	7E-04
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	7E-01	N/A	N/A	7E-01
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	2E-02	3E-05	N/A	2E-02
			Chemical Total	3E-05	3E-07	2E-06	- -	4E-05		3E+00	2E-03	3E-02	3E+00
			Radionuclide Total										

TABLE 9.17.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						4E-05					3E+00
	Exposure Medium Total							4E-05					3E+00
Medium Total								4E-05					3E+00
Receptor Total								4E-05					3E+00

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 4E-05

Total Hazard Across All Media: 3E+00

Total Blood HI =	2E+00
Total Cardiovascular HI =	6E-04
Total Developmental HI =	1E-01
Total Endocrine HI =	2E-01
Total Gastrointestinal HI =	3E-01
Total Immune System HI =	6E-04
Total Kidney HI =	4E-03
Total Liver HI =	1E-02
Total Nervous System HI =	8E-02
Total Reproductive HI =	2E-03
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	8E-01

TABLE 9.18.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface/ Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Trichloroethene	6E-09	2E-14	N/A	- -	6E-09	Cardiovascular/ Developmental/ Immune System	1E-03	4E-09	N/A	1E-03
			Benzo(a)anthracene	2E-06	2E-11	6E-07	- -	2E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1E-05	2E-10	5E-06	- -	2E-05	Developmental	1E-01	2E-04	3E-02	1E-01
			Benzo(b)fluoranthene	2E-06	2E-11	5E-07	- -	2E-06	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	1E-07	2E-12	4E-08	- -	2E-07	N/A	N/A	N/A	N/A	N/A
			Carbazole	7E-09	N/A	2E-09	- -	9E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	4E-06	5E-11	1E-06	- -	5E-06	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	9E-07	1E-11	3E-07	- -	1E-06	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	5E-13	N/A	- -	5E-13	Blood	2E-04	1E-08	5E-05	2E-04
			4,4'-DDT	8E-07	8E-12	6E-08	- -	8E-07	Liver	4E-02	N/A	3E-03	4E-02
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	1E-01	3E-04	N/A	1E-01
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	3E+00	N/A	N/A	3E+00
			Arsenic	4E-06	7E-10	6E-07	- -	5E-06	Skin	8E-02	3E-05	1E-02	9E-02
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	1E-02	N/A	N/A	1E-02
			Chromium, Hexavalent	3E-04	1E-06	N/A	- -	3E-04	Gastrointestinal	4E-01	1E-04	N/A	4E-01
			Cobalt	N/A	7E-08	N/A	- -	7E-08	Endocrine	6E+00	4E-03	N/A	6E+00
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	5E-02	N/A	N/A	5E-02
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	3E-03	N/A	N/A	3E-03
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-01	N/A	N/A	2E-01
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	2E-01	9E-04	N/A	2E-01
			Nickel	N/A	2E-10	N/A	- -	2E-10	Kidney	8E-03	2E-05	N/A	8E-03
			Silver	N/A	N/A	N/A	- -	N/A	Skin	5E-03	N/A	N/A	5E-03
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	1E+00	N/A	N/A	1E+00
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	5E-02	3E-05	N/A	5E-02
			Chemical Total	4E-04	1E-06	8E-06	- -	4E-04		1E+01	5E-03	4E-02	1E+01
			Radionuclide Total										

TABLE 9.18.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						4E-04					1E+01
	Exposure Medium Total							4E-04					1E+01
Medium Total								4E-04					1E+01
Receptor Total								4E-04					1E+01

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 4E-04

Total Hazard Across All Media: 1E+01

Total Blood HI =	3E+00
Total Cardiovascular HI =	1E-03
Total Developmental HI =	2E-01
Total Endocrine HI =	6E+00
Total Gastrointestinal HI =	7E-01
Total Immune System HI =	1E-03
Total Kidney HI =	8E-03
Total Liver HI =	5E-02
Total Nervous System HI =	2E-01
Total Reproductive HI =	3E-03
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	1E+00

