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**DEPARTMENT OF THE NAVY**  
NAVY ENVIRONMENTAL HEALTH CENTER  
2510 WALMER AVENUE  
NORFOLK, VIRGINIA 23513-2617

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Ser 06/ 2846  
17 4 MAY 1993

**From:** Commanding Officer, Navy Environmental Health Center  
**To:** Commander, Atlantic Division, Naval Facilities Engineering Command,  
Code 1822, 1510 Gilbert Street, Norfolk, VA 23511-2699

**Subj:** MEDICAL REVIEW OF INSTALLATION RESTORATION PROGRAM  
DOCUMENTS FOR NAVAL AIR STATION (NAS) OCEANA, VIRGINIA  
BEACH, VIRGINIA

**Ref:** (a) Your letter 5090 1822:JFS:jam of 04 May 93

**Encl:** (1) Medical Review of Draft RCRA Facility Investigation Report, Naval Air Station  
(NAS) Oceana, Virginia Beach, Virginia

1. As requested by reference (a), medical review of the "Draft RCRA Facility Investigation Report, Naval Air Station (NAS) Oceana, Virginia Beach, Virginia" has been completed. Our comments are provided in enclosure (1).

2. We are available to discuss the enclosed information by telephone with you and, if desired, with you and your contractor. We are also available to provide health-related review for future documents associated with this site.

3. If you require additional assistance, please coordinate with Ms. Sheila A. Berglund, P.E., Head, Installation Restoration Program Support Department at 444-7575, extension 430.

*G.E. Williams*

G. E. WILLIAMS  
By direction

**MEDICAL REVIEW OF  
DRAFT RCRA FACILITY INVESTIGATION REPORT FOR  
NAVAL AIR STATION OCEANA  
VIRGINIA BEACH, VIRGINIA**

Reference: (a) Phonecon btwn NAVENVIRHLTHCEN (C. Grosse)/  
U.S.EPA Region III (R. Davis) of 14 May 1993

Attachment: (1) Drinking Water Regulations and Health  
Advisories, Office of Water, U.S. Environmental  
Protection Agency (December 1992); 13 pages

(2) Table 70 ("Summary of ER-L, ER-M, and overall  
apparent effects thresholds concentrations for  
selected chemicals in sediment (dry weight).")  
from: NOAA Technical Memorandum NOS OMA 52 (March  
1990).

**General Comments:**

1. The draft document entitled "RCRA Facility Investigation, Draft Report, Oceana Naval Air Station, Virginia Beach, Virginia" prepared for Atlantic Division, Naval Facilities Engineering Command by CH2M Hill, Inc., and dated April, 1993 was provided to the Navy Environmental Health Center (NAVENVIRHLTHCEN) for review on May 3, 1993. Specific review comments and recommendations are provided below.

2. The technical point of contact for this review of the Draft RCRA Facility Investigation (RFI) report is Ms. Andrea Lunsford, Head, Health Risk Assessment Department, Environmental Programs Directorate, NAVENVIRHLTHCEN, who may be contacted at (804) 444-7575 or DSN 564-7575, extension 402.

**Review Comments and Recommendations:**

1. Page 3-4, Chapter 3 (RFI Activities), Section entitled "Field Activities", subsection entitled "Analytical Program"

Comment: The statement is made that ground water, soil, sediment and surface water samples comprised the list of environmental media analyzed. Nowhere in the scope of the RFI is air addressed as a potential contaminant pathway from any of the seventeen sites. This omission limits the ability to conduct a thorough health and environmental assessment of each RCRA site.

Recommendation: Investigate the air pathway impacts associated with each of the seventeen RCRA sites.

2. Page 4-15, Chapter 4 (Individual Site Investigations), Section entitled "Site 1-West Woods Oil Disposal Pit," subsection E (Health and Environmental Assessment)

Comment: Beginning with Table 4-1-12 ("Organic and Inorganic Contaminants at Site 1 Compared Against Potentially Applicable Federal and State Standards"), the number and type of applicable federal and state standards varies for each table which is displayed. There is no uniformity of the standards used for the various media sampling data being compared to. For example, in Table 4-1-12, surface water sampling data values are given for maximum contaminant levels (MCLs); however, no maximum contaminant level goals (MCLGs) are listed. In Table 4-2-7, for ground water sampling data, both MCLs and MCLGs are presented. These same disparities occur for state soil and water standards and for proposed RCRA action levels.

Recommendation: Provide sampling data tables with more uniform comparison to federal and state standards. All applicable standards should be listed for each particular type of media being evaluated.

3. Page 4-15, Chapter 4 (Individual Site Investigations), Section entitled "Site 1-West Woods Oil Disposal Pit," subsection E (Health and Environmental Assessment), Table 4-1-12 (Organic and Inorganic Contaminants at Site 1 Compared Against Potentially Applicable Federal and State Standards)

Comments:

a. There are numerous discrepancies involving the various federal and state standards values presented. For example:

(1) The MCL values for beryllium and benzo(a)pyrene are given as "NA"; the values given in the USEPA's *Drinking Water Regulations and Health Advisories* (December 1992); (Attachment (1)) are given as 0.001 and 0.0002 mg/L, respectively.

(2) The MCL value given for iron is either listed as "NA" (sediment; soil) or "NS" (surface water); there is a secondary standard for iron of 0.3 mg/L.

(3) No health based criteria for carcinogens or systemic toxicants value is given for beryllium, when there are USEPA values of 0.00714 and 200 ug/L, respectively.

Recommendation: Review data tables for completeness, and correct all federal and state standards values as indicated. Attachment (1) provides current values.

4. Page 4-15, Chapter 4 (Individual Site Investigations), Section entitled "Site 1-West Woods Oil Disposal Pit", subsection E (Health and Environmental Assessment), Paragraph 2

Comments:

a. The text states that because there are no inorganic sediment criteria, contaminant concentrations in sediments were compared to the ambient water quality criteria (AWQC), with the assumption that the concentrations of contaminant in sediment equals those in the water column. Additionally, the statement is made that this is a conservative approach. This is indeed a very conservative approach, and one which may overestimate human and ecological risk. Rather than using various water quality standards, consideration should be given to comparing these sediment sampling values to reference values for sediment.

b. Attachment (2) provides sediment comparison values which are defined as "overall apparent effects thresholds concentrations." The National Oceanic and Atmospheric Administration (NOAA) document entitled "the Potential for Biological Effects of Sediment-sorbed Contaminants Tested in the National Status and Trends Program" (NOAA Technical Memorandum NOS OMA 52; March 1990) should be consulted for information about the use of these sediment values.

c. During reference (a), EPA personnel stated that as a rule of thumb, values of 10 to 100 times the AWQC can be used as sediment comparison values for ecological assessments (the value selected should be based on fate and transport characteristics of the chemical of potential concern).

