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Remedial Investigation/Feasibility Study for the Clinch River/Poplar Creek Operable Unit

Volume 4. Appendix F

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Energy Systems Environmental Restoration Program
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Remedial Investigation/Feasibility Study for the Clinch River/Poplar Creek Operable Unit

Volume 4. Appendix F

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Appendix F

ECOLOGICAL RISK ASSESSMENT

Appendix F1

ECOTOXICOLOGICAL PROFILES

F1. ECOTOXICOLOGICAL PROFILES

This section contains ecotoxicological profiles for the COPECs for the CR/PC OU. The ecotoxicological information is presented for only those endpoints for which the chemicals are COPECs.

F1.1 INORGANIC CHEMICALS

F1.1.1 Aluminum

Toxicity of Aluminum in Water to Aquatic Biota. Aluminum can be highly toxic to aquatic biota under some circumstances, but its toxicity is strongly dependent on pH, hardness, and organic matter content. Aluminum is amphoteric, i.e., it is more soluble in both acidic and basic solutions than in approximately neutral solutions. EPA's water quality criteria for aluminum (EPA 1988-Al) assume a pH range of 6.5 to 9.0 within which aluminum occurs primarily in the form of monomeric, dimeric, and polymeric hydroxides. Toxicities of aluminum in the field may be substantially lower than indicated by dissolved aluminum analysis values because of complexation with humic and fulvic acids. At pH values below 6.5, however, aluminum may be substantially more toxic than indicated by the EPA criteria because low pH favors the formation and solubilization of cationic aluminum (Al^{3+}), but such values do not normally occur in the Clinch River and Poplar Creek system.

Between pH 6.5 and 9.0, acute toxicities of aluminum reported by EPA range between 1.9 mg/l (*Ceriodaphnia dubia*) and > 79.9 mg/l (midge larvae, *Tanytarsus dissimilis*) (Table F1.1). Acute toxicities for fish ranged from 3.6 mg/l (juvenile brook trout, *Salvelinus fontinalis*) to > 50.0 mg/l (juvenile green sunfish, *Lepomis cyanellus*). Chronic toxicities reported by EPA ranged from 0.742 mg/l (*Daphnia magna*) to 3.288 mg/l (fathead minnow, *Pimephales promelas*).

Toxicities to aquatic plants fall within roughly the same ranges: 6.48 mg/l caused mortality of the diatom *Cyclotella meneghiniana*, and concentrations from 0.40 to 0.90 mg/l were chronically toxic to *Cyclotella meneghiniana* and the green algae *Selenastrum capricornutum*. Bioconcentration factors from 50 to 231 were obtained in tests with young brook trout. Toxicities of body burdens were not determined. The acute and chronic NAWQC for the protection of aquatic organisms for aluminum are 0.750 and 0.087 mg/l, respectively.

Toxicity of Aluminum in Soil to Terrestrial Plants. Aluminum interferes with cell division in roots, decreases root respiration, fixes P in unavailable forms in roots, interferes with uptake, transport, and use of Ca, Mg, P, K, and water, and interferes with enzyme activities (Foy et al. 1978). Symptoms of toxicity include stubby, brittle roots, stunting, late maturity, and collapse of growing points. Seedlings are more susceptible to damage from aluminum toxicity than are older plants. Seedling establishment of white clover in a silt loam soil (pH 5.0) was reduced by approximately 30% by the addition of 50 ppm Al as $Al_2(SO_4)_3$ (Mackay et al. 1990), the lowest concentration tested.

F1.1.2 Arsenic

Toxicity of Arsenic in Sediments to Benthic Invertebrates. Sediments of Waukegan Harbor, Wisconsin, which had more than 47 mg/kg arsenic caused 34% mortality in *H. azteca*. Sediment from the Sheboygan River, Wisconsin, which had 2.7 mg/kg arsenic caused significant mortality to the freshwater prawn, *Macrobrachium rosenbergii*. However, this sediment also was contaminated with metals and polychlorinated biphenyls (PCBs). At 2 rivers in Illinois, a low number of benthic macroinvertebrate taxa was associated with arsenic concentrations of 7.4 and 3.7 mg/kg. However, a

Table F1.1. Toxicity of aluminum to aquatic animals

Concentration mg/L	Effect
>79.9	Midge (Tanytarsus dissimilis) LC50
>50.0	Green sunfish (Lepomis cyanellus) LC50
>49.8	Yellow perch (Perca flavescens) LC50
>47.9	Channel catfish (Ictalurus punctatus) LC50
>40.0	Chinook salmon (Oncorhynchus tshawytsca) LC50
38	Cladoceran (Daphnia magna) EC50
35	Fathead minnow (Pimephales promelas) LC50
31	Snail (Physa sp.) LC50
>23.0	Planaria (Dugasia tigrina) LC50
>22.6	Stonefly (Acroneuria sp.) LC50
22	Amphipod (Gammarus pseudolimnaeus) LC50
10	Rainbow trout (Oncorhynchus mykiss) LC50
4	Caldoceran (Ceriodaphnia sp.) EC50
4	Brook trout (Salvelinus fontinalis) LC50
3	Fathead minnow (Pimephales promelas) CV
2	Cladoceran (Ceriodaphnia dubia) CV
2	Cladoceran (Ceriodaphnia dubia) EC50
1	Acute NAWQC
1	Cladoceran (Daphnia magna) CV
0	Chronic NAWQC

high number of taxa were associated with 5.9 and 5.0 mg/kg arsenic in the same two rivers (studies cited in Long and Morgan 1991).

Effects Range-Low (ER-L) and Effects Range-Medium (ER-M) values are 8.2 mg/kg and 70 mg/kg, respectively. Only 11% of the documented studies in Long et al (1995) indicated biological effects at concentrations between the ER-L and ER-M, while 63% of the studies at concentrations above the ER-M indicated biological effects.

Toxicity of Arsenic to Wildlife. Arsenic is present in the earth's crust at approximately 2 ppm, but tissues of animals generally contain an average of <0.5 ppm (Venugopal and Luckey 1978). Arsenic may be a required micronutrient; growth, survival, and reproduction of goats is poor if the diet contains <0.05 ppm Arsenic (NAS 1977).

Arsenic is a carcinogen and teratogen. Other effects include reduced growth, hearing/sight loss, liver/kidney damage, and death (Eisler 1988a). Inorganic arsenic is usually more toxic than organic arsenic compounds. Wildlife mortality and malformations have been observed for chronic doses of 1-10 mg arsenic/kg bw and dietary concentrations of 5-50 ppm (Eisler 1988a). Acute LD_{50}s for mammals of 35–100 mg calcium arsenate/kg body weight and 10-50 mg lead arsenate/kg body weight have been reported (NRCC 1978).

Schroeder and Mitchner (1971) exposed mice to 5 ppm sodium arsenite in drinking water for three generations. While mice fed arsenic survived well, litter size decreased in subsequent generations. A dose of 0.38 mg arsenic/kg over a lifetime was sufficient to cause a slight decrease in the median lifespan of laboratory mice (Schroeder and Balassa 1967), but it had no effect on growth. As little as 3 mg arsenic trioxide/kg body weight or 1 mg sodium arsenite/kg body weight can be lethal (NAS 1977).

Because metabolism of arsenic in rats is unlike that in other animals, results of toxicity studies using rats generally should not be extrapolated to other species (Eisler 1988a).

Among birds, LD_{50}s for arsenic compounds range from 17.4 to 3300 mg/kg bw (Eisler 1988a). While no mortality was observed among mallard ducks fed a diet containing 100 ppm sodium arsenite for 128 days, 12% to 92% mortality was observed for ducks fed diets containing 250 to 1000 ppm arsenite (USFWS 1964). Camardese et al. (1990) and Whitworth et al. (1991) fed mallards diets containing 30, 100, or 300 ppm sodium arsenate. While no effects were observed on behavior, growth was reduced for male ducks consuming 300 ppm arsenic and for female ducks at all exposure levels.

Toxicity of Arsenic in Soil to Plants. Arsenic is not essential for plant growth. It is taken up actively by roots, with arsenate being more easily absorbed than arsenite. Arsenic and phosphate ions are likely taken up by the same carrier (Asher and Reay 1979). The phytotoxicity is strongly affected by the form in which it occurs in soils. Arsenite (III) is more toxic than arsenate (V), and both are considerably more toxic than organic forms (Peterson et al. 1981). In experiments with toxic levels of arsenic, rice and legumes appear to be more sensitive than other plants. Symptoms include wilting of new-cycle leaves, followed by retardation of root and top growth, and leaf necrosis (Aller et al. 1990). Arsenic is chemically similar to P, it is translocated in the plant in a similar manner and is able to replace P in many cell reactions. Arsenic (III) probably reacts with sulphydryl enzymes leading to membrane degradation and cell death. Arsenic (V) is known to uncouple phosphorylation and affect enzyme systems (Peterson et al. 1981). The mechanism of toxicity of organo-arsenicals is unclear.

Soil type affected the toxicity of Arsenic (III) added to two soils on the shoot weight of cotton and soybeans grown from seed for 6 weeks (Deuel and Swoboda 1972). In a sandy loam soil, shoot weights

of both crops were reduced (cotton 22%; soybeans 45%) by 11 ppm Arsenic (the lowest concentration tested). Soybean growth in a clay soil was reduced 28% by 22.4 ppm Arsenic (lowest concentration tested). Cotton growth in this soil was reduced 29% by 89.6 ppm Arsenic. The source of Arsenic (V) has been shown to influence the effect on corn grown from seed for 4 weeks in a loamy sand (pH 7.1). Plant weight reductions rose from less than 10% with the addition of 10 ppm arsenic in any form, to almost 100 % for NaH_2AsO_4, over 75% for $Al(H_2AsO_4)_3$, and about 65% for $Ca(H_2AsO_4)_2$ with the addition of 100 ppm arsenic (Woolson et al. 1971).

F1.1.3 Barium

Toxicity of Barium in Water to Aquatic Life. There is relatively little information of the aquatic toxicity of barium, and none has been found for fish. Only one test using a standard organism was found: an acute value of 410 mg/l was reported for *Daphnia magna* (LeBlanc 1980 cited in Suter and Mabrey 1994). Barium sulfate and chloride were lethal to yellow crabs (*Cancer anthonyi*) in 7-d exposures at 1,000 and 100 mg/l, respectively (MacDonald et al. 1988). Barium inhibited growth of duckweed by 50% at 102 to 400 mg/l in various ambient waters (Wang 1988). Barium inhibited calcification of the freshwater green alga *Goeotaenium* at 50.0 mg/l (Prasad 1984). The state of Illinois has a water quality standard for indiginous aquatic life of 5.0 mg/l (Wang 1988). Barium is bioconcentrated from water by algae and vascular plants, but is not bioaccumulated through food chains (Moore 1991).

Toxicity of Barium in Sediment to Benthic Invertebrates. The benchmarks used for barium are based on background because sediment toxicity data were not found (Hull and Suter 1994). The EPA Region V Sediment Classifications of Nonpolluted (less than 20 mg/kg), Moderately Polluted (between 20 and 60 mg/kg), and Heavily Polluted (greater than 60 mg/kg) are poorly founded scientifically and considered adequate only for determining the suitability of dredged material for open water disposal.

Toxicity of Barium to Wildlife. The soluble salts of barium, an alkaline earth metal, are toxic in mammalian systems. At low doses, barium acts as a muscle stimulant and at higher doses affects the nervous system eventually leading to paralysis. The LD_{50} for rats is listed as 630 mg/kg for barium carbonate, 118 mg/kg for barium chloride, and 921 mg/kg for barium acetate (Lewis and Sweet 1984).

Schroeder and Mitchener (1975a, b) exposed rats and mice to 5 mg barium/L in drinking water for their lifetime. There was a slight but significant reduction in longevity of treated male mice when measured as the mean age at death of the last surviving 10% of animals. The overall average life span of the group, however, was about the same as the control group. In another study, Perry et al. (1983) exposed rats to 0, 1, 10, or 100 ppm barium for up to 16 months. A significant increase in average blood pressure was observed in the highest dose group; a slight but statistically significant increase was seen in the 10 ppm dose group. Information on developmental and reproductive toxicity of barium to mammals is not available.

The LD_{50} of barium to chickens is 623 mg/kg (Johnson et al., 1960). Johnson et al. (1960) report that while chickens will tolerate 1000 ppm barium in their diet without adverse effects, 2000 ppm reduces growth, 8000 ppm produces 50% mortality in 4 weeks, and diets containing 16,000 or 32,000 ppm barium are 100% lethal.

F1.1.4 Boron

Toxicity of Boron in Water to Aquatic Life. Relatively little aquatic toxicity information is available for boron. The only standard data are LC50s and CVs for *Daphnia magna* exposed to boric acid in relatively hard water. Lewis and Valentine (1981) reported a LC50 of 226 mg/l and a CV of 8.83 mg/l and Gersich (1984) reported a LC50 of 133 mg/l and a CV of 9.33 mg/l. Toxic concentrations from nonstandard and poorly documented tests fall within this range.

Toxicity of Boron in Soil to Plants. Boron is a plant micronutrient involved in transport of sugars across membranes, synthesis of nucleic acids, and protein utilization. It is rapidly taken up, mainly as the neutral $B(OH)_3$ molecule and equally distributed between roots and shoots (Wallace and Romney 1977a). Toxicity symptoms include needle tip necrosis and discoloration in pines (Neary et al. 1975) and burning of leaf edges in other plants. Grasses and legumes appear to have greater than average tolerance to high B concentrations (Gupta 1984), and pines appear to be particularly sensitive (Stone and Baird 1956).

John et al. (1977) investigated the effects of B added as H_3BO_3 on shoot weight of corn seedlings grown 7 weeks in muck and two silt loam soils. Addition of 50 ppm B to the muck soil (pH 4.5; % organic matter 56) resulted in a 56% reduction in plant growth (10 ppm B had no effect). Growth was reduced 37% by the addition of the lowest concentration tested (0.5 ppm) in one silt loam soil (pH 5.7; % organic matter 6), and 83% by the addition of 50 ppm B in the other (pH 5.7; % organic matter 3) (10 ppm had no effect).

F1.1.5 Cadmium

Toxicity of Cadmium in Water to Aquatic Life. Cadmium occurs predominately in the form of free divalent cation in most well oxygenated, low organic matter, fresh waters (EPA 1985-Cd). However, both particulate matter and dissolved organic matter can bind cadmium in biologically unavailable forms.

There is no evidence that cadmium is a biologically essential or beneficial element (Eisler 1985). Cd toxicity is related to water hardness, with a reduction in toxicity associated with increased water hardness (EPA 1985-Cd). Therefore, the cadmium toxicity values presented in Table F1.2 that are not from tests conducted in waters of moderate hardness (within the range found in the Clinch River) are normalized to 100 mg/L using the slopes calculated by the EPA (1985-Cd). Aquatic organisms are able to bioconcentrate Cd, although there is evidence that only the lower trophic levels can biomagnify this element.

Toxicity of Cadmium in Sediment to Benthic Organisms. Fertilized eggs of the goldfish, leopard frog, and largemouth bass were placed in natural stream sediment spiked with cadmium (Francis et al. 1984) and maintained until four days posthatching, which resulted in a total exposure duration of six to seven days. Sediments with 1000 mg/kg cadmium were not toxic to goldfish or leopard frog but resulted in 25% mortality 4 days posthatching for largemouth bass. A sediment concentration of 100 mg/kg cadmium was not toxic to the largemouth bass. Organic matter content of the sediment was 2.3%.

Spiked sediment toxicity tests were performed using sediment from Steele's Run (organic carbon content of 2.3%), a stream in the Kentucky River drainage system. Treatment was of early-life-stage rainbow trout, in which the test was initiated at the early eyed-egg stage and continued through 10 days posthatching, giving an exposure period of 20 days. Sediment concentrations of between 2 and 13 mg/kg resulted in between 47 and 63% mortality relative to controls. A concentration of 121 mg/kg resulted in 89% mortality (Birge et al. 1979).

An Illinois harbor sediment containing 2.5 mg/kg cadmium resulted in 34% mortality of *Hyalella azteca*. A concentration of 1.98 mg/kg caused 95% mortality to *Hyalella azteca* in a Washington lake sediment.. Significant mortality to the prawn *Macrobrachium rosenbergii* resulted from 2.8 mg/kg cadmium in a Wisconsin river (studies cited in Long and Morgan 1991).

Confidence in the Long and Morgan (1991) ER-L and ER-M is very high, because data are available from many approaches, from multiple methods for some approaches, and are relatively consistent (Long and Morgan 1991). The updated ER-L and ER-M (Long et al. 1995), which do not include freshwater data, also show good consistency. That is, 37% of the documented studies indicated biological effects at concentrations between the ER-L and ER-M, and 66% of the studies at concentrations above the ER-M indicated biological effects. However, resistance to cadmium is higher among marine species than among freshwater species (Eisler 1985).

Toxicity of Cadmium to Wildlife. While there is little information to indicate that this relatively rare metal is biologically essential or beneficial, Cd has been suggested as the cause of various deleterious effects to wildlife (Eisler 1985a). Mammals and birds are comparatively resistant to the biocidal properties of Cd, which include growth retardation, anemia, and testicular damage. Cd tends to bioaccumulation the liver and kidney, eventually acting as a cumulative toxin. Cd residues of 2 ppm whole body fresh weight are evidence of Cd contamination, and residues >5 ppm whole animal fresh weight may be life-threatening (Eisler 1985a).

The lowest oral dose resulting in death for rats was 250 mg Cd/kg body weight (EPA 1980a). Weigel et al. (1987) fed rats 0.24, 0.85, or 2.25 mg/kg Cd in diet for 8 weeks. Concentrations $\geq$0.85 mg/kg resulted in reduced food intake, reduced body weights, and reduced enzyme activity, but no hematological effects were noted. Ma et al. (1991) determined that an average cadmium intake of 15 mg/kg/day corresponded with critical renal metal loads of 120 mg/kg, a level indicative of adverse health effects. Rats on a diet with 5 ppm Cd suffered shortened lifespans (Schroeder et al. 1965). Cd at 50 ppm in the diet depleted iron from rat livers (Whanger 1973). Rats eating diets with 7.15 ppm Cd (as CdO) exhibited growth reductions, but those consuming a diet with 2.80 ppm Cd did not (Weigel et al. 1984). In a 3 generation reproductive study, the population of mice exposed to 1 ppm $CdCl_2$ in their drinking water died out after the second generation (Schroeder and Mitchner 1971). Rats receiving >6 mg Cd/kg body weight daily during pregnancy gave birth to malformed fetuses (Ferm and Layton 1981).

No mortality was observed among adult mallard ducks fed diets containing 0, 2, 20, and 200 ppm Cd, however egg production was significantly reduced in the group consuming 200 ppm Cd (White and Finley 1978). In addition, the testes of males in the 200 ppm Cd group atrophied and the spermatogenic process was disrupted (White et al. 1978). Among mallard ducklings, 20 ppm Cd in the diet produces mild to severe kidney lesions, reduces packed cell volume and hemoglobin concentrations in the blood (Cain et al. 1983). Avoidance behavior of black ducklings is impaired by diets containing 40 ppm Cd (Heinz and Haseltine 1983).

Toxicity of Cadmium in Soil to Plants. Cadmium is not essential for plant growth. If present in available form, it is readily taken up by the roots and translocated through the plant, and accumulated. Cadmium is chemically similar to Zn, an essential element. Competition between the two for organic ligands may explain some of the toxic effects of Cd, and the ameliorative effects of Zn on Cd toxicity. Cadmium depresses uptake of Fe, Mn, and probably Ca, Mg, and N (Wallace et al. 1977e; Iwai et al. 1975). Cadmium is toxic at low concentrations. Symptoms resemble Fe chlorosis, and include necrosis, wilting, reduced Zn levels, and reduction in growth. The mechanisms of toxicity include reduced photosynthetic rate, poor root system development, reduced conductivity of stems, and ion interactions in the plant. Agronomic crops are more sensitive to Cd toxicity than trees (Adriano 1986).

A number of researchers have measured reductions in growth of a variety of plants in different soils with 10 ppm or less of Cd added to soil as soluble salts. Plants tested include sycamore and spruce trees, wild flowering plants, and crops and horticultural plants (corn, lettuce, radish, wheat). Soils range from light sands to heavy silty clay loams in the acid to neutral pH range. There are no clear trends in responses indicating that any particular type of plant is more sensitive to Cd (reductions in growth range from 23 to 45%), or that growth conditions (pH and soil texture) consistently affected toxicity. Grasses appear to be generally less sensitive than several other plant groups with growth adversely affected at concentrations greater than 10 ppm (up to 160 ppm for oats) under a variety of growth conditions. The following paragraphs give information on representative experiments conducted to evaluate the effects of Cd on plant growth.

Miles and Parker (1979a) investigated the effects of Cd added as $CdCl_2$ on seed germination, and root and shoot weights of a variety of native plants grown from seed for 6 weeks in a sandy soil (pH 4.8, % organic matter 2). Seed germination of black-eyed Susan, and growth of black-eyed Susan, rough blazing star, long-fruited thimbleweed, and wild bergamot were reduced by more than 20% with the addition of 10 ppm Cd, the lowest concentration tested. Growth of Kentucky bluegrass roots and shoots, little bluestem roots, and poison-ivy roots and shoots was reduced by approximately 90%, 60%, and 70%, respectively, with the addition of 30 ppm Cd where 10 ppm Cd did not have an effect.

Experiments evaluating effects of Cd on tree growth show variable responses. Dixon (1988) measured the response of red oak seedlings grown for 16 weeks in a sandy loam soil (pH 6, % organic matter 1.5) with the addition of Cd ($CdCl_2$). Cadmium at 20 ppm reduced tree weight by 28%, while 10 ppm had no effect. Carlson and Bazzaz (1977) measured root, woody stem, green stem and foliage weights, and main stem diameter of 2 to 3-year old American sycamore saplings associated with 90 days exposure to Cd as $CdCl_2$ added to a silty clay loam soil. The lowest concentration tested (5 ppm Cd) was responsible for a 30% reduction in leaf weight. Burton et al. (1984) grew Sitka-spruce seedlings from 4 weeks of age in a mixture of acidic peaty gley soil and sand with Cd added (0.1, 0.4, 1, 2, 4, 8, and 16 ppm as $CdCl_2$). Two ppm Cd lead to a reduction of about 45% in root and shoot weight of the 18-week old seedlings.

Sadana and Singh (1987a and b) investigated the effects of Cd added to a loamy sand soil (pH 8.4, % organic matter 1) on lettuce and grain yield of wheat grown from seed to maturity. Lettuce growth was reduced 23% by the addition of 4 ppm Cd and wheat grain yield was reduced by 28% by 10 ppm Cd (lowest concentration tested).

The effects of a range of Cd concentrations added as $CdSO_4$ on a variety of crops (spinach, radish, lettuce, carrot, soybean, curlycress, corn, turnip, field bean, wheat, tomato, zucchini, and cabbage) grown from seed to maturity in a silt loam soil (pH 7.5) was evaluated by Bingham et al. (1975). Concentrations causing a 25% reduction in plant weights ranged from 4 (spinach) to 170 (cabbage).

Haghiri (1973) determined the effects of additions of 2 to 100 ppm Cd as $CdCl_2$ to a silty clay loam soil (pH 6.7, % organic matter 4) on dry matter yield (26 to 37 d) of lettuce, radish, wheat, and soybean. Concentrations causing reductions in plant weights ranged from 2 (40 and 36% reductions in lettuce and radish) to 10 (50% reduction in soybean)

In two studies using Brown earth soils, Khan and Frankland investigated the effects of Cd added as $CdCl_2$, the less soluble CdO, or a combination, on growth (42 d) of radish (1983, 1984), wheat and oats (1984). Radish growth was reduced 22% by the addition of 10 ppm Cd as $CdCl_2$, or 100 ppm as CdO (29%), to a soil having a pH of 5.4 (1983). Addition of 50 ppm as $CdCl_2$+CdO (1:1) reduced radish root growth 43% in soil having a pH of 4.6 (1984). Wheat growth was reduced 61% by the addition of

50 ppm Cd as $CdCl_2$ and 47% by the addition of 100 ppm CdO. Oat growth was reduced 25% by the addition of 10 ppm Cd as $CdCl_2$. All concentrations were the lowest tested.

Table F1.2. Aqueous concentrations of cadmium causing effects on freshwater aquatic biota at hardness equivalent to Clinch River and Poplar Creek

Concentration (mg/L)[a]	Effect
24.6	goldfish (*Carassius auratus*) LC50
18.0	stonefly LC50[b]
17.7	mayfly (*Ephemerella grandis*) LC50
17.3	Tubificid worm (*Rhyacodrilus montana*) LC50
16.8	mosquitofish ((*Gambusia affinis*) LC50
16.5	white perch (*Morone americana*) LC50
15.1	Tubificid worm (*Stylodrilus heringlanus*) LC50
12.7	bluegill (*Lepomis macrochirus*) LC50
12.5	channel catfish (*Ictalurus punctatus*) LC50
12.4	Tubificid worm (*Spirosperma nikolskyl*) LC50
10.9	threespine stickleback (*Gasterosteus aculeatus*) LC50
10.4	Tubificid worm (*Varichaeta pacifica*) LC50
9.62	Tubificid worm (*Spirosperma ferox*) LC50
8.79	Tubificid worm (*Quistadrilus multisetosus*) LC50
8.79	Tubificid worm (*Tubifex tubifex*) LC50
8.30	snail (*Amicola* sp.) LC50
7.80	guppy (*Poecilla reticulata*) LC50
7.68	white sucker (*Catostomus commersoni*) LC50
7.43	caddisfly LC50
6.86	green sunfish (*Lepomis cyanellus*) LC50
6.59	Tubificid worm (*Branchiura sowerbyl*) LC50
6.31	flagfish (*Jordanella floridae*) LC50
5.24	northern squawfish (*Ptychochellus oregonensis*) LC50
5.05	mayfly (*Paraleptophlebia praepedita*) LC50
4.67	Tubificid worm (*Limnodrilus hoffmelsterl*) LC50
3.71	worm (*Nals* sp.) LC50
2.94	pumpkinseed (*Lepomus gibbosus*) LC50
2.62	midge (*Chironomus* sp.) LC50
1.61	American eel (*Anguilla rostrata*) LC50
0.875	isopod (*Asellus bicrenata*) LC50
0.705	crayfish (*Orconectes limosus*) LC50
0.484	bryozoan (*Plumatella emarginata*) LC50
0.471	common carp (*Cyprinus carpio*) LC50
0.448	amphipod (*Hyalella azteca*) LC50
0.343	snail (*Physa gyrina*) LC50

Concentration (mg/L)[a]	Effect
0.311	bryozoan (*Pectinatella magnifica*) LC50
0.227	snail (*Aplexa hypnorum*) LC50
0.216	banded killifish (*Fundulus diaphanus*) LC50
0.181	*Ceriodaphnia reticulata* EC50
0.153	amphipod (*Gammarus* sp.) LC50
0.132	amphipod (*Gammarus pseudolimnaeus*) LC50
0.122	*Daphnia pulex* EC50
0.100	cladoceran (*Simocephalus serralatus*) EC50
0.0935	isopod (*Lirceus alabamae*) LC50
0091.0	cladoceran (*Simocephalus vetulus*) EC50
0.0891	cladoceran (*Molina macrocopa*) EC50
0.0720	fathead minnow (*Pimephales promelas*) LC50
0.0667	bryozoan (*Lophopodella carteri*) LC50
0.0281	bluegill (*Lepomis macrochirus*) CV
0.0266	*Daphnia magna* EC50
0.0262	fathead minnow (*Pimephales promelas*) CV
0.0141	Atlantic salmon (*Salmo salar*) CV
0.0141	smallmouth bass (*Micropterus dolomieui*) CV
0.0140	Northern pike (*Esox lucius*) CV
0.0140	lake trout (*Salvelinus namaycush*) CV
0.0135	white sucker (*Catostomas commersoni*) CV
0.0129	coho salmon (*Oncorhynchus kisutch*) LC50
0.0127	brown trout (*Salmo trutta*) CV
0.00930	chinook salmon (*Oncorhynchus tshawytscha*) LC50
0.00920	flagfish (*Jordanella floridae*) CV
0.00834	snail (*Aplexa hypnorum*) CV
0.00784	rainbow trout (*Oncorhynchus mykiss*) LC50
0.00739	coho salmon (*Oncorhynchus kisutch*) CV
0.00678	cladoceran (*Ceriodaphnia reticulata*) CV
0.00464	chinook salmon (*Oncorhynchus kisutch*) CV
0.00407	brook trout (*Salvelinus fontinalis*) CV
0.00390	acute NAWQC
0.00358	brown trout (*Salmo trutta*) LC50
0.00110	chronic NAWQC
0.000330	cladoceran (*Molna macrocopa*) CV
0.000233	cladoceran (*Daphnia magna*) CV

[a] Effect levels were converted based on a 100 mg/L water hardness. Slopes used for the conversion were associated with individual species, where specified in the Criteria document. Otherwise, 1.128 and 0.7852 were the slopes for the acute and chronic test conversions, respectively.
[b] The stonefly acute test did not specify the hardness of the water.

F1.1.6 Chromium

Toxicity of Chromium in Water to Aquatic Life. Inorganic chromium occurs as two forms in ambient water, chromium (III) and chromium (VI) (EPA 1985-Cr). Toxicity appears to be quite different for each state and has not been shown to be additive. For this reason trivalent and hexavalent chromium are treated as separate materials. Acute values for chromium (III) are available for 18 animal genera ranging from 2.2 mg/l for a mayfly to 71 mg/l for a caddisfly. Chronic values ranged from <0.044 mg/l for a cladoceran to 1.025 mg/l for the fathead minnow. Acute values for chromium (VI) are available for 27 genera and range from 0.23 mg/l for a cladoceran to 1,870 mg/l for a stonefly. Daphnids appear to be especially sensitive to chromium (VI). Chronic values for rainbow trout and brook trout were both 0.264 mg/l, as compared to the chronic value of 1.987 mg/l for the fathead minnow. Both valences of chromium appear to increase in toxicity with decreasing hardness. Green algae are quite sensitive to chromium (VI) and were affected by a concentration of 0.397 mg/l of chromium (III) in soft water. The bioconcentration factor for chromium (VI) was approximately one for rainbow trout in two studies. No bioconcentration factor was available for chromium (III) in fresh water.

Toxicity of Chromium in Sediment to Benthic Organisms. There is relatively little consistency in the effects data presented in the NOAA report (Long and Morgan 1991). This may be due to the lack of chromium speciation data in the NOAA studies. All of the data were reported as total chromium, whereas the hexavalent form has been reported to be the most toxic. In Lake Union, Washington, a concentration of 20 mg/kg resulted in 95% mortality of *Hyalella azteca*. However, in the Dupage and Kishwaukee rivers in Illinois chromium levels of 34 and 29 mg/kg, respectively, had the highest number of benthic macroinvertebrate taxa, while concentrations of 60 and 43 mg/kg, respectively, has the lowest number of benthic macroinvertebrate taxa. In the Keweenaw Waterway of Michigan, 36 mg/kg chromium was not toxic to *Daphnia magna,* but levels of 109 mg/kg were significantly toxic. In Torch Lake, Michigan, concentrations of 180 mg/kg chromium resulted in significant mortality to *Daphnia magna* and *Hexagenia* sp. (studies cited in Long and Morgan, 1991).

Toxicity of Chromium in Soil to Plants. Chromium is not an essential element in plants. The (VI) form is more soluble and available to plants than the (III) form and is considered the more toxic form (Smith, et al., 1989). In soils within a normal Eh and pH range, Cr(VI), a strong oxidant, is likely to be reduced to the less available Cr(III) form although the (III) form may be oxidized to the (VI) form in the presence of oxidized Mn (Bartlett and James, 1979). In nutrient solution, however, both forms are about equally taken up by plants and toxic to plants (McGrath, 1982). Cr(VI), as CrO_4^{2-}, may share a root membrane carrier with SO_4^{2-}. Cr(VI) is more mobile in plants than Cr(III) but translocation varies with plant type. After plant uptake it generally remains in the roots because of the many binding sites in the cell wall capable of binding especially the Cr(III) ions (Smith et al., 1989). Within the plant Cr(VI) may be reduced to the +3 form and complexed as an anion with organic molecules. Symptoms of toxicity include stunted growth, poorly developed roots, and leaf curling. Chromium may interfere with C, N, P, Fe, and Mo metabolism, and enzyme reactions (Kabata-Pendias and Pendias, 1984).

Turner and Rust (1971) investigated the effect of Cr added as Cr(VI) on soybean seedlings grown 3 days in a loam soil. Fresh shoot weight was reduced 30% by 30 ppm Cr, while 10 ppm had no effect. Adema and Henzen (1989) calculated EC_{50} concentrations for effects of Cr added as Cr(VI) on lettuce, tomato and oats grown in a growth chamber from seed for 14 days. The EC_{50} for lettuce in a humic sand soil (pH 5.1, % organic matter 3.7) was greater than 11 ppm, while in a loam soil (pH 7.4, % organic matter 1.4) it was 1.8 ppm Cr. The EC_{50} for tomato in the humic sand soil was 21 ppm, while in the loam soil it was 6.8 ppm Cr. The EC_{50} for oats in the humic sand soil was 31 ppm, while in the loam soil it was 7.4 ppm Cr. Results of these experiments show the ameliorating effects of organic matter on Cr (VI) toxicity.

Table F1.3. Toxicity of chromium to aquatic animals

Concentration (mg/L)	Effect
Chromium(VI)	
1,870	Stonefly (Neophasganophora capitata) LC50
176	Crayfish (Orconectes rusticus) LC50
140	Damselfly (Enallagma aspersum) LC50
133	Bluegill (Lepomis macrochirus) LC50
120	Goldfish (Carassius auratus) LC50
115	Green sunfish (Lepomis cyanellus) LC50
86	Striped shiner (Notropis chrysocephalus) LC50
75	Sand shiner (Notropis stramineus) LC50
73	White crappie (Pomoxis annularis) LC50
69	Rainbow trout (*Oncorhynchus mykiss)* LC50
61	Midge (Chironomus tentans) LC50
59	Brook trout (Salvelinus fontinalis) LC50
57	Midge (Tanytarsus dissimilis) LC50
54	Bluntnose minnow (Pimephales notatus) LC50
51	Central stoneroller (Campostoma anomalum) LC50
50	Silverjaw minnow (Ericymba buccata) LC50
48	Emerald shiner (Notropis atherinoides) LC50
46	Johnny darter (Etheostoma nigrum) LC50
41	Fathead minnow (Pimephales promelas) LC50
36	Yellow perch (Perca flavescens) LC50
30	Striped bass (Morone saxatilis) LC50
30	Guppy (Powcilia reticulata) LC50

Concentration (mg/L)	Effect
23	Snail (Physa heterostropha) LC50
2	Fathead minnow (Pimephales promelas) CV
2	Bryozoan (Lophopodella carteri) LC50
1	Bryozoan (Pectinatella magnifica) LC50
1	Bryozoan (Plumatella emarginata) LC50
1	Amphipod (Hyalella azteca) LC50
0	Rainbow trout (Oncorhyncus mykiss) CV
0	Brook trout (Salvelinus fontinalis) CV
0	Rainbow trout (Oncorhyncus mykiss) CV
0	Amphipod (Gammarus pseudolimnaeus) LC50
0	Cladoceran (Ceriodaphnia reticulata) EC50
0	Cladoceran (Simocephalus serrulatus) EC50
0	Cladoceran (Ceriodaphnia reticulata) CV
0	Cladoceran (Daphnia pulex) EC50
0	Cladoceran (Simocephalus vetulus) EC50
0	Cladoceran (Daphnia magna) EC50
0	Cladoceran (Simocephalus serrulatus) CV
0	Acute NAWQC
0	Chronic NAWQC
0	Cladoceran (Daphnia pulex) CV
0	Cladoceran (Simocephalus vetulus) CV
Chromium(III)	
139	Caddisfly (Hydropsyche betteni) LC50
88	Caddisfly (unidentified) LC50
76	Damselfly (unidentified) LC50

Concentration (mg/L)	Effect
32	Goldfish (Carassius auratus) LC50
29	Rainbow trout (*Oncorhynchus mykiss*) LC50
27	Stiped bass (Morone saxatilis) LC50
26	Guppy (Poecilia reticulata) LC50
26	Pumpkinseed (Lepomis gibbosus) LC50
26	Banded killifish (Fundulus diaphanus) LC50
22	White perch (Morone americana) LC50
22	Common carp (Cyprinus carpo) LC50
21	American eel (Anguilla rostrata) LC50
19	Midge (Chironomus sp.) LC50
18	Snail (Amnicola sp.) LC50
16	Worm (Nais sp.) LC50
9	Cladoceran (Daphnia magna) EC50
6	Fathead minnow (Pimephales promelas) LC50
6	Amphipod (Gammarus sp.) LC50
5	Bluegill (Lepomis macrochirus) LC50
4	May fly (Ephemerella subvaria) LC50
2	Acute NAWQC
1	Fathead minnow (Pimephales promelas) CV
0	Chronic NAWQC
0	Rainbow trout (Oncorhyncus mykiss) CV
0	Cladoceran (Daphnia magna) CV
0	Cladoceran (Daphnia magna) CV

F1.1.7 Cobalt

Toxicity of Cobalt in Water to Aquatic Life. Comparatively little is known about the toxicity of cobalt (Kimball, date unknown). Acute and chronic toxicity tests using fathead minnows (*Pimephales promelas*) and *Daphnia magna* were conducted in relatively hard water. Acute toxicity values for cobalt ranged from 3.61 mg/l for fathead minnows to 6.68 mg/l for *D. magna*. Chronic toxicity values ranged from .0011 mg/l for fathead minnows to .0051 mg/l for *D. magna*.

F1.1.8 Copper

Toxicity of Copper in Water to Aquatic Life. Copper occurs in natural waters primarily as the divalent cupric ion in free and complexed forms (EPA 1985-Cu). Copper is a minor nutrient for both plants and animals at low concentrations but is toxic to aquatic life at concentrations only slightly higher. Concentrations of 1 to 10 $\mu g/l$ are usually reported for unpolluted surface waters in the United States.

The toxicity of copper to aquatic life is related primarily to activity of the cupric (Cu^{2+}) ion, and possibly to the hydroxy complexes. The cupric ion is highly reactive, forms moderate to strong complexes and precipitates with inorganic and organic constituents (e.g., carbonate, phosphate, amino acids), and is readily sorbed onto surfaces of suspended solids. The proportion of free cupric ion may be less than 1 percent in eutrophic waters where complexation predominates. These complexes appear to be much less toxic than free cupric ions, thus reducing toxicity. Hence, even dissolved copper measurements may overestimate copper exposure relative to laboratory test waters due to dissolved organic and inorganic ligands (EPA 1985-Cu, Benson et al. 1994).

Toxicity of copper appears to be a function of calcium hardness and associated carbonate alkalinity. Therefore, only those acute LC50 and EC50 values that were determined in waters with hardness falling in the range observed in the Clinch River/Poplar Creek OU are used in this assessment (Table F1.4). Because only one chronic toxicity test was conducted in such waters, other chronic values are presented that are corrected for a hardness of 100 mg/L using slope values from EPA (1985-Cu) (TableF1.4). Acute and chronic NAWQC for 100 mg/L hardness are also presented. The sensitivities of the aquatic plants are highly variable, bracketing those of animals (Table F1.4). Copper is not known to be appreciably bioaccumulated by fish, but some algae and bivalve molluscs do bioconcentrate or bioaccumulate copper by factors of over 1000 (EPA 1985-Cu).

Toxicity of Copper in Sediments to Benthic Organisms. A concentration of 156 mg/kg Cu caused 95% mortality to *Hyalella azteca* at Lake Union, Washington. In Waukegan Harbor, Illinois, there was 34% mortality to the same species at a concentration of 19.5 mg/kg. In Illinois, a high number of benthic invertebrate taxa were found in one river with a sediment copper concentration of 62 mg/kg; although another Illinois river had a high number of taxa at 19.5 mg/kg and a low number of taxa at a concentration of 45 mg/kg (studies cited in Long and Morgan 1991).

Toxicity of Copper to Wildlife. Copper occurs naturally in elemental form and as a component of many minerals. It is an essential nutrient that is normally present in a wide variety of tissues (ATSDR 1990; EPA 1987c). Because of its high electrical and thermal conductivity, it is widely used in the manufacture of electrical equipment. Common copper salts, such as the sulfate, carbonate, cyanide, oxide, and sulfide are used as fungicides, as components of ceramics and pyrotechnics, for electroplating, and for numerous other industrial applications (ACGIH 1986). The largest anthropogenic releases of copper to the environment result from mining operations, agriculture, solid waste, and sludge from sewage treatment plants. Natural discharges to air and water, such as windblown dust and volcanic eruptions, may be significant (ATSDR 1990).

Copper is a component of a number of metalloenzymes such as catalase, peroxidases, and cytochrome oxidase and is essential for the utilization of iron (Goyer 1991; Stokinger 1981). Although most copper salts occur in two valence states, as cuprous (Cu^{+}) or cupric (Cu^{2+}) ions, the biological availability and toxicity of copper is most likely associated with the divalent state (ATSDR 1990). Copper sulfate is the most common copper salt. Copper is soluble in nitric acid and hot sulfuric acid, very slightly soluble in hydrochloric acid and ammonia, and insoluble in water (Stokinger 1981).

The metabolism of copper involves mainly its transfer to and from various organic ligands, most notably sulfhydryl and imidazole groups on amino acids and proteins (ATSDR 1990). The liver is one of the main organs involved in the storage and metabolism of copper. Absorption of ingested copper occurs primarily in the upper gastrointestinal tract (EPA 1987c). Soluble copper compounds (oxides, hydroxides, citrates) are readily absorbed but water-insoluble compounds (sulfides) are poorly absorbed (Venugopal and Luckey 1978). Zinc, molybdenum, and other metals may decrease dietary copper absorption (USAF 1990).

In animal studies, oral exposure to copper caused hepatic and renal accumulation of copper, liver and kidney necrosis at doses of $\geq$100 mg/kg/day, and hematological effects at doses of 40 mg/kg/day (EPA 1986; Haywood 1985; Rana and Kumar 1978; Gopinath et al. 1974; Kline et al. 1971). Oral or intravenous administration of copper sulfate can increase fetal mortality and developmental abnormalities in experimental animals (Lecyk 1980; Ferm and Hanlon 1974). Rat oral LD_{50} values for various copper compounds are 140 mg/kg for copper chloride ($CuCl_2$); 470 mg/kg for copper oxide (Cu_2O); 940 mg/kg for copper nitrate ($Cu(NO_3)_2 \cdot 3H_2O$); and 960 mg/kg for copper sulfate ($CuSO_4 \cdot 5 H_2O$) (Stokinger 1981). Deaths in animals given lethal doses of copper have been attributed to extensive hepatic centrilobular necrosis (USAF 1990).

In a 90-day subchronic study with copper cyanide (CuCN), high mortality, attributed to hemolytic anemia, was seen in both male and female rats receiving 50 mg/kg/day by gavage, but not in those receiving $\leq$ 5 mg/kg/day (EPA 1986c). In general, male rats appeared to be more sensitive to the effects of CuCN than female rats. Rats receiving 500 ppm copper in their diet (about 5 mg/day) appeared normal, while rats receiving 1000 ppm exhibited depressed growth, those at 2000 ppm hardly grew at all, and those on a 4000 ppm diet lost weight rapidly and died (Boyden et al. 1938). Salt licks containing 5–9% copper sulfate caused anorexia, hemolytic anemia, icterus, and hemoglobinuria, followed by death within 2 days in sheep using the licks (Gopinath et al. 1974). The estimated ingested dose was 40–49 g over a 25- to 86-day period. Lecyk (1980) observed reduced litter size, decreased fetal weights, and skeletal abnormalities in the offspring of mice fed diets supplemented with 3000 or 4000 ppm copper sulfate (155 or 207 mg copper/kg/day, respectively) for one month prior to gestation and on days 0–19 of gestation.

Aulerich et al. (1982) reported an increased mortality rate in the offspring of minks fed a diet supplemented with >3 mg copper/kg/day as copper sulfate for 50 weeks. Although kit mortality was greater and litter mass was reduced relative to controls, reproductive performance of mink fed diets supplemented with up to 200 ppm copper for 357 days was within the normal range for the species (Aulerich et al. 1982). Lifetime exposure to 42.4 mg copper/kg/day (as copper gluconate) in drinking water caused a 12.8% decrease in the maximal lifespan in mice (Massie and Aiello 1984).

Domestic chicks on diets $\geq$324 ppm copper grew slowly; mortality increased with dietary copper concentrations of 1270 ppm (Mayo et al. 1956). Arthur et al. (1958) observed no ill effects in chicks fed $\leq$500 ppm copper in diet up to 8 weeks of age. Dietary copper levels from 588–1176 ppm for 10 weeks exerted a toxic effect on chick growth; the minimum toxic level of copper appeared to be about 500 ppm (Mehring et al. 1960). Turkey poults tolerated 676 ppm copper in starter diets for 21 days with no

deleterious effects, but copper was definitely toxic at levels >1620 ppm (Vohra and Kratzer 1968). Chickens given a daily dose of >70 mg/kg of $CuCO_3$ died while those receiving <60 mg/kg exhibited slight symptoms of copper poisoning but survived (Pullar, 1940). No symptoms of copper poisoning were observed in domestic mallards ingesting ≤29 mg/kg/day of $CuCO_3$, but daily intakes ≥55 mg/kg/day were toxic (Pullar 1940).

Table F1.4. Aqueous concentrations of copper causing effects on freshwater aquatic biota at hardness equivalent to Clinch River and Poplar Creek. Effects reported for CVs are those occurring at the upper bound on the CV (the LOEC). Unadjusted values from EPA (1985).

Concentration (mg/L)	Effect
8.0[a]	Highest plant value, growth inhibition in *Chlamydomonas* sp.
3.0	Crayfish (*Orconectes rusticus*) LC50
1.5	Tilapia (*Tilapia mossambica*) LC50
1.5	Pumpkinseed (*Lepomis gibbosus*) LC50
0.30	Midge (*Chironomus tentans*) LC50
0.12[b]	Northern pike ELS CV [100% early life-stage mortality][c]
0.11	Snail (*Gyraulus circumstriatus) LC50*
0.069	Snail (*Physa heterostropha*) LC50
0.068	Coho salmon mean LC50
0.060[b]	Lake trout ELS CV [~60% reduction in juvenile standing crop][c]
0.057[b]	Bluegill sunfish CV [57% reduction in larval survival][h]
0.056	*Salmo mean LC50*
0.043	*Daphnia* mean EC50
0.041	Amphipod (*Gammarus pulex*) LC50
0.041[b]	White sucker ELS CV [100% early life-stage mortality][c]
0.038[b]	Rainbow trout ELS CV [100% early life-stage mortality][c]
0.033[b]	Caddisfly (*Clistornia magnifica*) CV [30% adult emergence][i]
0.029	*Daphnia magna* CV [unspecified effect][e]
0.024[b]	Brook trout CV [100% alevin mortality][f]
0.022[b]	Snails (*Physa integra* and *Campeloma decisum*) CVs [>90% reduction in survival][d]

Concentration (mg/L)	Effect
0.019[b]	Fathead minnow CV [100% spawning inhibition][g]
0.018[b]	Acute NAWQC
0.012[b]	Chronic NAWQC
0.012[b]	Amphipod (*Gammarus pseudolimnaeus*) CV [>90% reduction in survival and fecundity][d]
0.005[b]	Bluntnose minnow CV [80% reduction in fecundity][j]
0.001[a]	Lowest plant value, growth lag in *Chlorella pyrenoidosa*

[a] Hardness unspecified
[b] Corrected for a hardness of 100 mg/L.
[c] McKim et al. (1978)
[d] Arthur and Leonard (1970)
[e] Chapman et al. n.d.
[f] McKim and Benoit (1971)
[g] Mount (1968), Mount and Stephan (1969)
[h] Benoit (1975)
[i] Nebeker et al. (1984)
[j] Horning and Neiheisel (1979)

F1.1.9 Iron

Toxicity of Iron in Water to Aquatic Life. Because iron is the fourth most abundant element in the earth's crust, it commonly occurs at high concentrations in whole water analyses. Dissolved concentrations in water are dependent upon redox conditions and pH. The most common dissolved inorganic form of iron is $Fe(OH)_2^+$ (Dave 1984). Toxicity of iron to aquatic organisms has received little attention because it is observed in unusual circumstances such as acid mine drainage or discharge of acidic metal working wastes.

Iron is acutely toxic to freshwater fish and invertebrates at concentrations ranging from 300 µg/L to 2000 µg/L (Train 1979, cited in Dave 1984). Reproduction of *Daphnia magna* was stimulated at concentrations up to 1 µg/L, and reproduction and survival were inhibited by iron at 158 µg/L and 256 µg/L, respectively (Dave 1984). This is considerably lower than the 4,380 µg/L concentration causing 16% reproductive decrement in another test with *Daphnia magna* (Biesinger and Christensen 1972). Dave argued that his result was more applicable to a situation in which "an acidic iron-containing waste water is discharged into a lake or a river" where it is neutralized, but Biesinger and Christensen's (1972) result "is probably more close to the steady-state situation in natural freshwater without any point source of iron." Survival of brown trout alevin (swim-up fry) and eyed-eggs was reduced at an average iron concentration of 5170 µg/L (Geertz-Hansen and Mortensen 1983).

Toxicity of iron to aquatic plants was not reported. Bioconcentration factors and toxicities of body burdens were also not determined for iron. The chronic NAWQC for freshwater aquatic life of 1000 µg/L is not based on the standard method for criteria derivation. Rather, it is based on effects observed at acid mine drainage sites.

Toxicity of Iron in Sediments to Benthic Organisms. There is minimal information on the toxicity of iron in sediment to benthic invertebrates. However, Hull and Suter (1994) describe sediment criteria which are utilized as screening benchmarks. The Ontario Ministry of the Environment (MOE) has prepared provincial sediment quality guidelines (SQGs). These values are based on Ontario sediments and benthic species from a wide range of geographical areas within the province. The lowest effect level (low) is the level at which actual ecotoxic effects become apparent. The severe effects level (severe) represents contaminant levels that could potentially eliminate most of the benthic organisms. These "low" and "severe" effects levels are 3% (30,000 mg/kg) and 4% (40,000 mg/kg), respectively (Hull and Suter 1994).

Beak Consultants in Canada also developed potential SQGs for Ontario MOE using the background approach. A SQG of 5.9% (59,000 mg/kg) represents a background level to which the site contaminant concentration should be compared. This sediment guideline is not based on/or related to biological effects (Hull and Suter 1994).

The EPA Region V Sediment Classification guidelines are for sediments of Great Lakes Harbors. The "polluted" values ranging from 17,000-25,000 mg/kg are qualified as being "moderately polluted" in the guidelines. The Region V values are poorly founded scientifically and are considered adequate only for determining the suitability of dredged material for open water disposal (Hull and Suter 1994).

F1.1.10 Lead

Toxicity of Lead in Water to Aquatic Life. Although lead occurs in a variety of forms in the aquatic environment, the relative toxicities of these forms are not well defined (EPA 1985-Pb). Acute and chronic lead toxicity increases as hardness decreases (EPA 1985-Pb). Therefore, the lead toxicity values presented in Table F1.5 that are not from tests conducted in waters of moderate hardness (within the range found in the Clinch River) are normalized to 100 mg/L using the slopes calculated by the EPA (1985-Pb). Bioconcentration was observed in four invertebrate and two fish species with concentration factors ranging from 42 to 1700. Toxicities of body burdens were not determined. The acute and chronic NAWQC for lead are 0.082 mg/l and 0.0032 mg/l at a hardness of 100 mg/l as $CaCO_3$.

Toxicicty of Lead in Sediment to Benthic Organisms. Although a relatively large amount of data exists for lead and measures of effects in sediments, there are no spiked sediment bioassays and there is a wide concentration range associated with effects (Long and Morgan 1991). Also, freshwater biota may be more sensitive to lead than marine species (Eisler 1988).

Significant effects were observed in *Daphnia magna* exposed to Keweenaw Waterway sediments containing 27 mg/kg lead. Taxa richness of macroinvertebrate communities in the Kishwaukee River were reduced in sediments containing 31 mg/kg and taxa-rich in sediment containing 21 mg/kg. Significant toxicity to *D. magna* and *H. limbata* was observed at 110 mg/kg in sediments of Torch Lake, Michigan (studies cited in Long and Morgan 1991).

Table F1.5. Toxicity of lead to aquatic animals

Concentration (mg/L)	Effect
784	Goldfish (Carassius auratus) LC50
600	Midge (Tanytarsus dissimilis) LC50
513	Guppy (Poecilia reticulata) LC50
14	Brook trout (Salvelinus fontinalis)LC50
12	Rainbow trout (*Oncorhynchus mykiss*) LC50
10	Bluegill (Lepomis macrochirus) LC50
6	Snail (Aplexa hypnorm) LC50
5	Fathead minnow (Pimephales promelas) LC50
0	Rainbow trout (*Oncorhynchus mykiss*) CV
0	Amphipod (Gammarus pseudolimnaeus) LC50
0	Cladoceran (Daphnia magna) EC50
0	Brook trout (Salvelinus fontinalis) CV
0	Cladoceran (Daphnia magna) CV
0	Rainbow trout *(Oncorhynchus mykiss)* CV
0	Acute NAWQC
0	Cladoceran (Daphnia magna) CV
0	Cladoceran (Daphnia magna) CV
0	Snail (Lymnaea palustris) CV
0	Chronic NAWQC

F1.1.11 Manganese

Toxicity of Manganese in Water to Aquatic Life. There is evidence that manganese occurs in surface waters both in suspension in the quadrivalent state and in the trivalent state in a relatively stable, soluble complex (APHA 1989). Comparatively little is known about the toxicity of manganese (Kimball date unknown).

Acute and chronic toxicity tests using fathead minnows and *Daphnia magna* were conducted in relatively hard water. Acute toxicity values for manganese ranged from 17.48 mg/l for *D. magna* to 33.80 mg/l for fathead minnow. Manganese toxicity was increased by the presence of food during the *D. magna* acute toxicity tests. Chronic toxicity values ranged from <1.10 mg/l for *D. magna* to 1.77 mg/l for fathead minnows.

Toxicity of manganese to aquatic plants was not reported. Bioconcentration factors and toxicities of body burdens were also not determined for manganese. There are no NAWQC for manganese.

Toxicicty of Manganese in Sediment to Benthic Organisms. Very little sediment toxicity information is available for manganese. The Ontario Ministry of the Environment has estimated that most benthic organisms in that region will not be adversely affected by concentrations of 460 mg/kg, which is consistent with the Great Lakes pre-colonial sediments background level of 400 mg/kg. A concentration of 1,110 mg/kg is estimated to be toxic to most benthic organisms (Persaud et al. 1990).

Toxicity of Manganese to Wildlife. Manganese makes up about 0.10% of the earth's crust and is the 12th most abundant element (NAS 1980). It can exist in oxidation states from -3 to +7, the most common being +4 in the chemical form of manganese dioxide (Keen and Leach 1988). The oxides and peroxides are used in industry as oxidizers, and the metal is used for manufacturing metal alloys to increases hardness and corrosion resistance. In living systems, manganese is an essential element that is found most often in the +2 valence state.

Normal nutritional requirements of manganese are satisfied through the diet, which is the normal source of the element, with minor contributions from water and air. Manganese is absorbed throughout the intestinal tract. It can elicit a variety of serious toxic responses upon prolonged exposure to elevated concentrations either orally or by inhalation. The central nervous system is the primary target. Manganese and iron are mutually antagonistic; therefore, animals with low iron intake are more sensitive to manganese toxicity (NAS 1980).

Effects on reproduction (decreased fertility, impotence) have been observed in humans with inhalation exposure and in animals with oral exposure at the same or similar doses that initiate the central nervous system effects.

In a 120-day study, Grummer et al. (1955) suggested that the critical level of manganese required by growing pigs was approximately 12–20 ppm. There were no significant differences in reproductive performance among sows fed a diet supplemented with 40, 80, or 160 ppm manganese (Grummer et al. 1955), but addition of 500 ppm manganese to the diet slowed growth and caused stiffness of limbs. Swine may be somewhat more sensitive than other mammals; ingesting excess manganese at levels as high as 1000 ppm resulted in metabolic deviations but almost no effects on growth or other indicators of toxicosis in most experiments were reported in NAS (1980). Cunningham et al. (1966) suggested that the minimum toxic level of manganese was between 820 and 2460 ppm based on 84-day experiments with calves, but they noted the influence of decreased food intake at higher levels of manganese. In a second study controlling daily feed intake, no significant differences in average daily weight gain were observed in calves on diets containing up to 3000 ppm manganese (Cunningham et al. 1966). Adverse effects are more commonly observed at levels >2000 ppm (NAS 1980). When pregnant rats were fed a diet with 3550 ppm manganese beginning at day 2 of gestation, their offspring, fed the same diet to age 225 days, exhibited decreased fertility (Laskey et al. 1982).

Diets containing 1000 mg/kg of manganese as manganese carbonate fed to chicks for 20 weeks caused no adverse effects (Gallup and Norris 1939). Assuming a body weight of 0.556 kg (Opresko et al. 1994) and a daily ingestion rate of 0.04 kg [from the allometric relationship described by Nagy (1987)], the dietary concentration would be equivalent to a dose of 72 mg/kg-day. Turkey poults tolerated manganese levels of 3600 ppm in starter diets for 21 days with no deleterious effects, but growth depression was observed at 4800 ppm (Vohra and Kratzer 1968). Gallup and Norris (1939)

concluded that a minimum of 30–50 ppm manganese in the diet would be necessary to prevent perosis, a disease involving manganese deficiency, depending on the breed of chicken studied.

Toxicity of Manganese in Soil to Plants. Manganese occurs in relatively high concentrations in soils as oxides and hydroxides, nodules, and coatings on other soil particles. These forms are not readily available to plants. Manganese is essential for plant growth. It is involved in N assimilation, as a catalyst in plant metabolism, and functions with Fe in the synthesis of chlorophyll (Labanauskas 1966). Toxicity symptoms include marginal chlorosis and necrosis of leaves, and root browning. Excess Mn interferes with enzymes, decreases respiration, and is involved in the destruction of auxin (Foy et al. 1978). Growth of beans was reduced 29% by the addition of 500 ppm Mn to soil (Wallace et al. 1977a). Wong and Bradshaw (1982) measured a 70% reduction in root length of ryegrass in response to 0.75 ppm in solution. The benchmark for Mn in soil is 500 ppm, and in solution, 4 ppm.

F1.1.12 Mercury

Toxicity of Mercury in Water to Aquatic Life. Mercury in the environment commonly occurs as mercury (II) and methylmercury (EPA 1985-Hg). Elemental mercury is oxidized to mercury (II) under natural conditions, and mercury (II) can be methylated by both aerobic and anaerobic bacteria. Mercury (II) can also be methylated in the slime coat, liver, and intestines of fish, but methylation apparently does not occur in other tissues or in plants. Numerous factors such as alkalinity, ascorbic acid, chloride, dissolved oxygen, hardness, organic complexing agents, pH, sediment, and temperature probably affect the acute and chronic toxicity and bioaccumulation of the various forms of mercury. Because methyl mercury was not detected in water the summary of mercury toxicity data includes only inorganic mercury (Table F1.6).

Toxicity of Mercury in Sediment to Benthic Organisms. Sediments from the Little Grizzly Creek system in California, which had 0.8 to 3.5 (mean 1.5) mg/kg mercury and an organic carbon content of approximately 1%, caused greater than 90% mortality in *Daphnia magna* and *Hexagenia limbata* (mayfly larva) (Maleug et al, 1984). A Michigan lake sediment in the same study, with an organic carbon content of 2.2% and mercury concentration of 0.29 mg/kg, caused 100% mortality in *D. magna* and 40% mortality in *H. limbata*. However, sediments from the Phillips Chain of Lakes in Wisconsin, with mercury concentrations from 0.8 to 9.4 mg/kg, resulted in less than 20% mortality in both species. These sediments had a high organic carbon content of approximately 15% (studies cited in Long and Morgan 1991).

Sediments from Waukegan Harbor, Illinois, with a mercury concentration of 0.1 mg/kg resulted in 34% mortality to *Hyalella azteca*. A study of benthic macroinvertebrate communities in Illinois rivers conducted by the Illinois Environmental Protection Agency found that the lowest number of benthic macroinvertebrate taxa occurred at a site with 1.6 mg/kg mercury, while the highest number of taxa occurred at a site with 0.3 mg/kg mercury (studies cited in Long and Morgan 1991).

ER-L and ER-M values are 0.15 mg/kg and 0.71 mg/kg, respectively. Biological effects were observed in only 42% of the documented studies with concentrations greater than the ER-M (Long et al. 1995).

Toxicity of Mercury to Wildlife. Mercury has no known biological function and is potentially toxic to fish and wildlife. Mercury is a mutagen, teratogen, and carcinogen that adversely affects the central nervous, renal, and reproductive systems of wildlife (Eisler 1987). Inorganic mercury compounds in aquatic systems are readily converted to organomercury by microbial action (Berlin 1979), with

organomercury compounds being more toxic than inorganic mercury compounds. Biota bioconcentrate mercury compounds which can be further biomagnified through food chains (Wren 1986).

Daily doses of 0.1–0.5 mg/kg bw/day and dietary concentrations of 1.0–5.0 ppm are lethal to sensitive mammals (Eisler 1987). Central nervous system toxicity, weight loss, and mortality were observed among rats fed a diet containing 250 ppm methyl mercury (MeHg) for 2 weeks (Verschuuren et al. 1976a). Rats consuming 2.5 ppm MeHg in the diet for 2 years displayed reduced growth, increased kidney weight, and altered kidney histochemistry (Verschuuren et al. 1976b). To study effects on reproduction, Verschuuren et al. (1976c) fed rats a diet containing 0, 0.1, 0.5, and 2.5 ppm MeHg for three generations. While no effects were observed among rats fed 0.1 or 0.5 ppm MeHg, offspring viability was reduced among rats in the 2.5 ppm treatment. Among mink, 93-day consumption of diets containing 1.8 to 15.0 ppm MeHg produced mortality, ataxia, anorexia, and paralysis (Wobeser et al. 1976), with the highest exposures showing the greatest effects.

The LD_{50} for MeHg for *Coturnix* quail ranges from 14.4 to 33.7 mg/kg bw (Eisler 1987). Growth was decreased and mortality increased among leghorn cockerels fed diets containing 6 to 18 ppm MeHg (Fimreite 1970). Ring-necked pheasants fed diets of MeHg-treated grains displayed reduced egg production and hatchability and laid more shell-less eggs than controls (Fimreite 1971). Heinz (1979) fed mallard ducks a diet containing 0.5 ppm MeHg for three generations. While MeHg consumption did not affect adult weights or weight change during the reproductive season, MeHg-exposed females laid fewer eggs (with more eggs outside the nest box), produced fewer young, and displayed slightly thinner eggshells. Young of MeHg-treated adults were less responsive to maternal calls and hyper-responsive to fright stimuli.

Toxicity of Mercury in Soil to Plants. Mercury in soil is strongly associated with organic matter, and to a lesser extent, clay and Fe and Mn oxides. In general, little Hg is found in soil solution available to plants. Mercury and its compounds taken up by roots are translocated to only a limited extent in plants. Organic forms of Hg may be translocated to a greater degree than inorganic forms in some plants (Huckabee and Blaylock 1973). Gay (1975) reports that pea plants form methylmercury as an intermediate product from Hg added to the soil in organic and inorganic forms. There was no primary reference data describing toxicity of Hg to plants grown in soil. Kloke (1979) report unspecified toxic effects on plants grown in a surface soil with the addition of 0.3 ppm Hg and this has been chosen as the benchmark concentration for all mercury species (inorganic and organic) in soil.

Table F1.6. Aqueous concentrations of mercuric chloride causing effects on freshwater aquatic biota

Concentration (mg/L)	Effect
2.00	Mayfly (*Ephemerella subvaria*) LC50
2.00	Stonefly (*Acroneuria lycorias*) LC50
2.00	Caddisfly (*Hydropsyche betteni*) LC50
1.00	Mozambique tilapia (*Tilapia mossambica*) LC50
0.500	Tubificid worm (*Spirosperma nikolskyi*) LC50
0.370	Snail (*Aplexa hypnorum*) LC50

Concentration (mg/L)	Effect
0.330	Tubificid worm (*Spirosperma ferox*) LC50
0.275	Rainbow trout (*Oncorhynchus mykiss*) LC50
0.250	Tubificid worm (*Quistadrilus multisetosus*) LC50
0.240	Tubificid worm (*Rhyacodrilus montana*) LC50
0.240	Coho salmon (*Oncorhynchus kisutch*) LC50
0.180	Tubificid worm (*Limnodrilus hoffmelsteri*) LC50
0.180	mosquitofish (*Gambusia affinis*) LC50
0.160	bluegill (*Lepomis macrochirus*) LC50
0.159	fathead minnow (*Pimephales promelas*) LC50
0.140	Tubificid worm (*Stylodrilus heringianus*) LC50
0.140	Tubificid worm (*Tubifex tubifex*) LC50
0.100	Tubificid worm (*Varichaeta pacifica*) LC50
0.080	Tubificid worm (*Branchiura sowerbyi*) LC50
0.050	Crayfish (*Orconectes limosus*) LC50
0.030	guppy (*Poecilla reticulata*)LC50
0.020	Crayfish (*Faxonella clypeatus*) LC50
0.00316	Cladoceran (*Daphnia magna*) EC50
0.00243	acute NAWQC (Hg^{++})
0.00222	Cladoceran (*Daphnia pulex*) EC50
0.00130	final chronic value (Hg^{++})
0.00111	Cladoceran (*Daphnia magna*) CV
0.00024	fathead minnow (*Pimephales promelas*) CV

F1.1.13 Molybdenum

Toxicity of Molybedenum to Soil to Plants. Molybdenum is required for symbiotic N_2 fixation by legumes and for growth of nonleguminous plants. The most important functions of Mo in plants are related to enzymes active in N metabolism (activation of nitrogenase and nitrate reductase). The majority of Mo taken up by the root system tends to remain in the roots although significant amounts may be translocated to the shoots in some cases (Wallace and Romney 1977a). Toxicity symptoms include chlorosis, apparently due to interference with Fe metabolism (Warington 1954).

F1.1.14 Nickel

Toxicity of Nickel in Water to Aquatic Life. Although nickel can exist in several oxidation states, the divalent cation state predominates and is generally considered the most toxic form (EPA 1986-Ni). As with many metals the toxicity of nickel increases as hardness decreases. Fish and invertebrates have approximately the same range of sensitivity. Nickel bioconcentration factors range from 0.8 for fish muscle to 193 for a cladoceran. Toxic effects of nickel are summarized in Table F1.7.

Toxicity of Nickel in Sediment to Benthic Organisms. No information is available from spiked sediment toxicity tests for nickel; data are only from field studies (Long and Morgan 1991). In sediments of Lake Union, Washington, 88 mg/kg resulted in 95% mortality of *Hyalella azteca* (Long and Morgan 1991). Sediments with between 22 and 63 (mean of 40) mg/kg nickel from the Little Grizzly Creek system in California caused greater than 90% mortality in *Daphnia magna* and *Hexagenia limbata* (Maleug et al. 1984). This lake had an organic carbon content of 1%. A Michigan lake sediment in the same study, with an organic carbon content of 2.2% and a nickel concentration of 150 mg/kg, caused 100% mortality in *D. magna* and 40% mortality in *H. limbata*. However, sediments from the Phillips Chain of Lakes in Wisconsin, with a high organic carbon content of approximately 15% and nickel concentrations from 140 to 350 mg/kg, resulted in less than 20% mortality in both species (studies cited in Long and Morgan 1991).

ER-L and ER-M values are 20.9 mg/kg and 51.6 mg/kg, respectively. A relatively low percentage (17%) of the documented studies in Long et al (1995) indicated an incidence of biological effects at concentrations greater than the ER-M.

Toxicity of Nickel in Soil to Plants. Nickel is not generally considered to be an essential element for plants. However, it may be required by nodulated legumes for internal N transport as part of the urease enzyme (Aller et al. 1990). It is generally adsorbed as the Ni(II) ion and translocated in xylem and phloem with an organic chelate (Hutchinson 1981). Nickel is fairly uniformly distributed between roots and shoots (Wallace and Romney 1977a). Symptoms of Ni toxicity are generally Fe-deficiency induced chlorosis and foliar necrosis (Khalid and Tinsley 1980). Excess nickel affects nutrient absorption by roots, root development, and metabolism, and it inhibits photosynthesis and transpiration. Nickel can replace Co and other heavy metals located at active sites in metallo-enzymes and disrupt their functioning.

A limited number of studies have evaluated the effects of Ni on oak, rye grass, corn, cotton, and beans. Dixon (1988) measured a 30% weight reduction of red oak seedlings grown for 16 weeks in a sandy loam soil (pH 6, % organic matter 1.5) with addition of 50 ppm Ni ($NiCl_2$) (no effect at 20 ppm Ni). Oats grown from seed for 110 d in the presence of 50 ppm Ni (as $NiCl_2$) in soil (pH 6.1, % organic matter 1.4) had reductions of 38 and 63% in grain and straw weight (Halstead et al. 1969). In a second soil (pH 5.7, % organic matter 4.1) only straw weight was reduced (45%) by addition of 100 ppm Ni (50 ppm had no effect). Traynor and Knezek (1973) measured a 21% reduction in corn plant weight with the addition of 294 ppm Ni (as $NiCl_2$) to a sandy soil (pH 5, % organic matter 2) in which the plants had been grown for 5 weeks from seed. Addition of 220 ppm had no effect.

Wallace et al. (1977b) report the results of experiments on the effects of Ni (as $NiSO_4$) on seedlings of a variety of plants grown in a loam soil at several pH's. Corn grown in soil at pH 4.2, 5.6, and 7.5 experienced 74, 80, and 50% reductions in shoot weight after 14 days growth with the addition of 250 ppm Ni. Ni at 100 ppm had no effect. At pH 5.8, bush beans grown for 16 days had a 64% reduction in shoot weight with the addition of 100 ppm (lowest concentration tested). At pH 7.5, a 36% reduction in plant weight occurred with 250 ppm Ni, while 100 ppm had no effect. After 28 days growth in a loam

soil at pH 5.8, bush bean leaf weight was reduced 45% by the addition of 100 ppm Ni, while 25 ppm had no effect. For barley under these same growth conditions, 25 ppm Ni (lowest concentration tested) reduced shoot weight 88%.

Table F1.7. Aqueous concentrations of nickel causing effects on freshwater aquatic biota at hardness equivalent to Clinch River and Poplar Creek

Concentration (mg/L)	Effect
77.7	banded killifish (*Fundulus diaphanus*) LC50
72.7	stonefly (*Acroneuria lycorias*) LC50
54.3	caddisfly LC50
38.3	goldfish (*Carassius auratus*) LC50
38.1	damselfly LC50
25.3	Worm (*Nals* sp.) LC50
24.1	rainbow trout (*Oncorhyncus mykiss*) LC50
23.4	amphipod (*Gammarus* sp.) LC50
23.3	white perch (*Morone americana*) LC50
23.0	snail (*Amnicola* sp.) LC50
21.9	American eel (*Anguilla rostrata*) LC50
19.4	bluegill (*Lepomis macrochirus*) LC50
17.6	common carp (*Cyprinus carpio*) LC50
17.4	guppy (*Poecilla reticulata*) LC50
14.3	fathead minnow (*Pimephales promelas*) LC50
13.6	pumpkinseed (*Lepomis gibbosus*) LC50
12.2	striped bass (*Morone saxatillis*) LC50
8.33	Mayfly (*Ephemerella subvaria*) LC50
7.75	rock bass (*Ambioplites rupestris*) LC50
3.67	*Daphnia pulicaria* EC50
2.50	*Daphnia magna* EC50
1.42	acute NAWQC
0.502	fathead minnow (*Pimephales promelas*) CV
0.231	Caddisfly (*Clistoronia magnifica*) CV
0.162	rainbow trout (*Oncorhynchus mykiss*) CV
0.158	chronic NAWQC
0.0809 0.0106	*Daphnia magna* CV *Ceriodaphnia dubia* CV [100% mortality]
0.0106	*Ceriodaphnia dubia* CV[b]

[a] Effect levels were converted based on a 100 mg/L water hardness. Slopes used for the conversion were associated with individual species, where specified in the Criteria document. Otherwise, 0.846 was the slope for both acute and chronic test conversions.

[b] Seven day test at 117 mg/L hardness from Kszos et al. (1992).

F1.1.15 Selenium

Toxicity of Selenium to Wildlife. While selenium is an essential nutrient that interacts with Vitamin E and maintains muscle integrity, it has a very narrow tolerance range; in humans, while 0.04-0.1 ppm is required in diet, 4 ppm may produce toxic effects (Eisler 1985b). In mammals, chronic selenium poisoning is induced by diets containing 1–44 ppm selenium (Harr 1978). Symptoms include liver cirrhosis, lameness, loss of hair, emaciation, reduced conception, and increased fetal resorption. Plants convert inorganic selenium to organic selenium compounds, thereby increasing their biological availability (Lo and Sandi 1980).

To evaluate the effects of selenium on reproduction, Schroeder and Mitchner (1971) exposed mice to 3 ppm selenate in drinking water for three generations. This dosage level increased juvenile mortality, number of runts, and resulted in reproductive failure by the third generation. In another study, exposure to 3 ppm selenate or selenite in water for a lifetime had no effect on mouse longevity and no tumorigenicity was observed (Schroeder and Mitchner 1972).

Selenium is both embryotoxic and teratogenic to birds, with organic selenium (selenomethionine) being more toxic than inorganic selenium (Hoffman and Heinz 1988). Mallard ducks were fed diets containing 1, 5, 10, 25, or 100 ppm selenite (Heinz et al. 1987) or 1, 2, 4, 8, or 16 ppm selenomethionine (Heinz et al. 1989) for about 10 weeks. Exposure to 1, 5, or 10 ppm selenite or 1, 2, or 4 ppm selenomethionine in the diet had no effect on survival, growth, or reproductive success of adults. The diet containing 100 ppm selenite killed 11 of 12 adults. While only one adult receiving the 25 ppm diet died, time to laying, interval between eggs was increased, and duckling survivorship was reduced in this treatment (Heinz et al. 1987). Diets containing 8 and 16 ppm selenomethionine resulted in 6.8% and 67.9% malformed embryos, respectively. In addition, duckling survival was significantly reduced (Heinz et al. 1989).

The most visible incident of environmental selenium toxicity occurred at the Kesterson National Wildlife Refuge in California. Agricultural wastewater containing approximately 0.3 ppm selenium was used for marsh management at the refuge (Ohlendorf et al. 1986). Mean selenium concentrations in plants, invertebrates, and fish at the site were 22–175 ppm (dry weight). As a result, reproductive success among water birds was poor, and the incidence of embryo mortality and developmental abnormalities was dramatically increased. Raccoons on the refuge were found to bioaccumulate selenium (Clark et al. 1989). While peak births at the refuge was 2 months later than reported at other locations, no adverse effects on raccoon reproduction were observed.

Metabolism of selenium may be significantly modified through interactions with heavy metals, and selenium may provide some protection from adverse effects associated with various metals, including cadmium and mercury (Eisler 1985b). Arsenite inhibits methylation of selenium but increases fecal excretion of selenite (Venugopal and Luckey 1978).

Toxicity of Selenium in Soil to Plants. Selenium is not proven to be essential for plant growth. It is absorbed by plants as selenite (IV), selenate (VI) or in organic form and the selenate may be the more toxic. It is believed that selenate is taken up actively while selenite uptake is largely passive (Peterson et al. 1981). Selenium is translocated to all parts of the plant, including the seed, in low molecular weight compounds (Broyer et al. 1972). Toxicity symptoms include chlorosis, stunting and yellowing of the leaves. The mechanism of toxicity is thought to be indiscriminate replacement of S by Se in proteins and nucleic acids with disruptions in metabolism (Trelease et al. 1960). Wan et al. (1988) measured 30 to 85% reductions in shoot weight of alfalfa grown in soils containing 1.5 ppm Se. Shoot weights of alfalfa

(Soltanpour and Workman 1980) and sorghum (Carlson et al. 1991) were reduced approximately 25-90% and 55% by 2 and 1 ppm Se in various soils. The benchmark for Se in soil is 1 ppm.

F1.1.16 Silver

Toxicity of Silver in Water to Aquatic Life. Toxicity of silver to freshwater fish and invertebrates is dependent upon water hardness and chloride content, with silver being more toxic in soft and low chloride water (EPA 1980-Ag). Toxicity of silver is dependent upon the form of the element. In tests with fathead minnow, free silver ion is the form of silver most acutely toxic to fish, with a 96-h LC_{50} of 0.016 mg/L, followed by silver thiosulfate complex (280-360 mg/L), and silver sulfide (>240 mg/L). The aqueous toxicity of silver is summarized in Table F1.8.

Toxicity of Silver in Sediment to Benthic Organisms. Effects were not observed in association with silver concentrations less than approximately 0.6 mg/kg (Long and Morgan 1991). No data were available for freshwater systems. At concentrations of 2.1 to 2.6 mg/kg in marine systems, there was an absence of *Macoma balthica* in Fraser River sediments, low arthropod abundance and low species richness in southern California benthos, and increased burrowing time of *M. balthica* exposed to Strait of Georgia sediments (studies cited in Long and Morgan 1991).

ER-L and ER-M values are 1.0 mg/kg and 3.7 mg/kg, respectively. A high percentage (92.8%) of the documented studies in Long et al (1995) indicated an incidence of biological effects at concentrations greater than the ER-M.

Toxicity of Silver in Soil to Plants. Silver taken up by plants remains in the root system precipitated with phosphate or chloride (Ward et al. 1979). The toxicity of Ag is related to the binding potential of Ag^+ ions to enzymes and other active molecules at cell surfaces (Cooper and Jolly 1970).

There was no primary reference data showing toxicity of Ag to plants grown in soil. Linzon (1978) reported unspecified toxic effects on plants grown in a surface soil with the addition of 2 ppm Ag.

Table F1.8. Aqueous concentrations of silver causing effects on freshwater aquatic biota at hardness equivalent to Clinch River and Poplar Creek

Concentration (mg/L)[a]	Effect
15.9	scud (*Gammarus pseudolimnaeus*) LC50
15.2	rotifer (*Philodina acuticornis*) LC50
11.3	midge (*Tanytarsus dissimilis*) LC50
0.309	bluegill (*Lepomis macrochirus*) LC50
0.046	rainbow trout (*Oncorhynchus mykiss*) LC50
0.0339	flagfish (*Jordanella floridae*) LC50
0.0271	fathead minnow (*Pimephales promelas*) LC50
0.011	mottled sculpin (*Cottus bairdi*) LC50
0.0106	speckled dace (*Rhinichthys osculus*) LC50
0.00791	cladoceran (*Daphnia magna*) CV

0.00683	cladoceran (*Daphnia magna*) EC50
0.0041	NAWQC acute value
0.0012	rainbow trout (*Oncorhynchus mykiss*) CV

[a] Acute effect levels were converted based on a 100 mg/L water hardness. Slopes used for the conversion were associated with individual species, where specified in the Criteria document. Otherwise, 1.72 was used. Chronic values were not converted based on water hardness, since no correlation was evident. A chronic NAWQC has not been determined.

F1.1.17 Thallium

Toxicity of Thallium to Wildlife. Thallium is a widely distributed metal, occurring at concentrations of approximately 1 ppm in the earths crust (Kazantzis 1979). Principal systems affected by Tl exposure include nervous and digestive; renal damage and hair loss have also been observed. Thallium sulfate, which has been widely used as a rodenticide, has an acute oral LD_{50} of 16 mg/kg (Ware 1978). In chronic studies, rats tolerated a dose of 10 mg Tl acetate/ kg, while 30 mg/kg was lethal to males by 15 weeks. All rats fed a daily dose of 0.45 mg Tl/kg died after 4 months (Kazantzis 1979). Rats exposed to 10 ppm Tl in drinking water for 2 mo accumulated Tl in testis and exhibited signs of testicular toxicity including reduced sperm motility (Formigli et al. 1986).

Bean and Hudson (1976) orally dosed 3 golden eagles with 60 and 120 mg Tl_2SO_4/kg bw; the bird receiving 60 mg Tl_2SO_4/kg survived while the two dosed with 120 mg Tl_2SO_4/kg died, suggesting an LD_{50} between the doses. Oral LD_{50}'s for quail, geese, and ducks are 12, 15, and 30 mg/kg respectively (Shaw 1933). No long-term studies of thallium toxicity to birds are currently available.

F1.1.18 Uranium

Toxicity of Uranium in Water to Aquatic Life. Relatively little aquatic toxicity data is available for uranium. The only standard data are LC50s for fathead minnow with values for various uranium salts ranging from 2.8 to 135 mg/L (Cushman et al. 1977). Toxic concentrations from nonstandard and poorly documented tests fall within this range.

Toxicity of Uranium in Soil to Plants. Uranium exists in the water-soluble fraction of plant tissue, probably as the uranyl ion and bound to cell wall proteins (Whitehead et al. 1971). The mechanisms of U phytotoxicity involve inhibition of enzyme systems and possibly binding to nucleic acids (Feldman et al. 1967). The minimal amount of radiation measured in the experimental plants has led researchers to the conclusion that toxic effects are the result of the element rather than radiation (Sheppard et al. 1983). Sheppard et al. (1983) grew swiss chard in a sandy (pH 6.4) and a peaty (pH 3, % organic matter 92) soil to test the effects of ^{238}U added as uranyl nitrate [$UO_2(NO_3)_2$]. In the sandy soil, root weight was reduced 23% by 5 ppm U (lowest concentration tested), while shoot weight was not effected. In the peaty soil, root weight was reduced 44% by 10 ppm U (lowest concentration tested), while shoot weight was not effected.

F1.1.19 Vanadium

Toxicity of Vanadium to Wildlife. Vanadium is a metallic element that occurs in six oxidation states and numerous inorganic compounds. The toxicity of vanadium depends on its physico-chemical state, particularly on its valence state and solubility. Based on acute toxicity, pentavalent NH_4VO_3 has been reported to be more than twice as toxic as trivalent VCl_3 and more than 6 times as toxic as divalent VI_2. Pentavalent V_2O_5 has been reported to be more than 5 times as toxic as trivalent V_2O_3 (Roshchin 1967).

In animals, acutely toxic oral doses cause vasoconstriction, diffuse desquamative enteritis, congestion and fatty degeneration of the liver, congestion and focal hemorrhages in the lungs and adrenal cortex (Gosselin et al. 1984). Minimal effects seen after subchronic oral exposures to animals include diarrhea, altered renal function, and decreases in erythrocyte counts, hemoglobin, and hematocrit (Domingo et al. 1985; Zaporowska and Wasilewski 1990).

A vanadyl sulfate concentration of 5 µg/mL in drinking water, plus a vanadium level of 3.2 µg/g in the diet (4.1 mg V/kg total) of mice, was reported to cause no adverse effects over a lifetime exposure period (Schroeder and Balassa 1967). In similar lifetime studies, rats and mice exhibited no adverse effects when exposed to 5 ppm vanadium (as vanadyl sulfate) in drinking water (Schroeder et al. 1970; Schroeder and Mitchner 1975b). The estimated dose levels were 0.7 mg V/kg/day for rats and 0.9 mg V/kg/day for mice. Vanadium pentoxide in the diet of rats at levels of 10 and 100 ppm for their entire lifetime resulted in no significant toxicological effects except for a reduction in hair cystine content (Stokinger 1981).

White and Dieter (1978) observed no mortality among mallard ducks fed diets containing 1, 10, or 100 ppm vanadyl sulfate for 12 weeks. Altered lipid metabolism was observed among birds fed 100 ppm vanadium; no other effects were observed. Among chickens, 200 to 400 ppm $Ca_2(VO_4)_2$ in the diet produced 100% mortality; weight gain decreased among chicks fed 20 to 40 ppm $Ca_2(VO_4)_2$ (Romoser et al. 1961).

Toxicity of Vanadium in Soil to Plants. Vanadium is not known to be essential for plant growth although it may be involved in N_2 fixation in nodules of legume roots. Toxicity symptoms include chlorosis, dwarfing, and inhibited root growth (Pratt 1966). Vanadium inhibits various enzyme systems while stimulating others, the overall effect on plant growth being negative (Peterson and Girling 1981). After uptake, it remains in the root system in insoluble form with Ca (Wallace and Romney 1977a). There was no primary reference data describing toxicity of V to plants grown in soil. Kloke (1979) reports unspecified toxic effects on plants grown in a surface soil with the addition of 50 ppm V. Vanadium added at a concentration of 2.5 ppm was toxic to plants in a study reported by EPA (1975).

F1.1.20 Zinc

Toxicity of Zinc in Water to Aquatic Life. Zinc is a commonly occurring nutrient element. Zinc occurs in many forms in natural waters and aquatic sediments. At pH 6.0 in fresh water, the dominant forms of dissolved zinc are the free ion (98%) and zinc sulfate (2%), whereas at pH 9.0, the dominant forms are the monohydroxide ion (78%), zinc carbonate (16%), and the free ion (6%)(EPA 1987-Zn). Zinc toxicity, which is relatively well defined, increases as either hardness decreases or temperature increases (EPA 1987-Zn). The aqueous toxicity of zinc is summarized in Table F1.9. Although freshwater plants are often more sensitive to zinc than freshwater animals, the range of toxicity values was much greater: growth of the algae *Selenastrum capricornutum* was inhibited by 0.030 mg/l whereas several other species of green algae had 96-hour EC_{50}s that exceeded 200.0 mg/l. Zinc bioaccumulated in freshwater animal tissue from 51 to 1130 times the water concentration. Toxicities of body burdens were not determined.

Toxicity of Zinc in Sediment to Benthic Organisms. A concentration of 127 mg/kg caused 34% mortality to *Hyalella azteca* in Waukegan Harbor, Illinois. A concentration of 320 mg/kg in Lake Union, Washington, caused 95% mortality to *H. azteca*. In Torch Lake, Michigan, there was significant mortality of *Daphnia magna* and *Hexagenia limbata* associated with concentrations of 310 mg/kg. At

2 rivers in Illinois, the highest number of benthic macroinvertebrate taxa was associated with concentrations of 96 and 182 mg/kg zinc, while the lowest number of taxa was associated with concentrations of 107 and 327 mg/kg, respectively (studies cited in Long and Morgan 1991).

Zinc. Zinc makes up about 0.002% of the earth's crust (NAS 1980). Zinc is an essential trace element in all living organisms; it assures the stability of biological molecules and structures such as DNA, membranes, and ribosomes (Eisler 1993). It is used commercially primarily in galvanized metals and metal alloys, but zinc compounds also have wide applications as chemical intermediates, catalysts, pigments, vulcanization activators and accelerators in the rubber industry, UV stabilizers, and supplements in animal feeds and fertilizers. Zinc compounds are also used in rayon manufacture, smoke bombs, soldering fluxes, mordants for printing and dyeing, wood preservatives, mildew inhibitors, deodorants, antiseptics, and astringents (Lloyd 1984; ATSDR 1989). In addition, zinc phosphide is used as a rodenticide.

Zinc occurs in nature as a sulfide, oxide, or carbonate (Eisler 1993). It is divalent in solution. In freshwater with pH >4 and <7 it exists almost exclusively as the aquo ion $(Zn(H_2O)_6)^{2+}$ (Campbell and Stokes 1985). Zinc interacts with many chemicals, and it may diminish the toxic effects of cadmium and protects against lead toxicosis in terrestrial animals (Eisler 1993). Background concentrations seldom exceed 0.040 mg/L in water or 200 mg/kg in soil or sediment (Eisler 1993).

Although it is essential for normal growth and reproduction (Prasad 1979; Stahl et al. 1989) and important to central nervous system function (Eisler 1993), the primary toxic effect of zinc is on zinc-dependent enzymes that regulate RNA and DNA. It is most harmful to aquatic life in conditions of low pH, low alkalinity, low dissolved oxygen, and elevated temperature. Zinc is relatively nontoxic in mammals, but excessive intake can cause a variety of effects. It is not known to be carcinogenic by normal exposure routes (Eisler 1993).

Gastrointestinal absorption of zinc is variable (20–80%) and depends on the chemical compound as well as on zinc levels in the body and on dietary concentrations of other nutrients (EPA 1984). Information on pulmonary absorption is limited and complicated by the potential for gastrointestinal absorption due to mucociliary clearance from the respiratory tract and subsequent swallowing. Pulmonary inflammation and changes in lung function have been observed in inhalation studies on animals (Amur et al. 1982; Lam et al. 1985; Drinker and Drinker 1928). Zinc is present in all tissues with the highest concentrations in the prostate, kidney, liver, heart, and pancreas. Zinc is a vital component of many metalloenzymes such as carbonic anhydrase, which regulates CO_2 exchange (Stokinger 1981).

In animals, gastrointestinal and hepatic lesions (Allen et al. 1983; Brink et al. 1959), pancreatic lesions (Maita et al. 1981; Drinker et al. 1927), anemia (ATSDR 1989; Fox and Jacobs 1986; Maita et al. 1981), and diffuse nephrosis (Maita et al. 1981; Allen et al. 1983) have been observed following subchronic oral exposures. Anemia and pancreatitis were the major adverse effects observed in chronic animal studies (Aughey et al. 1977; Drinker et al. 1927; Walters and Roe 1965; Sutton and Nelson 1937). Teratogenic effects have not been seen in animals exposed to zinc; however, high oral doses can affect reproduction and fetal growth (Ketcheson et al. 1969; Schlicker and Cox 1967, 1968; Sutton and Nelson 1937).

Livestock and small mammals are tolerant of extended dietary loadings >100 times the minimum recommended daily zinc requirement (Eisler 1993). No adverse effects on general health or reproduction were observed in dairy cows fed 1310 mg zinc/kg food (Miller et al. 1989). A diet of 4000–5000 mg zinc/kg food for 18 days resulted in fetotoxicity and poor reproduction in rats (NAS 1979). Acute oral

LD_{50} doses of 350–800 mg zinc/kg body weight have been reported for rats (Eisler 1993). Wlostowski et al. (1988) recommended 30 mg zinc/kg in the diet of bank voles.

Dogs on diets with up to 1000 mg zinc/kg of food for up to one year showed no measurable signs of damage (NAS 1979). Horses ingesting >90 mg zinc/kg body weight daily in the vicinity of a lead-zinc smelter exhibited decreased growth and death (NAS 1979). No effects were observed in mice fed <682 mg zinc/kg food (<109 mg zinc/kg body weight daily) for 13 weeks, but at 6820 mg zinc/kg food adverse effects on growth and survival were documented (Maita et al. 1981). In a 37-day study involving rats, doses of 97 mg/kg-day administered as zinc carbonate in the diet had no adverse effects on the reproductivity of rats (Kinnamon 1963). European ferrets (*Mustela putorius furo*) fed up to 500 mg zinc/kg for up to 197 days all survived with no significant histopathologies, but those fed 1500 or 3000 mg/kg diet died within 21 days (Straube et al. 1980; Reece et al. 1986). Reproduction ceased entirely in female rats ingesting a diet with 500 mg zinc/kg/day (Sutton and Nelson 1937), possibly a result of zinc-induced anemia.

Mallards (*Anas platyrhynchos*) fed diets containing >3000 mg zinc/kg for 30 or 60 days suffered leg paralysis, decreased food consumption, and high mortality (Gasaway and Buss 1972; NAS 1979). Egg production in Japanese quail (*Coturnix coturnix japonica*) hens fed 15,000 mg zinc (as ZnO)/kg feed for 7 days decreased to near zero within 3 days (Hussein et al. 1988). Seven percent of 14-day old quail fed 600 mg zinc (as zinc phosphide)/kg feed over 5 days died, 53% of those fed 990 mg/kg died, and 93% of those fed 1634 mg/kg died (Hill and Camardese 1986). Domestic chicken pullets and hens on a diet with 20,000 mg zinc/kg feed for 5 days were lighter weight by day 5 and produced significantly fewer eggs for 4 weeks following treatment (Palafox and Ho-A 1980). Eggs collected 14–28 days post-treatment had reduced fertility and hatchability. However, normal growth, egg production, fertility, and hatchability was observed 4–12 weeks post-treatment. Acute oral LD_{50} values for zinc phosphide, a rodenticide, were between 16 and 47 mg/kg body weight in ring-necked pheasants (*Phasianus colchicus*), golden eagles (*Aquila chrysaetos*), mallards, and horned larks (*Eremophila alpestris*) (Hudson et al. 1984), but much of the biocidal action is attributed to the phosphide rather than the zinc (Eisler 1993).

Diets containing 28, 48, 228, or 2028 mg zinc/kg for 12–44 weeks had no effect on overall egg production by domestic chickens although zinc levels were elevated in hens on the highest zinc diet (Stahl et al. 1990). All day-old chicks fed diets containing 16,000 mg zinc/kg feed for 5 weeks and 80% of those fed 8000 mg/kg died; those on a 4000 mg zinc/kg diet showed no significant reductions in growth or survival (Oh et al. 1979). In a 60-day study, doses of 170 mg/kg-day administered as zinc carbonate in the diet caused increased mortality and altered blood chemistry in mallards (Gasaway and Buss 1972).

In chickens, adverse effects associated with zinc deficiency have been observed at <38 mg zinc/kg dry weight feed (Blamberg et al. 1960; Westmoreland and Hoekstra 1969; Stahl et al. 1989), but concentrations of 93–120 mg/kg are suggested as adequate in the diet (Blamberg et al. 1960; Westmoreland and Hoekstra 1969). Greater than 178 mg/kg dry weight feed is considered excessive (Stahl et al. 1989), and dietary concentrations >2000 mg/kg dry weight feed are considered toxic (NAS 1979; Oh et al. 1979; Stahl et al. 1990). Turkey poults tolerated zinc levels up to 2000 ppm in starter diets for 21 days with no deleterious effects, but levels ≥4000 ppm resulted in marked growth depression (Vohra and Kratzer 1968). No mortality was observed in poults on a diet containing 10,000 ppm zinc (Vohra and Kratzer 1968), but increased mortality has been observed for chickens on diets with 3000 ppm zinc (Roberson and Schaible 1960).

Toxicity of Zinc in Soil to Plants. Zinc is an essential element for plant growth. It has a part in many enzymes, and is involved in disease protection and metabolism of carbohydrates and proteins. Zinc is actively taken up by roots in ionic form, and less so in organically chelated form (Collins 1981). It is fairly uniformly distributed between roots and shoots being transported in the xylem in ionic form (Wallace and Romney 1977a). Transport in the phloem appears to be as an anionic complex (van Goor and Wiersma 1976). Toxicity symptoms include chlorosis and depressed plant growth (Chapman 1966). It acts to inhibit CO_2 fixation, phloem transport of carbohydrates, and alter membrane permeability (Collins 1981). Muramoto et al. (1990) measured the effects of addition of Zn as ZnO to an alluvial soil (pH 6) on root and stem weights, stem length, and grain yield of wheat and rice grown from seed to maturity. Root weight of rice was reduced about 29% by 1000 ppm (lowest concentration tested). Wheat grain yield and plant weight were reduced 66 and 28% by 1000 ppm (lowest concentration tested).

The effect of Zn on soybean growth has been evaluated. Number of seeds produced per plant was decreased by 28% when plants were grown from seed to maturity in an average garden soil to which 25 ppm Zn was added as $ZnSO_4$ (Aery and Sakar 1991). Zn at 10 ppm had no effect. The work of White et al. (1979) shows the ameliorating effect on Zn toxicity of increased pH in a sandy loam soil. Soybean leaf weight was reduced 30% by 131 ppm Zn at pH 5.5, while 115 ppm had no effect. Lata and Veer (1990) measured 45 and 22% reductions in plant weights of spinach and coriander after 60 days in soil with 87 ppm Zn.

Table F1.9. Aqueous concentrations of zinc causing effects on freshwater aquatic biota at hardness equivalent to Clinch River and Poplar Creek

Concentration (mg/L)[a]	Effect
160	damselfly (*Argia sp.*) LC50
35.6	amphipod (*Crangonyx pseudogracilis*) LC50
33.8	pumpkinseed (*Lepomis gibbosus*) LC50
33.1	Worm (*Nals* sp.) LC50
31.9	banded killifish (*Fundulus diaphanus*) LC50
30.3	snail (*Amnicola* sp.) LC50
24.5	American eel (*Anquilla rostrata*) LC50
24.2	white perch (*Morone americana*) LC50
20.9	isopod (*Asellus communis*) LC50
18.9	guppy (*Poecilla reticulata*) LC50
18.4	goldfish (*Carassius auratus*) LC50
17.5	Worm (*Lumbriculus variegatus*) LC50
14.6	amphipod (*Gammarus* sp.) LC50
14.1	Caddisfly (*Clistoronia magnifica*) CV
13.0	common carp (*Cyprinus carpio*) LC50

Table F1.9 (continued)

Concentration (mg/L)[a]	Effect
11.8	northern squawfish (*Ptychochallus oregonensis*) LC50
10.8	golden shiner (*Notemigonus crysoleucas*) LC50
10.3	isopod (*Asellus bicrenata*) LC50
9.41	white sucker (*Catostomus commersoni*) LC50
8.82	Asiatic clam (*Corbicula fluminea?*) LC50
8.75	bluegill (*Lepomis macrochirus*) LC50
7.81	southern platyfish (*Xiphophorus maculatus*) LC50
6.81	fathead minnow (*Pimephales promelas*) LC50
5.87	isopod (*Lirceus alabamae*) LC50
3.91	Atlantic salmon (*Salmo salar*) LC50
3.70	brook trout (*Salvelinus fontinalis*) LC50
3.07	bryozoan (*Lophopodella carteri*) LC50
3.01	flagfish (*Jordanella floridae*) LC50
2.93	coho salmon (*Oncorhynchus kisutch*) LC50
2.89	bryozoan (*Plumatella emarginata*) LC52
2.84	snail (*Hellsoma campanulatum*) LC 50
2.70	sockeye salmon (*Oncorhynchus nerka*) LC50
2.35	bryozoan (*Pectinatella magnifica*) LC50
2.27	Tublificid worm (*Limnodrilus hoffmeisteri*) LC50
2.08	snail (*Physa gyrina*) LC50
2.07	snail (*Physa heterostropha*) LC50
1.62	brook trout (*Salvelinus fontinalis*) CV
1.42	Mozambique tilapia (*Tilapia mossambica*) LC50
1.37	rainbow trout (*Oncorhynchus mykiss*) CV
1.26	rainbow trout (*Oncorhynchus mykiss*) LC50
1.25	guppy (*Poecilla reticulata*) CV
1.20	chinook salmon (*Oncorhynchus tshawytscha*) cv
0.848	cladoceran (*Daphnia magna*) EC50
0.803	chinook salmon (*Oncorhynchus tshawytsche*) LC50
0.598	Sockeye salmon (*Oncorhynchus nerka*) CV
0.455	cladoceran (*Daphnia pulex*) EC50

Table F1.9 (continued)

Concentration (mg/L)[a]	Effect
0.410	longfin dace (*Agosia chrysogaster*) LC50
0.313	cladoceran (*Ceriodaphnia dubia*) EC50
0.218	striped bass (*Morone saxatilis*) LC50
0.203	fathead minnow (*Pimephales promelas*) CV
0.120	acute NAWQC
0.110	chronic NAWQC
0.0928	Cladoceran (*Daphnia magna*) CV
0.0912	cladoceran (*Ceriodaphnia reticulata*) EC50
0.0900	cutthroat trout (*Salmo clarki*) LC50
0.0730	flagfish (*Jordanella floridae*) CV

[a] Effect levels were converted based on a 100 mg/L water hardness. Slopes used for the conversion were associated with individual species, where specified in the Criteria document. Otherwise, 0.8473 was the slope for both the acute and chronic test conversions.
[b] The cutthroat trout acute test did not specify the hardness of the water.

F1.2 ORGANIC CHEMICALS

F1.2.1 Acenaphthene

Toxicity of Acenaphthene in Sediment to Benthic Organisms. In the studies used to calculate the NOAA ER-L, effects were usually observed in association with concentrations of 0.15 mg/kg or greater (Long and Morgan 1991). The AET for Puget Sound sediments, derived from the Microtox© bioassay, the benthic community composition, oyster larvae bioassay, and *Rhepoxynius abronius* amphipod bioassay, were 0.5, 0.5, 0.5, and 0.63 mg/kg, respectively, in a 1986 study and 0.5, 0.73, 0.5, and 2.0 mg/kg, respectively, in a 1988 study (Long and Morgan 1991). Confidence in the ER-L is low (Long and Morgan 1991). The EPA sediment quality criterion assuming 1% organic carbon is 1.3 mg/kg (EPA, 1993-Acen).

F1.2.2 Anthracene

Toxicity of Anthracene in Sediment to Benthic Organisms. In the studies used to calculate the NOAA ER-L, effects are almost always observed with concentrations exceeding 0.3 mg/kg (Long and Morgan 1991). Confidence in the ER-L is low because there is no consistency in the effects observed at lower concentrations (Long and Morgan 1991).

F1.2.3 Benzo(a)anthracene

Toxicity of Benzo(a)anthracene in Sediment to Benthic Organisms. In bioassays of the lower Columbia River sediments, no toxicity to *Hyalella azteca* was observed at concentrations of 2.2 mg/kg. However, these data were not used in the calculation of the ER-L (Long and Morgan 1991). In the studies used to calculate the ER-L, no effects were observed at concentrations below 0.06 mg/kg. The overall AET from these data was 0.55 mg/kg, although AET values in the data base ranged from 1.3 to

5.1 mg/kg for Puget Sound to 0.06 to 1.1 mg/kg for San Francisco Bay. Confidence in the ER-L is low (studies cited in Long and Morgan 1991). The EPA (1988) interim freshwater criterion value assuming 1% organic carbon is 13.2 mg/kg.

F1.2.4 Benzo(a)pyrene

Toxicity of Benzo(a)pyrene in Sediment to Benthic Organisms. Only one study was found relating effects data in freshwater sediment to concentrations of benzo(a)pyrene: 220 mg/kg resulted in 95% mortality of *H. azteca*. In the studies documented in Long et al. (1995), 63% indicated biological effects at concentrations between the ER-L and ER-M, and 80% of the studies at concentrations above the ER-M indicated biological effects.

F1.2.5 Bis(2-ethylhexyl)phthalate

Toxicity of Bis(2-ethylhexyl)phthalate in Water to Aquatic Life. Chemicals used as plasticizers. As a group, the esters are colorless liquids, have low volatility, and are poorly soluble in water. Bis(2-ethylhexyl)phthalate, also known as di-2-ethylhexyl phthalate or DEHP, is the most widely used phthalate ester (EPA 1980-bis).

Of the available acute toxicity tests only a *Daphnia magna* test resulted in an LC50 (11.1 mg/l). Calculated LC_{50} values exceeded the highest test concentrations for the midge, scud, and bluegill and were >18.00 mg/l, >32.00 mg/l, and >770 mg/l, respectively. Data are available from two chronic studies of bis(2-ethylhexyl)phthalate: rainbow trout and *Daphnia magna* had chronic values of 0.0084 mg/l and < 0.003 mg/l, respectively.

Bioconcentration factors for bis(2-ethylhexyl)phthalate in fish and invertebrate species ranged from 14 to 2680. Toxicities of body burdens were not determined for phthalate esters. There are no NAWQC for phthalate esters.

Bis(2-ethylhexyl)phthalate. Bis(2-ethylhexyl)phthalate is the most abundant of the phthalate esters, a class of chemicals that are plasticizers and common laboratory contaminants. The LC50 and CV for *Daphnia magna* of are 11 mg/L and <0.003 mg/L, respectively (EPA 1980-phth). At 0.003 mg/L, reproduction was reduced 60% (Mayer and Sanders 1973). However, a subsequent study did not find significant effects on *Daphnia magna* survival or reproduction below 0.811 mg/L with a CV of 0.358 mg/L (Knowles et al. 1987). The CV for rainbow trout is 0.084 mg/L; at the LOEC of 0.014 mg/L 20% of larvae died (Mehre and Mayer 1976). BCFs for fish and invertebrates range from 54 to 2,680 (EPA 1980-phth).

F1.2.6 Carbon disulfide

Toxicity of Carbon Disulfide in Water to Aquatic Life. The EC50 for *Daphnia magna* is 2.1 mg/L and the LC50 for mosquitofish is 135 mg/L (Van Leeuwen et al. 1985 AQUIRE). The secondary chronic value is derived from these values.

F1.2.7 Chrysene

Toxicity of Chrysene in Sediment to Benthic Organisms. In freshwater systems, a concentration of 4.1 mg/kg was not toxic to *Hyalella azteca* in the Columbia River but a concentration of 170 mg/kg in Lake Union, Washington, resulted in 95% mortality to *Hyalella azteca*. However, these data were not used to calculate the ER-L. In the studies used to calculate the ER-L, effects were almost always

observed at concentrations exceeding 0.9 mg/kg, although the lowest Puget Sound and San Francisco Bay AET values were 1.4 and 1.7 mg/kg, respectively (studies cited in Long and Morgan 1991). Confidence in the ER-L is moderate.

F1.2.8 4,4'-DDD

Toxicity of 4,4'-DDD in Water to Aquatic Life. No data regarding effects of 4,4'-DDD on benthic invertebrates were found from freshwater systems. The NS&T Program marine data were from only two geographic regions and spiked sediment bioassays were not performed. Therefore, confidence in the NOAA ER-L and ER-M is low (Long and Morgan 1991).

Toxicity of 4,4'-DDD in Sediment to Benthic Organisms. No data regarding effects of 4,4'-DDT on benthic invertebrates were found from freshwater systems. Although marine data are available from all approaches, the degree of confidence in the ER-L and ER-M is low (Long and Morgan 1991). The data do not cluster about the ER-L and ER-M, especially at the upper end of the bioeffects range, and are not from a broad range of geographic areas.

F1.2.9 DDT-Total

Toxicity of Total DDT in Sediment to Benthic Organisms. Limited data were found regarding effects of total DDT (the summation of all quantified isomers) on freshwater benthic invertebrates. Confidence in the ER-L and ER-M is moderate because marine and/or freshwater data are available from all approaches (Long and Morgan 1991). In the Dupage River in Illinois, the highest number of benthic macroinvertebrate taxa were observed at concentrations averaging 0.020 mg/kg, whereas the least taxa were associated with 0.222 mg/kg total DDT. In sediments of Trinity River in Texas, *D. magna* survival was significantly affected at .031 mg/kg and low mortality occurred at .007 mg/kg. *H. azteca* LC50s in spiked sediment bioassays were 11.0, 19.6, and 49.7 mg/kg total DDT at organic carbon concentrations of 3%, 7.2%, and 10.5%, respectively (studies cited in Long and Morgan 1991).

F1.2.10 Dibenz(a,h)anthracene

Toxicity of Dibenz(a,h)anthracene in Sediment to Benthic Organisms. In studies used to calculate the ER-L, effects in sediments were observed at concentrations as low as 0.042 mg/kg in marine systems (Long and Morgan 1991). Confidence in the ER-L is moderate. The safe sediment level, based upon equilibrium partitioning and the acute NAWQC, is 240 mg/kg (Long and Morgan 1991).

F1.2.11 Fluoranthene

Toxicity of Fluoranthene in Sediment to Benthic Organisms. Lake Union, Washington, sediment with a concentration of 570 mg/kg caused 95% mortality to *Hyalella azteca*. Columbia River, Washington, sediment with 2.1 mg/kg fluoranthene was not toxic to *Hyalella azteca*. The lowest AET for Puget Sound and San Francisco Bay was 1.7 and 2.0, respectively. The confidence in the ER-L is high (Long and Morgan 1991). The EPA freshwater SQC assuming 1% organic carbon is 6.2 mg/kg (EPA 1993-Fluor).

A freshwater sediment with approximately 0.5% organic carbon was spiked with fluoranthene to generate an EC_{50} for *Hyalella azteca* and *Chironomus tentans*, using organism immobility as the endpoint (Suedel et al. 1993). The EC_{50} values were between 2.3 and 7.4 mg/kg for *H. azteca* and between 3.0 and 8.7 mg/kg for *C. tentans*.

F1.2.12 Fluorene

Toxicity of Fluorene in Sediment to Benthic Organisms. Lake Union, Washington, sediment with a concentration of 40 mg/kg fluorene caused 95% mortality in *Hyalella azteca*. A sediment quality criterion (SQC) calculated using equilibrium partitioning and the acute NAWQC and 1% organic carbon yields a value of 7.0 mg/kg. Confidence in the ER-L is low (Long and Morgan 1991).