TABLE 9.18.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface/ Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Trichloroethene	1E-09	6E-15	N/A	- -	1E-09	Cardiovascular/ Developmental/ Immune System	7E-04	4E-09	N/A	7E-04
			Benzo(a)anthracene	3E-07	9E-12	2E-07	- -	5E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	2E-06	7E-11	2E-06	- -	4E-06	Developmental	5E-02	2E-04	3E-02	8E-02
			Benzo(b)fluoranthene	3E-07	8E-12	2E-07	- -	4E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	2E-08	6E-13	1E-08	- -	3E-08	N/A	N/A	N/A	N/A	N/A
			Carbazole	1E-09	N/A	7E-10	- -	2E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	6E-07	2E-11	4E-07	- -	1E-06	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	2E-07	4E-12	1E-07	- -	3E-07	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	2E-13	N/A	- -	2E-13	Blood	8E-05	1E-08	5E-05	1E-04
			4,4'-DDT	1E-07	3E-12	2E-08	- -	2E-07	Liver	2E-02	N/A	3E-03	2E-02
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	6E-02	3E-04	N/A	6E-02
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	1E+00	N/A	N/A	1E+00
			Arsenic	7E-07	3E-10	2E-07	- -	9E-07	Skin	4E-02	3E-05	1E-02	5E-02
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	5E-03	N/A	N/A	5E-03
			Chromium, Hexavalent	6E-05	4E-07	N/A	- -	6E-05	Gastrointestinal	2E-01	1E-04	N/A	2E-01
			Cobalt	N/A	2E-08	N/A	- -	2E-08	Endocrine	3E+00	4E-03	N/A	3E+00
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-02	N/A	N/A	2E-02
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	1E-03	N/A	N/A	1E-03
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	1E-01	N/A	N/A	1E-01
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	8E-02	9E-04	N/A	8E-02
			Nickel	N/A	6E-11	N/A	- -	6E-11	Kidney	4E-03	2E-05	N/A	4E-03
			Silver	N/A	N/A	N/A	- -	N/A	Skin	2E-03	N/A	N/A	2E-03
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	5E-01	N/A	N/A	5E-01
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	2E-02	3E-05	N/A	2E-02
			Chemical Total	6E-05	5E-07	3E-06	- -	6E-05		6E+00	5E-03	4E-02	6E+00
			Radionuclide Total										

TABLE 9.18.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						6E-05					6E+00
	Exposure Medium Total							6E-05					6E+00
Medium Total								6E-05					6E+00
Receptor Total								6E-05					6E+00

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 6E-05

Total Hazard Across All Media: 6E+00

Total Blood HI =	1E+00
Total Cardiovascular HI =	7E-04
Total Developmental HI =	1E-01
Total Endocrine HI =	3E+00
Total Gastrointestinal HI =	4E-01
Total Immune System HI =	7E-04
Total Kidney HI =	4E-03
Total Liver HI =	3E-02
Total Nervous System HI =	8E-02
Total Reproductive HI =	1E-03
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	6E-01

TABLE 9.29.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Trichloroethene	7E-10	1E-14	N/A	- -	7E-10	Cardiovascular/ Developmental/ Immune System	8E-05	4E-09	N/A	8E-05
			Benzo(a)anthracene	5E-08	6E-12	3E-08	- -	8E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	4E-07	5E-11	2E-07	- -	6E-07	Developmental	4E-03	1E-04	2E-03	6E-03
			Benzo(b)fluoranthene	3E-08	3E-12	2E-08	- -	4E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	2E-09	3E-13	1E-09	- -	4E-09	N/A	N/A	N/A	N/A	N/A
			Carbazole	2E-09	N/A	7E-10	- -	2E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	3E-08	4E-12	2E-08	- -	5E-08	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	2E-08	2E-12	1E-08	- -	3E-08	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	3E-13	N/A	- -	3E-13	Blood	6E-06	8E-09	3E-06	9E-06
			4,4'-DDT	2E-07	1E-11	3E-08	- -	3E-07	Liver	4E-03	N/A	5E-04	5E-03
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	8E-03	3E-04	N/A	8E-03
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	3E-01	N/A	N/A	3E-01
			Arsenic	8E-07	8E-10	2E-07	- -	1E-06	Skin	5E-03	3E-05	1E-03	6E-03
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	7E-04	N/A	N/A	7E-04
			Chromium, Hexavalent	9E-06	3E-07	N/A	- -	9E-06	Gastrointestinal	2E-02	1E-04	N/A	2E-02
			Cobalt	N/A	5E-09	N/A	- -	5E-09	Endocrine	3E-02	3E-04	N/A	3E-02
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-03	N/A	N/A	2E-03
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	2E-04	N/A	N/A	2E-04
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-02	N/A	N/A	2E-02
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	1E-02	1E-03	N/A	1E-02
			Nickel	N/A	2E-10	N/A	- -	2E-10	Kidney	6E-04	2E-05	N/A	6E-04
			Silver	N/A	N/A	N/A	- -	N/A	Skin	9E-05	N/A	N/A	9E-05
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	2E-01	N/A	N/A	2E-01
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	3E-03	3E-05	N/A	3E-03
			Chemical Total	1E-05	3E-07	5E-07	- -	1E-05		5E-01	2E-03	4E-03	6E-01
			Radionuclide Total										

TABLE 9.29.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						1E-05					6E-01
	Exposure Medium Total							1E-05					6E-01
Medium Total								1E-05					6E-01
Receptor Total								1E-05					6E-01

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 1E-05

Total Hazard Across All Media: 6E-01

Total Blood HI =	3E-01
Total Cardiovascular HI =	8E-05
Total Developmental HI =	1E-02
Total Endocrine HI =	3E-02
Total Gastrointestinal HI =	3E-02
Total Immune System HI =	8E-05
Total Kidney HI =	6E-04
Total Liver HI =	5E-03
Total Nervous System HI =	1E-02
Total Reproductive HI =	2E-04
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	2E-01