Recommendations:

a. When feasible, compare sediment sample values to sediment reference values rather than using the ultra-conservative approach of comparing them to water quality criteria standards which would tend to overestimate human and ecological risk.

b. Solicit approval for using "rule-of-thumb" sediment comparison values from EPA Region III.

5. Page 4-50, Chapter 4 (Individual Site Investigations), Section entitled "Site 2E-Line Shack 109 Disposal Area", subsection E (Health and Environmental Assessment), Paragraph 3

Comment: The text states that the health based criteria for beryllium is 0.143 ppb and that this was exceeded in all 2E soil samples for this element. The health based criteria for beryllium is 143 ppb, and not 0.143. The text goes on to state that beryllium concentrations in the soil also exceeded the RCRA

Action Level. The RCRA Action Level is 200 ppb, and not 0.2 ppb as shown in the corresponding Table 4-5-7.

Recommendation: Review the sampling data and federal and state standards found in Table 4-5-7 for completeness. Particular attention should be paid to the values for beryllium where it is not clear whether the data presented are in units of ppm or ppb.

6. Page 4-58, Chapter 4 (Individual Site Investigations), Section entitled "Site 11-Firefighting Training Area", subsection E (Health and Environmental Assessment), Paragraph 4

Comments:

a. The text states that the mean background concentration of beryllium in eastern United States is 550 ppb. However, upon examining the corresponding Table 4-6-7, which gives background soil concentrations in the Eastern United States, there are no values presented for beryllium.

b. Throughout the RFI report, soil sampling data is compared to regional background soil data. It was not apparent at any of the seventeen sites that background soil data had been collected which could also be used as a means of comparison to the site sampling data.

Recommendations:

a. Review the information found on Table 4-6-7 for regional background soil data, and add the values which are discussed in the text for beryllium.

b. Consider collection of onsite background soil sampling data in future RFI investigations.

7. Page 4-65, Chapter 4 (Individual Site Investigations), Section entitled "Site 15-Abandoned Tank Farm", subsection E (Health and Environmental Assessment), Table 4-7-2 (Contaminants in Groundwater at Site 15 that Exceeded Applicable Federal Standards)

Comments:

a. The text states that ground water concentrations exceeded federal MCLs and proposed MCLs listed in Table 4-7-2 for lead, benzene, ethylbenzene, toluene, and total xylene. In reviewing this table it was found that no values were given for federal MCLs for ethylbenzene, toluene, or xylene; only an "NS." Values, however, were given in the "Proposed MCLs" column. The current final MCLs for ethylbenzene, toluene, and xylene are 700, 1,000, and 10,000 ug/L, respectively. None of these MCLs are

"proposed."

b. In addition, the standard for lead is now listed as a "TT" or treatment technique which means that no more than 5% of the samples per month may be positive. For systems collecting fewer than 40 samples per month, no more than 1 may be positive.

Recommendation: Review Table 4-7-2 for completeness, and correct the federal MCL values, as indicated.

8. Page 4-83, Chapter 4 (Individual Site Investigations), Section entitled "Site 20-Waste Oil Storage Area, Building 543", subsection E (Health and Environmental Assessment), Table 4-11-2 (Constituents Detected in the Soils at Site 20, Compared Against Potentially Applicable Federal and State Standards)

Comment: In reviewing the reference values given for carbon disulfide, toluene, ethylbenzene, xylene and 2-butanone, it appears that the units are incorrect. The reference values were intended to be in ug/kg of soil, or ppb, but instead most of these are given in units of ppm. For example, toluene, ethylbenzene, xylene, and 2-butanone are listed as 20,000, 8,000, 200,000 and 4,000, respectively. These are in ppm. In order to become ug/kg or ppb units they should be multiplied by 1000. The value given for carbon disulfide is 8,000 when in fact it should be 800 ppm or 800,000 ppb.

Recommendation: Review Table 4-11-2 for completeness, and correct reference values, as indicated.

9. Page 4-87, Chapter 4 (Individual Site Investigations), Section entitled "Site 22-Construction Debris Landfill", subsection D (Contamination and Extent)

Comment: In the discussion on the analytical results for the media which were sampled, it was not apparent that asbestos had been analyzed for in any of the media which were examined. Asbestos is commonly found in construction debris at landfills, particularly in regard to the demolition of older buildings. If asbestos was not analyzed or was not suspected of being present in the debris, then the rationale for its exclusion from analysis should be stated. This also holds true for Site 25 which is an inert landfill where demolition and construction debris are disposed of.

Recommendation: Consider sampling for asbestos if it is suspected of being present in any of the media examined. If it was not analyzed or was not suspected of being present in the debris, then the rationale for its exclusion from analysis should be stated.

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# **DRINKING WATER REGULATIONS AND HEALTH ADVISORIES**

by

**Office of Water  
U.S. Environmental Protection Agency  
Washington, D.C.  
202-260-7571**

**SAFE DRINKING WATER HOTLINE  
1-800-426-4791  
Monday thru Friday, 8:30 AM to 5:00 PM EST**

**December 1992**

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**LEGEND****Abbreviations column descriptions are:**

- MCLG** - Maximum Contaminant Level Goal. A non-enforceable concentration of a drinking water contaminant that is protective of adverse human health effects and allows an adequate margin of safety.
- MCL** - Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered to any user of a public water system.
- RfD** - Reference Dose. An estimate of a daily exposure to the human population that is likely to be without appreciable risk of deleterious effects over a lifetime.
- DWEL** - Drinking Water Equivalent Level. A lifetime exposure concentration protective of adverse, non-cancer health effects, that assumes all of the exposure to a contaminant is from a drinking water source.