F1.2.13 2-Methylnaphthalene

Toxicity of 2-Methylnaphthalene Sediment to Benthic Organisms. No data regarding effects of 2-methylnaphthalene on benthic invertebrates were found from freshwater systems, and the NS&T Program marine data were from only a few geographic regions. Therefore, the confidence in the NOAA ER-L is low (Long and Morgan 1991). The lowest AETs (concentrations at which adverse effects are always expected to occur) for Puget Sound and San Francisco Bay were 0.67 and 0.027 mg/kg, respectively.

F1.2.14 Naphthalene

Toxicity of Naphthalene in Sediment to Benthic Organisms. Lake Union, Washington, sediments with 40 mg/kg naphthalene caused 95% mortality in *Hyalella azteca*. Effects were almost always observed at concentrations greater than 0.50 mg/kg in marine systems (Long and Morgan 1991). The Puget Sound AET was 2.1 mg/kg. Confidence in the ER-L is moderate (Long and Morgan 1991).

F1.2.15 PCB-Total

Toxicity of Total PCB in Sediment to Benthic Organisms. ER-L and ER-M values are 0.0227 mg/kg and 0.180 mg/kg, respectively (Long et al. 1995). Freshwater data indicated little or no concordance between toxicity and PCB concentrations. Relatively poor relationships were observed between the incidence of effects and the concentrations of total PCBs in marine sediments. For example, there is a relatively low (51%) incidence of biological effects at concentrations greater than the ER-M ("probable-effects range") (Long et al. 1995). Co-occurrence analyses and apparent effects thresholds are highly variable and are predominantly for marine and estuarine systems. Co-occurrence analyses indicated that concentrations of PCBs ranging from 0.038 mg/kg to 0.276 mg/kg were highly toxic (43-79% mortality) to the amphipod *Rhepoxynius abronius*. Amphipod bioassays also resulted in LC_{50} and/or EC_{50} at PCB concentrations of 0.26 mg/kg (studies cited in Long and Morgan 1991). Apparent effects thresholds, approximately 1 mg/kg, resulted in reduction of the benthic community composition in Puget Sound. However, some inconsistency in effects is expected given the variance in composition of PCB mixtures.

Toxicity of PCBs to Wildlife. Polychlorinated biphenyls (PCBs) are a family of man-made chemicals consisting of 209 individual compounds with varying toxicity (ATSDR 1989b). Aroclor is the trade name for PCBs made by Monsanto. Because of their insulating and nonflammable properties, PCBs were widely used in industrial applications such as coolants and lubricants in transformers, capacitors, and electrical equipment (ATSDR 1989b). The United States stopped manufacturing PCBs in 1977 due to evidence that they accumulate in the environment. PCBs have become widespread environmental contaminants.

Most exposures to PCBs are oral. Absorption of PCBs following oral exposure is often >90% (ATSDR 1989b). PCBs are preferentially stored in adipose tissues in animals. They may cross the placenta or be transferred to offspring through milk. PCBs with higher chlorine content (the last 2 digits of the Aroclor designation indicate the percent Cl content of the compound) tend to persist in the

environment longer than those with lower Cl content, and PCBs are known to bioaccumulate and biomagnify to toxic concentrations in animals (Eisler 1986b, ATSDR 1989b). Chronic exposures are of particular concern. PCBs with high K_{ow} values and high numbers of chlorines in adjacent positions are generally the most toxic. Although relatively insoluble in water, PCBs are generally freely soluble in nonpolar organic solvents and in biological lipids (EPA 1980c).

Sixty percent of mice fed diets containing 1,000 ppm Aroclor 1254 for 14 days died within 15 days, but none of the mice fed diets with only 250 ppm Aroclor for 14 days died (Sanders et al. 1974). These diets translate to doses of 130 and 32.5 mg/kg/day, respectively (ATSDR 1989b). White-footed mice fed 10 ppm Aroclor 1254 for 18 months had fewer offspring produced and a longer time between litters than control mice (Linzey 1987).

Feeding studies suggest a total intake of 500-2,000 mg/kg of Aroclor 1254 obtained through the diet over 1 to 7 weeks is lethal in rats (Hudson et al. 1984). Male rats consuming diets containing 0-100 ppm Aroclor 1254 for 104 weeks suffered dose-related reduced survival (NCI 1978); however, there was no effect on similarly treated female rats. Dietary concentrations of $\geq$20 ppm Aroclor 1254 reduced litter sizes in one- and two-generation reproduction studies with rats; concentrations <5 ppm had no effect (Linder et al. 1974).

Mink are one of the most susceptible mammals; dietary levels as low as 0.1 ppm fresh weight have caused death and reproductive toxicity (Eisler 1986b). Diets containing 20 ppm Aroclor 1242 were lethal to mink in a 247-day experiment. The LC_{50} for chronic exposures is 6.65 ppm Aroclor 1254 for mink over a 8 month period (Ringer et al. 1981). Diets containing 5 ppm Aroclor 1242 caused complete reproductive failure (Bleavins et al. 1980). Exposure for 160 days to 3.57 ppm Aroclor 1254 resulted in 100% mortality of adult mink (Platonow and Karstad 1973).

A chronic study was conducted over 4.5 months exposing mink to 1, 5 and 15 ppm Aroclor 1254 in the diet. There was a significant reduction in the number of offspring born alive at the 5 and 15 mg/kg exposures (Aulerich and Ringer 1977). Mink fed carp containing 1.5 ppm Aroclor 1254 for 6 months produced no offspring that survived to 24 hours (Hornshaw et al. 1983). No effects were observed in mink fed 0.64 ppm Aroclor 1254 for 160 days (Platonow and Karstad 1973). Exposure of mink for 6 months to 1 ppm Aroclor 1254 resulted in no significant difference from controls in number of offspring, or offspring mortality (Wren et al. 1987). Therefore, the 1 ppm dose was considered to be a chronic NOAEL.

A dietary dose of 25 ppm Aroclor 1254 fed for at lease a month before egg-laying in mallard ducks had no detrimental effect on reproductive success (Custer and Heinz 1980). Dietary exposure of 5 ppm Aroclor 1254 for 39 weeks to laying hens and roosters resulted in reduced egg production, although hatchability of fertile eggs was not affected (Platonow and Reinhart 1973). Screech owls fed 3 ppm Aroclor 1248 through two breeding seasons did not have significantly different reproductive success, relative to controls (McLane and Hughes 1980). Exposure of pheasants to 12.5 mg/bird/week (1.8 mg/kg/d) of Aroclor 1254 for 17 weeks resulted in significantly reduced egg hatchability (Dahlgren et al. 1972). Because this study considered exposure throughout a critical lifestage (reproduction), the 12.5 mg/bird/week dose was considered to be a chronic LOAEL.

F1.2.16 PCB-1248

Toxicity of PCB-1248 in Sediment to Benthic Organisms. The log K_{oc} for Aroclor 1248 is 7.02. The sediment quality benchmark (SQB) of 1.05 mg/kg is derived using the equilibrium partitioning approach based on 1% organic carbon. The secondary chronic value (Suter and Mabrey 1994) of 0.00001 mg/L

is used as the water quality benchmark. The secondary chronic value implies a greater than 20% chance that the NAWQC, if its value were known, would be exceeded. For comparison, substitution of the lowest chronic value for daphnids results in a SQB of 450 mg/kg for Aroclor 1248.

F1.2.17 PCB-1254

Toxicity of PCB-1254 in Water to Aquatic Life. Polychlorinated biphenyls are highly persistent and widely distributed industrial chemicals. PCB 1254 is a mixture of isomers of biphenyl with approximately 54% chlorine substitution. Because few toxicity tests have been performed with that mixture, Table F1.10 summarizes aquatic toxicity for all mixtures. Bioconcentration factors for PCBs range from 3,000 to 274,000 in laboratory studies (EPA 1980).

Toxicity of PCB-1254 in Sediment to Benthic Organisms. The log K_{oc} for Aroclor 1254 is 5.93. Using the secondary chronic value (Suter and Mabrey 1994) of 0.00002 mg/l as the water quality benchmark in the equilibrium partitioning equation results in a sediment benchmark of 0.17 mg/kg based on 1% organic carbon. For comparison, substitution of the lowest chronic value for daphnids results in a SQB of 17.9 mg/kg for Aroclor 1254.

F1.2.18 PCB-1260

Toxicity of PCB-1260 in Sediment to Benthic Organisms. The log K_{oc} for Aroclor 1260 is 7.02. The sediment quality benchmark (SQB) of 1099 mg/kg is derived using the equilibrium partitioning approach based on 1% organic carbon. The secondary chronic value (Suter and Mabrey 1994) of 0.0105 mg/L is used as the water quality benchmark. For comparison, substitution of the lowest chronic value for daphnids results in a SQB of 220 mg/kg for Aroclor 1260.

Table F1.10. Aqueous concentrations of PCBs causing effects on freshwater aquatic biota

Concentration (mg/L)	Effect
0.283	damselfly (*Ischnura verticalis*) LC50
0.046	Scud (*Gammarus pseudolimnaeus*) LC50
0.033	fathead minnow (*Pimephales promelas*) LC50
0.019	redear sunfish (*Lepomis microlophus*) LC50
0.010	Scud (*Gammarus fasciatus*) LC50
0.00514	cladoceran (*Daphnia magna*) CV
0.00402	Scud (*Gammarus pseudolimnaeus*) CV
0.0023	largemouth bass (*Micropterus salmoides*) LC50
0.0020	rainbow trout (*Oncorhynchus mykiss*) LC50
0.00186	fathead minnow (*Pimephales promelas*) CV
0.0010	brook trout (*Salvelinus fontinalis*) CV
0.00080	Midge (*Tanytarsus dissimilis*) CV

Table F1.11. Concentrations of PCB causing toxic effects in lipids and whole bodies of fish. Concentrations are the geometric means of body burdens at the LOEC and NOEC.

Species	PCB Form	mg/kg lipid wet weight	mg/kg wet weight	LOEC Effect	Source
Channel catfish	1242	<213[1]	<14.3 <11.9[13]	growth	Hansen et al. 1976
Fathead minnow	1242	NE[2]	>390[3]	100% mortality	Nebeker et al. 1974
Fathead minnow	1248	370[4]	ca 26[4]	growth (F2)	DeFoe et al. 1978
Lake trout	1254	22[6]	0.7	survival	Berlin et al. 1981
Coho salmon	1254	NE[2]	<645	100% mortality	Mayer et al. 1977
Fathead minnow	1254	NE[2]	126[9]	repro	Nebeker et al. 1974
Brook trout	1254	NE[2]	94[11]	mortality	Mauck et al. 1978
Fathead minnow	1260	NE[2]	<350[12]	weight	DeFoe et al. 1978

[1] The < sign signifies that the value corresponds to a LOEC, not a CV.
[2] Not estimated due to lack of lipid content data.
[3] 390mg/kg is the residue that was associated with no mortality and extremely variable spawning. Mortality occurred at higher exposures, but residues were not measured.
[4] These values are approximate due to extraction of the LOEC, NOEC, and lipid content from figures.
[6] The residue is normalized for lipid content based on an estimate of R. Hesselberg, one of the authors of the paper. His estimate of 3 % lipid is from another study, but is from fish of the same species and about the same age.
[9] Value for males; the female value is higher
[11] The residue for effects on weight was not presented in the paper but is probably < 71 mg/kg.
[12] 350 mg/kg was the body residue at 250 days exposure. The 66 days exposure was associated with an 8% decrease in weight.
[13] Concentration in edible carcass; all others are whole fish

F1.2.19 Phenanthrene

Toxicity of Phenanthrene in Sediment to Benthic Organisms. Lake Union, Washington, sediments with 410 mg/kg phenanthrene caused 95% mortality among *Hyalella azteca*. Columbia River, Washington, sediments with 0.58 mg/kg phenanthrene were not toxic to the same species (studies cited in Long and Morgan 1991). Confidence in the ER-L is moderate. The EPA sediment quality criterion is 1.8 mg/kg, assuming 1% organic carbon (EPA 1993-Phen).

F1.2.20 Pyrene

Toxicity of Pyrene in Sediment to Benthic Organisms. Lake Union, Washington, sediments with 750 mg/kg pyrene caused 95% mortality among *Hyalella azteca*. A concentration of 2.5 mg/kg in Columbia River, Washington, sediments was not toxic to the same species (studies cited in Long and Morgan 1991). The EPA interim sediment quality criterion, based on equilibrium partitioning and 1% organic carbon, is 13.1 mg/kg (Long and Morgan 1991). Confidence in the ER-L is moderate.

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Appendix F2

FISH COMMUNITY

Table F2.1. Mean and upper confidence bound (UCB) aqueous chemical concentrations in filtered (FLTR) and unfiltered (WHOL) samples, aqueous ecotoxicological benchmarks and their values for each chemical, and the quotients of UCBs/benchmark values. All units are mg/L. Only the chemicals for which at least one quotient equaled or exceeded 1 are included. If only one observation (Obs.) resulted in detection of the the chemical, the UCB was set to that observed value.

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
1,1-Dichloroethane	75-34-3	O	WHOL	21	18	2	0.00120	0.00120	0.00008	14.6800	LCV_ALLO
1,1-Dichloroethane	75-34-3	O	WHOL	21	18	2	0.00120	0.00120	0.00008	14.6800	LCV_FISH
1,1-Dichloroethane	75-34-3	O	WHOL	21	18	2	0.00120	0.00120	0.00015	8.2190	LTV_FISH
1,1-Dichloroethane	75-34-3	O	WHOL	21	18	2	0.00120	0.00120	0.00144	0.8340	S_ACU_V
1,1-Dichloroethane	75-34-3	O	WHOL	21	18	2	0.00120	0.00120	0.02575	0.0466	S_CHR_V
1,2-Dichloroethene	540-59-0	O	WHOL	21	18	8	0.01461	0.02002	0.00210	9.5380	LCV_ALLO
1,2-Dichloroethene	540-59-0	O	WHOL	21	18	8	0.01461	0.02002	0.00210	9.5380	LCV_FISH
1,2-Dichloroethene	540-59-0	O	WHOL	21	18	8	0.01461	0.02002	0.00350	5.7190	LTV_FISH
1,2-Dichloroethene	540-59-0	O	WHOL	21	18	8	0.01461	0.02002	0.03587	0.5580	S_ACU_V
1,2-Dichloroethene	540-59-0	O	WHOL	21	18	8	0.01461	0.02002	0.64153	0.0312	S_CHR_V
2-Butanone	78-93-3	O	WHOL	00	10	2	0.00705	0.00840	0.00003	282.1700	LCV_ALLO
2-Butanone	78-93-3	O	WHOL	01	28	4	0.00335	0.00588	0.00002	282.1700	LCV_ALLO
2-Butanone	78-93-3	O	WHOL	02.02	9	1	0.00200	0.00200	0.00001	282.1700	LCV_ALLO
2-Butanone	78-93-3	O	WHOL	03.03	9	1	0.00200	0.00200	0.00001	282.1700	LCV_ALLO
2-Butanone	78-93-3	O	WHOL	04.01	9	1	0.00300	0.00300	0.00001	282.1700	LCV_ALLO
2-Butanone	78-93-3	O	WHOL	18	9	1	0.00200	0.00200	0.00001	282.1700	LCV_ALLO
2-Butanone	78-93-3	O	WHOL	20.01	9	1	0.00200	0.00200	0.00001	282.1700	LCV_ALLO
2-Butanone	78-93-3	O	WHOL	20.02	10	2	0.00630	0.01235	0.00004	282.1700	LCV_ALLO
2-Butanone	78-93-3	O	WHOL	21	18	1	0.00100	0.00100	0.00000	282.1700	LCV_ALLO
2-Butanone	78-93-3	O	WHOL	00	10	2	0.00705	0.00840	0.00001	1394.9270	LCV_DAPH
2-Butanone	78-93-3	O	WHOL	01	28	4	0.00335	0.00588	0.00000	1394.9270	LCV_DAPH
2-Butanone	78-93-3	O	WHOL	02.02	9	1	0.00200	0.00200	0.00000	1394.9270	LCV_DAPH
2-Butanone	78-93-3	O	WHOL	03.03	9	1	0.00200	0.00200	0.00000	1394.9270	LCV_DAPH
2-Butanone	78-93-3	O	WHOL	04.01	9	1	0.00300	0.00300	0.00000	1394.9270	LCV_DAPH
2-Butanone	78-93-3	O	WHOL	18	9	1	0.00200	0.00200	0.00000	1394.9270	LCV_DAPH
2-Butanone	78-93-3	O	WHOL	20.01	9	1	0.00200	0.00200	0.00000	1394.9270	LCV_DAPH
2-Butanone	78-93-3	O	WHOL	20.02	10	2	0.00630	0.01235	0.00001	1394.9270	LCV_DAPH
2-Butanone	78-93-3	O	WHOL	21	18	1	0.00100	0.00100	0.00000	1394.9270	LCV_DAPH
2-Butanone	78-93-3	O	WHOL	00	10	2	0.00705	0.00840	0.00003	282.1700	LCV_FISH
2-Butanone	78-93-3	O	WHOL	01	28	4	0.00335	0.00588	0.00002	282.1700	LCV_FISH
2-Butanone	78-93-3	O	WHOL	02.02	9	1	0.00200	0.00200	0.00001	282.1700	LCV_FISH
2-Butanone	78-93-3	O	WHOL	03.03	9	1	0.00200	0.00200	0.00001	282.1700	LCV_FISH
2-Butanone	78-93-3	O	WHOL	04.01	9	1	0.00300	0.00300	0.00001	282.1700	LCV_FISH
2-Butanone	78-93-3	O	WHOL	18	9	1	0.00200	0.00200	0.00001	282.1700	LCV_FISH
2-Butanone	78-93-3	O	WHOL	20.01	9	1	0.00200	0.00200	0.00001	282.1700	LCV_FISH
2-Butanone	78-93-3	O	WHOL	20.02	10	2	0.00630	0.01235	0.00004	282.1700	LCV_FISH
2-Butanone	78-93-3	O	WHOL	21	18	1	0.00100	0.00100	0.00000	282.1700	LCV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
2-Butanone	78-93-3	O	WHOL	00	10	2	0.00705	0.00840	0.00009	98.7720	LTV_FISH
2-Butanone	78-93-3	O	WHOL	01	28	4	0.00335	0.00588	0.00006	98.7720	LTV_FISH
2-Butanone	78-93-3	O	WHOL	02.02	9	1	0.00200	0.00200	0.00002	98.7720	LTV_FISH
2-Butanone	78-93-3	O	WHOL	03.03	9	1	0.00200	0.00200	0.00002	98.7720	LTV_FISH
2-Butanone	78-93-3	O	WHOL	04.01	9	1	0.00300	0.00300	0.00003	98.7720	LTV_FISH
2-Butanone	78-93-3	O	WHOL	18	9	1	0.00200	0.00200	0.00002	98.7720	LTV_FISH
2-Butanone	78-93-3	O	WHOL	20.01	9	1	0.00200	0.00200	0.00002	98.7720	LTV_FISH
2-Butanone	78-93-3	O	WHOL	20.02	10	2	0.00630	0.01235	0.00013	98.7720	LTV_FISH
2-Butanone	78-93-3	O	WHOL	21	18	1	0.00100	0.00100	0.00001	98.7720	LTV_FISH
2-Butanone	78-93-3	O	WHOL	00	10	2	0.00705	0.00840	0.00002	372.0000	S_ACU_V
2-Butanone	78-93-3	O	WHOL	01	28	4	0.00335	0.00588	0.00002	372.0000	S_ACU_V
2-Butanone	78-93-3	O	WHOL	02.02	9	1	0.00200	0.00200	0.00001	372.0000	S_ACU_V
2-Butanone	78-93-3	O	WHOL	03.03	9	1	0.00200	0.00200	0.00001	372.0000	S_ACU_V
2-Butanone	78-93-3	O	WHOL	04.01	9	1	0.00300	0.00300	0.00001	372.0000	S_ACU_V
2-Butanone	78-93-3	O	WHOL	18	9	1	0.00200	0.00200	0.00001	372.0000	S_ACU_V
2-Butanone	78-93-3	O	WHOL	20.01	9	1	0.00200	0.00200	0.00001	372.0000	S_ACU_V
2-Butanone	78-93-3	O	WHOL	20.02	10	2	0.00630	0.01235	0.00003	372.0000	S_ACU_V
2-Butanone	78-93-3	O	WHOL	21	18	1	0.00100	0.00100	0.00000	372.0000	S_ACU_V
2-Butanone	78-93-3	O	WHOL	00	10	2	0.00705	0.00840	0.00040	20.8000	S_CHR_V
2-Butanone	78-93-3	O	WHOL	01	28	4	0.00335	0.00588	0.00028	20.8000	S_CHR_V
2-Butanone	78-93-3	O	WHOL	02.02	9	1	0.00200	0.00200	0.00010	20.8000	S_CHR_V
2-Butanone	78-93-3	O	WHOL	03.03	9	1	0.00200	0.00200	0.00010	20.8000	S_CHR_V
2-Butanone	78-93-3	O	WHOL	04.01	9	1	0.00300	0.00300	0.00014	20.8000	S_CHR_V
2-Butanone	78-93-3	O	WHOL	18	9	1	0.00200	0.00200	0.00010	20.8000	S_CHR_V
2-Butanone	78-93-3	O	WHOL	20.01	9	1	0.00200	0.00200	0.00010	20.8000	S_CHR_V
2-Butanone	78-93-3	O	WHOL	20.02	10	2	0.00630	0.01235	0.00059	20.8000	S_CHR_V
2-Butanone	78-93-3	O	WHOL	21	18	1	0.00100	0.00100	0.00005	20.8000	S_CHR_V
Acetone	67-64-1	O	WHOL	00	10	1	0.00970	0.00970	0.00002	507.6400	LCV_ALLO
Acetone	67-64-1	O	WHOL	01	28	1	0.00700	0.00700	0.00001	507.6400	LCV_ALLO
Acetone	67-64-1	O	WHOL	02.02	9	1	0.01400	0.01400	0.00003	507.6400	LCV_ALLO
Acetone	67-64-1	O	WHOL	03.03	9	1	0.01300	0.01300	0.00003	507.6400	LCV_ALLO
Acetone	67-64-1	O	WHOL	13	9	1	0.04500	0.04500	0.00009	507.6400	LCV_ALLO
Acetone	67-64-1	O	WHOL	18	9	1	0.00300	0.00300	0.00001	507.6400	LCV_ALLO
Acetone	67-64-1	O	WHOL	20.02	10	1	0.00300	0.00300	0.00001	507.6400	LCV_ALLO
Acetone	67-64-1	O	WHOL	22	10	1	0.00780	0.00780	0.00002	507.6400	LCV_ALLO
Acetone	67-64-1	O	WHOL	00	10	1	0.00970	0.00970	0.00000	3114.1820	LCV_DAPH
Acetone	67-64-1	O	WHOL	01	28	1	0.00700	0.00700	0.00000	3114.1820	LCV_DAPH
Acetone	67-64-1	O	WHOL	02.02	9	1	0.01400	0.01400	0.00000	3114.1820	LCV_DAPH
Acetone	67-64-1	O	WHOL	03.03	9	1	0.01300	0.01300	0.00000	3114.1820	LCV_DAPH
Acetone	67-64-1	O	WHOL	13	9	1	0.04500	0.04500	0.00001	3114.1820	LCV_DAPH
Acetone	67-64-1	O	WHOL	18	9	1	0.00300	0.00300	0.00000	3114.1820	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Acetone	67-64-1	O	WHOL	20.02	10	1	0.00300	0.00300	0.00000	3114.1820	LCV_DAPH
Acetone	67-64-1	O	WHOL	22	10	1	0.00780	0.00780	0.00000	3114.1820	LCV_DAPH
Acetone	67-64-1	O	WHOL	00	10	1	0.00970	0.00970	0.00002	507.6400	LCV_FISH
Acetone	67-64-1	O	WHOL	01	28	1	0.00700	0.00700	0.00001	507.6400	LCV_FISH
Acetone	67-64-1	O	WHOL	02.02	9	1	0.01400	0.01400	0.00003	507.6400	LCV_FISH
Acetone	67-64-1	O	WHOL	03.03	9	1	0.01300	0.01300	0.00003	507.6400	LCV_FISH
Acetone	67-64-1	O	WHOL	13	9	1	0.04500	0.04500	0.00009	507.6400	LCV_FISH
Acetone	67-64-1	O	WHOL	18	9	1	0.00300	0.00300	0.00001	507.6400	LCV_FISH
Acetone	67-64-1	O	WHOL	20.02	10	1	0.00300	0.00300	0.00001	507.6400	LCV_FISH
Acetone	67-64-1	O	WHOL	22	10	1	0.00780	0.00780	0.00002	507.6400	LCV_FISH
Acetone	67-64-1	O	WHOL	00	10	1	0.00970	0.00970	0.00006	161.8670	LTV_FISH
Acetone	67-64-1	O	WHOL	01	28	1	0.00700	0.00700	0.00004	161.8670	LTV_FISH
Acetone	67-64-1	O	WHOL	02.02	9	1	0.01400	0.01400	0.00009	161.8670	LTV_FISH
Acetone	67-64-1	O	WHOL	03.03	9	1	0.01300	0.01300	0.00008	161.8670	LTV_FISH
Acetone	67-64-1	O	WHOL	13	9	1	0.04500	0.04500	0.00028	161.8670	LTV_FISH
Acetone	67-64-1	O	WHOL	18	9	1	0.00300	0.00300	0.00002	161.8670	LTV_FISH
Acetone	67-64-1	O	WHOL	20.02	10	1	0.00300	0.00300	0.00002	161.8670	LTV_FISH
Acetone	67-64-1	O	WHOL	22	10	1	0.00780	0.00780	0.00005	161.8670	LTV_FISH
Acetone	67-64-1	O	WHOL	00	10	1	0.00970	0.00970	0.00005	200.0000	S_ACU_V
Acetone	67-64-1	O	WHOL	01	28	1	0.00700	0.00700	0.00004	200.0000	S_ACU_V
Acetone	67-64-1	O	WHOL	02.02	9	1	0.01400	0.01400	0.00007	200.0000	S_ACU_V
Acetone	67-64-1	O	WHOL	03.03	9	1	0.01300	0.01300	0.00007	200.0000	S_ACU_V
Acetone	67-64-1	O	WHOL	13	9	1	0.04500	0.04500	0.00023	200.0000	S_ACU_V
Acetone	67-64-1	O	WHOL	18	9	1	0.00300	0.00300	0.00002	200.0000	S_ACU_V
Acetone	67-64-1	O	WHOL	20.02	10	1	0.00300	0.00300	0.00002	200.0000	S_ACU_V
Acetone	67-64-1	O	WHOL	22	10	1	0.00780	0.00780	0.00004	200.0000	S_ACU_V
Acetone	67-64-1	O	WHOL	00	10	1	0.00970	0.00970	0.00087	11.2000	S_CHR_V
Acetone	67-64-1	O	WHOL	01	28	1	0.00700	0.00700	0.00063	11.2000	S_CHR_V
Acetone	67-64-1	O	WHOL	02.02	9	1	0.01400	0.01400	0.00125	11.2000	S_CHR_V
Acetone	67-64-1	O	WHOL	03.03	9	1	0.01300	0.01300	0.00116	11.2000	S_CHR_V
Acetone	67-64-1	O	WHOL	13	9	1	0.04500	0.04500	0.00402	11.2000	S_CHR_V
Acetone	67-64-1	O	WHOL	18	9	1	0.00300	0.00300	0.00027	11.2000	S_CHR_V
Acetone	67-64-1	O	WHOL	20.02	10	1	0.00300	0.00300	0.00027	11.2000	S_CHR_V
Acetone	67-64-1	O	WHOL	22	10	1	0.00780	0.00780	0.00070	11.2000	S_CHR_V
Aluminum	7429-90-5	I	FLTR	00	1	1	0.02390	0.02390	0.05196	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	01	17	15	0.02036	0.02484	0.05401	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	02.01	3	3	0.02194	0.04470	0.09716	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	02.02	12	4	0.00953	0.01209	0.02629	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	02.03	6	2	0.00736	0.01008	0.02192	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	03.01	13	13	0.03552	0.05835	0.12685	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	03.02	13	12	0.01970	0.02515	0.05466	0.4600	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Aluminum	7429-90-5	I	FLTR	03.03	13	11	0.01752	0.02113	0.04593	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	03.04	15	14	0.01851	0.02193	0.04768	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	04.01	15	14	0.01909	0.02325	0.05055	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	04.02	6	4	0.01183	0.01479	0.03216	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	04.04	9	7	0.01789	0.02410	0.05239	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	07.01	5	1	0.01140	0.01140	0.02478	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	07.02	17	10	0.01104	0.01213	0.02636	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	08	2	1	0.02220	0.02220	0.04826	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	13	46	36	0.02520	0.04014	0.08726	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	00	11	11	0.35118	0.50129	1.08976	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	01	48	47	0.24938	0.33308	0.72408	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	02.01	3	3	0.12123	0.29901	0.65003	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	02.02	21	21	0.24075	0.34387	0.74754	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	02.03	6	6	0.17027	0.32668	0.71017	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	02.04	10	10	0.23938	0.30979	0.67345	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	03.01	33	33	0.45244	0.54178	1.17778	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	03.02	13	13	0.34300	0.47787	1.03885	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	03.03	22	22	0.51559	0.65273	1.41898	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	03.04	15	15	0.40367	0.55036	1.19643	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	04.01	24	24	0.31790	0.42974	0.93423	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	04.02	6	6	0.14820	0.26664	0.57966	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	04.04	9	9	0.19457	0.29582	0.64308	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	07.01	5	5	0.14764	0.23407	0.50884	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	07.02	17	16	0.13956	0.19715	0.42859	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	08	2	2	0.06340	0.25849	0.56195	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	13	57	56	0.42175	0.48568	1.05583	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	18	9	9	0.53000	0.93591	2.03458	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	20.01	9	7	0.21256	0.34700	0.75434	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	20.02	10	10	0.21613	0.30419	0.66129	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	21	18	17	1.05449	2.10690	4.58023	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	WHOL	22	10	10	1.02250	1.41099	3.06737	0.4600	LCV_ALLO
Aluminum	7429-90-5	I	FLTR	00	1	1	0.02390	0.02390	0.05196	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	01	17	15	0.02036	0.02484	0.05401	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	02.01	3	3	0.02194	0.04470	0.09716	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	02.02	12	4	0.00953	0.01209	0.02629	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	02.03	6	2	0.00736	0.01008	0.02192	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	03.01	13	13	0.03552	0.05835	0.12685	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	03.02	13	12	0.01970	0.02515	0.05466	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	03.03	13	11	0.01752	0.02113	0.04593	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	03.04	15	14	0.01851	0.02193	0.04768	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	04.01	15	14	0.01909	0.02325	0.05055	0.4600	LCV_AQPL

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Aluminum	7429-90-5	I	FLTR	04.02	6	4	0.01183	0.01479	0.03216	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	04.04	9	7	0.01789	0.02410	0.05239	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	07.01	5	1	0.01140	0.01140	0.02478	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	07.02	17	10	0.01104	0.01213	0.02636	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	08	2	1	0.02220	0.02220	0.04826	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	13	46	36	0.02520	0.04014	0.08726	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	00	11	11	0.35118	0.50129	1.08976	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	01	48	47	0.24938	0.33308	0.72408	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	02.01	3	3	0.12123	0.29901	0.65003	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	02.02	21	21	0.24075	0.34387	0.74754	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	02.03	6	6	0.17027	0.32668	0.71017	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	02.04	10	10	0.23938	0.30979	0.67345	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	03.01	33	33	0.45244	0.54178	1.17778	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	03.02	13	13	0.34300	0.47787	1.03885	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	03.03	22	22	0.51559	0.65273	1.41898	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	03.04	15	15	0.40367	0.55036	1.19643	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	04.01	24	24	0.31790	0.42974	0.93423	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	04.02	6	6	0.14820	0.26664	0.57966	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	04.04	9	9	0.19457	0.29582	0.64308	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	07.01	5	5	0.14764	0.23407	0.50884	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	07.02	17	16	0.13956	0.19715	0.42859	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	08	2	2	0.06340	0.25849	0.56195	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	13	57	56	0.42175	0.48568	1.05583	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	18	9	9	0.53000	0.93591	2.03458	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	20.01	9	7	0.21256	0.34700	0.75434	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	20.02	10	10	0.21613	0.30419	0.66129	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	21	18	17	1.05449	2.10690	4.58023	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	WHOL	22	10	10	1.02250	1.41099	3.06737	0.4600	LCV_AQPL
Aluminum	7429-90-5	I	FLTR	00	1	1	0.02390	0.02390	0.01258	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	01	17	15	0.02036	0.02484	0.01308	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	02.01	3	3	0.02194	0.04470	0.02352	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	02.02	12	4	0.00953	0.01209	0.00637	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	02.03	6	2	0.00736	0.01008	0.00531	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	03.01	13	13	0.03552	0.05835	0.03071	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	03.02	13	12	0.01970	0.02515	0.01323	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	03.03	13	11	0.01752	0.02113	0.01112	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	03.04	15	14	0.01851	0.02193	0.01154	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	04.01	15	14	0.01909	0.02325	0.01224	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	04.02	6	4	0.01183	0.01479	0.00779	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	04.04	9	7	0.01789	0.02410	0.01269	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	07.01	5	1	0.01140	0.01140	0.00600	1.9000	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Aluminum	7429-90-5	I	FLTR	07.02	17	10	0.01104	0.01213	0.00638	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	08	2	1	0.02220	0.02220	0.01168	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	13	46	36	0.02520	0.04014	0.02113	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	00	11	11	0.35118	0.50129	0.26384	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	01	48	47	0.24938	0.33308	0.17530	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	02.01	3	3	0.12123	0.29901	0.15737	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	02.02	21	21	0.24075	0.34387	0.18098	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	02.03	6	6	0.17027	0.32668	0.17194	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	02.04	10	10	0.23938	0.30979	0.16305	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	03.01	33	33	0.45244	0.54178	0.28515	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	03.02	13	13	0.34300	0.47787	0.25151	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	03.03	22	22	0.51559	0.65273	0.34354	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	03.04	15	15	0.40367	0.55036	0.28966	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	04.01	24	24	0.31790	0.42974	0.22618	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	04.02	6	6	0.14820	0.26664	0.14034	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	04.04	9	9	0.19457	0.29582	0.15569	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	07.01	5	5	0.14764	0.23407	0.12319	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	07.02	17	16	0.13956	0.19715	0.10376	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	08	2	2	0.06340	0.25849	0.13605	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	13	57	56	0.42175	0.48568	0.25562	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	18	9	9	0.53000	0.93591	0.49258	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	20.01	9	7	0.21256	0.34700	0.18263	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	20.02	10	10	0.21613	0.30419	0.16010	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	21	18	17	1.05449	2.10690	1.10890	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	WHOL	22	10	10	1.02250	1.41099	0.74263	1.9000	LCV_DAPH
Aluminum	7429-90-5	I	FLTR	00	1	1	0.02390	0.02390	0.00727	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	01	17	15	0.02036	0.02484	0.00756	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	02.01	3	3	0.02194	0.04470	0.01359	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	02.02	12	4	0.00953	0.01209	0.00368	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	02.03	6	2	0.00736	0.01008	0.00307	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	03.01	13	13	0.03552	0.05835	0.01775	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	03.02	13	12	0.01970	0.02515	0.00765	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	03.03	13	11	0.01752	0.02113	0.00643	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	03.04	15	14	0.01851	0.02193	0.00667	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	04.01	15	14	0.01909	0.02325	0.00707	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	04.02	6	4	0.01183	0.01479	0.00450	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	04.04	9	7	0.01789	0.02410	0.00733	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	07.01	5	1	0.01140	0.01140	0.00347	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	07.02	17	10	0.01104	0.01213	0.00369	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	08	2	1	0.02220	0.02220	0.00675	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	13	46	36	0.02520	0.04014	0.01221	3.2880	LCV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Aluminum	7429-90-5	I	WHOL	00	11	11	0.35118	0.50129	0.15246	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	01	48	47	0.24938	0.33308	0.10130	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	02.01	3	3	0.12123	0.29901	0.09094	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	02.02	21	21	0.24075	0.34387	0.10458	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	02.03	6	6	0.17027	0.32668	0.09935	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	02.04	10	10	0.23938	0.30979	0.09422	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	03.01	33	33	0.45244	0.54178	0.16478	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	03.02	13	13	0.34300	0.47787	0.14534	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	03.03	22	22	0.51559	0.65273	0.19852	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	03.04	15	15	0.40367	0.55036	0.16738	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	04.01	24	24	0.31790	0.42974	0.13070	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	04.02	6	6	0.14820	0.26664	0.08110	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	04.04	9	9	0.19457	0.29582	0.08997	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	07.01	5	5	0.14764	0.23407	0.07119	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	07.02	17	16	0.13956	0.19715	0.05996	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	08	2	2	0.06340	0.25849	0.07862	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	13	57	56	0.42175	0.48568	0.14771	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	18	9	9	0.53000	0.93591	0.28464	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	20.01	9	7	0.21256	0.34700	0.10553	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	20.02	10	10	0.21613	0.30419	0.09252	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	21	18	17	1.05449	2.10690	0.64079	3.2880	LCV_FISH
Aluminum	7429-90-5	I	WHOL	22	10	10	1.02250	1.41099	0.42913	3.2880	LCV_FISH
Aluminum	7429-90-5	I	FLTR	00	1	1	0.02390	0.02390	0.04426	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	01	17	15	0.02036	0.02484	0.04601	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	02.01	3	3	0.02194	0.04470	0.08277	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	02.02	12	4	0.00953	0.01209	0.02240	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	02.03	6	2	0.00736	0.01008	0.01867	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	03.01	13	13	0.03552	0.05835	0.10806	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	03.02	13	12	0.01970	0.02515	0.04657	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	03.03	13	11	0.01752	0.02113	0.03912	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	03.04	15	14	0.01851	0.02193	0.04062	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	04.01	15	14	0.01909	0.02325	0.04306	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	04.02	6	4	0.01183	0.01479	0.02739	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	04.04	9	7	0.01789	0.02410	0.04463	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	07.01	5	1	0.01140	0.01140	0.02111	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	07.02	17	10	0.01104	0.01213	0.02246	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	08	2	1	0.02220	0.02220	0.04111	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	13	46	36	0.02520	0.04014	0.07434	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	00	11	11	0.35118	0.50129	0.92832	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	01	48	47	0.24938	0.33308	0.61681	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	02.01	3	3	0.12123	0.29901	0.55373	0.5400	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Aluminum	7429-90-5	I	WHOL	02.02	21	21	0.24075	0.34387	0.63679	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	02.03	6	6	0.17027	0.32668	0.60496	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	02.04	10	10	0.23938	0.30979	0.57368	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	03.01	33	33	0.45244	0.54178	1.00330	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	03.02	13	13	0.34300	0.47787	0.88495	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	03.03	22	22	0.51559	0.65273	1.20876	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	03.04	15	15	0.40367	0.55036	1.01918	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	04.01	24	24	0.31790	0.42974	0.79582	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	04.02	6	6	0.14820	0.26664	0.49378	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	04.04	9	9	0.19457	0.29582	0.54781	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	07.01	5	5	0.14764	0.23407	0.43346	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	07.02	17	16	0.13956	0.19715	0.36509	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	08	2	2	0.06340	0.25849	0.47869	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	13	57	56	0.42175	0.48568	0.89941	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	18	9	9	0.53000	0.93591	1.73316	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	20.01	9	7	0.21256	0.34700	0.64259	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	20.02	10	10	0.21613	0.30419	0.56332	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	21	18	17	1.05449	2.10690	3.90167	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	WHOL	22	10	10	1.02250	1.41099	2.61294	0.5400	LTV_DAPH
Aluminum	7429-90-5	I	FLTR	00	1	1	0.02390	0.02390	0.00509	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	01	17	15	0.02036	0.02484	0.00529	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	02.01	3	3	0.02194	0.04470	0.00951	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	02.02	12	4	0.00953	0.01209	0.00257	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	02.03	6	2	0.00736	0.01008	0.00215	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	03.01	13	13	0.03552	0.05835	0.01241	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	03.02	13	12	0.01970	0.02515	0.00535	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	03.03	13	11	0.01752	0.02113	0.00450	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	03.04	15	14	0.01851	0.02193	0.00467	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	04.01	15	14	0.01909	0.02325	0.00495	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	04.02	6	4	0.01183	0.01479	0.00315	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	04.04	9	7	0.01789	0.02410	0.00513	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	07.01	5	1	0.01140	0.01140	0.00243	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	07.02	17	10	0.01104	0.01213	0.00258	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	08	2	1	0.02220	0.02220	0.00472	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	13	46	36	0.02520	0.04014	0.00854	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	00	11	11	0.35118	0.50129	0.10666	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	01	48	47	0.24938	0.33308	0.07087	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	02.01	3	3	0.12123	0.29901	0.06362	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	02.02	21	21	0.24075	0.34387	0.07316	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	02.03	6	6	0.17027	0.32668	0.06951	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	02.04	10	10	0.23938	0.30979	0.06591	4.7000	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Aluminum	7429-90-5	I	WHOL	03.01	33	33	0.45244	0.54178	0.11527	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	03.02	13	13	0.34300	0.47787	0.10168	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	03.03	22	22	0.51559	0.65273	0.13888	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	03.04	15	15	0.40367	0.55036	0.11710	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	04.01	24	24	0.31790	0.42974	0.09143	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	04.02	6	6	0.14820	0.26664	0.05673	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	04.04	9	9	0.19457	0.29582	0.06294	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	07.01	5	5	0.14764	0.23407	0.04980	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	07.02	17	16	0.13956	0.19715	0.04195	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	08	2	2	0.06340	0.25849	0.05500	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	13	57	56	0.42175	0.48568	0.10334	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	18	9	9	0.53000	0.93591	0.19913	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	20.01	9	7	0.21256	0.34700	0.07383	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	20.02	10	10	0.21613	0.30419	0.06472	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	21	18	17	1.05449	2.10690	0.44828	4.7000	LTV_FISH
Aluminum	7429-90-5	I	WHOL	22	10	10	1.02250	1.41099	0.30021	4.7000	LTV_FISH
Aluminum	7429-90-5	I	FLTR	00	1	1	0.02390	0.02390	0.03187	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	01	17	15	0.02036	0.02484	0.03313	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	02.01	3	3	0.02194	0.04470	0.05959	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	02.02	12	4	0.00953	0.01209	0.01613	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	02.03	6	2	0.00736	0.01008	0.01344	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	03.01	13	13	0.03552	0.05835	0.07780	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	03.02	13	12	0.01970	0.02515	0.03353	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	03.03	13	11	0.01752	0.02113	0.02817	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	03.04	15	14	0.01851	0.02193	0.02924	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	04.01	15	14	0.01909	0.02325	0.03101	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	04.02	6	4	0.01183	0.01479	0.01972	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	04.04	9	7	0.01789	0.02410	0.03214	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	07.01	5	1	0.01140	0.01140	0.01520	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	07.02	17	10	0.01104	0.01213	0.01617	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	08	2	1	0.02220	0.02220	0.02960	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	13	46	36	0.02520	0.04014	0.05352	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	00	11	11	0.35118	0.50129	0.66839	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	01	48	47	0.24938	0.33308	0.44411	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	02.01	3	3	0.12123	0.29901	0.39868	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	02.02	21	21	0.24075	0.34387	0.45849	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	02.03	6	6	0.17027	0.32668	0.43557	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	02.04	10	10	0.23938	0.30979	0.41305	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	03.01	33	33	0.45244	0.54178	0.72237	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	03.02	13	13	0.34300	0.47787	0.63716	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	03.03	22	22	0.51559	0.65273	0.87031	0.7500	NAWQ_ACU

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Aluminum	7429-90-5	I	WHOL	03.04	15	15	0.40367	0.55036	0.73381	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	04.01	24	24	0.31790	0.42974	0.57299	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	04.02	6	6	0.14820	0.26664	0.35552	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	04.04	9	9	0.19457	0.29582	0.39442	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	07.01	5	5	0.14764	0.23407	0.31209	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	07.02	17	16	0.13956	0.19715	0.26287	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	08	2	2	0.06340	0.25849	0.34466	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	13	57	56	0.42175	0.48568	0.64758	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	18	9	9	0.53000	0.93591	1.24787	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	20.01	9	7	0.21256	0.34700	0.46266	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	20.02	10	10	0.21613	0.30419	0.40559	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	21	18	17	1.05449	2.10690	2.80920	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	WHOL	22	10	10	1.02250	1.41099	1.88132	0.7500	NAWQ_ACU
Aluminum	7429-90-5	I	FLTR	00	1	1	0.02390	0.02390	0.27471	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	01	17	15	0.02036	0.02484	0.28557	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	02.01	3	3	0.02194	0.04470	0.51374	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	02.02	12	4	0.00953	0.01209	0.13902	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	02.03	6	2	0.00736	0.01008	0.11589	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	03.01	13	13	0.03552	0.05835	0.67069	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	03.02	13	12	0.01970	0.02515	0.28903	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	03.03	13	11	0.01752	0.02113	0.24284	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	03.04	15	14	0.01851	0.02193	0.25211	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	04.01	15	14	0.01909	0.02325	0.26729	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	04.02	6	4	0.01183	0.01479	0.17004	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	04.04	9	7	0.01789	0.02410	0.27703	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	07.01	5	1	0.01140	0.01140	0.13103	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	07.02	17	10	0.01104	0.01213	0.13940	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	08	2	1	0.02220	0.02220	0.25517	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	FLTR	13	46	36	0.02520	0.04014	0.46140	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	00	11	11	0.35118	0.50129	5.76196	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	01	48	47	0.24938	0.33308	3.82849	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	02.01	3	3	0.12123	0.29901	3.43692	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	02.02	21	21	0.24075	0.34387	3.95251	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	02.03	6	6	0.17027	0.32668	3.75491	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	02.04	10	10	0.23938	0.30979	3.56077	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	03.01	33	33	0.45244	0.54178	6.22737	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	03.02	13	13	0.34300	0.47787	5.49279	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	03.03	22	22	0.51559	0.65273	7.50266	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	03.04	15	15	0.40367	0.55036	6.32597	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	04.01	24	24	0.31790	0.42974	4.93958	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	04.02	6	6	0.14820	0.26664	3.06487	0.0870	NAWQ_CHR

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Aluminum	7429-90-5	I	WHOL	04.04	9	9	0.19457	0.29582	3.40020	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	07.01	5	5	0.14764	0.23407	2.69042	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	07.02	17	16	0.13956	0.19715	2.26610	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	08	2	2	0.06340	0.25849	2.97121	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	13	57	56	0.42175	0.48568	5.58255	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	18	9	9	0.53000	0.93591	10.75754	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	20.01	9	7	0.21256	0.34700	3.98848	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	20.02	10	10	0.21613	0.30419	3.49648	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	21	18	17	1.05449	2.10690	24.21728	0.0870	NAWQ_CHR
Aluminum	7429-90-5	I	WHOL	22	10	10	1.02250	1.41099	16.21827	0.0870	NAWQ_CHR
Antimony	7440-36-0	I	FLTR	00	1	1	0.00470	0.00470	0.00770	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	01	20	13	0.00407	0.00536	0.00879	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	02.01	3	2	0.00323	0.00436	0.00714	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	02.02	13	12	0.00640	0.00770	0.01263	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	02.03	6	6	0.00633	0.00837	0.01372	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	03.01	14	8	0.00398	0.00502	0.00823	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	03.02	14	10	0.00621	0.00692	0.01135	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	03.03	14	12	0.00546	0.00652	0.01069	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	03.04	16	14	0.00483	0.00615	0.01007	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	04.01	16	11	0.00422	0.00508	0.00832	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	04.02	6	6	0.00572	0.00759	0.01244	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	04.04	11	8	0.00351	0.00474	0.00778	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	07.01	5	5	0.00520	0.00648	0.01062	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	07.02	17	12	0.00333	0.00447	0.00733	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	08	2	1	0.00340	0.00340	0.00557	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	13	47	42	0.00495	0.00563	0.00923	0.6100	LCV_ALLO
Antimony	7440-36-0	I	WHOL	01	51	1	0.00110	0.00110	0.00180	0.6100	LCV_ALLO
Antimony	7440-36-0	I	WHOL	02.01	3	1	0.00130	0.00130	0.00213	0.6100	LCV_ALLO
Antimony	7440-36-0	I	WHOL	03.01	34	2	0.00141	0.00142	0.00233	0.6100	LCV_ALLO
Antimony	7440-36-0	I	WHOL	03.02	14	1	0.00120	0.00120	0.00197	0.6100	LCV_ALLO
Antimony	7440-36-0	I	WHOL	03.04	16	3	0.00172	0.00175	0.00287	0.6100	LCV_ALLO
Antimony	7440-36-0	I	WHOL	04.01	25	2	0.00172	0.00176	0.00289	0.6100	LCV_ALLO
Antimony	7440-36-0	I	WHOL	04.02	6	2	0.00162	0.00166	0.00272	0.6100	LCV_ALLO
Antimony	7440-36-0	I	WHOL	07.02	17	1	0.00120	0.00120	0.00197	0.6100	LCV_ALLO
Antimony	7440-36-0	I	WHOL	13	58	2	0.00112	0.00118	0.00194	0.6100	LCV_ALLO
Antimony	7440-36-0	I	FLTR	00	1	1	0.00470	0.00470	0.00770	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	01	20	13	0.00407	0.00536	0.00879	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	02.01	3	2	0.00323	0.00436	0.00714	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	02.02	13	12	0.00640	0.00770	0.01263	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	02.03	6	6	0.00633	0.00837	0.01372	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	03.01	14	8	0.00398	0.00502	0.00823	0.6100	LCV_AQPL

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Antimony	7440-36-0	I	FLTR	03.02	14	10	0.00621	0.00692	0.01135	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	03.03	14	12	0.00546	0.00652	0.01069	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	03.04	16	14	0.00483	0.00615	0.01007	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	04.01	16	11	0.00422	0.00508	0.00832	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	04.02	6	6	0.00572	0.00759	0.01244	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	04.04	11	8	0.00351	0.00474	0.00778	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	07.01	5	5	0.00520	0.00648	0.01062	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	07.02	17	12	0.00333	0.00447	0.00733	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	08	2	1	0.00340	0.00340	0.00557	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	13	47	42	0.00495	0.00563	0.00923	0.6100	LCV_AQPL
Antimony	7440-36-0	I	WHOL	01	51	1	0.00110	0.00110	0.00180	0.6100	LCV_AQPL
Antimony	7440-36-0	I	WHOL	02.01	3	1	0.00130	0.00130	0.00213	0.6100	LCV_AQPL
Antimony	7440-36-0	I	WHOL	03.01	34	2	0.00141	0.00142	0.00233	0.6100	LCV_AQPL
Antimony	7440-36-0	I	WHOL	03.02	14	1	0.00120	0.00120	0.00197	0.6100	LCV_AQPL
Antimony	7440-36-0	I	WHOL	03.04	16	3	0.00172	0.00175	0.00287	0.6100	LCV_AQPL
Antimony	7440-36-0	I	WHOL	04.01	25	2	0.00172	0.00176	0.00289	0.6100	LCV_AQPL
Antimony	7440-36-0	I	WHOL	04.02	6	2	0.00162	0.00166	0.00272	0.6100	LCV_AQPL
Antimony	7440-36-0	I	WHOL	07.02	17	1	0.00120	0.00120	0.00197	0.6100	LCV_AQPL
Antimony	7440-36-0	I	WHOL	13	58	2	0.00112	0.00118	0.00194	0.6100	LCV_AQPL
Antimony	7440-36-0	I	FLTR	00	1	1	0.00470	0.00470	0.00087	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	01	20	13	0.00407	0.00536	0.00099	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	02.01	3	2	0.00323	0.00436	0.00081	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	02.02	13	12	0.00640	0.00770	0.00143	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	02.03	6	6	0.00633	0.00837	0.00155	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	03.01	14	8	0.00398	0.00502	0.00093	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	03.02	14	10	0.00621	0.00692	0.00128	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	03.03	14	12	0.00546	0.00652	0.00121	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	03.04	16	14	0.00483	0.00615	0.00114	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	04.01	16	11	0.00422	0.00508	0.00094	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	04.02	6	6	0.00572	0.00759	0.00141	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	04.04	11	8	0.00351	0.00474	0.00088	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	07.01	5	5	0.00520	0.00648	0.00120	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	07.02	17	12	0.00333	0.00447	0.00083	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	08	2	1	0.00340	0.00340	0.00063	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	13	47	42	0.00495	0.00563	0.00104	5.4000	LCV_DAPH
Antimony	7440-36-0	I	WHOL	01	51	1	0.00110	0.00110	0.00020	5.4000	LCV_DAPH
Antimony	7440-36-0	I	WHOL	02.01	3	1	0.00130	0.00130	0.00024	5.4000	LCV_DAPH
Antimony	7440-36-0	I	WHOL	03.01	34	2	0.00141	0.00142	0.00026	5.4000	LCV_DAPH
Antimony	7440-36-0	I	WHOL	03.02	14	1	0.00120	0.00120	0.00022	5.4000	LCV_DAPH
Antimony	7440-36-0	I	WHOL	03.04	16	3	0.00172	0.00175	0.00032	5.4000	LCV_DAPH
Antimony	7440-36-0	I	WHOL	04.01	25	2	0.00172	0.00176	0.00033	5.4000	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Antimony	7440-36-0	I	WHOL	04.02	6	2	0.00162	0.00166	0.00031	5.4000	LCV_DAPH
Antimony	7440-36-0	I	WHOL	07.02	17	1	0.00120	0.00120	0.00022	5.4000	LCV_DAPH
Antimony	7440-36-0	I	WHOL	13	58	2	0.00112	0.00118	0.00022	5.4000	LCV_DAPH
Antimony	7440-36-0	I	FLTR	00	1	1	0.00470	0.00470	0.00294	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	01	20	13	0.00407	0.00536	0.00335	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	02.01	3	2	0.00323	0.00436	0.00272	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	02.02	13	12	0.00640	0.00770	0.00481	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	02.03	6	6	0.00633	0.00837	0.00523	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	03.01	14	8	0.00398	0.00502	0.00314	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	03.02	14	10	0.00621	0.00692	0.00433	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	03.03	14	12	0.00546	0.00652	0.00408	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	03.04	16	14	0.00483	0.00615	0.00384	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	04.01	16	11	0.00422	0.00508	0.00317	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	04.02	6	6	0.00572	0.00759	0.00474	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	04.04	11	8	0.00351	0.00474	0.00296	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	07.01	5	5	0.00520	0.00648	0.00405	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	07.02	17	12	0.00333	0.00447	0.00279	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	08	2	1	0.00340	0.00340	0.00212	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	13	47	42	0.00495	0.00563	0.00352	1.6000	LCV_FISH
Antimony	7440-36-0	I	WHOL	01	51	1	0.00110	0.00110	0.00069	1.6000	LCV_FISH
Antimony	7440-36-0	I	WHOL	02.01	3	1	0.00130	0.00130	0.00081	1.6000	LCV_FISH
Antimony	7440-36-0	I	WHOL	03.01	34	2	0.00141	0.00142	0.00089	1.6000	LCV_FISH
Antimony	7440-36-0	I	WHOL	03.02	14	1	0.00120	0.00120	0.00075	1.6000	LCV_FISH
Antimony	7440-36-0	I	WHOL	03.04	16	3	0.00172	0.00175	0.00109	1.6000	LCV_FISH
Antimony	7440-36-0	I	WHOL	04.01	25	2	0.00172	0.00176	0.00110	1.6000	LCV_FISH
Antimony	7440-36-0	I	WHOL	04.02	6	2	0.00162	0.00166	0.00104	1.6000	LCV_FISH
Antimony	7440-36-0	I	WHOL	07.02	17	1	0.00120	0.00120	0.00075	1.6000	LCV_FISH
Antimony	7440-36-0	I	WHOL	13	58	2	0.00112	0.00118	0.00074	1.6000	LCV_FISH
Antimony	7440-36-0	I	FLTR	00	1	1	0.00470	0.00470	0.00247	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	01	20	13	0.00407	0.00536	0.00282	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	02.01	3	2	0.00323	0.00436	0.00229	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	02.02	13	12	0.00640	0.00770	0.00405	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	02.03	6	6	0.00633	0.00837	0.00440	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	03.01	14	8	0.00398	0.00502	0.00264	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	03.02	14	10	0.00621	0.00692	0.00364	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	03.03	14	12	0.00546	0.00652	0.00343	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	03.04	16	14	0.00483	0.00615	0.00323	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	04.01	16	11	0.00422	0.00508	0.00267	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	04.02	6	6	0.00572	0.00759	0.00399	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	04.04	11	8	0.00351	0.00474	0.00250	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	07.01	5	5	0.00520	0.00648	0.00341	1.9000	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Antimony	7440-36-0	I	FLTR	07.02	17	12	0.00333	0.00447	0.00235	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	08	2	1	0.00340	0.00340	0.00179	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	13	47	42	0.00495	0.00563	0.00296	1.9000	LTV_DAPH
Antimony	7440-36-0	I	WHOL	01	51	1	0.00110	0.00110	0.00058	1.9000	LTV_DAPH
Antimony	7440-36-0	I	WHOL	02.01	3	1	0.00130	0.00130	0.00068	1.9000	LTV_DAPH
Antimony	7440-36-0	I	WHOL	03.01	34	2	0.00141	0.00142	0.00075	1.9000	LTV_DAPH
Antimony	7440-36-0	I	WHOL	03.02	14	1	0.00120	0.00120	0.00063	1.9000	LTV_DAPH
Antimony	7440-36-0	I	WHOL	03.04	16	3	0.00172	0.00175	0.00092	1.9000	LTV_DAPH
Antimony	7440-36-0	I	WHOL	04.01	25	2	0.00172	0.00176	0.00093	1.9000	LTV_DAPH
Antimony	7440-36-0	I	WHOL	04.02	6	2	0.00162	0.00166	0.00087	1.9000	LTV_DAPH
Antimony	7440-36-0	I	WHOL	07.02	17	1	0.00120	0.00120	0.00063	1.9000	LTV_DAPH
Antimony	7440-36-0	I	WHOL	13	58	2	0.00112	0.00118	0.00062	1.9000	LTV_DAPH
Antimony	7440-36-0	I	FLTR	00	1	1	0.00470	0.00470	0.00203	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	01	20	13	0.00407	0.00536	0.00232	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	02.01	3	2	0.00323	0.00436	0.00189	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	02.02	13	12	0.00640	0.00770	0.00333	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	02.03	6	6	0.00633	0.00837	0.00362	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	03.01	14	8	0.00398	0.00502	0.00217	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	03.02	14	10	0.00621	0.00692	0.00300	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	03.03	14	12	0.00546	0.00652	0.00282	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	03.04	16	14	0.00483	0.00615	0.00266	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	04.01	16	11	0.00422	0.00508	0.00220	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	04.02	6	6	0.00572	0.00759	0.00328	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	04.04	11	8	0.00351	0.00474	0.00205	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	07.01	5	5	0.00520	0.00648	0.00280	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	07.02	17	12	0.00333	0.00447	0.00194	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	08	2	1	0.00340	0.00340	0.00147	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	13	47	42	0.00495	0.00563	0.00244	2.3100	LTV_FISH
Antimony	7440-36-0	I	WHOL	01	51	1	0.00110	0.00110	0.00048	2.3100	LTV_FISH
Antimony	7440-36-0	I	WHOL	02.01	3	1	0.00130	0.00130	0.00056	2.3100	LTV_FISH
Antimony	7440-36-0	I	WHOL	03.01	34	2	0.00141	0.00142	0.00061	2.3100	LTV_FISH
Antimony	7440-36-0	I	WHOL	03.02	14	1	0.00120	0.00120	0.00052	2.3100	LTV_FISH
Antimony	7440-36-0	I	WHOL	03.04	16	3	0.00172	0.00175	0.00076	2.3100	LTV_FISH
Antimony	7440-36-0	I	WHOL	04.01	25	2	0.00172	0.00176	0.00076	2.3100	LTV_FISH
Antimony	7440-36-0	I	WHOL	04.02	6	2	0.00162	0.00166	0.00072	2.3100	LTV_FISH
Antimony	7440-36-0	I	WHOL	07.02	17	1	0.00120	0.00120	0.00052	2.3100	LTV_FISH
Antimony	7440-36-0	I	WHOL	13	58	2	0.00112	0.00118	0.00051	2.3100	LTV_FISH
Antimony	7440-36-0	I	FLTR	00	1	1	0.00470	0.00470	0.00477	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	01	20	13	0.00407	0.00536	0.00545	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	02.01	3	2	0.00323	0.00436	0.00442	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	02.02	13	12	0.00640	0.00770	0.00782	0.9850	S_ACU_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Antimony	7440-36-0	I	FLTR	02.03	6	6	0.00633	0.00837	0.00850	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	03.01	14	8	0.00398	0.00502	0.00509	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	03.02	14	10	0.00621	0.00692	0.00703	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	03.03	14	12	0.00546	0.00652	0.00662	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	03.04	16	14	0.00483	0.00615	0.00624	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	04.01	16	11	0.00422	0.00508	0.00515	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	04.02	6	6	0.00572	0.00759	0.00770	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	04.04	11	8	0.00351	0.00474	0.00482	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	07.01	5	5	0.00520	0.00648	0.00658	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	07.02	17	12	0.00333	0.00447	0.00454	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	08	2	1	0.00340	0.00340	0.00345	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	13	47	42	0.00495	0.00563	0.00572	0.9850	S_ACU_V
Antimony	7440-36-0	I	WHOL	01	51	1	0.00110	0.00110	0.00112	0.9850	S_ACU_V
Antimony	7440-36-0	I	WHOL	02.01	3	1	0.00130	0.00130	0.00132	0.9850	S_ACU_V
Antimony	7440-36-0	I	WHOL	03.01	34	2	0.00141	0.00142	0.00144	0.9850	S_ACU_V
Antimony	7440-36-0	I	WHOL	03.02	14	1	0.00120	0.00120	0.00122	0.9850	S_ACU_V
Antimony	7440-36-0	I	WHOL	03.04	16	3	0.00172	0.00175	0.00177	0.9850	S_ACU_V
Antimony	7440-36-0	I	WHOL	04.01	25	2	0.00172	0.00176	0.00179	0.9850	S_ACU_V
Antimony	7440-36-0	I	WHOL	04.02	6	2	0.00162	0.00166	0.00169	0.9850	S_ACU_V
Antimony	7440-36-0	I	WHOL	07.02	17	1	0.00120	0.00120	0.00122	0.9850	S_ACU_V
Antimony	7440-36-0	I	WHOL	13	58	2	0.00112	0.00118	0.00120	0.9850	S_ACU_V
Antimony	7440-36-0	I	FLTR	00	1	1	0.00470	0.00470	0.04519	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	01	20	13	0.00407	0.00536	0.05157	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	02.01	3	2	0.00323	0.00436	0.04190	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	02.02	13	12	0.00640	0.00770	0.07407	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	02.03	6	6	0.00633	0.00837	0.08046	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	03.01	14	8	0.00398	0.00502	0.04825	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	03.02	14	10	0.00621	0.00692	0.06656	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	03.03	14	12	0.00546	0.00652	0.06269	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	03.04	16	14	0.00483	0.00615	0.05909	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	04.01	16	11	0.00422	0.00508	0.04882	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	04.02	6	6	0.00572	0.00759	0.07296	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	04.04	11	8	0.00351	0.00474	0.04561	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	07.01	5	5	0.00520	0.00648	0.06228	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	07.02	17	12	0.00333	0.00447	0.04299	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	08	2	1	0.00340	0.00340	0.03269	0.1040	S_CHR_V
Antimony	7440-36-0	I	FLTR	13	47	42	0.00495	0.00563	0.05415	0.1040	S_CHR_V
Antimony	7440-36-0	I	WHOL	01	51	1	0.00110	0.00110	0.01058	0.1040	S_CHR_V
Antimony	7440-36-0	I	WHOL	02.01	3	1	0.00130	0.00130	0.01250	0.1040	S_CHR_V
Antimony	7440-36-0	I	WHOL	03.01	34	2	0.00141	0.00142	0.01366	0.1040	S_CHR_V
Antimony	7440-36-0	I	WHOL	03.02	14	1	0.00120	0.00120	0.01154	0.1040	S_CHR_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Antimony	7440-36-0	I	WHOL	03.04	16	3	0.00172	0.00175	0.01681	0.1040	S_CHR_V
Antimony	7440-36-0	I	WHOL	04.01	25	2	0.00172	0.00176	0.01695	0.1040	S_CHR_V
Antimony	7440-36-0	I	WHOL	04.02	6	2	0.00162	0.00166	0.01596	0.1040	S_CHR_V
Antimony	7440-36-0	I	WHOL	07.02	17	1	0.00120	0.00120	0.01154	0.1040	S_CHR_V
Antimony	7440-36-0	I	WHOL	13	58	2	0.00112	0.00118	0.01136	0.1040	S_CHR_V
Arsenic	7440-38-2	I	FLTR	01	20	3	0.00123	0.00128	0.00140	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	02.02	13	1	0.00110	0.00110	0.00120	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	02.04	2	1	0.00129	0.00129	0.00141	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	03.01	14	2	0.00112	0.00116	0.00127	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	03.02	14	2	0.00134	0.00135	0.00148	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	03.03	14	3	0.00118	0.00130	0.00142	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	03.04	16	4	0.00115	0.00123	0.00134	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	04.01	16	4	0.00112	0.00114	0.00125	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	04.02	6	1	0.00170	0.00170	0.00186	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	04.04	11	3	0.00181	0.00196	0.00214	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	07.01	5	5	0.00394	0.00534	0.00584	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	07.02	17	5	0.00115	0.00132	0.00144	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	13	47	6	0.00106	0.00111	0.00121	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	00	11	1	0.05000	0.05000	0.05470	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	01	51	4	0.00114	0.00120	0.00131	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	02.02	22	1	0.00110	0.00110	0.00120	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	02.04	11	1	0.00110	0.00110	0.00120	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	03.02	14	1	0.00140	0.00140	0.00153	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	03.03	23	3	0.00129	0.00145	0.00159	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	03.04	16	4	0.00109	0.00120	0.00131	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	04.01	25	3	0.00103	0.00107	0.00117	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	04.02	6	1	0.00130	0.00130	0.00142	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	04.04	11	4	0.00129	0.00169	0.00184	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	07.01	5	5	0.00408	0.00523	0.00572	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	07.02	17	3	0.00111	0.00129	0.00141	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	13	58	10	0.00213	0.00370	0.00404	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	WHOL	20.01	9	1	0.05450	0.05450	0.05963	0.9140	LCV_DAPH
Arsenic	7440-38-2	I	FLTR	01	20	3	0.00123	0.00128	0.00043	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	02.02	13	1	0.00110	0.00110	0.00037	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	02.04	2	1	0.00129	0.00129	0.00043	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	03.01	14	2	0.00112	0.00116	0.00039	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	03.02	14	2	0.00134	0.00135	0.00046	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	03.03	14	3	0.00118	0.00130	0.00044	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	03.04	16	4	0.00115	0.00123	0.00041	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	04.01	16	4	0.00112	0.00114	0.00039	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	04.02	6	1	0.00170	0.00170	0.00057	2.9620	LCV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Arsenic	7440-38-2	I	FLTR	04.04	11	3	0.00181	0.00196	0.00066	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	07.01	5	5	0.00394	0.00534	0.00180	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	07.02	17	5	0.00115	0.00132	0.00045	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	13	47	6	0.00106	0.00111	0.00037	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	00	11	1	0.05000	0.05000	0.01688	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	01	51	4	0.00114	0.00120	0.00040	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	02.02	22	1	0.00110	0.00110	0.00037	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	02.04	11	1	0.00110	0.00110	0.00037	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	03.02	14	1	0.00140	0.00140	0.00047	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	03.03	23	3	0.00129	0.00145	0.00049	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	03.04	16	4	0.00109	0.00120	0.00041	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	04.01	25	3	0.00103	0.00107	0.00036	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	04.02	6	1	0.00130	0.00130	0.00044	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	04.04	11	4	0.00129	0.00169	0.00057	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	07.01	5	5	0.00408	0.00523	0.00177	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	07.02	17	3	0.00111	0.00129	0.00043	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	13	58	10	0.00213	0.00370	0.00125	2.9620	LCV_FISH
Arsenic	7440-38-2	I	WHOL	20.01	9	1	0.05450	0.05450	0.01840	2.9620	LCV_FISH
Arsenic	7440-38-2	I	FLTR	01	20	3	0.00123	0.00128	0.00203	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	02.02	13	1	0.00110	0.00110	0.00174	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	02.04	2	1	0.00129	0.00129	0.00203	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	03.01	14	2	0.00112	0.00116	0.00184	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	03.02	14	2	0.00134	0.00135	0.00214	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	03.03	14	3	0.00118	0.00130	0.00205	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	03.04	16	4	0.00115	0.00123	0.00194	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	04.01	16	4	0.00112	0.00114	0.00181	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	04.02	6	1	0.00170	0.00170	0.00269	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	04.04	11	3	0.00181	0.00196	0.00309	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	07.01	5	5	0.00394	0.00534	0.00843	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	07.02	17	5	0.00115	0.00132	0.00208	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	13	47	6	0.00106	0.00111	0.00175	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	00	11	1	0.05000	0.05000	0.07899	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	01	51	4	0.00114	0.00120	0.00189	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	02.02	22	1	0.00110	0.00110	0.00174	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	02.04	11	1	0.00110	0.00110	0.00174	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	03.02	14	1	0.00140	0.00140	0.00221	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	03.03	23	3	0.00129	0.00145	0.00230	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	03.04	16	4	0.00109	0.00120	0.00190	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	04.01	25	3	0.00103	0.00107	0.00169	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	04.02	6	1	0.00130	0.00130	0.00205	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	04.04	11	4	0.00129	0.00169	0.00266	0.6330	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Arsenic	7440-38-2	I	WHOL	07.01	5	5	0.00408	0.00523	0.00826	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	07.02	17	3	0.00111	0.00129	0.00203	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	13	58	10	0.00213	0.00370	0.00584	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	WHOL	20.01	9	1	0.05450	0.05450	0.08610	0.6330	LTV_DAPH
Arsenic	7440-38-2	I	FLTR	01	20	3	0.00123	0.00128	0.00060	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	02.02	13	1	0.00110	0.00110	0.00052	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	02.04	2	1	0.00129	0.00129	0.00060	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	03.01	14	2	0.00112	0.00116	0.00055	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	03.02	14	2	0.00134	0.00135	0.00064	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	03.03	14	3	0.00118	0.00130	0.00061	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	03.04	16	4	0.00115	0.00123	0.00058	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	04.01	16	4	0.00112	0.00114	0.00054	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	04.02	6	1	0.00170	0.00170	0.00080	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	04.04	11	3	0.00181	0.00196	0.00092	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	07.01	5	5	0.00394	0.00534	0.00251	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	07.02	17	5	0.00115	0.00132	0.00062	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	13	47	6	0.00106	0.00111	0.00052	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	00	11	1	0.05000	0.05000	0.02347	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	01	51	4	0.00114	0.00120	0.00056	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	02.02	22	1	0.00110	0.00110	0.00052	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	02.04	11	1	0.00110	0.00110	0.00052	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	03.02	14	1	0.00140	0.00140	0.00066	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	03.03	23	3	0.00129	0.00145	0.00068	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	03.04	16	4	0.00109	0.00120	0.00056	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	04.01	25	3	0.00103	0.00107	0.00050	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	04.02	6	1	0.00130	0.00130	0.00061	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	04.04	11	4	0.00129	0.00169	0.00079	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	07.01	5	5	0.00408	0.00523	0.00246	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	07.02	17	3	0.00111	0.00129	0.00060	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	13	58	10	0.00213	0.00370	0.00174	2.1300	LTV_FISH
Arsenic	7440-38-2	I	WHOL	20.01	9	1	0.05450	0.05450	0.02559	2.1300	LTV_FISH
Arsenic	7440-38-2	I	FLTR	01	20	3	0.00123	0.00128	0.00356	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	02.02	13	1	0.00110	0.00110	0.00306	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	02.04	2	1	0.00129	0.00129	0.00357	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	03.01	14	2	0.00112	0.00116	0.00323	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	03.02	14	2	0.00134	0.00135	0.00376	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	03.03	14	3	0.00118	0.00130	0.00360	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	03.04	16	4	0.00115	0.00123	0.00341	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	04.01	16	4	0.00112	0.00114	0.00318	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	04.02	6	1	0.00170	0.00170	0.00472	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	04.04	11	3	0.00181	0.00196	0.00544	0.3600	NAWQ_ACU

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Arsenic	7440-38-2	I	FLTR	07.01	5	5	0.00394	0.00534	0.01482	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	07.02	17	5	0.00115	0.00132	0.00366	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	13	47	6	0.00106	0.00111	0.00308	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	00	11	1	0.05000	0.05000	0.13889	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	01	51	4	0.00114	0.00120	0.00333	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	02.02	22	1	0.00110	0.00110	0.00306	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	02.04	11	1	0.00110	0.00110	0.00306	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	03.02	14	1	0.00140	0.00140	0.00389	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	03.03	23	3	0.00129	0.00145	0.00404	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	03.04	16	4	0.00109	0.00120	0.00333	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	04.01	25	3	0.00103	0.00107	0.00297	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	04.02	6	1	0.00130	0.00130	0.00361	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	04.04	11	4	0.00129	0.00169	0.00468	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	07.01	5	5	0.00408	0.00523	0.01453	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	07.02	17	3	0.00111	0.00129	0.00357	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	13	58	10	0.00213	0.00370	0.01027	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	WHOL	20.01	9	1	0.05450	0.05450	0.15139	0.3600	NAWQ_ACU
Arsenic	7440-38-2	I	FLTR	01	20	3	0.00123	0.00128	0.00675	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	02.02	13	1	0.00110	0.00110	0.00579	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	02.04	2	1	0.00129	0.00129	0.00676	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	03.01	14	2	0.00112	0.00116	0.00612	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	03.02	14	2	0.00134	0.00135	0.00712	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	03.03	14	3	0.00118	0.00130	0.00682	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	03.04	16	4	0.00115	0.00123	0.00646	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	04.01	16	4	0.00112	0.00114	0.00602	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	04.02	6	1	0.00170	0.00170	0.00895	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	04.04	11	3	0.00181	0.00196	0.01031	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	07.01	5	5	0.00394	0.00534	0.02808	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	07.02	17	5	0.00115	0.00132	0.00694	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	FLTR	13	47	6	0.00106	0.00111	0.00583	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	00	11	1	0.05000	0.05000	0.26316	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	01	51	4	0.00114	0.00120	0.00631	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	02.02	22	1	0.00110	0.00110	0.00579	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	02.04	11	1	0.00110	0.00110	0.00579	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	03.02	14	1	0.00140	0.00140	0.00737	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	03.03	23	3	0.00129	0.00145	0.00765	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	03.04	16	4	0.00109	0.00120	0.00632	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	04.01	25	3	0.00103	0.00107	0.00563	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	04.02	6	1	0.00130	0.00130	0.00684	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	04.04	11	4	0.00129	0.00169	0.00887	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	07.01	5	5	0.00408	0.00523	0.02753	0.1900	NAWQ_CHR

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Arsenic	7440-38-2	I	WHOL	07.02	17	3	0.00111	0.00129	0.00677	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	13	58	10	0.00213	0.00370	0.01945	0.1900	NAWQ_CHR
Arsenic	7440-38-2	I	WHOL	20.01	9	1	0.05450	0.05450	0.28684	0.1900	NAWQ_CHR
Barium	7440-39-3	I	FLTR	00	1	1	0.02960	0.02960	0.00510	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	01	17	17	0.02340	0.02424	0.00418	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	02.01	3	3	0.02442	0.03179	0.00548	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	02.02	12	12	0.02406	0.02552	0.00440	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	02.03	6	6	0.02392	0.02622	0.00452	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	02.04	1	1	0.03217	0.03217	0.00555	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	03.01	13	13	0.03304	0.03667	0.00632	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	03.02	13	13	0.03367	0.03675	0.00634	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	03.03	13	13	0.02961	0.03215	0.00554	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	03.04	15	15	0.02902	0.03132	0.00540	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	04.01	15	15	0.02431	0.02557	0.00441	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	04.02	6	6	0.02405	0.02551	0.00440	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	04.04	9	9	0.02458	0.02601	0.00449	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	07.01	5	5	0.02982	0.03518	0.00607	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	07.02	17	16	0.02459	0.02593	0.00447	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	08	2	2	0.02440	0.03766	0.00649	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	13	46	46	0.03749	0.03974	0.00685	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	00	11	11	0.04841	0.07445	0.01284	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	01	48	48	0.03195	0.03459	0.00596	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	02.01	3	3	0.02860	0.03561	0.00614	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	02.02	21	21	0.02996	0.03178	0.00548	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	02.03	6	6	0.02873	0.03045	0.00525	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	02.04	10	9	0.03012	0.03289	0.00567	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	03.01	33	33	0.03491	0.03638	0.00627	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	03.02	13	13	0.03765	0.04029	0.00695	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	03.03	22	21	0.03539	0.03723	0.00642	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	03.04	15	15	0.03452	0.03658	0.00631	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	04.01	24	23	0.02938	0.03122	0.00538	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	04.02	6	6	0.02763	0.02890	0.00498	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	04.04	9	9	0.02763	0.02878	0.00496	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	07.01	5	5	0.03362	0.03722	0.00642	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	07.02	17	17	0.02765	0.02862	0.00493	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	08	2	2	0.02590	0.02906	0.00501	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	13	57	57	0.04303	0.04509	0.00777	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	18	9	9	0.02602	0.03057	0.00527	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	20.01	9	8	0.03159	0.03438	0.00593	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	20.02	10	10	0.07413	0.09024	0.01556	5.8000	LCV_ALLO
Barium	7440-39-3	I	WHOL	21	18	16	0.04774	0.06138	0.01058	5.8000	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Barium	7440-39-3	I	WHOL	22	10	10	0.05437	0.07905	0.01363	5.8000	LCV_ALLO
Barium	7440-39-3	I	FLTR	00	1	1	0.02960	0.02960	0.00510	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	01	17	17	0.02340	0.02424	0.00418	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	02.01	3	3	0.02442	0.03179	0.00548	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	02.02	12	12	0.02406	0.02552	0.00440	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	02.03	6	6	0.02392	0.02622	0.00452	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	02.04	1	1	0.03217	0.03217	0.00555	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	03.01	13	13	0.03304	0.03667	0.00632	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	03.02	13	13	0.03367	0.03675	0.00634	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	03.03	13	13	0.02961	0.03215	0.00554	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	03.04	15	15	0.02902	0.03132	0.00540	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	04.01	15	15	0.02431	0.02557	0.00441	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	04.02	6	6	0.02405	0.02551	0.00440	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	04.04	9	9	0.02458	0.02601	0.00449	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	07.01	5	5	0.02982	0.03518	0.00607	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	07.02	17	16	0.02459	0.02593	0.00447	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	08	2	2	0.02440	0.03766	0.00649	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	13	46	46	0.03749	0.03974	0.00685	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	00	11	11	0.04841	0.07445	0.01284	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	01	48	48	0.03195	0.03459	0.00596	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	02.01	3	3	0.02860	0.03561	0.00614	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	02.02	21	21	0.02996	0.03178	0.00548	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	02.03	6	6	0.02873	0.03045	0.00525	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	02.04	10	9	0.03012	0.03289	0.00567	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	03.01	33	33	0.03491	0.03638	0.00627	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	03.02	13	13	0.03765	0.04029	0.00695	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	03.03	22	21	0.03539	0.03723	0.00642	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	03.04	15	15	0.03452	0.03658	0.00631	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	04.01	24	23	0.02938	0.03122	0.00538	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	04.02	6	6	0.02763	0.02890	0.00498	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	04.04	9	9	0.02763	0.02878	0.00496	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	07.01	5	5	0.03362	0.03722	0.00642	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	07.02	17	17	0.02765	0.02862	0.00493	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	08	2	2	0.02590	0.02906	0.00501	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	13	57	57	0.04303	0.04509	0.00777	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	18	9	9	0.02602	0.03057	0.00527	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	20.01	9	8	0.03159	0.03438	0.00593	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	20.02	10	10	0.07413	0.09024	0.01556	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	21	18	16	0.04774	0.06138	0.01058	5.8000	LCV_DAPH
Barium	7440-39-3	I	WHOL	22	10	10	0.05437	0.07905	0.01363	5.8000	LCV_DAPH
Barium	7440-39-3	I	FLTR	00	1	1	0.02960	0.02960	0.42836	0.0691	S_ACU_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Barium	7440-39-3	I	FLTR	01	17	17	0.02340	0.02424	0.35079	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	02.01	3	3	0.02442	0.03179	0.46012	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	02.02	12	12	0.02406	0.02552	0.36930	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	02.03	6	6	0.02392	0.02622	0.37944	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	02.04	1	1	0.03217	0.03217	0.46548	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	03.01	13	13	0.03304	0.03667	0.53065	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	03.02	13	13	0.03367	0.03675	0.53188	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	03.03	13	13	0.02961	0.03215	0.46533	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	03.04	15	15	0.02902	0.03132	0.45325	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	04.01	15	15	0.02431	0.02557	0.37007	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	04.02	6	6	0.02405	0.02551	0.36915	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	04.04	9	9	0.02458	0.02601	0.37648	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	07.01	5	5	0.02982	0.03518	0.50917	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	07.02	17	16	0.02459	0.02593	0.37526	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	08	2	2	0.02440	0.03766	0.54499	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	13	46	46	0.03749	0.03974	0.57514	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	00	11	11	0.04841	0.07445	1.07735	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	01	48	48	0.03195	0.03459	0.50061	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	02.01	3	3	0.02860	0.03561	0.51540	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	02.02	21	21	0.02996	0.03178	0.45987	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	02.03	6	6	0.02873	0.03045	0.44073	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	02.04	10	9	0.03012	0.03289	0.47601	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	03.01	33	33	0.03491	0.03638	0.52655	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	03.02	13	13	0.03765	0.04029	0.58305	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	03.03	22	21	0.03539	0.03723	0.53880	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	03.04	15	15	0.03452	0.03658	0.52937	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	04.01	24	23	0.02938	0.03122	0.45188	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	04.02	6	6	0.02763	0.02890	0.41826	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	04.04	9	9	0.02763	0.02878	0.41650	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	07.01	5	5	0.03362	0.03722	0.53863	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	07.02	17	17	0.02765	0.02862	0.41420	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	08	2	2	0.02590	0.02906	0.42050	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	13	57	57	0.04303	0.04509	0.65256	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	18	9	9	0.02602	0.03057	0.44239	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	20.01	9	8	0.03159	0.03438	0.49758	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	20.02	10	10	0.07413	0.09024	1.30590	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	21	18	16	0.04774	0.06138	0.88830	0.0691	S_ACU_V
Barium	7440-39-3	I	WHOL	22	10	10	0.05437	0.07905	1.14403	0.0691	S_ACU_V
Barium	7440-39-3	I	FLTR	00	1	1	0.02960	0.02960	7.78947	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	01	17	17	0.02340	0.02424	6.37887	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	02.01	3	3	0.02442	0.03179	8.36688	0.0038	S_CHR_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Barium	7440-39-3	I	FLTR	02.02	12	12	0.02406	0.02552	6.71541	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	02.03	6	6	0.02392	0.02622	6.89983	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	02.04	1	1	0.03217	0.03217	8.46447	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	03.01	13	13	0.03304	0.03667	9.64937	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	03.02	13	13	0.03367	0.03675	9.67173	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	03.03	13	13	0.02961	0.03215	8.46169	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	03.04	15	15	0.02902	0.03132	8.24197	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	04.01	15	15	0.02431	0.02557	6.72937	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	04.02	6	6	0.02405	0.02551	6.71276	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	04.04	9	9	0.02458	0.02601	6.84599	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	07.01	5	5	0.02982	0.03518	9.25889	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	07.02	17	16	0.02459	0.02593	6.82376	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	08	2	2	0.02440	0.03766	9.91023	0.0038	S_CHR_V
Barium	7440-39-3	I	FLTR	13	46	46	0.03749	0.03974	10.45841	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	00	11	11	0.04841	0.07445	19.59084	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	01	48	48	0.03195	0.03459	9.10328	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	02.01	3	3	0.02860	0.03561	9.37212	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	02.02	21	21	0.02996	0.03178	8.36243	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	02.03	6	6	0.02873	0.03045	8.01440	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	02.04	10	9	0.03012	0.03289	8.65582	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	03.01	33	33	0.03491	0.03638	9.57486	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	03.02	13	13	0.03765	0.04029	10.60239	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	03.03	22	21	0.03539	0.03723	9.79762	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	03.04	15	15	0.03452	0.03658	9.62609	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	04.01	24	23	0.02938	0.03122	8.21705	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	04.02	6	6	0.02763	0.02890	7.60581	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	04.04	9	9	0.02763	0.02878	7.57370	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	07.01	5	5	0.03362	0.03722	9.79453	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	07.02	17	17	0.02765	0.02862	7.53187	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	08	2	2	0.02590	0.02906	7.64655	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	13	57	57	0.04303	0.04509	11.86628	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	18	9	9	0.02602	0.03057	8.04459	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	20.01	9	8	0.03159	0.03438	9.04809	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	20.02	10	10	0.07413	0.09024	23.74678	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	21	18	16	0.04774	0.06138	16.15308	0.0038	S_CHR_V
Barium	7440-39-3	I	WHOL	22	10	10	0.05437	0.07905	20.80334	0.0038	S_CHR_V
Benzoic acid	65-85-0	O	FLTR	00	1	1	0.00100	0.00100	0.00008	12.9760	LCV_ALLO
Benzoic acid	65-85-0	O	FLTR	13	46	2	0.00150	0.00234	0.00018	12.9760	LCV_ALLO
Benzoic acid	65-85-0	O	FLTR	00	1	1	0.00100	0.00100	0.00008	12.9760	LCV_FISH
Benzoic acid	65-85-0	O	FLTR	13	46	2	0.00150	0.00234	0.00018	12.9760	LCV_FISH
Benzoic acid	65-85-0	O	FLTR	00	1	1	0.00100	0.00100	0.00013	7.4090	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Benzoic acid	65-85-0	O	FLTR	13	46	2	0.00150	0.00234	0.00032	7.4090	LTV_FISH
Benzoic acid	65-85-0	O	FLTR	00	1	1	0.00100	0.00100	0.00135	0.7430	S_ACU_V
Benzoic acid	65-85-0	O	FLTR	13	46	2	0.00150	0.00234	0.00315	0.7430	S_ACU_V
Benzoic acid	65-85-0	O	FLTR	00	1	1	0.00100	0.00100	0.02404	0.0416	S_CHR_V
Benzoic acid	65-85-0	O	FLTR	13	46	2	0.00150	0.00234	0.05624	0.0416	S_CHR_V
Beryllium	7440-41-7	I	WHOL	00	11	1	0.00120	0.00120	0.22642	0.0053	LCV_ALLO
Beryllium	7440-41-7	I	WHOL	01	51	1	0.00140	0.00140	0.26415	0.0053	LCV_ALLO
Beryllium	7440-41-7	I	WHOL	20.02	10	1	0.00100	0.00100	0.18868	0.0053	LCV_ALLO
Beryllium	7440-41-7	I	WHOL	00	11	1	0.00120	0.00120	0.00001	100.0000	LCV_AQPL
Beryllium	7440-41-7	I	WHOL	01	51	1	0.00140	0.00140	0.00001	100.0000	LCV_AQPL
Beryllium	7440-41-7	I	WHOL	20.02	10	1	0.00100	0.00100	0.00001	100.0000	LCV_AQPL
Beryllium	7440-41-7	I	WHOL	00	11	1	0.00120	0.00120	0.22642	0.0053	LCV_DAPH
Beryllium	7440-41-7	I	WHOL	01	51	1	0.00140	0.00140	0.26415	0.0053	LCV_DAPH
Beryllium	7440-41-7	I	WHOL	20.02	10	1	0.00100	0.00100	0.18868	0.0053	LCV_DAPH
Beryllium	7440-41-7	I	WHOL	00	11	1	0.00120	0.00120	0.02105	0.0570	LCV_FISH
Beryllium	7440-41-7	I	WHOL	01	51	1	0.00140	0.00140	0.02456	0.0570	LCV_FISH
Beryllium	7440-41-7	I	WHOL	20.02	10	1	0.00100	0.00100	0.01754	0.0570	LCV_FISH
Beryllium	7440-41-7	I	WHOL	00	11	1	0.00120	0.00120	0.31579	0.0038	LTV_DAPH
Beryllium	7440-41-7	I	WHOL	01	51	1	0.00140	0.00140	0.36842	0.0038	LTV_DAPH
Beryllium	7440-41-7	I	WHOL	20.02	10	1	0.00100	0.00100	0.26316	0.0038	LTV_DAPH
Beryllium	7440-41-7	I	WHOL	00	11	1	0.00120	0.00120	0.00811	0.1480	LTV_FISH
Beryllium	7440-41-7	I	WHOL	01	51	1	0.00140	0.00140	0.00946	0.1480	LTV_FISH
Beryllium	7440-41-7	I	WHOL	20.02	10	1	0.00100	0.00100	0.00676	0.1480	LTV_FISH
Beryllium	7440-41-7	I	WHOL	00	11	1	0.00120	0.00120	0.00443	0.2710	S_ACU_V
Beryllium	7440-41-7	I	WHOL	01	51	1	0.00140	0.00140	0.00517	0.2710	S_ACU_V
Beryllium	7440-41-7	I	WHOL	20.02	10	1	0.00100	0.00100	0.00369	0.2710	S_ACU_V
Beryllium	7440-41-7	I	WHOL	00	11	1	0.00120	0.00120	0.23576	0.0051	S_CHR_V
Beryllium	7440-41-7	I	WHOL	01	51	1	0.00140	0.00140	0.27505	0.0051	S_CHR_V
Beryllium	7440-41-7	I	WHOL	20.02	10	1	0.00100	0.00100	0.19646	0.0051	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	01	20	2	0.00230	0.00540	1.79949	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.01	2	1	0.00100	0.00100	0.33333	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.02	12	1	0.00400	0.00400	1.33333	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.03	5	1	0.00200	0.00200	0.66667	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.04	1	1	0.00350	0.00350	1.16667	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	03.01	12	1	0.00400	0.00400	1.33333	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.01	14	4	0.00150	0.00239	0.79516	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.02	6	1	0.00100	0.00100	0.33333	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.04	9	1	0.03000	0.03000	10.00000	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	13	46	4	0.00771	0.01738	5.79308	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	01	23	1	0.00200	0.00200	0.66667	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	02.04	2	1	0.03750	0.03750	12.50000	0.0030	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.02	12	2	0.00245	0.00356	1.18509	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.03	13	1	0.00100	0.00100	0.33333	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.01	5	1	0.00100	0.00100	0.33333	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.02	17	1	0.00600	0.00600	2.00000	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	10	2	1	0.00500	0.00500	1.66667	0.0030	LCV_ALLO
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	01	20	2	0.00230	0.00540	1.79949	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.01	2	1	0.00100	0.00100	0.33333	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.02	12	1	0.00400	0.00400	1.33333	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.03	5	1	0.00200	0.00200	0.66667	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.04	1	1	0.00350	0.00350	1.16667	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	03.01	12	1	0.00400	0.00400	1.33333	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.01	14	4	0.00150	0.00239	0.79516	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.02	6	1	0.00100	0.00100	0.33333	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.04	9	1	0.03000	0.03000	10.00000	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	13	46	4	0.00771	0.01738	5.79308	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	01	23	1	0.00200	0.00200	0.66667	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	02.04	2	1	0.03750	0.03750	12.50000	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.02	12	2	0.00245	0.00356	1.18509	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.03	13	1	0.00100	0.00100	0.33333	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.01	5	1	0.00100	0.00100	0.33333	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.02	17	1	0.00600	0.00600	2.00000	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	10	2	1	0.00500	0.00500	1.66667	0.0030	LCV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	01	20	2	0.00230	0.00540	0.64268	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.01	2	1	0.00100	0.00100	0.11905	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.02	12	1	0.00400	0.00400	0.47619	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.03	5	1	0.00200	0.00200	0.23810	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.04	1	1	0.00350	0.00350	0.41667	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	03.01	12	1	0.00400	0.00400	0.47619	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.01	14	4	0.00150	0.00239	0.28398	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.02	6	1	0.00100	0.00100	0.11905	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.04	9	1	0.03000	0.03000	3.57143	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	13	46	4	0.00771	0.01738	2.06896	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	01	23	1	0.00200	0.00200	0.23810	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	02.04	2	1	0.03750	0.03750	4.46429	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.02	12	2	0.00245	0.00356	0.42325	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.03	13	1	0.00100	0.00100	0.11905	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.01	5	1	0.00100	0.00100	0.11905	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.02	17	1	0.00600	0.00600	0.71429	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	10	2	1	0.00500	0.00500	0.59524	0.0084	LCV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	01	20	2	0.00230	0.00540	1.79949	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.01	2	1	0.00100	0.00100	0.33333	0.0030	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.02	12	1	0.00400	0.00400	1.33333	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.03	5	1	0.00200	0.00200	0.66667	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.04	1	1	0.00350	0.00350	1.16667	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	03.01	12	1	0.00400	0.00400	1.33333	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.01	14	4	0.00150	0.00239	0.79516	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.02	6	1	0.00100	0.00100	0.33333	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.04	9	1	0.03000	0.03000	10.00000	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	13	46	4	0.00771	0.01738	5.79308	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	01	23	1	0.00200	0.00200	0.66667	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	02.04	2	1	0.03750	0.03750	12.50000	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.02	12	2	0.00245	0.00356	1.18509	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.03	13	1	0.00100	0.00100	0.33333	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.01	5	1	0.00100	0.00100	0.33333	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.02	17	1	0.00600	0.00600	2.00000	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	10	2	1	0.00500	0.00500	1.66667	0.0030	LTV_DAPH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	01	20	2	0.00230	0.00540	0.09997	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.01	2	1	0.00100	0.00100	0.01852	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.02	12	1	0.00400	0.00400	0.07407	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.03	5	1	0.00200	0.00200	0.03704	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.04	1	1	0.00350	0.00350	0.06481	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	03.01	12	1	0.00400	0.00400	0.07407	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.01	14	4	0.00150	0.00239	0.04418	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.02	6	1	0.00100	0.00100	0.01852	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.04	9	1	0.03000	0.03000	0.55556	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	13	46	4	0.00771	0.01738	0.32184	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	01	23	1	0.00200	0.00200	0.03704	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	02.04	2	1	0.03750	0.03750	0.69444	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.02	12	2	0.00245	0.00356	0.06584	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.03	13	1	0.00100	0.00100	0.01852	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.01	5	1	0.00100	0.00100	0.01852	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.02	17	1	0.00600	0.00600	0.11111	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	10	2	1	0.00500	0.00500	0.09259	0.0540	LTV_FISH
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	01	20	2	0.00230	0.00540	0.01888	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.01	2	1	0.00100	0.00100	0.00350	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.02	12	1	0.00400	0.00400	0.01399	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.03	5	1	0.00200	0.00200	0.00699	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.04	1	1	0.00350	0.00350	0.01224	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	03.01	12	1	0.00400	0.00400	0.01399	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.01	14	4	0.00150	0.00239	0.00834	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.02	6	1	0.00100	0.00100	0.00350	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.04	9	1	0.03000	0.03000	0.10490	0.2860	S_ACU_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	13	46	4	0.00771	0.01738	0.06077	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	01	23	1	0.00200	0.00200	0.00699	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	02.04	2	1	0.03750	0.03750	0.13112	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.02	12	2	0.00245	0.00356	0.01243	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.03	13	1	0.00100	0.00100	0.00350	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.01	5	1	0.00100	0.00100	0.00350	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.02	17	1	0.00600	0.00600	0.02098	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	10	2	1	0.00500	0.00500	0.01748	0.2860	S_ACU_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	01	20	2	0.00230	0.00540	0.16765	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.01	2	1	0.00100	0.00100	0.03106	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.02	12	1	0.00400	0.00400	0.12422	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.03	5	1	0.00200	0.00200	0.06211	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	02.04	1	1	0.00350	0.00350	0.10870	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	03.01	12	1	0.00400	0.00400	0.12422	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.01	14	4	0.00150	0.00239	0.07408	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.02	6	1	0.00100	0.00100	0.03106	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	04.04	9	1	0.03000	0.03000	0.93168	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	FLTR	13	46	4	0.00771	0.01738	0.53973	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	01	23	1	0.00200	0.00200	0.06211	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	02.04	2	1	0.03750	0.03750	1.16460	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.02	12	2	0.00245	0.00356	0.11041	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	03.03	13	1	0.00100	0.00100	0.03106	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.01	5	1	0.00100	0.00100	0.03106	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	07.02	17	1	0.00600	0.00600	0.18634	0.0322	S_CHR_V
Bis(2-ethylhexyl)phthalate	117-81-7	O	WHOL	10	2	1	0.00500	0.00500	0.15528	0.0322	S_CHR_V
Boron	7440-42-8	I	FLTR	00	1	1	0.01730	0.01730	0.00196	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	01	17	13	0.04409	0.05372	0.00608	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	02.01	3	2	0.04849	0.13701	0.01552	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	02.02	12	8	0.04383	0.06298	0.00713	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	02.03	6	3	0.03622	0.05458	0.00618	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	02.04	1	1	0.03358	0.03358	0.00380	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	03.01	13	12	0.05282	0.07547	0.00855	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	03.02	13	12	0.04983	0.06423	0.00727	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	03.03	13	10	0.04094	0.05290	0.00599	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	03.04	15	14	0.03896	0.05111	0.00579	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	04.01	15	10	0.04030	0.05182	0.00587	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	04.02	6	5	0.02926	0.04244	0.00481	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	04.04	9	7	0.04937	0.06064	0.00687	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	07.01	5	3	0.03543	0.04793	0.00543	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	07.02	17	9	0.05170	0.06463	0.00732	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	08	2	1	0.01170	0.01170	0.00133	8.8300	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Boron	7440-42-8	I	FLTR	13	46	38	0.04165	0.04697	0.00532	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	00	1	1	0.02640	0.02640	0.00299	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	01	20	16	0.05201	0.06507	0.00737	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	02.01	3	1	0.09020	0.09020	0.01022	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	02.02	12	7	0.04421	0.04792	0.00543	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	02.03	6	3	0.04377	0.05784	0.00655	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	02.04	1	1	0.04290	0.04290	0.00486	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	03.01	33	22	0.02717	0.03714	0.00421	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	03.02	13	12	0.05020	0.06789	0.00769	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	03.03	13	10	0.03399	0.04700	0.00532	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	03.04	15	13	0.04760	0.06455	0.00731	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	04.01	15	10	0.04757	0.06308	0.00714	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	04.02	6	4	0.03413	0.04086	0.00463	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	04.04	9	6	0.04023	0.05978	0.00677	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	07.01	5	2	0.03783	0.05826	0.00660	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	07.02	17	10	0.04345	0.05779	0.00654	8.8300	LCV_ALLO
Boron	7440-42-8	I	WHOL	13	48	43	0.04747	0.05448	0.00617	8.8300	LCV_ALLO
Boron	7440-42-8	I	FLTR	00	1	1	0.01730	0.01730	0.00196	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	01	17	13	0.04409	0.05372	0.00608	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	02.01	3	2	0.04849	0.13701	0.01552	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	02.02	12	8	0.04383	0.06298	0.00713	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	02.03	6	3	0.03622	0.05458	0.00618	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	02.04	1	1	0.03358	0.03358	0.00380	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	03.01	13	12	0.05282	0.07547	0.00855	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	03.02	13	12	0.04983	0.06423	0.00727	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	03.03	13	10	0.04094	0.05290	0.00599	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	03.04	15	14	0.03896	0.05111	0.00579	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	04.01	15	10	0.04030	0.05182	0.00587	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	04.02	6	5	0.02926	0.04244	0.00481	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	04.04	9	7	0.04937	0.06064	0.00687	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	07.01	5	3	0.03543	0.04793	0.00543	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	07.02	17	9	0.05170	0.06463	0.00732	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	08	2	1	0.01170	0.01170	0.00133	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	13	46	38	0.04165	0.04697	0.00532	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	00	1	1	0.02640	0.02640	0.00299	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	01	20	16	0.05201	0.06507	0.00737	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	02.01	3	1	0.09020	0.09020	0.01022	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	02.02	12	7	0.04421	0.04792	0.00543	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	02.03	6	3	0.04377	0.05784	0.00655	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	02.04	1	1	0.04290	0.04290	0.00486	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	03.01	33	22	0.02717	0.03714	0.00421	8.8300	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Boron	7440-42-8	I	WHOL	03.02	13	12	0.05020	0.06789	0.00769	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	03.03	13	10	0.03399	0.04700	0.00532	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	03.04	15	13	0.04760	0.06455	0.00731	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	04.01	15	10	0.04757	0.06308	0.00714	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	04.02	6	4	0.03413	0.04086	0.00463	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	04.04	9	6	0.04023	0.05978	0.00677	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	07.01	5	2	0.03783	0.05826	0.00660	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	07.02	17	10	0.04345	0.05779	0.00654	8.8300	LCV_DAPH
Boron	7440-42-8	I	WHOL	13	48	43	0.04747	0.05448	0.00617	8.8300	LCV_DAPH
Boron	7440-42-8	I	FLTR	00	1	1	0.01730	0.01730	2.47143	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	01	17	13	0.04409	0.05372	7.67495	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	02.01	3	2	0.04849	0.13701	19.57313	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	02.02	12	8	0.04383	0.06298	8.99677	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	02.03	6	3	0.03622	0.05458	7.79762	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	02.04	1	1	0.03358	0.03358	4.79643	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	03.01	13	12	0.05282	0.07547	10.78198	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	03.02	13	12	0.04983	0.06423	9.17642	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	03.03	13	10	0.04094	0.05290	7.55659	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	03.04	15	14	0.03896	0.05111	7.30111	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	04.01	15	10	0.04030	0.05182	7.40336	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	04.02	6	5	0.02926	0.04244	6.06357	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	04.04	9	7	0.04937	0.06064	8.66286	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	07.01	5	3	0.03543	0.04793	6.84678	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	07.02	17	9	0.05170	0.06463	9.23322	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	08	2	1	0.01170	0.01170	1.67143	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	13	46	38	0.04165	0.04697	6.70946	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	00	1	1	0.02640	0.02640	3.77143	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	01	20	16	0.05201	0.06507	9.29598	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	02.01	3	1	0.09020	0.09020	12.88571	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	02.02	12	7	0.04421	0.04792	6.84538	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	02.03	6	3	0.04377	0.05784	8.26277	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	02.04	1	1	0.04290	0.04290	6.12857	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	03.01	33	22	0.02717	0.03714	5.30578	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	03.02	13	12	0.05020	0.06789	9.69795	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	03.03	13	10	0.03399	0.04700	6.71419	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	03.04	15	13	0.04760	0.06455	9.22192	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	04.01	15	10	0.04757	0.06308	9.01173	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	04.02	6	4	0.03413	0.04086	5.83643	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	04.04	9	6	0.04023	0.05978	8.54057	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	07.01	5	2	0.03783	0.05826	8.32226	0.0070	LTV_DAPH
Boron	7440-42-8	I	WHOL	07.02	17	10	0.04345	0.05779	8.25564	0.0070	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Boron	7440-42-8	I	WHOL	13	48	43	0.04747	0.05448	7.78321	0.0070	LTV_DAPH
Boron	7440-42-8	I	FLTR	00	1	1	0.01730	0.01730	0.00157	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	01	17	13	0.04409	0.05372	0.00488	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	02.01	3	2	0.04849	0.13701	0.01246	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	02.02	12	8	0.04383	0.06298	0.00573	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	02.03	6	3	0.03622	0.05458	0.00496	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	02.04	1	1	0.03358	0.03358	0.00305	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	03.01	13	12	0.05282	0.07547	0.00686	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	03.02	13	12	0.04983	0.06423	0.00584	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	03.03	13	10	0.04094	0.05290	0.00481	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	03.04	15	14	0.03896	0.05111	0.00465	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	04.01	15	10	0.04030	0.05182	0.00471	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	04.02	6	5	0.02926	0.04244	0.00386	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	04.04	9	7	0.04937	0.06064	0.00551	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	07.01	5	3	0.03543	0.04793	0.00436	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	07.02	17	9	0.05170	0.06463	0.00588	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	08	2	1	0.01170	0.01170	0.00106	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	13	46	38	0.04165	0.04697	0.00427	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	00	1	1	0.02640	0.02640	0.00240	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	01	20	16	0.05201	0.06507	0.00592	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	02.01	3	1	0.09020	0.09020	0.00820	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	02.02	12	7	0.04421	0.04792	0.00436	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	02.03	6	3	0.04377	0.05784	0.00526	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	02.04	1	1	0.04290	0.04290	0.00390	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	03.01	33	22	0.02717	0.03714	0.00338	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	03.02	13	12	0.05020	0.06789	0.00617	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	03.03	13	10	0.03399	0.04700	0.00427	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	03.04	15	13	0.04760	0.06455	0.00587	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	04.01	15	10	0.04757	0.06308	0.00573	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	04.02	6	4	0.03413	0.04086	0.00371	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	04.04	9	6	0.04023	0.05978	0.00543	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	07.01	5	2	0.03783	0.05826	0.00530	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	07.02	17	10	0.04345	0.05779	0.00525	11.0000	S_ACU_V
Boron	7440-42-8	I	WHOL	13	48	43	0.04747	0.05448	0.00495	11.0000	S_ACU_V
Boron	7440-42-8	I	FLTR	00	1	1	0.01730	0.01730	0.03163	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	01	17	13	0.04409	0.05372	0.09822	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	02.01	3	2	0.04849	0.13701	0.25048	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	02.02	12	8	0.04383	0.06298	0.11513	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	02.03	6	3	0.03622	0.05458	0.09979	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	02.04	1	1	0.03358	0.03358	0.06138	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	03.01	13	12	0.05282	0.07547	0.13798	0.5470	S_CHR_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Boron	7440-42-8	I	FLTR	03.02	13	12	0.04983	0.06423	0.11743	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	03.03	13	10	0.04094	0.05290	0.09670	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	03.04	15	14	0.03896	0.05111	0.09343	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	04.01	15	10	0.04030	0.05182	0.09474	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	04.02	6	5	0.02926	0.04244	0.07760	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	04.04	9	7	0.04937	0.06064	0.11086	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	07.01	5	3	0.03543	0.04793	0.08762	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	07.02	17	9	0.05170	0.06463	0.11816	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	08	2	1	0.01170	0.01170	0.02139	0.5470	S_CHR_V
Boron	7440-42-8	I	FLTR	13	46	38	0.04165	0.04697	0.08586	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	00	1	1	0.02640	0.02640	0.04826	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	01	20	16	0.05201	0.06507	0.11896	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	02.01	3	1	0.09020	0.09020	0.16490	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	02.02	12	7	0.04421	0.04792	0.08760	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	02.03	6	3	0.04377	0.05784	0.10574	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	02.04	1	1	0.04290	0.04290	0.07843	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	03.01	33	22	0.02717	0.03714	0.06790	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	03.02	13	12	0.05020	0.06789	0.12411	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	03.03	13	10	0.03399	0.04700	0.08592	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	03.04	15	13	0.04760	0.06455	0.11801	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	04.01	15	10	0.04757	0.06308	0.11532	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	04.02	6	4	0.03413	0.04086	0.07469	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	04.04	9	6	0.04023	0.05978	0.10929	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	07.01	5	2	0.03783	0.05826	0.10650	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	07.02	17	10	0.04345	0.05779	0.10565	0.5470	S_CHR_V
Boron	7440-42-8	I	WHOL	13	48	43	0.04747	0.05448	0.09960	0.5470	S_CHR_V
Cadmium	7440-43-9	I	FLTR	01	20	1	0.00039	0.00039	2.60000	0.0002	LCV_ALLO
Cadmium	7440-43-9	I	FLTR	04.04	11	1	0.00031	0.00031	2.06667	0.0002	LCV_ALLO
Cadmium	7440-43-9	I	FLTR	13	47	1	0.00240	0.00240	16.00000	0.0002	LCV_ALLO
Cadmium	7440-43-9	I	FLTR	22	1	1	0.00240	0.00240	16.00000	0.0002	LCV_ALLO
Cadmium	7440-43-9	I	WHOL	22	11	1	0.00036	0.00036	2.40000	0.0002	LCV_ALLO
Cadmium	7440-43-9	I	FLTR	01	20	1	0.00039	0.00039	0.19500	0.0020	LCV_AQPL
Cadmium	7440-43-9	I	FLTR	04.04	11	1	0.00031	0.00031	0.15500	0.0020	LCV_AQPL
Cadmium	7440-43-9	I	FLTR	13	47	1	0.00240	0.00240	1.20000	0.0020	LCV_AQPL
Cadmium	7440-43-9	I	FLTR	22	1	1	0.00240	0.00240	1.20000	0.0020	LCV_AQPL
Cadmium	7440-43-9	I	WHOL	22	11	1	0.00036	0.00036	0.18000	0.0020	LCV_AQPL
Cadmium	7440-43-9	I	FLTR	01	20	1	0.00039	0.00039	2.60000	0.0002	LCV_DAPH
Cadmium	7440-43-9	I	FLTR	04.04	11	1	0.00031	0.00031	2.06667	0.0002	LCV_DAPH
Cadmium	7440-43-9	I	FLTR	13	47	1	0.00240	0.00240	16.00000	0.0002	LCV_DAPH
Cadmium	7440-43-9	I	FLTR	22	1	1	0.00240	0.00240	16.00000	0.0002	LCV_DAPH
Cadmium	7440-43-9	I	WHOL	22	11	1	0.00036	0.00036	2.40000	0.0002	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Cadmium	7440-43-9	I	FLTR	01	20	1	0.00039	0.00039	0.22941	0.0017	LCV_FISH
Cadmium	7440-43-9	I	FLTR	04.04	11	1	0.00031	0.00031	0.18235	0.0017	LCV_FISH
Cadmium	7440-43-9	I	FLTR	13	47	1	0.00240	0.00240	1.41176	0.0017	LCV_FISH
Cadmium	7440-43-9	I	FLTR	22	1	1	0.00240	0.00240	1.41176	0.0017	LCV_FISH
Cadmium	7440-43-9	I	WHOL	22	11	1	0.00036	0.00036	0.21176	0.0017	LCV_FISH
Cadmium	7440-43-9	I	FLTR	01	20	1	0.00039	0.00039	0.52000	0.0008	LTV_DAPH
Cadmium	7440-43-9	I	FLTR	04.04	11	1	0.00031	0.00031	0.41333	0.0008	LTV_DAPH
Cadmium	7440-43-9	I	FLTR	13	47	1	0.00240	0.00240	3.20000	0.0008	LTV_DAPH
Cadmium	7440-43-9	I	FLTR	22	1	1	0.00240	0.00240	3.20000	0.0008	LTV_DAPH
Cadmium	7440-43-9	I	WHOL	22	11	1	0.00036	0.00036	0.48000	0.0008	LTV_DAPH
Cadmium	7440-43-9	I	FLTR	01	20	1	0.00039	0.00039	0.21667	0.0018	LTV_FISH
Cadmium	7440-43-9	I	FLTR	04.04	11	1	0.00031	0.00031	0.17222	0.0018	LTV_FISH
Cadmium	7440-43-9	I	FLTR	13	47	1	0.00240	0.00240	1.33333	0.0018	LTV_FISH
Cadmium	7440-43-9	I	FLTR	22	1	1	0.00240	0.00240	1.33333	0.0018	LTV_FISH
Cadmium	7440-43-9	I	WHOL	22	11	1	0.00036	0.00036	0.20000	0.0018	LTV_FISH
Cadmium	7440-43-9	I	FLTR	01	20	1	0.00039	0.00039	0.10000	0.0039	NAWQ_ACU
Cadmium	7440-43-9	I	FLTR	04.04	11	1	0.00031	0.00031	0.07949	0.0039	NAWQ_ACU
Cadmium	7440-43-9	I	FLTR	13	47	1	0.00240	0.00240	0.61538	0.0039	NAWQ_ACU
Cadmium	7440-43-9	I	FLTR	22	1	1	0.00240	0.00240	0.61538	0.0039	NAWQ_ACU
Cadmium	7440-43-9	I	WHOL	22	11	1	0.00036	0.00036	0.09231	0.0039	NAWQ_ACU
Cadmium	7440-43-9	I	FLTR	01	20	1	0.00039	0.00039	0.35455	0.0011	NAWQ_CHR
Cadmium	7440-43-9	I	FLTR	04.04	11	1	0.00031	0.00031	0.28182	0.0011	NAWQ_CHR
Cadmium	7440-43-9	I	FLTR	13	47	1	0.00240	0.00240	2.18182	0.0011	NAWQ_CHR
Cadmium	7440-43-9	I	FLTR	22	1	1	0.00240	0.00240	2.18182	0.0011	NAWQ_CHR
Cadmium	7440-43-9	I	WHOL	22	11	1	0.00036	0.00036	0.32727	0.0011	NAWQ_CHR
Calcium	7440-70-2	I	FLTR	00	1	1	32.20000	32.20000	0.27759	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	01	20	20	28.30754	29.55724	0.25480	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	02.01	3	3	28.18855	37.02582	0.31919	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	02.02	13	13	27.07692	28.79939	0.24827	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	02.03	6	6	27.16000	29.97594	0.25841	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	02.04	2	2	35.11474	38.99606	0.33617	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	03.01	14	14	25.82495	29.65099	0.25561	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	03.02	14	14	28.42394	31.96497	0.27556	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	03.03	14	14	24.95233	28.14448	0.24262	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	03.04	16	15	24.93004	27.48386	0.23693	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	04.01	16	16	27.38070	28.83334	0.24856	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	04.02	6	6	27.31167	28.39043	0.24475	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	04.04	10	10	23.75063	25.91987	0.22345	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	05	4	4	21.97500	30.62735	0.26403	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	07.01	5	5	31.02000	32.09737	0.27670	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	07.02	17	16	27.55882	28.68024	0.24724	116.0000	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Calcium	7440-70-2	I	FLTR	08	2	2	28.30000	47.24125	0.40725	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	10	2	2	34.30000	37.45688	0.32290	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	13	47	47	24.90395	26.65514	0.22979	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	22	1	1	35.30000	35.30000	0.30431	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	00	11	11	31.70000	33.54447	0.28918	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	01	51	51	30.78637	31.71534	0.27341	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	02.01	3	3	30.60000	38.09210	0.32838	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	02.02	22	22	29.31364	30.85958	0.26603	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	02.03	6	6	28.53333	31.72181	0.27346	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	02.04	11	11	31.74545	33.62352	0.28986	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	03.01	34	33	23.66201	26.12697	0.22523	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	03.02	14	14	28.70714	32.02776	0.27610	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	03.03	23	23	26.76522	29.44923	0.25387	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	03.04	16	15	25.36250	27.78153	0.23950	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	04.01	25	25	28.30200	29.59237	0.25511	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	04.02	6	6	27.96667	29.59513	0.25513	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	04.04	10	10	23.75500	25.84438	0.22280	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	05	4	4	21.92500	30.69812	0.26464	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	07.01	5	5	31.74000	32.95646	0.28411	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	07.02	17	17	28.83779	29.97667	0.25842	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	08	2	2	27.90000	31.05688	0.26773	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	10	2	2	34.55000	36.12844	0.31145	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	13	58	58	25.65626	27.29581	0.23531	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	18	9	9	18.66667	20.44137	0.17622	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	20.01	9	9	44.20000	46.40657	0.40006	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	20.02	10	10	42.69000	48.18448	0.41538	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	21	18	18	32.93333	38.91140	0.33544	116.0000	LCV_ALLO
Calcium	7440-70-2	I	WHOL	22	11	11	39.12727	42.80439	0.36900	116.0000	LCV_ALLO
Calcium	7440-70-2	I	FLTR	00	1	1	32.20000	32.20000	0.27759	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	01	20	20	28.30754	29.55724	0.25480	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	02.01	3	3	28.18855	37.02582	0.31919	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	02.02	13	13	27.07692	28.79939	0.24827	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	02.03	6	6	27.16000	29.97594	0.25841	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	02.04	2	2	35.11474	38.99606	0.33617	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	03.01	14	14	25.82495	29.65099	0.25561	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	03.02	14	14	28.42394	31.96497	0.27556	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	03.03	14	14	24.95233	28.14448	0.24262	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	03.04	16	15	24.93004	27.48386	0.23693	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	04.01	16	16	27.38070	28.83334	0.24856	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	04.02	6	6	27.31167	28.39043	0.24475	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	04.04	10	10	23.75063	25.91987	0.22345	116.0000	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Calcium	7440-70-2	I	FLTR	05	4	4	21.97500	30.62735	0.26403	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	07.01	5	5	31.02000	32.09737	0.27670	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	07.02	17	16	27.55882	28.68024	0.24724	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	08	2	2	28.30000	47.24125	0.40725	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	10	2	2	34.30000	37.45688	0.32290	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	13	47	47	24.90395	26.65514	0.22979	116.0000	LCV_DAPH
Calcium	7440-70-2	I	FLTR	22	1	1	35.30000	35.30000	0.30431	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	00	11	11	31.70000	33.54447	0.28918	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	01	51	51	30.78637	31.71534	0.27341	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	02.01	3	3	30.60000	38.09210	0.32838	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	02.02	22	22	29.31364	30.85958	0.26603	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	02.03	6	6	28.53333	31.72181	0.27346	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	02.04	11	11	31.74545	33.62352	0.28986	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	03.01	34	33	23.66201	26.12697	0.22523	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	03.02	14	14	28.70714	32.02776	0.27610	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	03.03	23	23	26.76522	29.44923	0.25387	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	03.04	16	15	25.36250	27.78153	0.23950	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	04.01	25	25	28.30200	29.59237	0.25511	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	04.02	6	6	27.96667	29.59513	0.25513	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	04.04	10	10	23.75500	25.84438	0.22280	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	05	4	4	21.92500	30.69812	0.26464	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	07.01	5	5	31.74000	32.95646	0.28411	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	07.02	17	17	28.83779	29.97667	0.25842	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	08	2	2	27.90000	31.05688	0.26773	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	10	2	2	34.55000	36.12844	0.31145	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	13	58	58	25.65626	27.29581	0.23531	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	18	9	9	18.66667	20.44137	0.17622	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	20.01	9	9	44.20000	46.40657	0.40006	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	20.02	10	10	42.69000	48.18448	0.41538	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	21	18	18	32.93333	38.91140	0.33544	116.0000	LCV_DAPH
Calcium	7440-70-2	I	WHOL	22	11	11	39.12727	42.80439	0.36900	116.0000	LCV_DAPH
Carbon disulfide	75-15-0	O	WHOL	02.04	9	1	0.01000	0.01000	0.04098	0.2440	LCV_ALLO
Carbon disulfide	75-15-0	O	WHOL	03.03	9	2	0.00578	0.01019	0.04174	0.2440	LCV_ALLO
Carbon disulfide	75-15-0	O	WHOL	13	9	1	0.02400	0.02400	0.09836	0.2440	LCV_ALLO
Carbon disulfide	75-15-0	O	WHOL	02.04	9	1	0.01000	0.01000	0.04098	0.2440	LCV_DAPH
Carbon disulfide	75-15-0	O	WHOL	03.03	9	2	0.00578	0.01019	0.04174	0.2440	LCV_DAPH
Carbon disulfide	75-15-0	O	WHOL	13	9	1	0.02400	0.02400	0.09836	0.2440	LCV_DAPH
Carbon disulfide	75-15-0	O	WHOL	02.04	9	1	0.01000	0.01000	0.00105	9.5380	LCV_FISH
Carbon disulfide	75-15-0	O	WHOL	03.03	9	2	0.00578	0.01019	0.00107	9.5380	LCV_FISH
Carbon disulfide	75-15-0	O	WHOL	13	9	1	0.02400	0.02400	0.00252	9.5380	LCV_FISH
Carbon disulfide	75-15-0	O	WHOL	02.04	9	1	0.01000	0.01000	0.00175	5.7190	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Carbon disulfide	75-15-0	O	WHOL	03.03	9	2	0.00578	0.01019	0.00178	5.7190	LTV_FISH
Carbon disulfide	75-15-0	O	WHOL	13	9	1	0.02400	0.02400	0.00420	5.7190	LTV_FISH
Carbon disulfide	75-15-0	O	WHOL	02.04	9	1	0.01000	0.01000	0.06289	0.1590	S_ACU_V
Carbon disulfide	75-15-0	O	WHOL	03.03	9	2	0.00578	0.01019	0.06406	0.1590	S_ACU_V
Carbon disulfide	75-15-0	O	WHOL	13	9	1	0.02400	0.02400	0.15094	0.1590	S_ACU_V
Carbon disulfide	75-15-0	O	WHOL	02.04	9	1	0.01000	0.01000	1.12486	0.0089	S_CHR_V
Carbon disulfide	75-15-0	O	WHOL	03.03	9	2	0.00578	0.01019	1.14574	0.0089	S_CHR_V
Carbon disulfide	75-15-0	O	WHOL	13	9	1	0.02400	0.02400	2.69966	0.0089	S_CHR_V
Chloroform	67-66-3	O	WHOL	03.03	9	1	0.00400	0.00400	0.00323	1.2400	LCV_ALLO
Chloroform	67-66-3	O	WHOL	21	18	6	0.00217	0.00286	0.00231	1.2400	LCV_ALLO
Chloroform	67-66-3	O	WHOL	03.03	9	1	0.00400	0.00400	0.00089	4.4830	LCV_DAPH
Chloroform	67-66-3	O	WHOL	21	18	6	0.00217	0.00286	0.00064	4.4830	LCV_DAPH
Chloroform	67-66-3	O	WHOL	03.03	9	1	0.00400	0.00400	0.00323	1.2400	LCV_FISH
Chloroform	67-66-3	O	WHOL	21	18	6	0.00217	0.00286	0.00231	1.2400	LCV_FISH
Chloroform	67-66-3	O	WHOL	03.03	9	1	0.00400	0.00400	0.00048	8.4000	LTV_FISH
Chloroform	67-66-3	O	WHOL	21	18	6	0.00217	0.00286	0.00034	8.4000	LTV_FISH
Chloroform	67-66-3	O	WHOL	03.03	9	1	0.00400	0.00400	0.00119	3.3600	S_ACU_V
Chloroform	67-66-3	O	WHOL	21	18	6	0.00217	0.00286	0.00085	3.3600	S_ACU_V
Chloroform	67-66-3	O	WHOL	03.03	9	1	0.00400	0.00400	0.02128	0.1880	S_CHR_V
Chloroform	67-66-3	O	WHOL	21	18	6	0.00217	0.00286	0.01523	0.1880	S_CHR_V
Chromium	7440-47-3	I	FLTR	00	1	1	0.00150	0.00150	0.03409	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	01	20	12	0.00198	0.00250	0.05682	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	02.01	3	3	0.00186	0.00377	0.08578	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	02.02	13	5	0.00141	0.00171	0.03890	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	02.03	6	5	0.00169	0.00217	0.04926	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	02.04	2	1	0.00167	0.00167	0.03795	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	03.01	14	8	0.00171	0.00205	0.04669	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	03.02	14	9	0.00137	0.00165	0.03740	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	03.03	14	10	0.00149	0.00172	0.03914	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	03.04	16	9	0.00167	0.00210	0.04763	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	04.01	16	8	0.00158	0.00208	0.04717	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	04.02	6	3	0.00138	0.00193	0.04377	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	04.04	10	6	0.00250	0.00338	0.07681	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	07.01	5	1	0.00140	0.00140	0.03182	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	07.02	17	6	0.00200	0.00271	0.06160	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	13	47	34	0.00159	0.00174	0.03964	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	00	11	4	0.00389	0.00622	0.14130	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	01	51	20	0.00258	0.00314	0.07127	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	02.01	3	3	0.00230	0.00393	0.08922	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	02.02	22	7	0.00290	0.00543	0.12333	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	02.03	6	4	0.00193	0.00262	0.05959	0.0440	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Chromium	7440-47-3	I	WHOL	02.04	11	1	0.00155	0.00155	0.03523	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	03.01	34	32	0.00194	0.00208	0.04726	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	03.02	14	11	0.00160	0.00185	0.04206	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	03.03	23	13	0.00223	0.00260	0.05910	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	03.04	16	12	0.00200	0.00234	0.05326	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	04.01	25	10	0.00170	0.00184	0.04192	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	04.02	6	4	0.00150	0.00190	0.04308	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	04.04	10	6	0.00241	0.00382	0.08671	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	07.01	5	2	0.00123	0.00181	0.04119	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	07.02	17	8	0.00159	0.00177	0.04017	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	08	2	1	0.00100	0.00100	0.02273	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	13	58	43	0.00219	0.00251	0.05706	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	18	9	2	0.00536	0.00549	0.12485	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	20.02	10	3	0.01054	0.01160	0.26370	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	21	18	9	0.00654	0.00819	0.18612	0.0440	LCV_ALLO
Chromium	7440-47-3	I	WHOL	22	11	11	0.01379	0.01696	0.38548	0.0440	LCV_ALLO
Chromium	7440-47-3	I	FLTR	00	1	1	0.00150	0.00150	0.00378	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	01	20	12	0.00198	0.00250	0.00630	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	02.01	3	3	0.00186	0.00377	0.00951	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	02.02	13	5	0.00141	0.00171	0.00431	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	02.03	6	5	0.00169	0.00217	0.00546	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	02.04	2	1	0.00167	0.00167	0.00421	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	03.01	14	8	0.00171	0.00205	0.00518	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	03.02	14	9	0.00137	0.00165	0.00415	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	03.03	14	10	0.00149	0.00172	0.00434	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	03.04	16	9	0.00167	0.00210	0.00528	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	04.01	16	8	0.00158	0.00208	0.00523	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	04.02	6	3	0.00138	0.00193	0.00485	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	04.04	10	6	0.00250	0.00338	0.00851	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	07.01	5	1	0.00140	0.00140	0.00353	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	07.02	17	6	0.00200	0.00271	0.00683	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	13	47	34	0.00159	0.00174	0.00439	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	00	11	4	0.00389	0.00622	0.01566	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	01	51	20	0.00258	0.00314	0.00790	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	02.01	3	3	0.00230	0.00393	0.00989	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	02.02	22	7	0.00290	0.00543	0.01367	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	02.03	6	4	0.00193	0.00262	0.00660	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	02.04	11	1	0.00155	0.00155	0.00390	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	03.01	34	32	0.00194	0.00208	0.00524	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	03.02	14	11	0.00160	0.00185	0.00466	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	03.03	23	13	0.00223	0.00260	0.00655	0.3970	LCV_AQPL