TABLE 9.29.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Trichloroethene	1E-10	2E-15	N/A	- -	1E-10	Cardiovascular/ Developmental/ Immune System	4E-05	2E-09	N/A	4E-05
			Benzo(a)anthracene	9E-09	1E-12	5E-09	- -	1E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	7E-08	9E-12	4E-08	- -	1E-07	Developmental	2E-03	6E-05	1E-03	3E-03
			Benzo(b)fluoranthene	5E-09	6E-13	3E-09	- -	8E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	4E-10	5E-14	2E-10	- -	7E-10	N/A	N/A	N/A	N/A	N/A
			Carbazole	3E-10	N/A	1E-10	- -	4E-10	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	6E-09	7E-13	3E-09	- -	1E-08	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	4E-09	4E-13	2E-09	- -	6E-09	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	5E-14	N/A	- -	5E-14	Blood	3E-06	4E-09	2E-06	5E-06
			4,4'-DDT	6E-09	3E-13	8E-10	- -	7E-09	Liver	3E-04	N/A	3E-05	3E-04
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	4E-03	2E-04	N/A	4E-03
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	1E-01	N/A	N/A	1E-01
			Arsenic	2E-07	1E-10	3E-08	- -	2E-07	Skin	3E-03	2E-05	6E-04	3E-03
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	3E-04	N/A	N/A	3E-04
			Chromium, Hexavalent	2E-06	5E-08	N/A	- -	2E-06	Gastrointestinal	8E-03	5E-05	N/A	8E-03
			Cobalt	N/A	9E-10	N/A	- -	9E-10	Endocrine	1E-02	1E-04	N/A	1E-02
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	1E-03	N/A	N/A	1E-03
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	1E-04	N/A	N/A	1E-04
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	8E-03	N/A	N/A	8E-03
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	5E-03	5E-04	N/A	6E-03
			Nickel	N/A	4E-11	N/A	- -	4E-11	Kidney	3E-04	1E-05	N/A	3E-04
			Silver	N/A	N/A	N/A	- -	N/A	Skin	5E-05	N/A	N/A	5E-05
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	5E-02	N/A	N/A	5E-02
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	2E-03	2E-05	N/A	2E-03
			Chemical Total	2E-06	5E-08	9E-08	- -	2E-06		2E-01	9E-04	2E-03	2E-01
			Radionuclide Total										

TABLE 9.29.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						2E-06					2E-01
	Exposure Medium Total							2E-06					2E-01
Medium Total								2E-06					2E-01
Receptor Total								2E-06					2E-01

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 2E-06

Total Hazard Across All Media: 2E-01

Total Blood HI =	1E-01
Total Cardiovascular HI =	4E-05
Total Developmental HI =	7E-03
Total Endocrine HI =	1E-02
Total Gastrointestinal HI =	2E-02
Total Immune System HI =	4E-05
Total Kidney HI =	3E-04
Total Liver HI =	6E-04
Total Nervous System HI =	6E-03
Total Reproductive HI =	1E-04
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	5E-02

TABLE 9.30.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface/ Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Trichloroethene	7E-10	1E-14	N/A	- -	7E-10	Cardiovascular/ Developmental/ Immune System	9E-05	4E-09	N/A	9E-05
			Benzo(a)anthracene	8E-08	1E-11	5E-08	- -	1E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	7E-07	8E-11	4E-07	- -	1E-06	Developmental	7E-03	2E-04	4E-03	1E-02
			Benzo(b)fluoranthene	7E-08	9E-12	4E-08	- -	1E-07	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	6E-09	7E-13	3E-09	- -	9E-09	N/A	N/A	N/A	N/A	N/A
			Carbazole	2E-09	N/A	6E-10	- -	2E-09	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	2E-07	2E-11	1E-07	- -	3E-07	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	4E-08	5E-12	2E-08	- -	7E-08	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	5E-13	N/A	- -	5E-13	Blood	1E-05	1E-08	6E-06	2E-05
			4,4'-DDT	2E-07	9E-12	2E-08	- -	2E-07	Liver	3E-03	N/A	3E-04	3E-03
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	8E-03	3E-04	N/A	8E-03
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	2E-01	N/A	N/A	2E-01
			Arsenic	9E-07	8E-10	2E-07	- -	1E-06	Skin	5E-03	4E-05	1E-03	7E-03
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	7E-04	N/A	N/A	7E-04
			Chromium, Hexavalent	2E-05	5E-07	N/A	- -	2E-05	Gastrointestinal	3E-02	2E-04	N/A	3E-02
			Cobalt	N/A	8E-08	N/A	- -	8E-08	Endocrine	4E-01	4E-03	N/A	4E-01
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	3E-03	N/A	N/A	3E-03
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	2E-04	N/A	N/A	2E-04
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-02	N/A	N/A	2E-02
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	1E-02	1E-03	N/A	1E-02
			Nickel	N/A	2E-10	N/A	- -	2E-10	Kidney	5E-04	2E-05	N/A	6E-04
			Silver	N/A	N/A	N/A	- -	N/A	Skin	3E-04	N/A	N/A	3E-04
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	7E-02	N/A	N/A	7E-02
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	3E-03	3E-05	N/A	3E-03
			Chemical Total	2E-05	6E-07	8E-07	- -	2E-05		8E-01	6E-03	5E-03	8E-01
			Radionuclide Total										