(\*) The codes for the **Status Reg** and **Status HA** columns are as follows:

- F** - final  
**D** - draft  
**L** - listed for regulation  
**P** - proposed  
**I** - tentative

Other codes found in the table include the following:

- NA** - not applicable  
**PS** - performance standard 0.5 NTU - 1.0 NTU  
**II** - treatment technique
- - No more than 5% of the samples per month may be positive. For systems collecting fewer than 40 samples/month, no more than 1 sample per month may be positive.
- - guidance

- Large discrepancies between Lifetime and Longer-term HA values may occur because of the Agency's conservative policies, especially with regard to carcinogenicity, relative source contribution, and less than lifetime exposures in chronic toxicity testing. These factors can result in a cumulative UF (uncertainty factor) of 10 to 1,000 when calculating a Lifetime HA.

# Drinking Water Standards and Health Advisories

December 1992

Page 1

Chemicals	Standards			Status NA*	Health Advisories								Cancer Group
	Status Reg.*	MCLD (mg/l)	MCL (mg/l)		10-kg Child			70-kg Adult					
					One-day (mg/l)	Ten-day (mg/l)	Longer- term (mg/l)	Longer- term (mg/l)	RfD (mg/kg/ day)	OWEL (mg/l)	Lifetime (mg/l)	mg/l at 10 <sup>-6</sup> Cancer Risk	
<b>ORGANICS</b>													
Acetophenone	-	-	-	-	-	-	-	-	0.06	-	-	-	-
Acifluorfen	-	-	-	F	2	2	0.1	0.4	0.013	0.4	-	0.1	B2
Acrylamide	F	zero	TT	F	1.5	0.3	0.02	0.07	0.0002	0.007	-	0.001	B2
Acrylonitrile	L	-	-	D	-	-	-	-	-	-	-	0.005	B1*
Adipates (diethylhexyl)	P	0.5	0.5	-	-	-	-	-	0.7	20	0.5	-	C
Alachlor	F	zero	0.002	F	0.1	0.1	-	-	0.01	0.4	-	0.04	B2
Aldicarb	F	0.001	0.003	F	-	-	-	-	0.0002	0.007	0.001	-	D*
Aldicarb sulfone	F	0.001	0.002	F	-	-	-	-	0.0002	0.007	0.001	-	D*
Aldicarb sulfoxide	F	0.001	0.004	F	-	-	-	-	0.0002	0.007	0.001	-	D*
Aldrin	-	-	-	D	0.0003	0.0003	0.0003	0.0003	0.00003	0.001	-	0.0002	B2
Ametryn	-	-	-	F	9	9	0.9	3	0.009	0.3	0.06	-	D
Ammonium sulfate	-	-	-	F	20	20	20	20	0.26	8	2	-	D
Anthracene (PAH)	-	-	-	-	-	-	-	-	0.3	-	-	-	D
Atrazine	F	0.003	0.003	F	0.1	0.1	0.05	0.2	0.005	0.2	0.003	-	C
Baygon	-	-	-	F	0.04	0.04	0.04	0.1	0.004	0.1	0.003	-	C
Bentazon	L	-	-	F	0.3	0.3	0.3	0.9	0.0025	0.09	0.02	-	D
Benz(a)anthracene (PAH)	P	zero	0.0001	-	-	-	-	-	-	-	-	-	B2
Benzene	F	zero	0.005	F	0.2	0.2	-	-	-	-	-	0.1	A
Benzo(a)pyrene (PAH)	F	zero	0.0002	-	-	-	-	-	-	-	-	-	B2*
Benzo(b)fluoranthene (PAH)	P	zero	0.0002	-	-	-	-	-	-	-	-	-	B2
Benzo(g,h)perylene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	D
Benzo(k)fluoranthene (PAH)	P	zero	0.0002	-	-	-	-	-	-	-	-	-	B2
bis-2-Chloroisopropyl ether	-	-	-	F	4	4	4	13	0.04	1	0.3	-	D
Bromacil	L	-	-	F	6	6	3	9	0.13	6	0.09	-	C
Bromobenzene	L	-	-	D	-	-	-	-	-	-	-	-	-

\* Under review.

NOTE: Anthracene and Benzo(g,h)perylene — not proposed in Phase V.

NOTE: Changes from the last version are noted in *Italo* and *Bold Face print*.

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NEHC-05 ENVIRONMENTAL PROGRAMS

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# Drinking Water Standards and Health Advisories

December 1992

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Chemicals	Standards			Status HA*	Health Advisories								Cancer Group	
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		10-kg Child			70-kg Adult						
					One-day (mg/l)	Ten-day (mg/l)	Longer- term (mg/l)	Longer- term (mg/l)	RII (mg/kg/ day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10 <sup>-6</sup> Cancer Risk		
Bromochloroacetonitrile	L	-	-	D	-	-	-	-	-	-	-	-	-	-
Bromochloromethane	-	-	-	F	50	1	1	5	0.013	0.5	0.09	-	-	-
Bromodichloromethane (THM)	L	-	0.1	D	7	7	4	13	0.02	0.7	-	0.06	B2	
Bromoform (THM)	L	-	0.1	D	6	2	2	8	0.02	0.7	-	0.4	B2	
Bromomethane	L	-	-	F	0.1	0.1	0.1	0.5	0.001	0.05	0.01	-	D	
Butyl benzyl phthalate (PAE)	P	zero	0.1	-	-	-	-	-	0.2	8	-	-	C	
Butylate	-	-	-	F	2	2	1	4	0.05	2	0.35	-	D	
Butylbenzene n-	-	-	-	D	-	-	-	-	-	-	-	-	-	
Butylbenzene sec-	-	-	-	D	-	-	-	-	-	-	-	-	-	
Butylbenzene tert-	-	-	-	D	-	-	-	-	-	-	-	-	-	
Carbaryl	-	-	-	F	1	1	1	1	0.1	4	0.7	-	D	
Carbofuran	F	0.04	0.04	F	0.05	0.05	0.05	0.2	0.005	0.2	0.04	-	E	
Carbon tetrachloride	F	zero	0.005	F	4	0.2	0.07	0.3	0.0007	0.03	-	0.03	B2	
Carboxin	-	-	-	F	1	1	1	4	0.1	4	0.7	-	D	
Chloral hydrate	L	-	-	D	7	1.4	0.2	0.5	0.0002	0.07	0.05	-	C	
Chloramben	-	-	-	F	3	3	0.2	0.5	0.015	0.5	0.1	-	D	
Chlordane	F	zero	0.002	F	0.05	0.05	-	-	0.00005	0.002	-	0.003	B2	
Chlorodibromomethane (THM)	L	-	0.1	D	7	7	2	8	0.02	0.7	0.08	-	C	
Chloroethane	L	-	-	D	-	-	-	-	-	-	-	-	-	
Chloroform (THM)	L	-	0.1	D	4	4	0.1	0.4	0.01	0.4	-	0.8	B2	
Chloromethane	L	-	-	F	9	0.4	0.4	1	0.004	0.1	0.003	-	C	
Chlorophenol (2-)	-	-	-	D	0.05	0.05	0.05	0.2	0.005	0.2	0.04	-	D	
p-Chlorophenyl methyl sulfide/sulfone/sulfoxide	-	-	-	**	-	-	-	-	-	-	-	-	D	
Chloropicrin	L	-	-	-	-	-	-	-	-	-	-	-	-	
Chlorothalonil	-	-	-	F	0.2	0.2	0.2	0.5	0.015	0.5	-	0.15	B2	
Chlorotoluene o-	L	-	-	F	2	2	2	7	0.02	0.7	0.1	-	D	
Chlorotoluene p-	L	-	-	F	2	2	2	7	0.02	0.7	0.1	-	D	
Chlorpyrifos	-	-	-	D	0.03	0.03	0.03	0.1	0.003	0.1	0.02	-	D	
Chrysene (PAH)	P	zero	0.0002	-	-	-	-	-	-	-	-	-	B2	
Cyanazine	L	-	-	F	0.1	0.1	0.02	0.07	0.002	0.07	0.001	-	C	