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Chromium	7440-47-3	I	WHOL	03.04	16	12	0.00200	0.00234	0.00590	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	04.01	25	10	0.00170	0.00184	0.00465	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	04.02	6	4	0.00150	0.00190	0.00477	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	04.04	10	6	0.00241	0.00382	0.00961	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	07.01	5	2	0.00123	0.00181	0.00457	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	07.02	17	8	0.00159	0.00177	0.00445	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	08	2	1	0.00100	0.00100	0.00252	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	13	58	43	0.00219	0.00251	0.00632	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	18	9	2	0.00536	0.00549	0.01384	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	20.02	10	3	0.01054	0.01160	0.02923	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	21	18	9	0.00654	0.00819	0.02063	0.3970	LCV_AQPL
Chromium	7440-47-3	I	WHOL	22	11	11	0.01379	0.01696	0.04272	0.3970	LCV_AQPL
Chromium	7440-47-3	I	FLTR	00	1	1	0.00150	0.00150	0.03409	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	01	20	12	0.00198	0.00250	0.05682	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	02.01	3	3	0.00186	0.00377	0.08578	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	02.02	13	5	0.00141	0.00171	0.03890	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	02.03	6	5	0.00169	0.00217	0.04926	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	02.04	2	1	0.00167	0.00167	0.03795	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	03.01	14	8	0.00171	0.00205	0.04669	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	03.02	14	9	0.00137	0.00165	0.03740	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	03.03	14	10	0.00149	0.00172	0.03914	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	03.04	16	9	0.00167	0.00210	0.04763	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	04.01	16	8	0.00158	0.00208	0.04717	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	04.02	6	3	0.00138	0.00193	0.04377	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	04.04	10	6	0.00250	0.00338	0.07681	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	07.01	5	1	0.00140	0.00140	0.03182	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	07.02	17	6	0.00200	0.00271	0.06160	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	13	47	34	0.00159	0.00174	0.03964	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	00	11	4	0.00389	0.00622	0.14130	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	01	51	20	0.00258	0.00314	0.07127	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	02.01	3	3	0.00230	0.00393	0.08922	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	02.02	22	7	0.00290	0.00543	0.12333	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	02.03	6	4	0.00193	0.00262	0.05959	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	02.04	11	1	0.00155	0.00155	0.03523	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	03.01	34	32	0.00194	0.00208	0.04726	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	03.02	14	11	0.00160	0.00185	0.04206	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	03.03	23	13	0.00223	0.00260	0.05910	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	03.04	16	12	0.00200	0.00234	0.05326	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	04.01	25	10	0.00170	0.00184	0.04192	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	04.02	6	4	0.00150	0.00190	0.04308	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	04.04	10	6	0.00241	0.00382	0.08671	0.0440	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Chromium	7440-47-3	I	WHOL	07.01	5	2	0.00123	0.00181	0.04119	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	07.02	17	8	0.00159	0.00177	0.04017	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	08	2	1	0.00100	0.00100	0.02273	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	13	58	43	0.00219	0.00251	0.05706	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	18	9	2	0.00536	0.00549	0.12485	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	20.02	10	3	0.01054	0.01160	0.26370	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	21	18	9	0.00654	0.00819	0.18612	0.0440	LCV_DAPH
Chromium	7440-47-3	I	WHOL	22	11	11	0.01379	0.01696	0.38548	0.0440	LCV_DAPH
Chromium	7440-47-3	I	FLTR	00	1	1	0.00150	0.00150	0.02179	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	01	20	12	0.00198	0.00250	0.03632	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	02.01	3	3	0.00186	0.00377	0.05483	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	02.02	13	5	0.00141	0.00171	0.02487	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	02.03	6	5	0.00169	0.00217	0.03149	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	02.04	2	1	0.00167	0.00167	0.02426	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	03.01	14	8	0.00171	0.00205	0.02985	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	03.02	14	9	0.00137	0.00165	0.02391	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	03.03	14	10	0.00149	0.00172	0.02502	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	03.04	16	9	0.00167	0.00210	0.03045	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	04.01	16	8	0.00158	0.00208	0.03015	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	04.02	6	3	0.00138	0.00193	0.02798	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	04.04	10	6	0.00250	0.00338	0.04910	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	07.01	5	1	0.00140	0.00140	0.02034	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	07.02	17	6	0.00200	0.00271	0.03938	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	13	47	34	0.00159	0.00174	0.02534	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	00	11	4	0.00389	0.00622	0.09033	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	01	51	20	0.00258	0.00314	0.04556	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	02.01	3	3	0.00230	0.00393	0.05704	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	02.02	22	7	0.00290	0.00543	0.07884	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	02.03	6	4	0.00193	0.00262	0.03809	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	02.04	11	1	0.00155	0.00155	0.02252	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	03.01	34	32	0.00194	0.00208	0.03021	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	03.02	14	11	0.00160	0.00185	0.02689	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	03.03	23	13	0.00223	0.00260	0.03778	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	03.04	16	12	0.00200	0.00234	0.03405	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	04.01	25	10	0.00170	0.00184	0.02680	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	04.02	6	4	0.00150	0.00190	0.02754	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	04.04	10	6	0.00241	0.00382	0.05543	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	07.01	5	2	0.00123	0.00181	0.02633	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	07.02	17	8	0.00159	0.00177	0.02568	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	08	2	1	0.00100	0.00100	0.01453	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	13	58	43	0.00219	0.00251	0.03648	0.0688	LCV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Chromium	7440-47-3	I	WHOL	18	9	2	0.00536	0.00549	0.07981	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	20.02	10	3	0.01054	0.01160	0.16857	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	21	18	9	0.00654	0.00819	0.11898	0.0688	LCV_FISH
Chromium	7440-47-3	I	WHOL	22	11	11	0.01379	0.01696	0.24642	0.0688	LCV_FISH
Chromium	7440-47-3	I	FLTR	00	1	1	0.00150	0.00150	0.01685	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	01	20	12	0.00198	0.00250	0.02809	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	02.01	3	3	0.00186	0.00377	0.04241	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	02.02	13	5	0.00141	0.00171	0.01923	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	02.03	6	5	0.00169	0.00217	0.02435	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	02.04	2	1	0.00167	0.00167	0.01876	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	03.01	14	8	0.00171	0.00205	0.02308	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	03.02	14	9	0.00137	0.00165	0.01849	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	03.03	14	10	0.00149	0.00172	0.01935	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	03.04	16	9	0.00167	0.00210	0.02355	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	04.01	16	8	0.00158	0.00208	0.02332	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	04.02	6	3	0.00138	0.00193	0.02164	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	04.04	10	6	0.00250	0.00338	0.03797	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	07.01	5	1	0.00140	0.00140	0.01573	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	07.02	17	6	0.00200	0.00271	0.03046	0.0890	LTV_FISH
Chromium	7440-47-3	I	FLTR	13	47	34	0.00159	0.00174	0.01960	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	00	11	4	0.00389	0.00622	0.06986	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	01	51	20	0.00258	0.00314	0.03523	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	02.01	3	3	0.00230	0.00393	0.04411	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	02.02	22	7	0.00290	0.00543	0.06097	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	02.03	6	4	0.00193	0.00262	0.02946	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	02.04	11	1	0.00155	0.00155	0.01742	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	03.01	34	32	0.00194	0.00208	0.02337	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	03.02	14	11	0.00160	0.00185	0.02079	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	03.03	23	13	0.00223	0.00260	0.02922	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	03.04	16	12	0.00200	0.00234	0.02633	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	04.01	25	10	0.00170	0.00184	0.02072	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	04.02	6	4	0.00150	0.00190	0.02130	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	04.04	10	6	0.00241	0.00382	0.04287	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	07.01	5	2	0.00123	0.00181	0.02036	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	07.02	17	8	0.00159	0.00177	0.01986	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	08	2	1	0.00100	0.00100	0.01124	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	13	58	43	0.00219	0.00251	0.02821	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	18	9	2	0.00536	0.00549	0.06172	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	20.02	10	3	0.01054	0.01160	0.13037	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	21	18	9	0.00654	0.00819	0.09202	0.0890	LTV_FISH
Chromium	7440-47-3	I	WHOL	22	11	11	0.01379	0.01696	0.19058	0.0890	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Chromium	7440-47-3	I	FLTR	00	1	1	0.00150	0.00150	0.00088	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	01	20	12	0.00198	0.00250	0.00147	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	02.01	3	3	0.00186	0.00377	0.00222	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	02.02	13	5	0.00141	0.00171	0.00101	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	02.03	6	5	0.00169	0.00217	0.00127	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	02.04	2	1	0.00167	0.00167	0.00098	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	03.01	14	8	0.00171	0.00205	0.00121	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	03.02	14	9	0.00137	0.00165	0.00097	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	03.03	14	10	0.00149	0.00172	0.00101	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	03.04	16	9	0.00167	0.00210	0.00123	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	04.01	16	8	0.00158	0.00208	0.00122	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	04.02	6	3	0.00138	0.00193	0.00113	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	04.04	10	6	0.00250	0.00338	0.00199	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	07.01	5	1	0.00140	0.00140	0.00082	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	07.02	17	6	0.00200	0.00271	0.00159	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	13	47	34	0.00159	0.00174	0.00103	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	00	11	4	0.00389	0.00622	0.00366	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	01	51	20	0.00258	0.00314	0.00184	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	02.01	3	3	0.00230	0.00393	0.00231	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	02.02	22	7	0.00290	0.00543	0.00319	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	02.03	6	4	0.00193	0.00262	0.00154	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	02.04	11	1	0.00155	0.00155	0.00091	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	03.01	34	32	0.00194	0.00208	0.00122	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	03.02	14	11	0.00160	0.00185	0.00109	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	03.03	23	13	0.00223	0.00260	0.00153	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	03.04	16	12	0.00200	0.00234	0.00138	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	04.01	25	10	0.00170	0.00184	0.00108	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	04.02	6	4	0.00150	0.00190	0.00111	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	04.04	10	6	0.00241	0.00382	0.00224	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	07.01	5	2	0.00123	0.00181	0.00107	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	07.02	17	8	0.00159	0.00177	0.00104	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	08	2	1	0.00100	0.00100	0.00059	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	13	58	43	0.00219	0.00251	0.00148	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	18	9	2	0.00536	0.00549	0.00323	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	20.02	10	3	0.01054	0.01160	0.00683	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	21	18	9	0.00654	0.00819	0.00482	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	WHOL	22	11	11	0.01379	0.01696	0.00998	1.7000	NAWQ_ACU
Chromium	7440-47-3	I	FLTR	00	1	1	0.00150	0.00150	0.00714	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	01	20	12	0.00198	0.00250	0.01191	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	02.01	3	3	0.00186	0.00377	0.01797	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	02.02	13	5	0.00141	0.00171	0.00815	0.2100	NAWQ_CHR

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Chromium	7440-47-3	I	FLTR	02.03	6	5	0.00169	0.00217	0.01032	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	02.04	2	1	0.00167	0.00167	0.00795	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	03.01	14	8	0.00171	0.00205	0.00978	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	03.02	14	9	0.00137	0.00165	0.00784	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	03.03	14	10	0.00149	0.00172	0.00820	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	03.04	16	9	0.00167	0.00210	0.00998	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	04.01	16	8	0.00158	0.00208	0.00988	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	04.02	6	3	0.00138	0.00193	0.00917	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	04.04	10	6	0.00250	0.00338	0.01609	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	07.01	5	1	0.00140	0.00140	0.00667	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	07.02	17	6	0.00200	0.00271	0.01291	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	FLTR	13	47	34	0.00159	0.00174	0.00831	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	00	11	4	0.00389	0.00622	0.02961	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	01	51	20	0.00258	0.00314	0.01493	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	02.01	3	3	0.00230	0.00393	0.01869	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	02.02	22	7	0.00290	0.00543	0.02584	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	02.03	6	4	0.00193	0.00262	0.01249	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	02.04	11	1	0.00155	0.00155	0.00738	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	03.01	34	32	0.00194	0.00208	0.00990	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	03.02	14	11	0.00160	0.00185	0.00881	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	03.03	23	13	0.00223	0.00260	0.01238	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	03.04	16	12	0.00200	0.00234	0.01116	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	04.01	25	10	0.00170	0.00184	0.00878	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	04.02	6	4	0.00150	0.00190	0.00903	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	04.04	10	6	0.00241	0.00382	0.01817	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	07.01	5	2	0.00123	0.00181	0.00863	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	07.02	17	8	0.00159	0.00177	0.00842	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	08	2	1	0.00100	0.00100	0.00476	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	13	58	43	0.00219	0.00251	0.01196	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	18	9	2	0.00536	0.00549	0.02616	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	20.02	10	3	0.01054	0.01160	0.05525	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	21	18	9	0.00654	0.00819	0.03900	0.2100	NAWQ_CHR
Chromium	7440-47-3	I	WHOL	22	11	11	0.01379	0.01696	0.08077	0.2100	NAWQ_CHR
Cobalt	7440-48-4	I	WHOL	01	48	1	0.00450	0.00450	0.88235	0.0051	LCV_ALLO
Cobalt	7440-48-4	I	WHOL	02.02	21	1	0.00450	0.00450	0.88235	0.0051	LCV_ALLO
Cobalt	7440-48-4	I	WHOL	03.01	33	10	0.00108	0.00114	0.22312	0.0051	LCV_ALLO
Cobalt	7440-48-4	I	WHOL	03.03	22	2	0.00148	0.00190	0.37230	0.0051	LCV_ALLO
Cobalt	7440-48-4	I	WHOL	03.04	15	2	0.00113	0.00119	0.23350	0.0051	LCV_ALLO
Cobalt	7440-48-4	I	WHOL	13	57	7	0.00117	0.00123	0.24057	0.0051	LCV_ALLO
Cobalt	7440-48-4	I	WHOL	18	9	1	0.00520	0.00520	1.01961	0.0051	LCV_ALLO
Cobalt	7440-48-4	I	WHOL	21	18	2	0.00482	0.00629	1.23354	0.0051	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Cobalt	7440-48-4	I	WHOL	22	10	1	0.00770	0.00770	1.50980	0.0051	LCV_ALLO
Cobalt	7440-48-4	I	WHOL	01	48	1	0.00450	0.00450	0.88235	0.0051	LCV_DAPH
Cobalt	7440-48-4	I	WHOL	02.02	21	1	0.00450	0.00450	0.88235	0.0051	LCV_DAPH
Cobalt	7440-48-4	I	WHOL	03.01	33	10	0.00108	0.00114	0.22312	0.0051	LCV_DAPH
Cobalt	7440-48-4	I	WHOL	03.03	22	2	0.00148	0.00190	0.37230	0.0051	LCV_DAPH
Cobalt	7440-48-4	I	WHOL	03.04	15	2	0.00113	0.00119	0.23350	0.0051	LCV_DAPH
Cobalt	7440-48-4	I	WHOL	13	57	7	0.00117	0.00123	0.24057	0.0051	LCV_DAPH
Cobalt	7440-48-4	I	WHOL	18	9	1	0.00520	0.00520	1.01961	0.0051	LCV_DAPH
Cobalt	7440-48-4	I	WHOL	21	18	2	0.00482	0.00629	1.23354	0.0051	LCV_DAPH
Cobalt	7440-48-4	I	WHOL	22	10	1	0.00770	0.00770	1.50980	0.0051	LCV_DAPH
Cobalt	7440-48-4	I	WHOL	01	48	1	0.00450	0.00450	0.01552	0.2900	LCV_FISH
Cobalt	7440-48-4	I	WHOL	02.02	21	1	0.00450	0.00450	0.01552	0.2900	LCV_FISH
Cobalt	7440-48-4	I	WHOL	03.01	33	10	0.00108	0.00114	0.00392	0.2900	LCV_FISH
Cobalt	7440-48-4	I	WHOL	03.03	22	2	0.00148	0.00190	0.00655	0.2900	LCV_FISH
Cobalt	7440-48-4	I	WHOL	03.04	15	2	0.00113	0.00119	0.00411	0.2900	LCV_FISH
Cobalt	7440-48-4	I	WHOL	13	57	7	0.00117	0.00123	0.00423	0.2900	LCV_FISH
Cobalt	7440-48-4	I	WHOL	18	9	1	0.00520	0.00520	0.01793	0.2900	LCV_FISH
Cobalt	7440-48-4	I	WHOL	21	18	2	0.00482	0.00629	0.02169	0.2900	LCV_FISH
Cobalt	7440-48-4	I	WHOL	22	10	1	0.00770	0.00770	0.02655	0.2900	LCV_FISH
Cobalt	7440-48-4	I	WHOL	01	48	1	0.00450	0.00450	1.02273	0.0044	LTV_DAPH
Cobalt	7440-48-4	I	WHOL	02.02	21	1	0.00450	0.00450	1.02273	0.0044	LTV_DAPH
Cobalt	7440-48-4	I	WHOL	03.01	33	10	0.00108	0.00114	0.25862	0.0044	LTV_DAPH
Cobalt	7440-48-4	I	WHOL	03.03	22	2	0.00148	0.00190	0.43153	0.0044	LTV_DAPH
Cobalt	7440-48-4	I	WHOL	03.04	15	2	0.00113	0.00119	0.27064	0.0044	LTV_DAPH
Cobalt	7440-48-4	I	WHOL	13	57	7	0.00117	0.00123	0.27884	0.0044	LTV_DAPH
Cobalt	7440-48-4	I	WHOL	18	9	1	0.00520	0.00520	1.18182	0.0044	LTV_DAPH
Cobalt	7440-48-4	I	WHOL	21	18	2	0.00482	0.00629	1.42978	0.0044	LTV_DAPH
Cobalt	7440-48-4	I	WHOL	22	10	1	0.00770	0.00770	1.75000	0.0044	LTV_DAPH
Cobalt	7440-48-4	I	WHOL	01	48	1	0.00450	0.00450	0.00556	0.8100	LTV_FISH
Cobalt	7440-48-4	I	WHOL	02.02	21	1	0.00450	0.00450	0.00556	0.8100	LTV_FISH
Cobalt	7440-48-4	I	WHOL	03.01	33	10	0.00108	0.00114	0.00140	0.8100	LTV_FISH
Cobalt	7440-48-4	I	WHOL	03.03	22	2	0.00148	0.00190	0.00234	0.8100	LTV_FISH
Cobalt	7440-48-4	I	WHOL	03.04	15	2	0.00113	0.00119	0.00147	0.8100	LTV_FISH
Cobalt	7440-48-4	I	WHOL	13	57	7	0.00117	0.00123	0.00151	0.8100	LTV_FISH
Cobalt	7440-48-4	I	WHOL	18	9	1	0.00520	0.00520	0.00642	0.8100	LTV_FISH
Cobalt	7440-48-4	I	WHOL	21	18	2	0.00482	0.00629	0.00777	0.8100	LTV_FISH
Cobalt	7440-48-4	I	WHOL	22	10	1	0.00770	0.00770	0.00951	0.8100	LTV_FISH
Cobalt	7440-48-4	I	WHOL	01	48	1	0.00450	0.00450	0.02308	0.1950	S_ACU_V
Cobalt	7440-48-4	I	WHOL	02.02	21	1	0.00450	0.00450	0.02308	0.1950	S_ACU_V
Cobalt	7440-48-4	I	WHOL	03.01	33	10	0.00108	0.00114	0.00584	0.1950	S_ACU_V
Cobalt	7440-48-4	I	WHOL	03.03	22	2	0.00148	0.00190	0.00974	0.1950	S_ACU_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Cobalt	7440-48-4	I	WHOL	03.04	15	2	0.00113	0.00119	0.00611	0.1950	S_ACU_V
Cobalt	7440-48-4	I	WHOL	13	57	7	0.00117	0.00123	0.00629	0.1950	S_ACU_V
Cobalt	7440-48-4	I	WHOL	18	9	1	0.00520	0.00520	0.02667	0.1950	S_ACU_V
Cobalt	7440-48-4	I	WHOL	21	18	2	0.00482	0.00629	0.03226	0.1950	S_ACU_V
Cobalt	7440-48-4	I	WHOL	22	10	1	0.00770	0.00770	0.03949	0.1950	S_ACU_V
Cobalt	7440-48-4	I	WHOL	01	48	1	0.00450	0.00450	1.47059	0.0031	S_CHR_V
Cobalt	7440-48-4	I	WHOL	02.02	21	1	0.00450	0.00450	1.47059	0.0031	S_CHR_V
Cobalt	7440-48-4	I	WHOL	03.01	33	10	0.00108	0.00114	0.37187	0.0031	S_CHR_V
Cobalt	7440-48-4	I	WHOL	03.03	22	2	0.00148	0.00190	0.62051	0.0031	S_CHR_V
Cobalt	7440-48-4	I	WHOL	03.04	15	2	0.00113	0.00119	0.38916	0.0031	S_CHR_V
Cobalt	7440-48-4	I	WHOL	13	57	7	0.00117	0.00123	0.40095	0.0031	S_CHR_V
Cobalt	7440-48-4	I	WHOL	18	9	1	0.00520	0.00520	1.69935	0.0031	S_CHR_V
Cobalt	7440-48-4	I	WHOL	21	18	2	0.00482	0.00629	2.05589	0.0031	S_CHR_V
Cobalt	7440-48-4	I	WHOL	22	10	1	0.00770	0.00770	2.51634	0.0031	S_CHR_V
Copper	7440-50-8	I	FLTR	00	1	1	0.00140	0.00140	6.08696	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	01	20	15	0.00459	0.00625	27.18758	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	02.01	3	3	0.00265	0.00467	20.29853	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	02.02	13	12	0.00311	0.00378	16.41716	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	02.03	6	6	0.00328	0.00457	19.86234	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	03.01	14	13	0.00301	0.00376	16.33048	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	03.02	14	13	0.00317	0.00383	16.63936	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	03.03	14	11	0.00317	0.00380	16.54216	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	03.04	16	14	0.00705	0.01346	58.50694	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	04.01	16	14	0.01076	0.01949	84.74953	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	04.02	6	6	0.00244	0.00325	14.11042	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	04.04	10	9	0.00369	0.00530	23.03597	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	07.01	5	5	0.00400	0.00614	26.68335	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	07.02	17	14	0.00348	0.00437	18.98262	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	08	2	1	0.00430	0.00430	18.69565	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	13	47	46	0.00344	0.00421	18.29638	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	00	11	1	0.00230	0.00230	10.00000	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	01	51	19	0.00513	0.00789	34.32088	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	02.01	3	3	0.00413	0.00741	32.20921	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	02.02	22	12	0.00494	0.00650	28.24685	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	02.03	6	6	0.00703	0.01329	57.78487	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	02.04	11	2	0.00375	0.00873	37.97508	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	03.01	34	33	0.00367	0.00429	18.64917	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	03.02	14	13	0.00277	0.00336	14.60363	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	03.03	23	12	0.00383	0.00474	20.60131	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	03.04	16	14	0.00370	0.00471	20.48783	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	04.01	25	14	0.00977	0.01760	76.52451	0.0002	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Copper	7440-50-8	I	WHOL	04.02	6	6	0.00238	0.00366	15.90985	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	04.04	10	9	0.00418	0.00602	26.15775	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	07.01	5	5	0.00726	0.01614	70.16058	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	07.02	17	15	0.00755	0.01238	53.83167	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	08	2	1	0.01870	0.01870	81.30435	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	13	58	47	0.00389	0.00471	20.49393	0.0002	LCV_ALLO
Copper	7440-50-8	I	WHOL	21	18	4	0.01253	0.01341	58.30520	0.0002	LCV_ALLO
Copper	7440-50-8	I	FLTR	00	1	1	0.00140	0.00140	1.40000	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	01	20	15	0.00459	0.00625	6.25314	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	02.01	3	3	0.00265	0.00467	4.66866	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	02.02	13	12	0.00311	0.00378	3.77595	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	02.03	6	6	0.00328	0.00457	4.56834	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	03.01	14	13	0.00301	0.00376	3.75601	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	03.02	14	13	0.00317	0.00383	3.82705	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	03.03	14	11	0.00317	0.00380	3.80470	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	03.04	16	14	0.00705	0.01346	13.45660	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	04.01	16	14	0.01076	0.01949	19.49239	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	04.02	6	6	0.00244	0.00325	3.24540	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	04.04	10	9	0.00369	0.00530	5.29827	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	07.01	5	5	0.00400	0.00614	6.13717	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	07.02	17	14	0.00348	0.00437	4.36600	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	08	2	1	0.00430	0.00430	4.30000	0.0010	LCV_AQPL
Copper	7440-50-8	I	FLTR	13	47	46	0.00344	0.00421	4.20817	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	00	11	1	0.00230	0.00230	2.30000	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	01	51	19	0.00513	0.00789	7.89380	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	02.01	3	3	0.00413	0.00741	7.40812	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	02.02	22	12	0.00494	0.00650	6.49678	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	02.03	6	6	0.00703	0.01329	13.29052	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	02.04	11	2	0.00375	0.00873	8.73427	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	03.01	34	33	0.00367	0.00429	4.28931	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	03.02	14	13	0.00277	0.00336	3.35883	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	03.03	23	12	0.00383	0.00474	4.73830	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	03.04	16	14	0.00370	0.00471	4.71220	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	04.01	25	14	0.00977	0.01760	17.60064	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	04.02	6	6	0.00238	0.00366	3.65927	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	04.04	10	9	0.00418	0.00602	6.01628	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	07.01	5	5	0.00726	0.01614	16.13693	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	07.02	17	15	0.00755	0.01238	12.38128	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	08	2	1	0.01870	0.01870	18.70000	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	13	58	47	0.00389	0.00471	4.71360	0.0010	LCV_AQPL
Copper	7440-50-8	I	WHOL	21	18	4	0.01253	0.01341	13.41020	0.0010	LCV_AQPL

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Copper	7440-50-8	I	FLTR	00	1	1	0.00140	0.00140	6.08696	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	01	20	15	0.00459	0.00625	27.18758	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	02.01	3	3	0.00265	0.00467	20.29853	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	02.02	13	12	0.00311	0.00378	16.41716	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	02.03	6	6	0.00328	0.00457	19.86234	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	03.01	14	13	0.00301	0.00376	16.33048	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	03.02	14	13	0.00317	0.00383	16.63936	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	03.03	14	11	0.00317	0.00380	16.54216	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	03.04	16	14	0.00705	0.01346	58.50694	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	04.01	16	14	0.01076	0.01949	84.74953	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	04.02	6	6	0.00244	0.00325	14.11042	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	04.04	10	9	0.00369	0.00530	23.03597	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	07.01	5	5	0.00400	0.00614	26.68335	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	07.02	17	14	0.00348	0.00437	18.98262	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	08	2	1	0.00430	0.00430	18.69565	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	13	47	46	0.00344	0.00421	18.29638	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	00	11	1	0.00230	0.00230	10.00000	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	01	51	19	0.00513	0.00789	34.32088	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	02.01	3	3	0.00413	0.00741	32.20921	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	02.02	22	12	0.00494	0.00650	28.24685	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	02.03	6	6	0.00703	0.01329	57.78487	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	02.04	11	2	0.00375	0.00873	37.97508	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	03.01	34	33	0.00367	0.00429	18.64917	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	03.02	14	13	0.00277	0.00336	14.60363	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	03.03	23	12	0.00383	0.00474	20.60131	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	03.04	16	14	0.00370	0.00471	20.48783	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	04.01	25	14	0.00977	0.01760	76.52451	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	04.02	6	6	0.00238	0.00366	15.90985	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	04.04	10	9	0.00418	0.00602	26.15775	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	07.01	5	5	0.00726	0.01614	70.16058	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	07.02	17	15	0.00755	0.01238	53.83167	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	08	2	1	0.01870	0.01870	81.30435	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	13	58	47	0.00389	0.00471	20.49393	0.0002	LCV_DAPH
Copper	7440-50-8	I	WHOL	21	18	4	0.01253	0.01341	58.30520	0.0002	LCV_DAPH
Copper	7440-50-8	I	FLTR	00	1	1	0.00140	0.00140	0.36842	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	01	20	15	0.00459	0.00625	1.64556	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	02.01	3	3	0.00265	0.00467	1.22860	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	02.02	13	12	0.00311	0.00378	0.99367	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	02.03	6	6	0.00328	0.00457	1.20219	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	03.01	14	13	0.00301	0.00376	0.98842	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	03.02	14	13	0.00317	0.00383	1.00712	0.0038	LCV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Copper	7440-50-8	I	FLTR	03.03	14	11	0.00317	0.00380	1.00124	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	03.04	16	14	0.00705	0.01346	3.54121	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	04.01	16	14	0.01076	0.01949	5.12958	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	04.02	6	6	0.00244	0.00325	0.85405	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	04.04	10	9	0.00369	0.00530	1.39428	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	07.01	5	5	0.00400	0.00614	1.61504	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	07.02	17	14	0.00348	0.00437	1.14895	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	08	2	1	0.00430	0.00430	1.13158	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	13	47	46	0.00344	0.00421	1.10741	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	00	11	1	0.00230	0.00230	0.60526	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	01	51	19	0.00513	0.00789	2.07732	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	02.01	3	3	0.00413	0.00741	1.94950	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	02.02	22	12	0.00494	0.00650	1.70968	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	02.03	6	6	0.00703	0.01329	3.49751	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	02.04	11	2	0.00375	0.00873	2.29849	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	03.01	34	33	0.00367	0.00429	1.12877	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	03.02	14	13	0.00277	0.00336	0.88390	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	03.03	23	12	0.00383	0.00474	1.24692	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	03.04	16	14	0.00370	0.00471	1.24005	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	04.01	25	14	0.00977	0.01760	4.63175	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	04.02	6	6	0.00238	0.00366	0.96296	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	04.04	10	9	0.00418	0.00602	1.58323	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	07.01	5	5	0.00726	0.01614	4.24656	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	07.02	17	15	0.00755	0.01238	3.25823	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	08	2	1	0.01870	0.01870	4.92105	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	13	58	47	0.00389	0.00471	1.24042	0.0038	LCV_FISH
Copper	7440-50-8	I	WHOL	21	18	4	0.01253	0.01341	3.52900	0.0038	LCV_FISH
Copper	7440-50-8	I	FLTR	00	1	1	0.00140	0.00140	0.23079	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	01	20	15	0.00459	0.00625	1.03085	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	02.01	3	3	0.00265	0.00467	0.76964	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	02.02	13	12	0.00311	0.00378	0.62248	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	02.03	6	6	0.00328	0.00457	0.75311	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	03.01	14	13	0.00301	0.00376	0.61919	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	03.02	14	13	0.00317	0.00383	0.63090	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	03.03	14	11	0.00317	0.00380	0.62722	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	03.04	16	14	0.00705	0.01346	2.21836	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	04.01	16	14	0.01076	0.01949	3.21338	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	04.02	6	6	0.00244	0.00325	0.53501	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	04.04	10	9	0.00369	0.00530	0.87344	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	07.01	5	5	0.00400	0.00614	1.01173	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	07.02	17	14	0.00348	0.00437	0.71975	0.0061	LCV_NDI

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Copper	7440-50-8	I	FLTR	08	2	1	0.00430	0.00430	0.70887	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	13	47	46	0.00344	0.00421	0.69373	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	00	11	1	0.00230	0.00230	0.37916	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	01	51	19	0.00513	0.00789	1.30132	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	02.01	3	3	0.00413	0.00741	1.22125	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	02.02	22	12	0.00494	0.00650	1.07101	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	02.03	6	6	0.00703	0.01329	2.19099	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	02.04	11	2	0.00375	0.00873	1.43987	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	03.01	34	33	0.00367	0.00429	0.70711	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	03.02	14	13	0.00277	0.00336	0.55371	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	03.03	23	12	0.00383	0.00474	0.78112	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	03.04	16	14	0.00370	0.00471	0.77682	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	04.01	25	14	0.00977	0.01760	2.90152	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	04.02	6	6	0.00238	0.00366	0.60324	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	04.04	10	9	0.00418	0.00602	0.99180	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	07.01	5	5	0.00726	0.01614	2.66023	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	07.02	17	15	0.00755	0.01238	2.04110	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	08	2	1	0.01870	0.01870	3.08276	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	13	58	47	0.00389	0.00471	0.77705	0.0061	LCV_NDI
Copper	7440-50-8	I	WHOL	21	18	4	0.01253	0.01341	2.21071	0.0061	LCV_NDI
Copper	7440-50-8	I	FLTR	00	1	1	0.00140	0.00140	6.82927	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	01	20	15	0.00459	0.00625	30.50314	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	02.01	3	3	0.00265	0.00467	22.77396	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	02.02	13	12	0.00311	0.00378	18.41925	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	02.03	6	6	0.00328	0.00457	22.28458	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	03.01	14	13	0.00301	0.00376	18.32200	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	03.02	14	13	0.00317	0.00383	18.66854	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	03.03	14	11	0.00317	0.00380	18.55949	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	03.04	16	14	0.00705	0.01346	65.64193	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	04.01	16	14	0.01076	0.01949	95.08483	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	04.02	6	6	0.00244	0.00325	15.83120	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	04.04	10	9	0.00369	0.00530	25.84523	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	07.01	5	5	0.00400	0.00614	29.93741	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	07.02	17	14	0.00348	0.00437	21.29757	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	08	2	1	0.00430	0.00430	20.97561	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	13	47	46	0.00344	0.00421	20.52765	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	00	11	1	0.00230	0.00230	11.21951	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	01	51	19	0.00513	0.00789	38.50635	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	02.01	3	3	0.00413	0.00741	36.13716	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	02.02	22	12	0.00494	0.00650	31.69159	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	02.03	6	6	0.00703	0.01329	64.83180	0.0002	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Copper	7440-50-8	I	WHOL	02.04	11	2	0.00375	0.00873	42.60619	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	03.01	34	33	0.00367	0.00429	20.92346	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	03.02	14	13	0.00277	0.00336	16.38456	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	03.03	23	12	0.00383	0.00474	23.11366	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	03.04	16	14	0.00370	0.00471	22.98634	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	04.01	25	14	0.00977	0.01760	85.85677	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	04.02	6	6	0.00238	0.00366	17.85008	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	04.04	10	9	0.00418	0.00602	29.34772	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	07.01	5	5	0.00726	0.01614	78.71675	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	07.02	17	15	0.00755	0.01238	60.39650	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	08	2	1	0.01870	0.01870	91.21951	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	13	58	47	0.00389	0.00471	22.99319	0.0002	LTV_DAPH
Copper	7440-50-8	I	WHOL	21	18	4	0.01253	0.01341	65.41559	0.0002	LTV_DAPH
Copper	7440-50-8	I	FLTR	00	1	1	0.00140	0.00140	0.28000	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	01	20	15	0.00459	0.00625	1.25063	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	02.01	3	3	0.00265	0.00467	0.93373	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	02.02	13	12	0.00311	0.00378	0.75519	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	02.03	6	6	0.00328	0.00457	0.91367	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	03.01	14	13	0.00301	0.00376	0.75120	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	03.02	14	13	0.00317	0.00383	0.76541	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	03.03	14	11	0.00317	0.00380	0.76094	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	03.04	16	14	0.00705	0.01346	2.69132	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	04.01	16	14	0.01076	0.01949	3.89848	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	04.02	6	6	0.00244	0.00325	0.64908	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	04.04	10	9	0.00369	0.00530	1.05965	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	07.01	5	5	0.00400	0.00614	1.22743	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	07.02	17	14	0.00348	0.00437	0.87320	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	08	2	1	0.00430	0.00430	0.86000	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	13	47	46	0.00344	0.00421	0.84163	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	00	11	1	0.00230	0.00230	0.46000	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	01	51	19	0.00513	0.00789	1.57876	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	02.01	3	3	0.00413	0.00741	1.48162	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	02.02	22	12	0.00494	0.00650	1.29936	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	02.03	6	6	0.00703	0.01329	2.65810	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	02.04	11	2	0.00375	0.00873	1.74685	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	03.01	34	33	0.00367	0.00429	0.85786	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	03.02	14	13	0.00277	0.00336	0.67177	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	03.03	23	12	0.00383	0.00474	0.94766	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	03.04	16	14	0.00370	0.00471	0.94244	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	04.01	25	14	0.00977	0.01760	3.52013	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	04.02	6	6	0.00238	0.00366	0.73185	0.0050	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Copper	7440-50-8	I	WHOL	04.04	10	9	0.00418	0.00602	1.20326	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	07.01	5	5	0.00726	0.01614	3.22739	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	07.02	17	15	0.00755	0.01238	2.47626	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	08	2	1	0.01870	0.01870	3.74000	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	13	58	47	0.00389	0.00471	0.94272	0.0050	LTV_FISH
Copper	7440-50-8	I	WHOL	21	18	4	0.01253	0.01341	2.68204	0.0050	LTV_FISH
Copper	7440-50-8	I	FLTR	00	1	1	0.00140	0.00140	0.07778	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	01	20	15	0.00459	0.00625	0.34740	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	02.01	3	3	0.00265	0.00467	0.25937	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	02.02	13	12	0.00311	0.00378	0.20977	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	02.03	6	6	0.00328	0.00457	0.25380	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	03.01	14	13	0.00301	0.00376	0.20867	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	03.02	14	13	0.00317	0.00383	0.21261	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	03.03	14	11	0.00317	0.00380	0.21137	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	03.04	16	14	0.00705	0.01346	0.74759	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	04.01	16	14	0.01076	0.01949	1.08291	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	04.02	6	6	0.00244	0.00325	0.18030	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	04.04	10	9	0.00369	0.00530	0.29435	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	07.01	5	5	0.00400	0.00614	0.34095	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	07.02	17	14	0.00348	0.00437	0.24256	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	08	2	1	0.00430	0.00430	0.23889	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	13	47	46	0.00344	0.00421	0.23379	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	00	11	1	0.00230	0.00230	0.12778	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	01	51	19	0.00513	0.00789	0.43854	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	02.01	3	3	0.00413	0.00741	0.41156	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	02.02	22	12	0.00494	0.00650	0.36093	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	02.03	6	6	0.00703	0.01329	0.73836	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	02.04	11	2	0.00375	0.00873	0.48524	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	03.01	34	33	0.00367	0.00429	0.23829	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	03.02	14	13	0.00277	0.00336	0.18660	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	03.03	23	12	0.00383	0.00474	0.26324	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	03.04	16	14	0.00370	0.00471	0.26179	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	04.01	25	14	0.00977	0.01760	0.97781	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	04.02	6	6	0.00238	0.00366	0.20329	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	04.04	10	9	0.00418	0.00602	0.33424	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	07.01	5	5	0.00726	0.01614	0.89650	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	07.02	17	15	0.00755	0.01238	0.68785	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	08	2	1	0.01870	0.01870	1.03889	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	13	58	47	0.00389	0.00471	0.26187	0.0180	NAWQ_ACU
Copper	7440-50-8	I	WHOL	21	18	4	0.01253	0.01341	0.74501	0.0180	NAWQ_ACU
Copper	7440-50-8	I	FLTR	00	1	1	0.00140	0.00140	0.11667	0.0120	NAWQ_CHR

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Copper	7440-50-8	I	FLTR	01	20	15	0.00459	0.00625	0.52110	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	02.01	3	3	0.00265	0.00467	0.38906	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	02.02	13	12	0.00311	0.00378	0.31466	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	02.03	6	6	0.00328	0.00457	0.38069	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	03.01	14	13	0.00301	0.00376	0.31300	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	03.02	14	13	0.00317	0.00383	0.31892	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	03.03	14	11	0.00317	0.00380	0.31706	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	03.04	16	14	0.00705	0.01346	1.12138	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	04.01	16	14	0.01076	0.01949	1.62437	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	04.02	6	6	0.00244	0.00325	0.27045	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	04.04	10	9	0.00369	0.00530	0.44152	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	07.01	5	5	0.00400	0.00614	0.51143	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	07.02	17	14	0.00348	0.00437	0.36383	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	08	2	1	0.00430	0.00430	0.35833	0.0120	NAWQ_CHR
Copper	7440-50-8	I	FLTR	13	47	46	0.00344	0.00421	0.35068	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	00	11	1	0.00230	0.00230	0.19167	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	01	51	19	0.00513	0.00789	0.65782	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	02.01	3	3	0.00413	0.00741	0.61734	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	02.02	22	12	0.00494	0.00650	0.54140	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	02.03	6	6	0.00703	0.01329	1.10754	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	02.04	11	2	0.00375	0.00873	0.72786	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	03.01	34	33	0.00367	0.00429	0.35744	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	03.02	14	13	0.00277	0.00336	0.27990	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	03.03	23	12	0.00383	0.00474	0.39486	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	03.04	16	14	0.00370	0.00471	0.39268	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	04.01	25	14	0.00977	0.01760	1.46672	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	04.02	6	6	0.00238	0.00366	0.30494	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	04.04	10	9	0.00418	0.00602	0.50136	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	07.01	5	5	0.00726	0.01614	1.34474	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	07.02	17	15	0.00755	0.01238	1.03177	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	08	2	1	0.01870	0.01870	1.55833	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	13	58	47	0.00389	0.00471	0.39280	0.0120	NAWQ_CHR
Copper	7440-50-8	I	WHOL	21	18	4	0.01253	0.01341	1.11752	0.0120	NAWQ_CHR
Cyanide	57-12-5	I	FLTR	01	28	1	0.02440	0.02440	3.12821	0.0078	LCV_ALLO
Cyanide	57-12-5	I	FLTR	01	28	1	0.02440	0.02440	0.81333	0.0300	LCV_AQPL
Cyanide	57-12-5	I	FLTR	01	28	1	0.02440	0.02440	3.12821	0.0078	LCV_FISH
Cyanide	57-12-5	I	FLTR	01	28	1	0.02440	0.02440	1.33115	0.0183	LCV_NDI
Cyanide	57-12-5	I	FLTR	01	28	1	0.02440	0.02440	4.60377	0.0053	LTV_FISH
Cyanide	57-12-5	I	FLTR	01	28	1	0.02440	0.02440	1.10909	0.0220	NAWQ_ACU
Cyanide	57-12-5	I	FLTR	01	28	1	0.02440	0.02440	4.69231	0.0052	NAWQ_CHR
Di-n-butylphthalate	84-74-2	O	FLTR	01	20	8	0.00255	0.00367	0.00527	0.6970	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Di-n-butylphthalate	84-74-2	O	FLTR	03.01	12	1	0.00100	0.00100	0.00143	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	FLTR	03.04	14	2	0.00314	0.00349	0.00500	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	FLTR	04.01	14	5	0.00160	0.00203	0.00292	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	FLTR	04.02	6	1	0.00100	0.00100	0.00143	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	FLTR	04.04	9	1	0.00150	0.00150	0.00215	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	FLTR	07.02	17	1	0.00100	0.00100	0.00143	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	FLTR	13	46	1	0.00100	0.00100	0.00143	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	WHOL	01	23	6	0.00187	0.00250	0.00359	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	WHOL	02.02	13	2	0.00200	0.00378	0.00543	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	WHOL	02.03	5	1	0.00100	0.00100	0.00143	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	WHOL	03.01	13	1	0.00100	0.00100	0.00143	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	WHOL	03.04	15	1	0.00700	0.00700	0.01004	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	WHOL	04.01	15	6	0.00133	0.00170	0.00245	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	WHOL	04.04	10	1	0.00350	0.00350	0.00502	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	WHOL	07.02	17	4	0.00300	0.00401	0.00575	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	WHOL	13	49	3	0.00133	0.00189	0.00272	0.6970	LCV_ALLO
Di-n-butylphthalate	84-74-2	O	FLTR	01	20	8	0.00255	0.00367	0.00527	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	03.01	12	1	0.00100	0.00100	0.00143	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	03.04	14	2	0.00314	0.00349	0.00500	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	04.01	14	5	0.00160	0.00203	0.00292	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	04.02	6	1	0.00100	0.00100	0.00143	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	04.04	9	1	0.00150	0.00150	0.00215	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	07.02	17	1	0.00100	0.00100	0.00143	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	13	46	1	0.00100	0.00100	0.00143	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	01	23	6	0.00187	0.00250	0.00359	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	02.02	13	2	0.00200	0.00378	0.00543	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	02.03	5	1	0.00100	0.00100	0.00143	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	03.01	13	1	0.00100	0.00100	0.00143	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	03.04	15	1	0.00700	0.00700	0.01004	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	04.01	15	6	0.00133	0.00170	0.00245	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	04.04	10	1	0.00350	0.00350	0.00502	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	07.02	17	4	0.00300	0.00401	0.00575	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	13	49	3	0.00133	0.00189	0.00272	0.6970	LCV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	01	20	8	0.00255	0.00367	0.00512	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	03.01	12	1	0.00100	0.00100	0.00139	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	03.04	14	2	0.00314	0.00349	0.00486	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	04.01	14	5	0.00160	0.00203	0.00284	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	04.02	6	1	0.00100	0.00100	0.00139	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	04.04	9	1	0.00150	0.00150	0.00209	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	07.02	17	1	0.00100	0.00100	0.00139	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	13	46	1	0.00100	0.00100	0.00139	0.7170	LCV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Di-n-butylphthalate	84-74-2	O	WHOL	01	23	6	0.00187	0.00250	0.00349	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	02.02	13	2	0.00200	0.00378	0.00528	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	02.03	5	1	0.00100	0.00100	0.00139	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	03.01	13	1	0.00100	0.00100	0.00139	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	03.04	15	1	0.00700	0.00700	0.00976	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	04.01	15	6	0.00133	0.00170	0.00238	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	04.04	10	1	0.00350	0.00350	0.00488	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	07.02	17	4	0.00300	0.00401	0.00559	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	13	49	3	0.00133	0.00189	0.00264	0.7170	LCV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	01	20	8	0.00255	0.00367	0.00734	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	03.01	12	1	0.00100	0.00100	0.00200	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	03.04	14	2	0.00314	0.00349	0.00698	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	04.01	14	5	0.00160	0.00203	0.00407	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	04.02	6	1	0.00100	0.00100	0.00200	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	04.04	9	1	0.00150	0.00150	0.00300	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	07.02	17	1	0.00100	0.00100	0.00200	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	13	46	1	0.00100	0.00100	0.00200	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	01	23	6	0.00187	0.00250	0.00500	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	02.02	13	2	0.00200	0.00378	0.00756	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	02.03	5	1	0.00100	0.00100	0.00200	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	03.01	13	1	0.00100	0.00100	0.00200	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	03.04	15	1	0.00700	0.00700	0.01400	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	04.01	15	6	0.00133	0.00170	0.00341	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	04.04	10	1	0.00350	0.00350	0.00700	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	07.02	17	4	0.00300	0.00401	0.00802	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	WHOL	13	49	3	0.00133	0.00189	0.00378	0.5000	LTV_DAPH
Di-n-butylphthalate	84-74-2	O	FLTR	01	20	8	0.00255	0.00367	0.01360	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	03.01	12	1	0.00100	0.00100	0.00370	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	03.04	14	2	0.00314	0.00349	0.01292	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	04.01	14	5	0.00160	0.00203	0.00753	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	04.02	6	1	0.00100	0.00100	0.00370	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	04.04	9	1	0.00150	0.00150	0.00556	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	07.02	17	1	0.00100	0.00100	0.00370	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	13	46	1	0.00100	0.00100	0.00370	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	01	23	6	0.00187	0.00250	0.00926	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	02.02	13	2	0.00200	0.00378	0.01401	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	02.03	5	1	0.00100	0.00100	0.00370	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	03.01	13	1	0.00100	0.00100	0.00370	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	03.04	15	1	0.00700	0.00700	0.02593	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	04.01	15	6	0.00133	0.00170	0.00631	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	04.04	10	1	0.00350	0.00350	0.01296	0.2700	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Di-n-butylphthalate	84-74-2	O	WHOL	07.02	17	4	0.00300	0.00401	0.01484	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	WHOL	13	49	3	0.00133	0.00189	0.00701	0.2700	LTV_FISH
Di-n-butylphthalate	84-74-2	O	FLTR	01	20	8	0.00255	0.00367	0.01569	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	FLTR	03.01	12	1	0.00100	0.00100	0.00427	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	FLTR	03.04	14	2	0.00314	0.00349	0.01490	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	FLTR	04.01	14	5	0.00160	0.00203	0.00869	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	FLTR	04.02	6	1	0.00100	0.00100	0.00427	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	FLTR	04.04	9	1	0.00150	0.00150	0.00641	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	FLTR	07.02	17	1	0.00100	0.00100	0.00427	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	FLTR	13	46	1	0.00100	0.00100	0.00427	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	WHOL	01	23	6	0.00187	0.00250	0.01069	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	WHOL	02.02	13	2	0.00200	0.00378	0.01616	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	WHOL	02.03	5	1	0.00100	0.00100	0.00427	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	WHOL	03.01	13	1	0.00100	0.00100	0.00427	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	WHOL	03.04	15	1	0.00700	0.00700	0.02991	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	WHOL	04.01	15	6	0.00133	0.00170	0.00728	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	WHOL	04.04	10	1	0.00350	0.00350	0.01496	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	WHOL	07.02	17	4	0.00300	0.00401	0.01713	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	WHOL	13	49	3	0.00133	0.00189	0.00809	0.2340	S_ACU_V
Di-n-butylphthalate	84-74-2	O	FLTR	01	20	8	0.00255	0.00367	0.11229	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	FLTR	03.01	12	1	0.00100	0.00100	0.03058	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	FLTR	03.04	14	2	0.00314	0.00349	0.10666	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	FLTR	04.01	14	5	0.00160	0.00203	0.06220	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	FLTR	04.02	6	1	0.00100	0.00100	0.03058	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	FLTR	04.04	9	1	0.00150	0.00150	0.04587	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	FLTR	07.02	17	1	0.00100	0.00100	0.03058	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	FLTR	13	46	1	0.00100	0.00100	0.03058	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	WHOL	01	23	6	0.00187	0.00250	0.07649	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	WHOL	02.02	13	2	0.00200	0.00378	0.11567	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	WHOL	02.03	5	1	0.00100	0.00100	0.03058	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	WHOL	03.01	13	1	0.00100	0.00100	0.03058	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	WHOL	03.04	15	1	0.00700	0.00700	0.21407	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	WHOL	04.01	15	6	0.00133	0.00170	0.05213	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	WHOL	04.04	10	1	0.00350	0.00350	0.10703	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	WHOL	07.02	17	4	0.00300	0.00401	0.12257	0.0327	S_CHR_V
Di-n-butylphthalate	84-74-2	O	WHOL	13	49	3	0.00133	0.00189	0.05787	0.0327	S_CHR_V
Di-n-octylphthlate	117-84-0	O	WHOL	03.02	12	1	0.00200	0.00200	0.00282	0.7080	LCV_ALLO
Di-n-octylphthlate	117-84-0	O	WHOL	03.02	12	1	0.00200	0.00200	0.00282	0.7080	LCV_DAPH
Di-n-octylphthlate	117-84-0	O	WHOL	03.02	12	1	0.00200	0.00200	0.00052	3.8220	LCV_FISH
Di-n-octylphthlate	117-84-0	O	WHOL	03.02	12	1	0.00200	0.00200	0.00645	0.3100	LTV_DAPH
Di-n-octylphthlate	117-84-0	O	WHOL	03.02	12	1	0.00200	0.00200	0.02000	0.1000	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Diethylphthalate	84-66-2	O	FLTR	02.02	12	1	0.00100	0.00100	0.00001	85.6000	LCV_ALLO
Diethylphthalate	84-66-2	O	FLTR	03.03	12	1	0.00300	0.00300	0.00004	85.6000	LCV_ALLO
Diethylphthalate	84-66-2	O	FLTR	13	46	3	0.00133	0.00189	0.00002	85.6000	LCV_ALLO
Diethylphthalate	84-66-2	O	WHOL	02.02	13	1	0.00100	0.00100	0.00001	85.6000	LCV_ALLO
Diethylphthalate	84-66-2	O	WHOL	03.03	13	1	0.00200	0.00200	0.00002	85.6000	LCV_ALLO
Diethylphthalate	84-66-2	O	WHOL	13	49	4	0.00125	0.00167	0.00002	85.6000	LCV_ALLO
Diethylphthalate	84-66-2	O	FLTR	02.02	12	1	0.00100	0.00100	0.00001	85.6000	LCV_AQPL
Diethylphthalate	84-66-2	O	FLTR	03.03	12	1	0.00300	0.00300	0.00004	85.6000	LCV_AQPL
Diethylphthalate	84-66-2	O	FLTR	13	46	3	0.00133	0.00189	0.00002	85.6000	LCV_AQPL
Diethylphthalate	84-66-2	O	WHOL	02.02	13	1	0.00100	0.00100	0.00001	85.6000	LCV_AQPL
Diethylphthalate	84-66-2	O	WHOL	03.03	13	1	0.00200	0.00200	0.00002	85.6000	LCV_AQPL
Diethylphthalate	84-66-2	O	WHOL	13	49	4	0.00125	0.00167	0.00002	85.6000	LCV_AQPL
Diethylphthalate	84-66-2	O	FLTR	02.02	12	1	0.00100	0.00100	0.00025	3.9500	S_ACU_V
Diethylphthalate	84-66-2	O	FLTR	03.03	12	1	0.00300	0.00300	0.00076	3.9500	S_ACU_V
Diethylphthalate	84-66-2	O	FLTR	13	46	3	0.00133	0.00189	0.00048	3.9500	S_ACU_V
Diethylphthalate	84-66-2	O	WHOL	02.02	13	1	0.00100	0.00100	0.00025	3.9500	S_ACU_V
Diethylphthalate	84-66-2	O	WHOL	03.03	13	1	0.00200	0.00200	0.00051	3.9500	S_ACU_V
Diethylphthalate	84-66-2	O	WHOL	13	49	4	0.00125	0.00167	0.00042	3.9500	S_ACU_V
Diethylphthalate	84-66-2	O	FLTR	02.02	12	1	0.00100	0.00100	0.00455	0.2200	S_CHR_V
Diethylphthalate	84-66-2	O	FLTR	03.03	12	1	0.00300	0.00300	0.01364	0.2200	S_CHR_V
Diethylphthalate	84-66-2	O	FLTR	13	46	3	0.00133	0.00189	0.00861	0.2200	S_CHR_V
Diethylphthalate	84-66-2	O	WHOL	02.02	13	1	0.00100	0.00100	0.00455	0.2200	S_CHR_V
Diethylphthalate	84-66-2	O	WHOL	03.03	13	1	0.00200	0.00200	0.00909	0.2200	S_CHR_V
Diethylphthalate	84-66-2	O	WHOL	13	49	4	0.00125	0.00167	0.00759	0.2200	S_CHR_V
Dimethylbenzene	1330-20-7	O	WHOL	01	28	1	0.00140	0.00140	0.00002	62.3080	LCV_ALLO
Dimethylbenzene	1330-20-7	O	WHOL	01	28	1	0.00140	0.00140	0.00002	62.3080	LCV_FISH
Dimethylbenzene	1330-20-7	O	WHOL	01	28	1	0.00140	0.00140	0.00052	2.6800	LTV_FISH
Dimethylbenzene	1330-20-7	O	WHOL	01	28	1	0.00140	0.00140	0.00091	1.5400	S_ACU_V
Dimethylbenzene	1330-20-7	O	WHOL	01	28	1	0.00140	0.00140	0.01624	0.0862	S_CHR_V
Iron	7439-89-6	I	FLTR	00	1	1	0.38600	0.38600	2.44304	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	01	19	9	0.08780	0.14201	0.89878	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	02.01	3	3	0.23691	0.58423	3.69763	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	02.02	13	6	0.05183	0.10775	0.68196	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	02.03	6	4	0.13223	0.29038	1.83786	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	02.04	2	1	0.13057	0.13057	0.82636	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	03.01	14	12	0.08589	0.13358	0.84544	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	03.02	14	11	0.07638	0.11318	0.71635	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	03.03	14	8	0.08651	0.13140	0.83167	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	03.04	16	10	0.07866	0.11911	0.75387	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	04.01	16	9	0.11759	0.17659	1.11765	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	04.02	6	4	0.12736	0.30044	1.90149	0.1580	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Iron	7439-89-6	I	FLTR	04.04	10	5	0.11148	0.21572	1.36530	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	05	3	1	0.02900	0.02900	0.18354	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	07.01	5	2	0.02044	0.02109	0.13346	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	07.02	17	4	0.17098	0.47406	3.00038	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	08	2	2	0.03420	0.14217	0.89978	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	13	46	41	0.09968	0.14446	0.91433	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	22	1	1	0.02500	0.02500	0.15823	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	00	11	11	0.43400	0.62437	3.95171	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	01	51	47	0.31752	0.40888	2.58783	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	02.01	3	3	0.41333	0.63923	4.04574	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	02.02	22	20	0.27009	0.37564	2.37749	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	02.03	6	6	0.35845	0.56238	3.55935	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	02.04	11	10	0.30545	0.40714	2.57686	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	03.01	34	34	0.77467	0.89476	5.66304	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	03.02	14	14	0.53136	0.65187	4.12575	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	03.03	23	23	0.67591	0.81998	5.18978	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	03.04	16	16	0.58975	0.75841	4.80009	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	04.01	25	24	0.41990	0.54079	3.42273	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	04.02	6	6	0.30335	0.53148	3.36383	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	04.04	10	10	0.33861	0.48584	3.07494	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	05	4	4	0.27775	0.52607	3.32954	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	07.01	5	5	0.19840	0.28869	1.82713	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	07.02	17	16	0.21739	0.30566	1.93456	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	08	2	2	0.10350	0.35289	2.23350	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	13	58	57	0.65821	0.75250	4.76265	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	18	9	8	0.64256	1.18747	7.51564	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	20.01	9	7	0.18956	0.29655	1.87689	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	20.02	10	10	0.20667	0.28288	1.79041	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	21	18	17	1.62656	3.20237	20.26819	0.1580	LCV_ALLO
Iron	7439-89-6	I	WHOL	22	11	11	0.89473	1.15593	7.31604	0.1580	LCV_ALLO
Iron	7439-89-6	I	FLTR	00	1	1	0.38600	0.38600	2.44304	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	01	19	9	0.08780	0.14201	0.89878	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	02.01	3	3	0.23691	0.58423	3.69763	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	02.02	13	6	0.05183	0.10775	0.68196	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	02.03	6	4	0.13223	0.29038	1.83786	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	02.04	2	1	0.13057	0.13057	0.82636	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	03.01	14	12	0.08589	0.13358	0.84544	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	03.02	14	11	0.07638	0.11318	0.71635	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	03.03	14	8	0.08651	0.13140	0.83167	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	03.04	16	10	0.07866	0.11911	0.75387	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	04.01	16	9	0.11759	0.17659	1.11765	0.1580	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Iron	7439-89-6	I	FLTR	04.02	6	4	0.12736	0.30044	1.90149	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	04.04	10	5	0.11148	0.21572	1.36530	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	05	3	1	0.02900	0.02900	0.18354	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	07.01	5	2	0.02044	0.02109	0.13346	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	07.02	17	4	0.17098	0.47406	3.00038	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	08	2	2	0.03420	0.14217	0.89978	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	13	46	41	0.09968	0.14446	0.91433	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	22	1	1	0.02500	0.02500	0.15823	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	00	11	11	0.43400	0.62437	3.95171	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	01	51	47	0.31752	0.40888	2.58783	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	02.01	3	3	0.41333	0.63923	4.04574	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	02.02	22	20	0.27009	0.37564	2.37749	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	02.03	6	6	0.35845	0.56238	3.55935	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	02.04	11	10	0.30545	0.40714	2.57686	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	03.01	34	34	0.77467	0.89476	5.66304	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	03.02	14	14	0.53136	0.65187	4.12575	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	03.03	23	23	0.67591	0.81998	5.18978	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	03.04	16	16	0.58975	0.75841	4.80009	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	04.01	25	24	0.41990	0.54079	3.42273	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	04.02	6	6	0.30335	0.53148	3.36383	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	04.04	10	10	0.33861	0.48584	3.07494	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	05	4	4	0.27775	0.52607	3.32954	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	07.01	5	5	0.19840	0.28869	1.82713	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	07.02	17	16	0.21739	0.30566	1.93456	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	08	2	2	0.10350	0.35289	2.23350	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	13	58	57	0.65821	0.75250	4.76265	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	18	9	8	0.64256	1.18747	7.51564	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	20.01	9	7	0.18956	0.29655	1.87689	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	20.02	10	10	0.20667	0.28288	1.79041	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	21	18	17	1.62656	3.20237	20.26819	0.1580	LCV_DAPH
Iron	7439-89-6	I	WHOL	22	11	11	0.89473	1.15593	7.31604	0.1580	LCV_DAPH
Iron	7439-89-6	I	FLTR	00	1	1	0.38600	0.38600	0.29692	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	01	19	9	0.08780	0.14201	0.10924	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	02.01	3	3	0.23691	0.58423	0.44940	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	02.02	13	6	0.05183	0.10775	0.08288	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	02.03	6	4	0.13223	0.29038	0.22337	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	02.04	2	1	0.13057	0.13057	0.10043	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	03.01	14	12	0.08589	0.13358	0.10275	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	03.02	14	11	0.07638	0.11318	0.08706	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	03.03	14	8	0.08651	0.13140	0.10108	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	03.04	16	10	0.07866	0.11911	0.09162	1.3000	LCV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Iron	7439-89-6	I	FLTR	04.01	16	9	0.11759	0.17659	0.13584	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	04.02	6	4	0.12736	0.30044	0.23110	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	04.04	10	5	0.11148	0.21572	0.16594	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	05	3	1	0.02900	0.02900	0.02231	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	07.01	5	2	0.02044	0.02109	0.01622	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	07.02	17	4	0.17098	0.47406	0.36466	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	08	2	2	0.03420	0.14217	0.10936	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	13	46	41	0.09968	0.14446	0.11113	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	22	1	1	0.02500	0.02500	0.01923	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	00	11	11	0.43400	0.62437	0.48029	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	01	51	47	0.31752	0.40888	0.31452	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	02.01	3	3	0.41333	0.63923	0.49171	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	02.02	22	20	0.27009	0.37564	0.28896	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	02.03	6	6	0.35845	0.56238	0.43260	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	02.04	11	10	0.30545	0.40714	0.31319	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	03.01	34	34	0.77467	0.89476	0.68828	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	03.02	14	14	0.53136	0.65187	0.50144	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	03.03	23	23	0.67591	0.81998	0.63076	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	03.04	16	16	0.58975	0.75841	0.58340	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	04.01	25	24	0.41990	0.54079	0.41599	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	04.02	6	6	0.30335	0.53148	0.40883	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	04.04	10	10	0.33861	0.48584	0.37372	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	05	4	4	0.27775	0.52607	0.40467	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	07.01	5	5	0.19840	0.28869	0.22207	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	07.02	17	16	0.21739	0.30566	0.23512	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	08	2	2	0.10350	0.35289	0.27146	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	13	58	57	0.65821	0.75250	0.57885	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	18	9	8	0.64256	1.18747	0.91344	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	20.01	9	7	0.18956	0.29655	0.22811	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	20.02	10	10	0.20667	0.28288	0.21760	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	21	18	17	1.62656	3.20237	2.46337	1.3000	LCV_FISH
Iron	7439-89-6	I	WHOL	22	11	11	0.89473	1.15593	0.88918	1.3000	LCV_FISH
Iron	7439-89-6	I	FLTR	00	1	1	0.38600	0.38600	24.12500	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	01	19	9	0.08780	0.14201	8.87546	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	02.01	3	3	0.23691	0.58423	36.51409	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	02.02	13	6	0.05183	0.10775	6.73435	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	02.03	6	4	0.13223	0.29038	18.14883	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	02.04	2	1	0.13057	0.13057	8.16031	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	03.01	14	12	0.08589	0.13358	8.34872	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	03.02	14	11	0.07638	0.11318	7.07399	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	03.03	14	8	0.08651	0.13140	8.21275	0.0160	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Iron	7439-89-6	I	FLTR	03.04	16	10	0.07866	0.11911	7.44442	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	04.01	16	9	0.11759	0.17659	11.03683	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	04.02	6	4	0.12736	0.30044	18.77721	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	04.04	10	5	0.11148	0.21572	13.48236	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	05	3	1	0.02900	0.02900	1.81250	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	07.01	5	2	0.02044	0.02109	1.31795	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	07.02	17	4	0.17098	0.47406	29.62873	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	08	2	2	0.03420	0.14217	8.88532	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	13	46	41	0.09968	0.14446	9.02901	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	22	1	1	0.02500	0.02500	1.56250	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	00	11	11	0.43400	0.62437	39.02317	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	01	51	47	0.31752	0.40888	25.55481	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	02.01	3	3	0.41333	0.63923	39.95171	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	02.02	22	20	0.27009	0.37564	23.47772	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	02.03	6	6	0.35845	0.56238	35.14856	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	02.04	11	10	0.30545	0.40714	25.44648	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	03.01	34	34	0.77467	0.89476	55.92251	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	03.02	14	14	0.53136	0.65187	40.74180	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	03.03	23	23	0.67591	0.81998	51.24904	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	03.04	16	16	0.58975	0.75841	47.40090	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	04.01	25	24	0.41990	0.54079	33.79947	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	04.02	6	6	0.30335	0.53148	33.21778	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	04.04	10	10	0.33861	0.48584	30.36507	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	05	4	4	0.27775	0.52607	32.87917	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	07.01	5	5	0.19840	0.28869	18.04295	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	07.02	17	16	0.21739	0.30566	19.10374	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	08	2	2	0.10350	0.35289	22.05582	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	13	58	57	0.65821	0.75250	47.03118	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	18	9	8	0.64256	1.18747	74.21693	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	20.01	9	7	0.18956	0.29655	18.53428	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	20.02	10	10	0.20667	0.28288	17.68028	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	21	18	17	1.62656	3.20237	200.14841	0.0160	LTV_DAPH
Iron	7439-89-6	I	WHOL	22	11	11	0.89473	1.15593	72.24590	0.0160	LTV_DAPH
Iron	7439-89-6	I	FLTR	00	1	1	0.38600	0.38600	0.38600	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	01	19	9	0.08780	0.14201	0.14201	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	02.01	3	3	0.23691	0.58423	0.58423	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	02.02	13	6	0.05183	0.10775	0.10775	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	02.03	6	4	0.13223	0.29038	0.29038	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	02.04	2	1	0.13057	0.13057	0.13057	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	03.01	14	12	0.08589	0.13358	0.13358	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	03.02	14	11	0.07638	0.11318	0.11318	1.0000	NAWQ_CHR

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Iron	7439-89-6	I	FLTR	03.03	14	8	0.08651	0.13140	0.13140	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	03.04	16	10	0.07866	0.11911	0.11911	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	04.01	16	9	0.11759	0.17659	0.17659	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	04.02	6	4	0.12736	0.30044	0.30044	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	04.04	10	5	0.11148	0.21572	0.21572	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	05	3	1	0.02900	0.02900	0.02900	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	07.01	5	2	0.02044	0.02109	0.02109	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	07.02	17	4	0.17098	0.47406	0.47406	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	08	2	2	0.03420	0.14217	0.14217	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	13	46	41	0.09968	0.14446	0.14446	1.0000	NAWQ_CHR
Iron	7439-89-6	I	FLTR	22	1	1	0.02500	0.02500	0.02500	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	00	11	11	0.43400	0.62437	0.62437	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	01	51	47	0.31752	0.40888	0.40888	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	02.01	3	3	0.41333	0.63923	0.63923	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	02.02	22	20	0.27009	0.37564	0.37564	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	02.03	6	6	0.35845	0.56238	0.56238	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	02.04	11	10	0.30545	0.40714	0.40714	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	03.01	34	34	0.77467	0.89476	0.89476	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	03.02	14	14	0.53136	0.65187	0.65187	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	03.03	23	23	0.67591	0.81998	0.81998	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	03.04	16	16	0.58975	0.75841	0.75841	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	04.01	25	24	0.41990	0.54079	0.54079	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	04.02	6	6	0.30335	0.53148	0.53148	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	04.04	10	10	0.33861	0.48584	0.48584	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	05	4	4	0.27775	0.52607	0.52607	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	07.01	5	5	0.19840	0.28869	0.28869	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	07.02	17	16	0.21739	0.30566	0.30566	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	08	2	2	0.10350	0.35289	0.35289	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	13	58	57	0.65821	0.75250	0.75250	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	18	9	8	0.64256	1.18747	1.18747	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	20.01	9	7	0.18956	0.29655	0.29655	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	20.02	10	10	0.20667	0.28288	0.28288	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	21	18	17	1.62656	3.20237	3.20237	1.0000	NAWQ_CHR
Iron	7439-89-6	I	WHOL	22	11	11	0.89473	1.15593	1.15593	1.0000	NAWQ_CHR
Lead	7439-92-1	I	FLTR	01	20	5	0.00120	0.00139	0.11323	0.0123	LCV_ALLO
Lead	7439-92-1	I	FLTR	02.01	3	1	0.00250	0.00250	0.20392	0.0123	LCV_ALLO
Lead	7439-92-1	I	FLTR	02.03	6	1	0.00150	0.00150	0.12235	0.0123	LCV_ALLO
Lead	7439-92-1	I	FLTR	03.01	14	2	0.00141	0.00143	0.11658	0.0123	LCV_ALLO
Lead	7439-92-1	I	FLTR	03.02	14	1	0.00220	0.00220	0.17945	0.0123	LCV_ALLO
Lead	7439-92-1	I	FLTR	03.03	14	1	0.00120	0.00120	0.09788	0.0123	LCV_ALLO
Lead	7439-92-1	I	FLTR	03.04	16	1	0.00110	0.00110	0.08972	0.0123	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Lead	7439-92-1	I	FLTR	04.01	16	2	0.00131	0.00132	0.10777	0.0123	LCV_ALLO
Lead	7439-92-1	I	FLTR	04.04	11	2	0.00087	0.00105	0.08568	0.0123	LCV_ALLO
Lead	7439-92-1	I	FLTR	07.02	17	1	0.00170	0.00170	0.13866	0.0123	LCV_ALLO
Lead	7439-92-1	I	FLTR	13	47	4	0.00064	0.00068	0.05544	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	00	11	1	0.00100	0.00100	0.08157	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	01	51	10	0.00153	0.00170	0.13874	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	02.01	3	2	0.00157	0.00348	0.28363	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	02.02	22	7	0.00122	0.00136	0.11089	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	02.03	6	3	0.00182	0.00200	0.16349	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	03.01	34	19	0.00159	0.00176	0.14321	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	03.02	14	5	0.00116	0.00131	0.10678	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	03.03	23	9	0.00163	0.00193	0.15738	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	03.04	16	8	0.00152	0.00189	0.15395	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	04.01	25	7	0.00148	0.00176	0.14344	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	04.02	6	1	0.00280	0.00280	0.22838	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	04.04	11	4	0.00117	0.00136	0.11055	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	07.01	5	3	0.00132	0.00155	0.12614	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	07.02	17	7	0.00140	0.00150	0.12235	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	08	2	1	0.00230	0.00230	0.18760	0.0123	LCV_ALLO
Lead	7439-92-1	I	WHOL	13	58	22	0.00144	0.00160	0.13013	0.0123	LCV_ALLO
Lead	7439-92-1	I	FLTR	01	20	5	0.00120	0.00139	0.00278	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	02.01	3	1	0.00250	0.00250	0.00500	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	02.03	6	1	0.00150	0.00150	0.00300	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	03.01	14	2	0.00141	0.00143	0.00286	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	03.02	14	1	0.00220	0.00220	0.00440	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	03.03	14	1	0.00120	0.00120	0.00240	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	03.04	16	1	0.00110	0.00110	0.00220	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	04.01	16	2	0.00131	0.00132	0.00264	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	04.04	11	2	0.00087	0.00105	0.00210	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	07.02	17	1	0.00170	0.00170	0.00340	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	13	47	4	0.00064	0.00068	0.00136	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	00	11	1	0.00100	0.00100	0.00200	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	01	51	10	0.00153	0.00170	0.00340	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	02.01	3	2	0.00157	0.00348	0.00695	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	02.02	22	7	0.00122	0.00136	0.00272	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	02.03	6	3	0.00182	0.00200	0.00401	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	03.01	34	19	0.00159	0.00176	0.00351	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	03.02	14	5	0.00116	0.00131	0.00262	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	03.03	23	9	0.00163	0.00193	0.00386	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	03.04	16	8	0.00152	0.00189	0.00377	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	04.01	25	7	0.00148	0.00176	0.00352	0.5000	LCV_AQPL

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Lead	7439-92-1	I	WHOL	04.02	6	1	0.00280	0.00280	0.00560	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	04.04	11	4	0.00117	0.00136	0.00271	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	07.01	5	3	0.00132	0.00155	0.00309	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	07.02	17	7	0.00140	0.00150	0.00300	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	08	2	1	0.00230	0.00230	0.00460	0.5000	LCV_AQPL
Lead	7439-92-1	I	WHOL	13	58	22	0.00144	0.00160	0.00319	0.5000	LCV_AQPL
Lead	7439-92-1	I	FLTR	01	20	5	0.00120	0.00139	0.11323	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	02.01	3	1	0.00250	0.00250	0.20392	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	02.03	6	1	0.00150	0.00150	0.12235	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	03.01	14	2	0.00141	0.00143	0.11658	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	03.02	14	1	0.00220	0.00220	0.17945	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	03.03	14	1	0.00120	0.00120	0.09788	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	03.04	16	1	0.00110	0.00110	0.08972	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	04.01	16	2	0.00131	0.00132	0.10777	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	04.04	11	2	0.00087	0.00105	0.08568	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	07.02	17	1	0.00170	0.00170	0.13866	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	13	47	4	0.00064	0.00068	0.05544	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	00	11	1	0.00100	0.00100	0.08157	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	01	51	10	0.00153	0.00170	0.13874	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	02.01	3	2	0.00157	0.00348	0.28363	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	02.02	22	7	0.00122	0.00136	0.11089	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	02.03	6	3	0.00182	0.00200	0.16349	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	03.01	34	19	0.00159	0.00176	0.14321	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	03.02	14	5	0.00116	0.00131	0.10678	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	03.03	23	9	0.00163	0.00193	0.15738	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	03.04	16	8	0.00152	0.00189	0.15395	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	04.01	25	7	0.00148	0.00176	0.14344	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	04.02	6	1	0.00280	0.00280	0.22838	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	04.04	11	4	0.00117	0.00136	0.11055	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	07.01	5	3	0.00132	0.00155	0.12614	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	07.02	17	7	0.00140	0.00150	0.12235	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	08	2	1	0.00230	0.00230	0.18760	0.0123	LCV_DAPH
Lead	7439-92-1	I	WHOL	13	58	22	0.00144	0.00160	0.13013	0.0123	LCV_DAPH
Lead	7439-92-1	I	FLTR	01	20	5	0.00120	0.00139	0.07353	0.0189	LCV_FISH
Lead	7439-92-1	I	FLTR	02.01	3	1	0.00250	0.00250	0.13242	0.0189	LCV_FISH
Lead	7439-92-1	I	FLTR	02.03	6	1	0.00150	0.00150	0.07945	0.0189	LCV_FISH
Lead	7439-92-1	I	FLTR	03.01	14	2	0.00141	0.00143	0.07570	0.0189	LCV_FISH
Lead	7439-92-1	I	FLTR	03.02	14	1	0.00220	0.00220	0.11653	0.0189	LCV_FISH
Lead	7439-92-1	I	FLTR	03.03	14	1	0.00120	0.00120	0.06356	0.0189	LCV_FISH
Lead	7439-92-1	I	FLTR	03.04	16	1	0.00110	0.00110	0.05826	0.0189	LCV_FISH
Lead	7439-92-1	I	FLTR	04.01	16	2	0.00131	0.00132	0.06998	0.0189	LCV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Lead	7439-92-1	I	FLTR	04.04	11	2	0.00087	0.00105	0.05564	0.0189	LCV_FISH
Lead	7439-92-1	I	FLTR	07.02	17	1	0.00170	0.00170	0.09004	0.0189	LCV_FISH
Lead	7439-92-1	I	FLTR	13	47	4	0.00064	0.00068	0.03600	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	00	11	1	0.00100	0.00100	0.05297	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	01	51	10	0.00153	0.00170	0.09009	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	02.01	3	2	0.00157	0.00348	0.18418	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	02.02	22	7	0.00122	0.00136	0.07201	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	02.03	6	3	0.00182	0.00200	0.10617	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	03.01	34	19	0.00159	0.00176	0.09300	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	03.02	14	5	0.00116	0.00131	0.06934	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	03.03	23	9	0.00163	0.00193	0.10219	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	03.04	16	8	0.00152	0.00189	0.09997	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	04.01	25	7	0.00148	0.00176	0.09314	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	04.02	6	1	0.00280	0.00280	0.14831	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	04.04	11	4	0.00117	0.00136	0.07179	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	07.01	5	3	0.00132	0.00155	0.08191	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	07.02	17	7	0.00140	0.00150	0.07945	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	08	2	1	0.00230	0.00230	0.12182	0.0189	LCV_FISH
Lead	7439-92-1	I	WHOL	13	58	22	0.00144	0.00160	0.08450	0.0189	LCV_FISH
Lead	7439-92-1	I	FLTR	01	20	5	0.00120	0.00139	0.05453	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	02.01	3	1	0.00250	0.00250	0.09819	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	02.03	6	1	0.00150	0.00150	0.05892	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	03.01	14	2	0.00141	0.00143	0.05614	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	03.02	14	1	0.00220	0.00220	0.08641	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	03.03	14	1	0.00120	0.00120	0.04713	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	03.04	16	1	0.00110	0.00110	0.04321	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	04.01	16	2	0.00131	0.00132	0.05190	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	04.04	11	2	0.00087	0.00105	0.04126	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	07.02	17	1	0.00170	0.00170	0.06677	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	13	47	4	0.00064	0.00068	0.02669	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	00	11	1	0.00100	0.00100	0.03928	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	01	51	10	0.00153	0.00170	0.06681	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	02.01	3	2	0.00157	0.00348	0.13658	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	02.02	22	7	0.00122	0.00136	0.05340	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	02.03	6	3	0.00182	0.00200	0.07873	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	03.01	34	19	0.00159	0.00176	0.06896	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	03.02	14	5	0.00116	0.00131	0.05142	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	03.03	23	9	0.00163	0.00193	0.07578	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	03.04	16	8	0.00152	0.00189	0.07414	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	04.01	25	7	0.00148	0.00176	0.06907	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	04.02	6	1	0.00280	0.00280	0.10998	0.0255	LCV_NDI

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Lead	7439-92-1	I	WHOL	04.04	11	4	0.00117	0.00136	0.05324	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	07.01	5	3	0.00132	0.00155	0.06074	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	07.02	17	7	0.00140	0.00150	0.05892	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	08	2	1	0.00230	0.00230	0.09034	0.0255	LCV_NDI
Lead	7439-92-1	I	WHOL	13	58	22	0.00144	0.00160	0.06266	0.0255	LCV_NDI
Lead	7439-92-1	I	FLTR	01	20	5	0.00120	0.00139	0.06310	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	02.01	3	1	0.00250	0.00250	0.11364	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	02.03	6	1	0.00150	0.00150	0.06818	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	03.01	14	2	0.00141	0.00143	0.06497	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	03.02	14	1	0.00220	0.00220	0.10000	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	03.03	14	1	0.00120	0.00120	0.05455	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	03.04	16	1	0.00110	0.00110	0.05000	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	04.01	16	2	0.00131	0.00132	0.06006	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	04.04	11	2	0.00087	0.00105	0.04775	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	07.02	17	1	0.00170	0.00170	0.07727	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	13	47	4	0.00064	0.00068	0.03089	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	00	11	1	0.00100	0.00100	0.04545	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	01	51	10	0.00153	0.00170	0.07732	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	02.01	3	2	0.00157	0.00348	0.15806	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	02.02	22	7	0.00122	0.00136	0.06180	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	02.03	6	3	0.00182	0.00200	0.09111	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	03.01	34	19	0.00159	0.00176	0.07981	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	03.02	14	5	0.00116	0.00131	0.05950	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	03.03	23	9	0.00163	0.00193	0.08770	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	03.04	16	8	0.00152	0.00189	0.08579	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	04.01	25	7	0.00148	0.00176	0.07993	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	04.02	6	1	0.00280	0.00280	0.12727	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	04.04	11	4	0.00117	0.00136	0.06161	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	07.01	5	3	0.00132	0.00155	0.07029	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	07.02	17	7	0.00140	0.00150	0.06818	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	08	2	1	0.00230	0.00230	0.10455	0.0220	LTV_FISH
Lead	7439-92-1	I	WHOL	13	58	22	0.00144	0.00160	0.07252	0.0220	LTV_FISH
Lead	7439-92-1	I	FLTR	01	20	5	0.00120	0.00139	0.01693	0.0820	NAWQ_ACU
Lead	7439-92-1	I	FLTR	02.01	3	1	0.00250	0.00250	0.03049	0.0820	NAWQ_ACU
Lead	7439-92-1	I	FLTR	02.03	6	1	0.00150	0.00150	0.01829	0.0820	NAWQ_ACU
Lead	7439-92-1	I	FLTR	03.01	14	2	0.00141	0.00143	0.01743	0.0820	NAWQ_ACU
Lead	7439-92-1	I	FLTR	03.02	14	1	0.00220	0.00220	0.02683	0.0820	NAWQ_ACU
Lead	7439-92-1	I	FLTR	03.03	14	1	0.00120	0.00120	0.01463	0.0820	NAWQ_ACU
Lead	7439-92-1	I	FLTR	03.04	16	1	0.00110	0.00110	0.01341	0.0820	NAWQ_ACU
Lead	7439-92-1	I	FLTR	04.01	16	2	0.00131	0.00132	0.01611	0.0820	NAWQ_ACU
Lead	7439-92-1	I	FLTR	04.04	11	2	0.00087	0.00105	0.01281	0.0820	NAWQ_ACU

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Lead	7439-92-1	I	FLTR	07.02	17	1	0.00170	0.00170	0.02073	0.0820	NAWQ_ACU
Lead	7439-92-1	I	FLTR	13	47	4	0.00064	0.00068	0.00829	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	00	11	1	0.00100	0.00100	0.01220	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	01	51	10	0.00153	0.00170	0.02074	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	02.01	3	2	0.00157	0.00348	0.04241	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	02.02	22	7	0.00122	0.00136	0.01658	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	02.03	6	3	0.00182	0.00200	0.02444	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	03.01	34	19	0.00159	0.00176	0.02141	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	03.02	14	5	0.00116	0.00131	0.01596	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	03.03	23	9	0.00163	0.00193	0.02353	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	03.04	16	8	0.00152	0.00189	0.02302	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	04.01	25	7	0.00148	0.00176	0.02145	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	04.02	6	1	0.00280	0.00280	0.03415	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	04.04	11	4	0.00117	0.00136	0.01653	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	07.01	5	3	0.00132	0.00155	0.01886	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	07.02	17	7	0.00140	0.00150	0.01829	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	08	2	1	0.00230	0.00230	0.02805	0.0820	NAWQ_ACU
Lead	7439-92-1	I	WHOL	13	58	22	0.00144	0.00160	0.01946	0.0820	NAWQ_ACU
Lead	7439-92-1	I	FLTR	01	20	5	0.00120	0.00139	0.43382	0.0032	NAWQ_CHR
Lead	7439-92-1	I	FLTR	02.01	3	1	0.00250	0.00250	0.78125	0.0032	NAWQ_CHR
Lead	7439-92-1	I	FLTR	02.03	6	1	0.00150	0.00150	0.46875	0.0032	NAWQ_CHR
Lead	7439-92-1	I	FLTR	03.01	14	2	0.00141	0.00143	0.44664	0.0032	NAWQ_CHR
Lead	7439-92-1	I	FLTR	03.02	14	1	0.00220	0.00220	0.68750	0.0032	NAWQ_CHR
Lead	7439-92-1	I	FLTR	03.03	14	1	0.00120	0.00120	0.37500	0.0032	NAWQ_CHR
Lead	7439-92-1	I	FLTR	03.04	16	1	0.00110	0.00110	0.34375	0.0032	NAWQ_CHR
Lead	7439-92-1	I	FLTR	04.01	16	2	0.00131	0.00132	0.41289	0.0032	NAWQ_CHR
Lead	7439-92-1	I	FLTR	04.04	11	2	0.00087	0.00105	0.32827	0.0032	NAWQ_CHR
Lead	7439-92-1	I	FLTR	07.02	17	1	0.00170	0.00170	0.53125	0.0032	NAWQ_CHR
Lead	7439-92-1	I	FLTR	13	47	4	0.00064	0.00068	0.21239	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	00	11	1	0.00100	0.00100	0.31250	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	01	51	10	0.00153	0.00170	0.53154	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	02.01	3	2	0.00157	0.00348	1.08666	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	02.02	22	7	0.00122	0.00136	0.42486	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	02.03	6	3	0.00182	0.00200	0.62638	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	03.01	34	19	0.00159	0.00176	0.54868	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	03.02	14	5	0.00116	0.00131	0.40909	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	03.03	23	9	0.00163	0.00193	0.60295	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	03.04	16	8	0.00152	0.00189	0.58984	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	04.01	25	7	0.00148	0.00176	0.54955	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	04.02	6	1	0.00280	0.00280	0.87500	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	04.04	11	4	0.00117	0.00136	0.42356	0.0032	NAWQ_CHR