TABLE 9.30.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						2E-05					8E-01
	Exposure Medium Total							2E-05					8E-01
Medium Total								2E-05					8E-01
Receptor Total								2E-05					8E-01

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 2E-05

Total Hazard Across All Media: 8E-01

Total Blood HI =	2E-01
Total Cardiovascular HI =	9E-05
Total Developmental HI =	2E-02
Total Endocrine HI =	4E-01
Total Gastrointestinal HI =	5E-02
Total Immune System HI =	9E-05
Total Kidney HI =	6E-04
Total Liver HI =	4E-03
Total Nervous System HI =	1E-02
Total Reproductive HI =	2E-04
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	8E-02

TABLE 9.30.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface/ Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Trichloroethene	1E-10	2E-15	N/A	- -	1E-10	Cardiovascular/ Developmental/ Immune System	4E-05	2E-09	N/A	4E-05
			Benzo(a)anthracene	2E-08	2E-12	8E-09	- -	2E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1E-07	1E-11	7E-08	- -	2E-07	Developmental	3E-03	1E-04	2E-03	5E-03
			Benzo(b)fluoranthene	1E-08	2E-12	7E-09	- -	2E-08	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	1E-09	1E-13	6E-10	- -	2E-09	N/A	N/A	N/A	N/A	N/A
			Carbazole	3E-10	N/A	1E-10	- -	4E-10	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	3E-08	4E-12	2E-08	- -	5E-08	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	8E-09	9E-13	4E-09	- -	1E-08	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	9E-14	N/A	- -	9E-14	Blood	5E-06	7E-09	3E-06	8E-06
			4,4'-DDT	3E-08	2E-12	4E-09	- -	3E-08	Liver	1E-03	N/A	2E-04	2E-03
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Developmental	4E-03	2E-04	N/A	4E-03
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	9E-02	N/A	N/A	9E-02
			Arsenic	2E-07	1E-10	3E-08	- -	2E-07	Skin	3E-03	2E-05	6E-04	3E-03
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	3E-04	N/A	N/A	3E-04
			Chromium, Hexavalent	3E-06	9E-08	N/A	- -	3E-06	Gastrointestinal	1E-02	8E-05	N/A	1E-02
			Cobalt	N/A	1E-08	N/A	- -	1E-08	Endocrine	2E-01	2E-03	N/A	2E-01
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-03	N/A	N/A	2E-03
			Cyanide	N/A	N/A	N/A	- -	N/A	Reproductive	9E-05	N/A	N/A	9E-05
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	8E-03	N/A	N/A	8E-03
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	5E-03	5E-04	N/A	6E-03
			Nickel	N/A	4E-11	N/A	- -	4E-11	Kidney	3E-04	1E-05	N/A	3E-04
			Silver	N/A	N/A	N/A	- -	N/A	Skin	2E-04	N/A	N/A	2E-04
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	4E-02	N/A	N/A	4E-02
			Vanadium	N/A	N/A	N/A	- -	N/A	Skin	2E-03	1E-05	N/A	2E-03
			Chemical Total	3E-06	1E-07	1E-07	- -	3E-06		4E-01	3E-03	3E-03	4E-01
			Radionuclide Total										

TABLE 9.30.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Commercial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						3E-06					4E-01
	Exposure Medium Total							3E-06					4E-01
Medium Total								3E-06					4E-01
Receptor Total								3E-06					4E-01

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 3E-06

Total Hazard Across All Media: 4E-01

Total Blood HI =	9E-02
Total Cardiovascular HI =	4E-05
Total Developmental HI =	9E-03
Total Endocrine HI =	2E-01
Total Gastrointestinal HI =	2E-02
Total Immune System HI =	4E-05
Total Kidney HI =	3E-04
Total Liver HI =	2E-03
Total Nervous System HI =	6E-03
Total Reproductive HI =	9E-05
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	4E-02