\*\* A HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.

NOTE: Chrysene was proposed in second option.

05/14/93

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NEHC-06 ENVIRONMENTAL PROGRAMS

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# Drinking Water Standards and Health Advisories

September 1992

Page 3

Chemicals	Standards			Status NA*	Health Advisories							Cancer Group		
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		10-kg Child			70-kg Adult						
					One-day (mg/l)	Ten-day (mg/l)	Longer- term (mg/l)	Longer- term (mg/l)	RII (mg/kg/ day)	DWEL (mg/l)	Lifetime (mg/l)		mg/l at 10 <sup>-6</sup> Cancer Risk	
Vanogen chloride	L	-	-	-	-	-	-	-	-	-	-	-	-	-
Ymenop- A-D	F	0.07	0.07	D	1	0.3	0.1	0.4	0.01	0.4	0.07	-	-	D
CPA (Dacthal)	L	-	-	F	80	80	5	20	0.5	20	4	-	-	D
Isalopon	F	0.2	0.2	F	3	3	0.3	0.8	0.026	0.9	0.2	-	-	D
1,2-ethylhexyladipate	F	0.4	0.4	-	20	20	20	60	0.6	20	0.4	3	-	C
Isaxiron	-	-	-	F	0.02	0.02	0.005	0.02	0.00009	0.003	0.0008	-	-	E
Benzo(a,h)anthracene (PAH)	P	zero	0.0003	-	-	-	-	-	-	-	-	-	-	B2
Bromoacetonitrile	L	-	-	D	2	2	2	8	0.02	0.8	0.02	-	-	C
Bromochloropropane (DBCP)	F	zero	0.0002	F	0.2	0.05	-	-	-	-	-	0.003	-	B2
Bromomethane	L	-	-	-	-	-	-	-	-	-	-	-	-	D
n-butyl phthalate (PAE)	-	-	-	-	-	-	-	-	0.1	4	-	-	-	D
Isocamba	L	-	-	F	0.3	0.3	0.3	1	0.03	1	0.2	-	-	D
Chloroacetaldehyde	L	-	-	D	-	-	-	-	-	-	-	-	-	-
Chloroacetic acid	L	-	-	D	-	50	5	20	0.005	0.3	-	-	-	B2
Chloroacetonitrile	L	-	-	D	1	1	0.8	3	0.008	0.3	0.008	-	-	C
Chlorobenzene o-	F	0.6	0.6	F	8	8	8	30	0.09	3	0.6	-	-	D
Chlorobenzene m-	F	0.6	0.6	F	8	8	8	30	0.09	3	0.6	-	-	D
Chlorobenzene p-	F	0.075	0.075	F	10	10	10	40	0.1	4	0.075	-	-	C
Chlorodifluoromethane	L	-	-	F	40	40	8	30	0.2	5	1	-	-	D
Chloroethane (1,1-)	L	-	-	D	-	-	-	-	-	-	-	-	-	-
Chloroethane (1,2-)	F	zero	0.005	F	0.7	0.7	0.7	2.6	-	-	-	0.04	-	B2
Chloroethylene (1,1-)	F	0.007	0.007	F	2	1	1	4	0.009	0.4	0.007	-	-	C
Chloroethylene (cis-1,2-)	F	0.07	0.07	F	4	3	3	11	0.01	0.4	0.07	-	-	D
Chloroethylene (trans-1,2-)	F	0.1	0.1	F	20	2	2	6	0.02	0.8	0.1	-	-	D
Chloromethane	F	zero	0.005	F	10	2	-	-	0.06	2	-	0.5	-	B2
Chlorophenol (2,4-)	-	-	-	D	0.03	0.03	0.03	0.1	0.003	0.1	0.02	-	-	D
Chloropropane (1,1-)	-	-	-	D	-	-	-	-	-	-	-	-	-	-
Chloropropane (1,2-)	F	zero	0.005	F	-	0.09	-	-	-	-	-	0.06	-	B2
Chloropropane (1,3-)	L	-	-	D	-	-	-	-	-	-	-	-	-	-

The values for m-dichlorobenzene are based on data for o-dichlorobenzene.