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Lead	7439-92-1	I	WHOL	07.01	5	3	0.00132	0.00155	0.48326	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	07.02	17	7	0.00140	0.00150	0.46876	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	08	2	1	0.00230	0.00230	0.71875	0.0032	NAWQ_CHR
Lead	7439-92-1	I	WHOL	13	58	22	0.00144	0.00160	0.49856	0.0032	NAWQ_CHR
Magnesium	7439-95-4	I	FLTR	00	1	1	10.10000	10.10000	0.12317	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	01	20	20	8.33357	8.70002	0.10610	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	02.01	3	3	7.69106	10.77408	0.13139	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	02.02	13	13	7.60769	8.23375	0.10041	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	02.03	6	6	7.59517	8.57958	0.10463	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	02.04	2	2	10.09265	12.66458	0.15445	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	03.01	14	14	6.93106	7.78785	0.09497	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	03.02	14	14	7.59500	8.43569	0.10287	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	03.03	14	14	6.65172	7.32014	0.08927	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	03.04	16	15	6.91520	7.64299	0.09321	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	04.01	16	16	7.84614	8.22460	0.10030	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	04.02	6	6	7.77017	8.40390	0.10249	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	04.04	10	10	6.72896	7.35502	0.08970	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	05	4	4	5.93000	8.80141	0.10733	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	07.01	5	5	7.74600	8.83747	0.10777	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	07.02	17	16	7.82765	8.20039	0.10000	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	08	2	2	8.45000	8.76569	0.10690	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	10	2	2	10.25000	11.19706	0.13655	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	13	47	47	7.95242	8.46630	0.10325	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	22	1	1	6.24000	6.24000	0.07610	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	00	11	11	9.07727	9.71053	0.11842	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	01	51	51	8.60239	8.87755	0.10826	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	02.01	3	3	7.94667	10.41530	0.12702	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	02.02	22	22	7.94818	8.38779	0.10229	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	02.03	6	6	7.83167	8.93519	0.10897	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	02.04	11	11	8.67545	9.35576	0.11409	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	03.01	34	33	6.12720	6.62816	0.08083	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	03.02	14	14	7.73786	8.58763	0.10473	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	03.03	23	23	6.90478	7.50299	0.09150	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	03.04	16	15	6.99188	7.68556	0.09373	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	04.01	25	25	7.93040	8.27325	0.10089	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	04.02	6	6	7.98167	8.69165	0.10600	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	04.04	10	10	6.73450	7.32269	0.08930	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	05	4	4	5.92000	8.81500	0.10750	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	07.01	5	5	7.85600	8.85780	0.10802	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	07.02	17	17	8.01213	8.33846	0.10169	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	08	2	2	8.59500	8.81598	0.10751	82.0000	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Magnesium	7439-95-4	I	WHOL	10	2	2	10.35000	11.29706	0.13777	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	13	58	58	8.10827	8.59809	0.10485	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	18	9	9	4.40667	5.09063	0.06208	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	20.01	9	9	8.15444	9.29624	0.11337	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	20.02	10	10	12.54000	14.50051	0.17684	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	21	18	18	7.70667	8.67669	0.10581	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	WHOL	22	11	11	7.64909	8.74591	0.10666	82.0000	LCV_ALLO
Magnesium	7439-95-4	I	FLTR	00	1	1	10.10000	10.10000	0.12317	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	01	20	20	8.33357	8.70002	0.10610	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	02.01	3	3	7.69106	10.77408	0.13139	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	02.02	13	13	7.60769	8.23375	0.10041	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	02.03	6	6	7.59517	8.57958	0.10463	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	02.04	2	2	10.09265	12.66458	0.15445	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	03.01	14	14	6.93106	7.78785	0.09497	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	03.02	14	14	7.59500	8.43569	0.10287	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	03.03	14	14	6.65172	7.32014	0.08927	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	03.04	16	15	6.91520	7.64299	0.09321	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	04.01	16	16	7.84614	8.22460	0.10030	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	04.02	6	6	7.77017	8.40390	0.10249	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	04.04	10	10	6.72896	7.35502	0.08970	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	05	4	4	5.93000	8.80141	0.10733	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	07.01	5	5	7.74600	8.83747	0.10777	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	07.02	17	16	7.82765	8.20039	0.10000	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	08	2	2	8.45000	8.76569	0.10690	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	10	2	2	10.25000	11.19706	0.13655	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	13	47	47	7.95242	8.46630	0.10325	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	FLTR	22	1	1	6.24000	6.24000	0.07610	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	00	11	11	9.07727	9.71053	0.11842	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	01	51	51	8.60239	8.87755	0.10826	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	02.01	3	3	7.94667	10.41530	0.12702	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	02.02	22	22	7.94818	8.38779	0.10229	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	02.03	6	6	7.83167	8.93519	0.10897	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	02.04	11	11	8.67545	9.35576	0.11409	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	03.01	34	33	6.12720	6.62816	0.08083	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	03.02	14	14	7.73786	8.58763	0.10473	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	03.03	23	23	6.90478	7.50299	0.09150	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	03.04	16	15	6.99188	7.68556	0.09373	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	04.01	25	25	7.93040	8.27325	0.10089	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	04.02	6	6	7.98167	8.69165	0.10600	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	04.04	10	10	6.73450	7.32269	0.08930	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	05	4	4	5.92000	8.81500	0.10750	82.0000	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Magnesium	7439-95-4	I	WHOL	07.01	5	5	7.85600	8.85780	0.10802	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	07.02	17	17	8.01213	8.33846	0.10169	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	08	2	2	8.59500	8.81598	0.10751	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	10	2	2	10.35000	11.29706	0.13777	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	13	58	58	8.10827	8.59809	0.10485	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	18	9	9	4.40667	5.09063	0.06208	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	20.01	9	9	8.15444	9.29624	0.11337	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	20.02	10	10	12.54000	14.50051	0.17684	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	21	18	18	7.70667	8.67669	0.10581	82.0000	LCV_DAPH
Magnesium	7439-95-4	I	WHOL	22	11	11	7.64909	8.74591	0.10666	82.0000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	00	1	1	0.01040	0.01040	0.00945	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	01	17	14	0.01021	0.01332	0.01211	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	02.01	3	3	0.00421	0.00799	0.00726	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	02.02	12	11	0.00548	0.00889	0.00808	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	02.03	6	6	0.00344	0.00506	0.00460	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	02.04	1	1	0.00119	0.00119	0.00108	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	03.01	13	13	0.05237	0.06435	0.05850	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	03.02	13	13	0.04842	0.06064	0.05513	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	03.03	13	13	0.04410	0.05378	0.04890	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	03.04	15	15	0.04308	0.05637	0.05125	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	04.01	15	14	0.00512	0.00689	0.00626	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	04.02	6	6	0.00348	0.00480	0.00436	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	04.04	9	9	0.00577	0.00965	0.00877	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	07.01	5	4	0.00562	0.01400	0.01273	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	07.02	17	11	0.00744	0.01381	0.01255	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	08	2	1	0.07100	0.07100	0.06455	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	13	46	46	0.07019	0.07984	0.07259	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	00	11	11	0.08064	0.10362	0.09420	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	01	48	47	0.05631	0.06260	0.05690	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	02.01	3	3	0.03933	0.05211	0.04737	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	02.02	21	21	0.04855	0.05545	0.05041	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	02.03	6	6	0.04340	0.05192	0.04720	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	02.04	10	10	0.08106	0.14350	0.13046	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	03.01	33	33	0.08342	0.09084	0.08258	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	03.02	13	13	0.07645	0.08856	0.08051	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	03.03	22	22	0.08226	0.08943	0.08130	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	03.04	15	15	0.08030	0.08887	0.08080	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	04.01	24	24	0.04982	0.05782	0.05256	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	04.02	6	6	0.05388	0.06947	0.06316	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	04.04	9	9	0.06248	0.07209	0.06553	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	07.01	5	5	0.05014	0.05739	0.05217	1.1000	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Manganese	7439-96-5	I	WHOL	07.02	17	16	0.05716	0.07702	0.07002	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	08	2	2	0.03005	0.10297	0.09361	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	13	57	57	0.11786	0.13031	0.11846	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	18	9	9	0.05973	0.08551	0.07774	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	20.01	9	8	0.02094	0.03178	0.02889	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	20.02	10	9	0.02471	0.03272	0.02974	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	21	18	18	0.24533	0.40127	0.36479	1.1000	LCV_ALLO
Manganese	7439-96-5	I	WHOL	22	10	10	0.11785	0.15068	0.13698	1.1000	LCV_ALLO
Manganese	7439-96-5	I	FLTR	00	1	1	0.01040	0.01040	0.00945	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	01	17	14	0.01021	0.01332	0.01211	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	02.01	3	3	0.00421	0.00799	0.00726	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	02.02	12	11	0.00548	0.00889	0.00808	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	02.03	6	6	0.00344	0.00506	0.00460	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	02.04	1	1	0.00119	0.00119	0.00108	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	03.01	13	13	0.05237	0.06435	0.05850	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	03.02	13	13	0.04842	0.06064	0.05513	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	03.03	13	13	0.04410	0.05378	0.04890	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	03.04	15	15	0.04308	0.05637	0.05125	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	04.01	15	14	0.00512	0.00689	0.00626	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	04.02	6	6	0.00348	0.00480	0.00436	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	04.04	9	9	0.00577	0.00965	0.00877	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	07.01	5	4	0.00562	0.01400	0.01273	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	07.02	17	11	0.00744	0.01381	0.01255	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	08	2	1	0.07100	0.07100	0.06455	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	13	46	46	0.07019	0.07984	0.07259	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	00	11	11	0.08064	0.10362	0.09420	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	01	48	47	0.05631	0.06260	0.05690	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	02.01	3	3	0.03933	0.05211	0.04737	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	02.02	21	21	0.04855	0.05545	0.05041	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	02.03	6	6	0.04340	0.05192	0.04720	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	02.04	10	10	0.08106	0.14350	0.13046	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	03.01	33	33	0.08342	0.09084	0.08258	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	03.02	13	13	0.07645	0.08856	0.08051	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	03.03	22	22	0.08226	0.08943	0.08130	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	03.04	15	15	0.08030	0.08887	0.08080	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	04.01	24	24	0.04982	0.05782	0.05256	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	04.02	6	6	0.05388	0.06947	0.06316	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	04.04	9	9	0.06248	0.07209	0.06553	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	07.01	5	5	0.05014	0.05739	0.05217	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	07.02	17	16	0.05716	0.07702	0.07002	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	08	2	2	0.03005	0.10297	0.09361	1.1000	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Manganese	7439-96-5	I	WHOL	13	57	57	0.11786	0.13031	0.11846	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	18	9	9	0.05973	0.08551	0.07774	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	20.01	9	8	0.02094	0.03178	0.02889	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	20.02	10	9	0.02471	0.03272	0.02974	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	21	18	18	0.24533	0.40127	0.36479	1.1000	LCV_DAPH
Manganese	7439-96-5	I	WHOL	22	10	10	0.11785	0.15068	0.13698	1.1000	LCV_DAPH
Manganese	7439-96-5	I	FLTR	00	1	1	0.01040	0.01040	0.00588	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	01	17	14	0.01021	0.01332	0.00752	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	02.01	3	3	0.00421	0.00799	0.00451	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	02.02	12	11	0.00548	0.00889	0.00502	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	02.03	6	6	0.00344	0.00506	0.00286	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	02.04	1	1	0.00119	0.00119	0.00067	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	03.01	13	13	0.05237	0.06435	0.03635	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	03.02	13	13	0.04842	0.06064	0.03426	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	03.03	13	13	0.04410	0.05378	0.03039	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	03.04	15	15	0.04308	0.05637	0.03185	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	04.01	15	14	0.00512	0.00689	0.00389	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	04.02	6	6	0.00348	0.00480	0.00271	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	04.04	9	9	0.00577	0.00965	0.00545	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	07.01	5	4	0.00562	0.01400	0.00791	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	07.02	17	11	0.00744	0.01381	0.00780	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	08	2	1	0.07100	0.07100	0.04011	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	13	46	46	0.07019	0.07984	0.04511	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	00	11	11	0.08064	0.10362	0.05854	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	01	48	47	0.05631	0.06260	0.03536	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	02.01	3	3	0.03933	0.05211	0.02944	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	02.02	21	21	0.04855	0.05545	0.03133	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	02.03	6	6	0.04340	0.05192	0.02933	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	02.04	10	10	0.08106	0.14350	0.08108	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	03.01	33	33	0.08342	0.09084	0.05132	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	03.02	13	13	0.07645	0.08856	0.05004	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	03.03	22	22	0.08226	0.08943	0.05053	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	03.04	15	15	0.08030	0.08887	0.05021	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	04.01	24	24	0.04982	0.05782	0.03266	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	04.02	6	6	0.05388	0.06947	0.03925	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	04.04	9	9	0.06248	0.07209	0.04073	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	07.01	5	5	0.05014	0.05739	0.03242	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	07.02	17	16	0.05716	0.07702	0.04352	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	08	2	2	0.03005	0.10297	0.05818	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	13	57	57	0.11786	0.13031	0.07362	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	18	9	9	0.05973	0.08551	0.04831	1.7700	LCV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Manganese	7439-96-5	I	WHOL	20.01	9	8	0.02094	0.03178	0.01795	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	20.02	10	9	0.02471	0.03272	0.01848	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	21	18	18	0.24533	0.40127	0.22670	1.7700	LCV_FISH
Manganese	7439-96-5	I	WHOL	22	10	10	0.11785	0.15068	0.08513	1.7700	LCV_FISH
Manganese	7439-96-5	I	FLTR	00	1	1	0.01040	0.01040	0.00945	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	01	17	14	0.01021	0.01332	0.01211	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	02.01	3	3	0.00421	0.00799	0.00726	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	02.02	12	11	0.00548	0.00889	0.00808	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	02.03	6	6	0.00344	0.00506	0.00460	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	02.04	1	1	0.00119	0.00119	0.00108	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	03.01	13	13	0.05237	0.06435	0.05850	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	03.02	13	13	0.04842	0.06064	0.05513	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	03.03	13	13	0.04410	0.05378	0.04890	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	03.04	15	15	0.04308	0.05637	0.05125	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	04.01	15	14	0.00512	0.00689	0.00626	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	04.02	6	6	0.00348	0.00480	0.00436	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	04.04	9	9	0.00577	0.00965	0.00877	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	07.01	5	4	0.00562	0.01400	0.01273	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	07.02	17	11	0.00744	0.01381	0.01255	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	08	2	1	0.07100	0.07100	0.06455	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	13	46	46	0.07019	0.07984	0.07259	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	00	11	11	0.08064	0.10362	0.09420	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	01	48	47	0.05631	0.06260	0.05690	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	02.01	3	3	0.03933	0.05211	0.04737	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	02.02	21	21	0.04855	0.05545	0.05041	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	02.03	6	6	0.04340	0.05192	0.04720	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	02.04	10	10	0.08106	0.14350	0.13046	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	03.01	33	33	0.08342	0.09084	0.08258	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	03.02	13	13	0.07645	0.08856	0.08051	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	03.03	22	22	0.08226	0.08943	0.08130	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	03.04	15	15	0.08030	0.08887	0.08080	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	04.01	24	24	0.04982	0.05782	0.05256	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	04.02	6	6	0.05388	0.06947	0.06316	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	04.04	9	9	0.06248	0.07209	0.06553	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	07.01	5	5	0.05014	0.05739	0.05217	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	07.02	17	16	0.05716	0.07702	0.07002	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	08	2	2	0.03005	0.10297	0.09361	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	13	57	57	0.11786	0.13031	0.11846	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	18	9	9	0.05973	0.08551	0.07774	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	20.01	9	8	0.02094	0.03178	0.02889	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	20.02	10	9	0.02471	0.03272	0.02974	1.1000	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Manganese	7439-96-5	I	WHOL	21	18	18	0.24533	0.40127	0.36479	1.1000	LTV_DAPH
Manganese	7439-96-5	I	WHOL	22	10	10	0.11785	0.15068	0.13698	1.1000	LTV_DAPH
Manganese	7439-96-5	I	FLTR	00	1	1	0.01040	0.01040	0.00819	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	01	17	14	0.01021	0.01332	0.01049	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	02.01	3	3	0.00421	0.00799	0.00629	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	02.02	12	11	0.00548	0.00889	0.00700	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	02.03	6	6	0.00344	0.00506	0.00399	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	02.04	1	1	0.00119	0.00119	0.00093	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	03.01	13	13	0.05237	0.06435	0.05067	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	03.02	13	13	0.04842	0.06064	0.04775	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	03.03	13	13	0.04410	0.05378	0.04235	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	03.04	15	15	0.04308	0.05637	0.04439	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	04.01	15	14	0.00512	0.00689	0.00542	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	04.02	6	6	0.00348	0.00480	0.00378	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	04.04	9	9	0.00577	0.00965	0.00760	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	07.01	5	4	0.00562	0.01400	0.01102	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	07.02	17	11	0.00744	0.01381	0.01087	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	08	2	1	0.07100	0.07100	0.05591	1.2700	LTV_FISH
Manganese	7439-96-5	I	FLTR	13	46	46	0.07019	0.07984	0.06287	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	00	11	11	0.08064	0.10362	0.08159	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	01	48	47	0.05631	0.06260	0.04929	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	02.01	3	3	0.03933	0.05211	0.04103	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	02.02	21	21	0.04855	0.05545	0.04366	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	02.03	6	6	0.04340	0.05192	0.04088	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	02.04	10	10	0.08106	0.14350	0.11299	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	03.01	33	33	0.08342	0.09084	0.07153	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	03.02	13	13	0.07645	0.08856	0.06973	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	03.03	22	22	0.08226	0.08943	0.07042	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	03.04	15	15	0.08030	0.08887	0.06998	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	04.01	24	24	0.04982	0.05782	0.04552	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	04.02	6	6	0.05388	0.06947	0.05470	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	04.04	9	9	0.06248	0.07209	0.05676	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	07.01	5	5	0.05014	0.05739	0.04519	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	07.02	17	16	0.05716	0.07702	0.06065	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	08	2	2	0.03005	0.10297	0.08108	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	13	57	57	0.11786	0.13031	0.10260	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	18	9	9	0.05973	0.08551	0.06733	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	20.01	9	8	0.02094	0.03178	0.02502	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	20.02	10	9	0.02471	0.03272	0.02576	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	21	18	18	0.24533	0.40127	0.31596	1.2700	LTV_FISH
Manganese	7439-96-5	I	WHOL	22	10	10	0.11785	0.15068	0.11864	1.2700	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Manganese	7439-96-5	I	FLTR	00	1	1	0.01040	0.01040	0.00707	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	01	17	14	0.01021	0.01332	0.00906	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	02.01	3	3	0.00421	0.00799	0.00543	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	02.02	12	11	0.00548	0.00889	0.00604	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	02.03	6	6	0.00344	0.00506	0.00344	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	02.04	1	1	0.00119	0.00119	0.00081	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	03.01	13	13	0.05237	0.06435	0.04377	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	03.02	13	13	0.04842	0.06064	0.04125	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	03.03	13	13	0.04410	0.05378	0.03659	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	03.04	15	15	0.04308	0.05637	0.03835	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	04.01	15	14	0.00512	0.00689	0.00468	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	04.02	6	6	0.00348	0.00480	0.00326	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	04.04	9	9	0.00577	0.00965	0.00656	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	07.01	5	4	0.00562	0.01400	0.00952	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	07.02	17	11	0.00744	0.01381	0.00939	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	08	2	1	0.07100	0.07100	0.04830	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	13	46	46	0.07019	0.07984	0.05432	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	00	11	11	0.08064	0.10362	0.07049	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	01	48	47	0.05631	0.06260	0.04258	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	02.01	3	3	0.03933	0.05211	0.03545	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	02.02	21	21	0.04855	0.05545	0.03772	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	02.03	6	6	0.04340	0.05192	0.03532	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	02.04	10	10	0.08106	0.14350	0.09762	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	03.01	33	33	0.08342	0.09084	0.06180	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	03.02	13	13	0.07645	0.08856	0.06025	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	03.03	22	22	0.08226	0.08943	0.06084	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	03.04	15	15	0.08030	0.08887	0.06046	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	04.01	24	24	0.04982	0.05782	0.03933	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	04.02	6	6	0.05388	0.06947	0.04726	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	04.04	9	9	0.06248	0.07209	0.04904	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	07.01	5	5	0.05014	0.05739	0.03904	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	07.02	17	16	0.05716	0.07702	0.05240	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	08	2	2	0.03005	0.10297	0.07005	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	13	57	57	0.11786	0.13031	0.08864	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	18	9	9	0.05973	0.08551	0.05817	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	20.01	9	8	0.02094	0.03178	0.02162	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	20.02	10	9	0.02471	0.03272	0.02226	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	21	18	18	0.24533	0.40127	0.27297	1.4700	S_ACU_V
Manganese	7439-96-5	I	WHOL	22	10	10	0.11785	0.15068	0.10250	1.4700	S_ACU_V
Manganese	7439-96-5	I	FLTR	00	1	1	0.01040	0.01040	0.12951	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	01	17	14	0.01021	0.01332	0.16586	0.0803	S_CHR_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Manganese	7439-96-5	I	FLTR	02.01	3	3	0.00421	0.00799	0.09946	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	02.02	12	11	0.00548	0.00889	0.11066	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	02.03	6	6	0.00344	0.00506	0.06304	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	02.04	1	1	0.00119	0.00119	0.01476	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	03.01	13	13	0.05237	0.06435	0.80134	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	03.02	13	13	0.04842	0.06064	0.75517	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	03.03	13	13	0.04410	0.05378	0.66980	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	03.04	15	15	0.04308	0.05637	0.70201	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	04.01	15	14	0.00512	0.00689	0.08575	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	04.02	6	6	0.00348	0.00480	0.05973	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	04.04	9	9	0.00577	0.00965	0.12016	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	07.01	5	4	0.00562	0.01400	0.17433	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	07.02	17	11	0.00744	0.01381	0.17198	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	08	2	1	0.07100	0.07100	0.88418	0.0803	S_CHR_V
Manganese	7439-96-5	I	FLTR	13	46	46	0.07019	0.07984	0.99433	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	00	11	11	0.08064	0.10362	1.29044	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	01	48	47	0.05631	0.06260	0.77952	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	02.01	3	3	0.03933	0.05211	0.64895	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	02.02	21	21	0.04855	0.05545	0.69057	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	02.03	6	6	0.04340	0.05192	0.64658	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	02.04	10	10	0.08106	0.14350	1.78709	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	03.01	33	33	0.08342	0.09084	1.13127	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	03.02	13	13	0.07645	0.08856	1.10290	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	03.03	22	22	0.08226	0.08943	1.11369	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	03.04	15	15	0.08030	0.08887	1.10679	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	04.01	24	24	0.04982	0.05782	0.72000	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	04.02	6	6	0.05388	0.06947	0.86514	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	04.04	9	9	0.06248	0.07209	0.89772	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	07.01	5	5	0.05014	0.05739	0.71464	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	07.02	17	16	0.05716	0.07702	0.95918	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	08	2	2	0.03005	0.10297	1.28236	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	13	57	57	0.11786	0.13031	1.62273	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	18	9	9	0.05973	0.08551	1.06490	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	20.01	9	8	0.02094	0.03178	0.39576	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	20.02	10	9	0.02471	0.03272	0.40743	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	21	18	18	0.24533	0.40127	4.99710	0.0803	S_CHR_V
Manganese	7439-96-5	I	WHOL	22	10	10	0.11785	0.15068	1.87644	0.0803	S_CHR_V
Mercury	7439-97-6	I	FLTR	01	38	1	0.00001	0.00001	0.03600	0.0002	LCV_ALLO
Mercury	7439-97-6	I	FLTR	02.04	3	1	0.00000	0.00000	0.01537	0.0002	LCV_ALLO
Mercury	7439-97-6	I	FLTR	03.01	27	2	0.00001	0.00001	0.02920	0.0002	LCV_ALLO
Mercury	7439-97-6	I	FLTR	03.02	27	6	0.00003	0.00007	0.30664	0.0002	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Mercury	7439-97-6	I	FLTR	03.03	27	3	0.00003	0.00009	0.38359	0.0002	LCV_ALLO
Mercury	7439-97-6	I	FLTR	03.04	31	3	0.00001	0.00003	0.11845	0.0002	LCV_ALLO
Mercury	7439-97-6	I	FLTR	04.02	12	1	0.00130	0.00130	5.65217	0.0002	LCV_ALLO
Mercury	7439-97-6	I	FLTR	07.02	34	1	0.00000	0.00000	0.01430	0.0002	LCV_ALLO
Mercury	7439-97-6	I	FLTR	13	93	3	0.00002	0.00003	0.13596	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	00	12	2	0.00006	0.00006	0.27024	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	01	71	8	0.00001	0.00002	0.06603	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	02.02	22	1	0.00007	0.00007	0.30000	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	02.04	12	2	0.00001	0.00002	0.09158	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	03.01	67	38	0.00010	0.00013	0.55790	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	03.02	27	13	0.00009	0.00012	0.50295	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	03.03	36	18	0.00010	0.00013	0.55702	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	03.04	31	20	0.00019	0.00026	1.13265	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	04.01	40	8	0.00004	0.00005	0.23129	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	04.02	12	4	0.00003	0.00004	0.19146	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	04.04	20	6	0.00002	0.00003	0.12714	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	07.01	10	2	0.00000	0.00001	0.02386	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	07.02	34	4	0.00000	0.00000	0.01587	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	08	4	1	0.00001	0.00001	0.02935	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	13	106	18	0.00001	0.00002	0.07200	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	18	9	1	0.00007	0.00007	0.30870	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	20.01	9	5	0.00008	0.00009	0.38908	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	20.02	10	3	0.00007	0.00008	0.35569	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	21	18	3	0.00007	0.00007	0.30259	0.0002	LCV_ALLO
Mercury	7439-97-6	I	WHOL	22	11	2	0.00011	0.00013	0.56959	0.0002	LCV_ALLO
Mercury	7439-97-6	I	FLTR	01	38	1	0.00001	0.00001	0.00166	0.0050	LCV_AQPL
Mercury	7439-97-6	I	FLTR	02.04	3	1	0.00000	0.00000	0.00071	0.0050	LCV_AQPL
Mercury	7439-97-6	I	FLTR	03.01	27	2	0.00001	0.00001	0.00134	0.0050	LCV_AQPL
Mercury	7439-97-6	I	FLTR	03.02	27	6	0.00003	0.00007	0.01411	0.0050	LCV_AQPL
Mercury	7439-97-6	I	FLTR	03.03	27	3	0.00003	0.00009	0.01765	0.0050	LCV_AQPL
Mercury	7439-97-6	I	FLTR	03.04	31	3	0.00001	0.00003	0.00545	0.0050	LCV_AQPL
Mercury	7439-97-6	I	FLTR	04.02	12	1	0.00130	0.00130	0.26000	0.0050	LCV_AQPL
Mercury	7439-97-6	I	FLTR	07.02	34	1	0.00000	0.00000	0.00066	0.0050	LCV_AQPL
Mercury	7439-97-6	I	FLTR	13	93	3	0.00002	0.00003	0.00625	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	00	12	2	0.00006	0.00006	0.01243	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	01	71	8	0.00001	0.00002	0.00304	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	02.02	22	1	0.00007	0.00007	0.01380	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	02.04	12	2	0.00001	0.00002	0.00421	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	03.01	67	38	0.00010	0.00013	0.02566	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	03.02	27	13	0.00009	0.00012	0.02314	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	03.03	36	18	0.00010	0.00013	0.02562	0.0050	LCV_AQPL

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Mercury	7439-97-6	I	WHOL	03.04	31	20	0.00019	0.00026	0.05210	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	04.01	40	8	0.00004	0.00005	0.01064	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	04.02	12	4	0.00003	0.00004	0.00881	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	04.04	20	6	0.00002	0.00003	0.00585	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	07.01	10	2	0.00000	0.00001	0.00110	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	07.02	34	4	0.00000	0.00000	0.00073	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	08	4	1	0.00001	0.00001	0.00135	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	13	106	18	0.00001	0.00002	0.00331	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	18	9	1	0.00007	0.00007	0.01420	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	20.01	9	5	0.00008	0.00009	0.01790	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	20.02	10	3	0.00007	0.00008	0.01636	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	21	18	3	0.00007	0.00007	0.01392	0.0050	LCV_AQPL
Mercury	7439-97-6	I	WHOL	22	11	2	0.00011	0.00013	0.02620	0.0050	LCV_AQPL
Mercury	7439-97-6	I	FLTR	01	38	1	0.00001	0.00001	0.00863	0.0010	LCV_DAPH
Mercury	7439-97-6	I	FLTR	02.04	3	1	0.00000	0.00000	0.00368	0.0010	LCV_DAPH
Mercury	7439-97-6	I	FLTR	03.01	27	2	0.00001	0.00001	0.00700	0.0010	LCV_DAPH
Mercury	7439-97-6	I	FLTR	03.02	27	6	0.00003	0.00007	0.07347	0.0010	LCV_DAPH
Mercury	7439-97-6	I	FLTR	03.03	27	3	0.00003	0.00009	0.09190	0.0010	LCV_DAPH
Mercury	7439-97-6	I	FLTR	03.04	31	3	0.00001	0.00003	0.02838	0.0010	LCV_DAPH
Mercury	7439-97-6	I	FLTR	04.02	12	1	0.00130	0.00130	1.35417	0.0010	LCV_DAPH
Mercury	7439-97-6	I	FLTR	07.02	34	1	0.00000	0.00000	0.00343	0.0010	LCV_DAPH
Mercury	7439-97-6	I	FLTR	13	93	3	0.00002	0.00003	0.03257	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	00	12	2	0.00006	0.00006	0.06474	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	01	71	8	0.00001	0.00002	0.01582	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	02.02	22	1	0.00007	0.00007	0.07188	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	02.04	12	2	0.00001	0.00002	0.02194	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	03.01	67	38	0.00010	0.00013	0.13366	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	03.02	27	13	0.00009	0.00012	0.12050	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	03.03	36	18	0.00010	0.00013	0.13345	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	03.04	31	20	0.00019	0.00026	0.27136	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	04.01	40	8	0.00004	0.00005	0.05541	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	04.02	12	4	0.00003	0.00004	0.04587	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	04.04	20	6	0.00002	0.00003	0.03046	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	07.01	10	2	0.00000	0.00001	0.00572	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	07.02	34	4	0.00000	0.00000	0.00380	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	08	4	1	0.00001	0.00001	0.00703	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	13	106	18	0.00001	0.00002	0.01725	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	18	9	1	0.00007	0.00007	0.07396	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	20.01	9	5	0.00008	0.00009	0.09322	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	20.02	10	3	0.00007	0.00008	0.08522	0.0010	LCV_DAPH
Mercury	7439-97-6	I	WHOL	21	18	3	0.00007	0.00007	0.07250	0.0010	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Mercury	7439-97-6	I	WHOL	22	11	2	0.00011	0.00013	0.13646	0.0010	LCV_DAPH
Mercury	7439-97-6	I	FLTR	01	38	1	0.00001	0.00001	0.03600	0.0002	LCV_FISH
Mercury	7439-97-6	I	FLTR	02.04	3	1	0.00000	0.00000	0.01537	0.0002	LCV_FISH
Mercury	7439-97-6	I	FLTR	03.01	27	2	0.00001	0.00001	0.02920	0.0002	LCV_FISH
Mercury	7439-97-6	I	FLTR	03.02	27	6	0.00003	0.00007	0.30664	0.0002	LCV_FISH
Mercury	7439-97-6	I	FLTR	03.03	27	3	0.00003	0.00009	0.38359	0.0002	LCV_FISH
Mercury	7439-97-6	I	FLTR	03.04	31	3	0.00001	0.00003	0.11845	0.0002	LCV_FISH
Mercury	7439-97-6	I	FLTR	04.02	12	1	0.00130	0.00130	5.65217	0.0002	LCV_FISH
Mercury	7439-97-6	I	FLTR	07.02	34	1	0.00000	0.00000	0.01430	0.0002	LCV_FISH
Mercury	7439-97-6	I	FLTR	13	93	3	0.00002	0.00003	0.13596	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	00	12	2	0.00006	0.00006	0.27024	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	01	71	8	0.00001	0.00002	0.06603	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	02.02	22	1	0.00007	0.00007	0.30000	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	02.04	12	2	0.00001	0.00002	0.09158	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	03.01	67	38	0.00010	0.00013	0.55790	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	03.02	27	13	0.00009	0.00012	0.50295	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	03.03	36	18	0.00010	0.00013	0.55702	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	03.04	31	20	0.00019	0.00026	1.13265	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	04.01	40	8	0.00004	0.00005	0.23129	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	04.02	12	4	0.00003	0.00004	0.19146	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	04.04	20	6	0.00002	0.00003	0.12714	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	07.01	10	2	0.00000	0.00001	0.02386	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	07.02	34	4	0.00000	0.00000	0.01587	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	08	4	1	0.00001	0.00001	0.02935	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	13	106	18	0.00001	0.00002	0.07200	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	18	9	1	0.00007	0.00007	0.30870	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	20.01	9	5	0.00008	0.00009	0.38908	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	20.02	10	3	0.00007	0.00008	0.35569	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	21	18	3	0.00007	0.00007	0.30259	0.0002	LCV_FISH
Mercury	7439-97-6	I	WHOL	22	11	2	0.00011	0.00013	0.56959	0.0002	LCV_FISH
Mercury	7439-97-6	I	FLTR	01	38	1	0.00001	0.00001	0.00952	0.0009	LTV_DAPH
Mercury	7439-97-6	I	FLTR	02.04	3	1	0.00000	0.00000	0.00406	0.0009	LTV_DAPH
Mercury	7439-97-6	I	FLTR	03.01	27	2	0.00001	0.00001	0.00772	0.0009	LTV_DAPH
Mercury	7439-97-6	I	FLTR	03.02	27	6	0.00003	0.00007	0.08107	0.0009	LTV_DAPH
Mercury	7439-97-6	I	FLTR	03.03	27	3	0.00003	0.00009	0.10141	0.0009	LTV_DAPH
Mercury	7439-97-6	I	FLTR	03.04	31	3	0.00001	0.00003	0.03131	0.0009	LTV_DAPH
Mercury	7439-97-6	I	FLTR	04.02	12	1	0.00130	0.00130	1.49425	0.0009	LTV_DAPH
Mercury	7439-97-6	I	FLTR	07.02	34	1	0.00000	0.00000	0.00378	0.0009	LTV_DAPH
Mercury	7439-97-6	I	FLTR	13	93	3	0.00002	0.00003	0.03594	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	00	12	2	0.00006	0.00006	0.07144	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	01	71	8	0.00001	0.00002	0.01746	0.0009	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Mercury	7439-97-6	I	WHOL	02.02	22	1	0.00007	0.00007	0.07931	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	02.04	12	2	0.00001	0.00002	0.02421	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	03.01	67	38	0.00010	0.00013	0.14749	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	03.02	27	13	0.00009	0.00012	0.13296	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	03.03	36	18	0.00010	0.00013	0.14726	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	03.04	31	20	0.00019	0.00026	0.29943	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	04.01	40	8	0.00004	0.00005	0.06114	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	04.02	12	4	0.00003	0.00004	0.05062	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	04.04	20	6	0.00002	0.00003	0.03361	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	07.01	10	2	0.00000	0.00001	0.00631	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	07.02	34	4	0.00000	0.00000	0.00420	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	08	4	1	0.00001	0.00001	0.00776	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	13	106	18	0.00001	0.00002	0.01904	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	18	9	1	0.00007	0.00007	0.08161	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	20.01	9	5	0.00008	0.00009	0.10286	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	20.02	10	3	0.00007	0.00008	0.09403	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	21	18	3	0.00007	0.00007	0.07999	0.0009	LTV_DAPH
Mercury	7439-97-6	I	WHOL	22	11	2	0.00011	0.00013	0.15058	0.0009	LTV_DAPH
Mercury	7439-97-6	I	FLTR	01	38	1	0.00001	0.00001	0.00952	0.0009	LTV_FISH
Mercury	7439-97-6	I	FLTR	02.04	3	1	0.00000	0.00000	0.00406	0.0009	LTV_FISH
Mercury	7439-97-6	I	FLTR	03.01	27	2	0.00001	0.00001	0.00772	0.0009	LTV_FISH
Mercury	7439-97-6	I	FLTR	03.02	27	6	0.00003	0.00007	0.08107	0.0009	LTV_FISH
Mercury	7439-97-6	I	FLTR	03.03	27	3	0.00003	0.00009	0.10141	0.0009	LTV_FISH
Mercury	7439-97-6	I	FLTR	03.04	31	3	0.00001	0.00003	0.03131	0.0009	LTV_FISH
Mercury	7439-97-6	I	FLTR	04.02	12	1	0.00130	0.00130	1.49425	0.0009	LTV_FISH
Mercury	7439-97-6	I	FLTR	07.02	34	1	0.00000	0.00000	0.00378	0.0009	LTV_FISH
Mercury	7439-97-6	I	FLTR	13	93	3	0.00002	0.00003	0.03594	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	00	12	2	0.00006	0.00006	0.07144	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	01	71	8	0.00001	0.00002	0.01746	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	02.02	22	1	0.00007	0.00007	0.07931	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	02.04	12	2	0.00001	0.00002	0.02421	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	03.01	67	38	0.00010	0.00013	0.14749	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	03.02	27	13	0.00009	0.00012	0.13296	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	03.03	36	18	0.00010	0.00013	0.14726	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	03.04	31	20	0.00019	0.00026	0.29943	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	04.01	40	8	0.00004	0.00005	0.06114	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	04.02	12	4	0.00003	0.00004	0.05062	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	04.04	20	6	0.00002	0.00003	0.03361	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	07.01	10	2	0.00000	0.00001	0.00631	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	07.02	34	4	0.00000	0.00000	0.00420	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	08	4	1	0.00001	0.00001	0.00776	0.0009	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Mercury	7439-97-6	I	WHOL	13	106	18	0.00001	0.00002	0.01904	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	18	9	1	0.00007	0.00007	0.08161	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	20.01	9	5	0.00008	0.00009	0.10286	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	20.02	10	3	0.00007	0.00008	0.09403	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	21	18	3	0.00007	0.00007	0.07999	0.0009	LTV_FISH
Mercury	7439-97-6	I	WHOL	22	11	2	0.00011	0.00013	0.15058	0.0009	LTV_FISH
Mercury	7439-97-6	I	FLTR	01	38	1	0.00001	0.00001	0.00345	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	FLTR	02.04	3	1	0.00000	0.00000	0.00147	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	FLTR	03.01	27	2	0.00001	0.00001	0.00280	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	FLTR	03.02	27	6	0.00003	0.00007	0.02939	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	FLTR	03.03	27	3	0.00003	0.00009	0.03676	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	FLTR	03.04	31	3	0.00001	0.00003	0.01135	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	FLTR	04.02	12	1	0.00130	0.00130	0.54167	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	FLTR	07.02	34	1	0.00000	0.00000	0.00137	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	FLTR	13	93	3	0.00002	0.00003	0.01303	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	00	12	2	0.00006	0.00006	0.02590	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	01	71	8	0.00001	0.00002	0.00633	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	02.02	22	1	0.00007	0.00007	0.02875	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	02.04	12	2	0.00001	0.00002	0.00878	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	03.01	67	38	0.00010	0.00013	0.05347	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	03.02	27	13	0.00009	0.00012	0.04820	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	03.03	36	18	0.00010	0.00013	0.05338	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	03.04	31	20	0.00019	0.00026	0.10855	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	04.01	40	8	0.00004	0.00005	0.02217	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	04.02	12	4	0.00003	0.00004	0.01835	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	04.04	20	6	0.00002	0.00003	0.01218	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	07.01	10	2	0.00000	0.00001	0.00229	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	07.02	34	4	0.00000	0.00000	0.00152	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	08	4	1	0.00001	0.00001	0.00281	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	13	106	18	0.00001	0.00002	0.00690	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	18	9	1	0.00007	0.00007	0.02958	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	20.01	9	5	0.00008	0.00009	0.03729	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	20.02	10	3	0.00007	0.00008	0.03409	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	21	18	3	0.00007	0.00007	0.02900	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	WHOL	22	11	2	0.00011	0.00013	0.05459	0.0024	NAWQ_ACU
Mercury	7439-97-6	I	FLTR	01	38	1	0.00001	0.00001	0.00637	0.0013	S_CHR_V
Mercury	7439-97-6	I	FLTR	02.04	3	1	0.00000	0.00000	0.00272	0.0013	S_CHR_V
Mercury	7439-97-6	I	FLTR	03.01	27	2	0.00001	0.00001	0.00517	0.0013	S_CHR_V
Mercury	7439-97-6	I	FLTR	03.02	27	6	0.00003	0.00007	0.05425	0.0013	S_CHR_V
Mercury	7439-97-6	I	FLTR	03.03	27	3	0.00003	0.00009	0.06787	0.0013	S_CHR_V
Mercury	7439-97-6	I	FLTR	03.04	31	3	0.00001	0.00003	0.02096	0.0013	S_CHR_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Mercury	7439-97-6	I	FLTR	04.02	12	1	0.00130	0.00130	1.00000	0.0013	S_CHR_V
Mercury	7439-97-6	I	FLTR	07.02	34	1	0.00000	0.00000	0.00253	0.0013	S_CHR_V
Mercury	7439-97-6	I	FLTR	13	93	3	0.00002	0.00003	0.02405	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	00	12	2	0.00006	0.00006	0.04781	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	01	71	8	0.00001	0.00002	0.01168	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	02.02	22	1	0.00007	0.00007	0.05308	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	02.04	12	2	0.00001	0.00002	0.01620	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	03.01	67	38	0.00010	0.00013	0.09871	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	03.02	27	13	0.00009	0.00012	0.08898	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	03.03	36	18	0.00010	0.00013	0.09855	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	03.04	31	20	0.00019	0.00026	0.20039	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	04.01	40	8	0.00004	0.00005	0.04092	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	04.02	12	4	0.00003	0.00004	0.03387	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	04.04	20	6	0.00002	0.00003	0.02249	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	07.01	10	2	0.00000	0.00001	0.00422	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	07.02	34	4	0.00000	0.00000	0.00281	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	08	4	1	0.00001	0.00001	0.00519	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	13	106	18	0.00001	0.00002	0.01274	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	18	9	1	0.00007	0.00007	0.05462	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	20.01	9	5	0.00008	0.00009	0.06884	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	20.02	10	3	0.00007	0.00008	0.06293	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	21	18	3	0.00007	0.00007	0.05353	0.0013	S_CHR_V
Mercury	7439-97-6	I	WHOL	22	11	2	0.00011	0.00013	0.10077	0.0013	S_CHR_V
Methyl mercury	22967-92-6	I	FLTR	01	18	1	0.00000	0.00000	0.01333	0.0000	LCV_ALLO
Methyl mercury	22967-92-6	I	FLTR	02.04	1	1	0.00000	0.00000	0.00091	0.0000	LCV_ALLO
Methyl mercury	22967-92-6	I	FLTR	03.03	13	1	0.00000	0.00000	0.00178	0.0000	LCV_ALLO
Methyl mercury	22967-92-6	I	WHOL	02.04	1	1	0.00000	0.00000	0.00125	0.0000	LCV_ALLO
Methyl mercury	22967-92-6	I	WHOL	03.01	32	11	0.00000	0.00000	0.00406	0.0000	LCV_ALLO
Methyl mercury	22967-92-6	I	WHOL	03.02	12	4	0.00000	0.00000	0.00811	0.0000	LCV_ALLO
Methyl mercury	22967-92-6	I	WHOL	03.03	13	4	0.00000	0.00000	0.00685	0.0000	LCV_ALLO
Methyl mercury	22967-92-6	I	WHOL	03.04	14	2	0.00000	0.00000	0.00974	0.0000	LCV_ALLO
Methyl mercury	22967-92-6	I	WHOL	13	47	3	0.00000	0.00000	0.00281	0.0000	LCV_ALLO
Methyl mercury	22967-92-6	I	FLTR	01	18	1	0.00000	0.00000	0.00067	0.0008	LCV_AQPL
Methyl mercury	22967-92-6	I	FLTR	02.04	1	1	0.00000	0.00000	0.00005	0.0008	LCV_AQPL
Methyl mercury	22967-92-6	I	FLTR	03.03	13	1	0.00000	0.00000	0.00009	0.0008	LCV_AQPL
Methyl mercury	22967-92-6	I	WHOL	02.04	1	1	0.00000	0.00000	0.00006	0.0008	LCV_AQPL
Methyl mercury	22967-92-6	I	WHOL	03.01	32	11	0.00000	0.00000	0.00020	0.0008	LCV_AQPL
Methyl mercury	22967-92-6	I	WHOL	03.02	12	4	0.00000	0.00000	0.00041	0.0008	LCV_AQPL
Methyl mercury	22967-92-6	I	WHOL	03.03	13	4	0.00000	0.00000	0.00034	0.0008	LCV_AQPL
Methyl mercury	22967-92-6	I	WHOL	03.04	14	2	0.00000	0.00000	0.00049	0.0008	LCV_AQPL
Methyl mercury	22967-92-6	I	WHOL	13	47	3	0.00000	0.00000	0.00014	0.0008	LCV_AQPL

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Methyl mercury	22967-92-6	I	FLTR	01	18	1	0.00000	0.00000	0.01333	0.0000	LCV_DAPH
Methyl mercury	22967-92-6	I	FLTR	02.04	1	1	0.00000	0.00000	0.00091	0.0000	LCV_DAPH
Methyl mercury	22967-92-6	I	FLTR	03.03	13	1	0.00000	0.00000	0.00178	0.0000	LCV_DAPH
Methyl mercury	22967-92-6	I	WHOL	02.04	1	1	0.00000	0.00000	0.00125	0.0000	LCV_DAPH
Methyl mercury	22967-92-6	I	WHOL	03.01	32	11	0.00000	0.00000	0.00406	0.0000	LCV_DAPH
Methyl mercury	22967-92-6	I	WHOL	03.02	12	4	0.00000	0.00000	0.00811	0.0000	LCV_DAPH
Methyl mercury	22967-92-6	I	WHOL	03.03	13	4	0.00000	0.00000	0.00685	0.0000	LCV_DAPH
Methyl mercury	22967-92-6	I	WHOL	03.04	14	2	0.00000	0.00000	0.00974	0.0000	LCV_DAPH
Methyl mercury	22967-92-6	I	WHOL	13	47	3	0.00000	0.00000	0.00281	0.0000	LCV_DAPH
Methyl mercury	22967-92-6	I	FLTR	01	18	1	0.00000	0.00000	0.00103	0.0005	LCV_FISH
Methyl mercury	22967-92-6	I	FLTR	02.04	1	1	0.00000	0.00000	0.00007	0.0005	LCV_FISH
Methyl mercury	22967-92-6	I	FLTR	03.03	13	1	0.00000	0.00000	0.00014	0.0005	LCV_FISH
Methyl mercury	22967-92-6	I	WHOL	02.04	1	1	0.00000	0.00000	0.00010	0.0005	LCV_FISH
Methyl mercury	22967-92-6	I	WHOL	03.01	32	11	0.00000	0.00000	0.00031	0.0005	LCV_FISH
Methyl mercury	22967-92-6	I	WHOL	03.02	12	4	0.00000	0.00000	0.00062	0.0005	LCV_FISH
Methyl mercury	22967-92-6	I	WHOL	03.03	13	4	0.00000	0.00000	0.00053	0.0005	LCV_FISH
Methyl mercury	22967-92-6	I	WHOL	03.04	14	2	0.00000	0.00000	0.00075	0.0005	LCV_FISH
Methyl mercury	22967-92-6	I	WHOL	13	47	3	0.00000	0.00000	0.00022	0.0005	LCV_FISH
Methyl mercury	22967-92-6	I	FLTR	01	18	1	0.00000	0.00000	0.00061	0.0009	LTV_DAPH
Methyl mercury	22967-92-6	I	FLTR	02.04	1	1	0.00000	0.00000	0.00004	0.0009	LTV_DAPH
Methyl mercury	22967-92-6	I	FLTR	03.03	13	1	0.00000	0.00000	0.00008	0.0009	LTV_DAPH
Methyl mercury	22967-92-6	I	WHOL	02.04	1	1	0.00000	0.00000	0.00006	0.0009	LTV_DAPH
Methyl mercury	22967-92-6	I	WHOL	03.01	32	11	0.00000	0.00000	0.00019	0.0009	LTV_DAPH
Methyl mercury	22967-92-6	I	WHOL	03.02	12	4	0.00000	0.00000	0.00037	0.0009	LTV_DAPH
Methyl mercury	22967-92-6	I	WHOL	03.03	13	4	0.00000	0.00000	0.00031	0.0009	LTV_DAPH
Methyl mercury	22967-92-6	I	WHOL	03.04	14	2	0.00000	0.00000	0.00045	0.0009	LTV_DAPH
Methyl mercury	22967-92-6	I	WHOL	13	47	3	0.00000	0.00000	0.00013	0.0009	LTV_DAPH
Methyl mercury	22967-92-6	I	FLTR	01	18	1	0.00000	0.00000	0.01777	0.0000	LTV_FISH
Methyl mercury	22967-92-6	I	FLTR	02.04	1	1	0.00000	0.00000	0.00122	0.0000	LTV_FISH
Methyl mercury	22967-92-6	I	FLTR	03.03	13	1	0.00000	0.00000	0.00237	0.0000	LTV_FISH
Methyl mercury	22967-92-6	I	WHOL	02.04	1	1	0.00000	0.00000	0.00167	0.0000	LTV_FISH
Methyl mercury	22967-92-6	I	WHOL	03.01	32	11	0.00000	0.00000	0.00542	0.0000	LTV_FISH
Methyl mercury	22967-92-6	I	WHOL	03.02	12	4	0.00000	0.00000	0.01082	0.0000	LTV_FISH
Methyl mercury	22967-92-6	I	WHOL	03.03	13	4	0.00000	0.00000	0.00913	0.0000	LTV_FISH
Methyl mercury	22967-92-6	I	WHOL	03.04	14	2	0.00000	0.00000	0.01298	0.0000	LTV_FISH
Methyl mercury	22967-92-6	I	WHOL	13	47	3	0.00000	0.00000	0.00374	0.0000	LTV_FISH
Methyl mercury	22967-92-6	I	FLTR	01	18	1	0.00000	0.00000	0.00463	0.0001	S_ACU_V
Methyl mercury	22967-92-6	I	FLTR	02.04	1	1	0.00000	0.00000	0.00032	0.0001	S_ACU_V
Methyl mercury	22967-92-6	I	FLTR	03.03	13	1	0.00000	0.00000	0.00062	0.0001	S_ACU_V
Methyl mercury	22967-92-6	I	WHOL	02.04	1	1	0.00000	0.00000	0.00043	0.0001	S_ACU_V
Methyl mercury	22967-92-6	I	WHOL	03.01	32	11	0.00000	0.00000	0.00141	0.0001	S_ACU_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Methyl mercury	22967-92-6	I	WHOL	03.02	12	4	0.00000	0.00000	0.00282	0.0001	S_ACU_V
Methyl mercury	22967-92-6	I	WHOL	03.03	13	4	0.00000	0.00000	0.00238	0.0001	S_ACU_V
Methyl mercury	22967-92-6	I	WHOL	03.04	14	2	0.00000	0.00000	0.00339	0.0001	S_ACU_V
Methyl mercury	22967-92-6	I	WHOL	13	47	3	0.00000	0.00000	0.00098	0.0001	S_ACU_V
Methyl mercury	22967-92-6	I	FLTR	01	18	1	0.00000	0.00000	0.17767	0.0000	S_CHR_V
Methyl mercury	22967-92-6	I	FLTR	02.04	1	1	0.00000	0.00000	0.01217	0.0000	S_CHR_V
Methyl mercury	22967-92-6	I	FLTR	03.03	13	1	0.00000	0.00000	0.02367	0.0000	S_CHR_V
Methyl mercury	22967-92-6	I	WHOL	02.04	1	1	0.00000	0.00000	0.01667	0.0000	S_CHR_V
Methyl mercury	22967-92-6	I	WHOL	03.01	32	11	0.00000	0.00000	0.05418	0.0000	S_CHR_V
Methyl mercury	22967-92-6	I	WHOL	03.02	12	4	0.00000	0.00000	0.10819	0.0000	S_CHR_V
Methyl mercury	22967-92-6	I	WHOL	03.03	13	4	0.00000	0.00000	0.09132	0.0000	S_CHR_V
Methyl mercury	22967-92-6	I	WHOL	03.04	14	2	0.00000	0.00000	0.12983	0.0000	S_CHR_V
Methyl mercury	22967-92-6	I	WHOL	13	47	3	0.00000	0.00000	0.03740	0.0000	S_CHR_V
Methylene chloride	75-09-2	O	WHOL	20.02	10	1	0.00260	0.00260	0.00006	42.6670	LCV_ALLO
Methylene chloride	75-09-2	O	WHOL	20.02	10	1	0.00260	0.00260	0.00006	42.6670	LCV_DAPH
Methylene chloride	75-09-2	O	WHOL	20.02	10	1	0.00260	0.00260	0.00002	108.0000	LCV_FISH
Methylene chloride	75-09-2	O	WHOL	20.02	10	1	0.00260	0.00260	0.00634	0.4100	LTV_FISH
Methylene chloride	75-09-2	O	WHOL	20.02	10	1	0.00260	0.00260	0.00010	25.6000	S_ACU_V
Methylene chloride	75-09-2	O	WHOL	20.02	10	1	0.00260	0.00260	0.00116	2.2400	S_CHR_V
Molybdenum	7439-98-7	I	FLTR	01	17	1	0.00220	0.00220	0.00250	0.8800	LCV_ALLO
Molybdenum	7439-98-7	I	FLTR	03.01	13	1	0.00120	0.00120	0.00136	0.8800	LCV_ALLO
Molybdenum	7439-98-7	I	FLTR	03.02	13	2	0.00114	0.00122	0.00139	0.8800	LCV_ALLO
Molybdenum	7439-98-7	I	FLTR	07.01	5	1	0.00120	0.00120	0.00136	0.8800	LCV_ALLO
Molybdenum	7439-98-7	I	WHOL	03.01	33	2	0.00110	0.00111	0.00126	0.8800	LCV_ALLO
Molybdenum	7439-98-7	I	WHOL	03.02	13	2	0.00104	0.00112	0.00128	0.8800	LCV_ALLO
Molybdenum	7439-98-7	I	WHOL	03.04	15	1	0.00205	0.00205	0.00233	0.8800	LCV_ALLO
Molybdenum	7439-98-7	I	WHOL	04.01	15	1	0.00180	0.00180	0.00205	0.8800	LCV_ALLO
Molybdenum	7439-98-7	I	WHOL	13	48	1	0.00150	0.00150	0.00170	0.8800	LCV_ALLO
Molybdenum	7439-98-7	I	FLTR	01	17	1	0.00220	0.00220	0.00250	0.8800	LCV_DAPH
Molybdenum	7439-98-7	I	FLTR	03.01	13	1	0.00120	0.00120	0.00136	0.8800	LCV_DAPH
Molybdenum	7439-98-7	I	FLTR	03.02	13	2	0.00114	0.00122	0.00139	0.8800	LCV_DAPH
Molybdenum	7439-98-7	I	FLTR	07.01	5	1	0.00120	0.00120	0.00136	0.8800	LCV_DAPH
Molybdenum	7439-98-7	I	WHOL	03.01	33	2	0.00110	0.00111	0.00126	0.8800	LCV_DAPH
Molybdenum	7439-98-7	I	WHOL	03.02	13	2	0.00104	0.00112	0.00128	0.8800	LCV_DAPH
Molybdenum	7439-98-7	I	WHOL	03.04	15	1	0.00205	0.00205	0.00233	0.8800	LCV_DAPH
Molybdenum	7439-98-7	I	WHOL	04.01	15	1	0.00180	0.00180	0.00205	0.8800	LCV_DAPH
Molybdenum	7439-98-7	I	WHOL	13	48	1	0.00150	0.00150	0.00170	0.8800	LCV_DAPH
Molybdenum	7439-98-7	I	FLTR	01	17	1	0.00220	0.00220	0.00611	0.3600	LTV_DAPH
Molybdenum	7439-98-7	I	FLTR	03.01	13	1	0.00120	0.00120	0.00333	0.3600	LTV_DAPH
Molybdenum	7439-98-7	I	FLTR	03.02	13	2	0.00114	0.00122	0.00340	0.3600	LTV_DAPH
Molybdenum	7439-98-7	I	FLTR	07.01	5	1	0.00120	0.00120	0.00333	0.3600	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Molybdenum	7439-98-7	I	WHOL	03.01	33	2	0.00110	0.00111	0.00309	0.3600	LTV_DAPH
Molybdenum	7439-98-7	I	WHOL	03.02	13	2	0.00104	0.00112	0.00312	0.3600	LTV_DAPH
Molybdenum	7439-98-7	I	WHOL	03.04	15	1	0.00205	0.00205	0.00569	0.3600	LTV_DAPH
Molybdenum	7439-98-7	I	WHOL	04.01	15	1	0.00180	0.00180	0.00500	0.3600	LTV_DAPH
Molybdenum	7439-98-7	I	WHOL	13	48	1	0.00150	0.00150	0.00417	0.3600	LTV_DAPH
Molybdenum	7439-98-7	I	FLTR	01	17	1	0.00220	0.00220	0.00022	10.1000	S_ACU_V
Molybdenum	7439-98-7	I	FLTR	03.01	13	1	0.00120	0.00120	0.00012	10.1000	S_ACU_V
Molybdenum	7439-98-7	I	FLTR	03.02	13	2	0.00114	0.00122	0.00012	10.1000	S_ACU_V
Molybdenum	7439-98-7	I	FLTR	07.01	5	1	0.00120	0.00120	0.00012	10.1000	S_ACU_V
Molybdenum	7439-98-7	I	WHOL	03.01	33	2	0.00110	0.00111	0.00011	10.1000	S_ACU_V
Molybdenum	7439-98-7	I	WHOL	03.02	13	2	0.00104	0.00112	0.00011	10.1000	S_ACU_V
Molybdenum	7439-98-7	I	WHOL	03.04	15	1	0.00205	0.00205	0.00020	10.1000	S_ACU_V
Molybdenum	7439-98-7	I	WHOL	04.01	15	1	0.00180	0.00180	0.00018	10.1000	S_ACU_V
Molybdenum	7439-98-7	I	WHOL	13	48	1	0.00150	0.00150	0.00015	10.1000	S_ACU_V
Molybdenum	7439-98-7	I	FLTR	01	17	1	0.00220	0.00220	0.00921	0.2390	S_CHR_V
Molybdenum	7439-98-7	I	FLTR	03.01	13	1	0.00120	0.00120	0.00502	0.2390	S_CHR_V
Molybdenum	7439-98-7	I	FLTR	03.02	13	2	0.00114	0.00122	0.00512	0.2390	S_CHR_V
Molybdenum	7439-98-7	I	FLTR	07.01	5	1	0.00120	0.00120	0.00502	0.2390	S_CHR_V
Molybdenum	7439-98-7	I	WHOL	03.01	33	2	0.00110	0.00111	0.00465	0.2390	S_CHR_V
Molybdenum	7439-98-7	I	WHOL	03.02	13	2	0.00104	0.00112	0.00470	0.2390	S_CHR_V
Molybdenum	7439-98-7	I	WHOL	03.04	15	1	0.00205	0.00205	0.00858	0.2390	S_CHR_V
Molybdenum	7439-98-7	I	WHOL	04.01	15	1	0.00180	0.00180	0.00753	0.2390	S_CHR_V
Molybdenum	7439-98-7	I	WHOL	13	48	1	0.00150	0.00150	0.00628	0.2390	S_CHR_V
Nickel	7440-02-0	I	FLTR	00	1	1	0.00490	0.00490	0.98000	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	01	20	16	0.00288	0.00376	0.75110	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	02.01	3	3	0.00486	0.01027	2.05409	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	02.02	13	10	0.00241	0.00317	0.63310	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	02.03	6	6	0.00350	0.00560	1.11951	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	02.04	2	1	0.00187	0.00187	0.37400	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	03.01	14	13	0.00425	0.00522	1.04312	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	03.02	14	13	0.00407	0.00486	0.97272	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	03.03	14	13	0.00444	0.00592	1.18405	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	03.04	16	15	0.00362	0.00461	0.92165	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	04.01	16	14	0.00300	0.00371	0.74175	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	04.02	6	4	0.00277	0.00394	0.78718	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	04.04	10	7	0.00334	0.00581	1.16149	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	07.01	5	4	0.00366	0.00725	1.45095	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	07.02	17	15	0.00308	0.00453	0.90604	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	08	2	1	0.00520	0.00520	1.04000	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	13	47	46	0.00457	0.00538	1.07645	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	00	11	1	0.00550	0.00550	1.10000	0.0050	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Nickel	7440-02-0	I	WHOL	01	51	18	0.00303	0.00360	0.71915	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	02.01	3	2	0.00597	0.01395	2.78928	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	02.02	22	11	0.00339	0.00451	0.90245	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	02.03	6	5	0.00355	0.00512	1.02375	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	02.04	11	1	0.00200	0.00200	0.40000	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	03.01	34	33	0.00440	0.00469	0.93843	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	03.02	14	13	0.00354	0.00418	0.83537	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	03.03	23	13	0.00358	0.00421	0.84212	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	03.04	16	15	0.00360	0.00425	0.85074	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	04.01	25	13	0.00228	0.00272	0.54344	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	04.02	6	4	0.00187	0.00293	0.58508	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	04.04	10	7	0.00280	0.00368	0.73614	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	07.01	5	3	0.00326	0.00458	0.91605	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	07.02	17	11	0.00307	0.00424	0.84873	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	08	2	1	0.00290	0.00290	0.58000	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	13	58	49	0.00403	0.00446	0.89122	0.0050	LCV_ALLO
Nickel	7440-02-0	I	WHOL	21	18	5	0.01661	0.02189	4.37735	0.0050	LCV_ALLO
Nickel	7440-02-0	I	FLTR	00	1	1	0.00490	0.00490	0.98000	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	01	20	16	0.00288	0.00376	0.75110	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	02.01	3	3	0.00486	0.01027	2.05409	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	02.02	13	10	0.00241	0.00317	0.63310	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	02.03	6	6	0.00350	0.00560	1.11951	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	02.04	2	1	0.00187	0.00187	0.37400	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	03.01	14	13	0.00425	0.00522	1.04312	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	03.02	14	13	0.00407	0.00486	0.97272	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	03.03	14	13	0.00444	0.00592	1.18405	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	03.04	16	15	0.00362	0.00461	0.92165	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	04.01	16	14	0.00300	0.00371	0.74175	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	04.02	6	4	0.00277	0.00394	0.78718	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	04.04	10	7	0.00334	0.00581	1.16149	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	07.01	5	4	0.00366	0.00725	1.45095	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	07.02	17	15	0.00308	0.00453	0.90604	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	08	2	1	0.00520	0.00520	1.04000	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	13	47	46	0.00457	0.00538	1.07645	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	00	11	1	0.00550	0.00550	1.10000	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	01	51	18	0.00303	0.00360	0.71915	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	02.01	3	2	0.00597	0.01395	2.78928	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	02.02	22	11	0.00339	0.00451	0.90245	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	02.03	6	5	0.00355	0.00512	1.02375	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	02.04	11	1	0.00200	0.00200	0.40000	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	03.01	34	33	0.00440	0.00469	0.93843	0.0050	LCV_AQPL

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Nickel	7440-02-0	I	WHOL	03.02	14	13	0.00354	0.00418	0.83537	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	03.03	23	13	0.00358	0.00421	0.84212	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	03.04	16	15	0.00360	0.00425	0.85074	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	04.01	25	13	0.00228	0.00272	0.54344	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	04.02	6	4	0.00187	0.00293	0.58508	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	04.04	10	7	0.00280	0.00368	0.73614	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	07.01	5	3	0.00326	0.00458	0.91605	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	07.02	17	11	0.00307	0.00424	0.84873	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	08	2	1	0.00290	0.00290	0.58000	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	13	58	49	0.00403	0.00446	0.89122	0.0050	LCV_AQPL
Nickel	7440-02-0	I	WHOL	21	18	5	0.01661	0.02189	4.37735	0.0050	LCV_AQPL
Nickel	7440-02-0	I	FLTR	00	1	1	0.00490	0.00490	0.98000	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	01	20	16	0.00288	0.00376	0.75110	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	02.01	3	3	0.00486	0.01027	2.05409	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	02.02	13	10	0.00241	0.00317	0.63310	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	02.03	6	6	0.00350	0.00560	1.11951	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	02.04	2	1	0.00187	0.00187	0.37400	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	03.01	14	13	0.00425	0.00522	1.04312	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	03.02	14	13	0.00407	0.00486	0.97272	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	03.03	14	13	0.00444	0.00592	1.18405	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	03.04	16	15	0.00362	0.00461	0.92165	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	04.01	16	14	0.00300	0.00371	0.74175	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	04.02	6	4	0.00277	0.00394	0.78718	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	04.04	10	7	0.00334	0.00581	1.16149	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	07.01	5	4	0.00366	0.00725	1.45095	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	07.02	17	15	0.00308	0.00453	0.90604	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	08	2	1	0.00520	0.00520	1.04000	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	13	47	46	0.00457	0.00538	1.07645	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	00	11	1	0.00550	0.00550	1.10000	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	01	51	18	0.00303	0.00360	0.71915	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	02.01	3	2	0.00597	0.01395	2.78928	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	02.02	22	11	0.00339	0.00451	0.90245	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	02.03	6	5	0.00355	0.00512	1.02375	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	02.04	11	1	0.00200	0.00200	0.40000	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	03.01	34	33	0.00440	0.00469	0.93843	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	03.02	14	13	0.00354	0.00418	0.83537	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	03.03	23	13	0.00358	0.00421	0.84212	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	03.04	16	15	0.00360	0.00425	0.85074	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	04.01	25	13	0.00228	0.00272	0.54344	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	04.02	6	4	0.00187	0.00293	0.58508	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	04.04	10	7	0.00280	0.00368	0.73614	0.0050	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Nickel	7440-02-0	I	WHOL	07.01	5	3	0.00326	0.00458	0.91605	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	07.02	17	11	0.00307	0.00424	0.84873	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	08	2	1	0.00290	0.00290	0.58000	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	13	58	49	0.00403	0.00446	0.89122	0.0050	LCV_DAPH
Nickel	7440-02-0	I	WHOL	21	18	5	0.01661	0.02189	4.37735	0.0050	LCV_DAPH
Nickel	7440-02-0	I	FLTR	00	1	1	0.00490	0.00490	0.14000	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	01	20	16	0.00288	0.00376	0.10730	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	02.01	3	3	0.00486	0.01027	0.29344	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	02.02	13	10	0.00241	0.00317	0.09044	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	02.03	6	6	0.00350	0.00560	0.15993	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	02.04	2	1	0.00187	0.00187	0.05343	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	03.01	14	13	0.00425	0.00522	0.14902	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	03.02	14	13	0.00407	0.00486	0.13896	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	03.03	14	13	0.00444	0.00592	0.16915	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	03.04	16	15	0.00362	0.00461	0.13166	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	04.01	16	14	0.00300	0.00371	0.10596	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	04.02	6	4	0.00277	0.00394	0.11245	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	04.04	10	7	0.00334	0.00581	0.16593	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	07.01	5	4	0.00366	0.00725	0.20728	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	07.02	17	15	0.00308	0.00453	0.12943	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	08	2	1	0.00520	0.00520	0.14857	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	13	47	46	0.00457	0.00538	0.15378	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	00	11	1	0.00550	0.00550	0.15714	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	01	51	18	0.00303	0.00360	0.10274	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	02.01	3	2	0.00597	0.01395	0.39847	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	02.02	22	11	0.00339	0.00451	0.12892	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	02.03	6	5	0.00355	0.00512	0.14625	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	02.04	11	1	0.00200	0.00200	0.05714	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	03.01	34	33	0.00440	0.00469	0.13406	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	03.02	14	13	0.00354	0.00418	0.11934	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	03.03	23	13	0.00358	0.00421	0.12030	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	03.04	16	15	0.00360	0.00425	0.12153	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	04.01	25	13	0.00228	0.00272	0.07763	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	04.02	6	4	0.00187	0.00293	0.08358	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	04.04	10	7	0.00280	0.00368	0.10516	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	07.01	5	3	0.00326	0.00458	0.13086	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	07.02	17	11	0.00307	0.00424	0.12125	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	08	2	1	0.00290	0.00290	0.08286	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	13	58	49	0.00403	0.00446	0.12732	0.0350	LCV_FISH
Nickel	7440-02-0	I	WHOL	21	18	5	0.01661	0.02189	0.62534	0.0350	LCV_FISH
Nickel	7440-02-0	I	FLTR	00	1	1	0.00490	0.00490	0.03816	0.1284	LCV_NDI

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Nickel	7440-02-0	I	FLTR	01	20	16	0.00288	0.00376	0.02925	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	02.01	3	3	0.00486	0.01027	0.07999	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	02.02	13	10	0.00241	0.00317	0.02465	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	02.03	6	6	0.00350	0.00560	0.04359	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	02.04	2	1	0.00187	0.00187	0.01456	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	03.01	14	13	0.00425	0.00522	0.04062	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	03.02	14	13	0.00407	0.00486	0.03788	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	03.03	14	13	0.00444	0.00592	0.04611	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	03.04	16	15	0.00362	0.00461	0.03589	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	04.01	16	14	0.00300	0.00371	0.02888	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	04.02	6	4	0.00277	0.00394	0.03065	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	04.04	10	7	0.00334	0.00581	0.04523	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	07.01	5	4	0.00366	0.00725	0.05650	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	07.02	17	15	0.00308	0.00453	0.03528	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	08	2	1	0.00520	0.00520	0.04050	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	13	47	46	0.00457	0.00538	0.04192	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	00	11	1	0.00550	0.00550	0.04283	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	01	51	18	0.00303	0.00360	0.02800	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	02.01	3	2	0.00597	0.01395	0.10862	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	02.02	22	11	0.00339	0.00451	0.03514	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	02.03	6	5	0.00355	0.00512	0.03987	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	02.04	11	1	0.00200	0.00200	0.01558	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	03.01	34	33	0.00440	0.00469	0.03654	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	03.02	14	13	0.00354	0.00418	0.03253	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	03.03	23	13	0.00358	0.00421	0.03279	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	03.04	16	15	0.00360	0.00425	0.03313	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	04.01	25	13	0.00228	0.00272	0.02116	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	04.02	6	4	0.00187	0.00293	0.02278	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	04.04	10	7	0.00280	0.00368	0.02867	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	07.01	5	3	0.00326	0.00458	0.03567	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	07.02	17	11	0.00307	0.00424	0.03305	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	08	2	1	0.00290	0.00290	0.02259	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	13	58	49	0.00403	0.00446	0.03470	0.1284	LCV_NDI
Nickel	7440-02-0	I	WHOL	21	18	5	0.01661	0.02189	0.17046	0.1284	LCV_NDI
Nickel	7440-02-0	I	FLTR	00	1	1	0.00490	0.00490	0.10889	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	01	20	16	0.00288	0.00376	0.08346	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	02.01	3	3	0.00486	0.01027	0.22823	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	02.02	13	10	0.00241	0.00317	0.07034	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	02.03	6	6	0.00350	0.00560	0.12439	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	02.04	2	1	0.00187	0.00187	0.04156	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	03.01	14	13	0.00425	0.00522	0.11590	0.0450	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Nickel	7440-02-0	I	FLTR	03.02	14	13	0.00407	0.00486	0.10808	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	03.03	14	13	0.00444	0.00592	0.13156	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	03.04	16	15	0.00362	0.00461	0.10241	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	04.01	16	14	0.00300	0.00371	0.08242	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	04.02	6	4	0.00277	0.00394	0.08746	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	04.04	10	7	0.00334	0.00581	0.12905	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	07.01	5	4	0.00366	0.00725	0.16122	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	07.02	17	15	0.00308	0.00453	0.10067	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	08	2	1	0.00520	0.00520	0.11556	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	13	47	46	0.00457	0.00538	0.11961	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	00	11	1	0.00550	0.00550	0.12222	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	01	51	18	0.00303	0.00360	0.07991	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	02.01	3	2	0.00597	0.01395	0.30992	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	02.02	22	11	0.00339	0.00451	0.10027	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	02.03	6	5	0.00355	0.00512	0.11375	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	02.04	11	1	0.00200	0.00200	0.04444	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	03.01	34	33	0.00440	0.00469	0.10427	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	03.02	14	13	0.00354	0.00418	0.09282	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	03.03	23	13	0.00358	0.00421	0.09357	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	03.04	16	15	0.00360	0.00425	0.09453	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	04.01	25	13	0.00228	0.00272	0.06038	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	04.02	6	4	0.00187	0.00293	0.06501	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	04.04	10	7	0.00280	0.00368	0.08179	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	07.01	5	3	0.00326	0.00458	0.10178	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	07.02	17	11	0.00307	0.00424	0.09430	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	08	2	1	0.00290	0.00290	0.06444	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	13	58	49	0.00403	0.00446	0.09902	0.0450	LTV_DAPH
Nickel	7440-02-0	I	WHOL	21	18	5	0.01661	0.02189	0.48637	0.0450	LTV_DAPH
Nickel	7440-02-0	I	FLTR	00	1	1	0.00490	0.00490	0.07903	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	01	20	16	0.00288	0.00376	0.06057	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	02.01	3	3	0.00486	0.01027	0.16565	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	02.02	13	10	0.00241	0.00317	0.05106	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	02.03	6	6	0.00350	0.00560	0.09028	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	02.04	2	1	0.00187	0.00187	0.03016	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	03.01	14	13	0.00425	0.00522	0.08412	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	03.02	14	13	0.00407	0.00486	0.07845	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	03.03	14	13	0.00444	0.00592	0.09549	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	03.04	16	15	0.00362	0.00461	0.07433	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	04.01	16	14	0.00300	0.00371	0.05982	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	04.02	6	4	0.00277	0.00394	0.06348	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	04.04	10	7	0.00334	0.00581	0.09367	0.0620	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Nickel	7440-02-0	I	FLTR	07.01	5	4	0.00366	0.00725	0.11701	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	07.02	17	15	0.00308	0.00453	0.07307	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	08	2	1	0.00520	0.00520	0.08387	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	13	47	46	0.00457	0.00538	0.08681	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	00	11	1	0.00550	0.00550	0.08871	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	01	51	18	0.00303	0.00360	0.05800	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	02.01	3	2	0.00597	0.01395	0.22494	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	02.02	22	11	0.00339	0.00451	0.07278	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	02.03	6	5	0.00355	0.00512	0.08256	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	02.04	11	1	0.00200	0.00200	0.03226	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	03.01	34	33	0.00440	0.00469	0.07568	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	03.02	14	13	0.00354	0.00418	0.06737	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	03.03	23	13	0.00358	0.00421	0.06791	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	03.04	16	15	0.00360	0.00425	0.06861	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	04.01	25	13	0.00228	0.00272	0.04383	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	04.02	6	4	0.00187	0.00293	0.04718	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	04.04	10	7	0.00280	0.00368	0.05937	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	07.01	5	3	0.00326	0.00458	0.07387	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	07.02	17	11	0.00307	0.00424	0.06845	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	08	2	1	0.00290	0.00290	0.04677	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	13	58	49	0.00403	0.00446	0.07187	0.0620	LTV_FISH
Nickel	7440-02-0	I	WHOL	21	18	5	0.01661	0.02189	0.35301	0.0620	LTV_FISH
Nickel	7440-02-0	I	FLTR	00	1	1	0.00490	0.00490	0.00350	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	01	20	16	0.00288	0.00376	0.00268	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	02.01	3	3	0.00486	0.01027	0.00734	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	02.02	13	10	0.00241	0.00317	0.00226	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	02.03	6	6	0.00350	0.00560	0.00400	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	02.04	2	1	0.00187	0.00187	0.00134	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	03.01	14	13	0.00425	0.00522	0.00373	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	03.02	14	13	0.00407	0.00486	0.00347	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	03.03	14	13	0.00444	0.00592	0.00423	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	03.04	16	15	0.00362	0.00461	0.00329	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	04.01	16	14	0.00300	0.00371	0.00265	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	04.02	6	4	0.00277	0.00394	0.00281	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	04.04	10	7	0.00334	0.00581	0.00415	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	07.01	5	4	0.00366	0.00725	0.00518	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	07.02	17	15	0.00308	0.00453	0.00324	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	08	2	1	0.00520	0.00520	0.00371	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	13	47	46	0.00457	0.00538	0.00384	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	00	11	1	0.00550	0.00550	0.00393	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	01	51	18	0.00303	0.00360	0.00257	1.4000	NAWQ_ACU

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Nickel	7440-02-0	I	WHOL	02.01	3	2	0.00597	0.01395	0.00996	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	02.02	22	11	0.00339	0.00451	0.00322	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	02.03	6	5	0.00355	0.00512	0.00366	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	02.04	11	1	0.00200	0.00200	0.00143	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	03.01	34	33	0.00440	0.00469	0.00335	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	03.02	14	13	0.00354	0.00418	0.00298	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	03.03	23	13	0.00358	0.00421	0.00301	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	03.04	16	15	0.00360	0.00425	0.00304	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	04.01	25	13	0.00228	0.00272	0.00194	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	04.02	6	4	0.00187	0.00293	0.00209	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	04.04	10	7	0.00280	0.00368	0.00263	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	07.01	5	3	0.00326	0.00458	0.00327	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	07.02	17	11	0.00307	0.00424	0.00303	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	08	2	1	0.00290	0.00290	0.00207	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	13	58	49	0.00403	0.00446	0.00318	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	WHOL	21	18	5	0.01661	0.02189	0.01563	1.4000	NAWQ_ACU
Nickel	7440-02-0	I	FLTR	00	1	1	0.00490	0.00490	0.03063	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	01	20	16	0.00288	0.00376	0.02347	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	02.01	3	3	0.00486	0.01027	0.06419	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	02.02	13	10	0.00241	0.00317	0.01978	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	02.03	6	6	0.00350	0.00560	0.03498	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	02.04	2	1	0.00187	0.00187	0.01169	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	03.01	14	13	0.00425	0.00522	0.03260	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	03.02	14	13	0.00407	0.00486	0.03040	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	03.03	14	13	0.00444	0.00592	0.03700	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	03.04	16	15	0.00362	0.00461	0.02880	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	04.01	16	14	0.00300	0.00371	0.02318	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	04.02	6	4	0.00277	0.00394	0.02460	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	04.04	10	7	0.00334	0.00581	0.03630	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	07.01	5	4	0.00366	0.00725	0.04534	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	07.02	17	15	0.00308	0.00453	0.02831	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	08	2	1	0.00520	0.00520	0.03250	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	FLTR	13	47	46	0.00457	0.00538	0.03364	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	00	11	1	0.00550	0.00550	0.03438	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	01	51	18	0.00303	0.00360	0.02247	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	02.01	3	2	0.00597	0.01395	0.08716	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	02.02	22	11	0.00339	0.00451	0.02820	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	02.03	6	5	0.00355	0.00512	0.03199	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	02.04	11	1	0.00200	0.00200	0.01250	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	03.01	34	33	0.00440	0.00469	0.02933	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	03.02	14	13	0.00354	0.00418	0.02611	0.1600	NAWQ_CHR

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Nickel	7440-02-0	I	WHOL	03.03	23	13	0.00358	0.00421	0.02632	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	03.04	16	15	0.00360	0.00425	0.02659	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	04.01	25	13	0.00228	0.00272	0.01698	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	04.02	6	4	0.00187	0.00293	0.01828	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	04.04	10	7	0.00280	0.00368	0.02300	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	07.01	5	3	0.00326	0.00458	0.02863	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	07.02	17	11	0.00307	0.00424	0.02652	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	08	2	1	0.00290	0.00290	0.01813	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	13	58	49	0.00403	0.00446	0.02785	0.1600	NAWQ_CHR
Nickel	7440-02-0	I	WHOL	21	18	5	0.01661	0.02189	0.13679	0.1600	NAWQ_CHR
PCB-1254	11097-69-1	O	WHOL	03.01	12	1	0.00029	0.00029	2.90000	0.0001	LCV_ALLO
PCB-1254	11097-69-1	O	WHOL	03.04	14	1	0.00014	0.00014	1.40000	0.0001	LCV_ALLO
PCB-1254	11097-69-1	O	WHOL	13	48	1	0.00046	0.00046	4.60000	0.0001	LCV_ALLO
PCB-1254	11097-69-1	O	WHOL	03.01	12	1	0.00029	0.00029	2.90000	0.0001	LCV_AQPL
PCB-1254	11097-69-1	O	WHOL	03.04	14	1	0.00014	0.00014	1.40000	0.0001	LCV_AQPL
PCB-1254	11097-69-1	O	WHOL	13	48	1	0.00046	0.00046	4.60000	0.0001	LCV_AQPL
PCB-1254	11097-69-1	O	WHOL	03.01	12	1	0.00029	0.00029	0.13810	0.0021	LCV_DAPH
PCB-1254	11097-69-1	O	WHOL	03.04	14	1	0.00014	0.00014	0.06667	0.0021	LCV_DAPH
PCB-1254	11097-69-1	O	WHOL	13	48	1	0.00046	0.00046	0.21905	0.0021	LCV_DAPH
PCB-1254	11097-69-1	O	WHOL	03.01	12	1	0.00029	0.00029	0.29000	0.0010	LCV_FISH
PCB-1254	11097-69-1	O	WHOL	03.04	14	1	0.00014	0.00014	0.14000	0.0010	LCV_FISH
PCB-1254	11097-69-1	O	WHOL	13	48	1	0.00046	0.00046	0.46000	0.0010	LCV_FISH
PCB-1254	11097-69-1	O	WHOL	03.01	12	1	0.00029	0.00029	0.36250	0.0008	LCV_NDI
PCB-1254	11097-69-1	O	WHOL	03.04	14	1	0.00014	0.00014	0.17500	0.0008	LCV_NDI
PCB-1254	11097-69-1	O	WHOL	13	48	1	0.00046	0.00046	0.57500	0.0008	LCV_NDI
PCB-1254	11097-69-1	O	WHOL	03.01	12	1	0.00029	0.00029	0.24167	0.0012	LTV_DAPH
PCB-1254	11097-69-1	O	WHOL	03.04	14	1	0.00014	0.00014	0.11667	0.0012	LTV_DAPH
PCB-1254	11097-69-1	O	WHOL	13	48	1	0.00046	0.00046	0.38333	0.0012	LTV_DAPH
PCB-1254	11097-69-1	O	WHOL	03.01	12	1	0.00029	0.00029	0.55769	0.0005	LTV_FISH
PCB-1254	11097-69-1	O	WHOL	03.04	14	1	0.00014	0.00014	0.26923	0.0005	LTV_FISH
PCB-1254	11097-69-1	O	WHOL	13	48	1	0.00046	0.00046	0.88462	0.0005	LTV_FISH
PCB-1254	11097-69-1	O	WHOL	03.01	12	1	0.00029	0.00029	1.38095	0.0002	S_ACU_V
PCB-1254	11097-69-1	O	WHOL	03.04	14	1	0.00014	0.00014	0.66667	0.0002	S_ACU_V
PCB-1254	11097-69-1	O	WHOL	13	48	1	0.00046	0.00046	2.19048	0.0002	S_ACU_V
PCB-1254	11097-69-1	O	WHOL	03.01	12	1	0.00029	0.00029	14.50000	0.0000	S_CHR_V
PCB-1254	11097-69-1	O	WHOL	03.04	14	1	0.00014	0.00014	7.00000	0.0000	S_CHR_V
PCB-1254	11097-69-1	O	WHOL	13	48	1	0.00046	0.00046	23.00000	0.0000	S_CHR_V
PCB-1260	11096-82-5	O	WHOL	13	48	1	0.00102	0.00102	0.78462	0.0013	LCV_ALLO
PCB-1260	11096-82-5	O	WHOL	13	48	1	0.00102	0.00102	0.78462	0.0013	LCV_FISH
PCB-1260	11096-82-5	O	WHOL	13	48	1	0.00102	0.00102	0.48571	0.0021	LTV_FISH
PCB-1260	11096-82-5	O	WHOL	13	48	1	0.00102	0.00102	0.00545	0.1870	S_ACU_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
PCB-1260	11096-82-5	O	WHOL	13	48	1	0.00102	0.00102	0.09714	0.0105	S_CHR_V
Potassium	7440-09-7	I	FLTR	00	1	1	1.67000	1.67000	0.03151	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	01	20	20	1.41756	1.48258	0.02797	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	02.01	3	3	1.34308	1.59963	0.03018	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	02.02	13	13	1.41077	1.44849	0.02733	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	02.03	6	6	1.36383	1.44755	0.02731	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	02.04	2	2	1.60785	2.50534	0.04727	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	03.01	14	14	1.79043	2.12528	0.04010	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	03.02	14	14	1.72506	1.97964	0.03735	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	03.03	14	14	1.73318	1.99634	0.03767	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	03.04	16	15	1.61341	1.83094	0.03455	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	04.01	16	16	1.58915	1.71765	0.03241	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	04.02	6	6	1.35183	1.39260	0.02628	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	04.04	10	10	1.40466	1.50059	0.02831	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	05	4	4	1.46500	1.63043	0.03076	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	07.01	5	5	1.44200	1.57122	0.02965	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	07.02	17	16	1.38676	1.43296	0.02704	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	08	2	2	1.42500	1.58284	0.02986	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	10	2	2	1.77500	2.18539	0.04123	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	13	47	47	1.75250	1.89152	0.03569	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	22	1	1	1.31000	1.31000	0.02472	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	00	10	4	1.65325	1.81952	0.03433	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	01	48	34	1.59440	1.68669	0.03182	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	02.01	3	3	1.43667	1.64268	0.03099	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	02.02	21	16	1.53175	1.62660	0.03069	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	02.03	6	6	1.46333	1.54455	0.02914	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	02.04	10	3	1.50000	1.67978	0.03169	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	03.01	34	33	1.53647	1.68059	0.03171	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	03.02	14	14	1.77643	2.02386	0.03819	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	03.03	22	19	1.88118	2.09027	0.03944	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	03.04	16	15	1.66094	1.88777	0.03562	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	04.01	24	19	1.61013	1.73138	0.03267	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	04.02	6	6	1.41500	1.46722	0.02768	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	04.04	10	10	1.41150	1.48039	0.02793	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	05	4	4	1.46500	1.74568	0.03294	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	07.01	5	5	1.49200	1.61472	0.03047	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	07.02	17	17	1.45451	1.49196	0.02815	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	08	2	2	1.51500	1.73598	0.03275	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	10	2	2	1.62000	1.74628	0.03295	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	13	57	51	1.79530	1.92475	0.03632	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	18	8	2	1.64750	1.91693	0.03617	53.0000	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Potassium	7440-09-7	I	WHOL	20.01	8	5	3.14250	4.12071	0.07775	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	20.02	9	6	2.24889	2.57242	0.04854	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	21	16	10	2.53938	2.95569	0.05577	53.0000	LCV_ALLO
Potassium	7440-09-7	I	WHOL	22	10	5	1.88600	2.29774	0.04335	53.0000	LCV_ALLO
Potassium	7440-09-7	I	FLTR	00	1	1	1.67000	1.67000	0.03151	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	01	20	20	1.41756	1.48258	0.02797	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	02.01	3	3	1.34308	1.59963	0.03018	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	02.02	13	13	1.41077	1.44849	0.02733	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	02.03	6	6	1.36383	1.44755	0.02731	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	02.04	2	2	1.60785	2.50534	0.04727	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	03.01	14	14	1.79043	2.12528	0.04010	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	03.02	14	14	1.72506	1.97964	0.03735	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	03.03	14	14	1.73318	1.99634	0.03767	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	03.04	16	15	1.61341	1.83094	0.03455	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	04.01	16	16	1.58915	1.71765	0.03241	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	04.02	6	6	1.35183	1.39260	0.02628	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	04.04	10	10	1.40466	1.50059	0.02831	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	05	4	4	1.46500	1.63043	0.03076	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	07.01	5	5	1.44200	1.57122	0.02965	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	07.02	17	16	1.38676	1.43296	0.02704	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	08	2	2	1.42500	1.58284	0.02986	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	10	2	2	1.77500	2.18539	0.04123	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	13	47	47	1.75250	1.89152	0.03569	53.0000	LCV_DAPH
Potassium	7440-09-7	I	FLTR	22	1	1	1.31000	1.31000	0.02472	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	00	10	4	1.65325	1.81952	0.03433	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	01	48	34	1.59440	1.68669	0.03182	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	02.01	3	3	1.43667	1.64268	0.03099	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	02.02	21	16	1.53175	1.62660	0.03069	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	02.03	6	6	1.46333	1.54455	0.02914	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	02.04	10	3	1.50000	1.67978	0.03169	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	03.01	34	33	1.53647	1.68059	0.03171	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	03.02	14	14	1.77643	2.02386	0.03819	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	03.03	22	19	1.88118	2.09027	0.03944	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	03.04	16	15	1.66094	1.88777	0.03562	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	04.01	24	19	1.61013	1.73138	0.03267	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	04.02	6	6	1.41500	1.46722	0.02768	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	04.04	10	10	1.41150	1.48039	0.02793	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	05	4	4	1.46500	1.74568	0.03294	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	07.01	5	5	1.49200	1.61472	0.03047	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	07.02	17	17	1.45451	1.49196	0.02815	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	08	2	2	1.51500	1.73598	0.03275	53.0000	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Potassium	7440-09-7	I	WHOL	10	2	2	1.62000	1.74628	0.03295	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	13	57	51	1.79530	1.92475	0.03632	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	18	8	2	1.64750	1.91693	0.03617	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	20.01	8	5	3.14250	4.12071	0.07775	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	20.02	9	6	2.24889	2.57242	0.04854	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	21	16	10	2.53938	2.95569	0.05577	53.0000	LCV_DAPH
Potassium	7440-09-7	I	WHOL	22	10	5	1.88600	2.29774	0.04335	53.0000	LCV_DAPH
Selenium	7782-49-2	I	FLTR	01	20	2	0.00136	0.00164	0.01853	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	02.01	3	1	0.00320	0.00320	0.03623	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	02.03	6	1	0.00500	0.00500	0.05661	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	03.01	14	2	0.00461	0.00462	0.05236	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	03.02	14	2	0.00368	0.00386	0.04369	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	03.04	16	1	0.00330	0.00330	0.03736	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	04.01	16	4	0.00134	0.00179	0.02032	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	04.02	6	1	0.00330	0.00330	0.03736	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	04.04	11	1	0.00160	0.00160	0.01812	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	07.02	17	2	0.00345	0.00406	0.04596	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	08	2	1	0.00420	0.00420	0.04755	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	13	47	5	0.00133	0.00155	0.01756	0.0883	LCV_ALLO
Selenium	7782-49-2	I	WHOL	07.02	17	1	0.00110	0.00110	0.01245	0.0883	LCV_ALLO
Selenium	7782-49-2	I	WHOL	13	58	1	0.00120	0.00120	0.01359	0.0883	LCV_ALLO
Selenium	7782-49-2	I	FLTR	01	20	2	0.00136	0.00164	0.01637	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	02.01	3	1	0.00320	0.00320	0.03200	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	02.03	6	1	0.00500	0.00500	0.05000	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	03.01	14	2	0.00461	0.00462	0.04624	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	03.02	14	2	0.00368	0.00386	0.03858	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	03.04	16	1	0.00330	0.00330	0.03300	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	04.01	16	4	0.00134	0.00179	0.01794	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	04.02	6	1	0.00330	0.00330	0.03300	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	04.04	11	1	0.00160	0.00160	0.01600	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	07.02	17	2	0.00345	0.00406	0.04059	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	08	2	1	0.00420	0.00420	0.04200	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	13	47	5	0.00133	0.00155	0.01551	0.1000	LCV_AQPL
Selenium	7782-49-2	I	WHOL	07.02	17	1	0.00110	0.00110	0.01100	0.1000	LCV_AQPL
Selenium	7782-49-2	I	WHOL	13	58	1	0.00120	0.00120	0.01200	0.1000	LCV_AQPL
Selenium	7782-49-2	I	FLTR	01	20	2	0.00136	0.00164	0.01786	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	02.01	3	1	0.00320	0.00320	0.03492	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	02.03	6	1	0.00500	0.00500	0.05456	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	03.01	14	2	0.00461	0.00462	0.05046	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	03.02	14	2	0.00368	0.00386	0.04210	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	03.04	16	1	0.00330	0.00330	0.03601	0.0917	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Selenium	7782-49-2	I	FLTR	04.01	16	4	0.00134	0.00179	0.01958	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	04.02	6	1	0.00330	0.00330	0.03601	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	04.04	11	1	0.00160	0.00160	0.01746	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	07.02	17	2	0.00345	0.00406	0.04429	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	08	2	1	0.00420	0.00420	0.04583	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	13	47	5	0.00133	0.00155	0.01692	0.0917	LCV_DAPH
Selenium	7782-49-2	I	WHOL	07.02	17	1	0.00110	0.00110	0.01200	0.0917	LCV_DAPH
Selenium	7782-49-2	I	WHOL	13	58	1	0.00120	0.00120	0.01309	0.0917	LCV_DAPH
Selenium	7782-49-2	I	FLTR	01	20	2	0.00136	0.00164	0.01853	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	02.01	3	1	0.00320	0.00320	0.03623	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	02.03	6	1	0.00500	0.00500	0.05661	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	03.01	14	2	0.00461	0.00462	0.05236	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	03.02	14	2	0.00368	0.00386	0.04369	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	03.04	16	1	0.00330	0.00330	0.03736	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	04.01	16	4	0.00134	0.00179	0.02032	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	04.02	6	1	0.00330	0.00330	0.03736	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	04.04	11	1	0.00160	0.00160	0.01812	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	07.02	17	2	0.00345	0.00406	0.04596	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	08	2	1	0.00420	0.00420	0.04755	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	13	47	5	0.00133	0.00155	0.01756	0.0883	LCV_FISH
Selenium	7782-49-2	I	WHOL	07.02	17	1	0.00110	0.00110	0.01245	0.0883	LCV_FISH
Selenium	7782-49-2	I	WHOL	13	58	1	0.00120	0.00120	0.01359	0.0883	LCV_FISH
Selenium	7782-49-2	I	FLTR	01	20	2	0.00136	0.00164	0.06547	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	02.01	3	1	0.00320	0.00320	0.12800	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	02.03	6	1	0.00500	0.00500	0.20000	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	03.01	14	2	0.00461	0.00462	0.18498	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	03.02	14	2	0.00368	0.00386	0.15434	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	03.04	16	1	0.00330	0.00330	0.13200	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	04.01	16	4	0.00134	0.00179	0.07177	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	04.02	6	1	0.00330	0.00330	0.13200	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	04.04	11	1	0.00160	0.00160	0.06400	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	07.02	17	2	0.00345	0.00406	0.16235	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	08	2	1	0.00420	0.00420	0.16800	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	13	47	5	0.00133	0.00155	0.06205	0.0250	LTV_DAPH
Selenium	7782-49-2	I	WHOL	07.02	17	1	0.00110	0.00110	0.04400	0.0250	LTV_DAPH
Selenium	7782-49-2	I	WHOL	13	58	1	0.00120	0.00120	0.04800	0.0250	LTV_DAPH
Selenium	7782-49-2	I	FLTR	01	20	2	0.00136	0.00164	0.04092	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	02.01	3	1	0.00320	0.00320	0.08000	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	02.03	6	1	0.00500	0.00500	0.12500	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	03.01	14	2	0.00461	0.00462	0.11561	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	03.02	14	2	0.00368	0.00386	0.09646	0.0400	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Selenium	7782-49-2	I	FLTR	03.04	16	1	0.00330	0.00330	0.08250	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	04.01	16	4	0.00134	0.00179	0.04486	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	04.02	6	1	0.00330	0.00330	0.08250	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	04.04	11	1	0.00160	0.00160	0.04000	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	07.02	17	2	0.00345	0.00406	0.10147	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	08	2	1	0.00420	0.00420	0.10500	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	13	47	5	0.00133	0.00155	0.03878	0.0400	LTV_FISH
Selenium	7782-49-2	I	WHOL	07.02	17	1	0.00110	0.00110	0.02750	0.0400	LTV_FISH
Selenium	7782-49-2	I	WHOL	13	58	1	0.00120	0.00120	0.03000	0.0400	LTV_FISH
Selenium	7782-49-2	I	FLTR	01	20	2	0.00136	0.00164	0.00630	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	02.01	3	1	0.00320	0.00320	0.01231	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	02.03	6	1	0.00500	0.00500	0.01923	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	03.01	14	2	0.00461	0.00462	0.01779	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	03.02	14	2	0.00368	0.00386	0.01484	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	03.04	16	1	0.00330	0.00330	0.01269	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	04.01	16	4	0.00134	0.00179	0.00690	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	04.02	6	1	0.00330	0.00330	0.01269	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	04.04	11	1	0.00160	0.00160	0.00615	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	07.02	17	2	0.00345	0.00406	0.01561	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	08	2	1	0.00420	0.00420	0.01615	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	13	47	5	0.00133	0.00155	0.00597	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	WHOL	07.02	17	1	0.00110	0.00110	0.00423	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	WHOL	13	58	1	0.00120	0.00120	0.00462	0.2600	NAWQ_ACU
Selenium	7782-49-2	I	FLTR	01	20	2	0.00136	0.00164	0.04677	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	02.01	3	1	0.00320	0.00320	0.09143	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	02.03	6	1	0.00500	0.00500	0.14286	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	03.01	14	2	0.00461	0.00462	0.13213	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	03.02	14	2	0.00368	0.00386	0.11024	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	03.04	16	1	0.00330	0.00330	0.09429	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	04.01	16	4	0.00134	0.00179	0.05127	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	04.02	6	1	0.00330	0.00330	0.09429	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	04.04	11	1	0.00160	0.00160	0.04571	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	07.02	17	2	0.00345	0.00406	0.11597	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	08	2	1	0.00420	0.00420	0.12000	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	FLTR	13	47	5	0.00133	0.00155	0.04432	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	WHOL	07.02	17	1	0.00110	0.00110	0.03143	0.0350	NAWQ_CHR
Selenium	7782-49-2	I	WHOL	13	58	1	0.00120	0.00120	0.03429	0.0350	NAWQ_CHR
Silver	7440-22-4	I	FLTR	03.02	14	1	0.01300	0.01300	108.33333	0.0001	LCV_ALLO
Silver	7440-22-4	I	FLTR	07.01	5	1	0.00160	0.00160	13.33333	0.0001	LCV_ALLO
Silver	7440-22-4	I	FLTR	13	47	1	0.00150	0.00150	12.50000	0.0001	LCV_ALLO
Silver	7440-22-4	I	WHOL	03.01	34	1	0.00480	0.00480	40.00000	0.0001	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Silver	7440-22-4	I	WHOL	13	58	1	0.00160	0.00160	13.33333	0.0001	LCV_ALLO
Silver	7440-22-4	I	WHOL	21	18	1	0.01100	0.01100	91.66667	0.0001	LCV_ALLO
Silver	7440-22-4	I	FLTR	03.02	14	1	0.01300	0.01300	0.43333	0.0300	LCV_AQPL
Silver	7440-22-4	I	FLTR	07.01	5	1	0.00160	0.00160	0.05333	0.0300	LCV_AQPL
Silver	7440-22-4	I	FLTR	13	47	1	0.00150	0.00150	0.05000	0.0300	LCV_AQPL
Silver	7440-22-4	I	WHOL	03.01	34	1	0.00480	0.00480	0.16000	0.0300	LCV_AQPL
Silver	7440-22-4	I	WHOL	13	58	1	0.00160	0.00160	0.05333	0.0300	LCV_AQPL
Silver	7440-22-4	I	WHOL	21	18	1	0.01100	0.01100	0.36667	0.0300	LCV_AQPL
Silver	7440-22-4	I	FLTR	03.02	14	1	0.01300	0.01300	5.00000	0.0026	LCV_DAPH
Silver	7440-22-4	I	FLTR	07.01	5	1	0.00160	0.00160	0.61538	0.0026	LCV_DAPH
Silver	7440-22-4	I	FLTR	13	47	1	0.00150	0.00150	0.57692	0.0026	LCV_DAPH
Silver	7440-22-4	I	WHOL	03.01	34	1	0.00480	0.00480	1.84615	0.0026	LCV_DAPH
Silver	7440-22-4	I	WHOL	13	58	1	0.00160	0.00160	0.61538	0.0026	LCV_DAPH
Silver	7440-22-4	I	WHOL	21	18	1	0.01100	0.01100	4.23077	0.0026	LCV_DAPH
Silver	7440-22-4	I	FLTR	03.02	14	1	0.01300	0.01300	108.33333	0.0001	LCV_FISH
Silver	7440-22-4	I	FLTR	07.01	5	1	0.00160	0.00160	13.33333	0.0001	LCV_FISH
Silver	7440-22-4	I	FLTR	13	47	1	0.00150	0.00150	12.50000	0.0001	LCV_FISH
Silver	7440-22-4	I	WHOL	03.01	34	1	0.00480	0.00480	40.00000	0.0001	LCV_FISH
Silver	7440-22-4	I	WHOL	13	58	1	0.00160	0.00160	13.33333	0.0001	LCV_FISH
Silver	7440-22-4	I	WHOL	21	18	1	0.01100	0.01100	91.66667	0.0001	LCV_FISH
Silver	7440-22-4	I	FLTR	03.02	14	1	0.01300	0.01300	23.21429	0.0006	LTV_DAPH
Silver	7440-22-4	I	FLTR	07.01	5	1	0.00160	0.00160	2.85714	0.0006	LTV_DAPH
Silver	7440-22-4	I	FLTR	13	47	1	0.00150	0.00150	2.67857	0.0006	LTV_DAPH
Silver	7440-22-4	I	WHOL	03.01	34	1	0.00480	0.00480	8.57143	0.0006	LTV_DAPH
Silver	7440-22-4	I	WHOL	13	58	1	0.00160	0.00160	2.85714	0.0006	LTV_DAPH
Silver	7440-22-4	I	WHOL	21	18	1	0.01100	0.01100	19.64286	0.0006	LTV_DAPH
Silver	7440-22-4	I	FLTR	03.02	14	1	0.01300	0.01300	65.00000	0.0002	LTV_FISH
Silver	7440-22-4	I	FLTR	07.01	5	1	0.00160	0.00160	8.00000	0.0002	LTV_FISH
Silver	7440-22-4	I	FLTR	13	47	1	0.00150	0.00150	7.50000	0.0002	LTV_FISH
Silver	7440-22-4	I	WHOL	03.01	34	1	0.00480	0.00480	24.00000	0.0002	LTV_FISH
Silver	7440-22-4	I	WHOL	13	58	1	0.00160	0.00160	8.00000	0.0002	LTV_FISH
Silver	7440-22-4	I	WHOL	21	18	1	0.01100	0.01100	55.00000	0.0002	LTV_FISH
Silver	7440-22-4	I	FLTR	03.02	14	1	0.01300	0.01300	3.17073	0.0041	NAWQ_ACU
Silver	7440-22-4	I	FLTR	07.01	5	1	0.00160	0.00160	0.39024	0.0041	NAWQ_ACU
Silver	7440-22-4	I	FLTR	13	47	1	0.00150	0.00150	0.36585	0.0041	NAWQ_ACU
Silver	7440-22-4	I	WHOL	03.01	34	1	0.00480	0.00480	1.17073	0.0041	NAWQ_ACU
Silver	7440-22-4	I	WHOL	13	58	1	0.00160	0.00160	0.39024	0.0041	NAWQ_ACU
Silver	7440-22-4	I	WHOL	21	18	1	0.01100	0.01100	2.68293	0.0041	NAWQ_ACU
Silver	7440-22-4	I	FLTR	03.02	14	1	0.01300	0.01300	36.11111	0.0004	S_CHR_V
Silver	7440-22-4	I	FLTR	07.01	5	1	0.00160	0.00160	4.44444	0.0004	S_CHR_V
Silver	7440-22-4	I	FLTR	13	47	1	0.00150	0.00150	4.16667	0.0004	S_CHR_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Silver	7440-22-4	I	WHOL	03.01	34	1	0.00480	0.00480	13.33333	0.0004	S_CHR_V
Silver	7440-22-4	I	WHOL	13	58	1	0.00160	0.00160	4.44444	0.0004	S_CHR_V
Silver	7440-22-4	I	WHOL	21	18	1	0.01100	0.01100	30.55556	0.0004	S_CHR_V
Sodium	7440-23-5	I	FLTR	00	1	1	5.37000	5.37000	0.00790	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	01	20	20	3.81784	4.23513	0.00623	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	02.01	3	3	3.90369	5.73250	0.00843	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	02.02	13	13	3.52154	3.85078	0.00566	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	02.03	6	6	3.43317	4.24583	0.00624	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	02.04	2	2	4.86560	7.10319	0.01045	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	03.01	14	14	4.00665	4.79285	0.00705	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	03.02	14	14	4.70534	5.69583	0.00838	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	03.03	14	14	4.17325	4.89238	0.00719	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	03.04	16	15	3.77357	4.43543	0.00652	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	04.01	16	16	3.74281	4.23494	0.00623	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	04.02	6	6	3.41617	3.63508	0.00535	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	04.04	10	10	3.63759	4.37274	0.00643	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	05	4	4	4.71500	5.11421	0.00752	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	07.01	5	5	2.84400	3.60640	0.00530	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	07.02	17	17	3.10493	3.46568	0.00510	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	08	2	2	3.33500	3.93481	0.00579	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	10	2	2	5.00000	5.37883	0.00791	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	13	47	47	3.18330	3.38586	0.00498	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	22	1	1	5.91000	5.91000	0.00869	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	00	11	11	4.36818	5.14982	0.00757	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	01	51	51	4.42220	4.71273	0.00693	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	02.01	3	3	5.43333	8.62140	0.01268	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	02.02	22	22	4.76864	5.26801	0.00775	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	02.03	6	6	5.01833	5.78598	0.00851	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	02.04	11	11	4.15136	4.54272	0.00668	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	03.01	34	33	4.46867	4.93115	0.00725	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	03.02	14	14	5.16214	6.14328	0.00903	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	03.03	23	23	5.11087	5.77646	0.00849	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	03.04	16	15	4.64781	5.44520	0.00801	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	04.01	25	25	4.16660	4.64324	0.00683	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	04.02	6	6	3.86333	4.57387	0.00673	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	04.04	10	10	4.10600	4.87618	0.00717	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	05	4	4	4.65000	5.12399	0.00754	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	07.01	5	5	4.46400	6.07541	0.00893	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	07.02	17	17	4.31486	4.89274	0.00720	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	08	2	2	5.08000	15.81338	0.02325	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	10	2	2	4.96500	5.37539	0.00790	680.0000	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Sodium	7440-23-5	I	WHOL	13	58	58	3.93608	4.20795	0.00619	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	18	9	9	5.79000	7.55516	0.01111	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	20.01	9	9	12.66333	16.27140	0.02393	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	20.02	10	10	4.80800	6.16425	0.00907	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	21	18	18	5.24444	6.16665	0.00907	680.0000	LCV_ALLO
Sodium	7440-23-5	I	WHOL	22	11	11	12.51273	15.57959	0.02291	680.0000	LCV_ALLO
Sodium	7440-23-5	I	FLTR	00	1	1	5.37000	5.37000	0.00790	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	01	20	20	3.81784	4.23513	0.00623	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	02.01	3	3	3.90369	5.73250	0.00843	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	02.02	13	13	3.52154	3.85078	0.00566	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	02.03	6	6	3.43317	4.24583	0.00624	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	02.04	2	2	4.86560	7.10319	0.01045	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	03.01	14	14	4.00665	4.79285	0.00705	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	03.02	14	14	4.70534	5.69583	0.00838	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	03.03	14	14	4.17325	4.89238	0.00719	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	03.04	16	15	3.77357	4.43543	0.00652	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	04.01	16	16	3.74281	4.23494	0.00623	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	04.02	6	6	3.41617	3.63508	0.00535	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	04.04	10	10	3.63759	4.37274	0.00643	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	05	4	4	4.71500	5.11421	0.00752	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	07.01	5	5	2.84400	3.60640	0.00530	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	07.02	17	17	3.10493	3.46568	0.00510	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	08	2	2	3.33500	3.93481	0.00579	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	10	2	2	5.00000	5.37883	0.00791	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	13	47	47	3.18330	3.38586	0.00498	680.0000	LCV_DAPH
Sodium	7440-23-5	I	FLTR	22	1	1	5.91000	5.91000	0.00869	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	00	11	11	4.36818	5.14982	0.00757	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	01	51	51	4.42220	4.71273	0.00693	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	02.01	3	3	5.43333	8.62140	0.01268	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	02.02	22	22	4.76864	5.26801	0.00775	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	02.03	6	6	5.01833	5.78598	0.00851	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	02.04	11	11	4.15136	4.54272	0.00668	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	03.01	34	33	4.46867	4.93115	0.00725	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	03.02	14	14	5.16214	6.14328	0.00903	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	03.03	23	23	5.11087	5.77646	0.00849	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	03.04	16	15	4.64781	5.44520	0.00801	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	04.01	25	25	4.16660	4.64324	0.00683	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	04.02	6	6	3.86333	4.57387	0.00673	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	04.04	10	10	4.10600	4.87618	0.00717	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	05	4	4	4.65000	5.12399	0.00754	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	07.01	5	5	4.46400	6.07541	0.00893	680.0000	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Sodium	7440-23-5	I	WHOL	07.02	17	17	4.31486	4.89274	0.00720	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	08	2	2	5.08000	15.81338	0.02325	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	10	2	2	4.96500	5.37539	0.00790	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	13	58	58	3.93608	4.20795	0.00619	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	18	9	9	5.79000	7.55516	0.01111	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	20.01	9	9	12.66333	16.27140	0.02393	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	20.02	10	10	4.80800	6.16425	0.00907	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	21	18	18	5.24444	6.16665	0.00907	680.0000	LCV_DAPH
Sodium	7440-23-5	I	WHOL	22	11	11	12.51273	15.57959	0.02291	680.0000	LCV_DAPH
Tetrachloroethene	127-18-4	O	WHOL	21	18	2	0.00125	0.00134	0.00178	0.7500	LCV_ALLO
Tetrachloroethene	127-18-4	O	WHOL	21	18	2	0.00125	0.00134	0.00000	816.0000	LCV_AQPL
Tetrachloroethene	127-18-4	O	WHOL	21	18	2	0.00125	0.00134	0.00178	0.7500	LCV_DAPH
Tetrachloroethene	127-18-4	O	WHOL	21	18	2	0.00125	0.00134	0.00159	0.8400	LCV_FISH
Tetrachloroethene	127-18-4	O	WHOL	21	18	2	0.00125	0.00134	0.00262	0.5100	LTV_DAPH
Tetrachloroethene	127-18-4	O	WHOL	21	18	2	0.00125	0.00134	0.00267	0.5000	LTV_FISH
Tetrachloroethene	127-18-4	O	WHOL	21	18	2	0.00125	0.00134	0.00134	0.9980	S_ACU_V
Tetrachloroethene	127-18-4	O	WHOL	21	18	2	0.00125	0.00134	0.01070	0.1250	S_CHR_V
Thallium	7440-28-0	I	WHOL	01	48	1	1.10000	1.10000	19.29825	0.0570	LCV_ALLO
Thallium	7440-28-0	I	WHOL	03.03	22	1	0.00700	0.00700	0.12281	0.0570	LCV_ALLO
Thallium	7440-28-0	I	WHOL	20.02	9	1	0.00560	0.00560	0.09825	0.0570	LCV_ALLO
Thallium	7440-28-0	I	WHOL	01	48	1	1.10000	1.10000	11.00000	0.1000	LCV_AQPL
Thallium	7440-28-0	I	WHOL	03.03	22	1	0.00700	0.00700	0.07000	0.1000	LCV_AQPL
Thallium	7440-28-0	I	WHOL	20.02	9	1	0.00560	0.00560	0.05600	0.1000	LCV_AQPL
Thallium	7440-28-0	I	WHOL	01	48	1	1.10000	1.10000	8.46154	0.1300	LCV_DAPH
Thallium	7440-28-0	I	WHOL	03.03	22	1	0.00700	0.00700	0.05385	0.1300	LCV_DAPH
Thallium	7440-28-0	I	WHOL	20.02	9	1	0.00560	0.00560	0.04308	0.1300	LCV_DAPH
Thallium	7440-28-0	I	WHOL	01	48	1	1.10000	1.10000	19.29825	0.0570	LCV_FISH
Thallium	7440-28-0	I	WHOL	03.03	22	1	0.00700	0.00700	0.12281	0.0570	LCV_FISH
Thallium	7440-28-0	I	WHOL	20.02	9	1	0.00560	0.00560	0.09825	0.0570	LCV_FISH
Thallium	7440-28-0	I	WHOL	01	48	1	1.10000	1.10000	17.18750	0.0640	LTV_DAPH
Thallium	7440-28-0	I	WHOL	03.03	22	1	0.00700	0.00700	0.10938	0.0640	LTV_DAPH
Thallium	7440-28-0	I	WHOL	20.02	9	1	0.00560	0.00560	0.08750	0.0640	LTV_DAPH
Thallium	7440-28-0	I	WHOL	01	48	1	1.10000	1.10000	13.58025	0.0810	LTV_FISH
Thallium	7440-28-0	I	WHOL	03.03	22	1	0.00700	0.00700	0.08642	0.0810	LTV_FISH
Thallium	7440-28-0	I	WHOL	20.02	9	1	0.00560	0.00560	0.06914	0.0810	LTV_FISH
Thallium	7440-28-0	I	WHOL	01	48	1	1.10000	1.10000	6.70732	0.1640	S_ACU_V
Thallium	7440-28-0	I	WHOL	03.03	22	1	0.00700	0.00700	0.04268	0.1640	S_ACU_V
Thallium	7440-28-0	I	WHOL	20.02	9	1	0.00560	0.00560	0.03415	0.1640	S_ACU_V
Thallium	7440-28-0	I	WHOL	01	48	1	1.10000	1.10000	61.11111	0.0180	S_CHR_V
Thallium	7440-28-0	I	WHOL	03.03	22	1	0.00700	0.00700	0.38889	0.0180	S_CHR_V
Thallium	7440-28-0	I	WHOL	20.02	9	1	0.00560	0.00560	0.31111	0.0180	S_CHR_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Toluene	108-88-3	O	WHOL	02.04	9	1	0.00100	0.00100	0.00079	1.2690	LCV_ALLO
Toluene	108-88-3	O	WHOL	02.04	9	1	0.00100	0.00100	0.00000	245.0000	LCV_AQPL
Toluene	108-88-3	O	WHOL	02.04	9	1	0.00100	0.00100	0.00004	25.2290	LCV_DAPH
Toluene	108-88-3	O	WHOL	02.04	9	1	0.00100	0.00100	0.00079	1.2690	LCV_FISH
Toluene	108-88-3	O	WHOL	02.04	9	1	0.00100	0.00100	0.03846	0.0260	LTV_FISH
Toluene	108-88-3	O	WHOL	02.04	9	1	0.00100	0.00100	0.00032	3.1500	S_ACU_V
Toluene	108-88-3	O	WHOL	02.04	9	1	0.00100	0.00100	0.00568	0.1760	S_CHR_V
Trichloroethene	79-01-6	O	WHOL	02.02	9	1	0.00300	0.00300	0.00041	7.2570	LCV_ALLO
Trichloroethene	79-01-6	O	WHOL	21	18	8	0.01967	0.02565	0.00353	7.2570	LCV_ALLO
Trichloroethene	79-01-6	O	WHOL	02.02	9	1	0.00300	0.00300	0.00041	7.2570	LCV_DAPH
Trichloroethene	79-01-6	O	WHOL	21	18	8	0.01967	0.02565	0.00353	7.2570	LCV_DAPH
Trichloroethene	79-01-6	O	WHOL	02.02	9	1	0.00300	0.00300	0.00020	14.8670	LCV_FISH
Trichloroethene	79-01-6	O	WHOL	21	18	8	0.01967	0.02565	0.00173	14.8670	LCV_FISH
Trichloroethene	79-01-6	O	WHOL	02.02	9	1	0.00300	0.00300	0.00052	5.7580	LTV_FISH
Trichloroethene	79-01-6	O	WHOL	21	18	8	0.01967	0.02565	0.00445	5.7580	LTV_FISH
Trichloroethene	79-01-6	O	WHOL	02.02	9	1	0.00300	0.00300	0.00069	4.3500	S_ACU_V
Trichloroethene	79-01-6	O	WHOL	21	18	8	0.01967	0.02565	0.00590	4.3500	S_ACU_V
Trichloroethene	79-01-6	O	WHOL	02.02	9	1	0.00300	0.00300	0.00645	0.4650	S_CHR_V
Trichloroethene	79-01-6	O	WHOL	21	18	8	0.01967	0.02565	0.05516	0.4650	S_CHR_V
Uranium	7440-61-1	I	FLTR	02.02	12	1	0.00310	0.00310	0.02183	0.1420	LCV_ALLO
Uranium	7440-61-1	I	FLTR	03.01	13	8	0.00159	0.00180	0.01270	0.1420	LCV_ALLO
Uranium	7440-61-1	I	FLTR	03.02	13	12	0.00220	0.00255	0.01793	0.1420	LCV_ALLO
Uranium	7440-61-1	I	FLTR	03.03	13	10	0.00205	0.00231	0.01626	0.1420	LCV_ALLO
Uranium	7440-61-1	I	FLTR	03.04	15	11	0.00178	0.00206	0.01451	0.1420	LCV_ALLO
Uranium	7440-61-1	I	FLTR	04.01	15	3	0.00117	0.00126	0.00890	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	00	10	6	0.00018	0.00028	0.00198	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	01	45	17	0.00032	0.00042	0.00298	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	02.02	20	4	0.00035	0.00068	0.00480	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	02.04	9	5	0.00022	0.00038	0.00267	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	03.01	33	24	0.00270	0.00327	0.02303	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	03.02	13	13	0.00236	0.00270	0.01899	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	03.03	21	18	0.00249	0.00306	0.02158	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	03.04	15	12	0.00195	0.00224	0.01581	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	04.01	23	10	0.00048	0.00071	0.00501	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	07.01	5	1	0.00210	0.00210	0.01479	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	07.02	17	1	0.00540	0.00540	0.03803	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	13	56	3	0.00020	0.00026	0.00185	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	18	8	3	0.00030	0.00052	0.00364	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	20.01	8	7	0.00816	0.01031	0.07258	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	20.02	9	8	0.02211	0.02658	0.18717	0.1420	LCV_ALLO
Uranium	7440-61-1	I	WHOL	21	16	10	0.00629	0.00933	0.06574	0.1420	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Uranium	7440-61-1	I	WHOL	22	9	9	0.00315	0.00491	0.03458	0.1420	LCV_ALLO
Uranium	7440-61-1	I	FLTR	02.02	12	1	0.00310	0.00310	0.02183	0.1420	LCV_FISH
Uranium	7440-61-1	I	FLTR	03.01	13	8	0.00159	0.00180	0.01270	0.1420	LCV_FISH
Uranium	7440-61-1	I	FLTR	03.02	13	12	0.00220	0.00255	0.01793	0.1420	LCV_FISH
Uranium	7440-61-1	I	FLTR	03.03	13	10	0.00205	0.00231	0.01626	0.1420	LCV_FISH
Uranium	7440-61-1	I	FLTR	03.04	15	11	0.00178	0.00206	0.01451	0.1420	LCV_FISH
Uranium	7440-61-1	I	FLTR	04.01	15	3	0.00117	0.00126	0.00890	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	00	10	6	0.00018	0.00028	0.00198	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	01	45	17	0.00032	0.00042	0.00298	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	02.02	20	4	0.00035	0.00068	0.00480	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	02.04	9	5	0.00022	0.00038	0.00267	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	03.01	33	24	0.00270	0.00327	0.02303	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	03.02	13	13	0.00236	0.00270	0.01899	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	03.03	21	18	0.00249	0.00306	0.02158	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	03.04	15	12	0.00195	0.00224	0.01581	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	04.01	23	10	0.00048	0.00071	0.00501	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	07.01	5	1	0.00210	0.00210	0.01479	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	07.02	17	1	0.00540	0.00540	0.03803	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	13	56	3	0.00020	0.00026	0.00185	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	18	8	3	0.00030	0.00052	0.00364	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	20.01	8	7	0.00816	0.01031	0.07258	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	20.02	9	8	0.02211	0.02658	0.18717	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	21	16	10	0.00629	0.00933	0.06574	0.1420	LCV_FISH
Uranium	7440-61-1	I	WHOL	22	9	9	0.00315	0.00491	0.03458	0.1420	LCV_FISH
Uranium	7440-61-1	I	FLTR	02.02	12	1	0.00310	0.00310	0.00681	0.4550	LTV_FISH
Uranium	7440-61-1	I	FLTR	03.01	13	8	0.00159	0.00180	0.00396	0.4550	LTV_FISH
Uranium	7440-61-1	I	FLTR	03.02	13	12	0.00220	0.00255	0.00559	0.4550	LTV_FISH
Uranium	7440-61-1	I	FLTR	03.03	13	10	0.00205	0.00231	0.00507	0.4550	LTV_FISH
Uranium	7440-61-1	I	FLTR	03.04	15	11	0.00178	0.00206	0.00453	0.4550	LTV_FISH
Uranium	7440-61-1	I	FLTR	04.01	15	3	0.00117	0.00126	0.00278	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	00	10	6	0.00018	0.00028	0.00062	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	01	45	17	0.00032	0.00042	0.00093	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	02.02	20	4	0.00035	0.00068	0.00150	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	02.04	9	5	0.00022	0.00038	0.00083	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	03.01	33	24	0.00270	0.00327	0.00719	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	03.02	13	13	0.00236	0.00270	0.00593	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	03.03	21	18	0.00249	0.00306	0.00673	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	03.04	15	12	0.00195	0.00224	0.00493	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	04.01	23	10	0.00048	0.00071	0.00156	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	07.01	5	1	0.00210	0.00210	0.00462	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	07.02	17	1	0.00540	0.00540	0.01187	0.4550	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Uranium	7440-61-1	I	WHOL	13	56	3	0.00020	0.00026	0.00058	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	18	8	3	0.00030	0.00052	0.00114	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	20.01	8	7	0.00816	0.01031	0.02265	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	20.02	9	8	0.02211	0.02658	0.05841	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	21	16	10	0.00629	0.00933	0.02052	0.4550	LTV_FISH
Uranium	7440-61-1	I	WHOL	22	9	9	0.00315	0.00491	0.01079	0.4550	LTV_FISH
Uranium	7440-61-1	I	FLTR	02.02	12	1	0.00310	0.00310	0.09254	0.0335	S_ACU_V
Uranium	7440-61-1	I	FLTR	03.01	13	8	0.00159	0.00180	0.05382	0.0335	S_ACU_V
Uranium	7440-61-1	I	FLTR	03.02	13	12	0.00220	0.00255	0.07599	0.0335	S_ACU_V
Uranium	7440-61-1	I	FLTR	03.03	13	10	0.00205	0.00231	0.06893	0.0335	S_ACU_V
Uranium	7440-61-1	I	FLTR	03.04	15	11	0.00178	0.00206	0.06151	0.0335	S_ACU_V
Uranium	7440-61-1	I	FLTR	04.01	15	3	0.00117	0.00126	0.03772	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	00	10	6	0.00018	0.00028	0.00841	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	01	45	17	0.00032	0.00042	0.01264	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	02.02	20	4	0.00035	0.00068	0.02035	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	02.04	9	5	0.00022	0.00038	0.01133	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	03.01	33	24	0.00270	0.00327	0.09763	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	03.02	13	13	0.00236	0.00270	0.08047	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	03.03	21	18	0.00249	0.00306	0.09146	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	03.04	15	12	0.00195	0.00224	0.06700	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	04.01	23	10	0.00048	0.00071	0.02123	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	07.01	5	1	0.00210	0.00210	0.06269	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	07.02	17	1	0.00540	0.00540	0.16119	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	13	56	3	0.00020	0.00026	0.00784	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	18	8	3	0.00030	0.00052	0.01543	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	20.01	8	7	0.00816	0.01031	0.30765	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	20.02	9	8	0.02211	0.02658	0.79336	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	21	16	10	0.00629	0.00933	0.27864	0.0335	S_ACU_V
Uranium	7440-61-1	I	WHOL	22	9	9	0.00315	0.00491	0.14659	0.0335	S_ACU_V
Uranium	7440-61-1	I	FLTR	02.02	12	1	0.00310	0.00310	1.65775	0.0019	S_CHR_V
Uranium	7440-61-1	I	FLTR	03.01	13	8	0.00159	0.00180	0.96420	0.0019	S_CHR_V
Uranium	7440-61-1	I	FLTR	03.02	13	12	0.00220	0.00255	1.36130	0.0019	S_CHR_V
Uranium	7440-61-1	I	FLTR	03.03	13	10	0.00205	0.00231	1.23479	0.0019	S_CHR_V
Uranium	7440-61-1	I	FLTR	03.04	15	11	0.00178	0.00206	1.10195	0.0019	S_CHR_V
Uranium	7440-61-1	I	FLTR	04.01	15	3	0.00117	0.00126	0.67567	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	00	10	6	0.00018	0.00028	0.15059	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	01	45	17	0.00032	0.00042	0.22647	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	02.02	20	4	0.00035	0.00068	0.36448	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	02.04	9	5	0.00022	0.00038	0.20289	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	03.01	33	24	0.00270	0.00327	1.74904	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	03.02	13	13	0.00236	0.00270	1.44166	0.0019	S_CHR_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Uranium	7440-61-1	I	WHOL	03.03	21	18	0.00249	0.00306	1.63844	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	03.04	15	12	0.00195	0.00224	1.20028	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	04.01	23	10	0.00048	0.00071	0.38029	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	07.01	5	1	0.00210	0.00210	1.12299	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	07.02	17	1	0.00540	0.00540	2.88770	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	13	56	3	0.00020	0.00026	0.14037	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	18	8	3	0.00030	0.00052	0.27650	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	20.01	8	7	0.00816	0.01031	5.51139	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	20.02	9	8	0.02211	0.02658	14.21261	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	21	16	10	0.00629	0.00933	4.99173	0.0019	S_CHR_V
Uranium	7440-61-1	I	WHOL	22	9	9	0.00315	0.00491	2.62602	0.0019	S_CHR_V
Vanadium	7440-62-2	I	FLTR	07.01	5	3	0.00124	0.00130	0.01622	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	FLTR	07.02	17	1	0.00120	0.00120	0.01500	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	00	11	3	0.00456	0.00868	0.10847	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	01	48	11	0.00201	0.00281	0.03513	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	02.02	21	8	0.00149	0.00173	0.02162	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	02.04	10	2	0.00240	0.00240	0.03000	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	03.01	33	17	0.00127	0.00139	0.01734	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	03.02	13	3	0.00117	0.00127	0.01592	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	03.03	22	8	0.00154	0.00185	0.02315	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	03.04	15	5	0.00128	0.00156	0.01956	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	04.01	24	5	0.00140	0.00162	0.02021	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	04.02	6	3	0.00120	0.00120	0.01500	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	04.04	9	6	0.00121	0.00132	0.01655	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	07.01	5	4	0.00142	0.00155	0.01935	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	07.02	17	3	0.00101	0.00103	0.01286	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	13	57	25	0.00123	0.00133	0.01663	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	18	9	1	0.00660	0.00660	0.08250	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	20.01	9	1	0.00200	0.00200	0.02500	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	20.02	10	2	0.00455	0.00959	0.11990	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	21	18	6	0.00369	0.00534	0.06673	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	WHOL	22	10	9	0.00277	0.00311	0.03893	0.0800	LCV_ALLO
Vanadium	7440-62-2	I	FLTR	07.01	5	3	0.00124	0.00130	0.00138	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	FLTR	07.02	17	1	0.00120	0.00120	0.00128	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	00	11	3	0.00456	0.00868	0.00923	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	01	48	11	0.00201	0.00281	0.00299	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	02.02	21	8	0.00149	0.00173	0.00184	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	02.04	10	2	0.00240	0.00240	0.00255	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	03.01	33	17	0.00127	0.00139	0.00148	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	03.02	13	3	0.00117	0.00127	0.00136	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	03.03	22	8	0.00154	0.00185	0.00197	0.9400	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Vanadium	7440-62-2	I	WHOL	03.04	15	5	0.00128	0.00156	0.00166	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	04.01	24	5	0.00140	0.00162	0.00172	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	04.02	6	3	0.00120	0.00120	0.00128	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	04.04	9	6	0.00121	0.00132	0.00141	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	07.01	5	4	0.00142	0.00155	0.00165	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	07.02	17	3	0.00101	0.00103	0.00109	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	13	57	25	0.00123	0.00133	0.00141	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	18	9	1	0.00660	0.00660	0.00702	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	20.01	9	1	0.00200	0.00200	0.00213	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	20.02	10	2	0.00455	0.00959	0.01020	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	21	18	6	0.00369	0.00534	0.00568	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	WHOL	22	10	9	0.00277	0.00311	0.00331	0.9400	LCV_DAPH
Vanadium	7440-62-2	I	FLTR	07.01	5	3	0.00124	0.00130	0.01622	0.0800	LCV_FISH
Vanadium	7440-62-2	I	FLTR	07.02	17	1	0.00120	0.00120	0.01500	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	00	11	3	0.00456	0.00868	0.10847	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	01	48	11	0.00201	0.00281	0.03513	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	02.02	21	8	0.00149	0.00173	0.02162	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	02.04	10	2	0.00240	0.00240	0.03000	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	03.01	33	17	0.00127	0.00139	0.01734	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	03.02	13	3	0.00117	0.00127	0.01592	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	03.03	22	8	0.00154	0.00185	0.02315	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	03.04	15	5	0.00128	0.00156	0.01956	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	04.01	24	5	0.00140	0.00162	0.02021	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	04.02	6	3	0.00120	0.00120	0.01500	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	04.04	9	6	0.00121	0.00132	0.01655	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	07.01	5	4	0.00142	0.00155	0.01935	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	07.02	17	3	0.00101	0.00103	0.01286	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	13	57	25	0.00123	0.00133	0.01663	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	18	9	1	0.00660	0.00660	0.08250	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	20.01	9	1	0.00200	0.00200	0.02500	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	20.02	10	2	0.00455	0.00959	0.11990	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	21	18	6	0.00369	0.00534	0.06673	0.0800	LCV_FISH
Vanadium	7440-62-2	I	WHOL	22	10	9	0.00277	0.00311	0.03893	0.0800	LCV_FISH
Vanadium	7440-62-2	I	FLTR	07.01	5	3	0.00124	0.00130	0.00302	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	FLTR	07.02	17	1	0.00120	0.00120	0.00279	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	00	11	3	0.00456	0.00868	0.02018	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	01	48	11	0.00201	0.00281	0.00654	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	02.02	21	8	0.00149	0.00173	0.00402	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	02.04	10	2	0.00240	0.00240	0.00558	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	03.01	33	17	0.00127	0.00139	0.00323	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	03.02	13	3	0.00117	0.00127	0.00296	0.4300	LTV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Vanadium	7440-62-2	I	WHOL	03.03	22	8	0.00154	0.00185	0.00431	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	03.04	15	5	0.00128	0.00156	0.00364	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	04.01	24	5	0.00140	0.00162	0.00376	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	04.02	6	3	0.00120	0.00120	0.00279	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	04.04	9	6	0.00121	0.00132	0.00308	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	07.01	5	4	0.00142	0.00155	0.00360	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	07.02	17	3	0.00101	0.00103	0.00239	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	13	57	25	0.00123	0.00133	0.00309	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	18	9	1	0.00660	0.00660	0.01535	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	20.01	9	1	0.00200	0.00200	0.00465	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	20.02	10	2	0.00455	0.00959	0.02231	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	21	18	6	0.00369	0.00534	0.01241	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	WHOL	22	10	9	0.00277	0.00311	0.00724	0.4300	LTV_DAPH
Vanadium	7440-62-2	I	FLTR	07.01	5	3	0.00124	0.00130	0.03164	0.0410	LTV_FISH
Vanadium	7440-62-2	I	FLTR	07.02	17	1	0.00120	0.00120	0.02927	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	00	11	3	0.00456	0.00868	0.21165	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	01	48	11	0.00201	0.00281	0.06855	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	02.02	21	8	0.00149	0.00173	0.04219	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	02.04	10	2	0.00240	0.00240	0.05854	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	03.01	33	17	0.00127	0.00139	0.03383	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	03.02	13	3	0.00117	0.00127	0.03107	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	03.03	22	8	0.00154	0.00185	0.04516	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	03.04	15	5	0.00128	0.00156	0.03816	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	04.01	24	5	0.00140	0.00162	0.03942	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	04.02	6	3	0.00120	0.00120	0.02927	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	04.04	9	6	0.00121	0.00132	0.03228	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	07.01	5	4	0.00142	0.00155	0.03777	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	07.02	17	3	0.00101	0.00103	0.02508	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	13	57	25	0.00123	0.00133	0.03244	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	18	9	1	0.00660	0.00660	0.16098	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	20.01	9	1	0.00200	0.00200	0.04878	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	20.02	10	2	0.00455	0.00959	0.23394	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	21	18	6	0.00369	0.00534	0.13020	0.0410	LTV_FISH
Vanadium	7440-62-2	I	WHOL	22	10	9	0.00277	0.00311	0.07597	0.0410	LTV_FISH
Vanadium	7440-62-2	I	FLTR	07.01	5	3	0.00124	0.00130	0.00457	0.2840	S_ACU_V
Vanadium	7440-62-2	I	FLTR	07.02	17	1	0.00120	0.00120	0.00423	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	00	11	3	0.00456	0.00868	0.03055	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	01	48	11	0.00201	0.00281	0.00990	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	02.02	21	8	0.00149	0.00173	0.00609	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	02.04	10	2	0.00240	0.00240	0.00845	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	03.01	33	17	0.00127	0.00139	0.00488	0.2840	S_ACU_V