TABLE 9.31.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface/ Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Trichloroethene	5E-11	3E-16	N/A	- -	5E-11	Cardiovascular/ Developmental/ Immune System	1E-04	2E-09	N/A	1E-04
			Benzo(a)anthracene	6E-09	2E-13	2E-09	- -	8E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	5E-08	2E-12	2E-08	- -	7E-08	Developmental	1E-02	1E-04	4E-03	2E-02
			Benzo(b)fluoranthene	5E-09	2E-13	2E-09	- -	7E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	4E-10	1E-14	2E-10	- -	5E-10	N/A	N/A	N/A	N/A	N/A
			Carbazole	1E-10	N/A	3E-11	- -	1E-10	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	1E-08	4E-13	5E-09	- -	2E-08	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	3E-09	1E-13	1E-09	- -	4E-09	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	1E-14	N/A	- -	1E-14	Nervous System	6E-07	7E-09	2E-07	8E-07
			4,4'-DDT	1E-08	2E-13	1E-09	- -	1E-08	Liver	4E-03	N/A	4E-04	5E-03
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Nervous System	1E-02	2E-04	N/A	1E-02
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	3E-01	N/A	N/A	3E-01
			Arsenic	6E-08	2E-11	9E-09	- -	7E-08	Skin	9E-03	2E-05	1E-03	1E-02
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	1E-03	2E-05	N/A	1E-03
			Chromium, Hexavalent	1E-06	1E-08	N/A	- -	1E-06	Blood	3E-02	3E-05	N/A	3E-02
			Cobalt	N/A	2E-09	N/A	- -	2E-09	Endocrine	7E-02	6E-04	N/A	7E-02
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	2E-02	N/A	N/A	2E-02
			Cyanide	N/A	N/A	N/A	- -	N/A	Endocrine/Nervous System	1E-05	N/A	N/A	1E-05
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	3E-02	N/A	N/A	3E-02
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	2E-02	2E-04	N/A	2E-02
			Nickel	N/A	4E-12	N/A	- -	4E-12	Kidney	9E-04	5E-06	N/A	9E-04
			Silver	N/A	N/A	N/A	- -	N/A	Skin	5E-04	N/A	N/A	5E-04
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	3E-02	N/A	N/A	3E-02
			Vanadium	N/A	N/A	N/A	- -	N/A	Blood	2E-03	1E-05	N/A	3E-03
			Chemical Total	1E-06	1E-08	4E-08	- -	1E-06		5E-01	1E-03	6E-03	5E-01
			Radionuclide Total										
		Exposure Point Total						1E-06					5E-01
	Exposure Medium Total							1E-06					5E-01
Medium Total								1E-06					5E-01

TABLE 9.31.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Shallow Groundwater	Walton & Lonsbury Property											
			1,1,1-Trichloroethane	N/A	- -	N/A	- -	N/A	Liver	1E-05	- -	N/A	1E-05
			1,1,2-Trichloroethane	9E-11	- -	N/A	- -	9E-11	Liver	3E-05	- -	N/A	3E-05
			1,1-Dichloroethane	2E-09	- -	N/A	- -	2E-09	Kidney	1E-05	- -	N/A	1E-05
			1,1-Dichloroethene	N/A	- -	N/A	- -	N/A	Liver	2E-03	- -	N/A	2E-03
			1,2-Dibromo-3-chloropropane	N/A	- -	N/A	- -	N/A	Reproductive	N/A	- -	N/A	N/A
			1,2-Dichloroethane	N/A	- -	N/A	- -	N/A	Kidney	N/A	- -	N/A	N/A
			Benzene	7E-11	- -	N/A	- -	7E-11	Immune System	9E-06	- -	N/A	9E-06
			Bromodichloromethane	N/A	- -	N/A	- -	N/A	Reproductive	N/A	- -	N/A	N/A
			Chloroform	N/A	- -	N/A	- -	N/A	Liver	N/A	- -	N/A	N/A
			cis-1,2-Dichloroethene	N/A	- -	N/A	- -	N/A	Kidney	1E-03	- -	N/A	1E-03
			Tetrachloroethene	2E-11	- -	1E-10	- -	2E-10	Liver	7E-06	- -	5E-05	5E-05
			Trichloroethene	9E-10	- -	N/A	- -	9E-10	Cardiovascular/ Developmental/ Immune System	3E-03	- -	N/A	3E-03
			Vinyl chloride	6E-08	- -	N/A	- -	6E-08	Liver	2E-03	- -	N/A	2E-03
			1,4-Dioxane	2E-10	- -	N/A	- -	2E-10	Liver	2E-07	- -	N/A	2E-07
			Aluminum	N/A	- -	N/A	- -	N/A	Nervous System	1E-03	- -	7E-05	1E-03
			Antimony	N/A	- -	N/A	- -	N/A	Blood	8E-04	- -	N/A	8E-04
			Arsenic	1E-08	- -	N/A	- -	1E-08	Skin	2E-03	- -	N/A	2E-03
			Barium	N/A	- -	N/A	- -	N/A	Kidney	1E-04	- -	N/A	1E-04
			Cadmium (water)	N/A	- -	N/A	- -	N/A	Muscoluskeletal	2E-04	- -	N/A	2E-04
			Chromium	N/A	- -	N/A	- -	N/A	Liver	2E-03	- -	1E-02	1E-02
			Chromium, Hexavalent	6E-05	- -	3E-04	- -	4E-04	Blood	2E+00	- -	9E+00	1E+01
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	2E-02	- -	N/A	2E-02
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	3E-03	- -	N/A	3E-03
			Cyanide	N/A	- -	N/A	- -	N/A	Endocrine/Nervous System	6E-05	- -	N/A	6E-05
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	3E-03	- -	N/A	3E-03
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	5E-03	- -	N/A	5E-03
			Mercury (water)	N/A	- -	N/A	- -	N/A	Kidney	2E-05	- -	N/A	2E-05
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	1E-04	- -	N/A	1E-04
			Vanadium	N/A	- -	N/A	- -	N/A	Blood	2E-04	- -	N/A	2E-04
			Chemical Total	6E-05	- -	3E-04	- -	4E-04		2E+00	- -	9E+00	1E+01
			Radionuclide Total										