05/14/93 14:55 NEHC-06 ENVIRONMENTAL PROGRAMS 012

# Drinking Water Standards and Health Advisories

December 1992

Page 4

Chemicals	Standards			Status HA*	Health Advisories							Cancer Group		
	Status Reg.†	MCLG (mg/l)	MCL (mg/l)		10-kg Child			70-kg Adult						
					One-day (mg/l)	Ten-day (mg/l)	Longer- term (mg/l)	Longer- term (mg/l)	RfD (mg/kg/ day)	DWEL (mg/l)	Lifetime (mg/l)		mg/l at 10 <sup>-6</sup> Cancer Risk	
Dichloropropane (2,2-)	L	-	-	D	-	-	-	-	-	-	-	-	-	-
Dichloropropene (1,1-)	L	-	-	D	-	-	-	-	-	-	-	-	-	-
Dichloropropene (1,3-)	L	-	-	F	0.03	0.03	0.03	0.1	0.0003	0.01	-	-	0.02	B2
Dieldrin	-	-	-	F	0.0005	0.0005	0.0005	0.002	0.00005	0.002	-	-	0.0002	B2
Diethyl phthalate (PAE)	-	-	-	D	-	-	-	-	0.8	30	5	-	-	D
Diethylene glycol diacetate	-	-	-	**	-	-	-	-	-	-	-	-	-	-
Diethylhexyl phthalate (PAE)	F	zero	0.006	D	-	-	-	-	0.02	0.7	-	-	0.3	B2*
Diisopropyl methylphosphonate	-	-	-	F	8	8	8	30	0.08	3	0.8	-	-	D
Dimethrin	-	-	-	F	10	10	10	40	0.3	10	2	-	-	D
Dimethyl methylphosphonate	-	-	-	F	2	2	2	6	0.2	7	0.1	-	0.7	C
Dimethyl phthalate (PAE)	-	-	-	-	-	-	-	-	-	-	-	-	-	D
1,3-Dinitrobenzene	-	-	-	F	0.04	0.04	0.04	0.14	0.0001	0.006	0.001	-	-	D
Dinitrotoluene (2,4-)	L	-	-	F	0.50	0.50	0.30	1	0.002	0.1	-	-	0.005	B2
Dinitrotoluene (2,6-)	L	-	-	F	0.40	0.40	0.40	1	0.001	0.04	-	-	0.005	B2
Dinoseb	F	0.007	0.007	F	0.3	0.3	0.01	0.04	0.001	0.04	0.007	-	-	D
Dioxane p-	-	-	-	F	4	0.4	-	-	-	-	-	-	0.7	B2
Diphenamid	-	-	-	F	0.3	0.3	0.3	1	0.03	1	0.2	-	-	D
Diphenylamine	-	-	-	F	1	1	0.3	1	0.03	1	0.2	-	-	D
Diquat	F	0.02	0.02	-	-	-	-	-	0.0022	0.08	0.02	-	-	D
Disulfoton	-	-	-	F	0.01	0.01	0.003	0.009	0.00004	0.001	0.0003	-	-	F
Dithiane (1,4-)	-	-	-	F	0.4	0.4	0.4	1	0.01	0.4	0.08	-	-	D
Duron	-	-	-	F	1	1	0.3	0.9	0.002	0.07	0.01	-	-	D
Endosulf	F	0.1	0.1	F	0.8	0.8	0.2	0.2	0.02	0.7	0.1	-	-	D
Endrin	F	0.002	0.002	F	0.02	0.02	0.003	0.01	0.0003	0.01	0.002	-	-	D
Epichlorohydrin	F	zero	TT	F	0.1	0.1	0.07	0.07	0.002	0.07	-	-	0.4	B2
Ethylbenzene	F	0.7	0.7	F	30	3	1	3	0.1	3	0.7	-	-	D
Ethylene dibromide (EDB)	F	zero	0.00005	F	0.008	0.008	-	-	-	-	-	-	0.00004	B2
Ethylene glycol	-	-	-	F	20	6	6	20	2	40	7	-	-	D
ETU	L	-	-	F	0.3	0.3	0.1	0.4	0.00008	0.003	-	-	0.03	B2
Fenamphos	-	-	-	F	0.009	0.009	0.005	0.02	0.00026	0.009	0.002	-	-	D
Fluometuron	-	-	-	F	2	2	2	5	0.013	0.4	0.09	-	-	D

\* Under review. \*\* A HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.

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# Drinking Water Standards and Health Advisories

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Chemicals	Standards			Status HA*	Health Advisories								Cancer Group	
	Status Reg.†	MCLG (mg/l)	MCL (mg/l)		10-kg Child			70-kg Adult						
					One-day (mg/l)	Ten-day (mg/l)	Longer- term (mg/l)	Longer- term (mg/l)	RII (mg/kg/ day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10 <sup>-6</sup> Cancer Risk		
Fluorene (PAH)	-	-	-	-	-	-	-	-	-	0.04	-	-	-	D
Fluorotrichloromethane	L	-	-	F	7	7	3	10	-	0.3	10	2	-	D
Fog Oil	-	-	-	D	-	-	-	-	-	-	-	-	-	-
Formaldehyde	-	-	-	F	0.02	0.02	0.02	0.07	-	0.002	0.07	0.01	-	D
Formaldehyde	-	-	-	D	10	5	5	20	-	0.15	5	1	-	B1
Gasoline, unleaded (benzene)	-	-	-	D	-	-	-	-	-	-	-	0.005	-	-
Glyphosate	F	0.7	0.7	F	20	20	1	1	-	0.1	4	0.7	-	D
Heptachlor	F	zero	0.0004	F	0.01	0.01	0.005	0.005	-	0.0005	0.02	-	0.0008	B2
Heptachlor epoxide	F	zero	0.0002	F	0.01	-	0.0001	0.0001	-	1.3E-05	0.0004	-	0.0004	B2
Hexachlorobenzene	F	zero	0.001	F	0.05	0.05	0.05	0.2	-	0.0008	0.03	-	0.002	B2
Hexachlorobutadiene	L	-	-	F	0.3	0.3	0.1	0.4	-	0.002	0.07	0.001	-	C
Hexachlorocyclopentadiene	F	0.05	0.05	-	-	-	-	-	-	0.007	0.2	-	-	D
Hexachloroethane	L	-	-	F	5	5	0.1	0.5	-	0.001	0.04	0.001	-	C
Hexane (n-)	-	-	-	F	10	4	4	10	-	-	-	-	-	D
Hexazinone	-	-	-	F	3	3	3	9	-	0.033	1	0.2	-	D
HMX	-	-	-	F	8	6	6	20	-	0.05	2	0.4	-	D
Hypochlorite	L	-	-	-	-	-	-	-	-	-	-	-	-	-
Hypochlorous acid	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indeno[1,2,3-c]dipyrone (PAH)	P	zero	0.0004	D	-	-	-	-	-	-	-	-	-	B2
Isophorone	L	-	-	F	15	15	15	15	-	0.2	7	0.1	4	C
Isopropyl methylphosphonate	-	-	-	D	30	30	30	100	-	0.1	4.0	0.7	-	D
Isopropylbenzene	-	-	-	D	-	-	-	-	-	-	-	-	-	-
Lindane	F	0.0002	0.0002	F	1	1	0.03	0.1	-	0.0003	0.01	0.0002	-	C
Malathion	-	-	-	D	0.2	0.2	0.2	0.6	-	0.02	0.8	0.2	-	D
Malic hydrazide	-	-	-	F	10	10	5	20	-	0.5	20	4	-	D
MCPA	-	-	-	F	0.1	0.1	0.1	0.4	-	0.0015	0.05	0.01	-	E
Methomyl	L	-	-	F	0.3	0.3	0.3	0.3	-	0.025	0.9	0.2	-	D
Methoxychlor	F	0.04	0.04	F	0.05	0.05	0.05	0.2	-	0.005	0.2	0.04	-	D
Methyl ethyl ketone	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl parathion	-	-	-	F	0.3	0.3	0.03	0.1	-	0.00025	0.009	0.002	-	D