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Vanadium	7440-62-2	I	WHOL	03.02	13	3	0.00117	0.00127	0.00449	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	03.03	22	8	0.00154	0.00185	0.00652	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	03.04	15	5	0.00128	0.00156	0.00551	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	04.01	24	5	0.00140	0.00162	0.00569	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	04.02	6	3	0.00120	0.00120	0.00423	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	04.04	9	6	0.00121	0.00132	0.00466	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	07.01	5	4	0.00142	0.00155	0.00545	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	07.02	17	3	0.00101	0.00103	0.00362	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	13	57	25	0.00123	0.00133	0.00468	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	18	9	1	0.00660	0.00660	0.02324	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	20.01	9	1	0.00200	0.00200	0.00704	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	20.02	10	2	0.00455	0.00959	0.03377	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	21	18	6	0.00369	0.00534	0.01880	0.2840	S_ACU_V
Vanadium	7440-62-2	I	WHOL	22	10	9	0.00277	0.00311	0.01097	0.2840	S_ACU_V
Vanadium	7440-62-2	I	FLTR	07.01	5	3	0.00124	0.00130	0.06792	0.0191	S_CHR_V
Vanadium	7440-62-2	I	FLTR	07.02	17	1	0.00120	0.00120	0.06283	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	00	11	3	0.00456	0.00868	0.45432	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	01	48	11	0.00201	0.00281	0.14716	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	02.02	21	8	0.00149	0.00173	0.09057	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	02.04	10	2	0.00240	0.00240	0.12565	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	03.01	33	17	0.00127	0.00139	0.07261	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	03.02	13	3	0.00117	0.00127	0.06669	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	03.03	22	8	0.00154	0.00185	0.09695	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	03.04	15	5	0.00128	0.00156	0.08192	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	04.01	24	5	0.00140	0.00162	0.08463	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	04.02	6	3	0.00120	0.00120	0.06283	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	04.04	9	6	0.00121	0.00132	0.06930	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	07.01	5	4	0.00142	0.00155	0.08107	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	07.02	17	3	0.00101	0.00103	0.05385	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	13	57	25	0.00123	0.00133	0.06964	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	18	9	1	0.00660	0.00660	0.34555	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	20.01	9	1	0.00200	0.00200	0.10471	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	20.02	10	2	0.00455	0.00959	0.50218	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	21	18	6	0.00369	0.00534	0.27950	0.0191	S_CHR_V
Vanadium	7440-62-2	I	WHOL	22	10	9	0.00277	0.00311	0.16307	0.0191	S_CHR_V
Vinyl chloride	75-01-4	O	WHOL	21	18	4	0.00360	0.00498	0.00017	28.8790	LCV_ALLO
Vinyl chloride	75-01-4	O	WHOL	21	18	4	0.00360	0.00498	0.00017	28.8790	LCV_FISH
Vinyl chloride	75-01-4	O	WHOL	21	18	4	0.00360	0.00498	0.00034	14.5200	LTV_FISH
Vinyl chloride	75-01-4	O	WHOL	21	18	4	0.00360	0.00498	0.00317	1.5700	S_ACU_V
Vinyl chloride	75-01-4	O	WHOL	21	18	4	0.00360	0.00498	0.05671	0.0878	S_CHR_V
Zinc	7440-66-6	I	FLTR	00	1	1	0.00300	0.00300	0.10000	0.0300	LCV_ALLO

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Zinc	7440-66-6	I	FLTR	01	20	16	0.00741	0.00982	0.32719	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	02.01	3	3	0.00725	0.01513	0.50448	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	02.02	13	7	0.00368	0.00413	0.13752	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	02.03	6	5	0.00450	0.00524	0.17480	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	02.04	2	1	0.00941	0.00941	0.31367	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	03.01	14	13	0.00724	0.00859	0.28626	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	03.02	14	13	0.00740	0.00916	0.30527	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	03.03	14	12	0.00598	0.00813	0.27095	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	03.04	16	14	0.01366	0.02717	0.90569	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	04.01	16	14	0.01950	0.03686	1.22864	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	04.02	6	6	0.00510	0.00708	0.23604	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	04.04	10	9	0.00691	0.01071	0.35694	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	07.01	5	4	0.00463	0.00713	0.23762	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	07.02	17	12	0.00416	0.00516	0.17213	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	08	2	1	0.00600	0.00600	0.20000	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	10	2	1	0.02100	0.02100	0.70000	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	13	47	46	0.00598	0.00691	0.23047	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	22	1	1	0.02000	0.02000	0.66667	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	00	11	4	0.00965	0.01524	0.50815	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	01	51	27	0.01121	0.01750	0.58348	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	02.01	3	3	0.01020	0.01984	0.66125	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	02.02	22	13	0.01129	0.01494	0.49812	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	02.03	6	6	0.01372	0.01938	0.64591	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	02.04	11	5	0.00895	0.01731	0.57696	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	03.01	34	33	0.01467	0.01725	0.57493	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	03.02	14	13	0.00987	0.01217	0.40563	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	03.03	23	18	0.01108	0.01377	0.45887	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	03.04	16	14	0.01398	0.01818	0.60610	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	04.01	25	16	0.02340	0.04165	1.38840	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	04.02	6	6	0.00578	0.00844	0.28140	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	04.04	10	9	0.01132	0.01711	0.57045	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	07.01	5	5	0.01420	0.02273	0.75751	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	07.02	17	15	0.00993	0.01348	0.44933	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	08	2	2	0.01800	0.11776	3.92524	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	13	58	51	0.01128	0.01308	0.43599	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	18	9	3	0.00781	0.01058	0.35260	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	20.01	9	6	0.01126	0.01520	0.50658	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	20.02	10	3	0.01847	0.02970	0.99011	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	21	18	10	0.01812	0.03175	1.05820	0.0300	LCV_ALLO
Zinc	7440-66-6	I	WHOL	22	11	10	0.02288	0.02649	0.88290	0.0300	LCV_ALLO
Zinc	7440-66-6	I	FLTR	00	1	1	0.00300	0.00300	0.10000	0.0300	LCV_AQPL

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Zinc	7440-66-6	I	FLTR	01	20	16	0.00741	0.00982	0.32719	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	02.01	3	3	0.00725	0.01513	0.50448	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	02.02	13	7	0.00368	0.00413	0.13752	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	02.03	6	5	0.00450	0.00524	0.17480	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	02.04	2	1	0.00941	0.00941	0.31367	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	03.01	14	13	0.00724	0.00859	0.28626	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	03.02	14	13	0.00740	0.00916	0.30527	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	03.03	14	12	0.00598	0.00813	0.27095	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	03.04	16	14	0.01366	0.02717	0.90569	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	04.01	16	14	0.01950	0.03686	1.22864	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	04.02	6	6	0.00510	0.00708	0.23604	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	04.04	10	9	0.00691	0.01071	0.35694	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	07.01	5	4	0.00463	0.00713	0.23762	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	07.02	17	12	0.00416	0.00516	0.17213	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	08	2	1	0.00600	0.00600	0.20000	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	10	2	1	0.02100	0.02100	0.70000	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	13	47	46	0.00598	0.00691	0.23047	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	22	1	1	0.02000	0.02000	0.66667	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	00	11	4	0.00965	0.01524	0.50815	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	01	51	27	0.01121	0.01750	0.58348	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	02.01	3	3	0.01020	0.01984	0.66125	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	02.02	22	13	0.01129	0.01494	0.49812	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	02.03	6	6	0.01372	0.01938	0.64591	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	02.04	11	5	0.00895	0.01731	0.57696	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	03.01	34	33	0.01467	0.01725	0.57493	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	03.02	14	13	0.00987	0.01217	0.40563	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	03.03	23	18	0.01108	0.01377	0.45887	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	03.04	16	14	0.01398	0.01818	0.60610	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	04.01	25	16	0.02340	0.04165	1.38840	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	04.02	6	6	0.00578	0.00844	0.28140	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	04.04	10	9	0.01132	0.01711	0.57045	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	07.01	5	5	0.01420	0.02273	0.75751	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	07.02	17	15	0.00993	0.01348	0.44933	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	08	2	2	0.01800	0.11776	3.92524	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	13	58	51	0.01128	0.01308	0.43599	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	18	9	3	0.00781	0.01058	0.35260	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	20.01	9	6	0.01126	0.01520	0.50658	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	20.02	10	3	0.01847	0.02970	0.99011	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	21	18	10	0.01812	0.03175	1.05820	0.0300	LCV_AQPL
Zinc	7440-66-6	I	WHOL	22	11	10	0.02288	0.02649	0.88290	0.0300	LCV_AQPL
Zinc	7440-66-6	I	FLTR	00	1	1	0.00300	0.00300	0.06420	0.0467	LCV_DAPH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Zinc	7440-66-6	I	FLTR	01	20	16	0.00741	0.00982	0.21005	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	02.01	3	3	0.00725	0.01513	0.32387	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	02.02	13	7	0.00368	0.00413	0.08829	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	02.03	6	5	0.00450	0.00524	0.11222	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	02.04	2	1	0.00941	0.00941	0.20137	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	03.01	14	13	0.00724	0.00859	0.18377	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	03.02	14	13	0.00740	0.00916	0.19598	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	03.03	14	12	0.00598	0.00813	0.17395	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	03.04	16	14	0.01366	0.02717	0.58144	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	04.01	16	14	0.01950	0.03686	0.78877	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	04.02	6	6	0.00510	0.00708	0.15154	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	04.04	10	9	0.00691	0.01071	0.22915	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	07.01	5	4	0.00463	0.00713	0.15255	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	07.02	17	12	0.00416	0.00516	0.11050	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	08	2	1	0.00600	0.00600	0.12840	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	10	2	1	0.02100	0.02100	0.44939	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	13	47	46	0.00598	0.00691	0.14796	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	22	1	1	0.02000	0.02000	0.42799	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	00	11	4	0.00965	0.01524	0.32622	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	01	51	27	0.01121	0.01750	0.37459	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	02.01	3	3	0.01020	0.01984	0.42451	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	02.02	22	13	0.01129	0.01494	0.31978	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	02.03	6	6	0.01372	0.01938	0.41467	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	02.04	11	5	0.00895	0.01731	0.37040	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	03.01	34	33	0.01467	0.01725	0.36910	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	03.02	14	13	0.00987	0.01217	0.26041	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	03.03	23	18	0.01108	0.01377	0.29459	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	03.04	16	14	0.01398	0.01818	0.38911	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	04.01	25	16	0.02340	0.04165	0.89133	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	04.02	6	6	0.00578	0.00844	0.18066	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	04.04	10	9	0.01132	0.01711	0.36622	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	07.01	5	5	0.01420	0.02273	0.48631	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	07.02	17	15	0.00993	0.01348	0.28846	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	08	2	2	0.01800	0.11776	2.51995	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	13	58	51	0.01128	0.01308	0.27990	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	18	9	3	0.00781	0.01058	0.22636	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	20.01	9	6	0.01126	0.01520	0.32522	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	20.02	10	3	0.01847	0.02970	0.63564	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	21	18	10	0.01812	0.03175	0.67935	0.0467	LCV_DAPH
Zinc	7440-66-6	I	WHOL	22	11	10	0.02288	0.02649	0.56681	0.0467	LCV_DAPH
Zinc	7440-66-6	I	FLTR	00	1	1	0.00300	0.00300	0.08239	0.0364	LCV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Zinc	7440-66-6	I	FLTR	01	20	16	0.00741	0.00982	0.26959	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	02.01	3	3	0.00725	0.01513	0.41566	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	02.02	13	7	0.00368	0.00413	0.11331	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	02.03	6	5	0.00450	0.00524	0.14403	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	02.04	2	1	0.00941	0.00941	0.25845	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	03.01	14	13	0.00724	0.00859	0.23586	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	03.02	14	13	0.00740	0.00916	0.25153	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	03.03	14	12	0.00598	0.00813	0.22325	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	03.04	16	14	0.01366	0.02717	0.74624	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	04.01	16	14	0.01950	0.03686	1.01234	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	04.02	6	6	0.00510	0.00708	0.19449	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	04.04	10	9	0.00691	0.01071	0.29410	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	07.01	5	4	0.00463	0.00713	0.19578	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	07.02	17	12	0.00416	0.00516	0.14182	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	08	2	1	0.00600	0.00600	0.16479	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	10	2	1	0.02100	0.02100	0.57676	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	13	47	46	0.00598	0.00691	0.18990	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	22	1	1	0.02000	0.02000	0.54930	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	00	11	4	0.00965	0.01524	0.41869	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	01	51	27	0.01121	0.01750	0.48076	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	02.01	3	3	0.01020	0.01984	0.54483	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	02.02	22	13	0.01129	0.01494	0.41042	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	02.03	6	6	0.01372	0.01938	0.53220	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	02.04	11	5	0.00895	0.01731	0.47538	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	03.01	34	33	0.01467	0.01725	0.47371	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	03.02	14	13	0.00987	0.01217	0.33422	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	03.03	23	18	0.01108	0.01377	0.37809	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	03.04	16	14	0.01398	0.01818	0.49939	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	04.01	25	16	0.02340	0.04165	1.14397	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	04.02	6	6	0.00578	0.00844	0.23186	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	04.04	10	9	0.01132	0.01711	0.47002	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	07.01	5	5	0.01420	0.02273	0.62415	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	07.02	17	15	0.00993	0.01348	0.37023	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	08	2	2	0.01800	0.11776	3.23420	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	13	58	51	0.01128	0.01308	0.35923	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	18	9	3	0.00781	0.01058	0.29052	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	20.01	9	6	0.01126	0.01520	0.41739	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	20.02	10	3	0.01847	0.02970	0.81580	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	21	18	10	0.01812	0.03175	0.87190	0.0364	LCV_FISH
Zinc	7440-66-6	I	WHOL	22	11	10	0.02288	0.02649	0.72747	0.0364	LCV_FISH
Zinc	7440-66-6	I	FLTR	00	1	1	0.00300	0.00300	0.00057	5.2430	LCV_NDI

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Zinc	7440-66-6	I	FLTR	01	20	16	0.00741	0.00982	0.00187	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	02.01	3	3	0.00725	0.01513	0.00289	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	02.02	13	7	0.00368	0.00413	0.00079	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	02.03	6	5	0.00450	0.00524	0.00100	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	02.04	2	1	0.00941	0.00941	0.00179	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	03.01	14	13	0.00724	0.00859	0.00164	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	03.02	14	13	0.00740	0.00916	0.00175	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	03.03	14	12	0.00598	0.00813	0.00155	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	03.04	16	14	0.01366	0.02717	0.00518	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	04.01	16	14	0.01950	0.03686	0.00703	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	04.02	6	6	0.00510	0.00708	0.00135	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	04.04	10	9	0.00691	0.01071	0.00204	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	07.01	5	4	0.00463	0.00713	0.00136	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	07.02	17	12	0.00416	0.00516	0.00098	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	08	2	1	0.00600	0.00600	0.00114	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	10	2	1	0.02100	0.02100	0.00401	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	13	47	46	0.00598	0.00691	0.00132	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	22	1	1	0.02000	0.02000	0.00381	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	00	11	4	0.00965	0.01524	0.00291	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	01	51	27	0.01121	0.01750	0.00334	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	02.01	3	3	0.01020	0.01984	0.00378	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	02.02	22	13	0.01129	0.01494	0.00285	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	02.03	6	6	0.01372	0.01938	0.00370	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	02.04	11	5	0.00895	0.01731	0.00330	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	03.01	34	33	0.01467	0.01725	0.00329	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	03.02	14	13	0.00987	0.01217	0.00232	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	03.03	23	18	0.01108	0.01377	0.00263	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	03.04	16	14	0.01398	0.01818	0.00347	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	04.01	25	16	0.02340	0.04165	0.00794	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	04.02	6	6	0.00578	0.00844	0.00161	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	04.04	10	9	0.01132	0.01711	0.00326	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	07.01	5	5	0.01420	0.02273	0.00433	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	07.02	17	15	0.00993	0.01348	0.00257	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	08	2	2	0.01800	0.11776	0.02246	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	13	58	51	0.01128	0.01308	0.00249	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	18	9	3	0.00781	0.01058	0.00202	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	20.01	9	6	0.01126	0.01520	0.00290	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	20.02	10	3	0.01847	0.02970	0.00567	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	21	18	10	0.01812	0.03175	0.00605	5.2430	LCV_NDI
Zinc	7440-66-6	I	WHOL	22	11	10	0.02288	0.02649	0.00505	5.2430	LCV_NDI
Zinc	7440-66-6	I	FLTR	00	1	1	0.00300	0.00300	0.06383	0.0470	LTV_FISH

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Zinc	7440-66-6	I	FLTR	01	20	16	0.00741	0.00982	0.20884	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	02.01	3	3	0.00725	0.01513	0.32201	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	02.02	13	7	0.00368	0.00413	0.08778	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	02.03	6	5	0.00450	0.00524	0.11158	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	02.04	2	1	0.00941	0.00941	0.20021	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	03.01	14	13	0.00724	0.00859	0.18272	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	03.02	14	13	0.00740	0.00916	0.19485	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	03.03	14	12	0.00598	0.00813	0.17295	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	03.04	16	14	0.01366	0.02717	0.57810	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	04.01	16	14	0.01950	0.03686	0.78424	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	04.02	6	6	0.00510	0.00708	0.15067	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	04.04	10	9	0.00691	0.01071	0.22783	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	07.01	5	4	0.00463	0.00713	0.15167	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	07.02	17	12	0.00416	0.00516	0.10987	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	08	2	1	0.00600	0.00600	0.12766	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	10	2	1	0.02100	0.02100	0.44681	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	13	47	46	0.00598	0.00691	0.14711	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	22	1	1	0.02000	0.02000	0.42553	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	00	11	4	0.00965	0.01524	0.32435	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	01	51	27	0.01121	0.01750	0.37243	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	02.01	3	3	0.01020	0.01984	0.42207	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	02.02	22	13	0.01129	0.01494	0.31795	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	02.03	6	6	0.01372	0.01938	0.41228	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	02.04	11	5	0.00895	0.01731	0.36827	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	03.01	34	33	0.01467	0.01725	0.36698	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	03.02	14	13	0.00987	0.01217	0.25891	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	03.03	23	18	0.01108	0.01377	0.29290	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	03.04	16	14	0.01398	0.01818	0.38687	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	04.01	25	16	0.02340	0.04165	0.88621	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	04.02	6	6	0.00578	0.00844	0.17962	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	04.04	10	9	0.01132	0.01711	0.36412	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	07.01	5	5	0.01420	0.02273	0.48352	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	07.02	17	15	0.00993	0.01348	0.28681	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	08	2	2	0.01800	0.11776	2.50547	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	13	58	51	0.01128	0.01308	0.27829	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	18	9	3	0.00781	0.01058	0.22506	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	20.01	9	6	0.01126	0.01520	0.32335	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	20.02	10	3	0.01847	0.02970	0.63198	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	21	18	10	0.01812	0.03175	0.67544	0.0470	LTV_FISH
Zinc	7440-66-6	I	WHOL	22	11	10	0.02288	0.02649	0.56356	0.0470	LTV_FISH
Zinc	7440-66-6	I	FLTR	00	1	1	0.00300	0.00300	0.02500	0.1200	NAWQ_ACU

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Zinc	7440-66-6	I	FLTR	01	20	16	0.00741	0.00982	0.08180	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	02.01	3	3	0.00725	0.01513	0.12612	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	02.02	13	7	0.00368	0.00413	0.03438	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	02.03	6	5	0.00450	0.00524	0.04370	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	02.04	2	1	0.00941	0.00941	0.07842	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	03.01	14	13	0.00724	0.00859	0.07156	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	03.02	14	13	0.00740	0.00916	0.07632	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	03.03	14	12	0.00598	0.00813	0.06774	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	03.04	16	14	0.01366	0.02717	0.22642	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	04.01	16	14	0.01950	0.03686	0.30716	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	04.02	6	6	0.00510	0.00708	0.05901	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	04.04	10	9	0.00691	0.01071	0.08923	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	07.01	5	4	0.00463	0.00713	0.05940	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	07.02	17	12	0.00416	0.00516	0.04303	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	08	2	1	0.00600	0.00600	0.05000	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	10	2	1	0.02100	0.02100	0.17500	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	13	47	46	0.00598	0.00691	0.05762	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	22	1	1	0.02000	0.02000	0.16667	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	00	11	4	0.00965	0.01524	0.12704	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	01	51	27	0.01121	0.01750	0.14587	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	02.01	3	3	0.01020	0.01984	0.16531	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	02.02	22	13	0.01129	0.01494	0.12453	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	02.03	6	6	0.01372	0.01938	0.16148	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	02.04	11	5	0.00895	0.01731	0.14424	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	03.01	34	33	0.01467	0.01725	0.14373	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	03.02	14	13	0.00987	0.01217	0.10141	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	03.03	23	18	0.01108	0.01377	0.11472	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	03.04	16	14	0.01398	0.01818	0.15152	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	04.01	25	16	0.02340	0.04165	0.34710	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	04.02	6	6	0.00578	0.00844	0.07035	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	04.04	10	9	0.01132	0.01711	0.14261	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	07.01	5	5	0.01420	0.02273	0.18938	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	07.02	17	15	0.00993	0.01348	0.11233	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	08	2	2	0.01800	0.11776	0.98131	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	13	58	51	0.01128	0.01308	0.10900	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	18	9	3	0.00781	0.01058	0.08815	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	20.01	9	6	0.01126	0.01520	0.12664	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	20.02	10	3	0.01847	0.02970	0.24753	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	21	18	10	0.01812	0.03175	0.26455	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	WHOL	22	11	10	0.02288	0.02649	0.22073	0.1200	NAWQ_ACU
Zinc	7440-66-6	I	FLTR	00	1	1	0.00300	0.00300	0.02727	0.1100	NAWQ_CHR

Table F2.1 (continued)

Parameter	CAS No.	Type	Media	Sub Reach	Tot. Obs.	Detects	Mean	UCB Conc.	UCB Quotient	Benchmark Value	Benchmark Type
Zinc	7440-66-6	I	FLTR	01	20	16	0.00741	0.00982	0.08923	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	02.01	3	3	0.00725	0.01513	0.13758	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	02.02	13	7	0.00368	0.00413	0.03751	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	02.03	6	5	0.00450	0.00524	0.04767	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	02.04	2	1	0.00941	0.00941	0.08555	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	03.01	14	13	0.00724	0.00859	0.07807	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	03.02	14	13	0.00740	0.00916	0.08326	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	03.03	14	12	0.00598	0.00813	0.07390	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	03.04	16	14	0.01366	0.02717	0.24701	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	04.01	16	14	0.01950	0.03686	0.33508	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	04.02	6	6	0.00510	0.00708	0.06438	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	04.04	10	9	0.00691	0.01071	0.09735	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	07.01	5	4	0.00463	0.00713	0.06480	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	07.02	17	12	0.00416	0.00516	0.04694	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	08	2	1	0.00600	0.00600	0.05455	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	10	2	1	0.02100	0.02100	0.19091	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	13	47	46	0.00598	0.00691	0.06286	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	FLTR	22	1	1	0.02000	0.02000	0.18182	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	00	11	4	0.00965	0.01524	0.13859	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	01	51	27	0.01121	0.01750	0.15913	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	02.01	3	3	0.01020	0.01984	0.18034	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	02.02	22	13	0.01129	0.01494	0.13585	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	02.03	6	6	0.01372	0.01938	0.17616	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	02.04	11	5	0.00895	0.01731	0.15735	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	03.01	34	33	0.01467	0.01725	0.15680	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	03.02	14	13	0.00987	0.01217	0.11063	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	03.03	23	18	0.01108	0.01377	0.12515	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	03.04	16	14	0.01398	0.01818	0.16530	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	04.01	25	16	0.02340	0.04165	0.37865	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	04.02	6	6	0.00578	0.00844	0.07675	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	04.04	10	9	0.01132	0.01711	0.15558	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	07.01	5	5	0.01420	0.02273	0.20659	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	07.02	17	15	0.00993	0.01348	0.12255	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	08	2	2	0.01800	0.11776	1.07052	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	13	58	51	0.01128	0.01308	0.11891	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	18	9	3	0.00781	0.01058	0.09616	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	20.01	9	6	0.01126	0.01520	0.13816	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	20.02	10	3	0.01847	0.02970	0.27003	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	21	18	10	0.01812	0.03175	0.28860	0.1100	NAWQ_CHR
Zinc	7440-66-6	I	WHOL	22	11	10	0.02288	0.02649	0.24079	0.1100	NAWQ_CHR

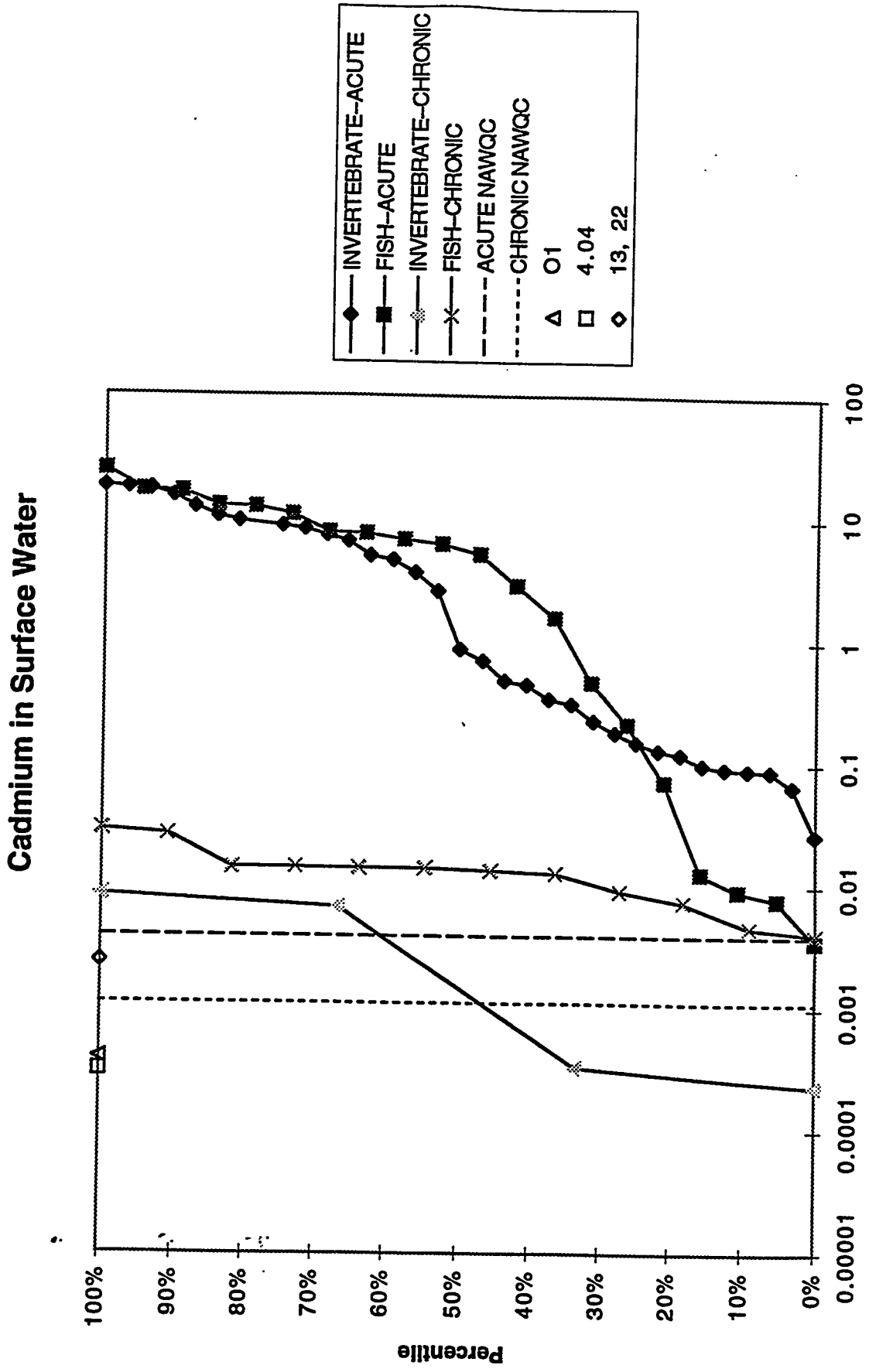


Fig. F2.1. Empirical distribution functions for acute toxicity and chronic toxicity of cadmium to fish and invertebrates and individual measurements of cadmium in reaches for which potentially significant concentrations were reported.

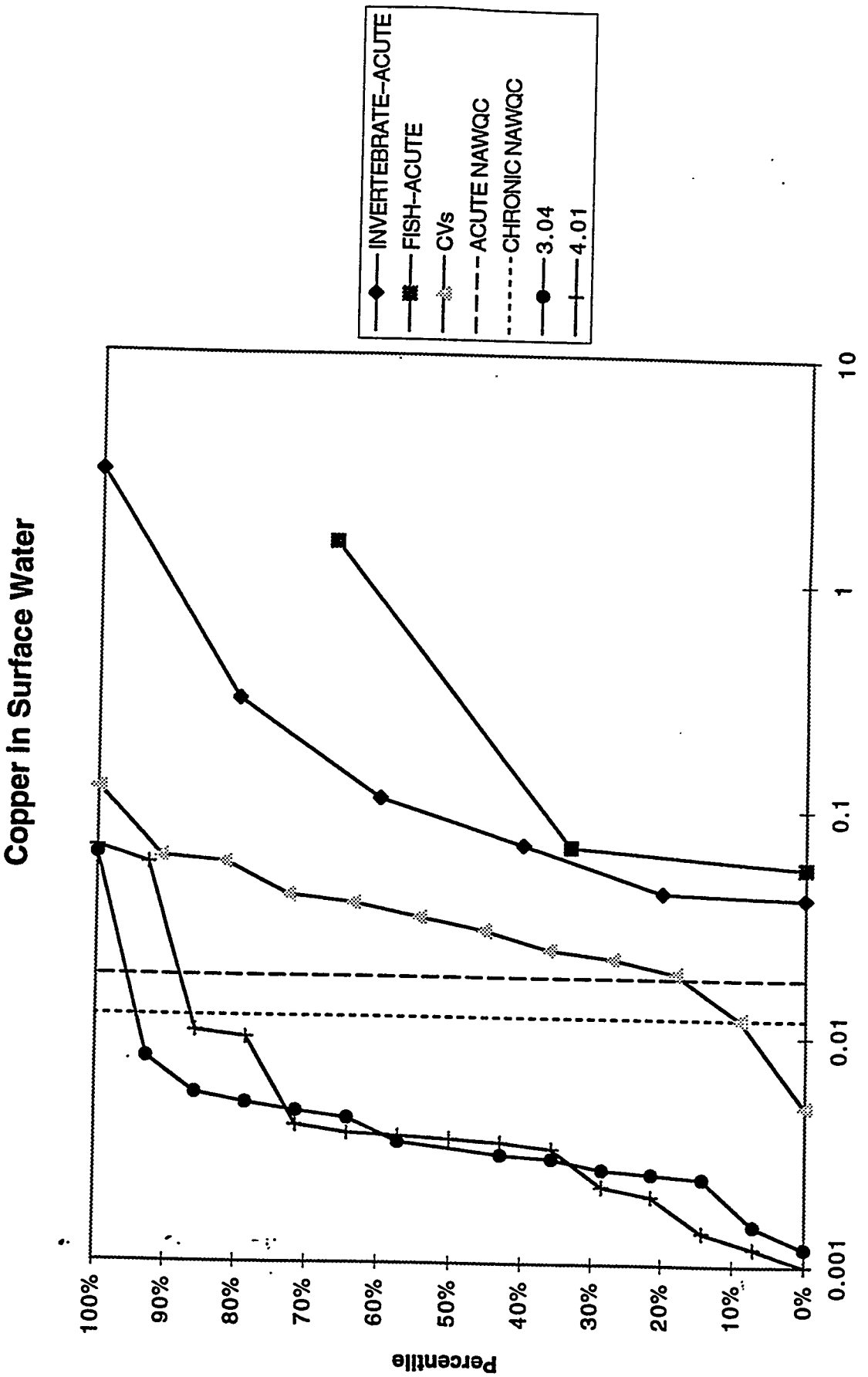


Fig. F2.2. Empirical distribution functions for acute toxicity and chronic toxicity of copper to fish and invertebrates and individual measurements of copper in reaches for which potentially significant concentrations were reported.

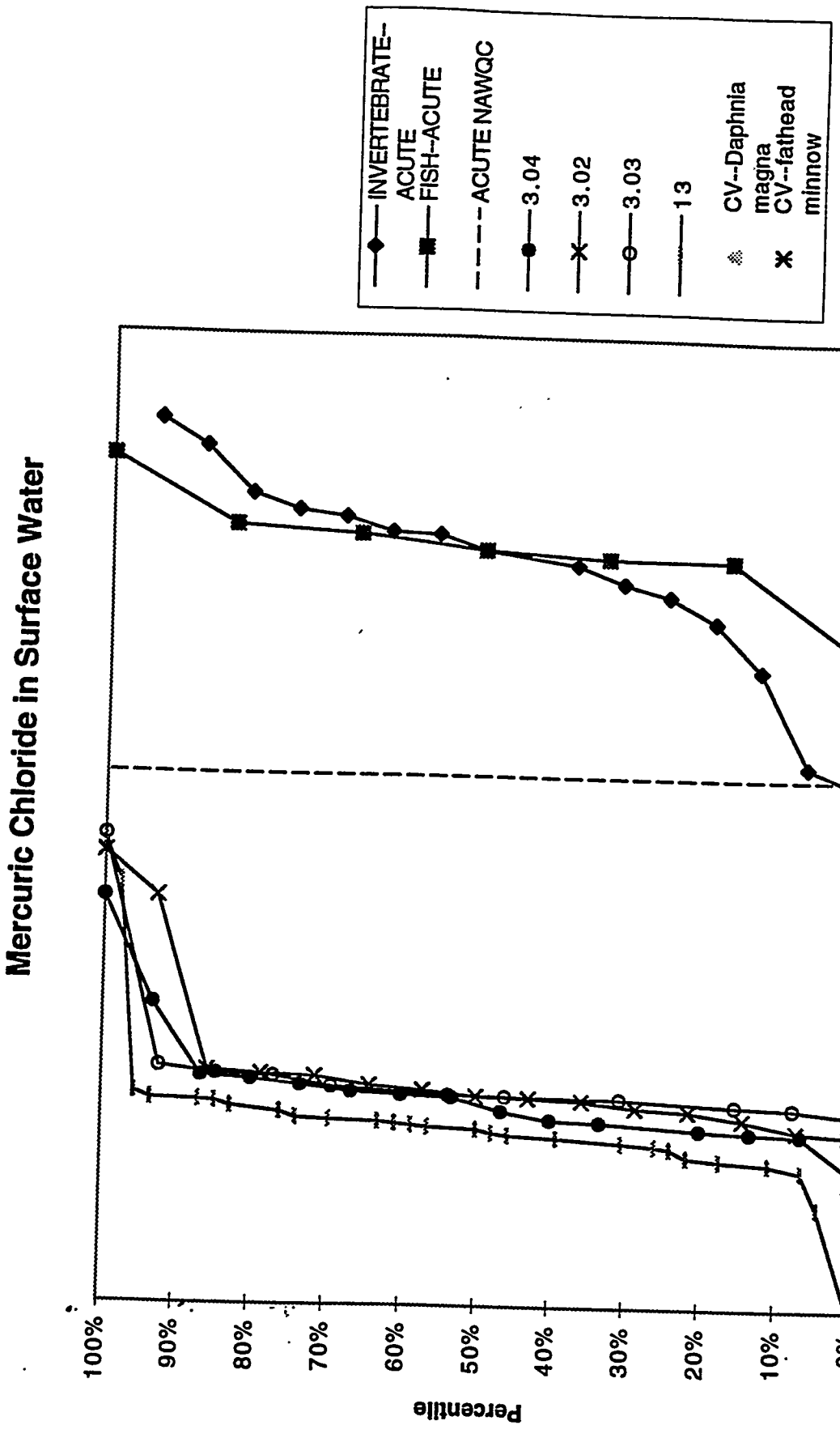


Fig. F2.3. Empirical distribution functions for acute toxicity and chronic toxicity of inorganic mercury to fish and invertebrates and individual measurements of mercury in reaches for which potentially significant concentrations were reported.

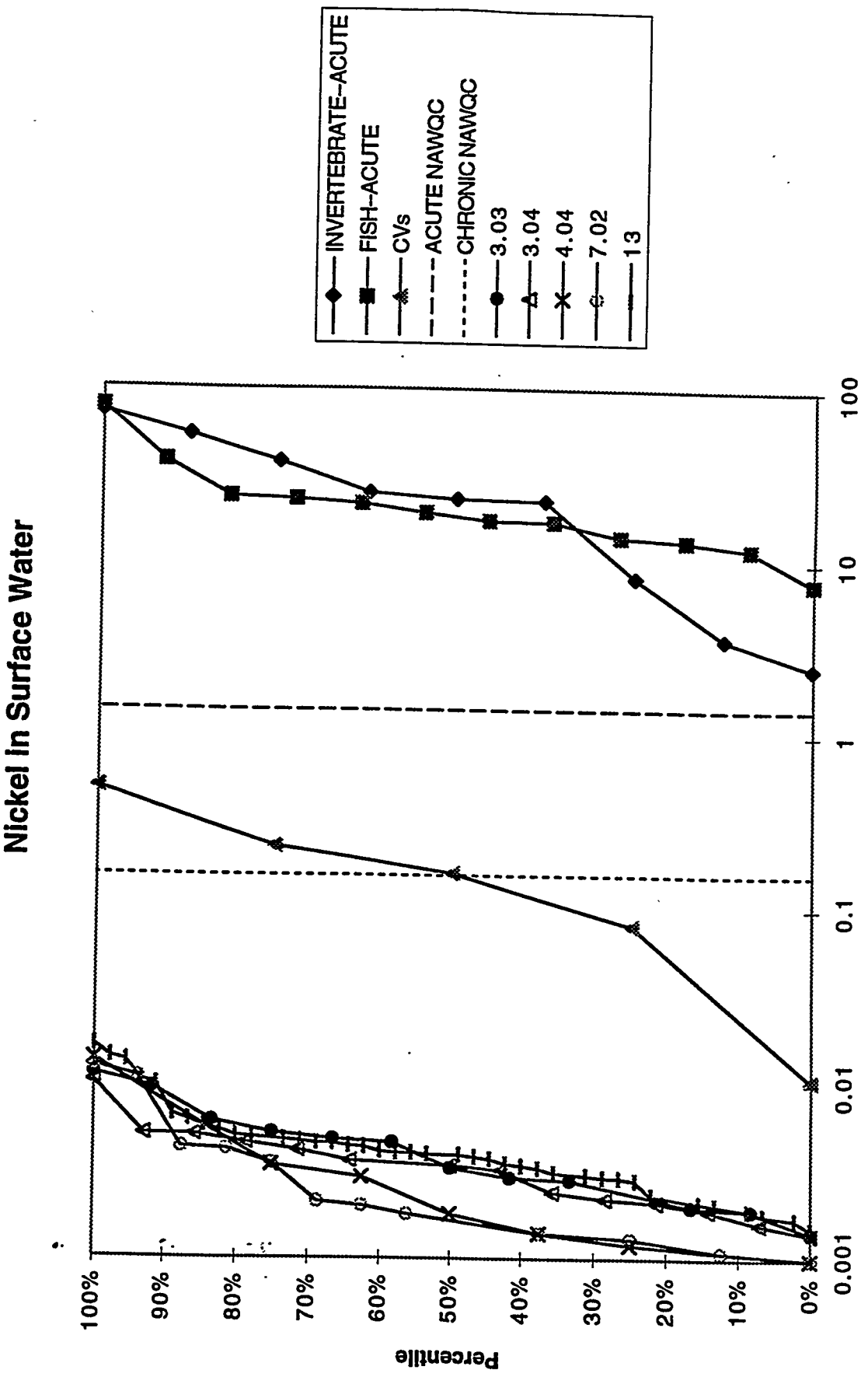


Fig. F2.4. Empirical distribution functions for acute toxicity and chronic toxicity of nickel to fish and invertebrates and individual measurements of nickel in reaches for which potentially significant concentrations were reported.

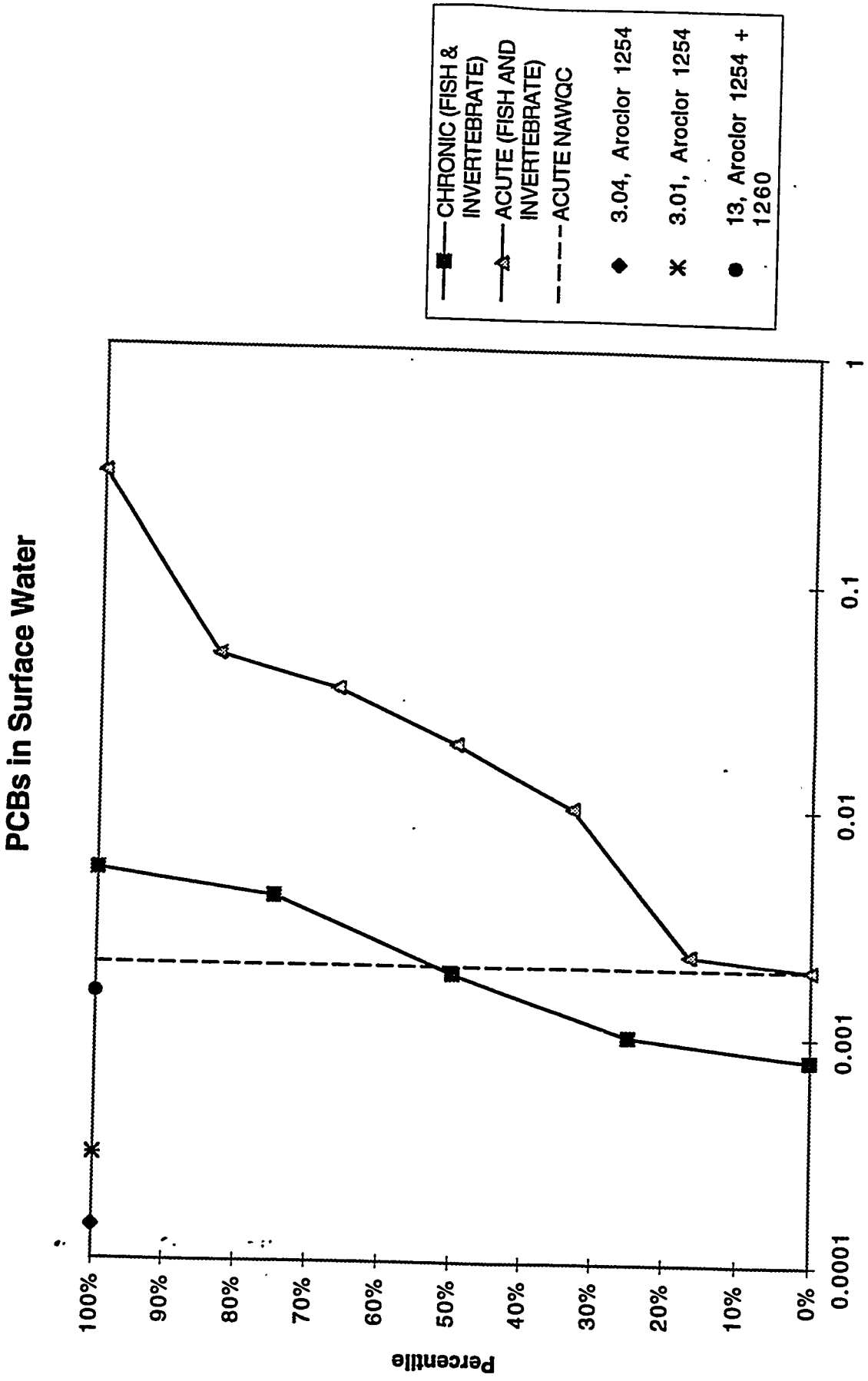


Fig. F2.5. Empirical distribution functions for acute toxicity and chronic toxicity of PCBs to fish and invertebrates and individual measurements of PCBs in reaches for which potentially significant concentrations were reported.

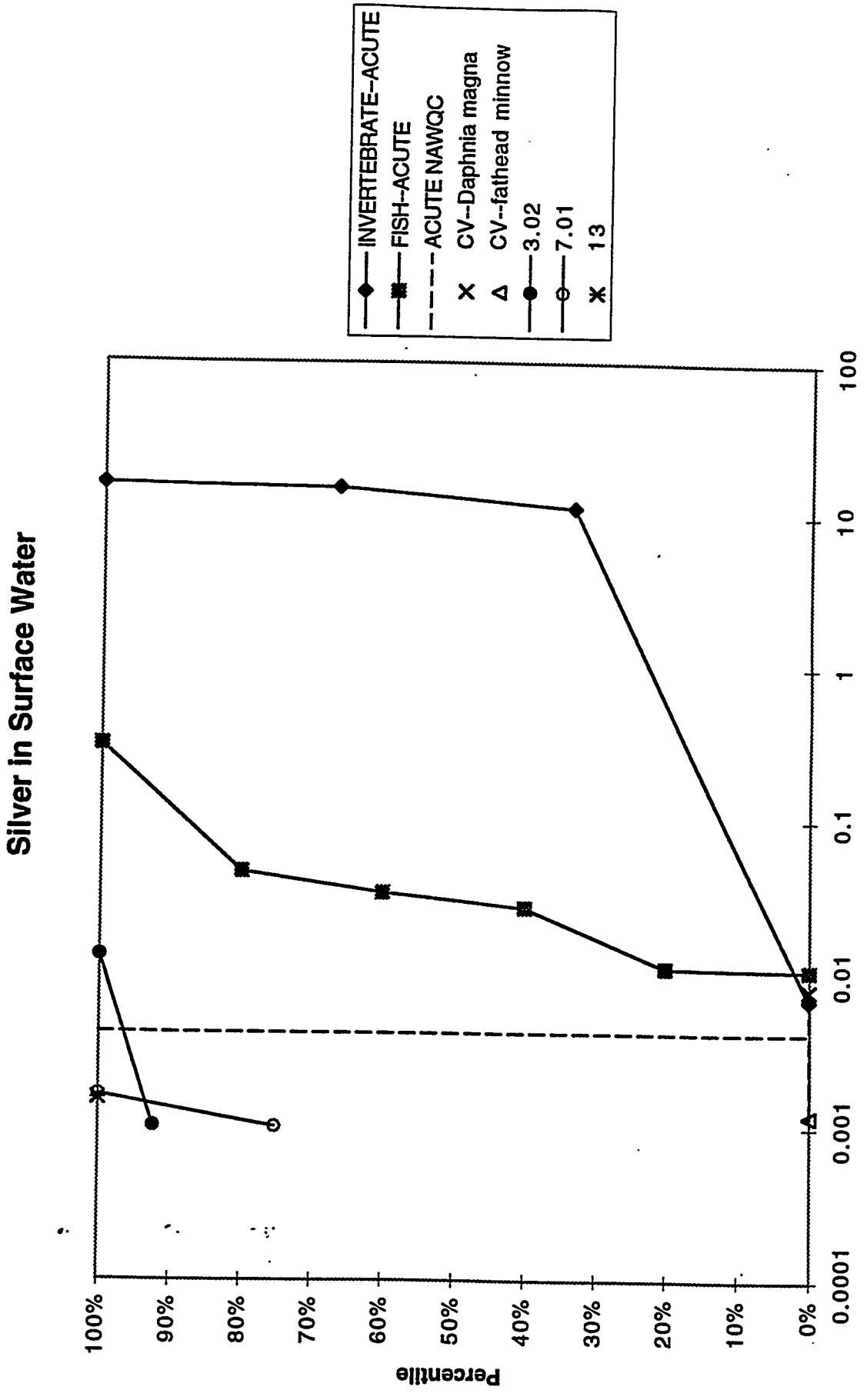


Fig. F2.6. Empirical distribution functions for acute toxicity and chronic toxicity of silver to fish and invertebrates and individual measurements of silver in reaches for which potentially significant concentrations were reported.

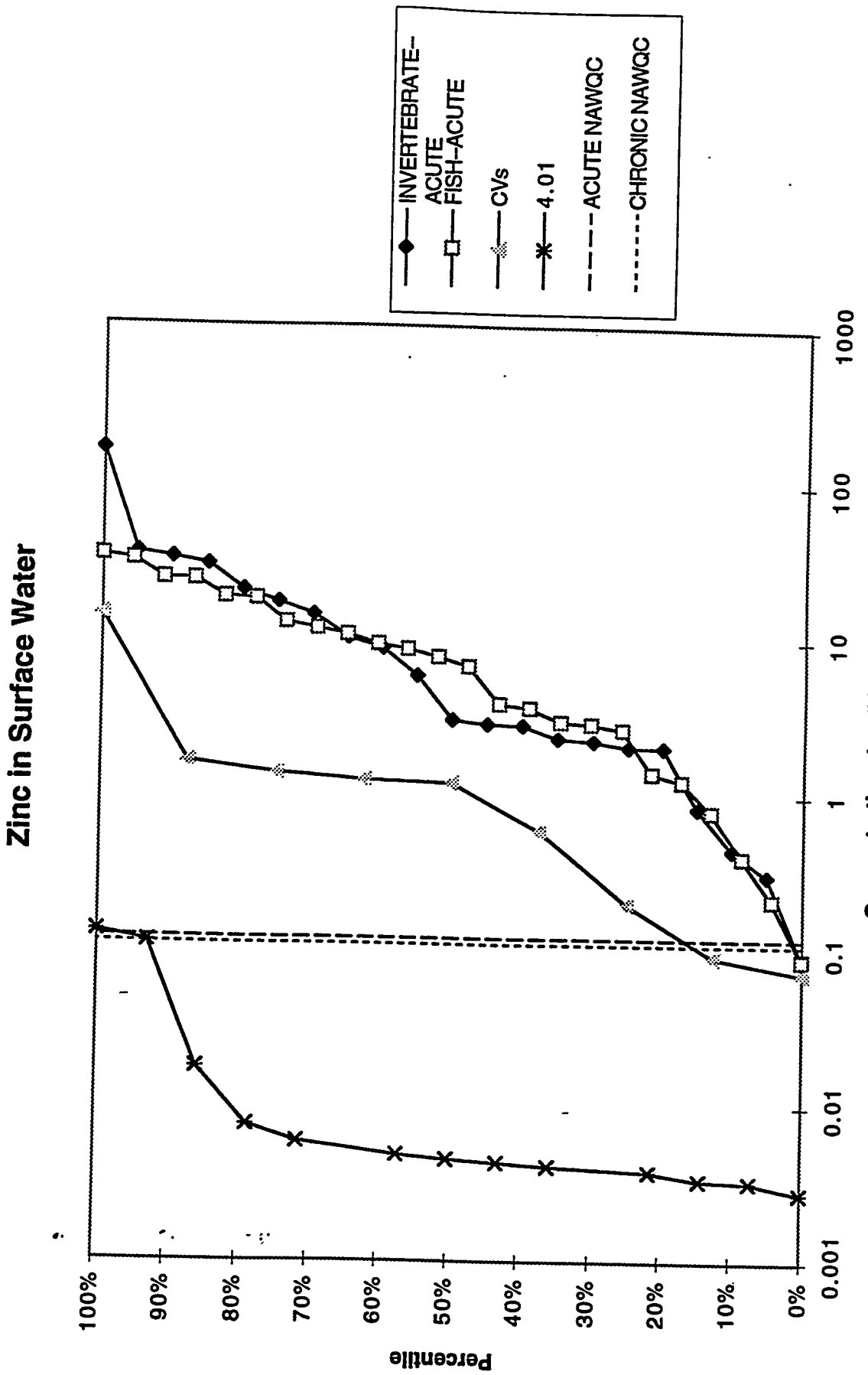


Fig. F2.7. Empirical distribution functions for acute toxicity and chronic toxicity of zinc to fish and invertebrates and individual measurements of zinc in reaches for which potentially significant concentrations were reported.

Appendix F3

BENTHIC MACROINVERTEBRATES

Table F3.1. Median and maximum concentrations[1] of the contaminants of potential ecological concern in whole sediment, sediment ecotoxicological benchmarks (BMK Name) and their values (BMK Value) for each chemical, and the quotients (HQ Max) of maximum/BMK value

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Arsenic	0	5	5	3.81E+00	5.10E+00	LEL_MOE	6.00E+00	0.85
Arsenic	0	5	5	3.81E+00	5.10E+00	REG_IV	8.00E+00	0.64
Arsenic	0	5	5	3.81E+00	5.10E+00	ER_L	8.20E+00	0.62
Arsenic	0	5	5	3.81E+00	5.10E+00	ER_M	7.00E+01	0.07
Arsenic	**1**	**2**	**2**	**7.44E+00**	**1.04E+01**	**LEL_MOE**	**6.00E+00**	**1.73**
Arsenic	**1**	**2**	**2**	**7.44E+00**	**1.04E+01**	**REG_IV**	**8.00E+00**	**1.29**
Arsenic	**1**	**2**	**2**	**7.44E+00**	**1.04E+01**	**ER_L**	**8.20E+00**	**1.26**
Arsenic	1	2	2	7.44E+00	1.04E+01	ER_M	7.00E+01	0.15
Arsenic	2.01	1	1	1.80E+00	1.80E+00	LEL_MOE	6.00E+00	0.30
Arsenic	2.01	1	1	1.80E+00	1.80E+00	REG_IV	8.00E+00	0.23
Arsenic	2.01	1	1	1.80E+00	1.80E+00	ER_L	8.20E+00	0.22
Arsenic	2.01	1	1	1.80E+00	1.80E+00	ER_M	7.00E+01	0.03
Arsenic	2.02	1	1	3.09E+00	3.09E+00	LEL_MOE	6.00E+00	0.52
Arsenic	2.02	1	1	3.09E+00	3.09E+00	REG_IV	8.00E+00	0.39
Arsenic	2.02	1	1	3.09E+00	3.09E+00	ER_L	8.20E+00	0.38
Arsenic	2.02	1	1	3.09E+00	3.09E+00	ER_M	7.00E+01	0.04
Arsenic	2.03	1	1	2.04E+00	2.04E+00	LEL_MOE	6.00E+00	0.34
Arsenic	2.03	1	1	2.04E+00	2.04E+00	REG_IV	8.00E+00	0.25
Arsenic	2.03	1	1	2.04E+00	2.04E+00	ER_L	8.20E+00	0.25
Arsenic	2.03	1	1	2.04E+00	2.04E+00	ER_M	7.00E+01	0.03
Arsenic	**2.04**	**8**	**8**	**5.22E+00**	**1.02E+01**	**LEL_MOE**	**6.00E+00**	**1.70**
Arsenic	**2.04**	**8**	**8**	**5.22E+00**	**1.02E+01**	**REG_IV**	**8.00E+00**	**1.28**
Arsenic	**2.04**	**8**	**8**	**5.22E+00**	**1.02E+01**	**ER_L**	**8.20E+00**	**1.25**
Arsenic	2.04	8	8	5.22E+00	1.02E+01	ER_M	7.00E+01	0.15

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Arsenic	3.01	2	2	2.85E+00	4.10E+00	LEL_MOE	6.00E+00	0.68
Arsenic	3.01	2	2	2.85E+00	4.10E+00	REG_IV	8.00E+00	0.51
Arsenic	3.01	2	2	2.85E+00	4.10E+00	ER_L	8.20E+00	0.50
Arsenic	3.01	2	2	2.85E+00	4.10E+00	ER_M	7.00E+01	0.06
Arsenic	**3.02**	**9**	**9**	**3.60E+00**	**1.78E+01**	**LEL_MOE**	**6.00E+00**	**2.97**
Arsenic	**3.02**	**9**	**9**	**3.60E+00**	**1.78E+01**	**REG_IV**	**8.00E+00**	**2.23**
Arsenic	**3.02**	**9**	**9**	**3.60E+00**	**1.78E+01**	**ER_L**	**8.20E+00**	**2.17**
Arsenic	3.02	9	9	3.60E+00	1.78E+01	ER_M	7.00E+01	0.25
Arsenic	**3.03**	**9**	**9**	**4.30E+00**	**1.07E+01**	**LEL_MOE**	**6.00E+00**	**1.78**
Arsenic	**3.03**	**9**	**9**	**4.30E+00**	**1.07E+01**	**REG_IV**	**8.00E+00**	**1.34**
Arsenic	**3.03**	**9**	**9**	**4.30E+00**	**1.07E+01**	**ER_L**	**8.20E+00**	**1.30**
Arsenic	3.03	9	9	4.30E+00	1.07E+01	ER_M	7.00E+01	0.15
Arsenic	**3.04**	**7**	**7**	**1.21E+01**	**6.43E+01**	**LEL_MOE**	**6.00E+00**	**10.72**
Arsenic	**3.04**	**7**	**7**	**1.21E+01**	**6.43E+01**	**REG_IV**	**8.00E+00**	**8.04**
Arsenic	**3.04**	**7**	**7**	**1.21E+01**	**6.43E+01**	**ER_L**	**8.20E+00**	**7.84**
Arsenic	3.04	7	7	1.21E+01	6.43E+01	ER_M	7.00E+01	0.92
Arsenic	**4.01**	**10**	**10**	**3.39E+00**	**6.20E+00**	**LEL_MOE**	**6.00E+00**	**1.03**
Arsenic	4.01	10	10	3.39E+00	6.20E+00	REG_IV	8.00E+00	0.78
Arsenic	4.01	10	10	3.39E+00	6.20E+00	ER_L	8.20E+00	0.76
Arsenic	4.01	10	10	3.39E+00	6.20E+00	ER_M	7.00E+01	0.09
Arsenic	**4.02**	**6**	**6**	**3.76E+00**	**1.12E+01**	**LEL_MOE**	**6.00E+00**	**1.87**
Arsenic	**4.02**	**6**	**6**	**3.76E+00**	**1.12E+01**	**REG_IV**	**8.00E+00**	**1.40**
Arsenic	**4.02**	**6**	**6**	**3.76E+00**	**1.12E+01**	**ER_L**	**8.20E+00**	**1.37**
Arsenic	4.02	6	6	3.76E+00	1.12E+01	ER_M	7.00E+01	0.16
Arsenic	**4.03**	**7**	**7**	**8.19E+00**	**1.30E+01**	**LEL_MOE**	**6.00E+00**	**2.17**
Arsenic	**4.03**	**7**	**7**	**8.19E+00**	**1.30E+01**	**REG_IV**	**8.00E+00**	**1.63**
Arsenic	**4.03**	**7**	**7**	**8.19E+00**	**1.30E+01**	**ER_L**	**8.20E+00**	**1.59**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Arsenic	4.03	7	7	8.19E+00	1.30E+01	ER_M	7.00E+01	0.19
Arsenic	**4.04**	**12**	**12**	**8.20E+00**	**1.68E+01**	**LEL_MOE**	**6.00E+00**	**2.80**
Arsenic	**4.04**	**12**	**12**	**8.20E+00**	**1.68E+01**	**REG_IV**	**8.00E+00**	**2.10**
Arsenic	**4.04**	**12**	**12**	**8.20E+00**	**1.68E+01**	**ER_L**	**8.20E+00**	**2.05**
Arsenic	4.04	12	12	8.20E+00	1.68E+01	ER_M	7.00E+01	0.24
Arsenic	**5**	**4**	**4**	**1.02E+01**	**1.14E+01**	**LEL_MOE**	**6.00E+00**	**1.89**
Arsenic	**5**	**4**	**4**	**1.02E+01**	**1.14E+01**	**REG_IV**	**8.00E+00**	**1.42**
Arsenic	**5**	**4**	**4**	**1.02E+01**	**1.14E+01**	**ER_L**	**8.20E+00**	**1.38**
Arsenic	5	4	4	1.02E+01	1.14E+01	ER_M	7.00E+01	0.16
Arsenic	**7.01**	**1**	**1**	**9.71E+01**	**9.71E+01**	**LEL_MOE**	**6.00E+00**	**16.19**
Arsenic	**7.01**	**1**	**1**	**9.71E+01**	**9.71E+01**	**REG_IV**	**8.00E+00**	**12.14**
Arsenic	**7.01**	**1**	**1**	**9.71E+01**	**9.71E+01**	**ER_L**	**8.20E+00**	**11.84**
Arsenic	**7.01**	**1**	**1**	**9.71E+01**	**9.71E+01**	**ER_M**	**7.00E+01**	**1.39**
Arsenic	**7.02**	**9**	**9**	**1.27E+01**	**2.14E+01**	**LEL_MOE**	**6.00E+00**	**3.57**
Arsenic	**7.02**	**9**	**9**	**1.27E+01**	**2.14E+01**	**REG_IV**	**8.00E+00**	**2.68**
Arsenic	**7.02**	**9**	**9**	**1.27E+01**	**2.14E+01**	**ER_L**	**8.20E+00**	**2.61**
Arsenic	7.02	9	9	1.27E+01	2.14E+01	ER_M	7.00E+01	0.31
Arsenic	**8**	**1**	**1**	**7.90E+00**	**7.90E+00**	**LEL_MOE**	**6.00E+00**	**1.32**
Arsenic	8	1	1	7.90E+00	7.90E+00	REG_IV	8.00E+00	0.99
Arsenic	8	1	1	7.90E+00	7.90E+00	ER_L	8.20E+00	0.96
Arsenic	8	1	1	7.90E+00	7.90E+00	ER_M	7.00E+01	0.11
Arsenic	**10**	**1**	**1**	**6.87E+00**	**6.87E+00**	**LEL_MOE**	**6.00E+00**	**1.15**
Arsenic	10	1	1	6.87E+00	6.87E+00	REG_IV	8.00E+00	0.86
Arsenic	10	1	1	6.87E+00	6.87E+00	ER_L	8.20E+00	0.84
Arsenic	10	1	1	6.87E+00	6.87E+00	ER_M	7.00E+01	0.10
Arsenic	13	5	5	3.80E+00	4.10E+00	LEL_MOE	6.00E+00	0.68
Arsenic	13	5	5	3.80E+00	4.10E+00	REG_IV	8.00E+00	0.51

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Arsenic	13	5	5	3.80E+00	4.10E+00	ER_L	8.20E+00	0.50
Arsenic	13	5	5	3.80E+00	4.10E+00	ER_M	7.00E+01	0.06
Arsenic	18	3	3	4.92E+00	5.36E+00	LEL_MOE	6.00E+00	0.89
Arsenic	18	3	3	4.92E+00	5.36E+00	REG_IV	8.00E+00	0.67
Arsenic	18	3	3	4.92E+00	5.36E+00	ER_L	8.20E+00	0.65
Arsenic	18	3	3	4.92E+00	5.36E+00	ER_M	7.00E+01	0.08
Arsenic	22	1	1	3.86E+00	3.86E+00	LEL_MOE	6.00E+00	0.64
Arsenic	22	1	1	3.86E+00	3.86E+00	REG_IV	8.00E+00	0.48
Arsenic	22	1	1	3.86E+00	3.86E+00	ER_L	8.20E+00	0.47
Arsenic	22	1	1	3.86E+00	3.86E+00	ER_M	7.00E+01	0.06
Barium	**0**	**5**	**5**	**6.55E+01**	**7.36E+01**	**EPA_REG V**	**2.00E+01**	**3.68**
Barium	**2.01**	**1**	**1**	**4.26E+01**	**4.26E+01**	**EPA_REG V**	**2.00E+01**	**2.13**
Barium	**2.03**	**1**	**1**	**8.86E+01**	**8.86E+01**	**EPA_REG V**	**2.00E+01**	**4.43**
Barium	**2.04**	**7**	**7**	**1.25E+02**	**1.92E+02**	**EPA_REG V**	**2.00E+01**	**9.59**
Barium	**3.01**	**2**	**2**	**8.19E+01**	**8.60E+01**	**EPA_REG V**	**2.00E+01**	**4.30**
Barium	**3.02**	**8**	**8**	**9.93E+01**	**1.92E+02**	**EPA_REG V**	**2.00E+01**	**9.60**
Barium	**3.03**	**9**	**9**	**9.34E+01**	**1.29E+02**	**EPA_REG V**	**2.00E+01**	**6.45**
Barium	**3.04**	**6**	**6**	**1.06E+02**	**2.08E+02**	**EPA_REG V**	**2.00E+01**	**10.40**
Barium	**4.01**	**9**	**9**	**5.40E+01**	**1.16E+02**	**EPA_REG V**	**2.00E+01**	**5.80**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Barium	**4.02**	**6**	**6**	**6.74E+01**	**1.07E+02**	**EPA_REG V**	**2.00E+01**	**5.35**
Barium	**4.03**	**7**	**7**	**6.45E+01**	**1.23E+02**	**EPA_REG V**	**2.00E+01**	**6.13**
Barium	**4.04**	**11**	**11**	**1.03E+02**	**1.68E+02**	**EPA_REG V**	**2.00E+01**	**8.40**
Barium	**7.01**	**1**	**1**	**1.60E+02**	**1.60E+02**	**EPA_REG V**	**2.00E+01**	**7.99**
Barium	**7.02**	**1**	**1**	**1.57E+02**	**1.57E+02**	**EPA_REG V**	**2.00E+01**	**7.85**
Barium	**8**	**1**	**1**	**1.23E+02**	**1.23E+02**	**EPA_REG V**	**2.00E+01**	**6.15**
Barium	**13**	**5**	**5**	**8.49E+01**	**1.22E+02**	**EPA_REG V**	**2.00E+01**	**6.10**
Barium	**18**	**3**	**3**	**1.17E+02**	**1.24E+02**	**EPA_REG V**	**2.00E+01**	**6.19**
Cadmium	0	5	5	2.66E-01	2.90E-01	LEL_MOE	6.00E-01	0.48
Cadmium	0	5	5	2.66E-01	2.90E-01	REG_IV	1.00E+00	0.29
Cadmium	0	5	5	2.66E-01	2.90E-01	ER_L	1.20E+00	0.24
Cadmium	0	5	5	2.66E-01	2.90E-01	ER_M	9.60E+00	0.03
Cadmium	**1**	**2**	**2**	**6.99E-01**	**8.12E-01**	**LEL_MOE**	**6.00E-01**	**1.35**
Cadmium	1	2	2	6.99E-01	8.12E-01	REG_IV	1.00E+00	0.81
Cadmium	1	2	2	6.99E-01	8.12E-01	ER_L	1.20E+00	0.68
Cadmium	1	2	2	6.99E-01	8.12E-01	ER_M	9.60E+00	0.08
Cadmium	2.01	1	1	1.10E-01	1.10E-01	LEL_MOE	6.00E-01	0.18
Cadmium	2.01	1	1	1.10E-01	1.10E-01	REG_IV	1.00E+00	0.11
Cadmium	2.01	1	1	1.10E-01	1.10E-01	ER_L	1.20E+00	0.09
Cadmium	2.01	1	1	1.10E-01	1.10E-01	ER_M	9.60E+00	0.01

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Cadmium	2.03	1	1	1.88E-01	1.88E-01	LEL_MOE	6.00E-01	0.31
Cadmium	2.03	1	1	1.88E-01	1.88E-01	REG_IV	1.00E+00	0.19
Cadmium	2.03	1	1	1.88E-01	1.88E-01	ER_L	1.20E+00	0.16
Cadmium	2.03	1	1	1.88E-01	1.88E-01	ER_M	9.60E+00	0.02
Cadmium	2.04	8	8	2.91E-01	5.07E-01	LEL_MOE	6.00E-01	0.84
Cadmium	2.04	8	8	2.91E-01	5.07E-01	REG_IV	1.00E+00	0.51
Cadmium	2.04	8	8	2.91E-01	5.07E-01	ER_L	1.20E+00	0.42
Cadmium	2.04	8	8	2.91E-01	5.07E-01	ER_M	9.60E+00	0.05
Cadmium	**3.01**	**2**	**2**	**1.12E+00**	**2.10E+00**	**LEL_MOE**	**6.00E-01**	**3.50**
Cadmium	**3.01**	**2**	**2**	**1.12E+00**	**2.10E+00**	**REG_IV**	**1.00E+00**	**2.10**
Cadmium	**3.01**	**2**	**2**	**1.12E+00**	**2.10E+00**	**ER_L**	**1.20E+00**	**1.75**
Cadmium	3.01	2	2	1.12E+00	2.10E+00	ER_M	9.60E+00.	0.22
Cadmium	**3.02**	**9**	**9**	**7.84E-01**	**5.30E+00**	**LEL_MOE**	**6.00E-01**	**8.83**
Cadmium	**3.02**	**9**	**9**	**7.84E-01**	**5.30E+00**	**REG_IV**	**1.00E+00**	**5.30**
Cadmium	**3.02**	**9**	**9**	**7.84E-01**	**5.30E+00**	**ER_L**	**1.20E+00**	**4.42**
Cadmium	3.02	9	9	7.84E-01	5.30E+00	ER_M	9.60E+00	0.55
Cadmium	**3.03**	**9**	**9**	**1.00E+00**	**3.50E+00**	**LEL_MOE**	**6.00E-01**	**5.83**
Cadmium	**3.03**	**9**	**9**	**1.00E+00**	**3.50E+00**	**REG_IV**	**1.00E+00**	**3.50**
Cadmium	**3.03**	**9**	**9**	**1.00E+00**	**3.50E+00**	**ER_L**	**1.20E+00**	**2.91**
Cadmium	3.03	9	9	1.00E+00	3.50E+00	ER_M	9.60E+00	0.36
Cadmium	**3.04**	**7**	**7**	**1.20E+00**	**5.63E+00**	**LEL_MOE**	**6.00E-01**	**9.39**
Cadmium	**3.04**	**7**	**7**	**1.20E+00**	**5.63E+00**	**REG_IV**	**1.00E+00**	**5.63**
Cadmium	**3.04**	**7**	**7**	**1.20E+00**	**5.63E+00**	**ER_L**	**1.20E+00**	**4.70**
Cadmium	3.04	7	7	1.20E+00	5.63E+00	ER_M	9.60E+00	0.59
Cadmium	4.01	10	10	2.50E-01	5.48E-01	LEL_MOE	6.00E-01	0.91
Cadmium	4.01	10	10	2.50E-01	5.48E-01	REG_IV	1.00E+00	0.55
Cadmium	4.01	10	10	2.50E-01	5.48E-01	ER_L	1.20E+00	0.46

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Cadmium	4.01	10	10	2.50E-01	5.48E-01	ER_M	9.60E+00	0.06
Cadmium	4.02	6	6	1.75E-01	5.10E-01	LEL_MOE	6.00E-01	0.85
Cadmium	4.02	6	6	1.75E-01	5.10E-01	REG_IV	1.00E+00	0.51
Cadmium	4.02	6	6	1.75E-01	5.10E-01	ER_L	1.20E+00	0.43
Cadmium	4.02	6	6	1.75E-01	5.10E-01	ER_M	9.60E+00	0.05
Cadmium	4.03	7	7	4.40E-01	5.56E-01	LEL_MOE	6.00E-01	0.93
Cadmium	4.03	7	7	4.40E-01	5.56E-01	REG_IV	1.00E+00	0.56
Cadmium	4.03	7	7	4.40E-01	5.56E-01	ER_L	1.20E+00	0.46
Cadmium	4.03	7	7	4.40E-01	5.56E-01	ER_M	9.60E+00	0.06
Cadmium	**4.04**	**12**	**12**	**4.60E-01**	**1.28E+00**	**LEL_MOE**	**6.00E-01**	**2.14**
Cadmium	**4.04**	**12**	**12**	**4.60E-01**	**1.28E+00**	**REG_IV**	**1.00E+00**	**1.28**
Cadmium	**4.04**	**12**	**12**	**4.60E-01**	**1.28E+00**	**ER_L**	**1.20E+00**	**1.07**
Cadmium	4.04	12	12	4.60E-01	1.28E+00	ER_M	9.60E+00	0.13
Cadmium	**5**	**4**	**4**	**1.29E+00**	**7.04E+00**	**LEL_MOE**	**6.00E-01**	**11.74**
Cadmium	**5**	**4**	**4**	**1.29E+00**	**7.04E+00**	**REG_IV**	**1.00E+00**	**7.04**
Cadmium	**5**	**4**	**4**	**1.29E+00**	**7.04E+00**	**ER_L**	**1.20E+00**	**5.87**
Cadmium	5	4	4	1.29E+00	7.04E+00	ER_M	9.60E+00	0.73
Cadmium	7.01	1	1	4.98E-01	4.98E-01	LEL_MOE	6.00E-01	0.83
Cadmium	7.01	1	1	4.98E-01	4.98E-01	REG_IV	1.00E+00	0.50
Cadmium	7.01	1	1	4.98E-01	4.98E-01	ER_L	1.20E+00	0.42
Cadmium	7.01	1	1	4.98E-01	4.98E-01	ER_M	9.60E+00	0.05
Cadmium	**7.02**	**2**	**9**	**3.60E-01**	**9.36E-01**	**LEL_MOE**	**6.00E-01**	**1.56**
Cadmium	7.02	2	9	3.60E-01	9.36E-01	REG_IV	1.00E+00	0.94
Cadmium	7.02	2	9	3.60E-01	9.36E-01	ER_L	1.20E+00	0.78
Cadmium	7.02	2	9	3.60E-01	9.36E-01	ER_M	9.60E+00	0.10
Cadmium	8	1	1	2.80E-01	2.80E-01	LEL_MOE	6.00E-01	0.47
Cadmium	8	1	1	2.80E-01	2.80E-01	REG_IV	1.00E+00	0.28

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Cadmium	8	1	1	2.80E-01	2.80E-01	ER_L	1.20E+00	0.23
Cadmium	8	1	1	2.80E-01	2.80E-01	ER_M	9.60E+00	0.03
Cadmium	13	5	5	1.80E-01	4.30E-01	LEL_MOE	6.00E-01	0.72
Cadmium	13	5	5	1.80E-01	4.30E-01	REG_IV	1.00E+00	0.43
Cadmium	13	5	5	1.80E-01	4.30E-01	ER_L	1.20E+00	0.36
Cadmium	13	5	5	1.80E-01	4.30E-01	ER_M	9.60E+00	0.04
Cadmium	18	3	3	4.48E-01	4.53E-01	LEL_MOE	6.00E-01	0.75
Cadmium	18	3	3	4.48E-01	4.53E-01	REG_IV	1.00E+00	0.45
Cadmium	18	3	3	4.48E-01	4.53E-01	ER_L	1.20E+00	0.38
Cadmium	18	3	3	4.48E-01	4.53E-01	ER_M	9.60E+00	0.05
Cadmium	**22**	**1**	**1**	**3.54E+00**	**3.54E+00**	**LEL_MOE**	**6.00E-01**	**5.89**
Cadmium	**22**	**1**	**1**	**3.54E+00**	**3.54E+00**	**REG_IV**	**1.00E+00**	**3.54**
Cadmium	**22**	**1**	**1**	**3.54E+00**	**3.54E+00**	**ER_L**	**1.20E+00**	**2.95**
Cadmium	22	1	1	3.54E+00	3.54E+00	ER_M	9.60E+00	0.37
Chromium	0	5	5	1.03E+01	1.28E+01	REG_IV	3.30E+01	0.39
Chromium	0	5	5	1.03E+01	1.28E+01	ER_L	8.10E+01	0.16
Chromium	0	5	5	1.03E+01	1.28E+01	ER_M	3.70E+02	0.03
Chromium	1	2	2	1.26E+01	1.63E+01	REG_IV	3.30E+01	0.49
Chromium	1	2	2	1.26E+01	1.63E+01	ER_L	8.10E+01	0.20
Chromium	1	2	2	1.26E+01	1.63E+01	ER_M	3.70E+02	0.04
Chromium	2.01	1	1	7.80E+00	7.80E+00	REG_IV	3.30E+01	0.24
Chromium	2.01	1	1	7.80E+00	7.80E+00	ER_L	8.10E+01	0.10
Chromium	2.01	1	1	7.80E+00	7.80E+00	ER_M	3.70E+02	0.02
Chromium	2.02	1	1	6.94E+00	6.94E+00	REG_IV	3.30E+01	0.21
Chromium	2.02	1	1	6.94E+00	6.94E+00	ER_L	8.10E+01	0.09
Chromium	2.02	1	1	6.94E+00	6.94E+00	ER_M	3.70E+02	0.02
Chromium	2.03	1	1	1.26E+01	1.26E+01	REG_IV	3.30E+01	0.38

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2] BMK Name	BMK Value	HQ(Max)[2]
Chromium	2.03	1	1	1.26E+01	1.26E+01 ER_L	8.10E+01	0.16
Chromium	2.03	1	1	1.26E+01	1.26E+01 ER_M	3.70E+02	0.03
Chromium	2.04	8	8	1.38E+01	2.07E+01 REG_IV	3.30E+01	0.63
Chromium	2.04	8	8	1.38E+01	2.07E+01 ER_L	8.10E+01	0.26
Chromium	2.04	8	8	1.38E+01	2.07E+01 ER_M	3.70E+02	0.06
Chromium	3.01	2	2	1.63E+01	2.06E+01 REG_IV	3.30E+01	0.62
Chromium	3.01	2	2	1.63E+01	2.06E+01 ER_L	8.10E+01	0.25
Chromium	3.01	2	2	1.63E+01	2.06E+01 ER_M	3.70E+02	0.06
Chromium	**3.02**	**9**	**9**	**2.57E+01**	**2.33E+02 REG_IV**	**3.30E+01**	**7.06**
Chromium	**3.02**	**9**	**9**	**2.57E+01**	**2.33E+02 ER_L**	**8.10E+01**	**2.88**
Chromium	3.02	9	9	2.57E+01	2.33E+02 ER_M	3.70E+02	0.63
Chromium	**3.03**	**9**	**9**	**3.04E+01**	**1.17E+02 REG_IV**	**3.30E+01**	**3.56**
Chromium	**3.03**	**9**	**9**	**3.04E+01**	**1.17E+02 ER_L**	**8.10E+01**	**1.45**
Chromium	3.03	9	9	3.04E+01	1.17E+02 ER_M	3.70E+02	0.32
Chromium	**3.04**	**7**	**7**	**2.56E+01**	**5.65E+01 REG_IV**	**3.30E+01**	**1.71**
Chromium	3.04	7	7	2.56E+01	5.65E+01 ER_L	8.10E+01	0.70
Chromium	3.04	7	7	2.56E+01	5.65E+01 ER_M	3.70E+02	0.15
Chromium	4.01	10	10	1.68E+01	2.06E+01 REG_IV	3.30E+01	0.62
Chromium	4.01	10	10	1.68E+01	2.06E+01 ER_L	8.10E+01	0.25
Chromium	4.01	10	10	1.68E+01	2.06E+01 ER_M	3.70E+02	0.06
Chromium	4.02	6	6	1.49E+01	1.93E+01 REG_IV	3.30E+01	0.58
Chromium	4.02	6	6	1.49E+01	1.93E+01 ER_L	8.10E+01	0.24
Chromium	4.02	6	6	1.49E+01	1.93E+01 ER_M	3.70E+02	0.05
Chromium	**4.03**	**7**	**7**	**2.91E+01**	**5.14E+01 REG_IV**	**3.30E+01**	**1.56**
Chromium	4.03	7	7	2.91E+01	5.14E+01 ER_L	8.10E+01	0.63
Chromium	4.03	7	7	2.91E+01	5.14E+01 ER_M	3.70E+02	0.14
Chromium	4.04	12	12	1.79E+01	3.05E+01 REG_IV	3.30E+01	0.92

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Chromium	4.04	12	12	1.79E+01	3.05E+01	ER_L	8.10E+01	0.38
Chromium	4.04	12	12	1.79E+01	3.05E+01	ER_M	3.70E+02	0.08
Chromium	5	4	4	3.02E+01	3.18E+01	REG_IV	3.30E+01	0.96
Chromium	5	4	4	3.02E+01	3.18E+01	ER_L	8.10E+01	0.39
Chromium	5	4	4	3.02E+01	3.18E+01	ER_M	3.70E+02	0.09
Chromium	7.01	1	1	2.54E+01	2.54E+01	REG_IV	3.30E+01	0.77
Chromium	7.01	1	1	2.54E+01	2.54E+01	ER_L	8.10E+01	0.31
Chromium	7.01	1	1	2.54E+01	2.54E+01	ER_M	3.70E+02	0.07
Chromium	**7.02**	**9**	**9**	**2.31E+01**	**5.86E+01**	**REG_IV**	**3.30E+01**	**1.78**
Chromium	7.02	9	9	2.31E+01	5.86E+01	ER_L	8.10E+01	0.72
Chromium	7.02	9	9	2.31E+01	5.86E+01	ER_M	3.70E+02	0.16
Chromium	8	1	1	2.13E+01	2.13E+01	REG_IV	3.30E+01	0.65
Chromium	8	1	1	2.13E+01	2.13E+01	ER_L	8.10E+01	0.26
Chromium	8	1	1	2.13E+01	2.13E+01	ER_M	3.70E+02	0.06
Chromium	10	1	1	2.58E+01	2.58E+01	REG_IV	3.30E+01	0.78
Chromium	10	1	1	2.58E+01	2.58E+01	ER_L	8.10E+01	0.32
Chromium	10	1	1	2.58E+01	2.58E+01	ER_M	3.70E+02	0.07
Chromium	13	5	5	1.51E+01	1.67E+01	REG_IV	3.30E+01	0.51
Chromium	13	5	5	1.51E+01	1.67E+01	ER_L	8.10E+01	0.21
Chromium	13	5	5	1.51E+01	1.67E+01	ER_M	3.70E+02	0.05
Chromium	18	3	3	1.73E+01	1.77E+01	REG_IV	3.30E+01	0.54
Chromium	18	3	3	1.73E+01	1.77E+01	ER_L	8.10E+01	0.22
Chromium	18	3	3	1.73E+01	1.77E+01	ER_M	3.70E+02	0.05
Chromium	**22**	**1**	**1**	**9.76E+01**	**9.76E+01**	**REG_IV**	**3.30E+01**	**2.96**
Chromium	**22**	**1**	**1**	**9.76E+01**	**9.76E+01**	**ER_L**	**8.10E+01**	**1.20**
Chromium	22	1	1	9.76E+01	9.76E+01	ER_M	3.70E+02	0.26
Copper	0	5	5	9.00E+00	1.04E+01	REG_IV	2.80E+01	0.37

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2] BMK Name	BMK Value	HQ(Max)[2]
Copper	0	5	5	9.00E+00	1.04E+01 ER_L	3.40E+01	0.31
Copper	0	5	5	9.00E+00	1.04E+01 ER_M	2.70E+02	0.04
Copper	**1**	**2**	**2**	**3.45E+01**	**3.48E+01 REG_IV**	**2.80E+01**	**1.24**
Copper	**1**	**2**	**2**	**3.45E+01**	**3.48E+01 ER_L**	**3.40E+01**	**1.02**
Copper	1	2	2	3.45E+01	3.48E+01 ER_M	2.70E+02	0.13
Copper	2.01	1	1	4.20E+00	4.20E+00 REG_IV	2.80E+01	0.15
Copper	2.01	1	1	4.20E+00	4.20E+00 ER_L	3.40E+01	0.12
Copper	2.01	1	1	4.20E+00	4.20E+00 ER_M	2.70E+02	0.02
Copper	2.02	1	1	9.07E+00	9.07E+00 REG_IV	2.80E+01	0.32
Copper	2.02	1	1	9.07E+00	9.07E+00 ER_L	3.40E+01	0.27
Copper	2.02	1	1	9.07E+00	9.07E+00 ER_M	2.70E+02	0.03
Copper	2.03	1	1	7.67E+00	7.67E+00 REG_IV	2.80E+01	0.27
Copper	2.03	1	1	7.67E+00	7.67E+00 ER_L	3.40E+01	0.23
Copper	2.03	1	1	7.67E+00	7.67E+00 ER_M	2.70E+02	0.03
Copper	2.04	8	8	1.07E+01	1.24E+01 REG_IV	2.80E+01	0.44
Copper	2.04	8	8	1.07E+01	1.24E+01 ER_L	3.40E+01	0.37
Copper	2.04	8	8	1.07E+01	1.24E+01 ER_M	2.70E+02	0.05
Copper	3.01	2	2	1.64E+01	2.64E+01 REG_IV	2.80E+01	0.94
Copper	3.01	2	2	1.64E+01	2.64E+01 ER_L	3.40E+01	0.78
Copper	3.01	2	2	1.64E+01	2.64E+01 ER_M	2.70E+02	0.10
Copper	**3.02**	**9**	**9**	**2.86E+01**	**1.42E+02 REG_IV**	**2.80E+01**	**5.07**
Copper	**3.02**	**9**	**9**	**2.86E+01**	**1.42E+02 ER_L**	**3.40E+01**	**4.18**
Copper	3.02	9	9	2.86E+01	1.42E+02 ER_M	2.70E+02	0.53
Copper	**3.03**	**9**	**9**	**2.44E+01**	**5.89E+01 REG_IV**	**2.80E+01**	**2.10**
Copper	**3.03**	**9**	**9**	**2.44E+01**	**5.89E+01 ER_L**	**3.40E+01**	**1.73**
Copper	3.03	9	9	2.44E+01	5.89E+01 ER_M	2.70E+02	0.22
Copper	**3.04**	**7**	**7**	**3.83E+01**	**9.03E+01 REG_IV**	**2.80E+01**	**3.23**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Copper	**3.04**	**7**	**7**	**3.83E+01**	**9.03E+01**	**ER_L**	**3.40E+01**	**2.66**
Copper	3.04	7	7	3.83E+01	9.03E+01	ER_M	2.70E+02	0.33
Copper	4.01	10	10	7.75E+00	1.77E+01	REG_IV	2.80E+01	0.63
Copper	4.01	10	10	7.75E+00	1.77E+01	ER_L	3.40E+01	0.52
Copper	4.01	10	10	7.75E+00	1.77E+01	ER_M	2.70E+02	0.07
Copper	4.02	6	6	7.46E+00	1.66E+01	REG_IV	2.80E+01	0.59
Copper	4.02	6	6	7.46E+00	1.66E+01	ER_L	3.40E+01	0.49
Copper	4.02	6	6	7.46E+00	1.66E+01	ER_M	2.70E+02	0.06
Copper	**4.03**	**7**	**7**	**2.27E+01**	**3.88E+01**	**REG_IV**	**2.80E+01**	**1.39**
Copper	**4.03**	**7**	**7**	**2.27E+01**	**3.88E+01**	**ER_L**	**3.40E+01**	**1.14**
Copper	4.03	7	7	2.27E+01	3.88E+01	ER_M	2.70E+02	0.14
Copper	**4.04**	**12**	**12**	**2.98E+01**	**6.09E+01**	**REG_IV**	**2.80E+01**	**2.18**
Copper	**4.04**	**12**	**12**	**2.98E+01**	**6.09E+01**	**ER_L**	**3.40E+01**	**1.79**
Copper	4.04	12	12	2.98E+01	6.09E+01	ER_M	2.70E+02	0.23
Copper	**5**	**4**	**4**	**3.85E+01**	**4.32E+01**	**REG_IV**	**2.80E+01**	**1.54**
Copper	**5**	**4**	**4**	**3.85E+01**	**4.32E+01**	**ER_L**	**3.40E+01**	**1.27**
Copper	5	4	4	3.85E+01	4.32E+01	ER_M	2.70E+02	0.16
Copper	7.01	1	1	2.60E+01	2.60E+01	REG_IV	2.80E+01	0.93
Copper	7.01	1	1	2.60E+01	2.60E+01	ER_L	3.40E+01	0.76
Copper	7.01	1	1	2.60E+01	2.60E+01	ER_M	2.70E+02	0.10
Copper	**7.02**	**9**	**9**	**2.77E+01**	**4.34E+01**	**REG_IV**	**2.80E+01**	**1.55**
Copper	**7.02**	**9**	**9**	**2.77E+01**	**4.34E+01**	**ER_L**	**3.40E+01**	**1.28**
Copper	7.02	9	9	2.77E+01	4.34E+01	ER_M	2.70E+02	0.16
Copper	8	1	1	2.26E+01	2.26E+01	REG_IV	2.80E+01	0.81
Copper	8	1	1	2.26E+01	2.26E+01	ER_L	3.40E+01	0.66
Copper	8	1	1	2.26E+01	2.26E+01	ER_M	2.70E+02	0.08
Copper	**10**	**1**	**1**	**4.55E+01**	**4.55E+01**	**REG_IV**	**2.80E+01**	**1.62**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2] BMK Name	BMK Value	HQ(Max)[2]
Copper	**10**	**1**	**1**	**4.55E+01**	**4.55E+01 ER_L**	**3.40E+01**	**1.34**
Copper	10	1	1	4.55E+01	4.55E+01 ER_M	2.70E+02	0.17
Copper	13	5	5	1.04E+01	1.50E+01 REG_IV	2.80E+01	0.54
Copper	13	5	5	1.04E+01	1.50E+01 ER_L	3.40E+01	0.44
Copper	13	5	5	1.04E+01	1.50E+01 ER_M	2.70E+02	0.06
Copper	18	3	3	1.74E+01	1.98E+01 REG_IV	2.80E+01	0.71
Copper	18	3	3	1.74E+01	1.98E+01 ER_L	3.40E+01	0.58
Copper	18	3	3	1.74E+01	1.98E+01 ER_M	2.70E+02	0.07
Copper	**22**	**1**	**1**	**4.12E+01**	**4.12E+01 REG_IV**	**2.80E+01**	**1.47**
Copper	**22**	**1**	**1**	**4.12E+01**	**4.12E+01 ER_L**	**3.40E+01**	**1.21**
Copper	22	1	1	4.12E+01	4.12E+01 ER_M	2.70E+02	0.15
Iron	0	5	5	1.40E+04	1.48E+04 LEL_MOE	3.00E+04	0.49
Iron	2.01	1	1	8.40E+03	8.40E+03 LEL_MOE	3.00E+04	0.28
Iron	2.03	1	1	1.54E+04	1.54E+04 LEL_MOE	3.00E+04	0.51
Iron	2.04	7	7	1.76E+04	2.64E+04 LEL_MOE	3.00E+04	0.88
Iron	3.01	2	2	1.56E+04	1.77E+04 LEL_MOE	3.00E+04	0.59
Iron	3.02	8	8	1.93E+04	2.42E+04 LEL_MOE	3.00E+04	0.81
Iron	**3.03**	**9**	**9**	**1.92E+04**	**3.29E+04 LEL_MOE**	**3.00E+04**	**1.10**
Iron	3.04	6	6	1.96E+04	2.41E+04 LEL_MOE	3.00E+04	0.80
Iron	4.01	9	9	1.09E+04	1.95E+04 LEL_MOE	3.00E+04	0.65
Iron	4.02	6	6	1.27E+04	1.65E+04 LEL_MOE	3.00E+04	0.55
Iron	4.03	7	7	1.82E+04	2.39E+04 LEL_MOE	3.00E+04	0.80
Iron	**4.04**	**11**	**11**	**2.06E+04**	**3.24E+04 LEL_MOE**	**3.00E+04**	**1.08**
Iron	**7.01**	**1**	**1**	**3.08E+04**	**3.08E+04 LEL_MOE**	**3.00E+04**	**1.03**
Iron	**7.02**	**1**	**1**	**3.04E+04**	**3.04E+04 LEL_MOE**	**3.00E+04**	**1.01**
Iron	8	1	1	2.89E+04	2.89E+04 LEL_MOE	3.00E+04	0.96
Iron	13	5	5	1.58E+04	1.84E+04 LEL_MOE	3.00E+04	0.61