TABLE 9.31.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						4E-04					1E+01
	Exposure Medium Total							4E-04					1E+01
Medium Total								4E-04					1E+01
Groundwater	Trench Air	Walton & Lonsbury Property	1,1-Dichloroethane	- -	7E-09	- -	- -	7E-09	N/A	- -	N/A	- -	N/A
			Chemical Total	- -	7E-09	- -	- -	7E-09		- -	- -	- -	N/A
			Radionuclide Total										
		Exposure Point Total						7E-09					N/A
	Exposure Medium Total							7E-09					N/A
Medium Total								7E-09					N/A
Receptor Total								4E-04					1E+01

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 4E-04

Total Hazard Across All Media: 1E+01

Total Blood HI =	1E+01
Total Cardiovascular HI =	3E-03
Total Developmental HI =	2E-02
Total Endocrine HI =	9E-02
Total Gastrointestinal HI =	6E-02
Total Immune System HI =	3E-03
Total Kidney HI =	3E-03
Total Liver HI =	2E-02
Total Nervous System HI =	4E-02
Total Reproductive HI =	N/A
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	2E-04
Total Skin HI =	4E-02

TABLE 9.31.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface/ Subsurface Soil (0-10 ft)	Walton & Lonsbury Property	Trichloroethene	2E-11	8E-17	N/A	- -	2E-11	Cardiovascular/ Developmental/ Immune System	5E-05	7E-10	N/A	5E-05
			Benzo(a)anthracene	2E-09	6E-14	7E-10	- -	3E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(a)pyrene	1E-08	5E-13	6E-09	- -	2E-08	Developmental	3E-03	3E-05	1E-03	5E-03
			Benzo(b)fluoranthene	2E-09	6E-14	7E-10	- -	2E-09	N/A	N/A	N/A	N/A	N/A
			Benzo(k)fluoranthene	1E-10	4E-15	5E-11	- -	2E-10	N/A	N/A	N/A	N/A	N/A
			Carbazole	3E-11	N/A	1E-11	- -	4E-11	N/A	N/A	N/A	N/A	N/A
			Dibenz(a,h)anthracene	4E-09	1E-13	2E-09	- -	5E-09	N/A	N/A	N/A	N/A	N/A
			Indeno(1,2,3-cd)pyrene	9E-10	3E-14	4E-10	- -	1E-09	N/A	N/A	N/A	N/A	N/A
			Naphthalene	N/A	3E-15	N/A	- -	3E-15	Nervous System	2E-07	2E-09	8E-08	3E-07
			4,4'-DDT	3E-09	6E-14	3E-10	- -	4E-09	Liver	1E-03	N/A	1E-04	2E-03
			Endrin aldehyde	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Aluminum	N/A	N/A	N/A	- -	N/A	Nervous System	4E-03	5E-05	N/A	4E-03
			Antimony	N/A	N/A	N/A	- -	N/A	Blood	1E-01	N/A	N/A	1E-01
			Arsenic	2E-08	5E-12	3E-09	- -	2E-08	Skin	3E-03	6E-06	5E-04	3E-03
			Chromium	N/A	N/A	N/A	- -	N/A	Liver	3E-04	6E-06	N/A	4E-04
			Chromium, Hexavalent	3E-07	3E-09	N/A	- -	3E-07	Blood	9E-03	9E-06	N/A	9E-03
			Cobalt	N/A	5E-10	N/A	- -	5E-10	Endocrine	2E-02	2E-04	N/A	2E-02
			Copper	N/A	N/A	N/A	- -	N/A	Gastrointestinal	7E-03	N/A	N/A	7E-03
			Cyanide	N/A	N/A	N/A	- -	N/A	Endocrine/Nervous System	5E-06	N/A	N/A	5E-06
			Iron	N/A	N/A	N/A	- -	N/A	Gastrointestinal	9E-03	N/A	N/A	9E-03
			Lead	N/A	N/A	N/A	- -	N/A	N/A	N/A	N/A	N/A	N/A
			Manganese	N/A	N/A	N/A	- -	N/A	Nervous System	6E-03	5E-05	N/A	6E-03
			Nickel	N/A	1E-12	N/A	- -	1E-12	Kidney	3E-04	2E-06	N/A	3E-04
			Silver	N/A	N/A	N/A	- -	N/A	Skin	2E-04	N/A	N/A	2E-04
			Thallium	N/A	N/A	N/A	- -	N/A	Skin	1E-02	N/A	N/A	1E-02
			Vanadium	N/A	N/A	N/A	- -	N/A	Blood	8E-04	5E-06	N/A	8E-04
			Chemical Total	4E-07	4E-09	1E-08	- -	4E-07		2E-01	4E-04	2E-03	2E-01
			Radionuclide Total										
		Exposure Point Total						4E-07					2E-01
	Exposure Medium Total							4E-07					2E-01
Medium Total								4E-07					2E-01