Under review.

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# Drinking Water Standards and Health Advisories

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Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		10-kg Child			70-kg Adult					
					One-day (mg/l)	Ten-day (mg/l)	Longer- term (mg/l)	Longer- term (mg/l)	RfD (mg/kg/ day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10 <sup>-6</sup> Cancer Risk	
Methyl tert butyl ether	L	-	-	D	3	3	0.5	2	0.005	0.2	0.04	-	D
Metolachlor	L	-	-	F	2	2	2	5	0.15	5	0.1	-	C
Metribuzin	L	-	-	F	5	5	0.3	0.9	0.025	0.9	0.2	-	D
Monochloroacetic acid	L	-	-	D	-	-	-	-	-	-	-	-	-
Monochlorobenzene	F	0.1	0.1	F	2	2	2	7	0.02	0.7	0.1	-	D
Naphthalene	-	-	-	F	0.5	0.5	0.4	1	0.004	0.1	0.02	-	D
Nitrocellulose (non-toxic)	-	-	-	F	-	-	-	-	-	-	-	-	-
Nitroguanidine	-	-	-	F	10	10	10	10	0.1	4	0.7	-	D
Nitrophenols p-	-	-	-	D	0.8	0.8	0.8	3	0.008	0.3	0.06	-	D
Oxamyl (Vydate)	F	0.2	0.2	F	0.2	0.2	0.2	0.9	0.025	0.9	0.2	-	E
Ozone by-products	L	-	-	-	-	-	-	-	-	-	-	-	-
Perequat	-	-	-	F	0.1	0.1	0.05	0.2	0.0045	0.2	0.03	-	E
Pentachloroethane	-	-	-	D	-	-	-	-	-	-	-	-	-
Pentachlorophenol	F	zero	0.001	F	1	0.3	0.3	1	0.03	1	-	0.03	B2
Phenanthrene (PAH)	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenol	-	-	-	D	6	6	6	20	0.6	20	4	-	D
Picloram	F	0.5	0.5	F	20	20	0.7	2	0.07	2	0.5	-	D
Polychlorinated biphenyls (PCBs)	F	zero	0.0005	P	-	-	-	-	-	-	-	0.0005	B2
Prometon	L	-	-	F	0.2	0.2	0.2	0.5	0.015*	0.5*	0.1*	-	D
Pronamide	-	-	-	F	0.8	0.8	0.8	3	0.075	3	0.05	-	C
Propachlor	-	-	-	F	0.5	0.5	0.1	0.5	0.013	0.5	0.09	-	D
Propazine	-	-	-	F	1	1	0.5	2	0.02	0.7	0.01	-	C
Propham	-	-	-	F	5	5	5	20	0.02	0.5	0.1	-	D
Propylbenzene n-	-	-	-	D	-	-	-	-	-	-	-	-	-
Pyrene (PAH)	-	-	-	-	-	-	-	-	0.03	-	-	-	D
RDX	-	-	-	F	0.1	0.1	0.1	0.4	0.003	0.1	0.002	0.03	C
Simazine	F	0.004	0.004	F	0.07	0.07	0.07	0.07	0.005	0.2	0.004	-	C
Styrene	F	0.1	0.1	F	20	2	2	7	0.2	7	0.1	-	C
2,4,5-T	L	-	-	F	0.8	0.8	0.8	1	0.01	0.35	0.07	-	D
2,3,7,8-TCDD (Dioxin)	F	zero	2E-08	F	1E-08	1E-07	1E-08	4E-08	1E-09	4E-08	-	2E-08	B2

\* Under review. NOTE: Phenanthrene -- not proposed.

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# Drinking Water Standards and Health Advisories