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Iron	18	3	3	1.91E+04	2.02E+04	LEL_MOE	3.00E+04	0.67
Lead	**0**	**5**	**5**	**2.16E+01**	**2.60E+01**	**REG_IV**	**2.10E+01**	**1.24**
Lead	0	5	5	2.16E+01	2.60E+01	ER_L	4.70E+01	0.55
Lead	0	5	5	2.16E+01	2.60E+01	ER_M	2.18E+02	0.12
Lead	**1**	**2**	**2**	**3.14E+01**	**3.80E+01**	**REG_IV**	**2.10E+01**	**1.81**
Lead	1	2	2	3.14E+01	3.80E+01	ER_L	4.70E+01	0.81
Lead	1	2	2	3.14E+01	3.80E+01	ER_M	2.18E+02	0.17
Lead	2.01	1	1	5.40E+00	5.40E+00	REG_IV	2.10E+01	0.26
Lead	2.01	1	1	5.40E+00	5.40E+00	ER_L	4.70E+01	0.11
Lead	2.01	1	1	5.40E+00	5.40E+00	ER_M	2.18E+02	0.02
Lead	2.02	1	1	9.73E+00	9.73E+00	REG_IV	2.10E+01	0.46
Lead	2.02	1	1	9.73E+00	9.73E+00	ER_L	4.70E+01	0.21
Lead	2.02	1	1	9.73E+00	9.73E+00	ER_M	2.18E+02	0.04
Lead	2.03	1	1	8.57E+00	8.57E+00	REG_IV	2.10E+01	0.41
Lead	2.03	1	1	8.57E+00	8.57E+00	ER_L	4.70E+01	0.18
Lead	2.03	1	1	8.57E+00	8.57E+00	ER_M	2.18E+02	0.04
Lead	**2.04**	**8**	**8**	**2.02E+01**	**6.47E+01**	**REG_IV**	**2.10E+01**	**3.08**
Lead	**2.04**	**8**	**8**	**2.02E+01**	**6.47E+01**	**ER_L**	**4.70E+01**	**1.38**
Lead	2.04	8	8	2.02E+01	6.47E+01	ER_M	2.18E+02	0.30
Lead	3.01	2	2	1.42E+01	1.89E+01	REG_IV	2.10E+01	0.90
Lead	3.01	2	2	1.42E+01	1.89E+01	ER_L	4.70E+01	0.40
Lead	3.01	2	2	1.42E+01	1.89E+01	ER_M	2.18E+02	0.09
Lead	**3.02**	**9**	**9**	**1.75E+01**	**5.33E+01**	**REG_IV**	**2.10E+01**	**2.54**
Lead	**3.02**	**9**	**9**	**1.75E+01**	**5.33E+01**	**ER_L**	**4.70E+01**	**1.13**
Lead	3.02	9	9	1.75E+01	5.33E+01	ER_M	2.18E+02	0.24
Lead	**3.03**	**9**	**9**	**2.26E+01**	**3.76E+01**	**REG_IV**	**2.10E+01**	**1.79**
Lead	3.03	9	9	2.26E+01	3.76E+01	ER_L	4.70E+01	0.80

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Lead	3.03	9	9	2.26E+01	3.76E+01	ER_M	2.18E+02	0.17
Lead	**3.04**	**7**	**7**	**2.03E+01**	**3.09E+01**	**REG_IV**	**2.10E+01**	**1.47**
Lead	3.04	7	7	2.03E+01	3.09E+01	ER_L	4.70E+01	0.66
Lead	3.04	7	7	2.03E+01	3.09E+01	ER_M	2.18E+02	0.14
Lead	**4.01**	**10**	**10**	**1.29E+01**	**4.79E+01**	**REG_IV**	**2.10E+01**	**2.28**
Lead	**4.01**	**10**	**10**	**1.29E+01**	**4.79E+01**	**ER_L**	**4.70E+01**	**1.02**
Lead	4.01	10	10	1.29E+01	4.79E+01	ER_M	2.18E+02	0.22
Lead	**4.02**	**6**	**6**	**1.85E+01**	**3.29E+01**	**REG_IV**	**2.10E+01**	**1.57**
Lead	4.02	6	6	1.85E+01	3.29E+01	ER_L	4.70E+01	0.70
Lead	4.02	6	6	1.85E+01	3.29E+01	ER_M	2.18E+02	0.15
Lead	**4.03**	**7**	**7**	**3.09E+01**	**7.07E+01**	**REG_IV**	**2.10E+01**	**3.37**
Lead	**4.03**	**7**	**7**	**3.09E+01**	**7.07E+01**	**ER_L**	**4.70E+01**	**1.50**
Lead	4.03	7	7	3.09E+01	7.07E+01	ER_M	2.18E+02	0.32
Lead	**4.04**	**12**	**12**	**2.50E+01**	**5.99E+01**	**REG_IV**	**2.10E+01**	**2.85**
Lead	**4.04**	**12**	**12**	**2.50E+01**	**5.99E+01**	**ER_L**	**4.70E+01**	**1.27**
Lead	4.04	12	12	2.50E+01	5.99E+01	ER_M	2.18E+02	0.27
Lead	**5**	**4**	**4**	**4.09E+01**	**4.75E+01**	**REG_IV**	**2.10E+01**	**2.26**
Lead	**5**	**4**	**4**	**4.09E+01**	**4.75E+01**	**ER_L**	**4.70E+01**	**1.01**
Lead	5	4	4	4.09E+01	4.75E+01	ER_M	2.18E+02	0.22
Lead	7.01	1	1	1.64E+01	1.64E+01	REG_IV	2.10E+01	0.78
Lead	7.01	1	1	1.64E+01	1.64E+01	ER_L	4.70E+01	0.35
Lead	7.01	1	1	1.64E+01	1.64E+01	ER_M	2.18E+02	0.08
Lead	**7.02**	**9**	**9**	**1.90E+01**	**3.34E+01**	**REG_IV**	**2.10E+01**	**1.59**
Lead	7.02	9	9	1.90E+01	3.34E+01	ER_L	4.70E+01	0.71
Lead	7.02	9	9	1.90E+01	3.34E+01	ER_M	2.18E+02	0.15
Lead	**8**	**1**	**1**	**2.77E+01**	**2.77E+01**	**REG_IV**	**2.10E+01**	**1.32**
Lead	8	1	1	2.77E+01	2.77E+01	ER_L	4.70E+01	0.59

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Lead	8	1	1	2.77E+01	2.77E+01	ER_M	2.18E+02	0.13
Lead	**10**	**1**	**1**	**3.80E+01**	**3.80E+01**	**REG_IV**	**2.10E+01**	**1.81**
Lead	10	1	1	3.80E+01	3.80E+01	ER_L	4.70E+01	0.81
Lead	10	1	1	3.80E+01	3.80E+01	ER_M	2.18E+02	0.17
Lead	13	5	5	1.54E+01	1.82E+01	REG_IV	2.10E+01	0.87
Lead	13	5	5	1.54E+01	1.82E+01	ER_L	4.70E+01	0.39
Lead	13	5	5	1.54E+01	1.82E+01	ER_M	2.18E+02	0.08
Lead	**18**	**3**	**3**	**2.31E+01**	**2.67E+01**	**REG_IV**	**2.10E+01**	**1.27**
Lead	18	3	3	2.31E+01	2.67E+01	ER_L	4.70E+01	0.57
Lead	18	3	3	2.31E+01	2.67E+01	ER_M	2.18E+02	0.12
Lead	**22**	**1**	**1**	**1.20E+02**	**1.20E+02**	**REG_IV**	**2.10E+01**	**5.72**
Lead	**22**	**1**	**1**	**1.20E+02**	**1.20E+02**	**ER_L**	**4.70E+01**	**2.56**
Lead	22	1	1	1.20E+02	1.20E+02	ER_M	2.18E+02	0.55
Manganese	**0**	**5**	**5**	**1.09E+03**	**2.12E+03**	**LEL_MOE**	**4.60E+02**	**4.61**
Manganese	2.01	1	1	2.72E+02	2.72E+02	LEL_MOE	4.60E+02	0.59
Manganese	**2.03**	**1**	**1**	**5.51E+02**	**5.51E+02**	**LEL_MOE**	**4.60E+02**	**1.20**
Manganese	**2.04**	**7**	**7**	**1.27E+03**	**4.48E+03**	**LEL_MOE**	**4.60E+02**	**9.75**
Manganese	**3.01**	**2**	**2**	**4.98E+02**	**6.12E+02**	**LEL_MOE**	**4.60E+02**	**1.33**
Manganese	**3.02**	**8**	**8**	**5.82E+02**	**1.08E+03**	**LEL_MOE**	**4.60E+02**	**2.35**
Manganese	**3.03**	**9**	**9**	**6.22E+02**	**1.40E+03**	**LEL_MOE**	**4.60E+02**	**3.04**
Manganese	**3.04**	**6**	**6**	**6.19E+02**	**8.44E+02**	**LEL_MOE**	**4.60E+02**	**1.83**
Manganese	**4.01**	**9**	**9**	**5.51E+02**	**8.02E+02**	**LEL_MOE**	**4.60E+02**	**1.74**
Manganese	**4.02**	**6**	**6**	**3.99E+02**	**1.24E+03**	**LEL_MOE**	**4.60E+02**	**2.70**
Manganese	**4.03**	**7**	**7**	**8.34E+02**	**1.97E+03**	**LEL_MOE**	**4.60E+02**	**4.29**
Manganese	**4.04**	**11**	**11**	**1.34E+03**	**1.97E+03**	**LEL_MOE**	**4.60E+02**	**4.28**
Manganese	**7.01**	**1**	**1**	**1.64E+03**	**1.64E+03**	**LEL_MOE**	**4.60E+02**	**3.57**
Manganese	**7.02**	**1**	**1**	**2.94E+03**	**2.94E+03**	**LEL_MOE**	**4.60E+02**	**6.39**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Manganese	**8**	**1**	**1**	**2.01E+03**	**2.01E+03**	**LEL_MOE**	**4.60E+02**	**4.37**
Manganese	**13**	**5**	**5**	**4.22E+02**	**8.08E+02**	**LEL_MOE**	**4.60E+02**	**1.76**
Manganese	**18**	**3**	**3**	**1.85E+03**	**2.02E+03**	**LEL_MOE**	**4.60E+02**	**4.40**
Mercury	0	5	5	4.94E-02	6.86E-02	REG_IV	1.00E-01	0.69
Mercury	0	5	5	4.94E-02	6.86E-02	ER_L	1.50E-01	0.46
Mercury	0	5	5	4.94E-02	6.86E-02	ER_M	7.10E-01	0.10
Mercury	**1**	**2**	**2**	**1.03E-01**	**1.54E-01**	**REG_IV**	**1.00E-01**	**1.54**
Mercury	**1**	**2**	**2**	**1.03E-01**	**1.54E-01**	**ER_L**	**1.50E-01**	**1.03**
Mercury	1	2	2	1.03E-01	1.54E-01	ER_M	7.10E-01	0.22
Mercury	**2.01**	**1**	**1**	**2.37E-01**	**2.37E-01**	**REG_IV**	**1.00E-01**	**2.37**
Mercury	**2.01**	**1**	**1**	**2.37E-01**	**2.37E-01**	**ER_L**	**1.50E-01**	**1.58**
Mercury	2.01	1	1	2.37E-01	2.37E-01	ER_M	7.10E-01	0.33
Mercury	2.03	1	1	2.59E-02	2.59E-02	REG_IV	1.00E-01	0.26
Mercury	2.03	1	1	2.59E-02	2.59E-02	ER_L	1.50E-01	0.17
Mercury	2.03	1	1	2.59E-02	2.59E-02	ER_M	7.10E-01	0.04
Mercury	**2.04**	**9**	**9**	**9.31E-02**	**6.19E-01**	**REG_IV**	**1.00E-01**	**6.19**
Mercury	**2.04**	**9**	**9**	**9.31E-02**	**6.19E-01**	**ER_L**	**1.50E-01**	**4.13**
Mercury	2.04	9	9	9.31E-02	6.19E-01	ER_M	7.10E-01	0.87
Mercury	**3.01**	**2**	**2**	**2.32E+00**	**4.61E+00**	**REG_IV**	**1.00E-01**	**46.06**
Mercury	**3.01**	**2**	**2**	**2.32E+00**	**4.61E+00**	**ER_L**	**1.50E-01**	**30.71**
Mercury	**3.01**	**2**	**2**	**2.32E+00**	**4.61E+00**	**ER_M**	**7.10E-01**	**6.49**
Mercury	**3.02**	**9**	**9**	**8.36E+00**	**3.70E+01**	**REG_IV**	**1.00E-01**	**369.56**
Mercury	**3.02**	**9**	**9**	**8.36E+00**	**3.70E+01**	**ER_L**	**1.50E-01**	**246.37**
Mercury	**3.02**	**9**	**9**	**8.36E+00**	**3.70E+01**	**ER_M**	**7.10E-01**	**52.05**
Mercury	**3.03**	**9**	**9**	**4.98E+00**	**1.21E+01**	**REG_IV**	**1.00E-01**	**121.35**
Mercury	**3.03**	**9**	**9**	**4.98E+00**	**1.21E+01**	**ER_L**	**1.50E-01**	**80.90**
Mercury	**3.03**	**9**	**9**	**4.98E+00**	**1.21E+01**	**ER_M**	**7.10E-01**	**17.09**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Mercury	3.04	8	8	5.07E+00	1.39E+02	REG_IV	1.00E-01	1394.09
Mercury	3.04	8	8	5.07E+00	1.39E+02	ER_L	1.50E-01	929.39
Mercury	3.04	8	8	5.07E+00	1.39E+02	ER_M	7.10E-01	196.35
Mercury	4.01	10	10	8.48E-01	6.95E+00	REG_IV	1.00E-01	69.46
Mercury	4.01	10	10	8.48E-01	6.95E+00	ER_L	1.50E-01	46.31
Mercury	4.01	10	10	8.48E-01	6.95E+00	ER_M	7.10E-01	9.78
Mercury	4.02	6	6	9.48E-01	2.94E+00	REG_IV	1.00E-01	29.39
Mercury	4.02	6	6	9.48E-01	2.94E+00	ER_L	1.50E-01	19.59
Mercury	4.02	6	6	9.48E-01	2.94E+00	ER_M	7.10E-01	4.14
Mercury	4.03	7	7	1.79E+00	5.28E+00	REG_IV	1.00E-01	52.84
Mercury	4.03	7	7	1.79E+00	5.28E+00	ER_L	1.50E-01	35.22
Mercury	4.03	7	7	1.79E+00	5.28E+00	ER_M	7.10E-01	7.44
Mercury	4.04	12	12	1.67E+00	2.20E+00	REG_IV	1.00E-01	22.00
Mercury	4.04	12	12	1.67E+00	2.20E+00	ER_L	1.50E-01	14.67
Mercury	4.04	12	12	1.67E+00	2.20E+00	ER_M	7.10E-01	3.10
Mercury	5	4	4	5.33E-01	1.26E+00	REG_IV	1.00E-01	12.60
Mercury	5	4	4	5.33E-01	1.26E+00	ER_L	1.50E-01	8.40
Mercury	5	4	4	5.33E-01	1.26E+00	ER_M	7.10E-01	1.77
Mercury	7.01	1	1	1.60E-01	1.60E-01	REG_IV	1.00E-01	1.60
Mercury	7.01	1	1	1.60E-01	1.60E-01	ER_L	1.50E-01	1.07
Mercury	7.01	1	1	1.60E-01	1.60E-01	ER_M	7.10E-01	0.23
Mercury	7.02	1	9	1.09E-01	1.09E-01	REG_IV	1.00E-01	1.09
Mercury	7.02	1	9	1.09E-01	1.09E-01	ER_L	1.50E-01	0.73
Mercury	7.02	1	9	1.09E-01	1.09E-01	ER_M	7.10E-01	0.15
Mercury	8	1	1	7.64E-01	7.64E-01	REG_IV	1.00E-01	7.64
Mercury	8	1	1	7.64E-01	7.64E-01	ER_L	1.50E-01	5.09
Mercury	8	1	1	7.64E-01	7.64E-01	ER_M	7.10E-01	1.08

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2] BMK Name	BMK Value	HQ(Max)[2]
Mercury	10	1	1	6.97E-02	6.97E-02 REG_IV	1.00E-01	0.70
Mercury	10	1	1	6.97E-02	6.97E-02 ER_L	1.50E-01	0.46
Mercury	10	1	1	6.97E-02	6.97E-02 ER_M	7.10E-01	0.10
Mercury	**13**	**5**	**5**	**1.85E-01**	**1.22E+00 REG_IV**	**1.00E-01**	**12.19**
Mercury	**13**	**5**	**5**	**1.85E-01**	**1.22E+00 ER_L**	**1.50E-01**	**8.13**
Mercury	**13**	**5**	**5**	**1.85E-01**	**1.22E+00 ER_M**	**7.10E-01**	**1.72**
Mercury	**18**	**3**	**3**	**9.83E-02**	**1.11E-01 REG_IV**	**1.00E-01**	**1.11**
Mercury	18	3	3	9.83E-02	1.11E-01 ER_L	1.50E-01	0.74
Mercury	18	3	3	9.83E-02	1.11E-01 ER_M	7.10E-01	0.16
Mercury	**22**	**1**	**1**	**1.14E+02**	**1.14E+02 REG_IV**	**1.00E-01**	**1140.73**
Mercury	**22**	**1**	**1**	**1.14E+02**	**1.14E+02 ER_L**	**1.50E-01**	**760.49**
Mercury	**22**	**1**	**1**	**1.14E+02**	**1.14E+02 ER_M**	**7.10E-01**	**160.67**
Nickel	0	5	5	1.35E+01	1.49E+01 REG_IV	2.09E+01	0.71
Nickel	0	5	5	1.35E+01	1.49E+01 ER_L	2.10E+01	0.71
Nickel	0	5	5	1.35E+01	1.49E+01 ER_M	5.16E+01	0.29
Nickel	1	2	2	1.60E+01	2.01E+01 REG_IV	2.09E+01	0.96
Nickel	1	2	2	1.60E+01	2.01E+01 ER_L	2.10E+01	0.96
Nickel	1	2	2	1.60E+01	2.01E+01 ER_M	5.16E+01	0.39
Nickel	2.01	1	1	9.70E+00	9.70E+00 REG_IV	2.09E+01	0.46
Nickel	2.01	1	1	9.70E+00	9.70E+00 ER_L	2.10E+01	0.46
Nickel	2.01	1	1	9.70E+00	9.70E+00 ER_M	5.16E+01	0.19
Nickel	2.02	1	1	4.69E+00	4.69E+00 REG_IV	2.09E+01	0.22
Nickel	2.02	1	1	4.69E+00	4.69E+00 ER_L	2.10E+01	0.22
Nickel	2.02	1	1	4.69E+00	4.69E+00 ER_M	5.16E+01	0.09
Nickel	2.03	1	1	1.75E+01	1.75E+01 REG_IV	2.09E+01	0.84
Nickel	2.03	1	1	1.75E+01	1.75E+01 ER_L	2.10E+01	0.83
Nickel	2.03	1	1	1.75E+01	1.75E+01 ER_M	5.16E+01	0.34

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Nickel	**2.04**	**8**	**8**	**1.41E+01**	**2.53E+01**	**REG_IV**	**2.09E+01**	**1.21**
Nickel	**2.04**	**8**	**8**	**1.41E+01**	**2.53E+01**	**ER_L**	**2.10E+01**	**1.20**
Nickel	2.04	8	8	1.41E+01	2.53E+01	ER_M	5.16E+01	0.49
Nickel	**3.01**	**2**	**2**	**2.04E+01**	**2.88E+01**	**REG_IV**	**2.09E+01**	**1.38**
Nickel	**3.01**	**2**	**2**	**2.04E+01**	**2.88E+01**	**ER_L**	**2.10E+01**	**1.37**
Nickel	3.01	2	2	2.04E+01	2.88E+01	ER_M	5.16E+01	0.56
Nickel	**3.02**	**9**	**9**	**4.80E+01**	**2.28E+02**	**REG_IV**	**2.09E+01**	**10.91**
Nickel	**3.02**	**9**	**9**	**4.80E+01**	**2.28E+02**	**ER_L**	**2.10E+01**	**10.86**
Nickel	**3.02**	**9**	**9**	**4.80E+01**	**2.28E+02**	**ER_M**	**5.16E+01**	**4.42**
Nickel	**3.03**	**9**	**9**	**4.42E+01**	**8.57E+01**	**REG_IV**	**2.09E+01**	**4.10**
Nickel	**3.03**	**9**	**9**	**4.42E+01**	**8.57E+01**	**ER_L**	**2.10E+01**	**4.08**
Nickel	**3.03**	**9**	**9**	**4.42E+01**	**8.57E+01**	**ER_M**	**5.16E+01**	**1.66**
Nickel	**3.04**	**7**	**7**	**3.67E+01**	**6.96E+01**	**REG_IV**	**2.09E+01**	**3.33**
Nickel	**3.04**	**7**	**7**	**3.67E+01**	**6.96E+01**	**ER_L**	**2.10E+01**	**3.31**
Nickel	**3.04**	**7**	**7**	**3.67E+01**	**6.96E+01**	**ER_M**	**5.16E+01**	**1.35**
Nickel	**4.01**	**10**	**10**	**1.33E+01**	**2.58E+01**	**REG_IV**	**2.09E+01**	**1.23**
Nickel	**4.01**	**10**	**10**	**1.33E+01**	**2.58E+01**	**ER_L**	**2.10E+01**	**1.23**
Nickel	4.01	10	10	1.33E+01	2.58E+01	ER_M	5.16E+01	0.50
Nickel	**4.02**	**6**	**6**	**1.27E+01**	**2.11E+01**	**REG_IV**	**2.09E+01**	**1.01**
Nickel	**4.02**	**6**	**6**	**1.27E+01**	**2.11E+01**	**ER_L**	**2.10E+01**	**1.00**
Nickel	4.02	6	6	1.27E+01	2.11E+01	ER_M	5.16E+01	0.41
Nickel	**4.03**	**7**	**7**	**2.82E+01**	**4.39E+01**	**REG_IV**	**2.09E+01**	**2.10**
Nickel	**4.03**	**7**	**7**	**2.82E+01**	**4.39E+01**	**ER_L**	**2.10E+01**	**2.09**
Nickel	4.03	7	7	2.82E+01	4.39E+01	ER_M	5.16E+01	0.85
Nickel	**4.04**	**12**	**12**	**2.55E+01**	**4.22E+01**	**REG_IV**	**2.09E+01**	**2.02**
Nickel	**4.04**	**12**	**12**	**2.55E+01**	**4.22E+01**	**ER_L**	**2.10E+01**	**2.01**
Nickel	4.04	12	12	2.55E+01	4.22E+01	ER_M	5.16E+01	0.82

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Nickel	**5**	**4**	**4**	**2.29E+01**	**3.19E+01**	**REG_IV**	**2.09E+01**	**1.52**
Nickel	**5**	**4**	**4**	**2.29E+01**	**3.19E+01**	**ER_L**	**2.10E+01**	**1.52**
Nickel	5	4	4	2.29E+01	3.19E+01	ER_M	5.16E+01	0.62
Nickel	**7.01**	**1**	**1**	**2.67E+01**	**2.67E+01**	**REG_IV**	**2.09E+01**	**1.28**
Nickel	**7.01**	**1**	**1**	**2.67E+01**	**2.67E+01**	**ER_L**	**2.10E+01**	**1.27**
Nickel	7.01	1	1	2.67E+01	2.67E+01	ER_M	5.16E+01	0.52
Nickel	**7.02**	**9**	**9**	**2.54E+01**	**4.10E+01**	**REG_IV**	**2.09E+01**	**1.96**
Nickel	**7.02**	**9**	**9**	**2.54E+01**	**4.10E+01**	**ER_L**	**2.10E+01**	**1.95**
Nickel	7.02	9	9	2.54E+01	4.10E+01	ER_M	5.16E+01	0.80
Nickel	**8**	**1**	**1**	**2.44E+01**	**2.44E+01**	**REG_IV**	**2.09E+01**	**1.17**
Nickel	**8**	**1**	**1**	**2.44E+01**	**2.44E+01**	**ER_L**	**2.10E+01**	**1.16**
Nickel	8	1	1	2.44E+01	2.44E+01	ER_M	5.16E+01	0.47
Nickel	**10**	**1**	**1**	**2.30E+01**	**2.30E+01**	**REG_IV**	**2.09E+01**	**1.10**
Nickel	**10**	**1**	**1**	**2.30E+01**	**2.30E+01**	**ER_L**	**2.10E+01**	**1.09**
Nickel	10	1	1	2.30E+01	2.30E+01	ER_M	5.16E+01	0.44
Nickel	**13**	**5**	**5**	**1.91E+01**	**2.92E+01**	**REG_IV**	**2.09E+01**	**1.40**
Nickel	**13**	**5**	**5**	**1.91E+01**	**2.92E+01**	**ER_L**	**2.10E+01**	**1.39**
Nickel	13	5	5	1.91E+01	2.92E+01	ER_M	5.16E+01	0.57
Nickel	18	3	3	1.26E+01	1.40E+01	REG_IV	2.09E+01	0.67
Nickel	18	3	3	1.26E+01	1.40E+01	ER_L	2.10E+01	0.67
Nickel	18	3	3	1.26E+01	1.40E+01	ER_M	5.16E+01	0.27
Nickel	**22**	**1**	**1**	**2.38E+01**	**2.38E+01**	**REG_IV**	**2.09E+01**	**1.14**
Nickel	**22**	**1**	**1**	**2.38E+01**	**2.38E+01**	**ER_L**	**2.10E+01**	**1.13**
Nickel	22	1	1	2.38E+01	2.38E+01	ER_M	5.16E+01	0.46
Silver	0	4	5	5.18E-02	7.41E-01	ER_L	1.00E+00	0.74
Silver	0	4	5	5.18E-02	7.41E-01	REG_IV	2.00E+00	0.37
Silver	0	4	5	5.18E-02	7.41E-01	ER_M	3.70E+00	0.20

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Silver	1	2	2	2.78E-01	3.29E-01	ER_L	1.00E+00	0.33
Silver	1	2	2	2.78E-01	3.29E-01	REG_IV	2.00E+00	0.16
Silver	1	2	2	2.78E-01	3.29E-01	ER_M	3.70E+00	0.09
Silver	2.01	1	1	3.00E-02	3.00E-02	ER_L	1.00E+00	0.03
Silver	2.01	1	1	3.00E-02	3.00E-02	REG_IV	2.00E+00	0.02
Silver	2.01	1	1	3.00E-02	3.00E-02	ER_M	3.70E+00	0.01
Silver	2.03	1	1	5.35E-02	5.35E-02	ER_L	1.00E+00	0.05
Silver	2.03	1	1	5.35E-02	5.35E-02	REG_IV	2.00E+00	0.03
Silver	2.03	1	1	5.35E-02	5.35E-02	ER_M	3.70E+00	0.01
Silver	2.04	7	8	6.64E-02	5.97E-01	ER_L	1.00E+00	0.60
Silver	2.04	7	8	6.64E-02	5.97E-01	REG_IV	2.00E+00	0.30
Silver	2.04	7	8	6.64E-02	5.97E-01	ER_M	3.70E+00	0.16
Silver	3.01	2	2	2.70E-01	5.00E-01	ER_L	1.00E+00	0.50
Silver	3.01	2	2	2.70E-01	5.00E-01	REG_IV	2.00E+00	0.25
Silver	3.01	2	2	2.70E-01	5.00E-01	ER_M	3.70E+00	0.14
Silver	**3.02**	**9**	**9**	**4.30E-01**	**5.60E+00**	**ER_L**	**1.00E+00**	**5.60**
Silver	**3.02**	**9**	**9**	**4.30E-01**	**5.60E+00**	**REG_IV**	**2.00E+00**	**2.80**
Silver	**3.02**	**9**	**9**	**4.30E-01**	**5.60E+00**	**ER_M**	**3.70E+00**	**1.51**
Silver	**3.03**	**9**	**9**	**5.80E-01**	**4.90E+00**	**ER_L**	**1.00E+00**	**4.90**
Silver	**3.03**	**9**	**9**	**5.80E-01**	**4.90E+00**	**REG_IV**	**2.00E+00**	**2.45**
Silver	**3.03**	**9**	**9**	**5.80E-01**	**4.90E+00**	**ER_M**	**3.70E+00**	**1.32**
Silver	**3.04**	**6**	**6**	**9.50E-01**	**1.55E+00**	**ER_L**	**1.00E+00**	**1.55**
Silver	3.04	6	6	9.50E-01	1.55E+00	REG_IV	2.00E+00	0.78
Silver	3.04	6	6	9.50E-01	1.55E+00	ER_M	3.70E+00	0.42
Silver	4.01	9	9	9.00E-02	3.10E-01	ER_L	1.00E+00	0.31
Silver	4.01	9	9	9.00E-02	3.10E-01	REG_IV	2.00E+00	0.16
Silver	4.01	9	9	9.00E-02	3.10E-01	ER_M	3.70E+00	0.08

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2] BMK Name	BMK Value	HQ(Max)[2]
Silver	4.02	6	6	5.30E-02	1.80E-01 ER_L	1.00E+00	0.18
Silver	4.02	6	6	5.30E-02	1.80E-01 REG_IV	2.00E+00	0.09
Silver	4.02	6	6	5.30E-02	1.80E-01 ER_M	3.70E+00	0.05
Silver	4.03	7	7	2.10E-01	3.58E-01 ER_L	1.00E+00	0.36
Silver	4.03	7	7	2.10E-01	3.58E-01 REG_IV	2.00E+00	0.18
Silver	4.03	7	7	2.10E-01	3.58E-01 ER_M	3.70E+00	0.10
Silver	**4.04**	**11**	**11**	**2.30E-01**	**2.70E+00 ER_L**	**1.00E+00**	**2.70**
Silver	**4.04**	**11**	**11**	**2.30E-01**	**2.70E+00 REG_IV**	**2.00E+00**	**1.35**
Silver	4.04	11	11	2.30E-01	2.70E+00 ER_M	3.70E+00	0.73
Silver	5	4	4	2.81E-01	9.11E-01 ER_L	1.00E+00	0.91
Silver	5	4	4	2.81E-01	9.11E-01 REG_IV	2.00E+00	0.46
Silver	5	4	4	2.81E-01	9.11E-01 ER_M	3.70E+00	0.25
Silver	7.02	6	9	7.65E-02	2.61E-01 ER_L	1.00E+00	0.26
Silver	7.02	6	9	7.65E-02	2.61E-01 REG_IV	2.00E+00	0.13
Silver	7.02	6	9	7.65E-02	2.61E-01 ER_M	3.70E+00	0.07
Silver	8	1	1	8.00E-02	8.00E-02 ER_L	1.00E+00	0.08
Silver	8	1	1	8.00E-02	8.00E-02 REG_IV	2.00E+00	0.04
Silver	8	1	1	8.00E-02	8.00E-02 ER_M	3.70E+00	0.02
Silver	13	4	5	5.00E-02	1.60E-01 ER_L	1.00E+00	0.16
Silver	13	4	5	5.00E-02	1.60E-01 REG_IV	2.00E+00	0.08
Silver	13	4	5	5.00E-02	1.60E-01 ER_M	3.70E+00	0.04
Silver	18	3	3	1.41E-01	1.88E-01 ER_L	1.00E+00	0.19
Silver	18	3	3	1.41E-01	1.88E-01 REG_IV	2.00E+00	0.09
Silver	18	3	3	1.41E-01	1.88E-01 ER_M	3.70E+00	0.05
Silver	**22**	**1**	**1**	**1.67E+01**	**1.67E+01 ER_L**	**1.00E+00**	**16.72**
Silver	**22**	**1**	**1**	**1.67E+01**	**1.67E+01 REG_IV**	**2.00E+00**	**8.36**
Silver	**22**	**1**	**1**	**1.67E+01**	**1.67E+01 ER_M**	**3.70E+00**	**4.52**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Zinc	**0**	**5**	**5**	**6.41E+01**	**8.89E+01**	**REG_IV**	**6.80E+01**	**1.31**
Zinc	0	5	5	6.41E+01	8.89E+01	ER_L	1.50E+02	0.59
Zinc	0	5	5	6.41E+01	8.89E+01	ER_M	4.10E+02	0.22
Zinc	**1**	**2**	**2**	**8.42E+01**	**1.08E+02**	**REG_IV**	**6.80E+01**	**1.58**
Zinc	1	2	2	8.42E+01	1.08E+02	ER_L	1.50E+02	0.72
Zinc	1	2	2	8.42E+01	1.08E+02	ER_M	4.10E+02	0.26
Zinc	2.01	1	1	2.99E+01	2.99E+01	REG_IV	6.80E+01	0.44
Zinc	2.01	1	1	2.99E+01	2.99E+01	ER_L	1.50E+02	0.20
Zinc	2.01	1	1	2.99E+01	2.99E+01	ER_M	4.10E+02	0.07
Zinc	2.02	1	1	4.02E+01	4.02E+01	REG_IV	6.80E+01	0.59
Zinc	2.02	1	1	4.02E+01	4.02E+01	ER_L	1.50E+02	0.27
Zinc	2.02	1	1	4.02E+01	4.02E+01	ER_M	4.10E+02	0.10
Zinc	2.03	1	1	5.28E+01	5.28E+01	REG_IV	6.80E+01	0.78
Zinc	2.03	1	1	5.28E+01	5.28E+01	ER_L	1.50E+02	0.35
Zinc	2.03	1	1	5.28E+01	5.28E+01	ER_M	4.10E+02	0.13
Zinc	**2.04**	**8**	**8**	**5.95E+01**	**8.24E+01**	**REG_IV**	**6.80E+01**	**1.21**
Zinc	2.04	8	8	5.95E+01	8.24E+01	ER_L	1.50E+02	0.55
Zinc	2.04	8	8	5.95E+01	8.24E+01	ER_M	4.10E+02	0.20
Zinc	**3.01**	**2**	**2**	**5.54E+01**	**7.70E+01**	**REG_IV**	**6.80E+01**	**1.13**
Zinc	3.01	2	2	5.54E+01	7.70E+01	ER_L	1.50E+02	0.51
Zinc	3.01	2	2	5.54E+01	7.70E+01	ER_M	4.10E+02	0.19
Zinc	**3.02**	**9**	**9**	**8.11E+01**	**2.43E+02**	**REG_IV**	**6.80E+01**	**3.57**
Zinc	**3.02**	**9**	**9**	**8.11E+01**	**2.43E+02**	**ER_L**	**1.50E+02**	**1.62**
Zinc	3.02	9	9	8.11E+01	2.43E+02	ER_M	4.10E+02	0.59
Zinc	**3.03**	**9**	**9**	**8.26E+01**	**1.49E+02**	**REG_IV**	**6.80E+01**	**2.19**
Zinc	3.03	9	9	8.26E+01	1.49E+02	ER_L	1.50E+02	0.99
Zinc	3.03	9	9	8.26E+01	1.49E+02	ER_M	4.10E+02	0.36

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Zinc	**3.04**	**7**	**7**	**8.53E+01**	**1.13E+02**	**REG_IV**	**6.80E+01**	**1.66**
Zinc	3.04	7	7	8.53E+01	1.13E+02	ER_L	1.50E+02	0.75
Zinc	3.04	7	7	8.53E+01	1.13E+02	ER_M	4.10E+02	0.28
Zinc	4.01	10	10	4.47E+01	6.65E+01	REG_IV	6.80E+01	0.98
Zinc	4.01	10	10	4.47E+01	6.65E+01	ER_L	1.50E+02	0.44
Zinc	4.01	10	10	4.47E+01	6.65E+01	ER_M	4.10E+02	0.16
Zinc	**4.02**	**6**	**6**	**4.77E+01**	**7.99E+01**	**REG_IV**	**6.80E+01**	**1.18**
Zinc	4.02	6	6	4.77E+01	7.99E+01	ER_L	1.50E+02	0.53
Zinc	4.02	6	6	4.77E+01	7.99E+01	ER_M	4.10E+02	0.19
Zinc	**4.03**	**7**	**7**	**7.69E+01**	**1.09E+02**	**REG_IV**	**6.80E+01**	**1.60**
Zinc	4.03	7	7	7.69E+01	1.09E+02	ER_L	1.50E+02	0.73
Zinc	4.03	7	7	7.69E+01	1.09E+02	ER_M	4.10E+02	0.27
Zinc	**4.04**	**12**	**12**	**1.18E+02**	**1.72E+02**	**REG_IV**	**6.80E+01**	**2.53**
Zinc	**4.04**	**12**	**12**	**1.18E+02**	**1.72E+02**	**ER_L**	**1.50E+02**	**1.15**
Zinc	4.04	12	12	1.18E+02	1.72E+02	ER_M	4.10E+02	0.42
Zinc	**5**	**4**	**4**	**2.13E+02**	**2.67E+02**	**REG_IV**	**6.80E+01**	**3.92**
Zinc	**5**	**4**	**4**	**2.13E+02**	**2.67E+02**	**ER_L**	**1.50E+02**	**1.78**
Zinc	5	4	4	2.13E+02	2.67E+02	ER_M	4.10E+02	0.65
Zinc	**7.01**	**1**	**1**	**9.75E+01**	**9.75E+01**	**REG_IV**	**6.80E+01**	**1.43**
Zinc	7.01	1	1	9.75E+01	9.75E+01	ER_L	1.50E+02	0.65
Zinc	7.01	1	1	9.75E+01	9.75E+01	ER_M	4.10E+02	0.24
Zinc	**7.02**	**9**	**9**	**7.24E+01**	**1.09E+02**	**REG_IV**	**6.80E+01**	**1.60**
Zinc	7.02	9	9	7.24E+01	1.09E+02	ER_L	1.50E+02	0.73
Zinc	7.02	9	9	7.24E+01	1.09E+02	ER_M	4.10E+02	0.27
Zinc	**8**	**1**	**1**	**9.17E+01**	**9.17E+01**	**REG_IV**	**6.80E+01**	**1.35**
Zinc	8	1	1	9.17E+01	9.17E+01	ER_L	1.50E+02	0.61
Zinc	8	1	1	9.17E+01	9.17E+01	ER_M	4.10E+02	0.22

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Zinc	**10**	**1**	**1**	**9.88E+01**	**9.88E+01**	**REG_IV**	**6.80E+01**	**1.45**
Zinc	10	1	1	9.88E+01	9.88E+01	ER_L	1.50E+02	0.66
Zinc	10	1	1	9.88E+01	9.88E+01	ER_M	4.10E+02	0.24
Zinc	**13**	**5**	**5**	**5.72E+01**	**9.21E+01**	**REG_IV**	**6.80E+01**	**1.35**
Zinc	13	5	5	5.72E+01	9.21E+01	ER_L	1.50E+02	0.61
Zinc	13	5	5	5.72E+01	9.21E+01	ER_M	4.10E+02	0.22
Zinc	**18**	**3**	**3**	**1.29E+02**	**1.32E+02**	**REG_IV**	**6.80E+01**	**1.94**
Zinc	18	3	3	1.29E+02	1.32E+02	ER_L	1.50E+02	0.88
Zinc	18	3	3	1.29E+02	1.32E+02	ER_M	4.10E+02	0.32
Zinc	**22**	**1**	**1**	**1.13E+02**	**1.13E+02**	**REG_IV**	**6.80E+01**	**1.66**
Zinc	22	1	1	1.13E+02	1.13E+02	ER_L	1.50E+02	0.75
Zinc	22	1	1	1.13E+02	1.13E+02	ER_M	4.10E+02	0.28
2-Methylnaphthalene	**0**	**5**	**5**	**5.40E-02**	**6.70E-01**	**ER_L**	**7.00E-02**	**9.57**
2-Methylnaphthalene	**0**	**5**	**5**	**5.40E-02**	**6.70E-01**	**REG_IV**	**3.30E-01**	**2.03**
2-Methylnaphthalene	**0**	**5**	**5**	**5.40E-02**	**6.70E-01**	**ER_M**	**6.70E-01**	**1.00**
2-Methylnaphthalene	**2.04**	**5**	**8**	**4.00E-02**	**6.50E-01**	**ER_L**	**7.00E-02**	**9.29**
2-Methylnaphthalene	**2.04**	**5**	**8**	**4.00E-02**	**6.50E-01**	**REG_IV**	**3.30E-01**	**1.97**
2-Methylnaphthalene	2.04	5	8	4.00E-02	6.50E-01	ER_M	6.70E-01	0.97
2-Methylnaphthalene	3.01	1	2	1.80E-02	1.80E-02	ER_L	7.00E-02	0.26
2-Methylnaphthalene	3.01	1	2	1.80E-02	1.80E-02	REG_IV	3.30E-01	0.05
2-Methylnaphthalene	3.01	1	2	1.80E-02	1.80E-02	ER_M	6.70E-01	0.03
2-Methylnaphthalene	**3.02**	**8**	**9**	**1.45E-01**	**3.40E-01**	**ER_L**	**7.00E-02**	**4.86**
2-Methylnaphthalene	**3.02**	**8**	**9**	**1.45E-01**	**3.40E-01**	**REG_IV**	**3.30E-01**	**1.03**
2-Methylnaphthalene	3.02	8	9	1.45E-01	3.40E-01	ER_M	6.70E-01	0.51
2-Methylnaphthalene	**3.03**	**9**	**9**	**1.20E-01**	**5.10E-01**	**ER_L**	**7.00E-02**	**7.29**
2-Methylnaphthalene	**3.03**	**9**	**9**	**1.20E-01**	**5.10E-01**	**REG_IV**	**3.30E-01**	**1.55**
2-Methylnaphthalene	3.03	9	9	1.20E-01	5.10E-01	ER_M	6.70E-01	0.76

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2] BMK Name	BMK Value	HQ(Max)[2]
2-Methylnaphthalene	**3.04**	**7**	**7**	**1.20E-01**	**2.75E-01 ER_L**	**7.00E-02**	**3.93**
2-Methylnaphthalene	3.04	7	7	1.20E-01	2.75E-01 REG_IV	3.30E-01	0.83
2-Methylnaphthalene	3.04	7	7	1.20E-01	2.75E-01 ER_M	6.70E-01	0.41
2-Methylnaphthalene	**4.01**	**7**	**10**	**5.50E-02**	**7.20E-02 ER_L**	**7.00E-02**	**1.03**
2-Methylnaphthalene	4.01	7	10	5.50E-02	7.20E-02 REG_IV	3.30E-01	0.22
2-Methylnaphthalene	4.01	7	10	5.50E-02	7.20E-02 ER_M	6.70E-01	0.11
2-Methylnaphthalene	**4.02**	**4**	**5**	**5.80E-02**	**2.50E-01 ER_L**	**7.00E-02**	**3.57**
2-Methylnaphthalene	4.02	4	5	5.80E-02	2.50E-01 REG_IV	3.30E-01	0.76
2-Methylnaphthalene	4.02	4	5	5.80E-02	2.50E-01 ER_M	6.70E-01	0.37
2-Methylnaphthalene	**4.03**	**7**	**7**	**1.10E-01**	**2.40E-01 ER_L**	**7.00E-02**	**3.43**
2-Methylnaphthalene	4.03	7	7	1.10E-01	2.40E-01 REG_IV	3.30E-01	0.73
2-Methylnaphthalene	4.03	7	7	1.10E-01	2.40E-01 ER_M	6.70E-01	0.36
2-Methylnaphthalene	**4.04**	**10**	**12**	**1.30E-01**	**1.60E-01 ER_L**	**7.00E-02**	**2.29**
2-Methylnaphthalene	4.04	10	12	1.30E-01	1.60E-01 REG_IV	3.30E-01	0.48
2-Methylnaphthalene	4.04	10	12	1.30E-01	1.60E-01 ER_M	6.70E-01	0.24
2-Methylnaphthalene	**7.02**	**1**	**1**	**1.10E-01**	**1.10E-01 ER_L**	**7.00E-02**	**1.57**
2-Methylnaphthalene	7.02	1	1	1.10E-01	1.10E-01 REG_IV	3.30E-01	0.33
2-Methylnaphthalene	7.02	1	1	1.10E-01	1.10E-01 ER_M	6.70E-01	0.16
2-Methylnaphthalene	8	1	1	4.00E-02	4.00E-02 ER_L	7.00E-02	0.57
2-Methylnaphthalene	8	1	1	4.00E-02	4.00E-02 REG_IV	3.30E-01	0.12
2-Methylnaphthalene	8	1	1	4.00E-02	4.00E-02 ER_M	6.70E-01	0.06
2-Methylnaphthalene	**13**	**5**	**5**	**2.50E-01**	**1.10E+01 ER_L**	**7.00E-02**	**157.14**
2-Methylnaphthalene	**13**	**5**	**5**	**2.50E-01**	**1.10E+01 REG_IV**	**3.30E-01**	**33.33**
2-Methylnaphthalene	**13**	**5**	**5**	**2.50E-01**	**1.10E+01 ER_M**	**6.70E-01**	**16.42**
4,4'-DDD	1	1	2	2.84E-01	2.04E-07 EQ_PART	1.00E-05	0.02
4,4'-DDD	**1**	**1**	**2**	**2.84E-01**	**2.84E-01 ER_L**	**2.00E-03**	**141.84**
4,4'-DDD	**1**	**1**	**2**	**2.84E-01**	**2.84E-01 ER_M**	**2.00E-02**	**14.18**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
4,4'-DDT	1	1	2	2.84E-01	6.77E-08	EQ_PART	4.00E-05	0.00
4,4'-DDT	**1**	**1**	**2**	**2.84E-01**	**2.84E-01**	**ER_L**	**1.60E-03**	**177.30**
4,4'-DDT	**1**	**1**	**2**	**2.84E-01**	**2.84E-01**	**REG_IV**	**3.30E-03**	**85.96**
4,4'-DDT	**1**	**1**	**2**	**2.84E-01**	**2.84E-01**	**ER_M**	**4.61E-02**	**6.15**
Acenaphthene	**0**	**1**	**5**	**2.00E-02**	**2.00E-02**	**ER_L**	**1.60E-02**	**1.25**
Acenaphthene	0	1	5	2.00E-02	2.00E-02	REG_IV	3.30E-01	0.06
Acenaphthene	0	1	5	2.00E-02	2.00E-02	ER_M	5.00E-01	0.04
Acenaphthene	0	1	5	2.00E-02	1.40E-02	EPASQC01	1.30E+00	0.01
Acenaphthene	**3.02**	**5**	**9**	**4.90E-02**	**7.60E-02**	**ER_L**	**1.60E-02**	**4.75**
Acenaphthene	3.02	5	9	4.90E-02	7.60E-02	REG_IV	3.30E-01	0.23
Acenaphthene	3.02	5	9	4.90E-02	7.60E-02	ER_M	5.00E-01	0.15
Acenaphthene	3.02	5	9	4.90E-02	1.21E-02	EPASQC01	1.30E+00	0.01
Acenaphthene	**3.03**	**7**	**9**	**2.70E-02**	**1.39E-01**	**ER_L**	**1.60E-02**	**8.66**
Acenaphthene	3.03	7	9	2.70E-02	1.39E-01	REG_IV	3.30E-01	0.42
Acenaphthene	3.03	7	9	2.70E-02	1.39E-01	ER_M	5.00E-01	0.28
Acenaphthene	3.03	7	9	2.70E-02	7.55E-02	EPASQC01	1.30E+00	0.06
Acenaphthene	**3.04**	**2**	**7**	**8.43E-02**	**1.52E-01**	**ER_L**	**1.60E-02**	**9.47**
Acenaphthene	3.04	2	7	8.43E-02	1.52E-01	REG_IV	3.30E-01	0.46
Acenaphthene	3.04	2	7	8.43E-02	1.52E-01	ER_M	5.00E-01	0.30
Acenaphthene	3.04	2	7	8.43E-02	1.66E-01	EPASQC01	1.30E+00	0.13
Acenaphthene	**4.01**	**1**	**10**	**1.14E-01**	**1.14E-01**	**ER_L**	**1.60E-02**	**7.10**
Acenaphthene	4.01	1	10	1.14E-01	1.14E-01	REG_IV	3.30E-01	0.34
Acenaphthene	4.01	1	10	1.14E-01	1.14E-01	ER_M	5.00E-01	0.23
Acenaphthene	4.01	1	10	1.14E-01	1.36E-01	EPASQC01	1.30E+00	0.10
Acenaphthene	**13**	**1**	**5**	**1.90E-01**	**1.90E-01**	**ER_L**	**1.60E-02**	**11.88**
Acenaphthene	13	1	5	1.90E-01	1.90E-01	REG_IV	3.30E-01	0.58
Acenaphthene	13	1	5	1.90E-01	1.90E-01	ER_M	5.00E-01	0.38

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Acenaphthene	13	1	5	1.90E-01	5.98E-02	EPASQC01	1.30E+00	0.05
Anthracene	3.02	5	9	5.60E-02	5.05E-07	EQ_PART	1.00E-06	0.50
Anthracene	**3.02**	**5**	**9**	**5.60E-02**	**1.00E-01**	**ER_L**	**8.50E-02**	**1.18**
Anthracene	3.02	5	9	5.60E-02	1.00E-01	REG_IV	3.30E-01	0.30
Anthracene	3.02	5	9	5.60E-02	1.00E-01	ER_M	1.10E+00	0.09
Anthracene	**3.03**	**7**	**9**	**4.00E-02**	**3.62E-06**	**EQ_PART**	**1.00E-06**	**3.62**
Anthracene	**3.03**	**7**	**9**	**4.00E-02**	**2.10E-01**	**ER_L**	**8.50E-02**	**2.47**
Anthracene	3.03	7	9	4.00E-02	2.10E-01	REG_IV	3.30E-01	0.64
Anthracene	3.03	7	9	4.00E-02	2.10E-01	ER_M	1.10E+00	0.19
Anthracene	**3.04**	**3**	**7**	**1.24E-01**	**5.23E-06**	**EQ_PART**	**1.00E-06**	**5.23**
Anthracene	**3.04**	**3**	**7**	**1.24E-01**	**1.51E-01**	**ER_L**	**8.50E-02**	**1.77**
Anthracene	3.04	3	7	1.24E-01	1.51E-01	REG_IV	3.30E-01	0.46
Anthracene	3.04	3	7	1.24E-01	1.51E-01	ER_M	1.10E+00	0.14
Anthracene	**4.01**	**1**	**10**	**1.13E-01**	**4.28E-06**	**EQ_PART**	**1.00E-06**	**4.28**
Anthracene	**4.01**	**1**	**10**	**1.13E-01**	**1.13E-01**	**ER_L**	**8.50E-02**	**1.33**
Anthracene	4.01	1	10	1.13E-01	1.13E-01	REG_IV	3.30E-01	0.34
Anthracene	4.01	1	10	1.13E-01	1.13E-01	ER_M	1.10E+00	0.10
Anthracene	4.02	1	5	2.00E-02	5.61E-07	EQ_PART	1.00E-06	0.56
Anthracene	4.02	1	5	2.00E-02	2.00E-02	ER_L	8.50E-02	0.24
Anthracene	4.02	1	5	2.00E-02	2.00E-02	REG_IV	3.30E-01	0.06
Anthracene	4.02	1	5	2.00E-02	2.00E-02	ER_M	1.10E+00	0.02
Anthracene	13	1	5	1.80E-02	1.79E-07	EQ_PART	1.00E-06	0.18
Anthracene	13	1	5	1.80E-02	1.80E-02	ER_L	8.50E-02	0.21
Anthracene	13	1	5	1.80E-02	1.80E-02	REG_IV	3.30E-01	0.05
Anthracene	13	1	5	1.80E-02	1.80E-02	ER_M	1.10E+00	0.02
Benzo(a)anthracene	0	2	5	9.10E-02	1.54E-07	EQ_PART	2.70E-05	0.01
Benzo(a)anthracene	0	2	5	9.10E-02	1.10E-01	ER_L	2.60E-01	0.42

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Benzo(a)anthracene	0	2	5	9.10E-02	1.10E-01	REG_IV	3.30E-01	0.33
Benzo(a)anthracene	0	2	5	9.10E-02	1.10E-01	ER_M	1.60E+00	0.07
Benzo(a)anthracene	2.04	2	8	8.85E-02	1.41E-07	EQ_PART	2.70E-05	0.01
Benzo(a)anthracene	2.04	2	8	8.85E-02	1.07E-01	ER_L	2.60E-01	0.41
Benzo(a)anthracene	2.04	2	8	8.85E-02	1.07E-01	REG_IV	3.30E-01	0.32
Benzo(a)anthracene	2.04	2	8	8.85E-02	1.07E-01	ER_M	1.60E+00	0.07
Benzo(a)anthracene	3.01	1	2	1.00E-01	2.24E-07	EQ_PART	2.70E-05	0.01
Benzo(a)anthracene	3.01	1	2	1.00E-01	1.00E-01	ER_L	2.60E-01	0.38
Benzo(a)anthracene	3.01	1	2	1.00E-01	1.00E-01	REG_IV	3.30E-01	0.30
Benzo(a)anthracene	3.01	1	2	1.00E-01	1.00E-01	ER_M	1.60E+00	0.06
Benzo(a)anthracene	3.02	7	9	1.80E-01	1.59E-07	EQ_PART	2.70E-05	0.01
Benzo(a)anthracene	**3.02**	**7**	**9**	**1.80E-01**	**5.00E-01**	**ER_L**	**2.60E-01**	**1.92**
Benzo(a)anthracene	**3.02**	**7**	**9**	**1.80E-01**	**5.00E-01**	**REG_IV**	**3.30E-01**	**1.52**
Benzo(a)anthracene	3.02	7	9	1.80E-01	5.00E-01	ER_M	1.60E+00	0.31
Benzo(a)anthracene	3.03	9	9	1.70E-01	9.46E-07	EQ_PART	2.70E-05	0.04
Benzo(a)anthracene	**3.03**	**9**	**9**	**1.70E-01**	**8.70E-01**	**ER_L**	**2.60E-01**	**3.35**
Benzo(a)anthracene	**3.03**	**9**	**9**	**1.70E-01**	**8.70E-01**	**REG_IV**	**3.30E-01**	**2.64**
Benzo(a)anthracene	3.03	9	9	1.70E-01	8.70E-01	ER_M	1.60E+00	0.54
Benzo(a)anthracene	3.04	5	7	1.30E-01	3.95E-07	EQ_PART	2.70E-05	0.01
Benzo(a)anthracene	3.04	5	7	1.30E-01	1.80E-01	ER_L	2.60E-01	0.69
Benzo(a)anthracene	3.04	5	7	1.30E-01	1.80E-01	REG_IV	3.30E-01	0.55
Benzo(a)anthracene	3.04	5	7	1.30E-01	1.80E-01	ER_M	1.60E+00	0.11
Benzo(a)anthracene	4.01	5	10	4.90E-02	2.32E-07	EQ_PART	2.70E-05	0.01
Benzo(a)anthracene	4.01	5	10	4.90E-02	9.70E-02	ER_L	2.60E-01	0.37
Benzo(a)anthracene	4.01	5	10	4.90E-02	9.70E-02	REG_IV	3.30E-01	0.29
Benzo(a)anthracene	4.01	5	10	4.90E-02	9.70E-02	ER_M	1.60E+00	0.06
Benzo(a)anthracene	4.02	4	5	7.75E-02	2.48E-07	EQ_PART	2.70E-05	0.01

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Benzo(a)anthracene	4.02	4	5	7.75E-02	1.40E-01	ER_L	2.60E-01	0.54
Benzo(a)anthracene	4.02	4	5	7.75E-02	1.40E-01	REG_IV	3.30E-01	0.42
Benzo(a)anthracene	4.02	4	5	7.75E-02	1.40E-01	ER_M	1.60E+00	0.09
Benzo(a)anthracene	4.03	7	7	5.70E-02	1.16E-07	EQ_PART	2.70E-05	0.00
Benzo(a)anthracene	4.03	7	7	5.70E-02	9.30E-02	ER_L	2.60E-01	0.36
Benzo(a)anthracene	4.03	7	7	5.70E-02	9.30E-02	REG_IV	3.30E-01	0.28
Benzo(a)anthracene	4.03	7	7	5.70E-02	9.30E-02	ER_M	1.60E+00	0.06
Benzo(a)anthracene	4.04	10	12	8.75E-02	1.62E-07	EQ_PART	2.70E-05	0.01
Benzo(a)anthracene	4.04	10	12	8.75E-02	2.00E-01	ER_L	2.60E-01	0.77
Benzo(a)anthracene	4.04	10	12	8.75E-02	2.00E-01	REG_IV	3.30E-01	0.61
Benzo(a)anthracene	4.04	10	12	8.75E-02	2.00E-01	ER_M	1.60E+00	0.13
Benzo(a)anthracene	7.01	1	1	3.30E-02	3.77E-08	EQ_PART	2.70E-05	0.00
Benzo(a)anthracene	7.01	1	1	3.30E-02	3.30E-02	ER_L	2.60E-01	0.13
Benzo(a)anthracene	7.01	1	1	3.30E-02	3.30E-02	REG_IV	3.30E-01	0.10
Benzo(a)anthracene	7.01	1	1	3.30E-02	3.30E-02	ER_M	1.60E+00	0.02
Benzo(a)anthracene	7.02	1	1	2.90E-02	3.31E-08	EQ_PART	2.70E-05	0.00
Benzo(a)anthracene	7.02	1	1	2.90E-02	2.90E-02	ER_L	2.60E-01	0.11
Benzo(a)anthracene	7.02	1	1	2.90E-02	2.90E-02	REG_IV	3.30E-01	0.09
Benzo(a)anthracene	7.02	1	1	2.90E-02	2.90E-02	ER_M	1.60E+00	0.02
Benzo(a)anthracene	13	3	5	1.00E-01	1.07E-07	EQ_PART	2.70E-05	0.00
Benzo(a)anthracene	13	3	5	1.00E-01	1.70E-01	ER_L	2.60E-01	0.65
Benzo(a)anthracene	13	3	5	1.00E-01	1.70E-01	REG_IV	3.30E-01	0.52
Benzo(a)anthracene	13	3	5	1.00E-01	1.70E-01	ER_M	1.60E+00	0.11
Benzo(a)anthracene	18	3	3	2.10E-01	8.19E-07	EQ_PART	2.70E-05	0.03
Benzo(a)anthracene	**18**	**3**	**3**	**2.10E-01**	**6.75E-01**	**ER_L**	**2.60E-01**	**2.60**
Benzo(a)anthracene	**18**	**3**	**3**	**2.10E-01**	**6.75E-01**	**REG_IV**	**3.30E-01**	**2.05**
Benzo(a)anthracene	18	3	3	2.10E-01	6.75E-01	ER_M	1.60E+00	0.42

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Benzo(a)pyrene	0	2	5	8.05E-02	4.90E-08	EQ_PART	1.40E-05	0.00
Benzo(a)pyrene	0	2	5	8.05E-02	8.80E-02	REG_IV	3.30E-01	0.27
Benzo(a)pyrene	0	2	5	8.05E-02	8.80E-02	ER_L	4.30E-01	0.20
Benzo(a)pyrene	0	2	5	8.05E-02	8.80E-02	ER_M	1.60E+00	0.06
Benzo(a)pyrene	2.04	4	8	2.10E-02	1.94E-07	EQ_PART	1.40E-05	0.01
Benzo(a)pyrene	**2.04**	**4**	**8**	**2.10E-02**	**3.70E-01**	**REG_IV**	**3.30E-01**	**1.12**
Benzo(a)pyrene	2.04	4	8	2.10E-02	3.70E-01	ER_L	4.30E-01	0.86
Benzo(a)pyrene	2.04	4	8	2.10E-02	3.70E-01	ER_M	1.60E+00	0.23
Benzo(a)pyrene	3.01	1	2	6.50E-02	5.79E-08	EQ_PART	1.40E-05	0.00
Benzo(a)pyrene	3.01	1	2	6.50E-02	6.50E-02	REG_IV	3.30E-01	0.20
Benzo(a)pyrene	3.01	1	2	6.50E-02	6.50E-02	ER_L	4.30E-01	0.15
Benzo(a)pyrene	3.01	1	2	6.50E-02	6.50E-02	ER_M	1.60E+00	0.04
Benzo(a)pyrene	3.02	8	9	1.70E-01	4.82E-08	EQ_PART	1.40E-05	0.00
Benzo(a)pyrene	**3.02**	**8**	**9**	**1.70E-01**	**3.80E-01**	**REG_IV**	**3.30E-01**	**1.15**
Benzo(a)pyrene	3.02	8	9	1.70E-01	3.80E-01	ER_L	4.30E-01	0.88
Benzo(a)pyrene	3.02	8	9	1.70E-01	3.80E-01	ER_M	1.60E+00	0.24
Benzo(a)pyrene	3.03	9	9	1.25E-01	2.90E-07	EQ_PART	1.40E-05	0.02
Benzo(a)pyrene	**3.03**	**9**	**9**	**1.25E-01**	**6.70E-01**	**REG_IV**	**3.30E-01**	**2.03**
Benzo(a)pyrene	**3.03**	**9**	**9**	**1.25E-01**	**6.70E-01**	**ER_L**	**4.30E-01**	**1.56**
Benzo(a)pyrene	3.03	9	9	1.25E-01	6.70E-01	ER_M	1.60E+00	0.42
Benzo(a)pyrene	3.04	6	7	1.00E-01	1.57E-07	EQ_PART	1.40E-05	0.01
Benzo(a)pyrene	3.04	6	7	1.00E-01	1.80E-01	REG_IV	3.30E-01	0.55
Benzo(a)pyrene	3.04	6	7	1.00E-01	1.80E-01	ER_L	4.30E-01	0.42
Benzo(a)pyrene	3.04	6	7	1.00E-01	1.80E-01	ER_M	1.60E+00	0.11
Benzo(a)pyrene	4.01	6	10	3.45E-02	7.22E-08	EQ_PART	1.40E-05	0.01
Benzo(a)pyrene	4.01	6	10	3.45E-02	7.60E-02	REG_IV	3.30E-01	0.23
Benzo(a)pyrene	4.01	6	10	3.45E-02	7.60E-02	ER_L	4.30E-01	0.18

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Benzo(a)pyrene	4.01	6	10	3.45E-02	7.60E-02	ER_M	1.60E+00	0.05
Benzo(a)pyrene	4.02	4	5	3.00E-02	2.18E-07	EQ_PART	1.40E-05	0.02
Benzo(a)pyrene	4.02	4	5	3.00E-02	3.10E-01	REG_IV	3.30E-01	0.94
Benzo(a)pyrene	4.02	4	5	3.00E-02	3.10E-01	ER_L	4.30E-01	0.72
Benzo(a)pyrene	4.02	4	5	3.00E-02	3.10E-01	ER_M	1.60E+00	0.19
Benzo(a)pyrene	4.03	7	7	1.80E-01	5.48E-07	EQ_PART	1.40E-05	0.04
Benzo(a)pyrene	**4.03**	**7**	**7**	**1.80E-01**	**1.10E+00**	**REG_IV**	**3.30E-01**	**3.33**
Benzo(a)pyrene	**4.03**	**7**	**7**	**1.80E-01**	**1.10E+00**	**ER_L**	**4.30E-01**	**2.56**
Benzo(a)pyrene	4.03	7	7	1.80E-01	1.10E+00	ER_M	1.60E+00	0.69
Benzo(a)pyrene	4.04	8	12	5.85E-01	2.78E-07	EQ_PART	1.40E-05	0.02
Benzo(a)pyrene	**4.04**	**8**	**12**	**5.85E-01**	**8.60E-01**	**REG_IV**	**3.30E-01**	**2.61**
Benzo(a)pyrene	**4.04**	**8**	**12**	**5.85E-01**	**8.60E-01**	**ER_L**	**4.30E-01**	**2.00**
Benzo(a)pyrene	4.04	8	12	5.85E-01	8.60E-01	ER_M	1.60E+00	0.54
Benzo(a)pyrene	7.01	1	1	3.90E-01	1.77E-07	EQ_PART	1.40E-05	0.01
Benzo(a)pyrene	**7.01**	**1**	**1**	**3.90E-01**	**3.90E-01**	**REG_IV**	**3.30E-01**	**1.18**
Benzo(a)pyrene	7.01	1	1	3.90E-01	3.90E-01	ER_L	4.30E-01	0.91
Benzo(a)pyrene	7.01	1	1	3.90E-01	3.90E-01	ER_M	1.60E+00	0.24
Benzo(a)pyrene	7.02	1	1	6.40E-01	2.91E-07	EQ_PART	1.40E-05	0.02
Benzo(a)pyrene	**7.02**	**1**	**1**	**6.40E-01**	**6.40E-01**	**REG_IV**	**3.30E-01**	**1.94**
Benzo(a)pyrene	**7.02**	**1**	**1**	**6.40E-01**	**6.40E-01**	**ER_L**	**4.30E-01**	**1.49**
Benzo(a)pyrene	7.02	1	1	6.40E-01	6.40E-01	ER_M	1.60E+00	0.40
Benzo(a)pyrene	8	1	1	5.50E-01	2.50E-07	EQ_PART	1.40E-05	0.02
Benzo(a)pyrene	**8**	**1**	**1**	**5.50E-01**	**5.50E-01**	**REG_IV**	**3.30E-01**	**1.67**
Benzo(a)pyrene	**8**	**1**	**1**	**5.50E-01**	**5.50E-01**	**ER_L**	**4.30E-01**	**1.28**
Benzo(a)pyrene	8	1	1	5.50E-01	5.50E-01	ER_M	1.60E+00	0.34
Benzo(a)pyrene	13	4	5	1.37E-01	8.25E-08	EQ_PART	1.40E-05	0.01
Benzo(a)pyrene	**13**	**4**	**5**	**1.37E-01**	**3.30E-01**	**REG_IV**	**3.30E-01**	**1.00**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Benzo(a)pyrene	13	4	5	1.37E-01	3.30E-01	ER_L	4.30E-01	0.77
Benzo(a)pyrene	13	4	5	1.37E-01	3.30E-01	ER_M	1.60E+00	0.21
Benzo(a)pyrene	18	3	3	1.50E-01	7.72E-08	EQ_PART	1.40E-05	0.01
Benzo(a)pyrene	18	3	3	1.50E-01	1.60E-01	REG_IV	3.30E-01	0.48
Benzo(a)pyrene	18	3	3	1.50E-01	1.60E-01	ER_L	4.30E-01	0.37
Benzo(a)pyrene	18	3	3	1.50E-01	1.60E-01	ER_M	1.60E+00	0.10
Chrysene	0	4	5	6.55E-02	1.30E-01	REG_IV	3.30E-01	0.39
Chrysene	0	4	5	6.55E-02	1.30E-01	ER_L	3.80E-01	0.34
Chrysene	0	4	5	6.55E-02	1.30E-01	ER_M	2.80E+00	0.05
Chrysene	2.04	6	8	5.05E-02	1.06E-01	REG_IV	3.30E-01	0.32
Chrysene	2.04	6	8	5.05E-02	1.06E-01	ER_L	3.80E-01	0.28
Chrysene	2.04	6	8	5.05E-02	1.06E-01	ER_M	2.80E+00	0.04
Chrysene	3.01	2	2	5.05E-02	8.80E-02	REG_IV	3.30E-01	0.27
Chrysene	3.01	2	2	5.05E-02	8.80E-02	ER_L	3.80E-01	0.23
Chrysene	3.01	2	2	5.05E-02	8.80E-02	ER_M	2.80E+00	0.03
Chrysene	**3.02**	**7**	**9**	**1.70E-01**	**4.00E-01**	**REG_IV**	**3.30E-01**	**1.21**
Chrysene	**3.02**	**7**	**9**	**1.70E-01**	**4.00E-01**	**ER_L**	**3.80E-01**	**1.05**
Chrysene	3.02	7	9	1.70E-01	4.00E-01	ER_M	2.80E+00	0.14
Chrysene	**3.03**	**9**	**9**	**1.80E-01**	**7.30E-01**	**REG_IV**	**3.30E-01**	**2.21**
Chrysene	**3.03**	**9**	**9**	**1.80E-01**	**7.30E-01**	**ER_L**	**3.80E-01**	**1.92**
Chrysene	3.03	9	9	1.80E-01	7.30E-01	ER_M	2.80E+00	0.26
Chrysene	3.04	5	7	1.20E-01	1.85E-01	REG_IV	3.30E-01	0.56
Chrysene	3.04	5	7	1.20E-01	1.85E-01	ER_L	3.80E-01	0.49
Chrysene	3.04	5	7	1.20E-01	1.85E-01	ER_M	2.80E+00	0.07
Chrysene	4.01	6	10	4.70E-02	8.65E-02	REG_IV	3.30E-01	0.26
Chrysene	4.01	6	10	4.70E-02	8.65E-02	ER_L	3.80E-01	0.23
Chrysene	4.01	6	10	4.70E-02	8.65E-02	ER_M	2.80E+00	0.03

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Chrysene	4.02	4	5	9.00E-02	1.50E-01	REG_IV	3.30E-01	0.45
Chrysene	4.02	4	5	9.00E-02	1.50E-01	ER_L	3.80E-01	0.39
Chrysene	4.02	4	5	9.00E-02	1.50E-01	ER_M	2.80E+00	0.05
Chrysene	4.03	7	7	6.70E-02	1.20E-01	REG_IV	3.30E-01	0.36
Chrysene	4.03	7	7	6.70E-02	1.20E-01	ER_L	3.80E-01	0.32
Chrysene	4.03	7	7	6.70E-02	1.20E-01	ER_M	2.80E+00	0.04
Chrysene	4.04	8	12	1.10E-01	2.10E-01	REG_IV	3.30E-01	0.64
Chrysene	4.04	8	12	1.10E-01	2.10E-01	ER_L	3.80E-01	0.55
Chrysene	4.04	8	12	1.10E-01	2.10E-01	ER_M	2.80E+00	0.08
Chrysene	7.01	1	1	3.30E-02	3.30E-02	REG_IV	3.30E-01	0.10
Chrysene	7.01	1	1	3.30E-02	3.30E-02	ER_L	3.80E-01	0.09
Chrysene	7.01	1	1	3.30E-02	3.30E-02	ER_M	2.80E+00	0.01
Chrysene	7.02	1	1	4.80E-02	4.80E-02	REG_IV	3.30E-01	0.15
Chrysene	7.02	1	1	4.80E-02	4.80E-02	ER_L	3.80E-01	0.13
Chrysene	7.02	1	1	4.80E-02	4.80E-02	ER_M	2.80E+00	0.02
Chrysene	8	1	1	4.10E-02	4.10E-02	REG_IV	3.30E-01	0.12
Chrysene	8	1	1	4.10E-02	4.10E-02	ER_L	3.80E-01	0.11
Chrysene	8	1	1	4.10E-02	4.10E-02	ER_M	2.80E+00	0.01
Chrysene	**13**	**4**	**5**	**9.80E-02**	**5.50E-01**	**REG_IV**	**3.30E-01**	**1.67**
Chrysene	**13**	**4**	**5**	**9.80E-02**	**5.50E-01**	**ER_L**	**3.80E-01**	**1.45**
Chrysene	13	4	5	9.80E-02	5.50E-01	ER_M	2.80E+00	0.20
Chrysene	18	3	3	2.00E-01	2.30E-01	REG_IV	3.30E-01	0.70
Chrysene	18	3	3	2.00E-01	2.30E-01	ER_L	3.80E-01	0.61
Chrysene	18	3	3	2.00E-01	2.30E-01	ER_M	2.80E+00	0.08
Dibenz(a,h)anthracene	3.02	3	9	3.40E-02	5.50E-02	ER_L	6.30E-02	0.87
Dibenz(a,h)anthracene	3.02	3	9	3.40E-02	5.50E-02	ER_M	2.60E-01	0.21
Dibenz(a,h)anthracene	3.02	3	9	3.40E-02	5.50E-02	REG_IV	3.30E-01	0.17

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Dibenz(a,h)anthracene	**3.03**	**7**	**9**	**2.40E-02**	**1.20E-01**	**ER_L**	**6.30E-02**	**1.90**
Dibenz(a,h)anthracene	3.03	7	9	2.40E-02	1.20E-01	ER_M	2.60E-01	0.46
Dibenz(a,h)anthracene	3.03	7	9	2.40E-02	1.20E-01	REG_IV	3.30E-01	0.36
Dibenz(a,h)anthracene	**3.04**	**3**	**7**	**2.90E-02**	**1.28E-01**	**ER_L**	**6.30E-02**	**2.02**
Dibenz(a,h)anthracene	3.04	3	7	2.90E-02	1.28E-01	ER_M	2.60E-01	0.49
Dibenz(a,h)anthracene	3.04	3	7	2.90E-02	1.28E-01	REG_IV	3.30E-01	0.39
Dibenz(a,h)anthracene	**4.01**	**1**	**10**	**1.15E-01**	**1.15E-01**	**ER_L**	**6.30E-02**	**1.82**
Dibenz(a,h)anthracene	4.01	1	10	1.15E-01	1.15E-01	ER_M	2.60E-01	0.44
Dibenz(a,h)anthracene	4.01	1	10	1.15E-01	1.15E-01	REG_IV	3.30E-01	0.35
Dibenz(a,h)anthracene	4.02	2	5	1.90E-02	2.00E-02	ER_L	6.30E-02	0.32
Dibenz(a,h)anthracene	4.02	2	5	1.90E-02	2.00E-02	ER_M	2.60E-01	0.08
Dibenz(a,h)anthracene	4.02	2	5	1.90E-02	2.00E-02	REG_IV	3.30E-01	0.06
Dibenz(a,h)anthracene	4.03	2	7	1.90E-02	2.40E-02	ER_L	6.30E-02	0.38
Dibenz(a,h)anthracene	4.03	2	7	1.90E-02	2.40E-02	ER_M	2.60E-01	0.09
Dibenz(a,h)anthracene	4.03	2	7	1.90E-02	2.40E-02	REG_IV	3.30E-01	0.07
Dibenz(a,h)anthracene	13	1	5	2.30E-02	2.30E-02	ER_L	6.30E-02	0.37
Dibenz(a,h)anthracene	13	1	5	2.30E-02	2.30E-02	ER_M	2.60E-01	0.09
Dibenz(a,h)anthracene	13	1	5	2.30E-02	2.30E-02	REG_IV	3.30E-01	0.07
Fluoranthene	0	3	5	8.60E-02	1.10E-01	REG_IV	3.80E-01	0.29
Fluoranthene	0	3	5	8.60E-02	1.10E-01	ER_L	6.00E-01	0.18
Fluoranthene	0	3	5	8.60E-02	1.10E-01	ER_M	5.10E+00	0.02
Fluoranthene	0	3	5	8.60E-02	7.71E-02	EPASQC01	6.20E+00	0.01
Fluoranthene	**2.04**	**7**	**8**	**9.50E-02**	**4.96E-01**	**REG_IV**	**3.80E-01**	**1.30**
Fluoranthene	2.04	7	8	9.50E-02	4.96E-01	ER_L	6.00E-01	0.83
Fluoranthene	2.04	7	8	9.50E-02	4.96E-01	ER_M	5.10E+00	0.10
Fluoranthene	2.04	7	8	9.50E-02	3.26E-01	EPASQC01	6.20E+00	0.05
Fluoranthene	3.01	2	2	8.25E-02	1.40E-01	REG_IV	3.80E-01	0.37

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Fluoranthene	3.01	2	2	8.25E-02	1.40E-01	ER_L	6.00E-01	0.23
Fluoranthene	3.01	2	2	8.25E-02	1.40E-01	ER_M	5.10E+00	0.03
Fluoranthene	3.01	2	2	8.25E-02	1.57E-01	EPASQC01	6.20E+00	0.03
Fluoranthene	**3.02**	**8**	**9**	**4.40E-01**	**7.10E-01**	**REG_IV**	**3.80E-01**	**1.87**
Fluoranthene	**3.02**	**8**	**9**	**4.40E-01**	**7.10E-01**	**ER_L**	**6.00E-01**	**1.18**
Fluoranthene	3.02	8	9	4.40E-01	7.10E-01	ER_M	5.10E+00	0.14
Fluoranthene	3.02	8	9	4.40E-01	1.13E-01	EPASQC01	6.20E+00	0.02
Fluoranthene	**3.03**	**9**	**9**	**3.30E-01**	**1.40E+00**	**REG_IV**	**3.80E-01**	**3.68**
Fluoranthene	**3.03**	**9**	**9**	**3.30E-01**	**1.40E+00**	**ER_L**	**6.00E-01**	**2.33**
Fluoranthene	3.03	9	9	3.30E-01	1.40E+00	ER_M	5.10E+00	0.27
Fluoranthene	3.03	9	9	3.30E-01	7.63E-01	EPASQC01	6.20E+00	0.12
Fluoranthene	3.04	7	7	1.68E-01	2.70E-01	REG_IV	3.80E-01	0.71
Fluoranthene	3.04	7	7	1.68E-01	2.70E-01	ER_L	6.00E-01	0.45
Fluoranthene	3.04	7	7	1.68E-01	2.70E-01	ER_M	5.10E+00	0.05
Fluoranthene	3.04	7	7	1.68E-01	2.97E-01	EPASQC01	6.20E+00	0.05
Fluoranthene	4.01	7	10	7.80E-02	1.75E-01	REG_IV	3.80E-01	0.46
Fluoranthene	4.01	7	10	7.80E-02	1.75E-01	ER_L	6.00E-01	0.29
Fluoranthene	4.01	7	10	7.80E-02	1.75E-01	ER_M	5.10E+00	0.03
Fluoranthene	4.01	7	10	7.80E-02	2.09E-01	EPASQC01	6.20E+00	0.03
Fluoranthene	4.02	4	5	7.60E-02	2.60E-01	REG_IV	3.80E-01	0.68
Fluoranthene	4.02	4	5	7.60E-02	2.60E-01	ER_L	6.00E-01	0.43
Fluoranthene	4.02	4	5	7.60E-02	2.60E-01	ER_M	5.10E+00	0.05
Fluoranthene	4.02	4	5	7.60E-02	2.31E-01	EPASQC01	6.20E+00	0.04
Fluoranthene	4.03	7	7	9.55E-02	1.40E-01	REG_IV	3.80E-01	0.37
Fluoranthene	4.03	7	7	9.55E-02	1.40E-01	ER_L	6.00E-01	0.23
Fluoranthene	4.03	7	7	9.55E-02	1.40E-01	ER_M	5.10E+00	0.03
Fluoranthene	4.03	7	7	9.55E-02	8.79E-02	EPASQC01	6.20E+00	0.01

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Fluoranthene	4.04	11	12	1.60E-01	2.20E-01	REG_IV	3.80E-01	0.58
Fluoranthene	4.04	11	12	1.60E-01	2.20E-01	ER_L	6.00E-01	0.37
Fluoranthene	4.04	11	12	1.60E-01	2.20E-01	ER_M	5.10E+00	0.04
Fluoranthene	4.04	11	12	1.60E-01	8.95E-02	EPASQC01	6.20E+00	0.01
Fluoranthene	8	1	1	4.90E-02	4.90E-02	REG_IV	3.80E-01	0.13
Fluoranthene	8	1	1	4.90E-02	4.90E-02	ER_L	6.00E-01	0.08
Fluoranthene	8	1	1	4.90E-02	4.90E-02	ER_M	5.10E+00	0.01
Fluoranthene	8	1	1	4.90E-02	2.80E-02	EPASQC01	6.20E+00	0.00
Fluoranthene	13	4	5	1.20E-01	2.70E-01	REG_IV	3.80E-01	0.71
Fluoranthene	13	4	5	1.20E-01	2.70E-01	ER_L	6.00E-01	0.45
Fluoranthene	13	4	5	1.20E-01	2.70E-01	ER_M	5.10E+00	0.05
Fluoranthene	13	4	5	1.20E-01	8.50E-02	EPASQC01	6.20E+00	0.01
Fluoranthene	**18**	**3**	**3**	**3.70E-01**	**4.10E-01**	**REG_IV**	**3.80E-01**	**1.08**
Fluoranthene	18	3	3	3.70E-01	4.10E-01	ER_L	6.00E-01	0.68
Fluoranthene	18	3	3	3.70E-01	4.10E-01	ER_M	5.10E+00	0.08
Fluoranthene	18	3	3	3.70E-01	2.49E-01	EPASQC01	6.20E+00	0.04
Fluorene	**0**	**2**	**5**	**4.10E-02**	**4.10E-02**	**ER_L**	**1.90E-02**	**2.16**
Fluorene	0	2	5	4.10E-02	4.10E-02	REG_IV	3.30E-01	0.12
Fluorene	0	2	5	4.10E-02	4.10E-02	ER_M	5.40E-01	0.08
Fluorene	**3.02**	**4**	**9**	**6.00E-02**	**9.40E-02**	**ER_L**	**1.90E-02**	**4.95**
Fluorene	3.02	4	9	6.00E-02	9.40E-02	REG_IV	3.30E-01	0.28
Fluorene	3.02	4	9	6.00E-02	9.40E-02	ER_M	5.40E-01	0.17
Fluorene	**3.03**	**6**	**9**	**4.40E-02**	**1.39E-01**	**ER_L**	**1.90E-02**	**7.29**
Fluorene	3.03	6	9	4.40E-02	1.39E-01	REG_IV	3.30E-01	0.42
Fluorene	3.03	6	9	4.40E-02	1.39E-01	ER_M	5.40E-01	0.26
Fluorene	**3.04**	**4**	**7**	**7.68E-02**	**1.37E-01**	**ER_L**	**1.90E-02**	**7.18**
Fluorene	3.04	4	7	7.68E-02	1.37E-01	REG_IV	3.30E-01	0.41

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Fluorene	3.04	4	7	7.68E-02	1.37E-01	ER_M	5.40E-01	0.25
Fluorene	4.02	1	5	1.80E-02	1.80E-02	ER_L	1.90E-02	0.95
Fluorene	4.02	1	5	1.80E-02	1.80E-02	REG_IV	3.30E-01	0.05
Fluorene	4.02	1	5	1.80E-02	1.80E-02	ER_M	5.40E-01	0.03
Fluorene	**4.03**	**1**	**7**	**2.70E-02**	**2.70E-02**	**ER_L**	**1.90E-02**	**1.42**
Fluorene	4.03	1	7	2.70E-02	2.70E-02	REG_IV	3.30E-01	0.08
Fluorene	4.03	1	7	2.70E-02	2.70E-02	ER_M	5.40E-01	0.05
Fluorene	**13**	**2**	**5**	**1.90E-02**	**2.60E-01**	**ER_L**	**1.90E-02**	**13.68**
Fluorene	13	2	5	1.90E-02	2.60E-01	REG_IV	3.30E-01	0.79
Fluorene	13	2	5	1.90E-02	2.60E-01	ER_M	5.40E-01	0.48
Naphthalene	0	5	5	3.50E-02	1.33E-04	EQ_PART	2.34E-02	0.01
Naphthalene	**0**	**5**	**5**	**3.50E-02**	**3.80E-01**	**ER_L**	**1.60E-01**	**2.38**
Naphthalene	**0**	**5**	**5**	**3.50E-02**	**3.80E-01**	**REG_IV**	**3.30E-01**	**1.15**
Naphthalene	0	5	5	3.50E-02	3.80E-01	ER_M	2.10E+00	0.18
Naphthalene	2.04	5	8	2.60E-02	1.19E-04	EQ_PART	2.34E-02	0.01
Naphthalene	**2.04**	**5**	**8**	**2.60E-02**	**3.60E-01**	**ER_L**	**1.60E-01**	**2.25**
Naphthalene	**2.04**	**5**	**8**	**2.60E-02**	**3.60E-01**	**REG_IV**	**3.30E-01**	**1.09**
Naphthalene	2.04	5	8	2.60E-02	3.60E-01	ER_M	2.10E+00	0.17
Naphthalene	3.02	7	9	9.80E-02	1.92E-05	EQ_PART	2.34E-02	0.00
Naphthalene	**3.02**	**7**	**9**	**9.80E-02**	**2.40E-01**	**ER_L**	**1.60E-01**	**1.50**
Naphthalene	3.02	7	9	9.80E-02	2.40E-01	REG_IV	3.30E-01	0.73
Naphthalene	3.02	7	9	9.80E-02	2.40E-01	ER_M	2.10E+00	0.11
Naphthalene	3.03	9	9	8.00E-02	1.07E-04	EQ_PART	2.34E-02	0.00
Naphthalene	**3.03**	**9**	**9**	**8.00E-02**	**3.90E-01**	**ER_L**	**1.60E-01**	**2.44**
Naphthalene	**3.03**	**9**	**9**	**8.00E-02**	**3.90E-01**	**REG_IV**	**3.30E-01**	**1.18**
Naphthalene	3.03	9	9	8.00E-02	3.90E-01	ER_M	2.10E+00	0.19
Naphthalene	3.04	7	7	7.30E-02	1.82E-04	EQ_PART	2.34E-02	0.01

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Naphthalene	**3.04**	**7**	**7**	**7.30E-02**	**3.31E-01**	**ER_L**	**1.60E-01**	**2.07**
Naphthalene	**3.04**	**7**	**7**	**7.30E-02**	**3.31E-01**	**REG_IV**	**3.30E-01**	**1.00**
Naphthalene	3.04	7	7	7.30E-02	3.31E-01	ER_M	2.10E+00	0.16
Naphthalene	4.01	7	10	3.60E-02	2.79E-05	EQ_PART	2.34E-02	0.00
Naphthalene	4.01	7	10	3.60E-02	4.65E-02	ER_L	1.60E-01	0.29
Naphthalene	4.01	7	10	3.60E-02	4.65E-02	REG_IV	3.30E-01	0.14
Naphthalene	4.01	7	10	3.60E-02	4.65E-02	ER_M	2.10E+00	0.02
Naphthalene	4.02	4	5	3.30E-02	6.67E-05	EQ_PART	2.34E-02	0.00
Naphthalene	4.02	4	5	3.30E-02	1.50E-01	ER_L	1.60E-01	0.94
Naphthalene	4.02	4	5	3.30E-02	1.50E-01	REG_IV	3.30E-01	0.45
Naphthalene	4.02	4	5	3.30E-02	1.50E-01	ER_M	2.10E+00	0.07
Naphthalene	4.03	7	7	6.00E-02	3.77E-05	EQ_PART	2.34E-02	0.00
Naphthalene	4.03	7	7	6.00E-02	1.20E-01	ER_L	1.60E-01	0.75
Naphthalene	4.03	7	7	6.00E-02	1.20E-01	REG_IV	3.30E-01	0.36
Naphthalene	4.03	7	7	6.00E-02	1.20E-01	ER_M	2.10E+00	0.06
Naphthalene	4.04	7	12	9.60E-02	2.45E-05	EQ_PART	2.34E-02	0.00
Naphthalene	4.04	7	12	9.60E-02	1.20E-01	ER_L	1.60E-01	0.75
Naphthalene	4.04	7	12	9.60E-02	1.20E-01	REG_IV	3.30E-01	0.36
Naphthalene	4.04	7	12	9.60E-02	1.20E-01	ER_M	2.10E+00	0.06
Naphthalene	7.02	1	1	5.80E-02	1.66E-05	EQ_PART	2.34E-02	0.00
Naphthalene	7.02	1	1	5.80E-02	5.80E-02	ER_L	1.60E-01	0.36
Naphthalene	7.02	1	1	5.80E-02	5.80E-02	REG_IV	3.30E-01	0.18
Naphthalene	7.02	1	1	5.80E-02	5.80E-02	ER_M	2.10E+00	0.03
Naphthalene	8	1	1	2.50E-02	7.17E-06	EQ_PART	2.34E-02	0.00
Naphthalene	8	1	1	2.50E-02	2.50E-02	ER_L	1.60E-01	0.16
Naphthalene	8	1	1	2.50E-02	2.50E-02	REG_IV	3.30E-01	0.08
Naphthalene	8	1	1	2.50E-02	2.50E-02	ER_M	2.10E+00	0.01

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Naphthalene	13	5	5	1.60E-01	1.31E-03	EQ_PART	2.34E-02	0.06
Naphthalene	**13**	**5**	**5**	**1.60E-01**	**8.30E+00**	**ER_L**	**1.60E-01**	**51.88**
Naphthalene	**13**	**5**	**5**	**1.60E-01**	**8.30E+00**	**REG_IV**	**3.30E-01**	**25.15**
Naphthalene	**13**	**5**	**5**	**1.60E-01**	**8.30E+00**	**ER_M**	**2.10E+00**	**3.95**
PAH, total	**0**	**5**	**5**	**2.94E+00**	**4.09E+00**	**REG_IV**	**2.90E+00**	**1.41**
PAH, total	**0**	**5**	**5**	**2.94E+00**	**4.09E+00**	**ER_L**	**4.03E+00**	**1.02**
PAH, total	0	5	5	2.94E+00	4.09E+00	ER_M	4.48E+01	0.09
PAH, total	**2.04**	**7**	**8**	**3.15E+00**	**8.92E+00**	**REG_IV**	**2.90E+00**	**3.08**
PAH, total	**2.04**	**7**	**8**	**3.15E+00**	**8.92E+00**	**ER_L**	**4.03E+00**	**2.22**
PAH, total	2.04	7	8	3.15E+00	8.92E+00	ER_M	4.48E+01	0.20
PAH, total	**3.01**	**2**	**2**	**2.88E+00**	**3.05E+00**	**REG_IV**	**2.90E+00**	**1.05**
PAH, total	3.01	2	2	2.88E+00	3.05E+00	ER_L	4.03E+00	0.76
PAH, total	3.01	2	2	2.88E+00	3.05E+00	ER_M	4.48E+01	0.07
PAH, total	**3.02**	**9**	**9**	**3.68E+00**	**8.85E+00**	**REG_IV**	**2.90E+00**	**3.05**
PAH, total	**3.02**	**9**	**9**	**3.68E+00**	**8.85E+00**	**ER_L**	**4.03E+00**	**2.20**
PAH, total	3.02	9	9	3.68E+00	8.85E+00	ER_M	4.48E+01	0.20
PAH, total	**3.03**	**9**	**9**	**2.56E+00**	**1.05E+01**	**REG_IV**	**2.90E+00**	**3.63**
PAH, total	**3.03**	**9**	**9**	**2.56E+00**	**1.05E+01**	**ER_L**	**4.03E+00**	**2.61**
PAH, total	3.03	9	9	2.56E+00	1.05E+01	ER_M	4.48E+01	0.24
PAH, total	**3.04**	**7**	**7**	**2.92E+00**	**7.81E+00**	**REG_IV**	**2.90E+00**	**2.69**
PAH, total	**3.04**	**7**	**7**	**2.92E+00**	**7.81E+00**	**ER_L**	**4.03E+00**	**1.94**
PAH, total	3.04	7	7	2.92E+00	7.81E+00	ER_M	4.48E+01	0.17
PAH, total	**4.01**	**8**	**10**	**2.52E+00**	**4.62E+00**	**REG_IV**	**2.90E+00**	**1.59**
PAH, total	**4.01**	**8**	**10**	**2.52E+00**	**4.62E+00**	**ER_L**	**4.03E+00**	**1.15**
PAH, total	4.01	8	10	2.52E+00	4.62E+00	ER_M	4.48E+01	0.10
PAH, total	**4.02**	**5**	**5**	**2.67E+00**	**3.37E+00**	**REG_IV**	**2.90E+00**	**1.16**
PAH, total	4.02	5	5	2.67E+00	3.37E+00	ER_L	4.03E+00	0.84

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2] BMK Name	BMK Value	HQ(Max)[2]
PAH, total	4.02	5	5	2.67E+00	3.37E+00 ER_M	4.48E+01	0.08
PAH, total	**4.03**	**7**	**7**	**2.37E+00**	**3.77E+00 REG_IV**	**2.90E+00**	**1.30**
PAH, total	4.03	7	7	2.37E+00	3.77E+00 ER_L	4.03E+00	0.94
PAH, total	4.03	7	7	2.37E+00	3.77E+00 ER_M	4.48E+01	0.08
PAH, total	**4.04**	**11**	**12**	**1.15E+01**	**1.87E+01 REG_IV**	**2.90E+00**	**6.45**
PAH, total	**4.04**	**11**	**12**	**1.15E+01**	**1.87E+01 ER_L**	**4.03E+00**	**4.64**
PAH, total	4.04	11	12	1.15E+01	1.87E+01 ER_M	4.48E+01	0.42
PAH, total	**7.01**	**1**	**1**	**5.18E+00**	**5.18E+00 REG_IV**	**2.90E+00**	**1.79**
PAH, total	**7.01**	**1**	**1**	**5.18E+00**	**5.18E+00 ER_L**	**4.03E+00**	**1.29**
PAH, total	7.01	1	1	5.18E+00	5.18E+00 ER_M	4.48E+01	0.12
PAH, total	**7.02**	**1**	**1**	**4.84E+00**	**4.84E+00 REG_IV**	**2.90E+00**	**1.67**
PAH, total	**7.02**	**1**	**1**	**4.84E+00**	**4.84E+00 ER_L**	**4.03E+00**	**1.20**
PAH, total	7.02	1	1	4.84E+00	4.84E+00 ER_M	4.48E+01	0.11
PAH, total	**8**	**1**	**1**	**4.29E+00**	**4.29E+00 REG_IV**	**2.90E+00**	**1.48**
PAH, total	**8**	**1**	**1**	**4.29E+00**	**4.29E+00 ER_L**	**4.03E+00**	**1.07**
PAH, total	8	1	1	4.29E+00	4.29E+00 ER_M	4.48E+01	0.10
PAH, total	**13**	**5**	**5**	**3.32E+00**	**3.39E+01 REG_IV**	**2.90E+00**	**11.69**
PAH, total	**13**	**5**	**5**	**3.32E+00**	**3.39E+01 ER_L**	**4.03E+00**	**8.42**
PAH, total	13	5	5	3.32E+00	3.39E+01 ER_M	4.48E+01	0.76
PAH, total	**18**	**3**	**3**	**1.17E+01**	**1.26E+01 REG_IV**	**2.90E+00**	**4.33**
PAH, total	**18**	**3**	**3**	**1.17E+01**	**1.26E+01 ER_L**	**4.03E+00**	**3.12**
PAH, total	18	3	3	1.17E+01	1.26E+01 ER_M	4.48E+01	0.28
PCB-1248	3.02	2	9	5.20E-02	3.35E-09 EQ_PART	1.00E-05	0.00
PCB-1248	**3.02**	**2**	**9**	**5.20E-02**	**2.90E-01 ER_L**	**2.30E-02**	**12.61**
PCB-1248	**3.02**	**2**	**9**	**5.20E-02**	**2.90E-01 ER_M**	**1.80E-01**	**1.61**
PCB-1248	3.04	2	7	4.60E-02	1.18E-08 EQ_PART	1.00E-05	0.00
PCB-1248	**3.04**	**2**	**7**	**4.60E-02**	**1.48E-01 ER_L**	**2.30E-02**	**6.43**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2] BMK Name	BMK Value	HQ(Max)[2]
PCB-1248	3.04	2	7	4.60E-02	1.48E-01 ER_M	1.80E-01	0.82
PCB-1254	2.02	1	1	1.17E+00	6.23E-07 EQ_PART	2.00E-05	0.03
PCB-1254	**2.02**	**1**	**1**	**1.17E+00**	**1.17E+00 ER_L**	**2.30E-02**	**50.74**
PCB-1254	**2.02**	**1**	**1**	**1.17E+00**	**1.17E+00 ER_M**	**1.80E-01**	**6.48**
PCB-1254	3.02	7	9	1.30E-01	2.23E-07 EQ_PART	2.00E-05	0.01
PCB-1254	**3.02**	**7**	**9**	**1.30E-01**	**1.50E+00 ER_L**	**2.30E-02**	**65.17**
PCB-1254	**3.02**	**7**	**9**	**1.30E-01**	**1.50E+00 ER_M**	**1.80E-01**	**8.33**
PCB-1254	3.03	9	9	1.00E-01	2.70E-07 EQ_PART	2.00E-05	0.01
PCB-1254	**3.03**	**9**	**9**	**1.00E-01**	**5.30E-01 ER_L**	**2.30E-02**	**23.04**
PCB-1254	**3.03**	**9**	**9**	**1.00E-01**	**5.30E-01 ER_M**	**1.80E-01**	**2.94**
PCB-1254	3.04	6	7	7.88E-02	2.31E-07 EQ_PART	2.00E-05	0.01
PCB-1254	**3.04**	**6**	**7**	**7.88E-02**	**2.25E-01 ER_L**	**2.30E-02**	**9.78**
PCB-1254	**3.04**	**6**	**7**	**7.88E-02**	**2.25E-01 ER_M**	**1.80E-01**	**1.25**
PCB-1254	4.01	8	10	2.50E-02	9.58E-07 EQ_PART	2.00E-05	0.05
PCB-1254	**4.01**	**8**	**10**	**2.50E-02**	**8.58E-01 ER_L**	**2.30E-02**	**37.30**
PCB-1254	**4.01**	**8**	**10**	**2.50E-02**	**8.58E-01 ER_M**	**1.80E-01**	**4.77**
PCB-1254	4.02	2	5	1.10E-02	3.73E-08 EQ_PART	2.00E-05	0.00
PCB-1254	**4.02**	**2**	**5**	**1.10E-02**	**4.50E-02 ER_L**	**2.30E-02**	**1.96**
PCB-1254	4.02	2	5	1.10E-02	4.50E-02 ER_M	1.80E-01	0.25
PCB-1254	4.03	2	7	5.60E-02	4.80E-08 EQ_PART	2.00E-05	0.00
PCB-1254	**4.03**	**2**	**7**	**5.60E-02**	**8.20E-02 ER_L**	**2.30E-02**	**3.57**
PCB-1254	4.03	2	7	5.60E-02	8.20E-02 ER_M	1.80E-01	0.46
PCB-1254	4.04	1	12	2.79E+00	1.06E-06 EQ_PART	2.00E-05	0.05
PCB-1254	**4.04**	**1**	**12**	**2.79E+00**	**2.79E+00 ER_L**	**2.30E-02**	**121.40**
PCB-1254	**4.04**	**1**	**12**	**2.79E+00**	**2.79E+00 ER_M**	**1.80E-01**	**15.51**
PCB-1254	13	1	5	1.70E-02	4.99E-09 EQ_PART	2.00E-05	0.00
PCB-1254	13	1	5	1.70E-02	1.70E-02 ER_L	2.30E-02	0.74

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
PCB-1254	13	1	5	1.70E-02	1.70E-02	ER_M	1.80E-01	0.09
PCB-1254	22	1	1	1.59E+00	8.51E-07	EQ_PART	2.00E-05	0.04
PCB-1254	**22**	**1**	**1**	**1.59E+00**	**1.59E+00**	**ER_L**	**2.30E-02**	**69.30**
PCB-1254	**22**	**1**	**1**	**1.59E+00**	**1.59E+00**	**ER_M**	**1.80E-01**	**8.86**
PCB-1260	2.02	1	1	1.17E+00	4.84E-08	EQ_PART	1.05E-02	0.00
PCB-1260	**2.02**	**1**	**1**	**1.17E+00**	**1.17E+00**	**ER_L**	**2.30E-02**	**50.74**
PCB-1260	**2.02**	**1**	**1**	**1.17E+00**	**1.17E+00**	**ER_M**	**1.80E-01**	**6.48**
PCB-1260	3.01	1	2	1.90E-02	1.54E-09	EQ_PART	1.05E-02	0.00
PCB-1260	3.01	1	2	1.90E-02	1.90E-02	ER_L	2.30E-02	0.83
PCB-1260	3.01	1	2	1.90E-02	1.90E-02	ER_M	1.80E-01	0.11
PCB-1260	3.02	6	9	6.45E-02	6.48E-09	EQ_PART	1.05E-02	0.00
PCB-1260	**3.02**	**6**	**9**	**6.45E-02**	**5.60E-01**	**ER_L**	**2.30E-02**	**24.35**
PCB-1260	**3.02**	**6**	**9**	**6.45E-02**	**5.60E-01**	**ER_M**	**1.80E-01**	**3.11**
PCB-1260	3.03	8	9	4.40E-02	1.11E-08	EQ_PART	1.05E-02	0.00
PCB-1260	**3.03**	**8**	**9**	**4.40E-02**	**2.80E-01**	**ER_L**	**2.30E-02**	**12.17**
PCB-1260	**3.03**	**8**	**9**	**4.40E-02**	**2.80E-01**	**ER_M**	**1.80E-01**	**1.56**
PCB-1260	3.04	5	7	6.43E-02	1.39E-08	EQ_PART	1.05E-02	0.00
PCB-1260	**3.04**	**5**	**7**	**6.43E-02**	**1.75E-01**	**ER_L**	**2.30E-02**	**7.61**
PCB-1260	3.04	5	7	6.43E-02	1.75E-01	ER_M	1.80E-01	0.97
PCB-1260	4.01	5	10	1.03E-02	2.95E-09	EQ_PART	1.05E-02	0.00
PCB-1260	**4.01**	**5**	**10**	**1.03E-02**	**3.40E-02**	**ER_L**	**2.30E-02**	**1.48**
PCB-1260	4.01	5	10	1.03E-02	3.40E-02	ER_M	1.80E-01	0.19
PCB-1260	4.02	1	5	2.80E-02	1.80E-09	EQ_PART	1.05E-02	0.00
PCB-1260	**4.02**	**1**	**5**	**2.80E-02**	**2.80E-02**	**ER_L**	**2.30E-02**	**1.22**
PCB-1260	4.02	1	5	2.80E-02	2.80E-02	ER_M	1.80E-01	0.16
PCB-1260	4.03	2	7	2.70E-02	1.95E-09	EQ_PART	1.05E-02	0.00
PCB-1260	**4.03**	**2**	**7**	**2.70E-02**	**4.30E-02**	**ER_L**	**2.30E-02**	**1.87**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2] BMK Name	BMK Value	HQ(Max)[2]
PCB-1260	4.03	2	7	2.70E-02	4.30E-02 ER_M	1.80E-01	0.24
Phenanthrene	**0**	**5**	**5**	**3.70E-02**	**3.70E-01 ER_L**	**2.40E-01**	**1.54**
Phenanthrene	**0**	**5**	**5**	**3.70E-02**	**3.70E-01 REG_IV**	**3.30E-01**	**1.12**
Phenanthrene	0	5	5	3.70E-02	3.70E-01 ER_M	1.50E+00	0.25
Phenanthrene	0	5	5	3.70E-02	2.59E-01 EPASQC01	1.80E+00	0.14
Phenanthrene	**2.04**	**6**	**8**	**6.70E-02**	**4.96E-01 ER_L**	**2.40E-01**	**2.07**
Phenanthrene	**2.04**	**6**	**8**	**6.70E-02**	**4.96E-01 REG_IV**	**3.30E-01**	**1.50**
Phenanthrene	2.04	6	8	6.70E-02	4.96E-01 ER_M	1.50E+00	0.33
Phenanthrene	2.04	6	8	6.70E-02	3.26E-01 EPASQC01	1.80E+00	0.18
Phenanthrene	3.01	2	2	4.80E-02	7.40E-02 ER_L	2.40E-01	0.31
Phenanthrene	3.01	2	2	4.80E-02	7.40E-02 REG_IV	3.30E-01	0.22
Phenanthrene	3.01	2	2	4.80E-02	7.40E-02 ER_M	1.50E+00	0.05
Phenanthrene	3.01	2	2	4.80E-02	8.29E-02 EPASQC01	1.80E+00	0.05
Phenanthrene	**3.02**	**8**	**9**	**2.60E-01**	**7.80E-01 ER_L**	**2.40E-01**	**3.25**
Phenanthrene	**3.02**	**8**	**9**	**2.60E-01**	**7.80E-01 REG_IV**	**3.30E-01**	**2.36**
Phenanthrene	3.02	8	9	2.60E-01	7.80E-01 ER_M	1.50E+00	0.52
Phenanthrene	3.02	8	9	2.60E-01	1.25E-01 EPASQC01	1.80E+00	0.07
Phenanthrene	**3.03**	**9**	**9**	**2.80E-01**	**1.20E+00 ER_L**	**2.40E-01**	**5.00**
Phenanthrene	**3.03**	**9**	**9**	**2.80E-01**	**1.20E+00 REG_IV**	**3.30E-01**	**3.64**
Phenanthrene	3.03	9	9	2.80E-01	1.20E+00 ER_M	1.50E+00	0.80
Phenanthrene	3.03	9	9	2.80E-01	6.54E-01 EPASQC01	1.80E+00	0.36
Phenanthrene	**3.04**	**7**	**7**	**1.40E-01**	**3.10E-01 ER_L**	**2.40E-01**	**1.29**
Phenanthrene	3.04	7	7	1.40E-01	3.10E-01 REG_IV	3.30E-01	0.94
Phenanthrene	3.04	7	7	1.40E-01	3.10E-01 ER_M	1.50E+00	0.21
Phenanthrene	3.04	7	7	1.40E-01	3.41E-01 EPASQC01	1.80E+00	0.19
Phenanthrene	4.01	7	10	6.00E-02	1.23E-01 ER_L	2.40E-01	0.51
Phenanthrene	4.01	7	10	6.00E-02	1.23E-01 REG_IV	3.30E-01	0.37

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Phenanthrene	4.01	7	10	6.00E-02	1.23E-01	ER_M	1.50E+00	0.08
Phenanthrene	4.01	7	10	6.00E-02	1.47E-01	EPASQC01	1.80E+00	0.08
Phenanthrene	4.02	5	5	6.10E-02	2.20E-01	ER_L	2.40E-01	0.92
Phenanthrene	4.02	5	5	6.10E-02	2.20E-01	REG_IV	3.30E-01	0.67
Phenanthrene	4.02	5	5	6.10E-02	2.20E-01	ER_M	1.50E+00	0.15
Phenanthrene	4.02	5	5	6.10E-02	1.95E-01	EPASQC01	1.80E+00	0.11
Phenanthrene	4.03	7	7	8.70E-02	1.90E-01	ER_L	2.40E-01	0.79
Phenanthrene	4.03	7	7	8.70E-02	1.90E-01	REG_IV	3.30E-01	0.58
Phenanthrene	4.03	7	7	8.70E-02	1.90E-01	ER_M	1.50E+00	0.13
Phenanthrene	4.03	7	7	8.70E-02	1.19E-01	EPASQC01	1.80E+00	0.07
Phenanthrene	4.04	11	12	1.60E-01	2.20E-01	ER_L	2.40E-01	0.92
Phenanthrene	4.04	11	12	1.60E-01	2.20E-01	REG_IV	3.30E-01	0.67
Phenanthrene	4.04	11	12	1.60E-01	2.20E-01	ER_M	1.50E+00	0.15
Phenanthrene	4.04	11	12	1.60E-01	8.95E-02	EPASQC01	1.80E+00	0.05
Phenanthrene	7.01	1	1	3.00E-02	3.00E-02	ER_L	2.40E-01	0.13
Phenanthrene	7.01	1	1	3.00E-02	3.00E-02	REG_IV	3.30E-01	0.09
Phenanthrene	7.01	1	1	3.00E-02	3.00E-02	ER_M	1.50E+00	0.02
Phenanthrene	7.01	1	1	3.00E-02	1.72E-02	EPASQC01	1.80E+00	0.01
Phenanthrene	7.02	1	1	7.50E-02	7.50E-02	ER_L	2.40E-01	0.31
Phenanthrene	7.02	1	1	7.50E-02	7.50E-02	REG_IV	3.30E-01	0.23
Phenanthrene	7.02	1	1	7.50E-02	7.50E-02	ER_M	1.50E+00	0.05
Phenanthrene	7.02	1	1	7.50E-02	4.29E-02	EPASQC01	1.80E+00	0.02
Phenanthrene	8	1	1	4.40E-02	4.40E-02	ER_L	2.40E-01	0.18
Phenanthrene	8	1	1	4.40E-02	4.40E-02	REG_IV	3.30E-01	0.13
Phenanthrene	8	1	1	4.40E-02	4.40E-02	ER_M	1.50E+00	0.03
Phenanthrene	8	1	1	4.40E-02	2.52E-02	EPASQC01	1.80E+00	0.01
Phenanthrene	**13**	**5**	**5**	**1.80E-01**	**3.70E+00**	**ER_L**	**2.40E-01**	**15.42**

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Phenanthrene	**13**	**5**	**5**	**1.80E-01**	**3.70E+00**	**REG_IV**	**3.30E-01**	**11.21**
Phenanthrene	**13**	**5**	**5**	**1.80E-01**	**3.70E+00**	**ER_M**	**1.50E+00**	**2.47**
Phenanthrene	13	5	5	1.80E-01	1.16E+00	EPASQC01	1.80E+00	0.65
Phenanthrene	18	3	3	1.40E-01	1.90E-01	ER_L	2.40E-01	0.79
Phenanthrene	18	3	3	1.40E-01	1.90E-01	REG_IV	3.30E-01	0.58
Phenanthrene	18	3	3	1.40E-01	1.90E-01	ER_M	1.50E+00	0.13
Phenanthrene	18	3	3	1.40E-01	1.15E-01	EPASQC01	1.80E+00	0.06
Pyrene	0	5	5	3.70E-02	1.50E-01	ER_L	6.60E-01	0.23
Pyrene	0	5	5	3.70E-02	1.50E-01	ER_M	2.60E+00	0.06
Pyrene	2.04	4	8	2.70E-02	4.96E-01	ER_L	6.60E-01	0.75
Pyrene	2.04	4	8	2.70E-02	4.96E-01	ER_M	2.60E+00	0.19
Pyrene	3.01	2	2	7.33E-02	1.30E-01	ER_L	6.60E-01	0.20
Pyrene	3.01	2	2	7.33E-02	1.30E-01	ER_M	2.60E+00	0.05
Pyrene	**3.02**	**8**	**9**	**2.80E-01**	**6.60E-01**	**ER_L**	**6.60E-01**	**1.00**
Pyrene	3.02	8	9	2.80E-01	6.60E-01	ER_M	2.60E+00	0.25
Pyrene	**3.03**	**9**	**9**	**3.00E-01**	**1.25E+00**	**ER_L**	**6.60E-01**	**1.90**
Pyrene	3.03	9	9	3.00E-01	1.25E+00	ER_M	2.60E+00	0.48
Pyrene	3.04	7	7	1.90E-01	2.70E-01	ER_L	6.60E-01	0.41
Pyrene	3.04	7	7	1.90E-01	2.70E-01	ER_M	2.60E+00	0.10
Pyrene	4.01	7	10	6.40E-02	1.43E-01	ER_L	6.60E-01	0.22
Pyrene	4.01	7	10	6.40E-02	1.43E-01	ER_M	2.60E+00	0.06
Pyrene	4.02	5	5	7.41E-02	2.40E-01	ER_L	6.60E-01	0.36
Pyrene	4.02	5	5	7.41E-02	2.40E-01	ER_M	2.60E+00	0.09
Pyrene	4.03	7	7	9.30E-02	1.50E-01	ER_L	6.60E-01	0.23
Pyrene	4.03	7	7	9.30E-02	1.50E-01	ER_M	2.60E+00	0.06
Pyrene	4.04	11	12	1.50E-01	3.20E-01	ER_L	6.60E-01	0.49
Pyrene	4.04	11	12	1.50E-01	3.20E-01	ER_M	2.60E+00	0.12

Table F3.1 (continued)

Analyte	Reach	Detects	Total Samples	Median	Maximum[2]	BMK Name	BMK Value	HQ(Max)[2]
Pyrene	7.01	1	1	5.20E-02	5.20E-02	ER_L	6.60E-01	0.08
Pyrene	7.01	1	1	5.20E-02	5.20E-02	ER_M	2.60E+00	0.02
Pyrene	7.02	1	1	1.10E-01	1.10E-01	ER_L	6.60E-01	0.17
Pyrene	7.02	1	1	1.10E-01	1.10E-01	ER_M	2.60E+00	0.04
Pyrene	8	1	1	7.50E-02	7.50E-02	ER_L	6.60E-01	0.11
Pyrene	8	1	1	7.50E-02	7.50E-02	ER_M	2.60E+00	0.03
Pyrene	13	4	5	1.60E-01	6.10E-01	ER_L	6.60E-01	0.92
Pyrene	13	4	5	1.60E-01	6.10E-01	ER_M	2.60E+00	0.23
Pyrene	18	3	3	3.70E-01	3.74E-01	ER_L	6.60E-01	0.57
Pyrene	18	3	3	3.70E-01	3.74E-01	ER_M	2.60E+00	0.14

[1] Units are mg/kg.
[2] Maximum and HQ(Max) for EPASQC01 and EQ_PART are corrected for site-specific percent total organic carbon.