TABLE 9.31.CTE
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs
CENTRAL TENDENCY EXPOSURE
WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Shallow Groundwater	Walton & Lonsbury Property											
			1,1,1-Trichloroethane	N/A	- -	N/A	- -	N/A	Liver	4E-06	- -	N/A	4E-06
			1,1,2-Trichloroethane	3E-11	- -	N/A	- -	3E-11	Liver	9E-06	- -	N/A	9E-06
			1,1-Dichloroethane	7E-10	- -	N/A	- -	7E-10	Kidney	4E-06	- -	N/A	4E-06
			1,1-Dichloroethene	N/A	- -	N/A	- -	N/A	Liver	6E-04	- -	N/A	6E-04
			1,2-Dibromo-3-chloropropane	N/A	- -	N/A	- -	N/A	Reproductive	N/A	- -	N/A	N/A
			1,2-Dichloroethane	N/A	- -	N/A	- -	N/A	Kidney	N/A	- -	N/A	N/A
			Benzene	2E-11	- -	N/A	- -	2E-11	Immune System	3E-06	- -	N/A	3E-06
			Bromodichloromethane	N/A	- -	N/A	- -	N/A	Reproductive	N/A	- -	N/A	N/A
			Chloroform	N/A	- -	N/A	- -	N/A	Liver	N/A	- -	N/A	N/A
			cis-1,2-Dichloroethene	N/A	- -	N/A	- -	N/A	Kidney	5E-04	- -	N/A	5E-04
			Tetrachloroethene	7E-12	- -	4E-11	- -	5E-11	Liver	2E-06	- -	1E-05	2E-05
			Trichloroethene	3E-10	- -	N/A	- -	3E-10	Cardiovascular/ Developmental/ Immune System	9E-04	- -	N/A	9E-04
			Vinyl chloride	2E-08	- -	N/A	- -	2E-08	Liver	6E-04	- -	N/A	6E-04
			1,4-Dioxane	5E-11	- -	N/A	- -	5E-11	Liver	7E-08	- -	N/A	7E-08
			Aluminum	N/A	- -	N/A	- -	N/A	Nervous System	3E-04	- -	2E-05	3E-04
			Antimony	N/A	- -	N/A	- -	N/A	Blood	3E-04	- -	N/A	3E-04
			Arsenic	4E-09	- -	N/A	- -	4E-09	Skin	6E-04	- -	N/A	6E-04
			Barium	N/A	- -	N/A	- -	N/A	Kidney	4E-05	- -	N/A	4E-05
			Cadmium (water)	N/A	- -	N/A	- -	N/A	Muscoluskeletal	7E-05	- -	N/A	7E-05
			Chromium	N/A	- -	N/A	- -	N/A	Liver	6E-04	- -	3E-03	4E-03
			Chromium, Hexavalent	3E-06	- -	2E-05	- -	2E-05	Blood	9E-02	- -	5E-01	6E-01
			Cobalt	N/A	- -	N/A	- -	N/A	Endocrine	6E-03	- -	N/A	6E-03
			Copper	N/A	- -	N/A	- -	N/A	Gastrointestinal	1E-03	- -	N/A	1E-03
			Cyanide	N/A	- -	N/A	- -	N/A	Endocrine/Nervous System	2E-05	- -	N/A	2E-05
			Iron	N/A	- -	N/A	- -	N/A	Gastrointestinal	1E-03	- -	N/A	1E-03
			Lead	N/A	- -	N/A	- -	N/A	N/A	N/A	- -	N/A	N/A
			Manganese	N/A	- -	N/A	- -	N/A	Nervous System	2E-03	- -	N/A	2E-03
			Mercury (water)	N/A	- -	N/A	- -	N/A	Kidney	4E-06	- -	N/A	4E-06
			Nickel	N/A	- -	N/A	- -	N/A	Kidney	4E-05	- -	N/A	4E-05
			Vanadium	N/A	- -	N/A	- -	N/A	Blood	2E-05	- -	N/A	2E-05
			Chemical Total	3E-06	- -	2E-05	- -	2E-05		1E-01	- -	5E-01	6E-01
			Radionuclide Total										