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Chemicals	Standards			Status HA*	Health Advisories								Cancer Group
	Status Reg.*	MCLG (mg/l)	MCL (mg/l)		10-kg Child			70-kg Adult					
					One-day (mg/l)	Ten-day (mg/l)	Longer- term (mg/l)	Longer- term (mg/l)	RD (mg/kg/ day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10 <sup>4</sup> Cancer Risk	
Tebuthiuron				F	3	3	0.7	2	0.07	2	0.6	-	D
Terbacil				F	0.3	0.3	0.3	0.8	0.013	0.4	0.09	-	E
Terbufos				F	0.005	0.005	0.001	0.005	0.00013	0.005	0.0009	-	D
Tetrachloroethane (1,1,1,2-)	L			F	2	2	0.9	3	0.03	1	0.07	0.1	C
Tetrachloroethane (1,1,2,2-)	L			D	-	-	-	-	-	-	-	-	-
Tetrachloroethylene	F	zero	0.005	F	2	2	1	5	0.01	0.6	-	0.07	-
Tetranitromethane				**	-	-	-	-	-	-	-	-	-
Toluene	F	1	1	F	20	2	2	7	0.2	7	1	-	D
Toxaphene	F	zero	0.003	F	0.5	0.04	-	-	0.1	0.0035	-	0.003	B2
2,4,5-TP	F	0.05	0.05	F	0.2	0.2	0.07	0.3	0.0075	0.3	0.05	-	D
1,1,2-Trichloro-1,2,2-trifluoroethane					-	-	-	-	-	-	-	-	-
Trichloroacetic acid	L			D	-	2	4	13	0.04	1.3	1	-	C
Trichloroacetonitrile	L			D	0.05	0.05	-	-	-	-	-	-	-
Trichlorobenzene (1,2,4-)	F	0.07	0.07	F	0.1	0.1	0.1	0.5	0.01	0.4	0.07	-	D
Trichlorobenzene (1,3,5-)				F	0.8	0.8	0.8	2	0.008	0.2	0.04	-	D
Trichloroethane (1,1,1-)	F	0.2	0.2	F	100	40	40	100	0.035	1	0.2	-	D
Trichloroethane (1,1,2-)	F	0.003	0.005	F	0.8	0.4	0.4	1	0.004	0.1	0.003	-	C
Trichloroethanol (2,2,2-)	L				-	-	-	-	-	-	-	-	-
Trichloroethylene	F	zero	0.005	F	-	-	-	-	-	0.3	-	0.3	B2
Trichlorophenol (2,4,6-)	L			D	-	-	-	-	-	-	-	0.3	B2
Trichloropropane (1,1,1-)				D	-	-	-	-	-	-	-	-	-
Trichloropropane (1,2,3-)	L			F	0.8	0.8	0.8	2	0.008	0.2	0.04	-	B2
Trifluralin	L			F	0.08	0.08	0.08	0.3	0.0075	0.3	0.005	-	C
Trimethylbenzene (1,2,4-)				D	-	-	-	-	-	-	-	-	-
Trimethylbenzene (1,3,5-)				D	-	-	-	-	-	-	-	-	-
Trinitroglycerol				F	0.005	0.005	0.005	0.005	-	-	0.005	-	-
Trinitrotoluene				F	0.02	0.02	0.02	0.02	0.0005	0.02	0.002	0.1	C
Vinyl chloride	F	zero	0.007	F	3	3	0.01	0.05	-	-	-	0.0015	A
White phosphorus				F	-	-	-	-	0.00002	0.0005	0.0001	-	D
Xylenes	F	10	10	F	40	40	40	100	2	60	10	-	D

\* A HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.

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# Drinking Water Standards and Health Advisories

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Chemicals	Standards			Status HA*	Health Advisories								Cancer Group	
	Status Reg.*	MCL0 (mg/l)	MCL (mg/l)		10-kg Child			70-kg Adult						
					One-day (mg/l)	Ten-day (mg/l)	Longer- term (mg/l)	Longer- term (mg/l)	RI0 (mg/kg/ day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10 <sup>-6</sup> Cancer Risk		
<b>INORGANICS</b>														
Aluminum	L	-	-	D	-	-	-	-	-	-	-	-	-	-
Arsenite	-	-	-	D	-	-	-	-	-	-	30	-	-	D
Antimony	F	0.006	0.006	F	0.015	0.015	0.015	0.015	0.0004	0.015	0.003	-	-	D
Arsenic	-	-	0.05	D	-	-	-	-	-	-	-	-	0.002	A
Asbestos (fibers/l > 10µm length)	F	7 MFL	7 MFL	-	-	-	-	-	-	-	-	-	700 MFL	A
Barium	F	2	2	F	-	-	-	-	0.07	2	2	-	-	D
Beryllium	F	0.004	0.004	D	30	30	4	20	0.005	0.2	-	-	0.0008	B2
Boron	L	-	-	D	4	0.9	0.9	3	0.09	3	0.6	-	-	D
Cadmium	F	0.005	0.005	F	0.04	0.04	0.005	0.02	0.0005	0.02	0.005	-	-	D
Chloramine	L	-	-	D	1	1	1	1	0.1	3.3	2.6	-	-	D
Chlorate	L	-	-	D	-	-	-	-	-	-	-	-	-	D
Chlorine	L	-	-	D	-	-	-	-	-	-	-	-	-	D
Chlorine dioxide	L	-	-	D	-	-	-	-	-	-	-	-	-	D
Chlorite	L	-	-	D	-	-	-	-	-	-	-	-	-	D
Chromium (total)	F	0.1	0.1	F	1	1	0.2	0.8	0.005	0.2	0.1	-	-	D
Copper	F	1.3	TT**	-	-	-	-	-	-	-	-	-	-	D
Cyanide	P	0.2	0.2	F	0.2	0.2	0.2	0.8	0.022	0.8	0.2	-	-	D
Fluoride*	F	4	4	-	-	-	-	-	0.12	-	-	-	-	D
Lead (at tap)	F	zero	TT**	-	-	-	-	-	-	-	-	-	-	B2
Manganese	L	0.2	-	D	-	-	-	-	0.14/ 0.005	-	-	-	-	D
Mercury (inorganic)	F	0.002	0.002	F	-	-	-	0.002	0.0003	0.01	0.002	-	-	D
Molybdenum	L	-	-	F	-	0.08	0.01	0.05	0.005	0.2	0.04	-	-	D
Nickel	F	0.1	0.1	F	1	1	0.6	1.7	0.02	0.6	0.1	-	-	D
Nitrate (as N)	F	10	10	F	-	10*	-	-	1.6	-	-	-	-	D
Nitrite (as N)	F	1	1	F	-	1*	-	-	0.16*	-	-	-	-	D

\* Under review.

\*\* Copper — action level 1.3 mg/L  
Lead — action level 0.015 mg/L

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# Drinking Water Standards and Health Advisories