Table F3.2. Median and maximum concentrations[1] of contaminants of potential ecological concern[2] in pore water, aqueous ecotoxicological benchmarks (BMK Name) and their values (BMK Value) for each chemical, and the quotients (HQ Max) of maximum/BMK Value

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Aluminum	**0**	**5**	**5**	**5.00E-02**	**4.38E-01**	**NAWQ_CHR**	**8.70E-02**	**5.04**
Aluminum	0	5	5	5.00E-02	4.38E-01	LCV_AQPL	4.60E-01	0.95
Aluminum	0	5	5	5.00E-02	4.38E-01	LTV_DAPH	5.40E-01	0.81
Aluminum	0	5	5	5.00E-02	4.38E-01	NAWQ_ACU	7.50E-01	0.58
Aluminum	0	5	5	5.00E-02	4.38E-01	LCV_DAPH	1.90E+00	0.23
Aluminum	0	5	5	5.00E-02	4.38E-01	LCV_FISH	3.29E+00	0.13
Aluminum	0	5	5	5.00E-02	4.38E-01	LTV_FISH	4.70E+00	0.09
Aluminum	2.01	1	1	1.81E-02	1.81E-02	NAWQ_CHR	8.70E-02	0.21
Aluminum	2.01	1	1	1.81E-02	1.81E-02	LCV_AQPL	4.60E-01	0.04
Aluminum	2.01	1	1	1.81E-02	1.81E-02	LTV_DAPH	5.40E-01	0.03
Aluminum	2.01	1	1	1.81E-02	1.81E-02	NAWQ_ACU	7.50E-01	0.02
Aluminum	2.01	1	1	1.81E-02	1.81E-02	LCV_DAPH	1.90E+00	0.01
Aluminum	2.01	1	1	1.81E-02	1.81E-02	LCV_FISH	3.29E+00	0.01
Aluminum	2.01	1	1	1.81E-02	1.81E-02	LTV_FISH	4.70E+00	0.00
Aluminum	2.03	1	1	1.66E-02	1.66E-02	NAWQ_CHR	8.70E-02	0.19
Aluminum	2.03	1	1	1.66E-02	1.66E-02	LCV_AQPL	4.60E-01	0.04
Aluminum	2.03	1	1	1.66E-02	1.66E-02	LTV_DAPH	5.40E-01	0.03
Aluminum	2.03	1	1	1.66E-02	1.66E-02	NAWQ_ACU	7.50E-01	0.02
Aluminum	2.03	1	1	1.66E-02	1.66E-02	LCV_DAPH	1.90E+00	0.01
Aluminum	2.03	1	1	1.66E-02	1.66E-02	LCV_FISH	3.29E+00	0.01
Aluminum	2.03	1	1	1.66E-02	1.66E-02	LTV_FISH	4.70E+00	0.00
Aluminum	2.04	6	6	2.05E-02	4.34E-02	NAWQ_CHR	8.70E-02	0.50
Aluminum	2.04	6	6	2.05E-02	4.34E-02	LCV_AQPL	4.60E-01	0.09
Aluminum	2.04	6	6	2.05E-02	4.34E-02	LTV_DAPH	5.40E-01	0.08
Aluminum	2.04	6	6	2.05E-02	4.34E-02	NAWQ_ACU	7.50E-01	0.06

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Aluminum	2.04	6	6	2.05E-02	4.34E-02	LCV_DAPH	1.90E+00	0.02
Aluminum	2.04	6	6	2.05E-02	4.34E-02	LCV_FISH	3.29E+00	0.01
Aluminum	2.04	6	6	2.05E-02	4.34E-02	LTV_FISH	4.70E+00	0.01
Aluminum	3.01	1	2	4.26E-02	4.26E-02	NAWQ_CHR	8.70E-02	0.49
Aluminum	3.01	1	2	4.26E-02	4.26E-02	LCV_AQPL	4.60E-01	0.09
Aluminum	3.01	1	2	4.26E-02	4.26E-02	LTV_DAPH	5.40E-01	0.08
Aluminum	3.01	1	2	4.26E-02	4.26E-02	NAWQ_ACU	7.50E-01	0.06
Aluminum	3.01	1	2	4.26E-02	4.26E-02	LCV_DAPH	1.90E+00	0.02
Aluminum	3.01	1	2	4.26E-02	4.26E-02	LCV_FISH	3.29E+00	0.01
Aluminum	3.01	1	2	4.26E-02	4.26E-02	LTV_FISH	4.70E+00	0.01
Aluminum	3.02	6	8	1.91E-02	7.52E-02	NAWQ_CHR	8.70E-02	0.86
Aluminum	3.02	6	8	1.91E-02	7.52E-02	LCV_AQPL	4.60E-01	0.16
Aluminum	3.02	6	8	1.91E-02	7.52E-02	LTV_DAPH	5.40E-01	0.14
Aluminum	3.02	6	8	1.91E-02	7.52E-02	NAWQ_ACU	7.50E-01	0.10
Aluminum	3.02	6	8	1.91E-02	7.52E-02	LCV_DAPH	1.90E+00	0.04
Aluminum	3.02	6	8	1.91E-02	7.52E-02	LCV_FISH	3.29E+00	0.02
Aluminum	3.02	6	8	1.91E-02	7.52E-02	LTV_FISH	4.70E+00	0.02
Aluminum	3.03	7	9	1.06E-02	3.53E-02	NAWQ_CHR	8.70E-02	0.41
Aluminum	3.03	7	9	1.06E-02	3.53E-02	LCV_AQPL	4.60E-01	0.08
Aluminum	3.03	7	9	1.06E-02	3.53E-02	LTV_DAPH	5.40E-01	0.07
Aluminum	3.03	7	9	1.06E-02	3.53E-02	NAWQ_ACU	7.50E-01	0.05
Aluminum	3.03	7	9	1.06E-02	3.53E-02	LCV_DAPH	1.90E+00	0.02
Aluminum	3.03	7	9	1.06E-02	3.53E-02	LCV_FISH	3.29E+00	0.01
Aluminum	3.03	7	9	1.06E-02	3.53E-02	LTV_FISH	4.70E+00	0.01
Aluminum	**3.04**	**4**	**6**	**2.06E-02**	**8.99E-02**	**NAWQ_CHR**	**8.70E-02**	**1.03**
Aluminum	3.04	4	6	2.06E-02	8.99E-02	LCV_AQPL	4.60E-01	0.20

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Aluminum	3.04	4	6	2.06E-02	8.99E-02	LTV_DAPH	5.40E-01	0.17
Aluminum	3.04	4	6	2.06E-02	8.99E-02	NAWQ_ACU	7.50E-01	0.12
Aluminum	3.04	4	6	2.06E-02	8.99E-02	LCV_DAPH	1.90E+00	0.05
Aluminum	3.04	4	6	2.06E-02	8.99E-02	LCV_FISH	3.29E+00	0.03
Aluminum	3.04	4	6	2.06E-02	8.99E-02	LTV_FISH	4.70E+00	0.02
Aluminum	**4.01**	**9**	**9**	**1.98E-02**	**6.20E-01**	**NAWQ_CHR**	**8.70E-02**	**7.13**
Aluminum	**4.01**	**9**	**9**	**1.98E-02**	**6.20E-01**	**LCV_AQPL**	**4.60E-01**	**1.35**
Aluminum	**4.01**	**9**	**9**	**1.98E-02**	**6.20E-01**	**LTV_DAPH**	**5.40E-01**	**1.15**
Aluminum	4.01	9	9	1.98E-02	6.20E-01	NAWQ_ACU	7.50E-01	0.83
Aluminum	4.01	9	9	1.98E-02	6.20E-01	LCV_DAPH	1.90E+00	0.33
Aluminum	4.01	9	9	1.98E-02	6.20E-01	LCV_FISH	3.29E+00	0.19
Aluminum	4.01	9	9	1.98E-02	6.20E-01	LTV_FISH	4.70E+00	0.13
Aluminum	**4.02**	**6**	**6**	**2.01E-02**	**8.96E-02**	**NAWQ_CHR**	**8.70E-02**	**1.03**
Aluminum	4.02	6	6	2.01E-02	8.96E-02	LCV_AQPL	4.60E-01	0.19
Aluminum	4.02	6	6	2.01E-02	8.96E-02	LTV_DAPH	5.40E-01	0.17
Aluminum	4.02	6	6	2.01E-02	8.96E-02	NAWQ_ACU	7.50E-01	0.12
Aluminum	4.02	6	6	2.01E-02	8.96E-02	LCV_DAPH	1.90E+00	0.05
Aluminum	4.02	6	6	2.01E-02	8.96E-02	LCV_FISH	3.29E+00	0.03
Aluminum	4.02	6	6	2.01E-02	8.96E-02	LTV_FISH	4.70E+00	0.02
Aluminum	4.03	6	7	1.61E-02	3.35E-02	NAWQ_CHR	8.70E-02	0.39
Aluminum	4.03	6	7	1.61E-02	3.35E-02	LCV_AQPL	4.60E-01	0.07
Aluminum	4.03	6	7	1.61E-02	3.35E-02	LTV_DAPH	5.40E-01	0.06
Aluminum	4.03	6	7	1.61E-02	3.35E-02	NAWQ_ACU	7.50E-01	0.04
Aluminum	4.03	6	7	1.61E-02	3.35E-02	LCV_DAPH	1.90E+00	0.02
Aluminum	4.03	6	7	1.61E-02	3.35E-02	LCV_FISH	3.29E+00	0.01
Aluminum	4.03	6	7	1.61E-02	3.35E-02	LTV_FISH	4.70E+00	0.01

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Aluminum	**4.04**	**11**	**11**	**2.84E-02**	**1.20E-01**	**NAWQ_CHR**	**8.70E-02**	**1.38**
Aluminum	4.04	11	11	2.84E-02	1.20E-01	LCV_AQPL	4.60E-01	0.26
Aluminum	4.04	11	11	2.84E-02	1.20E-01	LTV_DAPH	5.40E-01	0.22
Aluminum	4.04	11	11	2.84E-02	1.20E-01	NAWQ_ACU	7.50E-01	0.16
Aluminum	4.04	11	11	2.84E-02	1.20E-01	LCV_DAPH	1.90E+00	0.06
Aluminum	4.04	11	11	2.84E-02	1.20E-01	LCV_FISH	3.29E+00	0.04
Aluminum	4.04	11	11	2.84E-02	1.20E-01	LTV_FISH	4.70E+00	0.03
Aluminum	7.01	1	1	3.07E-02	3.07E-02	NAWQ_CHR	8.70E-02	0.35
Aluminum	7.01	1	1	3.07E-02	3.07E-02	LCV_AQPL	4.60E-01	0.07
Aluminum	7.01	1	1	3.07E-02	3.07E-02	LTV_DAPH	5.40E-01	0.06
Aluminum	7.01	1	1	3.07E-02	3.07E-02	NAWQ_ACU	7.50E-01	0.04
Aluminum	7.01	1	1	3.07E-02	3.07E-02	LCV_DAPH	1.90E+00	0.02
Aluminum	7.01	1	1	3.07E-02	3.07E-02	LCV_FISH	3.29E+00	0.01
Aluminum	7.01	1	1	3.07E-02	3.07E-02	LTV_FISH	4.70E+00	0.01
Aluminum	**7.02**	**1**	**1**	**2.72E-01**	**2.72E-01**	**NAWQ_CHR**	**8.70E-02**	**3.13**
Aluminum	7.02	1	1	2.72E-01	2.72E-01	LCV_AQPL	4.60E-01	0.59
Aluminum	7.02	1	1	2.72E-01	2.72E-01	LTV_DAPH	5.40E-01	0.50
Aluminum	7.02	1	1	2.72E-01	2.72E-01	NAWQ_ACU	7.50E-01	0.36
Aluminum	7.02	1	1	2.72E-01	2.72E-01	LCV_DAPH	1.90E+00	0.14
Aluminum	7.02	1	1	2.72E-01	2.72E-01	LCV_FISH	3.29E+00	0.08
Aluminum	7.02	1	1	2.72E-01	2.72E-01	LTV_FISH	4.70E+00	0.06
Aluminum	8	1	1	2.66E-02	2.66E-02	NAWQ_CHR	8.70E-02	0.31
Aluminum	8	1	1	2.66E-02	2.66E-02	LCV_AQPL	4.60E-01	0.06
Aluminum	8	1	1	2.66E-02	2.66E-02	LTV_DAPH	5.40E-01	0.05
Aluminum	8	1	1	2.66E-02	2.66E-02	NAWQ_ACU	7.50E-01	0.04
Aluminum	8	1	1	2.66E-02	2.66E-02	LCV_DAPH	1.90E+00	0.01

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Aluminum	8	1	1	2.66E-02	2.66E-02	LCV_FISH	3.29E+00	0.01
Aluminum	8	1	1	2.66E-02	2.66E-02	LTV_FISH	4.70E+00	0.01
Aluminum	**18**	**3**	**3**	**4.17E-02**	**3.13E-01**	**NAWQ_CHR**	**8.70E-02**	**3.60**
Aluminum	18	3	3	4.17E-02	3.13E-01	LCV_AQPL	4.60E-01	0.68
Aluminum	18	3	3	4.17E-02	3.13E-01	LTV_DAPH	5.40E-01	0.58
Aluminum	18	3	3	4.17E-02	3.13E-01	NAWQ_ACU	7.50E-01	0.42
Aluminum	18	3	3	4.17E-02	3.13E-01	LCV_DAPH	1.90E+00	0.16
Aluminum	18	3	3	4.17E-02	3.13E-01	LCV_FISH	3.29E+00	0.10
Aluminum	18	3	3	4.17E-02	3.13E-01	LTV_FISH	4.70E+00	0.07
Arsenic	2.04	2	6	2.10E-03	3.30E-03	NAWQ_CHR	1.90E-01	0.02
Arsenic	2.04	2	6	2.10E-03	3.30E-03	NAWQ_ACU	3.60E-01	0.01
Arsenic	2.04	2	6	2.10E-03	3.30E-03	LTV_DAPH	6.33E-01	0.01
Arsenic	2.04	2	6	2.10E-03	3.30E-03	LCV_DAPH	9.14E-01	0.00
Arsenic	2.04	2	6	2.10E-03	3.30E-03	LTV_FISH	2.13E+00	0.00
Arsenic	2.04	2	6	2.10E-03	3.30E-03	LCV_FISH	2.96E+00	0.00
Arsenic	3.02	5	8	1.40E-03	6.40E-03	NAWQ_CHR	1.90E-01	0.03
Arsenic	3.02	5	8	1.40E-03	6.40E-03	NAWQ_ACU	3.60E-01	0.02
Arsenic	3.02	5	8	1.40E-03	6.40E-03	LTV_DAPH	6.33E-01	0.01
Arsenic	3.02	5	8	1.40E-03	6.40E-03	LCV_DAPH	9.14E-01	0.01
Arsenic	3.02	5	8	1.40E-03	6.40E-03	LTV_FISH	2.13E+00	0.00
Arsenic	3.02	5	8	1.40E-03	6.40E-03	LCV_FISH	2.96E+00	0.00
Arsenic	3.03	3	9	2.09E-03	1.00E-02	NAWQ_CHR	1.90E-01	0.05
Arsenic	3.03	3	9	2.09E-03	1.00E-02	NAWQ_ACU	3.60E-01	0.03
Arsenic	3.03	3	9	2.09E-03	1.00E-02	LTV_DAPH	6.33E-01	0.02
Arsenic	3.03	3	9	2.09E-03	1.00E-02	LCV_DAPH	9.14E-01	0.01
Arsenic	3.03	3	9	2.09E-03	1.00E-02	LTV_FISH	2.13E+00	0.00

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Arsenic	3.03	3	9	2.09E-03	1.00E-02	LCV_FISH	2.96E+00	0.00
Arsenic	3.04	6	6	5.85E-03	1.24E-01	NAWQ_CHR	1.90E-01	0.65
Arsenic	3.04	6	6	5.85E-03	1.24E-01	NAWQ_ACU	3.60E-01	0.34
Arsenic	3.04	6	6	5.85E-03	1.24E-01	LTV_DAPH	6.33E-01	0.20
Arsenic	3.04	6	6	5.85E-03	1.24E-01	LCV_DAPH	9.14E-01	0.14
Arsenic	3.04	6	6	5.85E-03	1.24E-01	LTV_FISH	2.13E+00	0.06
Arsenic	3.04	6	6	5.85E-03	1.24E-01	LCV_FISH	2.96E+00	0.04
Arsenic	4.02	2	6	1.10E-03	2.80E-03	NAWQ_CHR	1.90E-01	0.01
Arsenic	4.02	2	6	1.10E-03	2.80E-03	NAWQ_ACU	3.60E-01	0.01
Arsenic	4.02	2	6	1.10E-03	2.80E-03	LTV_DAPH	6.33E-01	0.00
Arsenic	4.02	2	6	1.10E-03	2.80E-03	LCV_DAPH	9.14E-01	0.00
Arsenic	4.02	2	6	1.10E-03	2.80E-03	LTV_FISH	2.13E+00	0.00
Arsenic	4.02	2	6	1.10E-03	2.80E-03	LCV_FISH	2.96E+00	0.00
Arsenic	4.03	2	7	1.62E-03	1.70E-03	NAWQ_CHR	1.90E-01	0.01
Arsenic	4.03	2	7	1.62E-03	1.70E-03	NAWQ_ACU	3.60E-01	0.00
Arsenic	4.03	2	7	1.62E-03	1.70E-03	LTV_DAPH	6.33E-01	0.00
Arsenic	4.03	2	7	1.62E-03	1.70E-03	LCV_DAPH	9.14E-01	0.00
Arsenic	4.03	2	7	1.62E-03	1.70E-03	LTV_FISH	2.13E+00	0.00
Arsenic	4.03	2	7	1.62E-03	1.70E-03	LCV_FISH	2.96E+00	0.00
Arsenic	4.04	5	11	1.60E-03	3.90E-03	NAWQ_CHR	1.90E-01	0.02
Arsenic	4.04	5	11	1.60E-03	3.90E-03	NAWQ_ACU	3.60E-01	0.01
Arsenic	4.04	5	11	1.60E-03	3.90E-03	LTV_DAPH	6.33E-01	0.01
Arsenic	4.04	5	11	1.60E-03	3.90E-03	LCV_DAPH	9.14E-01	0.00
Arsenic	4.04	5	11	1.60E-03	3.90E-03	LTV_FISH	2.13E+00	0.00
Arsenic	4.04	5	11	1.60E-03	3.90E-03	LCV_FISH	2.96E+00	0.00
Arsenic	7.01	1	1	1.26E-01	1.26E-01	NAWQ_CHR	1.90E-01	0.66

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Arsenic	7.01	1	1	1.26E-01	1.26E-01	NAWQ_ACU	3.60E-01	0.35
Arsenic	7.01	1	1	1.26E-01	1.26E-01	LTV_DAPH	6.33E-01	0.20
Arsenic	7.01	1	1	1.26E-01	1.26E-01	LCV_DAPH	9.14E-01	0.14
Arsenic	7.01	1	1	1.26E-01	1.26E-01	LTV_FISH	2.13E+00	0.06
Arsenic	7.01	1	1	1.26E-01	1.26E-01	LCV_FISH	2.96E+00	0.04
Arsenic	7.02	1	1	1.45E-02	1.45E-02	NAWQ_CHR	1.90E-01	0.08
Arsenic	7.02	1	1	1.45E-02	1.45E-02	NAWQ_ACU	3.60E-01	0.04
Arsenic	7.02	1	1	1.45E-02	1.45E-02	LTV_DAPH	6.33E-01	0.02
Arsenic	7.02	1	1	1.45E-02	1.45E-02	LCV_DAPH	9.14E-01	0.02
Arsenic	7.02	1	1	1.45E-02	1.45E-02	LTV_FISH	2.13E+00	0.01
Arsenic	7.02	1	1	1.45E-02	1.45E-02	LCV_FISH	2.96E+00	0.00
Arsenic	18	2	3	1.20E-03	1.30E-03	NAWQ_CHR	1.90E-01	0.01
Arsenic	18	2	3	1.20E-03	1.30E-03	NAWQ_ACU	3.60E-01	0.00
Arsenic	18	2	3	1.20E-03	1.30E-03	LTV_DAPH	6.33E-01	0.00
Arsenic	18	2	3	1.20E-03	1.30E-03	LCV_DAPH	9.14E-01	0.00
Arsenic	18	2	3	1.20E-03	1.30E-03	LTV_FISH	2.13E+00	0.00
Arsenic	18	2	3	1.20E-03	1.30E-03	LCV_FISH	2.96E+00	0.00
Barium	**0**	**5**	**5**	**9.57E-02**	**9.97E-02**	**S_CHR_V**	**3.80E-03**	**26.24**
Barium	**0**	**5**	**5**	**9.57E-02**	**9.97E-02**	**S_ACU_V**	**6.91E-02**	**1.44**
Barium	0	5	5	9.57E-02	9.97E-02	LCV_DAPH	5.80E+00	0.02
Barium	**2.01**	**1**	**1**	**9.74E-02**	**9.74E-02**	**S_CHR_V**	**3.80E-03**	**25.63**
Barium	**2.01**	**1**	**1**	**9.74E-02**	**9.74E-02**	**S_ACU_V**	**6.91E-02**	**1.41**
Barium	2.01	1	1	9.74E-02	9.74E-02	LCV_DAPH	5.80E+00	0.02
Barium	**2.03**	**1**	**1**	**2.83E-02**	**2.83E-02**	**S_CHR_V**	**3.80E-03**	**7.45**
Barium	2.03	1	1	2.83E-02	2.83E-02	S_ACU_V	6.91E-02	0.41
Barium	2.03	1	1	2.83E-02	2.83E-02	LCV_DAPH	5.80E+00	0.00

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Barium	**2.04**	**6**	**6**	**4.28E-02**	**8.69E-02**	**S_CHR_V**	**3.80E-03**	**22.88**
Barium	**2.04**	**6**	**6**	**4.28E-02**	**8.69E-02**	**S_ACU_V**	**6.91E-02**	**1.26**
Barium	2.04	6	6	4.28E-02	8.69E-02	LCV_DAPH	5.80E+00	0.01
Barium	**3.01**	**2**	**2**	**3.73E-02**	**4.72E-02**	**S_CHR_V**	**3.80E-03**	**12.42**
Barium	3.01	2	2	3.73E-02	4.72E-02	S_ACU_V	6.91E-02	0.68
Barium	3.01	2	2	3.73E-02	4.72E-02	LCV_DAPH	5.80E+00	0.01
Barium	**3.02**	**8**	**8**	**6.32E-02**	**1.18E-01**	**S_CHR_V**	**3.80E-03**	**31.05**
Barium	**3.02**	**8**	**8**	**6.32E-02**	**1.18E-01**	**S_ACU_V**	**6.91E-02**	**1.71**
Barium	3.02	8	8	6.32E-02	1.18E-01	LCV_DAPH	5.80E+00	0.02
Barium	**3.03**	**9**	**9**	**4.57E-02**	**8.65E-02**	**S_CHR_V**	**3.80E-03**	**22.77**
Barium	**3.03**	**9**	**9**	**4.57E-02**	**8.65E-02**	**S_ACU_V**	**6.91E-02**	**1.25**
Barium	3.03	9	9	4.57E-02	8.65E-02	LCV_DAPH	5.80E+00	0.01
Barium	**3.04**	**6**	**6**	**6.49E-02**	**1.09E-01**	**S_CHR_V**	**3.80E-03**	**28.68**
Barium	**3.04**	**6**	**6**	**6.49E-02**	**1.09E-01**	**S_ACU_V**	**6.91E-02**	**1.58**
Barium	3.04	6	6	6.49E-02	1.09E-01	LCV_DAPH	5.80E+00	0.02
Barium	**4.01**	**9**	**9**	**4.14E-02**	**5.56E-02**	**S_CHR_V**	**3.80E-03**	**14.63**
Barium	4.01	9	9	4.14E-02	5.56E-02	S_ACU_V	6.91E-02	0.80
Barium	4.01	9	9	4.14E-02	5.56E-02	LCV_DAPH	5.80E+00	0.01
Barium	**4.02**	**6**	**6**	**6.10E-02**	**8.75E-02**	**S_CHR_V**	**3.80E-03**	**23.03**
Barium	**4.02**	**6**	**6**	**6.10E-02**	**8.75E-02**	**S_ACU_V**	**6.91E-02**	**1.27**
Barium	4.02	6	6	6.10E-02	8.75E-02	LCV_DAPH	5.80E+00	0.02
Barium	**4.03**	**7**	**7**	**4.96E-02**	**2.21E-01**	**S_CHR_V**	**3.80E-03**	**58.07**
Barium	**4.03**	**7**	**7**	**4.96E-02**	**2.21E-01**	**S_ACU_V**	**6.91E-02**	**3.19**
Barium	4.03	7	7	4.96E-02	2.21E-01	LCV_DAPH	5.80E+00	0.04
Barium	**4.04**	**11**	**11**	**4.14E-02**	**2.03E-01**	**S_CHR_V**	**3.80E-03**	**53.42**
Barium	**4.04**	**11**	**11**	**4.14E-02**	**2.03E-01**	**S_ACU_V**	**6.91E-02**	**2.94**

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Barium	4.04	11	11	4.14E-02	2.03E-01	LCV_DAPH	5.80E+00	0.04
Barium	**7.01**	**1**	**1**	**6.04E-02**	**6.04E-02**	**S_CHR_V**	**3.80E-03**	**15.89**
Barium	7.01	1	1	6.04E-02	6.04E-02	S_ACU_V	6.91E-02	0.87
Barium	7.01	1	1	6.04E-02	6.04E-02	LCV_DAPH	5.80E+00	0.01
Barium	**7.02**	**1**	**1**	**6.23E-02**	**6.23E-02**	**S_CHR_V**	**3.80E-03**	**16.39**
Barium	7.02	1	1	6.23E-02	6.23E-02	S_ACU_V	6.91E-02	0.90
Barium	7.02	1	1	6.23E-02	6.23E-02	LCV_DAPH	5.80E+00	0.01
Barium	**8**	**1**	**1**	**5.36E-02**	**5.36E-02**	**S_CHR_V**	**3.80E-03**	**14.11**
Barium	8	1	1	5.36E-02	5.36E-02	S_ACU_V	6.91E-02	0.78
Barium	8	1	1	5.36E-02	5.36E-02	LCV_DAPH	5.80E+00	0.01
Barium	**13**	**5**	**5**	**6.98E-02**	**1.24E-01**	**S_CHR_V**	**3.80E-03**	**32.63**
Barium	**13**	**5**	**5**	**6.98E-02**	**1.24E-01**	**S_ACU_V**	**6.91E-02**	**1.79**
Barium	13	5	5	6.98E-02	1.24E-01	LCV_DAPH	5.80E+00	0.02
Barium	**18**	**3**	**3**	**5.69E-02**	**6.49E-02**	**S_CHR_V**	**3.80E-03**	**17.08**
Barium	18	3	3	5.69E-02	6.49E-02	S_ACU_V	6.91E-02	0.94
Barium	18	3	3	5.69E-02	6.49E-02	LCV_DAPH	5.80E+00	0.01
Boron	**0**	**4**	**5**	**3.96E-02**	**1.71E-01**	**LTV_DAPH**	**7.00E-03**	**24.43**
Boron	0	4	5	3.96E-02	1.71E-01	S_CHR_V	5.47E-01	0.31
Boron	0	4	5	3.96E-02	1.71E-01	LCV_DAPH	8.83E+00	0.02
Boron	0	4	5	3.96E-02	1.71E-01	S_ACU_V	1.10E+01	0.02
Boron	**2.04**	**4**	**6**	**3.55E-02**	**6.69E-02**	**LTV_DAPH**	**7.00E-03**	**9.56**
Boron	2.04	4	6	3.55E-02	6.69E-02	S_CHR_V	5.47E-01	0.12
Boron	2.04	4	6	3.55E-02	6.69E-02	LCV_DAPH	8.83E+00	0.01
Boron	2.04	4	6	3.55E-02	6.69E-02	S_ACU_V	1.10E+01	0.01
Boron	**3.01**	**1**	**2**	**5.49E-02**	**5.49E-02**	**LTV_DAPH**	**7.00E-03**	**7.84**
Boron	3.01	1	2	5.49E-02	5.49E-02	S_CHR_V	5.47E-01	0.10

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Boron	3.01	1	2	5.49E-02	5.49E-02	LCV_DAPH	8.83E+00	0.01
Boron	3.01	1	2	5.49E-02	5.49E-02	S_ACU_V	1.10E+01	0.00
Boron	**3.02**	**6**	**8**	**6.78E-02**	**9.65E-02**	**LTV_DAPH**	**7.00E-03**	**13.79**
Boron	3.02	6	8	6.78E-02	9.65E-02	S_CHR_V	5.47E-01	0.18
Boron	3.02	6	8	6.78E-02	9.65E-02	LCV_DAPH	8.83E+00	0.01
Boron	3.02	6	8	6.78E-02	9.65E-02	S_ACU_V	1.10E+01	0.01
Boron	**3.03**	**8**	**9**	**4.52E-02**	**8.88E-02**	**LTV_DAPH**	**7.00E-03**	**12.69**
Boron	3.03	8	9	4.52E-02	8.88E-02	S_CHR_V	5.47E-01	0.16
Boron	3.03	8	9	4.52E-02	8.88E-02	LCV_DAPH	8.83E+00	0.01
Boron	3.03	8	9	4.52E-02	8.88E-02	S_ACU_V	1.10E+01	0.01
Boron	**3.04**	**5**	**6**	**9.97E-02**	**1.17E+00**	**LTV_DAPH**	**7.00E-03**	**167.14**
Boron	**3.04**	**5**	**6**	**9.97E-02**	**1.17E+00**	**S_CHR_V**	**5.47E-01**	**2.14**
Boron	3.04	5	6	9.97E-02	1.17E+00	LCV_DAPH	8.83E+00	0.13
Boron	3.04	5	6	9.97E-02	1.17E+00	S_ACU_V	1.10E+01	0.11
Boron	**4.01**	**9**	**9**	**2.82E-02**	**6.29E-02**	**LTV_DAPH**	**7.00E-03**	**8.99**
Boron	4.01	9	9	2.82E-02	6.29E-02	S_CHR_V	5.47E-01	0.11
Boron	4.01	9	9	2.82E-02	6.29E-02	LCV_DAPH	8.83E+00	0.01
Boron	4.01	9	9	2.82E-02	6.29E-02	S_ACU_V	1.10E+01	0.01
Boron	**4.02**	**5**	**6**	**4.29E-02**	**4.75E-02**	**LTV_DAPH**	**7.00E-03**	**6.79**
Boron	4.02	5	6	4.29E-02	4.75E-02	S_CHR_V	5.47E-01	0.09
Boron	4.02	5	6	4.29E-02	4.75E-02	LCV_DAPH	8.83E+00	0.01
Boron	4.02	5	6	4.29E-02	4.75E-02	S_ACU_V	1.10E+01	0.00
Boron	**4.03**	**6**	**7**	**3.56E-02**	**4.97E-02**	**LTV_DAPH**	**7.00E-03**	**7.10**
Boron	4.03	6	7	3.56E-02	4.97E-02	S_CHR_V	5.47E-01	0.09
Boron	4.03	6	7	3.56E-02	4.97E-02	LCV_DAPH	8.83E+00	0.01
Boron	4.03	6	7	3.56E-02	4.97E-02	S_ACU_V	1.10E+01	0.00

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Boron	**4.04**	**11**	**11**	**2.98E-02**	**4.01E-02**	**LTV_DAPH**	**7.00E-03**	**5.73**
Boron	4.04	11	11	2.98E-02	4.01E-02	S_CHR_V	5.47E-01	0.07
Boron	4.04	11	11	2.98E-02	4.01E-02	LCV_DAPH	8.83E+00	0.00
Boron	4.04	11	11	2.98E-02	4.01E-02	S_ACU_V	1.10E+01	0.00
Boron	**7.01**	**1**	**1**	**4.35E-02**	**4.35E-02**	**LTV_DAPH**	**7.00E-03**	**6.21**
Boron	7.01	1	1	4.35E-02	4.35E-02	S_CHR_V	5.47E-01	0.08
Boron	7.01	1	1	4.35E-02	4.35E-02	LCV_DAPH	8.83E+00	0.00
Boron	7.01	1	1	4.35E-02	4.35E-02	S_ACU_V	1.10E+01	0.00
Boron	**7.02**	**1**	**1**	**3.45E-02**	**3.45E-02**	**LTV_DAPH**	**7.00E-03**	**4.93**
Boron	7.02	1	1	3.45E-02	3.45E-02	S_CHR_V	5.47E-01	0.06
Boron	7.02	1	1	3.45E-02	3.45E-02	LCV_DAPH	8.83E+00	0.00
Boron	7.02	1	1	3.45E-02	3.45E-02	S_ACU_V	1.10E+01	0.00
Boron	**13**	**2**	**5**	**2.59E-02**	**4.76E-02**	**LTV_DAPH**	**7.00E-03**	**6.80**
Boron	13	2	5	2.59E-02	4.76E-02	S_CHR_V	5.47E-01	0.09
Boron	13	2	5	2.59E-02	4.76E-02	LCV_DAPH	8.83E+00	0.01
Boron	13	2	5	2.59E-02	4.76E-02	S_ACU_V	1.10E+01	0.00
Boron	**18**	**3**	**3**	**3.37E-02**	**3.85E-02**	**LTV_DAPH**	**7.00E-03**	**5.50**
Boron	18	3	3	3.37E-02	3.85E-02	S_CHR_V	5.47E-01	0.07
Boron	18	3	3	3.37E-02	3.85E-02	LCV_DAPH	8.83E+00	0.00
Boron	18	3	3	3.37E-02	3.85E-02	S_ACU_V	1.10E+01	0.00
Cadmium	**4.04**	**1**	**11**	**1.00E-03**	**1.00E-03**	**LCV_DAPH**	**1.50E-04**	**6.67**
Cadmium	**4.04**	**1**	**11**	**1.00E-03**	**1.00E-03**	**LTV_DAPH**	**7.50E-04**	**1.33**
Cadmium	4.04	1	11	1.00E-03	1.00E-03	NAWQ_CHR	1.10E-03	0.91
Cadmium	4.04	1	11	1.00E-03	1.00E-03	LCV_FISH	1.70E-03	0.59
Cadmium	4.04	1	11	1.00E-03	1.00E-03	LTV_FISH	1.80E-03	0.56
Cadmium	4.04	1	11	1.00E-03	1.00E-03	LCV_AQPL	2.00E-03	0.50

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Cadmium	4.04	1	11	1.00E-03	1.00E-03	NAWQ_ACU	3.90E-03	0.26
Chromium	0	4	5	1.62E-03	1.90E-03	LCV_DAPH	4.40E-02	0.04
Chromium	0	4	5	1.62E-03	1.90E-03	LCV_FISH	6.88E-02	0.03
Chromium	0	4	5	1.62E-03	1.90E-03	LTV_FISH	8.90E-02	0.02
Chromium	0	4	5	1.62E-03	1.90E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	0	4	5	1.62E-03	1.90E-03	LCV_AQPL	3.97E-01	0.00
Chromium	0	4	5	1.62E-03	1.90E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	2.04	4	6	1.05E-03	2.30E-03	LCV_DAPH	4.40E-02	0.05
Chromium	2.04	4	6	1.05E-03	2.30E-03	LCV_FISH	6.88E-02	0.03
Chromium	2.04	4	6	1.05E-03	2.30E-03	LTV_FISH	8.90E-02	0.03
Chromium	2.04	4	6	1.05E-03	2.30E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	2.04	4	6	1.05E-03	2.30E-03	LCV_AQPL	3.97E-01	0.01
Chromium	2.04	4	6	1.05E-03	2.30E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	3.01	2	2	2.05E-03	2.80E-03	LCV_DAPH	4.40E-02	0.06
Chromium	3.01	2	2	2.05E-03	2.80E-03	LCV_FISH	6.88E-02	0.04
Chromium	3.01	2	2	2.05E-03	2.80E-03	LTV_FISH	8.90E-02	0.03
Chromium	3.01	2	2	2.05E-03	2.80E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	3.01	2	2	2.05E-03	2.80E-03	LCV_AQPL	3.97E-01	0.01
Chromium	3.01	2	2	2.05E-03	2.80E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	3.02	7	8	2.00E-03	2.70E-03	LCV_DAPH	4.40E-02	0.06
Chromium	3.02	7	8	2.00E-03	2.70E-03	LCV_FISH	6.88E-02	0.04
Chromium	3.02	7	8	2.00E-03	2.70E-03	LTV_FISH	8.90E-02	0.03
Chromium	3.02	7	8	2.00E-03	2.70E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	3.02	7	8	2.00E-03	2.70E-03	LCV_AQPL	3.97E-01	0.01
Chromium	3.02	7	8	2.00E-03	2.70E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	3.03	7	9	2.10E-03	3.70E-03	LCV_DAPH	4.40E-02	0.08

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Chromium	3.03	7	9	2.10E-03	3.70E-03	LCV_FISH	6.88E-02	0.05
Chromium	3.03	7	9	2.10E-03	3.70E-03	LTV_FISH	8.90E-02	0.04
Chromium	3.03	7	9	2.10E-03	3.70E-03	NAWQ_CHR	2.10E-01	0.02
Chromium	3.03	7	9	2.10E-03	3.70E-03	LCV_AQPL	3.97E-01	0.01
Chromium	3.03	7	9	2.10E-03	3.70E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	3.04	4	6	1.13E-03	2.85E-03	LCV_DAPH	4.40E-02	0.06
Chromium	3.04	4	6	1.13E-03	2.85E-03	LCV_FISH	6.88E-02	0.04
Chromium	3.04	4	6	1.13E-03	2.85E-03	LTV_FISH	8.90E-02	0.03
Chromium	3.04	4	6	1.13E-03	2.85E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	3.04	4	6	1.13E-03	2.85E-03	LCV_AQPL	3.97E-01	0.01
Chromium	3.04	4	6	1.13E-03	2.85E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	4.01	8	9	1.80E-03	2.70E-03	LCV_DAPH	4.40E-02	0.06
Chromium	4.01	8	9	1.80E-03	2.70E-03	LCV_FISH	6.88E-02	0.04
Chromium	4.01	8	9	1.80E-03	2.70E-03	LTV_FISH	8.90E-02	0.03
Chromium	4.01	8	9	1.80E-03	2.70E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	4.01	8	9	1.80E-03	2.70E-03	LCV_AQPL	3.97E-01	0.01
Chromium	4.01	8	9	1.80E-03	2.70E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	4.02	3	6	1.00E-03	2.20E-03	LCV_DAPH	4.40E-02	0.05
Chromium	4.02	3	6	1.00E-03	2.20E-03	LCV_FISH	6.88E-02	0.03
Chromium	4.02	3	6	1.00E-03	2.20E-03	LTV_FISH	8.90E-02	0.02
Chromium	4.02	3	6	1.00E-03	2.20E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	4.02	3	6	1.00E-03	2.20E-03	LCV_AQPL	3.97E-01	0.01
Chromium	4.02	3	6	1.00E-03	2.20E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	4.03	5	7	1.10E-03	2.03E-03	LCV_DAPH	4.40E-02	0.05
Chromium	4.03	5	7	1.10E-03	2.03E-03	LCV_FISH	6.88E-02	0.03
Chromium	4.03	5	7	1.10E-03	2.03E-03	LTV_FISH	8.90E-02	0.02

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Chromium	4.03	5	7	1.10E-03	2.03E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	4.03	5	7	1.10E-03	2.03E-03	LCV_AQPL	3.97E-01	0.01
Chromium	4.03	5	7	1.10E-03	2.03E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	4.04	9	11	1.20E-03	3.10E-03	LCV_DAPH	4.40E-02	0.07
Chromium	4.04	9	11	1.20E-03	3.10E-03	LCV_FISH	6.88E-02	0.05
Chromium	4.04	9	11	1.20E-03	3.10E-03	LTV_FISH	8.90E-02	0.03
Chromium	4.04	9	11	1.20E-03	3.10E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	4.04	9	11	1.20E-03	3.10E-03	LCV_AQPL	3.97E-01	0.01
Chromium	4.04	9	11	1.20E-03	3.10E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	7.01	1	1	1.10E-03	1.10E-03	LCV_DAPH	4.40E-02	0.03
Chromium	7.01	1	1	1.10E-03	1.10E-03	LCV_FISH	6.88E-02	0.02
Chromium	7.01	1	1	1.10E-03	1.10E-03	LTV_FISH	8.90E-02	0.01
Chromium	7.01	1	1	1.10E-03	1.10E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	7.01	1	1	1.10E-03	1.10E-03	LCV_AQPL	3.97E-01	0.00
Chromium	7.01	1	1	1.10E-03	1.10E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	8	1	1	1.10E-03	1.10E-03	LCV_DAPH	4.40E-02	0.03
Chromium	8	1	1	1.10E-03	1.10E-03	LCV_FISH	6.88E-02	0.02
Chromium	8	1	1	1.10E-03	1.10E-03	LTV_FISH	8.90E-02	0.01
Chromium	8	1	1	1.10E-03	1.10E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	8	1	1	1.10E-03	1.10E-03	LCV_AQPL	3.97E-01	0.00
Chromium	8	1	1	1.10E-03	1.10E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	13	1	5	1.50E-03	1.50E-03	LCV_DAPH	4.40E-02	0.03
Chromium	13	1	5	1.50E-03	1.50E-03	LCV_FISH	6.88E-02	0.02
Chromium	13	1	5	1.50E-03	1.50E-03	LTV_FISH	8.90E-02	0.02
Chromium	13	1	5	1.50E-03	1.50E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	13	1	5	1.50E-03	1.50E-03	LCV_AQPL	3.97E-01	0.00

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Chromium	13	1	5	1.50E-03	1.50E-03	NAWQ_ACU	1.70E+00	0.00
Chromium	18	3	3	1.10E-03	1.20E-03	LCV_DAPH	4.40E-02	0.03
Chromium	18	3	3	1.10E-03	1.20E-03	LCV_FISH	6.88E-02	0.02
Chromium	18	3	3	1.10E-03	1.20E-03	LTV_FISH	8.90E-02	0.01
Chromium	18	3	3	1.10E-03	1.20E-03	NAWQ_CHR	2.10E-01	0.01
Chromium	18	3	3	1.10E-03	1.20E-03	LCV_AQPL	3.97E-01	0.00
Chromium	18	3	3	1.10E-03	1.20E-03	NAWQ_ACU	1.70E+00	0.00
Cobalt	**0**	**3**	**5**	**1.15E-03**	**3.30E-03**	**S_CHR_V**	**3.06E-03**	**1.08**
Cobalt	0	3	5	1.15E-03	3.30E-03	LTV_DAPH	4.40E-03	0.75
Cobalt	0	3	5	1.15E-03	3.30E-03	LCV_DAPH	5.10E-03	0.65
Cobalt	0	3	5	1.15E-03	3.30E-03	S_ACU_V	1.95E-01	0.02
Cobalt	0	3	5	1.15E-03	3.30E-03	LCV_FISH	2.90E-01	0.01
Cobalt	0	3	5	1.15E-03	3.30E-03	LTV_FISH	8.10E-01	0.00
Cobalt	2.01	1	1	1.90E-03	1.90E-03	S_CHR_V	3.06E-03	0.62
Cobalt	2.01	1	1	1.90E-03	1.90E-03	LTV_DAPH	4.40E-03	0.43
Cobalt	2.01	1	1	1.90E-03	1.90E-03	LCV_DAPH	5.10E-03	0.37
Cobalt	2.01	1	1	1.90E-03	1.90E-03	S_ACU_V	1.95E-01	0.01
Cobalt	2.01	1	1	1.90E-03	1.90E-03	LCV_FISH	2.90E-01	0.01
Cobalt	2.01	1	1	1.90E-03	1.90E-03	LTV_FISH	8.10E-01	0.00
Cobalt	2.04	1	6	1.50E-03	1.50E-03	S_CHR_V	3.06E-03	0.49
Cobalt	2.04	1	6	1.50E-03	1.50E-03	LTV_DAPH	4.40E-03	0.34
Cobalt	2.04	1	6	1.50E-03	1.50E-03	LCV_DAPH	5.10E-03	0.29
Cobalt	2.04	1	6	1.50E-03	1.50E-03	S_ACU_V	1.95E-01	0.01
Cobalt	2.04	1	6	1.50E-03	1.50E-03	LCV_FISH	2.90E-01	0.01
Cobalt	2.04	1	6	1.50E-03	1.50E-03	LTV_FISH	8.10E-01	0.00
Cobalt	**3.01**	**2**	**2**	**1.03E-02**	**1.39E-02**	**S_CHR_V**	**3.06E-03**	**4.54**

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Cobalt	**3.01**	**2**	**2**	**1.03E-02**	**1.39E-02**	**LTV_DAPH**	**4.40E-03**	**3.16**
Cobalt	**3.01**	**2**	**2**	**1.03E-02**	**1.39E-02**	**LCV_DAPH**	**5.10E-03**	**2.73**
Cobalt	3.01	2	2	1.03E-02	1.39E-02	S_ACU_V	1.95E-01	0.07
Cobalt	3.01	2	2	1.03E-02	1.39E-02	LCV_FISH	2.90E-01	0.05
Cobalt	3.01	2	2	1.03E-02	1.39E-02	LTV_FISH	8.10E-01	0.02
Cobalt	**3.02**	**7**	**8**	**2.15E-03**	**4.00E-03**	**S_CHR_V**	**3.06E-03**	**1.31**
Cobalt	3.02	7	8	2.15E-03	4.00E-03	LTV_DAPH	4.40E-03	0.91
Cobalt	3.02	7	8	2.15E-03	4.00E-03	LCV_DAPH	5.10E-03	0.78
Cobalt	3.02	7	8	2.15E-03	4.00E-03	S_ACU_V	1.95E-01	0.02
Cobalt	3.02	7	8	2.15E-03	4.00E-03	LCV_FISH	2.90E-01	0.01
Cobalt	3.02	7	8	2.15E-03	4.00E-03	LTV_FISH	8.10E-01	0.00
Cobalt	**3.03**	**8**	**9**	**2.40E-03**	**6.52E-03**	**S_CHR_V**	**3.06E-03**	**2.13**
Cobalt	**3.03**	**8**	**9**	**2.40E-03**	**6.52E-03**	**LTV_DAPH**	**4.40E-03**	**1.48**
Cobalt	**3.03**	**8**	**9**	**2.40E-03**	**6.52E-03**	**LCV_DAPH**	**5.10E-03**	**1.28**
Cobalt	3.03	8	9	2.40E-03	6.52E-03	S_ACU_V	1.95E-01	0.03
Cobalt	3.03	8	9	2.40E-03	6.52E-03	LCV_FISH	2.90E-01	0.02
Cobalt	3.03	8	9	2.40E-03	6.52E-03	LTV_FISH	8.10E-01	0.01
Cobalt	3.04	5	6	1.43E-03	2.00E-03	S_CHR_V	3.06E-03	0.65
Cobalt	3.04	5	6	1.43E-03	2.00E-03	LTV_DAPH	4.40E-03	0.45
Cobalt	3.04	5	6	1.43E-03	2.00E-03	LCV_DAPH	5.10E-03	0.39
Cobalt	3.04	5	6	1.43E-03	2.00E-03	S_ACU_V	1.95E-01	0.01
Cobalt	3.04	5	6	1.43E-03	2.00E-03	LCV_FISH	2.90E-01	0.01
Cobalt	3.04	5	6	1.43E-03	2.00E-03	LTV_FISH	8.10E-01	0.00
Cobalt	4.01	1	9	1.30E-03	1.30E-03	S_CHR_V	3.06E-03	0.42
Cobalt	4.01	1	9	1.30E-03	1.30E-03	LTV_DAPH	4.40E-03	0.30
Cobalt	4.01	1	9	1.30E-03	1.30E-03	LCV_DAPH	5.10E-03	0.25

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Cobalt	4.01	1	9	1.30E-03	1.30E-03	S_ACU_V	1.95E-01	0.01
Cobalt	4.01	1	9	1.30E-03	1.30E-03	LCV_FISH	2.90E-01	0.00
Cobalt	4.01	1	9	1.30E-03	1.30E-03	LTV_FISH	8.10E-01	0.00
Cobalt	4.02	5	6	1.25E-03	3.00E-03	S_CHR_V	3.06E-03	0.98
Cobalt	4.02	5	6	1.25E-03	3.00E-03	LTV_DAPH	4.40E-03	0.68
Cobalt	4.02	5	6	1.25E-03	3.00E-03	LCV_DAPH	5.10E-03	0.59
Cobalt	4.02	5	6	1.25E-03	3.00E-03	S_ACU_V	1.95E-01	0.02
Cobalt	4.02	5	6	1.25E-03	3.00E-03	LCV_FISH	2.90E-01	0.01
Cobalt	4.02	5	6	1.25E-03	3.00E-03	LTV_FISH	8.10E-01	0.00
Cobalt	**4.03**	**5**	**7**	**1.66E-03**	**1.23E-02**	**S_CHR_V**	**3.06E-03**	**4.01**
Cobalt	**4.03**	**5**	**7**	**1.66E-03**	**1.23E-02**	**LTV_DAPH**	**4.40E-03**	**2.79**
Cobalt	**4.03**	**5**	**7**	**1.66E-03**	**1.23E-02**	**LCV_DAPH**	**5.10E-03**	**2.41**
Cobalt	4.03	5	7	1.66E-03	1.23E-02	S_ACU_V	1.95E-01	0.06
Cobalt	4.03	5	7	1.66E-03	1.23E-02	LCV_FISH	2.90E-01	0.04
Cobalt	4.03	5	7	1.66E-03	1.23E-02	LTV_FISH	8.10E-01	0.02
Cobalt	**4.04**	**10**	**11**	**1.50E-03**	**9.20E-03**	**S_CHR_V**	**3.06E-03**	**3.01**
Cobalt	**4.04**	**10**	**11**	**1.50E-03**	**9.20E-03**	**LTV_DAPH**	**4.40E-03**	**2.09**
Cobalt	**4.04**	**10**	**11**	**1.50E-03**	**9.20E-03**	**LCV_DAPH**	**5.10E-03**	**1.80**
Cobalt	4.04	10	11	1.50E-03	9.20E-03	S_ACU_V	1.95E-01	0.05
Cobalt	4.04	10	11	1.50E-03	9.20E-03	LCV_FISH	2.90E-01	0.03
Cobalt	4.04	10	11	1.50E-03	9.20E-03	LTV_FISH	8.10E-01	0.01
Cobalt	**13**	**4**	**5**	**1.50E-03**	**8.70E-03**	**S_CHR_V**	**3.06E-03**	**2.84**
Cobalt	**13**	**4**	**5**	**1.50E-03**	**8.70E-03**	**LTV_DAPH**	**4.40E-03**	**1.98**
Cobalt	**13**	**4**	**5**	**1.50E-03**	**8.70E-03**	**LCV_DAPH**	**5.10E-03**	**1.71**
Cobalt	13	4	5	1.50E-03	8.70E-03	S_ACU_V	1.95E-01	0.04
Cobalt	13	4	5	1.50E-03	8.70E-03	LCV_FISH	2.90E-01	0.03

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Cobalt	13	4	5	1.50E-03	8.70E-03	LTV_FISH	8.10E-01	0.01
Cobalt	18	2	3	1.10E-03	1.40E-03	S_CHR_V	3.06E-03	0.46
Cobalt	18	2	3	1.10E-03	1.40E-03	LTV_DAPH	4.40E-03	0.32
Cobalt	18	2	3	1.10E-03	1.40E-03	LCV_DAPH	5.10E-03	0.27
Cobalt	18	2	3	1.10E-03	1.40E-03	S_ACU_V	1.95E-01	0.01
Cobalt	18	2	3	1.10E-03	1.40E-03	LCV_FISH	2.90E-01	0.00
Cobalt	18	2	3	1.10E-03	1.40E-03	LTV_FISH	8.10E-01	0.00
Copper	**0**	**5**	**5**	**2.00E-03**	**2.20E-03**	**LTV_DAPH**	**2.05E-04**	**10.73**
Copper	**0**	**5**	**5**	**2.00E-03**	**2.20E-03**	**LCV_DAPH**	**2.30E-04**	**9.57**
Copper	**0**	**5**	**5**	**2.00E-03**	**2.20E-03**	**LCV_AQPL**	**1.00E-03**	**2.20**
Copper	0	5	5	2.00E-03	2.20E-03	LCV_FISH	3.80E-03	0.58
Copper	0	5	5	2.00E-03	2.20E-03	LTV_FISH	5.00E-03	0.44
Copper	0	5	5	2.00E-03	2.20E-03	LCV_NDI	6.07E-03	0.36
Copper	0	5	5	2.00E-03	2.20E-03	NAWQ_CHR	1.20E-02	0.18
Copper	0	5	5	2.00E-03	2.20E-03	NAWQ_ACU	1.80E-02	0.12
Copper	**2.01**	**1**	**1**	**3.70E-03**	**3.70E-03**	**LTV_DAPH**	**2.05E-04**	**18.05**
Copper	**2.01**	**1**	**1**	**3.70E-03**	**3.70E-03**	**LCV_DAPH**	**2.30E-04**	**16.09**
Copper	**2.01**	**1**	**1**	**3.70E-03**	**3.70E-03**	**LCV_AQPL**	**1.00E-03**	**3.70**
Copper	2.01	1	1	3.70E-03	3.70E-03	LCV_FISH	3.80E-03	0.97
Copper	2.01	1	1	3.70E-03	3.70E-03	LTV_FISH	5.00E-03	0.74
Copper	2.01	1	1	3.70E-03	3.70E-03	LCV_NDI	6.07E-03	0.61
Copper	2.01	1	1	3.70E-03	3.70E-03	NAWQ_CHR	1.20E-02	0.31
Copper	2.01	1	1	3.70E-03	3.70E-03	NAWQ_ACU	1.80E-02	0.21
Copper	**2.03**	**1**	**1**	**1.10E-03**	**1.10E-03**	**LTV_DAPH**	**2.05E-04**	**5.37**
Copper	**2.03**	**1**	**1**	**1.10E-03**	**1.10E-03**	**LCV_DAPH**	**2.30E-04**	**4.78**
Copper	**2.03**	**1**	**1**	**1.10E-03**	**1.10E-03**	**LCV_AQPL**	**1.00E-03**	**1.10**

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Copper	2.03	1	1	1.10E-03	1.10E-03	LCV_FISH	3.80E-03	0.29
Copper	2.03	1	1	1.10E-03	1.10E-03	LTV_FISH	5.00E-03	0.22
Copper	2.03	1	1	1.10E-03	1.10E-03	LCV_NDI	6.07E-03	0.18
Copper	2.03	1	1	1.10E-03	1.10E-03	NAWQ_CHR	1.20E-02	0.09
Copper	2.03	1	1	1.10E-03	1.10E-03	NAWQ_ACU	1.80E-02	0.06
Copper	**2.04**	**6**	**6**	**2.00E-03**	**2.90E-03**	**LTV_DAPH**	**2.05E-04**	**14.15**
Copper	**2.04**	**6**	**6**	**2.00E-03**	**2.90E-03**	**LCV_DAPH**	**2.30E-04**	**12.61**
Copper	**2.04**	**6**	**6**	**2.00E-03**	**2.90E-03**	**LCV_AQPL**	**1.00E-03**	**2.90**
Copper	2.04	6	6	2.00E-03	2.90E-03	LCV_FISH	3.80E-03	0.76
Copper	2.04	6	6	2.00E-03	2.90E-03	LTV_FISH	5.00E-03	0.58
Copper	2.04	6	6	2.00E-03	2.90E-03	LCV_NDI	6.07E-03	0.48
Copper	2.04	6	6	2.00E-03	2.90E-03	NAWQ_CHR	1.20E-02	0.24
Copper	2.04	6	6	2.00E-03	2.90E-03	NAWQ_ACU	1.80E-02	0.16
Copper	**3.01**	**1**	**2**	**1.17E-02**	**1.17E-02**	**LTV_DAPH**	**2.05E-04**	**57.07**
Copper	**3.01**	**1**	**2**	**1.17E-02**	**1.17E-02**	**LCV_DAPH**	**2.30E-04**	**50.87**
Copper	**3.01**	**1**	**2**	**1.17E-02**	**1.17E-02**	**LCV_AQPL**	**1.00E-03**	**11.70**
Copper	**3.01**	**1**	**2**	**1.17E-02**	**1.17E-02**	**LCV_FISH**	**3.80E-03**	**3.08**
Copper	**3.01**	**1**	**2**	**1.17E-02**	**1.17E-02**	**LTV_FISH**	**5.00E-03**	**2.34**
Copper	**3.01**	**1**	**2**	**1.17E-02**	**1.17E-02**	**LCV_NDI**	**6.07E-03**	**1.93**
Copper	3.01	1	2	1.17E-02	1.17E-02	NAWQ_CHR	1.20E-02	0.98
Copper	3.01	1	2	1.17E-02	1.17E-02	NAWQ_ACU	1.80E-02	0.65
Copper	**3.02**	**8**	**8**	**3.50E-03**	**8.60E-03**	**LTV_DAPH**	**2.05E-04**	**41.95**
Copper	**3.02**	**8**	**8**	**3.50E-03**	**8.60E-03**	**LCV_DAPH**	**2.30E-04**	**37.39**
Copper	**3.02**	**8**	**8**	**3.50E-03**	**8.60E-03**	**LCV_AQPL**	**1.00E-03**	**8.60**
Copper	**3.02**	**8**	**8**	**3.50E-03**	**8.60E-03**	**LCV_FISH**	**3.80E-03**	**2.26**
Copper	**3.02**	**8**	**8**	**3.50E-03**	**8.60E-03**	**LTV_FISH**	**5.00E-03**	**1.72**

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Copper	**3.02**	**8**	**8**	**3.50E-03**	**8.60E-03**	**LCV_NDI**	**6.07E-03**	**1.42**
Copper	3.02	8	8	3.50E-03	8.60E-03	NAWQ_CHR	1.20E-02	0.72
Copper	3.02	8	8	3.50E-03	8.60E-03	NAWQ_ACU	1.80E-02	0.48
Copper	**3.03**	**9**	**9**	**2.40E-03**	**8.30E-03**	**LTV_DAPH**	**2.05E-04**	**40.49**
Copper	**3.03**	**9**	**9**	**2.40E-03**	**8.30E-03**	**LCV_DAPH**	**2.30E-04**	**36.09**
Copper	**3.03**	**9**	**9**	**2.40E-03**	**8.30E-03**	**LCV_AQPL**	**1.00E-03**	**8.30**
Copper	**3.03**	**9**	**9**	**2.40E-03**	**8.30E-03**	**LCV_FISH**	**3.80E-03**	**2.18**
Copper	**3.03**	**9**	**9**	**2.40E-03**	**8.30E-03**	**LTV_FISH**	**5.00E-03**	**1.66**
Copper	**3.03**	**9**	**9**	**2.40E-03**	**8.30E-03**	**LCV_NDI**	**6.07E-03**	**1.37**
Copper	3.03	9	9	2.40E-03	8.30E-03	NAWQ_CHR	1.20E-02	0.69
Copper	3.03	9	9	2.40E-03	8.30E-03	NAWQ_ACU	1.80E-02	0.46
Copper	**3.04**	**6**	**6**	**2.95E-03**	**1.36E-02**	**LTV_DAPH**	**2.05E-04**	**66.10**
Copper	**3.04**	**6**	**6**	**2.95E-03**	**1.36E-02**	**LCV_DAPH**	**2.30E-04**	**58.91**
Copper	**3.04**	**6**	**6**	**2.95E-03**	**1.36E-02**	**LCV_AQPL**	**1.00E-03**	**13.55**
Copper	**3.04**	**6**	**6**	**2.95E-03**	**1.36E-02**	**LCV_FISH**	**3.80E-03**	**3.57**
Copper	**3.04**	**6**	**6**	**2.95E-03**	**1.36E-02**	**LTV_FISH**	**5.00E-03**	**2.71**
Copper	**3.04**	**6**	**6**	**2.95E-03**	**1.36E-02**	**LCV_NDI**	**6.07E-03**	**2.23**
Copper	**3.04**	**6**	**6**	**2.95E-03**	**1.36E-02**	**NAWQ_CHR**	**1.20E-02**	**1.13**
Copper	3.04	6	6	2.95E-03	1.36E-02	NAWQ_ACU	1.80E-02	0.75
Copper	**4.01**	**9**	**9**	**2.70E-03**	**4.00E-03**	**LTV_DAPH**	**2.05E-04**	**19.51**
Copper	**4.01**	**9**	**9**	**2.70E-03**	**4.00E-03**	**LCV_DAPH**	**2.30E-04**	**17.39**
Copper	**4.01**	**9**	**9**	**2.70E-03**	**4.00E-03**	**LCV_AQPL**	**1.00E-03**	**4.00**
Copper	**4.01**	**9**	**9**	**2.70E-03**	**4.00E-03**	**LCV_FISH**	**3.80E-03**	**1.05**
Copper	4.01	9	9	2.70E-03	4.00E-03	LTV_FISH	5.00E-03	0.80
Copper	4.01	9	9	2.70E-03	4.00E-03	LCV_NDI	6.07E-03	0.66
Copper	4.01	9	9	2.70E-03	4.00E-03	NAWQ_CHR	1.20E-02	0.33

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Copper	4.01	9	9	2.70E-03	4.00E-03	NAWQ_ACU	1.80E-02	0.22
Copper	**4.02**	**6**	**6**	**2.25E-03**	**3.60E-03**	**LTV_DAPH**	**2.05E-04**	**17.56**
Copper	**4.02**	**6**	**6**	**2.25E-03**	**3.60E-03**	**LCV_DAPH**	**2.30E-04**	**15.65**
Copper	**4.02**	**6**	**6**	**2.25E-03**	**3.60E-03**	**LCV_AQPL**	**1.00E-03**	**3.60**
Copper	4.02	6	6	2.25E-03	3.60E-03	LCV_FISH	3.80E-03	0.95
Copper	4.02	6	6	2.25E-03	3.60E-03	LTV_FISH	5.00E-03	0.72
Copper	4.02	6	6	2.25E-03	3.60E-03	LCV_NDI	6.07E-03	0.59
Copper	4.02	6	6	2.25E-03	3.60E-03	NAWQ_CHR	1.20E-02	0.30
Copper	4.02	6	6	2.25E-03	3.60E-03	NAWQ_ACU	1.80E-02	0.20
Copper	**4.03**	**7**	**7**	**2.30E-03**	**8.50E-03**	**LTV_DAPH**	**2.05E-04**	**41.46**
Copper	**4.03**	**7**	**7**	**2.30E-03**	**8.50E-03**	**LCV_DAPH**	**2.30E-04**	**36.96**
Copper	**4.03**	**7**	**7**	**2.30E-03**	**8.50E-03**	**LCV_AQPL**	**1.00E-03**	**8.50**
Copper	**4.03**	**7**	**7**	**2.30E-03**	**8.50E-03**	**LCV_FISH**	**3.80E-03**	**2.24**
Copper	**4.03**	**7**	**7**	**2.30E-03**	**8.50E-03**	**LTV_FISH**	**5.00E-03**	**1.70**
Copper	**4.03**	**7**	**7**	**2.30E-03**	**8.50E-03**	**LCV_NDI**	**6.07E-03**	**1.40**
Copper	4.03	7	7	2.30E-03	8.50E-03	NAWQ_CHR	1.20E-02	0.71
Copper	4.03	7	7	2.30E-03	8.50E-03	NAWQ_ACU	1.80E-02	0.47
Copper	**4.04**	**11**	**11**	**4.30E-03**	**8.30E-03**	**LTV_DAPH**	**2.05E-04**	**40.49**
Copper	**4.04**	**11**	**11**	**4.30E-03**	**8.30E-03**	**LCV_DAPH**	**2.30E-04**	**36.09**
Copper	**4.04**	**11**	**11**	**4.30E-03**	**8.30E-03**	**LCV_AQPL**	**1.00E-03**	**8.30**
Copper	**4.04**	**11**	**11**	**4.30E-03**	**8.30E-03**	**LCV_FISH**	**3.80E-03**	**2.18**
Copper	**4.04**	**11**	**11**	**4.30E-03**	**8.30E-03**	**LTV_FISH**	**5.00E-03**	**1.66**
Copper	**4.04**	**11**	**11**	**4.30E-03**	**8.30E-03**	**LCV_NDI**	**6.07E-03**	**1.37**
Copper	4.04	11	11	4.30E-03	8.30E-03	NAWQ_CHR	1.20E-02	0.69
Copper	4.04	11	11	4.30E-03	8.30E-03	NAWQ_ACU	1.80E-02	0.46
Copper	**7.01**	**1**	**1**	**4.20E-03**	**4.20E-03**	**LTV_DAPH**	**2.05E-04**	**20.49**

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Copper	**7.01**	**1**	**1**	**4.20E-03**	**4.20E-03**	**LCV_DAPH**	**2.30E-04**	**18.26**
Copper	**7.01**	**1**	**1**	**4.20E-03**	**4.20E-03**	**LCV_AQPL**	**1.00E-03**	**4.20**
Copper	**7.01**	**1**	**1**	**4.20E-03**	**4.20E-03**	**LCV_FISH**	**3.80E-03**	**1.11**
Copper	7.01	1	1	4.20E-03	4.20E-03	LTV_FISH	5.00E-03	0.84
Copper	7.01	1	1	4.20E-03	4.20E-03	LCV_NDI	6.07E-03	0.69
Copper	7.01	1	1	4.20E-03	4.20E-03	NAWQ_CHR	1.20E-02	0.35
Copper	7.01	1	1	4.20E-03	4.20E-03	NAWQ_ACU	1.80E-02	0.23
Copper	**7.02**	**1**	**1**	**2.30E-03**	**2.30E-03**	**LTV_DAPH**	**2.05E-04**	**11.22**
Copper	**7.02**	**1**	**1**	**2.30E-03**	**2.30E-03**	**LCV_DAPH**	**2.30E-04**	**10.00**
Copper	**7.02**	**1**	**1**	**2.30E-03**	**2.30E-03**	**LCV_AQPL**	**1.00E-03**	**2.30**
Copper	7.02	1	1	2.30E-03	2.30E-03	LCV_FISH	3.80E-03	0.61
Copper	7.02	1	1	2.30E-03	2.30E-03	LTV_FISH	5.00E-03	0.46
Copper	7.02	1	1	2.30E-03	2.30E-03	LCV_NDI	6.07E-03	0.38
Copper	7.02	1	1	2.30E-03	2.30E-03	NAWQ_CHR	1.20E-02	0.19
Copper	7.02	1	1	2.30E-03	2.30E-03	NAWQ_ACU	1.80E-02	0.13
Copper	**8**	**1**	**1**	**2.60E-03**	**2.60E-03**	**LTV_DAPH**	**2.05E-04**	**12.68**
Copper	**8**	**1**	**1**	**2.60E-03**	**2.60E-03**	**LCV_DAPH**	**2.30E-04**	**11.30**
Copper	**8**	**1**	**1**	**2.60E-03**	**2.60E-03**	**LCV_AQPL**	**1.00E-03**	**2.60**
Copper	8	1	1	2.60E-03	2.60E-03	LCV_FISH	3.80E-03	0.68
Copper	8	1	1	2.60E-03	2.60E-03	LTV_FISH	5.00E-03	0.52
Copper	8	1	1	2.60E-03	2.60E-03	LCV_NDI	6.07E-03	0.43
Copper	8	1	1	2.60E-03	2.60E-03	NAWQ_CHR	1.20E-02	0.22
Copper	8	1	1	2.60E-03	2.60E-03	NAWQ_ACU	1.80E-02	0.14
Copper	**13**	**4**	**5**	**1.30E-03**	**3.50E-03**	**LTV_DAPH**	**2.05E-04**	**17.07**
Copper	**13**	**4**	**5**	**1.30E-03**	**3.50E-03**	**LCV_DAPH**	**2.30E-04**	**15.22**
Copper	**13**	**4**	**5**	**1.30E-03**	**3.50E-03**	**LCV_AQPL**	**1.00E-03**	**3.50**

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Copper	13	4	5	1.30E-03	3.50E-03	LCV_FISH	3.80E-03	0.92
Copper	13	4	5	1.30E-03	3.50E-03	LTV_FISH	5.00E-03	0.70
Copper	13	4	5	1.30E-03	3.50E-03	LCV_NDI	6.07E-03	0.58
Copper	13	4	5	1.30E-03	3.50E-03	NAWQ_CHR	1.20E-02	0.29
Copper	13	4	5	1.30E-03	3.50E-03	NAWQ_ACU	1.80E-02	0.19
Copper	**18**	**3**	**3**	**4.90E-03**	**5.40E-03**	**LTV_DAPH**	**2.05E-04**	**26.34**
Copper	**18**	**3**	**3**	**4.90E-03**	**5.40E-03**	**LCV_DAPH**	**2.30E-04**	**23.48**
Copper	**18**	**3**	**3**	**4.90E-03**	**5.40E-03**	**LCV_AQPL**	**1.00E-03**	**5.40**
Copper	**18**	**3**	**3**	**4.90E-03**	**5.40E-03**	**LCV_FISH**	**3.80E-03**	**1.42**
Copper	**18**	**3**	**3**	**4.90E-03**	**5.40E-03**	**LTV_FISH**	**5.00E-03**	**1.08**
Copper	18	3	3	4.90E-03	5.40E-03	LCV_NDI	6.07E-03	0.89
Copper	18	3	3	4.90E-03	5.40E-03	NAWQ_CHR	1.20E-02	0.45
Copper	18	3	3	4.90E-03	5.40E-03	NAWQ_ACU	1.80E-02	0.30
Iron	**0**	**5**	**5**	**3.29E-02**	**2.18E-01**	**LTV_DAPH**	**1.60E-02**	**13.63**
Iron	**0**	**5**	**5**	**3.29E-02**	**2.18E-01**	**LCV_DAPH**	**1.58E-01**	**1.38**
Iron	0	5	5	3.29E-02	2.18E-01	NAWQ_CHR	1.00E+00	0.22
Iron	0	5	5	3.29E-02	2.18E-01	LCV_FISH	1.30E+00	0.17
Iron	**2.01**	**1**	**1**	**3.40E-01**	**3.40E-01**	**LTV_DAPH**	**1.60E-02**	**21.25**
Iron	**2.01**	**1**	**1**	**3.40E-01**	**3.40E-01**	**LCV_DAPH**	**1.58E-01**	**2.15**
Iron	2.01	1	1	3.40E-01	3.40E-01	NAWQ_CHR	1.00E+00	0.34
Iron	2.01	1	1	3.40E-01	3.40E-01	LCV_FISH	1.30E+00	0.26
Iron	**2.03**	**1**	**1**	**2.41E-01**	**2.41E-01**	**LTV_DAPH**	**1.60E-02**	**15.06**
Iron	**2.03**	**1**	**1**	**2.41E-01**	**2.41E-01**	**LCV_DAPH**	**1.58E-01**	**1.53**
Iron	2.03	1	1	2.41E-01	2.41E-01	NAWQ_CHR	1.00E+00	0.24
Iron	2.03	1	1	2.41E-01	2.41E-01	LCV_FISH	1.30E+00	0.19
Iron	**2.04**	**6**	**6**	**5.41E-02**	**1.72E-01**	**LTV_DAPH**	**1.60E-02**	**10.75**

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Iron	**2.04**	**6**	**6**	**5.41E-02**	**1.72E-01**	**LCV_DAPH**	**1.58E-01**	**1.09**
Iron	2.04	6	6	5.41E-02	1.72E-01	NAWQ_CHR	1.00E+00	0.17
Iron	2.04	6	6	5.41E-02	1.72E-01	LCV_FISH	1.30E+00	0.13
Iron	**3.01**	**1**	**2**	**3.09E-02**	**3.09E-02**	**LTV_DAPH**	**1.60E-02**	**1.93**
Iron	3.01	1	2	3.09E-02	3.09E-02	LCV_DAPH	1.58E-01	0.20
Iron	3.01	1	2	3.09E-02	3.09E-02	NAWQ_CHR	1.00E+00	0.03
Iron	3.01	1	2	3.09E-02	3.09E-02	LCV_FISH	1.30E+00	0.02
Iron	**3.02**	**8**	**8**	**8.61E-02**	**2.12E+00**	**LTV_DAPH**	**1.60E-02**	**132.50**
Iron	**3.02**	**8**	**8**	**8.61E-02**	**2.12E+00**	**LCV_DAPH**	**1.58E-01**	**13.42**
Iron	**3.02**	**8**	**8**	**8.61E-02**	**2.12E+00**	**NAWQ_CHR**	**1.00E+00**	**2.12**
Iron	**3.02**	**8**	**8**	**8.61E-02**	**2.12E+00**	**LCV_FISH**	**1.30E+00**	**1.63**
Iron	**3.03**	**8**	**9**	**4.18E-02**	**2.35E-01**	**LTV_DAPH**	**1.60E-02**	**14.71**
Iron	**3.03**	**8**	**9**	**4.18E-02**	**2.35E-01**	**LCV_DAPH**	**1.58E-01**	**1.49**
Iron	3.03	8	9	4.18E-02	2.35E-01	NAWQ_CHR	1.00E+00	0.24
Iron	3.03	8	9	4.18E-02	2.35E-01	LCV_FISH	1.30E+00	0.18
Iron	**3.04**	**6**	**6**	**9.75E-02**	**3.68E-01**	**LTV_DAPH**	**1.60E-02**	**22.97**
Iron	**3.04**	**6**	**6**	**9.75E-02**	**3.68E-01**	**LCV_DAPH**	**1.58E-01**	**2.33**
Iron	3.04	6	6	9.75E-02	3.68E-01	NAWQ_CHR	1.00E+00	0.37
Iron	3.04	6	6	9.75E-02	3.68E-01	LCV_FISH	1.30E+00	0.28
Iron	**4.01**	**9**	**9**	**3.22E-01**	**3.62E-01**	**LTV_DAPH**	**1.60E-02**	**22.63**
Iron	**4.01**	**9**	**9**	**3.22E-01**	**3.62E-01**	**LCV_DAPH**	**1.58E-01**	**2.29**
Iron	4.01	9	9	3.22E-01	3.62E-01	NAWQ_CHR	1.00E+00	0.36
Iron	4.01	9	9	3.22E-01	3.62E-01	LCV_FISH	1.30E+00	0.28
Iron	**4.02**	**6**	**6**	**4.14E-02**	**8.64E-02**	**LTV_DAPH**	**1.60E-02**	**5.40**
Iron	4.02	6	6	4.14E-02	8.64E-02	LCV_DAPH	1.58E-01	0.55
Iron	4.02	6	6	4.14E-02	8.64E-02	NAWQ_CHR	1.00E+00	0.09

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Iron	4.02	6	6	4.14E-02	8.64E-02	LCV_FISH	1.30E+00	0.07
Iron	**4.03**	**7**	**7**	**3.14E-02**	**1.00E-01**	**LTV_DAPH**	**1.60E-02**	**6.26**
Iron	4.03	7	7	3.14E-02	1.00E-01	LCV_DAPH	1.58E-01	0.63
Iron	4.03	7	7	3.14E-02	1.00E-01	NAWQ_CHR	1.00E+00	0.10
Iron	4.03	7	7	3.14E-02	1.00E-01	LCV_FISH	1.30E+00	0.08
Iron	**4.04**	**11**	**11**	**2.42E-01**	**6.03E+00**	**LTV_DAPH**	**1.60E-02**	**376.88**
Iron	**4.04**	**11**	**11**	**2.42E-01**	**6.03E+00**	**LCV_DAPH**	**1.58E-01**	**38.16**
Iron	**4.04**	**11**	**11**	**2.42E-01**	**6.03E+00**	**NAWQ_CHR**	**1.00E+00**	**6.03**
Iron	**4.04**	**11**	**11**	**2.42E-01**	**6.03E+00**	**LCV_FISH**	**1.30E+00**	**4.64**
Iron	**7.01**	**1**	**1**	**3.32E-02**	**3.32E-02**	**LTV_DAPH**	**1.60E-02**	**2.08**
Iron	7.01	1	1	3.32E-02	3.32E-02	LCV_DAPH	1.58E-01	0.21
Iron	7.01	1	1	3.32E-02	3.32E-02	NAWQ_CHR	1.00E+00	0.03
Iron	7.01	1	1	3.32E-02	3.32E-02	LCV_FISH	1.30E+00	0.03
Iron	**7.02**	**1**	**1**	**2.20E-02**	**2.20E-02**	**LTV_DAPH**	**1.60E-02**	**1.38**
Iron	7.02	1	1	2.20E-02	2.20E-02	LCV_DAPH	1.58E-01	0.14
Iron	7.02	1	1	2.20E-02	2.20E-02	NAWQ_CHR	1.00E+00	0.02
Iron	7.02	1	1	2.20E-02	2.20E-02	LCV_FISH	1.30E+00	0.02
Iron	**8**	**1**	**1**	**2.86E-02**	**2.86E-02**	**LTV_DAPH**	**1.60E-02**	**1.79**
Iron	8	1	1	2.86E-02	2.86E-02	LCV_DAPH	1.58E-01	0.18
Iron	8	1	1	2.86E-02	2.86E-02	NAWQ_CHR	1.00E+00	0.03
Iron	8	1	1	2.86E-02	2.86E-02	LCV_FISH	1.30E+00	0.02
Iron	**13**	**1**	**5**	**4.42E-02**	**4.42E-02**	**LTV_DAPH**	**1.60E-02**	**2.76**
Iron	13	1	5	4.42E-02	4.42E-02	LCV_DAPH	1.58E-01	0.28
Iron	13	1	5	4.42E-02	4.42E-02	NAWQ_CHR	1.00E+00	0.04
Iron	13	1	5	4.42E-02	4.42E-02	LCV_FISH	1.30E+00	0.03
Iron	**18**	**3**	**3**	**1.27E-01**	**1.86E-01**	**LTV_DAPH**	**1.60E-02**	**11.63**

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Iron	**18**	**3**	**3**	**1.27E-01**	**1.86E-01**	**LCV_DAPH**	**1.58E-01**	**1.18**
Iron	18	3	3	1.27E-01	1.86E-01	NAWQ_CHR	1.00E+00	0.19
Iron	18	3	3	1.27E-01	1.86E-01	LCV_FISH	1.30E+00	0.14
Lead	4.03	3	7	1.20E-03	2.80E-03	NAWQ_CHR	3.20E-03	0.88
Lead	4.03	3	7	1.20E-03	2.80E-03	LCV_DAPH	1.23E-02	0.23
Lead	4.03	3	7	1.20E-03	2.80E-03	LCV_FISH	1.89E-02	0.15
Lead	4.03	3	7	1.20E-03	2.80E-03	LTV_FISH	2.20E-02	0.13
Lead	4.03	3	7	1.20E-03	2.80E-03	LCV_NDI	2.55E-02	0.11
Lead	4.03	3	7	1.20E-03	2.80E-03	NAWQ_ACU	8.20E-02	0.03
Lead	4.03	3	7	1.20E-03	2.80E-03	LCV_AQPL	5.00E-01	0.01
Manganese	**0**	**4**	**5**	**5.14E+00**	**1.14E+01**	**S_CHR_V**	**8.03E-02**	**141.97**
Manganese	**0**	**4**	**5**	**5.14E+00**	**1.14E+01**	**LCV_DAPH**	**1.10E+00**	**10.36**
Manganese	**0**	**4**	**5**	**5.14E+00**	**1.14E+01**	**LTV_DAPH**	**1.10E+00**	**10.36**
Manganese	**0**	**4**	**5**	**5.14E+00**	**1.14E+01**	**LTV_FISH**	**1.27E+00**	**8.98**
Manganese	**0**	**4**	**5**	**5.14E+00**	**1.14E+01**	**S_ACU_V**	**1.47E+00**	**7.76**
Manganese	**0**	**4**	**5**	**5.14E+00**	**1.14E+01**	**LCV_FISH**	**1.77E+00**	**6.44**
Manganese	**2.01**	**1**	**1**	**6.46E+00**	**6.46E+00**	**S_CHR_V**	**8.03E-02**	**80.45**
Manganese	**2.01**	**1**	**1**	**6.46E+00**	**6.46E+00**	**LCV_DAPH**	**1.10E+00**	**5.87**
Manganese	**2.01**	**1**	**1**	**6.46E+00**	**6.46E+00**	**LTV_DAPH**	**1.10E+00**	**5.87**
Manganese	**2.01**	**1**	**1**	**6.46E+00**	**6.46E+00**	**LTV_FISH**	**1.27E+00**	**5.09**
Manganese	**2.01**	**1**	**1**	**6.46E+00**	**6.46E+00**	**S_ACU_V**	**1.47E+00**	**4.39**
Manganese	**2.01**	**1**	**1**	**6.46E+00**	**6.46E+00**	**LCV_FISH**	**1.77E+00**	**3.65**
Manganese	2.03	1	1	3.00E-03	3.00E-03	S_CHR_V	8.03E-02	0.04
Manganese	2.03	1	1	3.00E-03	3.00E-03	LCV_DAPH	1.10E+00	0.00
Manganese	2.03	1	1	3.00E-03	3.00E-03	LTV_DAPH	1.10E+00	0.00
Manganese	2.03	1	1	3.00E-03	3.00E-03	LTV_FISH	1.27E+00	0.00

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Manganese	2.03	1	1	3.00E-03	3.00E-03	S_ACU_V	1.47E+00	0.00
Manganese	2.03	1	1	3.00E-03	3.00E-03	LCV_FISH	1.77E+00	0.00
Manganese	2.04	6	6	1.17E+00	3.16E+00	S_CHR_V	8.03E-02	39.36
Manganese	2.04	6	6	1.17E+00	3.16E+00	LCV_DAPH	1.10E+00	2.87
Manganese	2.04	6	6	1.17E+00	3.16E+00	LTV_DAPH	1.10E+00	2.87
Manganese	2.04	6	6	1.17E+00	3.16E+00	LTV_FISH	1.27E+00	2.49
Manganese	2.04	6	6	1.17E+00	3.16E+00	S_ACU_V	1.47E+00	2.15
Manganese	2.04	6	6	1.17E+00	3.16E+00	LCV_FISH	1.77E+00	1.79
Manganese	3.01	2	2	2.41E+00	2.61E+00	S_CHR_V	8.03E-02	32.50
Manganese	3.01	2	2	2.41E+00	2.61E+00	LCV_DAPH	1.10E+00	2.37
Manganese	3.01	2	2	2.41E+00	2.61E+00	LTV_DAPH	1.10E+00	2.37
Manganese	3.01	2	2	2.41E+00	2.61E+00	LTV_FISH	1.27E+00	2.06
Manganese	3.01	2	2	2.41E+00	2.61E+00	S_ACU_V	1.47E+00	1.78
Manganese	3.01	2	2	2.41E+00	2.61E+00	LCV_FISH	1.77E+00	1.47
Manganese	3.02	8	8	4.14E+00	9.67E+00	S_CHR_V	8.03E-02	120.42
Manganese	3.02	8	8	4.14E+00	9.67E+00	LCV_DAPH	1.10E+00	8.79
Manganese	3.02	8	8	4.14E+00	9.67E+00	LTV_DAPH	1.10E+00	8.79
Manganese	3.02	8	8	4.14E+00	9.67E+00	LTV_FISH	1.27E+00	7.61
Manganese	3.02	8	8	4.14E+00	9.67E+00	S_ACU_V	1.47E+00	6.58
Manganese	3.02	8	8	4.14E+00	9.67E+00	LCV_FISH	1.77E+00	5.46
Manganese	3.03	9	9	3.31E+00	5.78E+00	S_CHR_V	8.03E-02	72.02
Manganese	3.03	9	9	3.31E+00	5.78E+00	LCV_DAPH	1.10E+00	5.26
Manganese	3.03	9	9	3.31E+00	5.78E+00	LTV_DAPH	1.10E+00	5.26
Manganese	3.03	9	9	3.31E+00	5.78E+00	LTV_FISH	1.27E+00	4.55
Manganese	3.03	9	9	3.31E+00	5.78E+00	S_ACU_V	1.47E+00	3.93
Manganese	3.03	9	9	3.31E+00	5.78E+00	LCV_FISH	1.77E+00	3.27

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Manganese	3.04	6	6	3.03E+00	6.30E+00	S_CHR_V	8.03E-02	78.46
Manganese	3.04	6	6	3.03E+00	6.30E+00	LCV_DAPH	1.10E+00	5.73
Manganese	3.04	6	6	3.03E+00	6.30E+00	LTV_DAPH	1.10E+00	5.73
Manganese	3.04	6	6	3.03E+00	6.30E+00	LTV_FISH	1.27E+00	4.96
Manganese	3.04	6	6	3.03E+00	6.30E+00	S_ACU_V	1.47E+00	4.29
Manganese	3.04	6	6	3.03E+00	6.30E+00	LCV_FISH	1.77E+00	3.56
Manganese	4.01	9	9	1.79E-01	2.39E+00	S_CHR_V	8.03E-02	29.76
Manganese	4.01	9	9	1.79E-01	2.39E+00	LCV_DAPH	1.10E+00	2.17
Manganese	4.01	9	9	1.79E-01	2.39E+00	LTV_DAPH	1.10E+00	2.17
Manganese	4.01	9	9	1.79E-01	2.39E+00	LTV_FISH	1.27E+00	1.88
Manganese	4.01	9	9	1.79E-01	2.39E+00	S_ACU_V	1.47E+00	1.63
Manganese	4.01	9	9	1.79E-01	2.39E+00	LCV_FISH	1.77E+00	1.35
Manganese	4.02	6	6	3.90E+00	7.85E+00	S_CHR_V	8.03E-02	97.76
Manganese	4.02	6	6	3.90E+00	7.85E+00	LCV_DAPH	1.10E+00	7.14
Manganese	4.02	6	6	3.90E+00	7.85E+00	LTV_DAPH	1.10E+00	7.14
Manganese	4.02	6	6	3.90E+00	7.85E+00	LTV_FISH	1.27E+00	6.18
Manganese	4.02	6	6	3.90E+00	7.85E+00	S_ACU_V	1.47E+00	5.34
Manganese	4.02	6	6	3.90E+00	7.85E+00	LCV_FISH	1.77E+00	4.44
Manganese	4.03	7	7	2.77E+00	1.95E+01	S_CHR_V	8.03E-02	243.30
Manganese	4.03	7	7	2.77E+00	1.95E+01	LCV_DAPH	1.10E+00	17.76
Manganese	4.03	7	7	2.77E+00	1.95E+01	LTV_DAPH	1.10E+00	17.76
Manganese	4.03	7	7	2.77E+00	1.95E+01	LTV_FISH	1.27E+00	15.38
Manganese	4.03	7	7	2.77E+00	1.95E+01	S_ACU_V	1.47E+00	13.29
Manganese	4.03	7	7	2.77E+00	1.95E+01	LCV_FISH	1.77E+00	11.04
Manganese	4.04	8	11	2.87E+00	4.34E+00	S_CHR_V	8.03E-02	54.05
Manganese	4.04	8	11	2.87E+00	4.34E+00	LCV_DAPH	1.10E+00	3.95

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Manganese	4.04	8	11	2.87E+00	4.34E+00	LTV_DAPH	1.10E+00	3.95
Manganese	4.04	8	11	2.87E+00	4.34E+00	LTV_FISH	1.27E+00	3.42
Manganese	4.04	8	11	2.87E+00	4.34E+00	S_ACU_V	1.47E+00	2.95
Manganese	4.04	8	11	2.87E+00	4.34E+00	LCV_FISH	1.77E+00	2.45
Manganese	7.01	1	1	5.23E+00	5.23E+00	S_CHR_V	8.03E-02	65.13
Manganese	7.01	1	1	5.23E+00	5.23E+00	LCV_DAPH	1.10E+00	4.75
Manganese	7.01	1	1	5.23E+00	5.23E+00	LTV_DAPH	1.10E+00	4.75
Manganese	7.01	1	1	5.23E+00	5.23E+00	LTV_FISH	1.27E+00	4.12
Manganese	7.01	1	1	5.23E+00	5.23E+00	S_ACU_V	1.47E+00	3.56
Manganese	7.01	1	1	5.23E+00	5.23E+00	LCV_FISH	1.77E+00	2.95
Manganese	7.02	1	1	4.17E+00	4.17E+00	S_CHR_V	8.03E-02	51.93
Manganese	7.02	1	1	4.17E+00	4.17E+00	LCV_DAPH	1.10E+00	3.79
Manganese	7.02	1	1	4.17E+00	4.17E+00	LTV_DAPH	1.10E+00	3.79
Manganese	7.02	1	1	4.17E+00	4.17E+00	LTV_FISH	1.27E+00	3.28
Manganese	7.02	1	1	4.17E+00	4.17E+00	S_ACU_V	1.47E+00	2.84
Manganese	7.02	1	1	4.17E+00	4.17E+00	LCV_FISH	1.77E+00	2.36
Manganese	8	1	1	3.35E+00	3.35E+00	S_CHR_V	8.03E-02	41.72
Manganese	8	1	1	3.35E+00	3.35E+00	LCV_DAPH	1.10E+00	3.05
Manganese	8	1	1	3.35E+00	3.35E+00	LTV_DAPH	1.10E+00	3.05
Manganese	8	1	1	3.35E+00	3.35E+00	LTV_FISH	1.27E+00	2.64
Manganese	8	1	1	3.35E+00	3.35E+00	S_ACU_V	1.47E+00	2.28
Manganese	8	1	1	3.35E+00	3.35E+00	LCV_FISH	1.77E+00	1.89
Manganese	13	5	5	5.33E+00	9.09E+00	S_CHR_V	8.03E-02	113.20
Manganese	13	5	5	5.33E+00	9.09E+00	LCV_DAPH	1.10E+00	8.26
Manganese	13	5	5	5.33E+00	9.09E+00	LTV_DAPH	1.10E+00	8.26
Manganese	13	5	5	5.33E+00	9.09E+00	LTV_FISH	1.27E+00	7.16

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Manganese	**13**	**5**	**5**	**5.33E+00**	**9.09E+00**	**S_ACU_V**	**1.47E+00**	**6.18**
Manganese	**13**	**5**	**5**	**5.33E+00**	**9.09E+00**	**LCV_FISH**	**1.77E+00**	**5.14**
Mercury	**3.01**	**2**	**4**	**5.60E-04**	**6.02E-04**	**LCV_FISH**	**2.30E-04**	**2.62**
Mercury	3.01	2	4	5.60E-04	6.02E-04	LTV_DAPH	8.70E-04	0.69
Mercury	3.01	2	4	5.60E-04	6.02E-04	LTV_FISH	8.70E-04	0.69
Mercury	3.01	2	4	5.60E-04	6.02E-04	LCV_DAPH	9.60E-04	0.63
Mercury	3.01	2	4	5.60E-04	6.02E-04	S_CHR_V	1.30E-03	0.46
Mercury	3.01	2	4	5.60E-04	6.02E-04	NAWQ_ACU	2.40E-03	0.25
Mercury	3.01	2	4	5.60E-04	6.02E-04	LCV_AQPL	5.00E-03	0.12
Mercury	**3.02**	**5**	**12**	**9.60E-06**	**2.30E-04**	**LCV_FISH**	**2.30E-04**	**1.00**
Mercury	3.02	5	12	9.60E-06	2.30E-04	LTV_DAPH	8.70E-04	0.26
Mercury	3.02	5	12	9.60E-06	2.30E-04	LTV_FISH	8.70E-04	0.26
Mercury	3.02	5	12	9.60E-06	2.30E-04	LCV_DAPH	9.60E-04	0.24
Mercury	3.02	5	12	9.60E-06	2.30E-04	S_CHR_V	1.30E-03	0.18
Mercury	3.02	5	12	9.60E-06	2.30E-04	NAWQ_ACU	2.40E-03	0.10
Mercury	3.02	5	12	9.60E-06	2.30E-04	LCV_AQPL	5.00E-03	0.05
Mercury	3.03	9	17	1.37E-05	2.00E-04	LCV_FISH	2.30E-04	0.87
Mercury	3.03	9	17	1.37E-05	2.00E-04	LTV_DAPH	8.70E-04	0.23
Mercury	3.03	9	17	1.37E-05	2.00E-04	LTV_FISH	8.70E-04	0.23
Mercury	3.03	9	17	1.37E-05	2.00E-04	LCV_DAPH	9.60E-04	0.21
Mercury	3.03	9	17	1.37E-05	2.00E-04	S_CHR_V	1.30E-03	0.15
Mercury	3.03	9	17	1.37E-05	2.00E-04	NAWQ_ACU	2.40E-03	0.08
Mercury	3.03	9	17	1.37E-05	2.00E-04	LCV_AQPL	5.00E-03	0.04
Mercury	3.04	4	12	9.47E-06	3.60E-05	LCV_FISH	2.30E-04	0.16
Mercury	3.04	4	12	9.47E-06	3.60E-05	LTV_DAPH	8.70E-04	0.04
Mercury	3.04	4	12	9.47E-06	3.60E-05	LTV_FISH	8.70E-04	0.04

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Mercury	3.04	4	12	9.47E-06	3.60E-05	LCV_DAPH	9.60E-04	0.04
Mercury	3.04	4	12	9.47E-06	3.60E-05	S_CHR_V	1.30E-03	0.03
Mercury	3.04	4	12	9.47E-06	3.60E-05	NAWQ_ACU	2.40E-03	0.02
Mercury	3.04	4	12	9.47E-06	3.60E-05	LCV_AQPL	5.00E-03	0.01
Mercury	4.01	1	14	5.54E-06	5.54E-06	LCV_FISH	2.30E-04	0.02
Mercury	4.01	1	14	5.54E-06	5.54E-06	LTV_DAPH	8.70E-04	0.01
Mercury	4.01	1	14	5.54E-06	5.54E-06	LTV_FISH	8.70E-04	0.01
Mercury	4.01	1	14	5.54E-06	5.54E-06	LCV_DAPH	9.60E-04	0.01
Mercury	4.01	1	14	5.54E-06	5.54E-06	S_CHR_V	1.30E-03	0.00
Mercury	4.01	1	14	5.54E-06	5.54E-06	NAWQ_ACU	2.40E-03	0.00
Mercury	4.01	1	14	5.54E-06	5.54E-06	LCV_AQPL	5.00E-03	0.00
Mercury	4.03	1	8	9.15E-06	9.15E-06	LCV_FISH	2.30E-04	0.04
Mercury	4.03	1	8	9.15E-06	9.15E-06	LTV_DAPH	8.70E-04	0.01
Mercury	4.03	1	8	9.15E-06	9.15E-06	LTV_FISH	8.70E-04	0.01
Mercury	4.03	1	8	9.15E-06	9.15E-06	LCV_DAPH	9.60E-04	0.01
Mercury	4.03	1	8	9.15E-06	9.15E-06	S_CHR_V	1.30E-03	0.01
Mercury	4.03	1	8	9.15E-06	9.15E-06	NAWQ_ACU	2.40E-03	0.00
Mercury	4.03	1	8	9.15E-06	9.15E-06	LCV_AQPL	5.00E-03	0.00
Mercury	**4.04**	**1**	**14**	**8.10E-04**	**8.10E-04**	**LCV_FISH**	**2.30E-04**	**3.52**
Mercury	4.04	1	14	8.10E-04	8.10E-04	LTV_DAPH	8.70E-04	0.93
Mercury	4.04	1	14	8.10E-04	8.10E-04	LTV_FISH	8.70E-04	0.93
Mercury	4.04	1	14	8.10E-04	8.10E-04	LCV_DAPH	9.60E-04	0.84
Mercury	4.04	1	14	8.10E-04	8.10E-04	S_CHR_V	1.30E-03	0.62
Mercury	4.04	1	14	8.10E-04	8.10E-04	NAWQ_ACU	2.40E-03	0.34
Mercury	4.04	1	14	8.10E-04	8.10E-04	LCV_AQPL	5.00E-03	0.16
Mercury	13	3	10	4.92E-06	1.30E-05	LCV_FISH	2.30E-04	0.06

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Mercury	13	3	10	4.92E-06	1.30E-05	LTV_DAPH	8.70E-04	0.01
Mercury	13	3	10	4.92E-06	1.30E-05	LTV_FISH	8.70E-04	0.01
Mercury	13	3	10	4.92E-06	1.30E-05	LCV_DAPH	9.60E-04	0.01
Mercury	13	3	10	4.92E-06	1.30E-05	S_CHR_V	1.30E-03	0.01
Mercury	13	3	10	4.92E-06	1.30E-05	NAWQ_ACU	2.40E-03	0.01
Mercury	13	3	10	4.92E-06	1.30E-05	LCV_AQPL	5.00E-03	0.00
Nickel	**0**	**4**	**5**	**1.45E-02**	**2.35E-02**	**LCV_AQPL**	**5.00E-03**	**4.70**
Nickel	**0**	**4**	**5**	**1.45E-02**	**2.35E-02**	**LCV_DAPH**	**5.00E-03**	**4.70**
Nickel	0	4	5	1.45E-02	2.35E-02	LCV_FISH	3.50E-02	0.67
Nickel	0	4	5	1.45E-02	2.35E-02	LTV_DAPH	4.50E-02	0.52
Nickel	0	4	5	1.45E-02	2.35E-02	LTV_FISH	6.20E-02	0.38
Nickel	0	4	5	1.45E-02	2.35E-02	LCV_NDI	1.28E-01	0.18
Nickel	0	4	5	1.45E-02	2.35E-02	NAWQ_CHR	1.60E-01	0.15
Nickel	0	4	5	1.45E-02	2.35E-02	NAWQ_ACU	1.40E+00	0.02
Nickel	2.01	1	1	2.60E-03	2.60E-03	LCV_AQPL	5.00E-03	0.52
Nickel	2.01	1	1	2.60E-03	2.60E-03	LCV_DAPH	5.00E-03	0.52
Nickel	2.01	1	1	2.60E-03	2.60E-03	LCV_FISH	3.50E-02	0.07
Nickel	2.01	1	1	2.60E-03	2.60E-03	LTV_DAPH	4.50E-02	0.06
Nickel	2.01	1	1	2.60E-03	2.60E-03	LTV_FISH	6.20E-02	0.04
Nickel	2.01	1	1	2.60E-03	2.60E-03	LCV_NDI	1.28E-01	0.02
Nickel	2.01	1	1	2.60E-03	2.60E-03	NAWQ_CHR	1.60E-01	0.02
Nickel	2.01	1	1	2.60E-03	2.60E-03	NAWQ_ACU	1.40E+00	0.00
Nickel	**2.04**	**6**	**6**	**5.58E-03**	**1.69E-02**	**LCV_AQPL**	**5.00E-03**	**3.37**
Nickel	**2.04**	**6**	**6**	**5.58E-03**	**1.69E-02**	**LCV_DAPH**	**5.00E-03**	**3.37**
Nickel	2.04	6	6	5.58E-03	1.69E-02	LCV_FISH	3.50E-02	0.48
Nickel	2.04	6	6	5.58E-03	1.69E-02	LTV_DAPH	4.50E-02	0.37

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Nickel	2.04	6	6	5.58E-03	1.69E-02	LTV_FISH	6.20E-02	0.27
Nickel	2.04	6	6	5.58E-03	1.69E-02	LCV_NDI	1.28E-01	0.13
Nickel	2.04	6	6	5.58E-03	1.69E-02	NAWQ_CHR	1.60E-01	0.11
Nickel	2.04	6	6	5.58E-03	1.69E-02	NAWQ_ACU	1.40E+00	0.01
Nickel	**3.01**	**2**	**2**	**5.41E-02**	**1.01E-01**	**LCV_AQPL**	**5.00E-03**	**20.20**
Nickel	**3.01**	**2**	**2**	**5.41E-02**	**1.01E-01**	**LCV_DAPH**	**5.00E-03**	**20.20**
Nickel	**3.01**	**2**	**2**	**5.41E-02**	**1.01E-01**	**LCV_FISH**	**3.50E-02**	**2.89**
Nickel	**3.01**	**2**	**2**	**5.41E-02**	**1.01E-01**	**LTV_DAPH**	**4.50E-02**	**2.24**
Nickel	**3.01**	**2**	**2**	**5.41E-02**	**1.01E-01**	**LTV_FISH**	**6.20E-02**	**1.63**
Nickel	3.01	2	2	5.41E-02	1.01E-01	LCV_NDI	1.28E-01	0.79
Nickel	3.01	2	2	5.41E-02	1.01E-01	NAWQ_CHR	1.60E-01	0.63
Nickel	3.01	2	2	5.41E-02	1.01E-01	NAWQ_ACU	1.40E+00	0.07
Nickel	**3.02**	**7**	**8**	**9.85E-03**	**4.15E-02**	**LCV_AQPL**	**5.00E-03**	**8.30**
Nickel	**3.02**	**7**	**8**	**9.85E-03**	**4.15E-02**	**LCV_DAPH**	**5.00E-03**	**8.30**
Nickel	**3.02**	**7**	**8**	**9.85E-03**	**4.15E-02**	**LCV_FISH**	**3.50E-02**	**1.19**
Nickel	3.02	7	8	9.85E-03	4.15E-02	LTV_DAPH	4.50E-02	0.92
Nickel	3.02	7	8	9.85E-03	4.15E-02	LTV_FISH	6.20E-02	0.67
Nickel	3.02	7	8	9.85E-03	4.15E-02	LCV_NDI	1.28E-01	0.32
Nickel	3.02	7	8	9.85E-03	4.15E-02	NAWQ_CHR	1.60E-01	0.26
Nickel	3.02	7	8	9.85E-03	4.15E-02	NAWQ_ACU	1.40E+00	0.03
Nickel	**3.03**	**9**	**9**	**1.09E-02**	**2.52E-02**	**LCV_AQPL**	**5.00E-03**	**5.04**
Nickel	**3.03**	**9**	**9**	**1.09E-02**	**2.52E-02**	**LCV_DAPH**	**5.00E-03**	**5.04**
Nickel	3.03	9	9	1.09E-02	2.52E-02	LCV_FISH	3.50E-02	0.72
Nickel	3.03	9	9	1.09E-02	2.52E-02	LTV_DAPH	4.50E-02	0.56
Nickel	3.03	9	9	1.09E-02	2.52E-02	LTV_FISH	6.20E-02	0.41
Nickel	3.03	9	9	1.09E-02	2.52E-02	LCV_NDI	1.28E-01	0.20