TABLE 9.31.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk					Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
		Exposure Point Total						2E-05					6E-01
	Exposure Medium Total							2E-05					6E-01
Medium Total								2E-05					6E-01
Groundwater	Trench Air	Walton & Lonsbury Property	1,1-Dichloroethane	- -	2E-09	- -	- -	2E-09	N/A	- -	N/A	- -	N/A
			Chemical Total	- -	2E-09	- -	- -	2E-09		- -	- -	- -	N/A
			Radionuclide Total										
		Exposure Point Total						2E-09					N/A
	Exposure Medium Total							2E-09					N/A
Medium Total								2E-09					N/A
Receptor Total								2E-05					8E-01

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 2E-05

Total Hazard Across All Media: 8E-01

Total Blood HI =	7E-01
Total Cardiovascular HI =	9E-04
Total Developmental HI =	6E-03
Total Endocrine HI =	3E-02
Total Gastrointestinal HI =	2E-02
Total Immune System HI =	9E-04
Total Kidney HI =	8E-04
Total Liver HI =	7E-03
Total Nervous System HI =	1E-02
Total Reproductive HI =	N/A
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	7E-05
Total Skin HI =	1E-02

TABLE 10.2.RME

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface Soil (0-2 ft)	Walton & Lonsbury Property	Benzo(a)pyrene	9E-06	1E-10	3E-06	- -	1E-05					
			Antimony						Blood	4E+00	N/A	N/A	4E+00
			Arsenic	4E-06	7E-10	6E-07	- -	5E-06					
			Chromium, Hexavalent	2E-04	7E-07	N/A	- -	2E-04					
			Thallium						Skin	3E+00	N/A	N/A	3E+00
			Chemical Total	2E-04	7E-07	3E-06	- -	2E-04		7E+00	- -	- -	7E+00
			Radionuclide Total										
		Exposure Point Total						2E-04					7E+00
	Exposure Medium Total							2E-04					7E+00
Medium Total								2E-04					7E+00
Receptor Total								2E-04					7E+00

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 2E-04

Total Hazard Across All Media: 7E+00

Total Blood HI =	4E+00
Total Cardiovascular HI =	N/A
Total Developmental HI =	N/A
Total Endocrine HI =	N/A
Total Gastrointestinal HI =	N/A
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Liver HI =	N/A
Total Nervous System HI =	N/A
Total Reproductive HI =	N/A
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	3E+00

TABLE 10.3.RME

RISK SUMMARY

REASONABLE MAXIMUM EXPOSURE

WALTON & LONSBURY SUPERFUND SITE

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Young Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk Young Child + Adult					Non-Carcinogenic Hazard Quotient Young Child				
				Ingestion	Inhalation	Dermal	External (Radiation)	Exposure Routes Total	Primary Target Organ	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Upland/Floodplain Surface/ Subsurface Soil (0-10 ft)	Walton & Lonsbury Property											
			Benzo(a)anthracene	2E-06	2E-11	6E-07	- -	2E-06					
			Benzo(a)pyrene	1E-05	2E-10	5E-06	- -	2E-05					
			Benzo(b)fluoranthene	2E-06	2E-11	5E-07	- -	2E-06					
			Dibenz(a,h)anthracene	4E-06	5E-11	1E-06	- -	5E-06					
			Antimony						Blood	3E+00	N/A	N/A	3E+00
			Arsenic	4E-06	7E-10	6E-07	- -	5E-06					
			Chromium, Hexavalent	3E-04	1E-06	N/A	- -	3E-04					
			Cobalt						Endocrine	6E+00	4E-03	N/A	6E+00
			Chemical Total	4E-04	1E-06	8E-06	- -	4E-04		9E+00	4E-03	- -	9E+00
			Radionuclide Total										
		Exposure Point Total						4E-04					9E+00
	Exposure Medium Total							4E-04					9E+00
Medium Total								4E-04					9E+00
Receptor Total								4E-04					9E+00

- - = Not Evaluated
N/A = Not Applicable

Total Risk Across All Media: 4E-04

Total Hazard Across All Media: 9E+00

Total Blood HI =	3E+00
Total Cardiovascular HI =	N/A
Total Developmental HI =	N/A
Total Endocrine HI =	6E+00
Total Gastrointestinal HI =	N/A
Total Immune System HI =	N/A
Total Kidney HI =	N/A
Total Liver HI =	N/A
Total Nervous System HI =	N/A
Total Reproductive HI =	N/A
Total Respiratory HI =	N/A
Total Muscoluskeletal HI =	N/A
Total Skin HI =	N/A