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Chemicals	Standards			Status HA*	Health Advisories								Cancer Group	
	Status Reg.**	MCLG (mg/l)	MCL (mg/l)		10-kg Child			70-kg Adult						
					One-day (mg/l)	Ten-day (mg/l)	Longer- term (mg/l)	Longer- term (mg/l)	RfD (mg/kg/ day)	DWEL (mg/l)	Lifetime (mg/l)	mg/l at 10 <sup>-4</sup> Cancer Risk		
Nitrate + Nitrite (both as N)	F	10	10	F	-	-	-	-	-	-	-	-	-	-
Selenium	F	0.05	0.05	-	-	-	-	-	0.005	-	-	-	-	-
Silver	-	-	-	D	0.2	0.2	0.2	0.2	0.005	0.2	0.1	-	-	D
Sodium	-	-	-	D	-	-	-	-	-	20***	-	-	-	-
Strontium	L	-	-	D	25	25	25	90	2.5	90	17	-	-	D
Sulfate	P	**	**	-	-	-	-	-	-	-	-	-	-	-
Thallium	F	0.0005	0.002	F	0.007	0.007	0.007	0.02	0.00007	0.002	0.0004	-	-	-
Vanadium	L	-	-	D	0.08	0.08	0.03	0.11	0.003	0.11	0.02	-	-	D
Zinc	L	-	-	F	5	5	3	12	0.3	11	2	-	-	D
Zinc chloride (measured as Zinc)	L	-	-	F	5	5	3	12	0.3	11	2	-	-	D
<b>RADIONUCLIDES</b>														
Beta particle and photon activity (formerly man-made radionuclides)	F	zero	4 mrem	-	-	-	-	-	-	-	-	-	4 mrem/y	A
Gross alpha particle activity	F	zero	15 pCi/L	-	-	-	-	-	-	-	-	-	-	A
Radium 226/228	P	zero	5 pCi/L	-	-	-	-	-	-	-	-	-	22/26 pCi/L	A
Radon	P	zero	300 pCi/L	-	-	-	-	-	-	-	-	-	20 pCi/L	A
Uranium	P	zero	20 µg/L	-	-	-	-	-	-	-	-	-	170 pCi/L	A

- \* Under review.
- \*\* Deferred.
- \*\*\* Guidance.

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## Secondary Maximum Contaminant Levels

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Chemicals	Status	SMCLs (mg/L)
Aluminum	F	0.05 to 0.2
Chloride	F	250
Color	F	15 color units
Copper	F	1
Corrosivity	F	non-corrosive
Fluoride*	F	2
Foaming agents	F	0.5
Hexachlorocyclopentadiene	P	0.008
Iron	F	0.3
Manganese	F	0.05
Odor	F	3 threshold odor numbers
pH	F	6.5 - 8.5
Silver	F	0.10
Sulfate	F	250
Total dissolved solids (TDS)	F	500
Zinc	F	5

Status Codes: P — proposed, F — final

\* Under review.

# Microbiology

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	Status	MCLG	MCL
<b>Cryptosporidium</b>	L	-	-
<b>Giardia lamblia</b>	F	zero	TT
<b>Legionella</b>	F	zero	TT
<b>Standard Plate Count</b>	F	NA	TT
<b>Total Coliforms (after 12/31/90)</b>	F	zero	**
<b>Turbidity (after 12/31/90)</b>	F	NA	PS
<b>Viruses</b>	F	zero	TT

**Key: PS, TT, F, defined as previously stated.**

**\* Final for systems using surface water; also being considered for regulation under groundwater disinfection rule.**

05/14/93

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NEHC-06 ENVIRONMENTAL PROGRAMS

0220

**THE POTENTIAL FOR BIOLOGICAL EFFECTS OF  
SEDIMENT-SORBED CONTAMINANTS TESTED IN  
THE NATIONAL STATUS AND TRENDS PROGRAM**

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Table 70. Summary of ER-L, ER-M, and overall apparent effects thresholds concentrations for selected chemicals in sediment (dry weight).

Chemical Analyte	ER-L Concentration	ER-M Concentration	ER-L:ER-M Ratio	Overall Apparent Effects Threshold	Subjective Degree of Confidence in ER-L/ER-M Values
<b>Trace Elements (ppm)</b>					
Antimony	2	25	12.5	25	Moderate/moderate
Arsenic	33	85	2.6	60	Low/moderate
Cadmium	6	9	1.6	6	High/high
Chromium	80	145	1.8	No	Moderate/moderate
Copper	70	890	5.6	300	High/high
Lead	35	110	3.1	300	Moderate/high
Mercury	0.16	1.3	8.7	1	Moderate/high
Nickel	30	50	1.7	NSD*	Moderate/moderate
Silver	1	2.2	2.2	1.7	Moderate/moderate
Tin	NA	NA	NA	NA	NA
Zinc	120	270	2.2	260	High/high
<b>Polychlorinated Biphenyls (ppb)</b>					
Total PCBs	60	400	7.6	370	Moderate/moderate
<b>DDT and Metabolites (ppb)</b>					
DDT	1	7	7	6	Low/low
DDD	2	20	10	NSD	Moderate/low
DDE	2	15	7.5	NSD	Low/low
Total DDT	3	360	117	No	Moderate/moderate
<b>Other Pesticides (ppb)</b>					
Lindane	NA	NA	NA	NSD	NA**
Chlordane	0.5	6	12	2	Low/low
Heptachlor	NA	NA	NA	NSD	NA
Dieldrin	0.02	8	400	No	Low/low
Aldrin	NA	NA	NA	NSD	NA
Endrin	0.02	45	2250	NSD	Low/low
Mirex	NA	NA	NA	NSD	NA
<b>Polynuclear Aromatic Hydrocarbons (ppb)</b>					
Acenaphthene	150	650	4.3	150	Low/low
Anthracene	85	950	11.3	300	Low/moderate
Benzo(a)anthracene	230	1600	7	550	Low/moderate
Benzo(a)pyrene	400	2500	6.2	700	Moderate/moderate
Benzo(e)pyrene	NA	NA	NA	NSD	NA
Biphenyl	NA	NA	NA	NSD	NA
Chrysenes	400	2800	7	600	Moderate/moderate
Dibenz(a,h)anthracene	60	260	4.3	100	Moderate/moderate
2,6-dimethylnaphthylene	NA	NA	NA	NSD	NA
Fluoranthene	600	3600	6	1000	High/high
Fluorene	35	640	18.3	950	Low/low
1-methylnaphthalene	NA	NA	NA	NSD	NA
2-methylnaphthalene	65	670	10.3	300	Low/moderate
1-methylphenanthrene	NA	NA	NA	NSD	NA
Naphthalene	340	2100	6.2	500	Moderate/high
Perylene	NA	NA	NA	NSD	NA
Phenanthrene	225	1380	6.1	260	Moderate/moderate
Pyrene	350	2200	6.3	1000	Moderate/moderate
2,3,6-trimethylnaphthalene	NA	NA	NA	NSD	NA
Total PAH	4000	35000	8.8	22000	Low/low

\* NSD = not sufficient data

\*\* NA = not available