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Nickel	3.03	9	9	1.09E-02	2.52E-02	NAWQ_CHR	1.60E-01	0.16
Nickel	3.03	9	9	1.09E-02	2.52E-02	NAWQ_ACU	1.40E+00	0.02
Nickel	**3.04**	**6**	**6**	**5.88E-03**	**7.00E-03**	**LCV_AQPL**	**5.00E-03**	**1.40**
Nickel	**3.04**	**6**	**6**	**5.88E-03**	**7.00E-03**	**LCV_DAPH**	**5.00E-03**	**1.40**
Nickel	3.04	6	6	5.88E-03	7.00E-03	LCV_FISH	3.50E-02	0.20
Nickel	3.04	6	6	5.88E-03	7.00E-03	LTV_DAPH	4.50E-02	0.16
Nickel	3.04	6	6	5.88E-03	7.00E-03	LTV_FISH	6.20E-02	0.11
Nickel	3.04	6	6	5.88E-03	7.00E-03	LCV_NDI	1.28E-01	0.05
Nickel	3.04	6	6	5.88E-03	7.00E-03	NAWQ_CHR	1.60E-01	0.04
Nickel	3.04	6	6	5.88E-03	7.00E-03	NAWQ_ACU	1.40E+00	0.01
Nickel	**4.01**	**9**	**9**	**3.50E-03**	**5.20E-03**	**LCV_AQPL**	**5.00E-03**	**1.04**
Nickel	**4.01**	**9**	**9**	**3.50E-03**	**5.20E-03**	**LCV_DAPH**	**5.00E-03**	**1.04**
Nickel	4.01	9	9	3.50E-03	5.20E-03	LCV_FISH	3.50E-02	0.15
Nickel	4.01	9	9	3.50E-03	5.20E-03	LTV_DAPH	4.50E-02	0.12
Nickel	4.01	9	9	3.50E-03	5.20E-03	LTV_FISH	6.20E-02	0.08
Nickel	4.01	9	9	3.50E-03	5.20E-03	LCV_NDI	1.28E-01	0.04
Nickel	4.01	9	9	3.50E-03	5.20E-03	NAWQ_CHR	1.60E-01	0.03
Nickel	4.01	9	9	3.50E-03	5.20E-03	NAWQ_ACU	1.40E+00	0.00
Nickel	**4.02**	**6**	**6**	**9.15E-03**	**2.87E-02**	**LCV_AQPL**	**5.00E-03**	**5.74**
Nickel	**4.02**	**6**	**6**	**9.15E-03**	**2.87E-02**	**LCV_DAPH**	**5.00E-03**	**5.74**
Nickel	4.02	6	6	9.15E-03	2.87E-02	LCV_FISH	3.50E-02	0.82
Nickel	4.02	6	6	9.15E-03	2.87E-02	LTV_DAPH	4.50E-02	0.64
Nickel	4.02	6	6	9.15E-03	2.87E-02	LTV_FISH	6.20E-02	0.46
Nickel	4.02	6	6	9.15E-03	2.87E-02	LCV_NDI	1.28E-01	0.22
Nickel	4.02	6	6	9.15E-03	2.87E-02	NAWQ_CHR	1.60E-01	0.18
Nickel	4.02	6	6	9.15E-03	2.87E-02	NAWQ_ACU	1.40E+00	0.02

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Nickel	**4.03**	**7**	**7**	**1.10E-02**	**1.84E-02**	**LCV_AQPL**	**5.00E-03**	**3.68**
Nickel	**4.03**	**7**	**7**	**1.10E-02**	**1.84E-02**	**LCV_DAPH**	**5.00E-03**	**3.68**
Nickel	4.03	7	7	1.10E-02	1.84E-02	LCV_FISH	3.50E-02	0.53
Nickel	4.03	7	7	1.10E-02	1.84E-02	LTV_DAPH	4.50E-02	0.41
Nickel	4.03	7	7	1.10E-02	1.84E-02	LTV_FISH	6.20E-02	0.30
Nickel	4.03	7	7	1.10E-02	1.84E-02	LCV_NDI	1.28E-01	0.14
Nickel	4.03	7	7	1.10E-02	1.84E-02	NAWQ_CHR	1.60E-01	0.12
Nickel	4.03	7	7	1.10E-02	1.84E-02	NAWQ_ACU	1.40E+00	0.01
Nickel	**4.04**	**11**	**11**	**4.60E-03**	**6.70E-03**	**LCV_AQPL**	**5.00E-03**	**1.34**
Nickel	**4.04**	**11**	**11**	**4.60E-03**	**6.70E-03**	**LCV_DAPH**	**5.00E-03**	**1.34**
Nickel	4.04	11	11	4.60E-03	6.70E-03	LCV_FISH	3.50E-02	0.19
Nickel	4.04	11	11	4.60E-03	6.70E-03	LTV_DAPH	4.50E-02	0.15
Nickel	4.04	11	11	4.60E-03	6.70E-03	LTV_FISH	6.20E-02	0.11
Nickel	4.04	11	11	4.60E-03	6.70E-03	LCV_NDI	1.28E-01	0.05
Nickel	4.04	11	11	4.60E-03	6.70E-03	NAWQ_CHR	1.60E-01	0.04
Nickel	4.04	11	11	4.60E-03	6.70E-03	NAWQ_ACU	1.40E+00	0.00
Nickel	**7.01**	**1**	**1**	**1.16E-02**	**1.16E-02**	**LCV_AQPL**	**5.00E-03**	**2.32**
Nickel	**7.01**	**1**	**1**	**1.16E-02**	**1.16E-02**	**LCV_DAPH**	**5.00E-03**	**2.32**
Nickel	7.01	1	1	1.16E-02	1.16E-02	LCV_FISH	3.50E-02	0.33
Nickel	7.01	1	1	1.16E-02	1.16E-02	LTV_DAPH	4.50E-02	0.26
Nickel	7.01	1	1	1.16E-02	1.16E-02	LTV_FISH	6.20E-02	0.19
Nickel	7.01	1	1	1.16E-02	1.16E-02	LCV_NDI	1.28E-01	0.09
Nickel	7.01	1	1	1.16E-02	1.16E-02	NAWQ_CHR	1.60E-01	0.07
Nickel	7.01	1	1	1.16E-02	1.16E-02	NAWQ_ACU	1.40E+00	0.01
Nickel	**7.02**	**1**	**1**	**1.05E-02**	**1.05E-02**	**LCV_AQPL**	**5.00E-03**	**2.10**
Nickel	**7.02**	**1**	**1**	**1.05E-02**	**1.05E-02**	**LCV_DAPH**	**5.00E-03**	**2.10**

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Nickel	7.02	1	1	1.05E-02	1.05E-02	LCV_FISH	3.50E-02	0.30
Nickel	7.02	1	1	1.05E-02	1.05E-02	LTV_DAPH	4.50E-02	0.23
Nickel	7.02	1	1	1.05E-02	1.05E-02	LTV_FISH	6.20E-02	0.17
Nickel	7.02	1	1	1.05E-02	1.05E-02	LCV_NDI	1.28E-01	0.08
Nickel	7.02	1	1	1.05E-02	1.05E-02	NAWQ_CHR	1.60E-01	0.07
Nickel	7.02	1	1	1.05E-02	1.05E-02	NAWQ_ACU	1.40E+00	0.01
Nickel	**8**	**1**	**1**	**1.24E-02**	**1.24E-02**	**LCV_AQPL**	**5.00E-03**	**2.48**
Nickel	**8**	**1**	**1**	**1.24E-02**	**1.24E-02**	**LCV_DAPH**	**5.00E-03**	**2.48**
Nickel	8	1	1	1.24E-02	1.24E-02	LCV_FISH	3.50E-02	0.35
Nickel	8	1	1	1.24E-02	1.24E-02	LTV_DAPH	4.50E-02	0.28
Nickel	8	1	1	1.24E-02	1.24E-02	LTV_FISH	6.20E-02	0.20
Nickel	8	1	1	1.24E-02	1.24E-02	LCV_NDI	1.28E-01	0.10
Nickel	8	1	1	1.24E-02	1.24E-02	NAWQ_CHR	1.60E-01	0.08
Nickel	8	1	1	1.24E-02	1.24E-02	NAWQ_ACU	1.40E+00	0.01
Nickel	**13**	**3**	**5**	**4.40E-03**	**1.15E-02**	**LCV_AQPL**	**5.00E-03**	**2.30**
Nickel	**13**	**3**	**5**	**4.40E-03**	**1.15E-02**	**LCV_DAPH**	**5.00E-03**	**2.30**
Nickel	13	3	5	4.40E-03	1.15E-02	LCV_FISH	3.50E-02	0.33
Nickel	13	3	5	4.40E-03	1.15E-02	LTV_DAPH	4.50E-02	0.26
Nickel	13	3	5	4.40E-03	1.15E-02	LTV_FISH	6.20E-02	0.19
Nickel	13	3	5	4.40E-03	1.15E-02	LCV_NDI	1.28E-01	0.09
Nickel	13	3	5	4.40E-03	1.15E-02	NAWQ_CHR	1.60E-01	0.07
Nickel	13	3	5	4.40E-03	1.15E-02	NAWQ_ACU	1.40E+00	0.01
Nickel	18	3	3	2.50E-03	4.30E-03	LCV_AQPL	5.00E-03	0.86
Nickel	18	3	3	2.50E-03	4.30E-03	LCV_DAPH	5.00E-03	0.86
Nickel	18	3	3	2.50E-03	4.30E-03	LCV_FISH	3.50E-02	0.12
Nickel	18	3	3	2.50E-03	4.30E-03	LTV_DAPH	4.50E-02	0.10

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Nickel	18	3	3	2.50E-03	4.30E-03	LTV_FISH	6.20E-02	0.07
Nickel	18	3	3	2.50E-03	4.30E-03	LCV_NDI	1.28E-01	0.03
Nickel	18	3	3	2.50E-03	4.30E-03	NAWQ_CHR	1.60E-01	0.03
Nickel	18	3	3	2.50E-03	4.30E-03	NAWQ_ACU	1.40E+00	0.00
Uranium	**3.02**	**8**	**8**	**9.10E-03**	**9.89E-02**	**S_CHR_V**	**1.87E-03**	**52.89**
Uranium	**3.02**	**8**	**8**	**9.10E-03**	**9.89E-02**	**S_ACU_V**	**3.35E-02**	**2.95**
Uranium	3.02	8	8	9.10E-03	9.89E-02	LCV_FISH	1.42E-01	0.70
Uranium	3.02	8	8	9.10E-03	9.89E-02	LTV_FISH	4.55E-01	0.22
Uranium	**3.03**	**9**	**9**	**6.90E-03**	**2.07E-02**	**S_CHR_V**	**1.87E-03**	**11.10**
Uranium	3.03	9	9	6.90E-03	2.07E-02	S_ACU_V	3.35E-02	0.62
Uranium	3.03	9	9	6.90E-03	2.07E-02	LCV_FISH	1.42E-01	0.15
Uranium	3.03	9	9	6.90E-03	2.07E-02	LTV_FISH	4.55E-01	0.05
Uranium	**3.04**	**6**	**6**	**5.05E-03**	**1.02E-02**	**S_CHR_V**	**1.87E-03**	**5.45**
Uranium	3.04	6	6	5.05E-03	1.02E-02	S_ACU_V	3.35E-02	0.30
Uranium	3.04	6	6	5.05E-03	1.02E-02	LCV_FISH	1.42E-01	0.07
Uranium	3.04	6	6	5.05E-03	1.02E-02	LTV_FISH	4.55E-01	0.02
Uranium	4.01	3	9	1.20E-03	1.60E-03	S_CHR_V	1.87E-03	0.86
Uranium	4.01	3	9	1.20E-03	1.60E-03	S_ACU_V	3.35E-02	0.05
Uranium	4.01	3	9	1.20E-03	1.60E-03	LCV_FISH	1.42E-01	0.01
Uranium	4.01	3	9	1.20E-03	1.60E-03	LTV_FISH	4.55E-01	0.00
Uranium	4.02	2	6	1.10E-03	1.80E-03	S_CHR_V	1.87E-03	0.96
Uranium	4.02	2	6	1.10E-03	1.80E-03	S_ACU_V	3.35E-02	0.05
Uranium	4.02	2	6	1.10E-03	1.80E-03	LCV_FISH	1.42E-01	0.01
Uranium	4.02	2	6	1.10E-03	1.80E-03	LTV_FISH	4.55E-01	0.00
Uranium	**4.03**	**1**	**7**	**2.07E-03**	**2.07E-03**	**S_CHR_V**	**1.87E-03**	**1.11**
Uranium	4.03	1	7	2.07E-03	2.07E-03	S_ACU_V	3.35E-02	0.06

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Uranium	4.03	1	7	2.07E-03	2.07E-03	LCV_FISH	1.42E-01	0.01
Uranium	4.03	1	7	2.07E-03	2.07E-03	LTV_FISH	4.55E-01	0.00
Uranium	13	2	5	1.00E-03	1.50E-03	S_CHR_V	1.87E-03	0.80
Uranium	13	2	5	1.00E-03	1.50E-03	S_ACU_V	3.35E-02	0.04
Uranium	13	2	5	1.00E-03	1.50E-03	LCV_FISH	1.42E-01	0.01
Uranium	13	2	5	1.00E-03	1.50E-03	LTV_FISH	4.55E-01	0.00
Zinc	0	5	5	7.90E-03	8.53E-03	LCV_AQPL	3.00E-02	0.28
Zinc	0	5	5	7.90E-03	8.53E-03	LCV_FISH	3.64E-02	0.23
Zinc	0	5	5	7.90E-03	8.53E-03	LCV_DAPH	4.67E-02	0.18
Zinc	0	5	5	7.90E-03	8.53E-03	LTV_FISH	4.70E-02	0.18
Zinc	0	5	5	7.90E-03	8.53E-03	NAWQ_CHR	1.10E-01	0.08
Zinc	0	5	5	7.90E-03	8.53E-03	NAWQ_ACU	1.20E-01	0.07
Zinc	0	5	5	7.90E-03	8.53E-03	LCV_NDI	5.24E+00	0.00
Zinc	2.01	1	1	3.10E-03	3.10E-03	LCV_AQPL	3.00E-02	0.10
Zinc	2.01	1	1	3.10E-03	3.10E-03	LCV_FISH	3.64E-02	0.09
Zinc	2.01	1	1	3.10E-03	3.10E-03	LCV_DAPH	4.67E-02	0.07
Zinc	2.01	1	1	3.10E-03	3.10E-03	LTV_FISH	4.70E-02	0.07
Zinc	2.01	1	1	3.10E-03	3.10E-03	NAWQ_CHR	1.10E-01	0.03
Zinc	2.01	1	1	3.10E-03	3.10E-03	NAWQ_ACU	1.20E-01	0.03
Zinc	2.01	1	1	3.10E-03	3.10E-03	LCV_NDI	5.24E+00	0.00
Zinc	2.03	1	1	1.09E-02	1.09E-02	LCV_AQPL	3.00E-02	0.36
Zinc	2.03	1	1	1.09E-02	1.09E-02	LCV_FISH	3.64E-02	0.30
Zinc	2.03	1	1	1.09E-02	1.09E-02	LCV_DAPH	4.67E-02	0.23
Zinc	2.03	1	1	1.09E-02	1.09E-02	LTV_FISH	4.70E-02	0.23
Zinc	2.03	1	1	1.09E-02	1.09E-02	NAWQ_CHR	1.10E-01	0.10
Zinc	2.03	1	1	1.09E-02	1.09E-02	NAWQ_ACU	1.20E-01	0.09

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Zinc	2.03	1	1	1.09E-02	1.09E-02	LCV_NDI	5.24E+00	0.00
Zinc	2.04	6	6	6.20E-03	1.72E-02	LCV_AQPL	3.00E-02	0.57
Zinc	2.04	6	6	6.20E-03	1.72E-02	LCV_FISH	3.64E-02	0.47
Zinc	2.04	6	6	6.20E-03	1.72E-02	LCV_DAPH	4.67E-02	0.37
Zinc	2.04	6	6	6.20E-03	1.72E-02	LTV_FISH	4.70E-02	0.37
Zinc	2.04	6	6	6.20E-03	1.72E-02	NAWQ_CHR	1.10E-01	0.16
Zinc	2.04	6	6	6.20E-03	1.72E-02	NAWQ_ACU	1.20E-01	0.14
Zinc	2.04	6	6	6.20E-03	1.72E-02	LCV_NDI	5.24E+00	0.00
Zinc	3.01	1	2	2.32E-02	2.32E-02	LCV_AQPL	3.00E-02	0.77
Zinc	3.01	1	2	2.32E-02	2.32E-02	LCV_FISH	3.64E-02	0.64
Zinc	3.01	1	2	2.32E-02	2.32E-02	LCV_DAPH	4.67E-02	0.50
Zinc	3.01	1	2	2.32E-02	2.32E-02	LTV_FISH	4.70E-02	0.49
Zinc	3.01	1	2	2.32E-02	2.32E-02	NAWQ_CHR	1.10E-01	0.21
Zinc	3.01	1	2	2.32E-02	2.32E-02	NAWQ_ACU	1.20E-01	0.19
Zinc	3.01	1	2	2.32E-02	2.32E-02	LCV_NDI	5.24E+00	0.00
Zinc	3.02	7	8	7.40E-03	1.23E-02	LCV_AQPL	3.00E-02	0.41
Zinc	3.02	7	8	7.40E-03	1.23E-02	LCV_FISH	3.64E-02	0.34
Zinc	3.02	7	8	7.40E-03	1.23E-02	LCV_DAPH	4.67E-02	0.26
Zinc	3.02	7	8	7.40E-03	1.23E-02	LTV_FISH	4.70E-02	0.26
Zinc	3.02	7	8	7.40E-03	1.23E-02	NAWQ_CHR	1.10E-01	0.11
Zinc	3.02	7	8	7.40E-03	1.23E-02	NAWQ_ACU	1.20E-01	0.10
Zinc	3.02	7	8	7.40E-03	1.23E-02	LCV_NDI	5.24E+00	0.00
Zinc	**3.03**	**8**	**9**	**1.00E-02**	**3.19E-02**	**LCV_AQPL**	**3.00E-02**	**1.06**
Zinc	3.03	8	9	1.00E-02	3.19E-02	LCV_FISH	3.64E-02	0.88
Zinc	3.03	8	9	1.00E-02	3.19E-02	LCV_DAPH	4.67E-02	0.68
Zinc	3.03	8	9	1.00E-02	3.19E-02	LTV_FISH	4.70E-02	0.68

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Zinc	3.03	8	9	1.00E-02	3.19E-02	NAWQ_CHR	1.10E-01	0.29
Zinc	3.03	8	9	1.00E-02	3.19E-02	NAWQ_ACU	1.20E-01	0.27
Zinc	3.03	8	9	1.00E-02	3.19E-02	LCV_NDI	5.24E+00	0.01
Zinc	3.04	6	6	4.93E-03	1.19E-02	LCV_AQPL	3.00E-02	0.40
Zinc	3.04	6	6	4,93E-03	1.19E-02	LCV_FISH	3.64E-02	0.33
Zinc	3.04	6	6	4.93E-03	1.19E-02	LCV_DAPH	4.67E-02	0.25
Zinc	3.04	6	6	4.93E-03	1.19E-02	LTV_FISH	4.70E-02	0.25
Zinc	3.04	6	6	4.93E-03	1.19E-02	NAWQ_CHR	1.10E-01	0.11
Zinc	3.04	6	6	4.93E-03	1.19E-02	NAWQ_ACU	1.20E-01	0.10
Zinc	3.04	6	6	4.93E-03	1.19E-02	LCV_NDI	5.24E+00	0.00
Zinc	4.01	9	9	6.40E-03	1.84E-02	LCV_AQPL	3.00E-02	0.61
Zinc	4.01	9	9	6.40E-03	1.84E-02	LCV_FISH	3.64E-02	0.51
Zinc	4.01	9	9	6.40E-03	1.84E-02	LCV_DAPH	4.67E-02	0.39
Zinc	4.01	9	9	6.40E-03	1.84E-02	LTV_FISH	4.70E-02	0.39
Zinc	4.01	9	9	6.40E-03	1.84E-02	NAWQ_CHR	1.10E-01	0.17
Zinc	4.01	9	9	6.40E-03	1.84E-02	NAWQ_ACU	1.20E-01	0.15
Zinc	4.01	9	9	6.40E-03	1.84E-02	LCV_NDI	5.24E+00	0.00
Zinc	4.02	6	6	1.20E-02	2.85E-02	LCV_AQPL	3.00E-02	0.95
Zinc	4.02	6	6	1.20E-02	2.85E-02	LCV_FISH	3.64E-02	0.78
Zinc	4.02	6	6	1.20E-02	2.85E-02	LCV_DAPH	4.67E-02	0.61
Zinc	4.02	6	6	1.20E-02	2.85E-02	LTV_FISH	4.70E-02	0.61
Zinc	4.02	6	6	1.20E-02	2.85E-02	NAWQ_CHR	1.10E-01	0.26
Zinc	4.02	6	6	1.20E-02	2.85E-02	NAWQ_ACU	1.20E-01	0.24
Zinc	4.02	6	6	1.20E-02	2.85E-02	LCV_NDI	5.24E+00	0.01
Zinc	**4.03**	7	7	**2.15E-02**	**7.35E-02**	**LCV_AQPL**	**3.00E-02**	**2.45**
Zinc	**4.03**	7	7	**2.15E-02**	**7.35E-02**	**LCV_FISH**	**3.64E-02**	**2.02**

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Zinc	**4.03**	**7**	**7**	**2.15E-02**	**7.35E-02**	**LCV_DAPH**	**4.67E-02**	**1.57**
Zinc	**4.03**	**7**	**7**	**2.15E-02**	**7.35E-02**	**LTV_FISH**	**4.70E-02**	**1.56**
Zinc	4.03	7	7	2.15E-02	7.35E-02	NAWQ_CHR	1.10E-01	0.67
Zinc	4.03	7	7	2.15E-02	7.35E-02	NAWQ_ACU	1.20E-01	0.61
Zinc	4.03	7	7	2.15E-02	7.35E-02	LCV_NDI	5.24E+00	0.01
Zinc	4.04	11	11	4.80E-03	2.63E-02	LCV_AQPL	3.00E-02	0.88
Zinc	4.04	11	11	4.80E-03	2.63E-02	LCV_FISH	3.64E-02	0.72
Zinc	4.04	11	11	4.80E-03	2.63E-02	LCV_DAPH	4.67E-02	0.56
Zinc	4.04	11	11	4.80E-03	2.63E-02	LTV_FISH	4.70E-02	0.56
Zinc	4.04	11	11	4.80E-03	2.63E-02	NAWQ_CHR	1.10E-01	0.24
Zinc	4.04	11	11	4.80E-03	2.63E-02	NAWQ_ACU	1.20E-01	0.22
Zinc	4.04	11	11	4.80E-03	2.63E-02	LCV_NDI	5.24E+00	0.01
Zinc	7.01	1	1	4.50E-03	4.50E-03	LCV_AQPL	3.00E-02	0.15
Zinc	7.01	1	1	4.50E-03	4.50E-03	LCV_FISH	3.64E-02	0.12
Zinc	7.01	1	1	4.50E-03	4.50E-03	LCV_DAPH	4.67E-02	0.10
Zinc	7.01	1	1	4.50E-03	4.50E-03	LTV_FISH	4.70E-02	0.10
Zinc	7.01	1	1	4.50E-03	4.50E-03	NAWQ_CHR	1.10E-01	0.04
Zinc	7.01	1	1	4.50E-03	4.50E-03	NAWQ_ACU	1.20E-01	0.04
Zinc	7.01	1	1	4.50E-03	4.50E-03	LCV_NDI	5.24E+00	0.00
Zinc	7.02	1	1	6.60E-03	6.60E-03	LCV_AQPL	3.00E-02	0.22
Zinc	7.02	1	1	6.60E-03	6.60E-03	LCV_FISH	3.64E-02	0.18
Zinc	7.02	1	1	6.60E-03	6.60E-03	LCV_DAPH	4.67E-02	0.14
Zinc	7.02	1	1	6.60E-03	6.60E-03	LTV_FISH	4.70E-02	0.14
Zinc	7.02	1	1	6.60E-03	6.60E-03	NAWQ_CHR	1.10E-01	0.06
Zinc	7.02	1	1	6.60E-03	6.60E-03	NAWQ_ACU	1.20E-01	0.06
Zinc	7.02	1	1	6.60E-03	6.60E-03	LCV_NDI	5.24E+00	0.00

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Zinc	8	1	1	4.80E-03	4.80E-03	LCV_AQPL	3.00E-02	0.16
Zinc	8	1	1	4.80E-03	4.80E-03	LCV_FISH	3.64E-02	0.13
Zinc	8	1	1	4.80E-03	4.80E-03	LCV_DAPH	4.67E-02	0.10
Zinc	8	1	1	4.80E-03	4.80E-03	LTV_FISH	4.70E-02	0.10
Zinc	8	1	1	4.80E-03	4.80E-03	NAWQ_CHR	1.10E-01	0.04
Zinc	8	1	1	4.80E-03	4.80E-03	NAWQ_ACU	1.20E-01	0.04
Zinc	8	1	1	4.80E-03	4.80E-03	LCV_NDI	5.24E+00	0.00
Zinc	13	4	5	4.70E-03	5.50E-03	LCV_AQPL	3.00E-02	0.18
Zinc	13	4	5	4.70E-03	5.50E-03	LCV_FISH	3.64E-02	0.15
Zinc	13	4	5	4.70E-03	5.50E-03	LCV_DAPH	4.67E-02	0.12
Zinc	13	4	5	4.70E-03	5.50E-03	LTV_FISH	4.70E-02	0.12
Zinc	13	4	5	4.70E-03	5.50E-03	NAWQ_CHR	1.10E-01	0.05
Zinc	13	4	5	4.70E-03	5.50E-03	NAWQ_ACU	1.20E-01	0.05
Zinc	13	4	5	4.70E-03	5.50E-03	LCV_NDI	5.24E+00	0.00
Zinc	18	3	3	1.02E-02	1.27E-02	LCV_AQPL	3.00E-02	0.42
Zinc	18	3	3	1.02E-02	1.27E-02	LCV_FISH	3.64E-02	0.35
Zinc	18	3	3	1.02E-02	1.27E-02	LCV_DAPH	4.67E-02	0.27
Zinc	18	3	3	1.02E-02	1.27E-02	LTV_FISH	4.70E-02	0.27
Zinc	18	3	3	1.02E-02	1.27E-02	NAWQ_CHR	1.10E-01	0.12
Zinc	18	3	3	1.02E-02	1.27E-02	NAWQ_ACU	1.20E-01	0.11
Zinc	18	3	3	1.02E-02	1.27E-02	LCV_NDI	5.24E+00	0.00
Bis(2-ethylhexyl)phthalate	2.04	1	3	1.00E-03	1.00E-03	LCV_DAPH	3.00E-03	0.33
Bis(2-ethylhexyl)phthalate	2.04	1	3	1.00E-03	1.00E-03	LTV_DAPH	3.00E-03	0.33
Bis(2-ethylhexyl)phthalate	2.04	1	3	1.00E-03	1.00E-03	LCV_FISH	8.40E-03	0.12
Bis(2-ethylhexyl)phthalate	2.04	1	3	1.00E-03	1.00E-03	S_CHR_V	3.22E-02	0.03
Bis(2-ethylhexyl)phthalate	2.04	1	3	1.00E-03	1.00E-03	LTV_FISH	5.40E-02	0.02

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
Bis(2-ethylhexyl)phthalate	2.04	1	3	1.00E-03	1.00E-03	S_ACU_V	2.86E-01	0.00
Bis(2-ethylhexyl)phthalate	3.02	1	5	2.00E-03	2.00E-03	LCV_DAPH	3.00E-03	0.67
Bis(2-ethylhexyl)phthalate	3.02	1	5	2.00E-03	2.00E-03	LTV_DAPH	3.00E-03	0.67
Bis(2-ethylhexyl)phthalate	3.02	1	5	2.00E-03	2.00E-03	LCV_FISH	8.40E-03	0.24
Bis(2-ethylhexyl)phthalate	3.02	1	5	2.00E-03	2.00E-03	S_CHR_V	3.22E-02	0.06
Bis(2-ethylhexyl)phthalate	3.02	1	5	2.00E-03	2.00E-03	LTV_FISH	5.40E-02	0.04
Bis(2-ethylhexyl)phthalate	3.02	1	5	2.00E-03	2.00E-03	S_ACU_V	2.86E-01	0.01
Bis(2-ethylhexyl)phthalate	**3.03**	**1**	**5**	**3.50E-03**	**3.50E-03**	**LCV_DAPH**	**3.00E-03**	**1.17**
Bis(2-ethylhexyl)phthalate	**3.03**	**1**	**5**	**3.50E-03**	**3.50E-03**	**LTV_DAPH**	**3.00E-03**	**1.17**
Bis(2-ethylhexyl)phthalate	3.03	1	5	3.50E-03	3.50E-03	LCV_FISH	8.40E-03	0.42
Bis(2-ethylhexyl)phthalate	3.03	1	5	3.50E-03	3.50E-03	S_CHR_V	3.22E-02	0.11
Bis(2-ethylhexyl)phthalate	3.03	1	5	3.50E-03	3.50E-03	LTV_FISH	5.40E-02	0.06
Bis(2-ethylhexyl)phthalate	3.03	1	5	3.50E-03	3.50E-03	S_ACU_V	2.86E-01	0.01
Bis(2-ethylhexyl)phthalate	**4.01**	**2**	**5**	**2.25E-03**	**3.50E-03**	**LCV_DAPH**	**3.00E-03**	**1.17**
Bis(2-ethylhexyl)phthalate	**4.01**	**2**	**5**	**2.25E-03**	**3.50E-03**	**LTV_DAPH**	**3.00E-03**	**1.17**
Bis(2-ethylhexyl)phthalate	4.01	2	5	2.25E-03	3.50E-03	LCV_FISH	8.40E-03	0.42
Bis(2-ethylhexyl)phthalate	4.01	2	5	2.25E-03	3.50E-03	S_CHR_V	3.22E-02	0.11
Bis(2-ethylhexyl)phthalate	4.01	2	5	2.25E-03	3.50E-03	LTV_FISH	5.40E-02	0.06
Bis(2-ethylhexyl)phthalate	4.01	2	5	2.25E-03	3.50E-03	S_ACU_V	2.86E-01	0.01
PCB-1254	**18**	**1**	**4**	**7.15E-04**	**7.15E-04**	**S_CHR_V**	**2.00E-05**	**35.75**
PCB-1254	**18**	**1**	**4**	**7.15E-04**	**7.15E-04**	**LCV_AQPL**	**1.00E-04**	**7.15**
PCB-1254	**18**	**1**	**4**	**7.15E-04**	**7.15E-04**	**S_ACU_V**	**2.10E-04**	**3.40**
PCB-1254	**18**	**1**	**4**	**7.15E-04**	**7.15E-04**	**LTV_FISH**	**5.20E-04**	**1.38**
PCB-1254	18	1	4	7.15E-04	7.15E-04	LCV_NDI	8.00E-04	0.89
PCB-1254	18	1	4	7.15E-04	7.15E-04	LCV_FISH	1.00E-03	0.72
PCB-1254	18	1	4	7.15E-04	7.15E-04	LTV_DAPH	1.20E-03	0.60

Table F3.2 (continued)

Analyte	Subreach	Detects	Total Samples	Median	Maximum	BMK Name	BMK Value	HQ(Max)
PCB-1254	18	1	4	7.15E-04	7.15E-04	LCV_DAPH	2.10E-03	0.34

[1] All units are mg/l.
[2] Includes Contaminants of Potential Ecological Concern in whole sediment and pore water which were detected at least once in the pore water samples

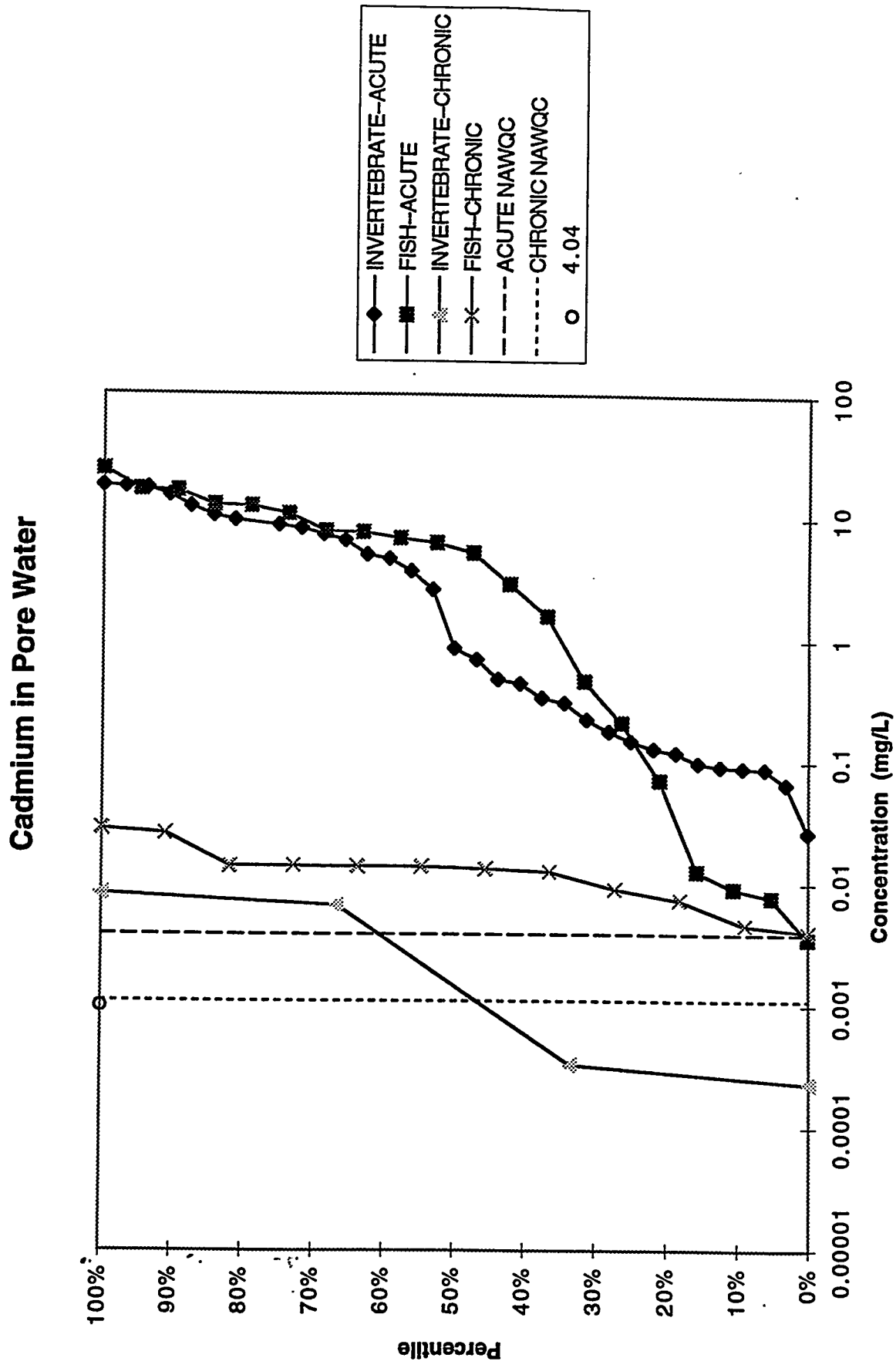


Fig. F3.1. Empirical distribution functions for acute toxicity and chronic toxicity of cadmium to aquatic organisms and individual measurements of cadmium in reaches for which potentially significant concentrations were reported.

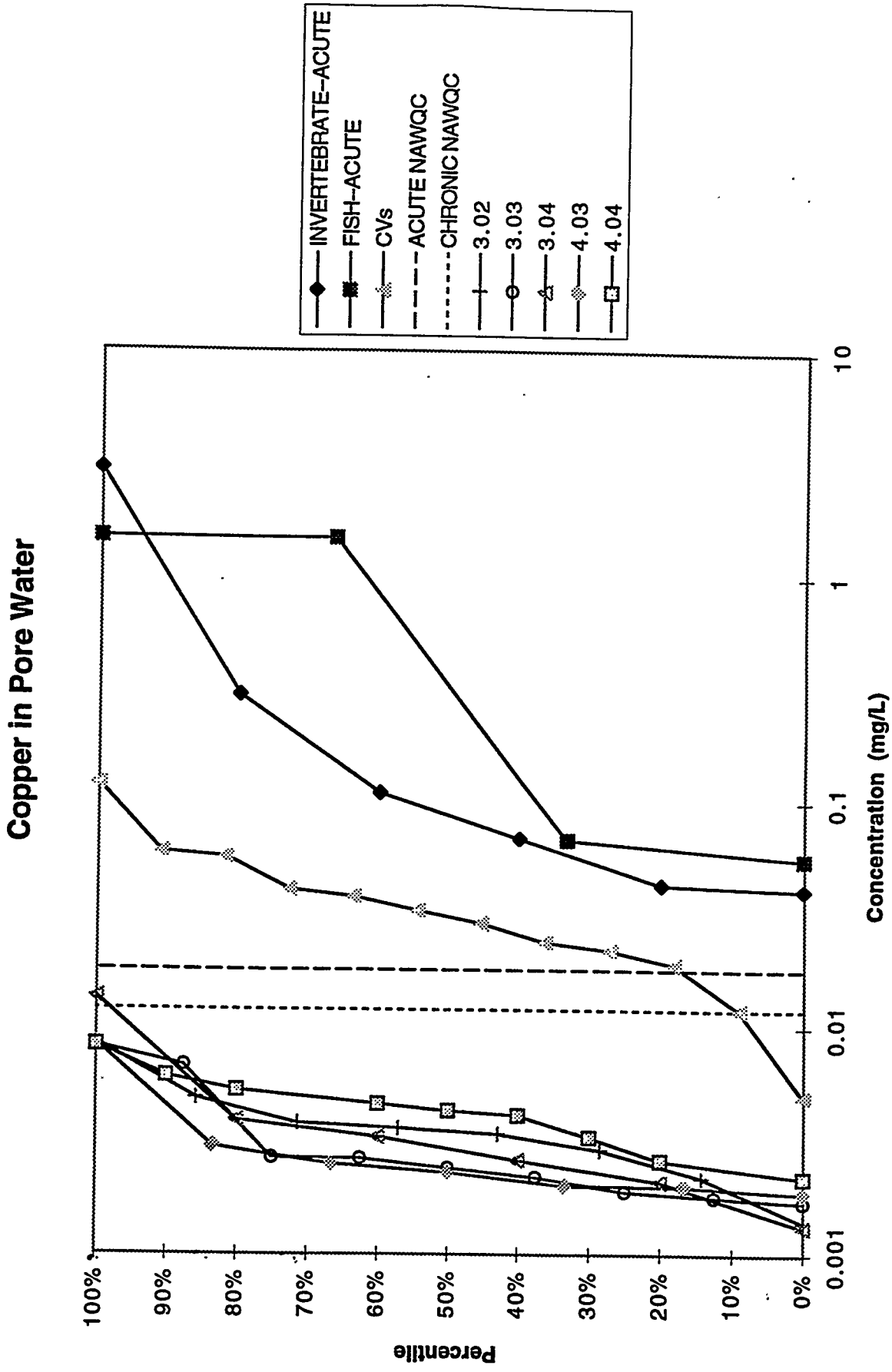


Fig. F3.2. Empirical distribution functions for acute toxicity and chronic toxicity of copper to aquatic organisms and individual measurements of copper in reaches for which potentially significant concentrations were reported.

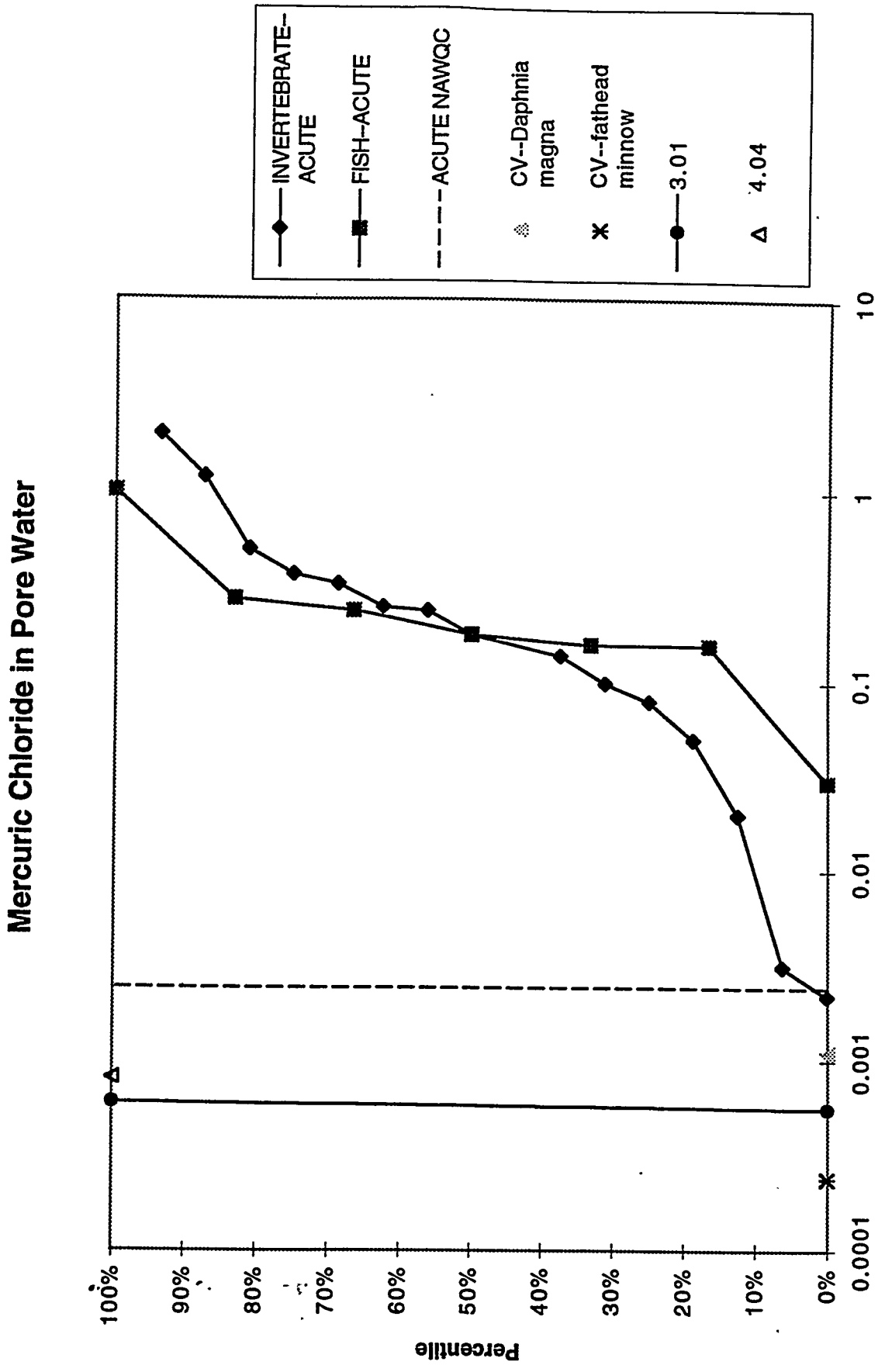


Fig. F3.3. Empirical distribution functions for acute toxicity and chronic toxicity of mercury to aquatic organisms and individual measurements of mercury in reaches for which potentially significant concentrations were reported.

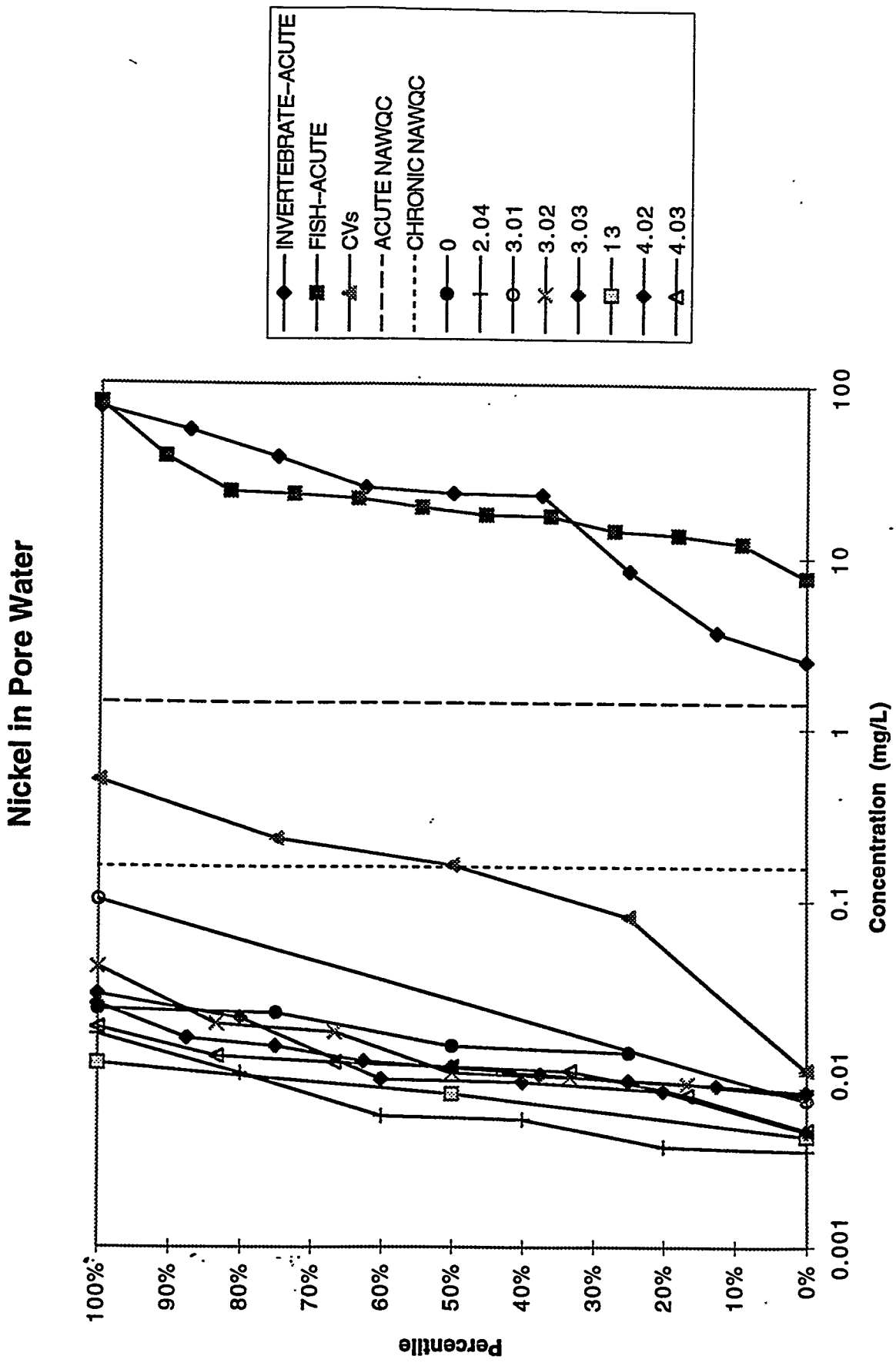


Fig. F3.4. Empirical distribution functions for acute toxicity and chronic toxicity of nickel to aquatic organisms and individual measurements of nickel in reaches for which potentially significant concentrations were reported.

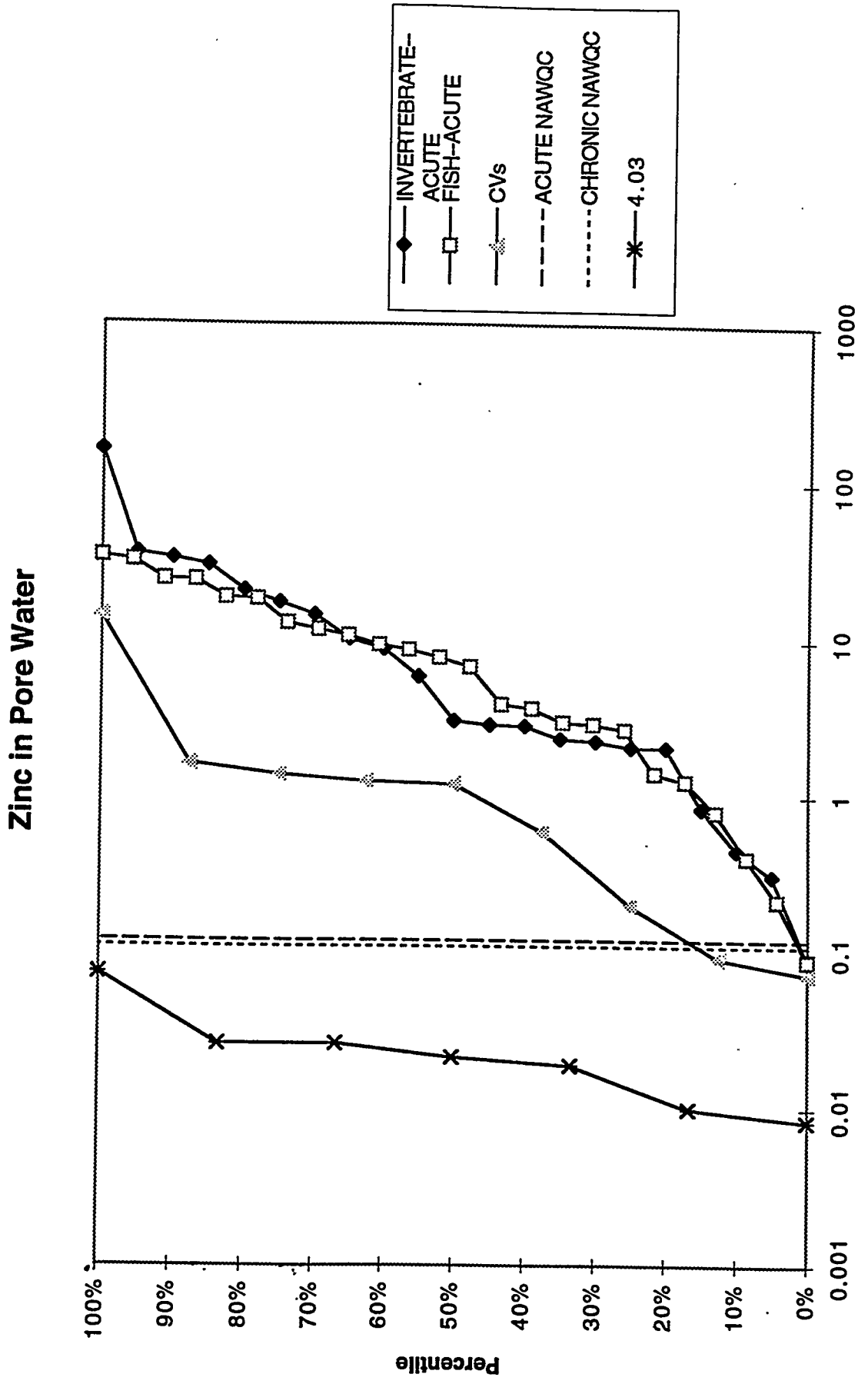


Fig. F3.5. Empirical distribution functions for acute toxicity and chronic toxicity of zinc to aquatic organisms and individual measurements of zinc in reaches for which potentially significant concentrations were reported.

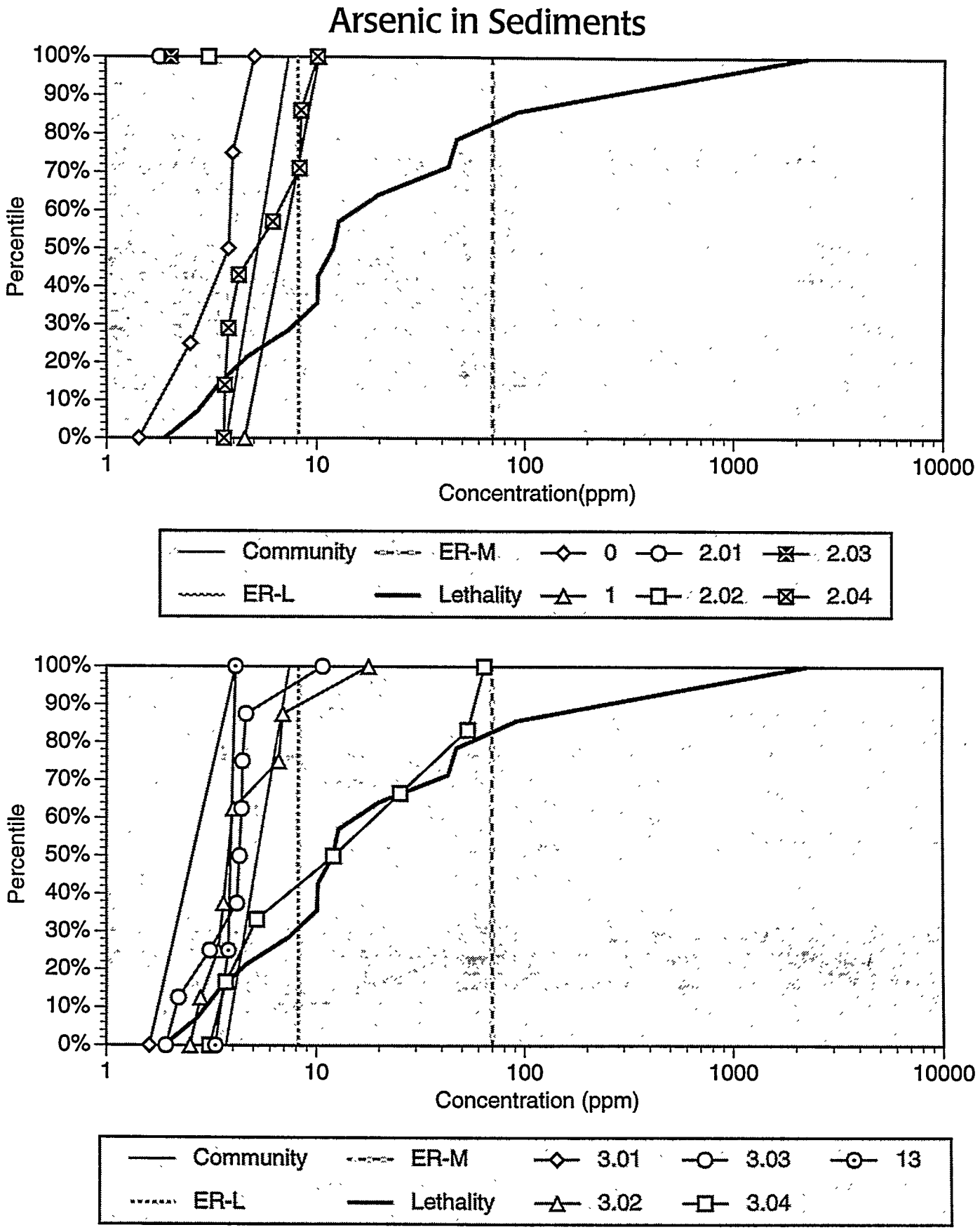


Fig. F3.6(a-b). Empirical distribution functions for sediment toxicity of arsenic to sediment-associated organisms and individual measurements of arsenic in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River, bottom graph (b) is Poplar Creek.

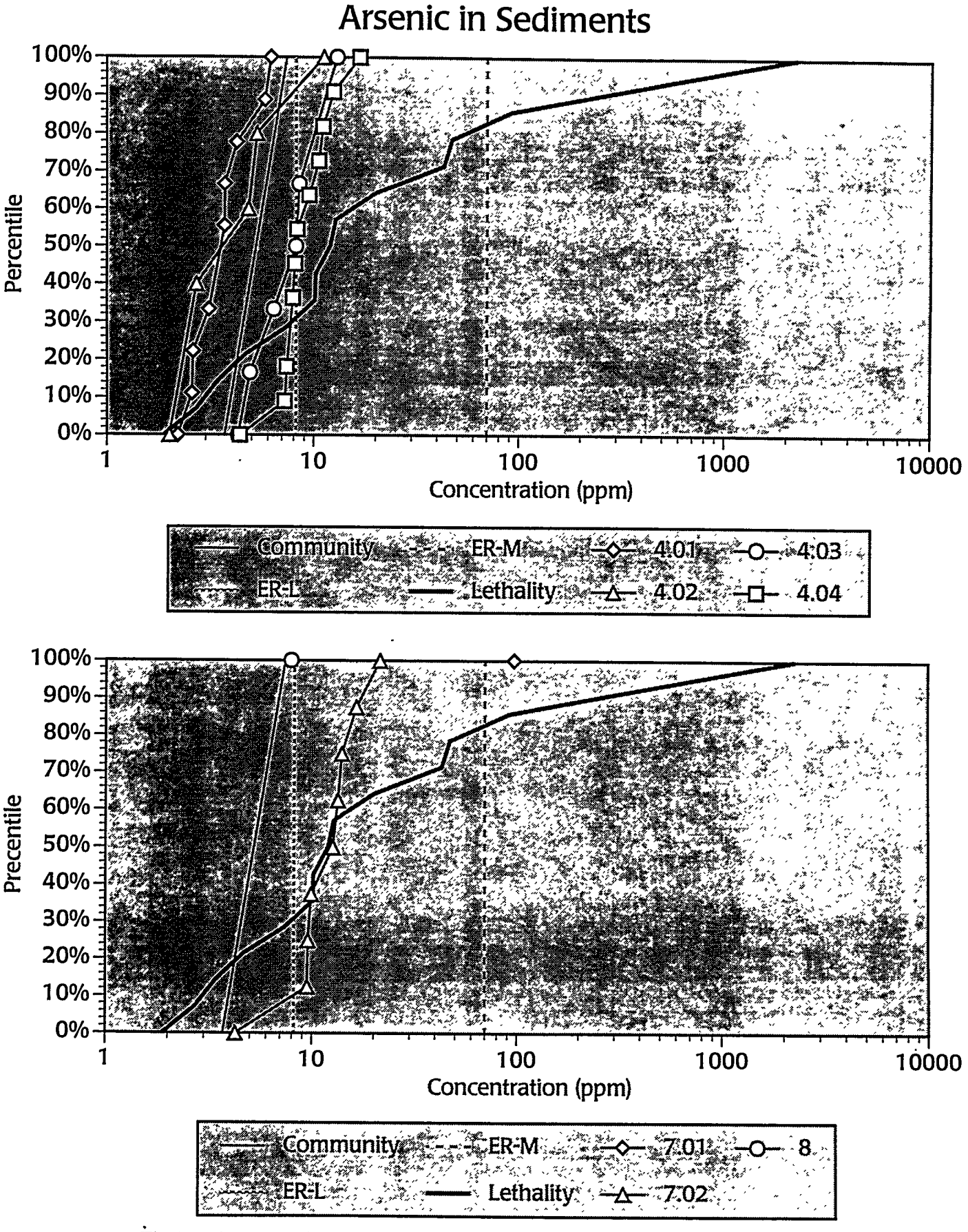
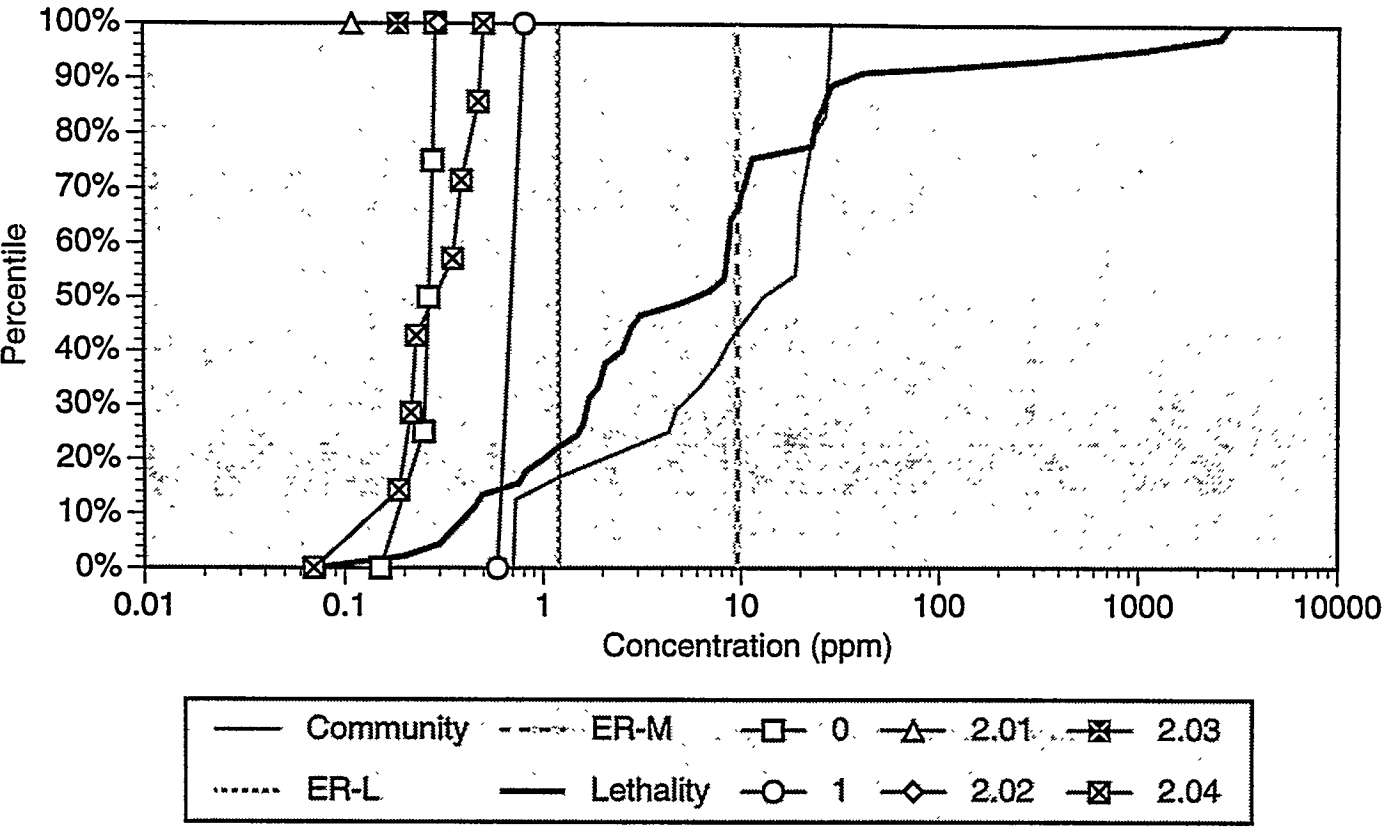
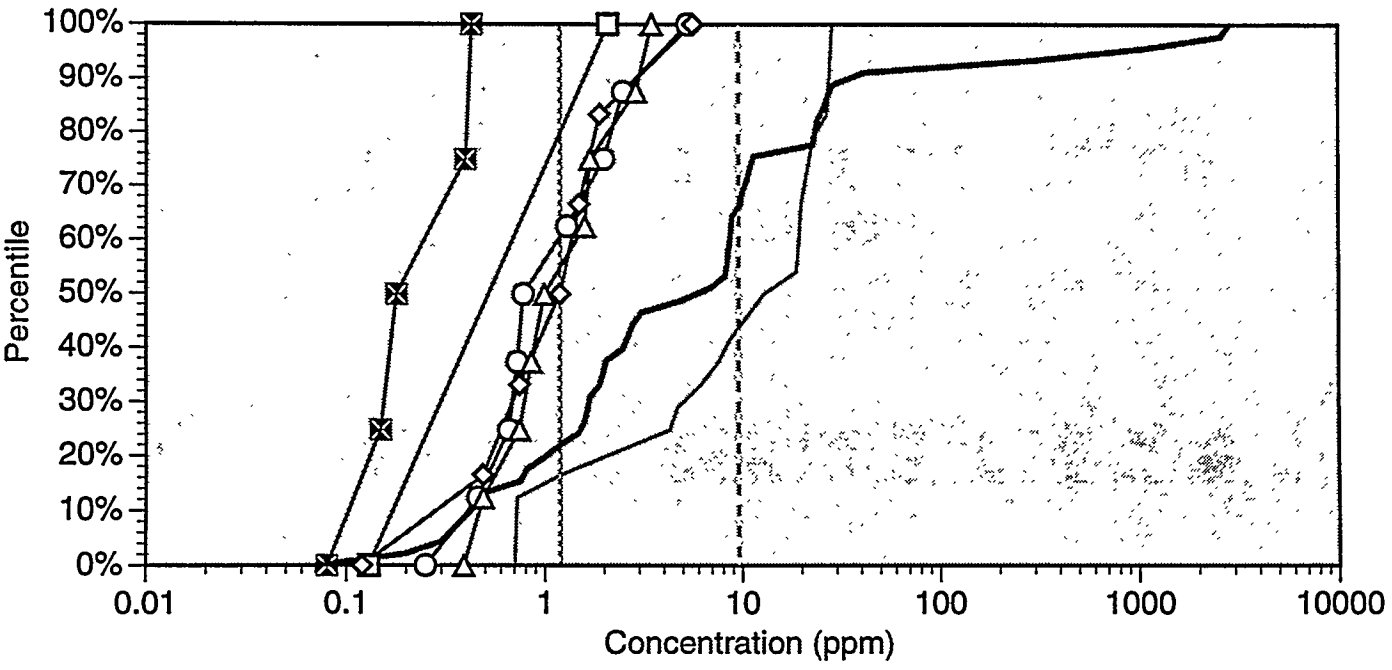


Fig. F3.6(c-d). Empirical distribution functions for sediment toxicity of arsenic to sediment-associated organisms and individual measurements of arsenic in sediments from the Clinch River and Poplar Creek System. Top graph (c) is Lower Clinch River bottom graph (d) is McCoy Branch Embayment and Walker Branch Embayment.

Cadmium in Sediments





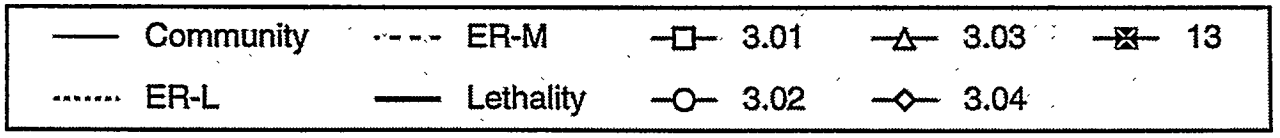


Fig. F3.7(a-b). Empirical distribution functions for sediment toxicity of cadmium to sediment-associated organisms and individual measurements of cadmium in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River, bottom graph (b) is Poplar Creek.

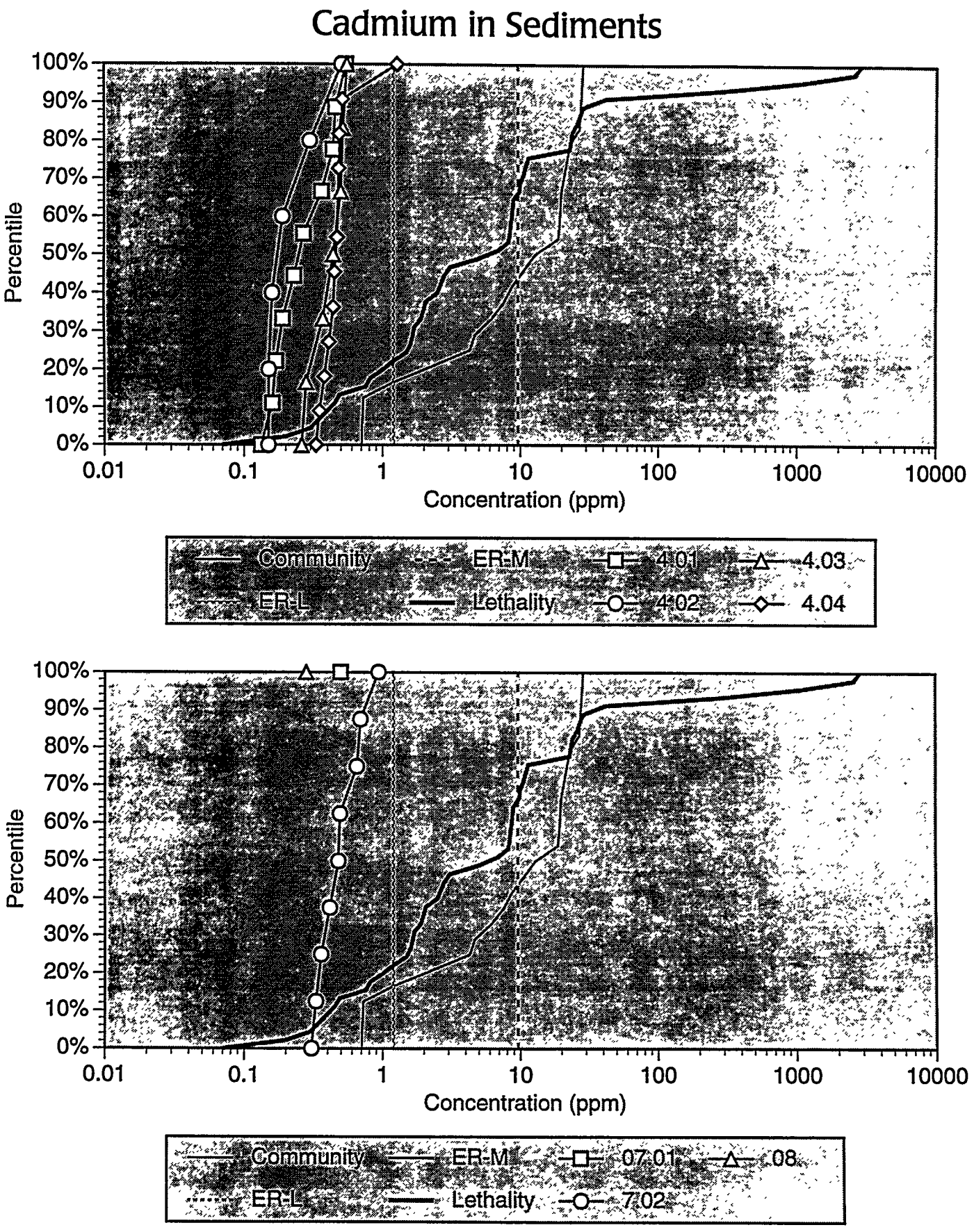


Fig. F3.7(c-d). Empirical distribution functions for sediment toxicity of cadmium to sediment-associated organisms and individual measurements of cadmium in sediments from the Clinch River and Poplar Creek System. Top graph (c) is Lower Clinch River bottom graph (d) is McCoy Branch Embayment and Walker Branch Embayment.

Chromium in Sediments

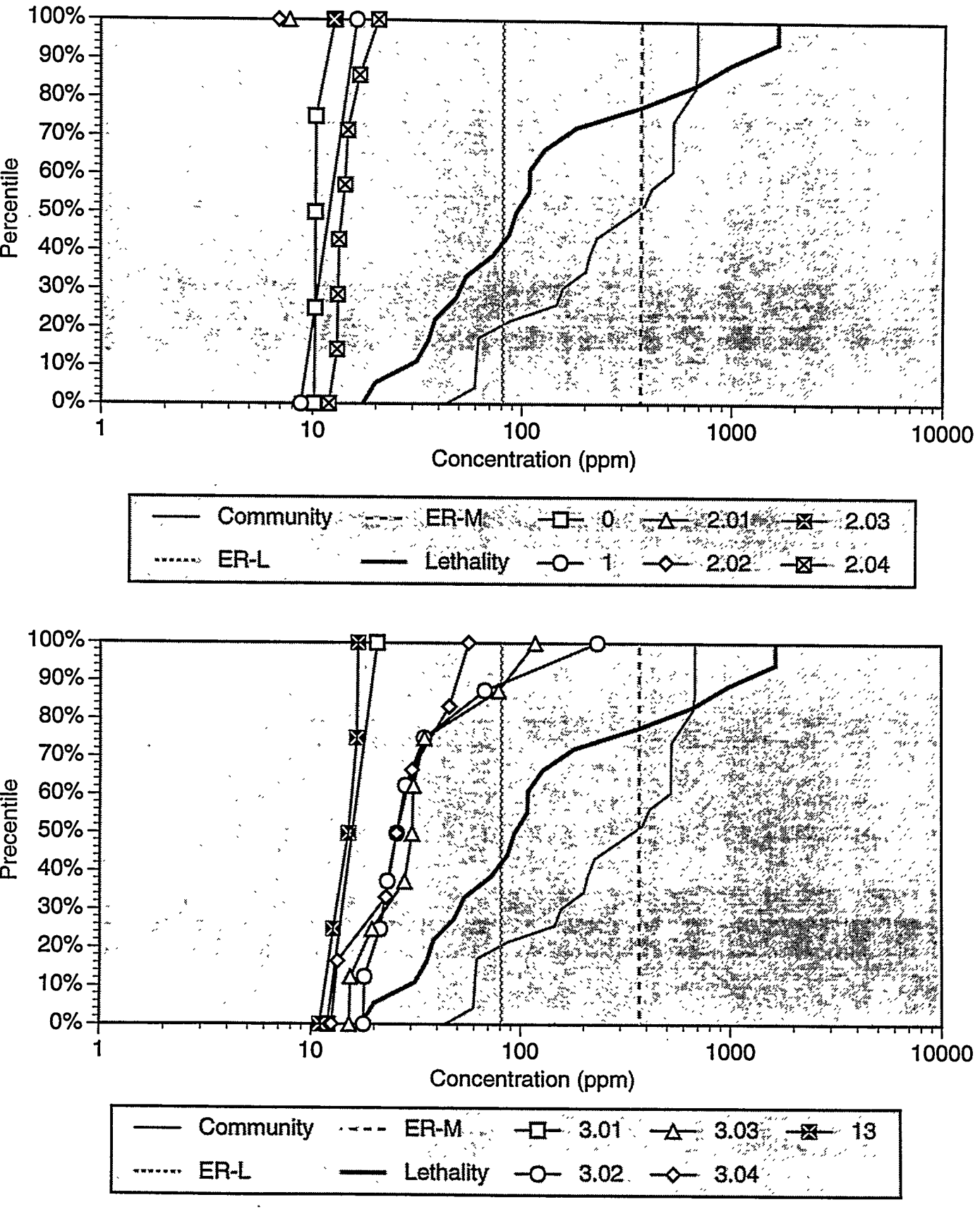


Fig. F3.8(a-b). Empirical distribution functions for sediment toxicity of chromium to sediment-associated organisms and individual measurements of chromium in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River, bottom graph (b) is Poplar Creek.

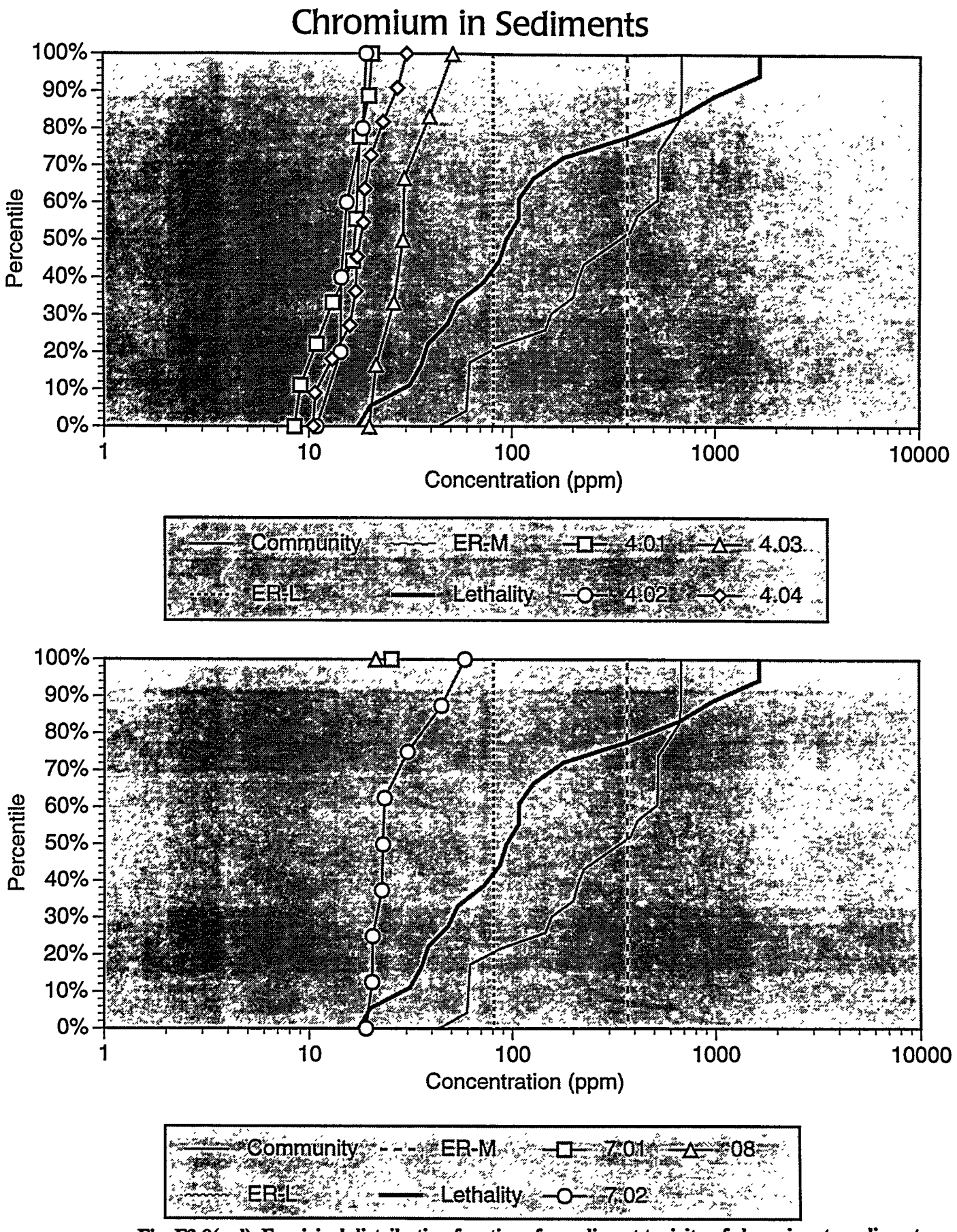


Fig. F3.8(c-d). Empirical distribution functions for sediment toxicity of chromium to sediment-associated organisms and individual measurements of chromium in sediments from the Clinch River and Poplar Creek System. Top graph (c) is Lower Clinch River bottom graph (d) is McCoy Branch Embayment and Walker Branch Embayment.

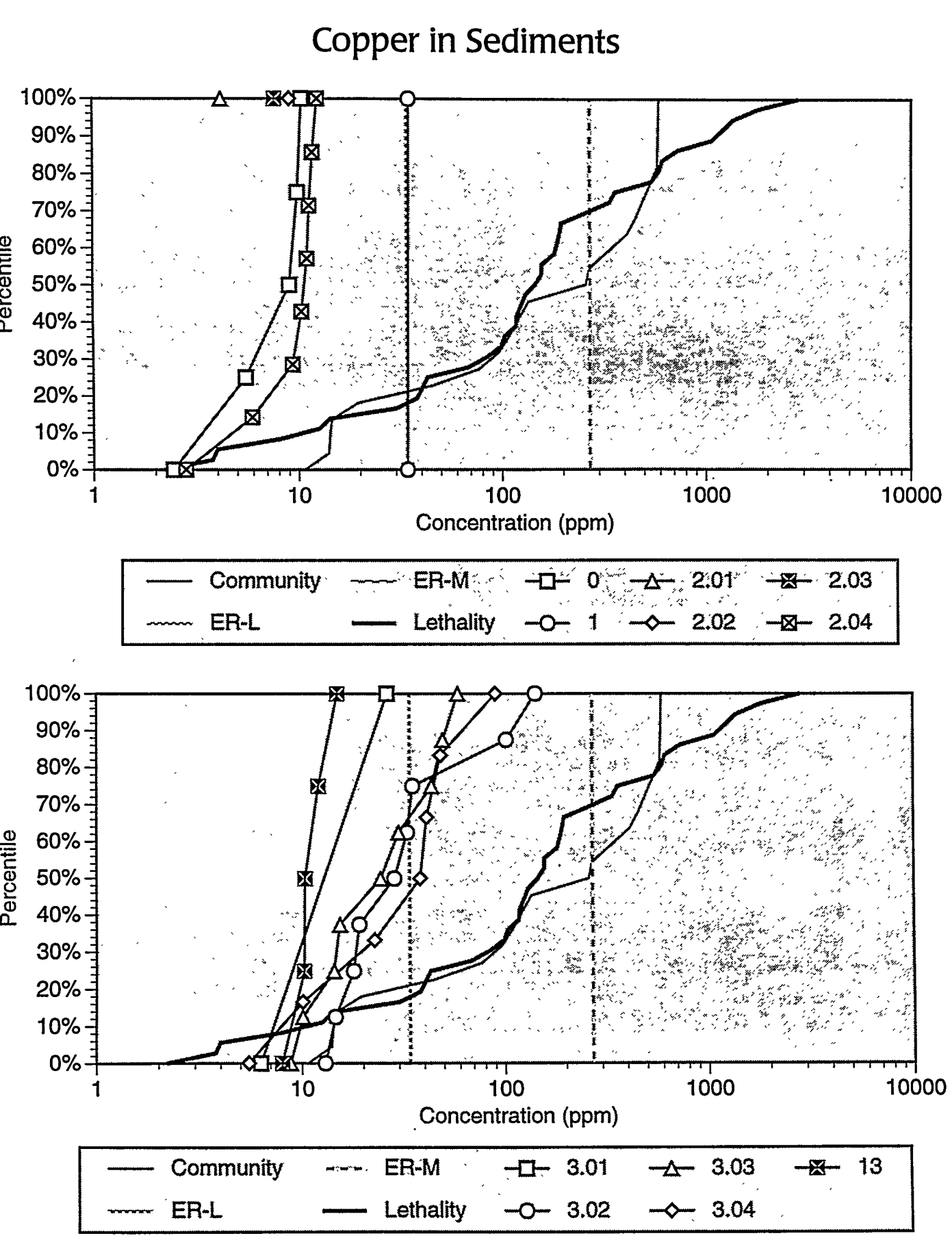


Fig. F3.9(a-b). Empirical distribution functions for sediment toxicity of copper to sediment-associated organisms and individual measurements of copper in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River, bottom graph (b) is Poplar Creek.

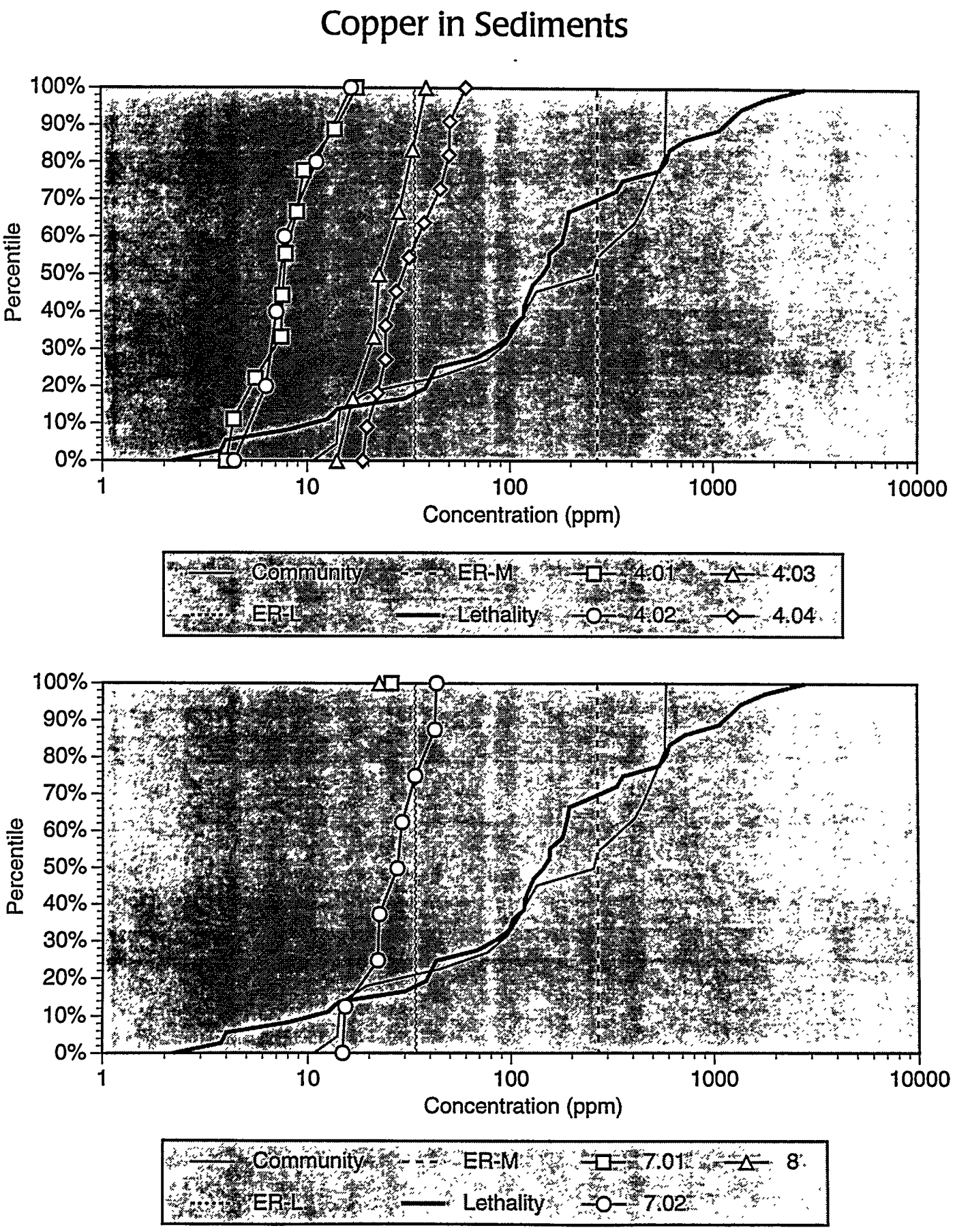


Fig. F3.9(c-d). Empirical distribution functions for sediment toxicity of copper to sediment-associated organisms and individual measurements of copper in sediments from the Clinch River and Poplar Creek System. Top graph (c) is Lower Clinch River bottom graph (d) is McCoy Branch Embayment and Walker Branch Embayment.

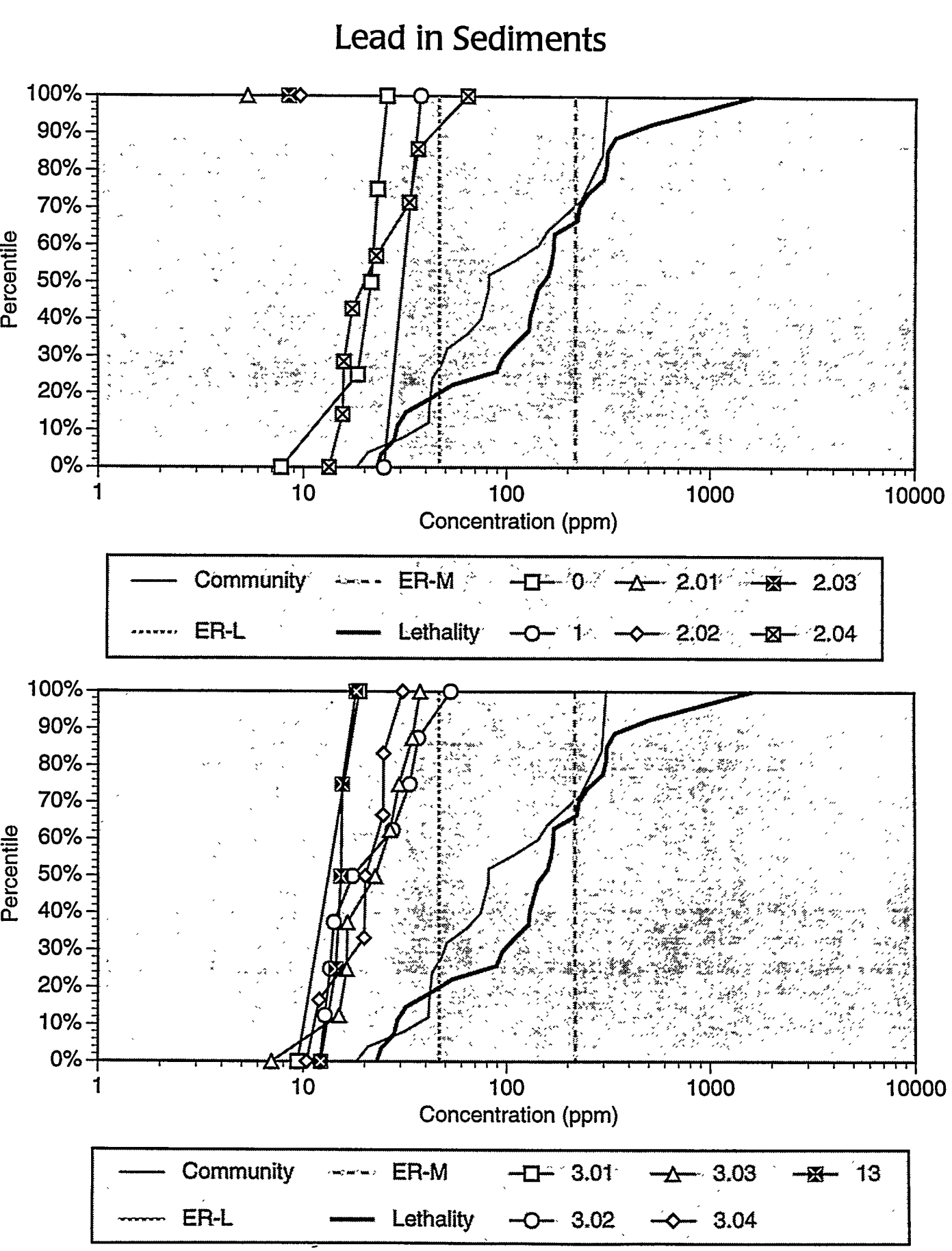


Fig. F3.10(a-b). Empirical distribution functions for sediment toxicity of lead to sediment-associated organisms and individual measurements of lead in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River, bottom graph (b) is Poplar Creek.

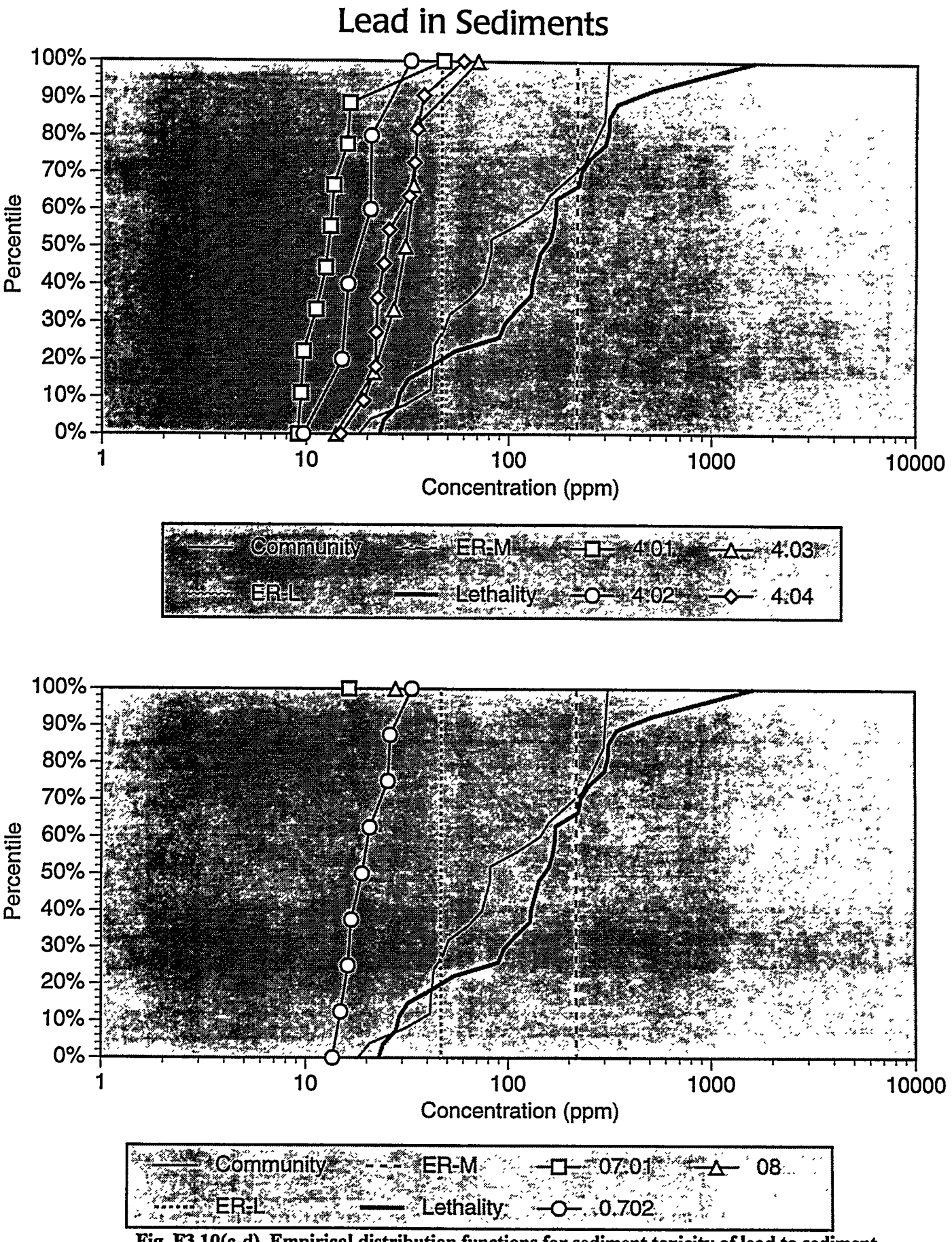
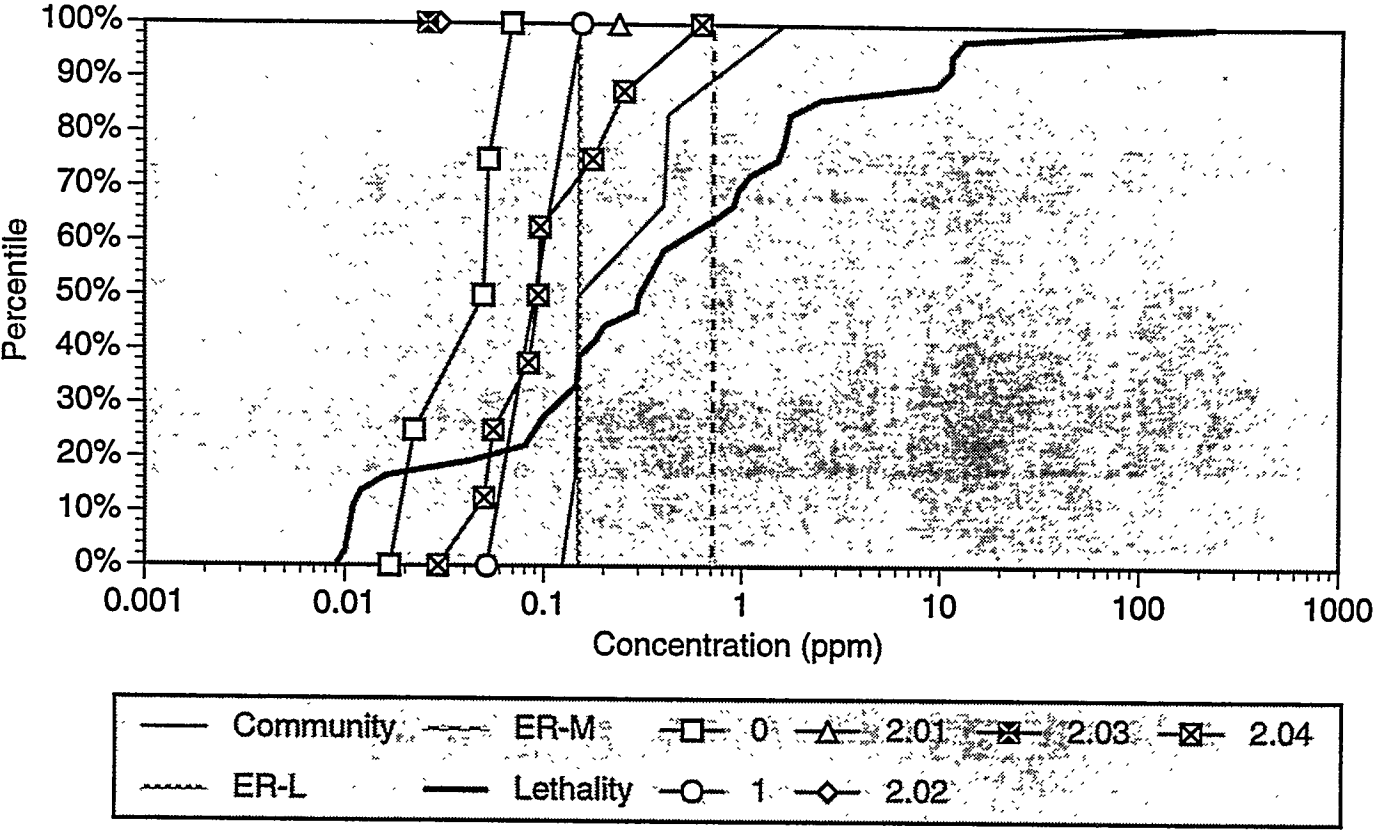


Fig. F3.10(c-d). Empirical distribution functions for sediment toxicity of lead to sediment-associated organisms and individual measurements of lead in sediments from the Clinch River and Poplar Creek System. Top graph (c) is Lower Clinch River bottom graph (d) is McCoy Branch Embayment and Walker Branch Embayment.

Mercury in Sediments



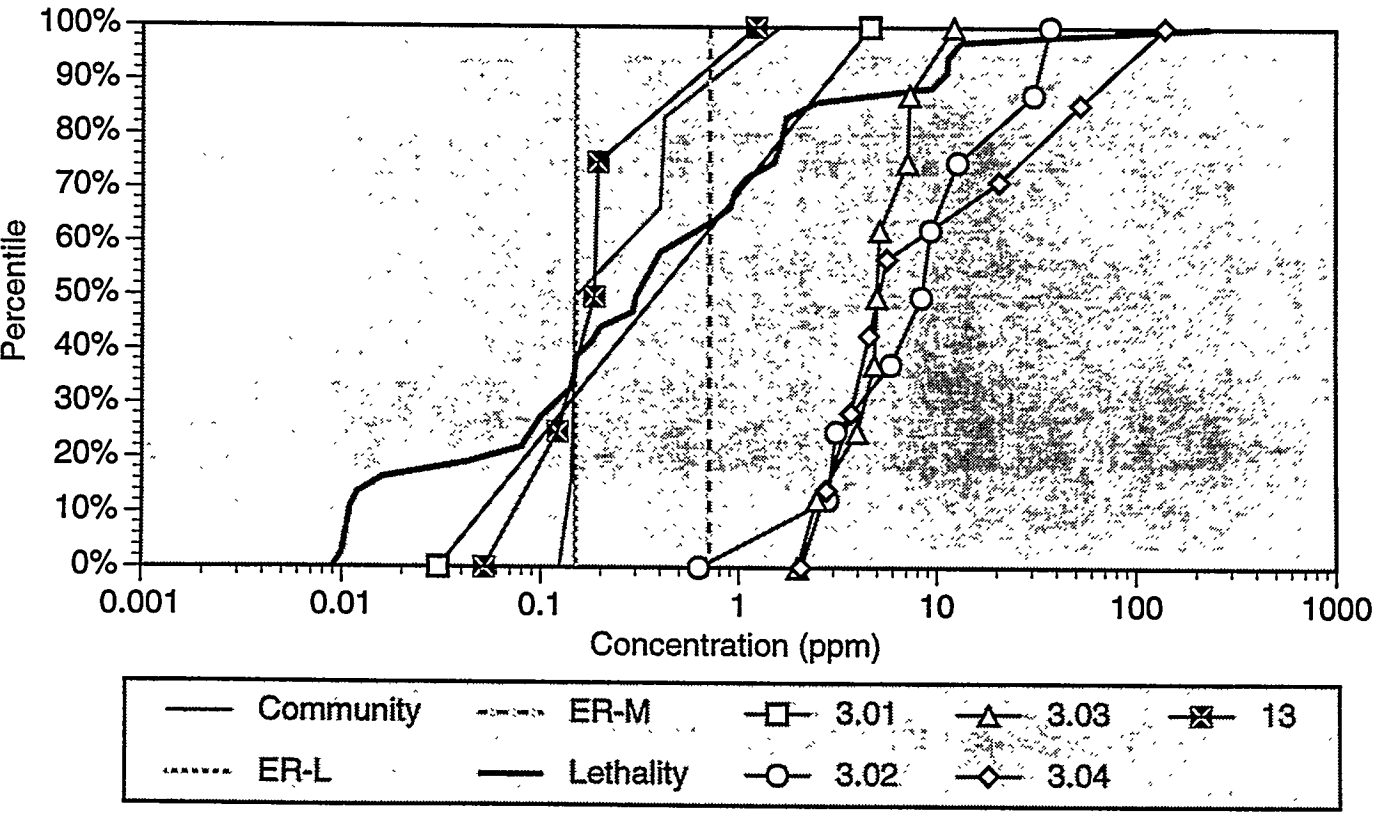


Fig. F3.11(a-b). Empirical distribution functions for sediment toxicity of mercury to sediment-associated organisms and individual measurements of mercury in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River, bottom graph (b) is Poplar Creek.

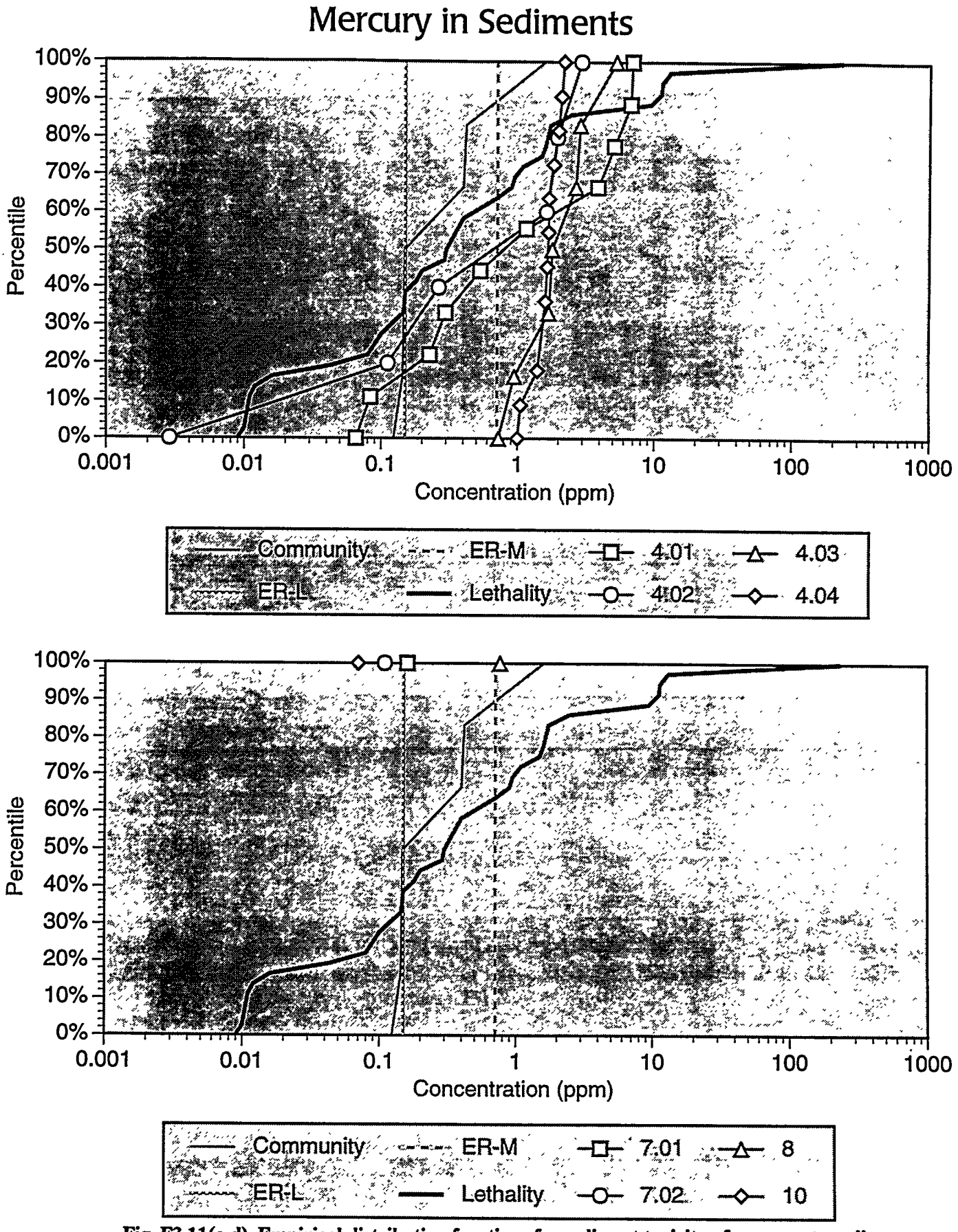


Fig. F3.11(c-d). Empirical distribution functions for sediment toxicity of mercury to sediment-associated organisms and individual measurements of mercury in sediments from the Clinch River and Poplar Creek System. Top graph (c) is Lower Clinch River bottom graph (d) is McCoy Branch Embayment and Walker Branch Embayment.

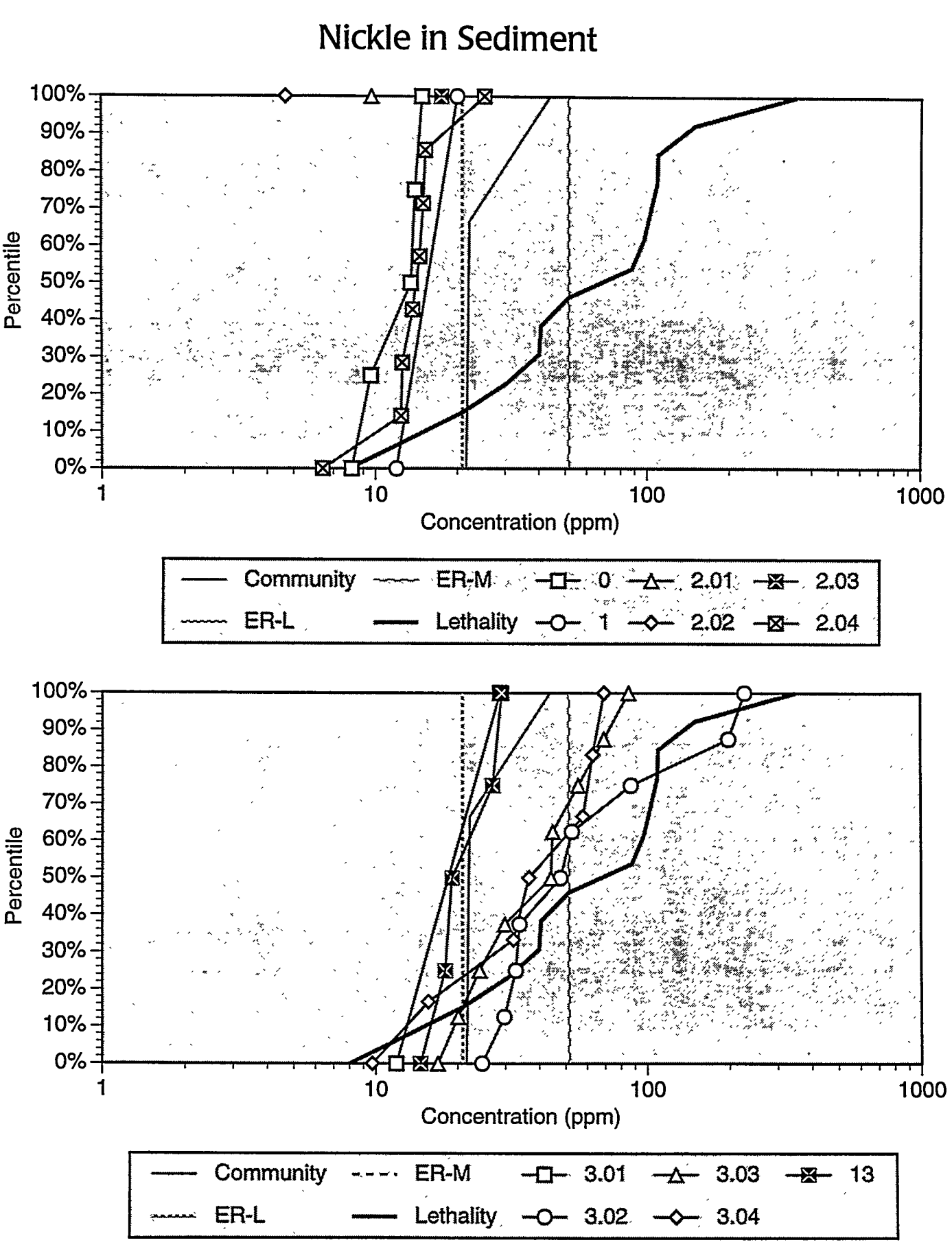


Fig. F3.12(a-b). Empirical distribution functions for sediment toxicity of nickel to sediment-associated organism and individual measurements of nickel in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River, bottom graph (b) is Poplar Creek.

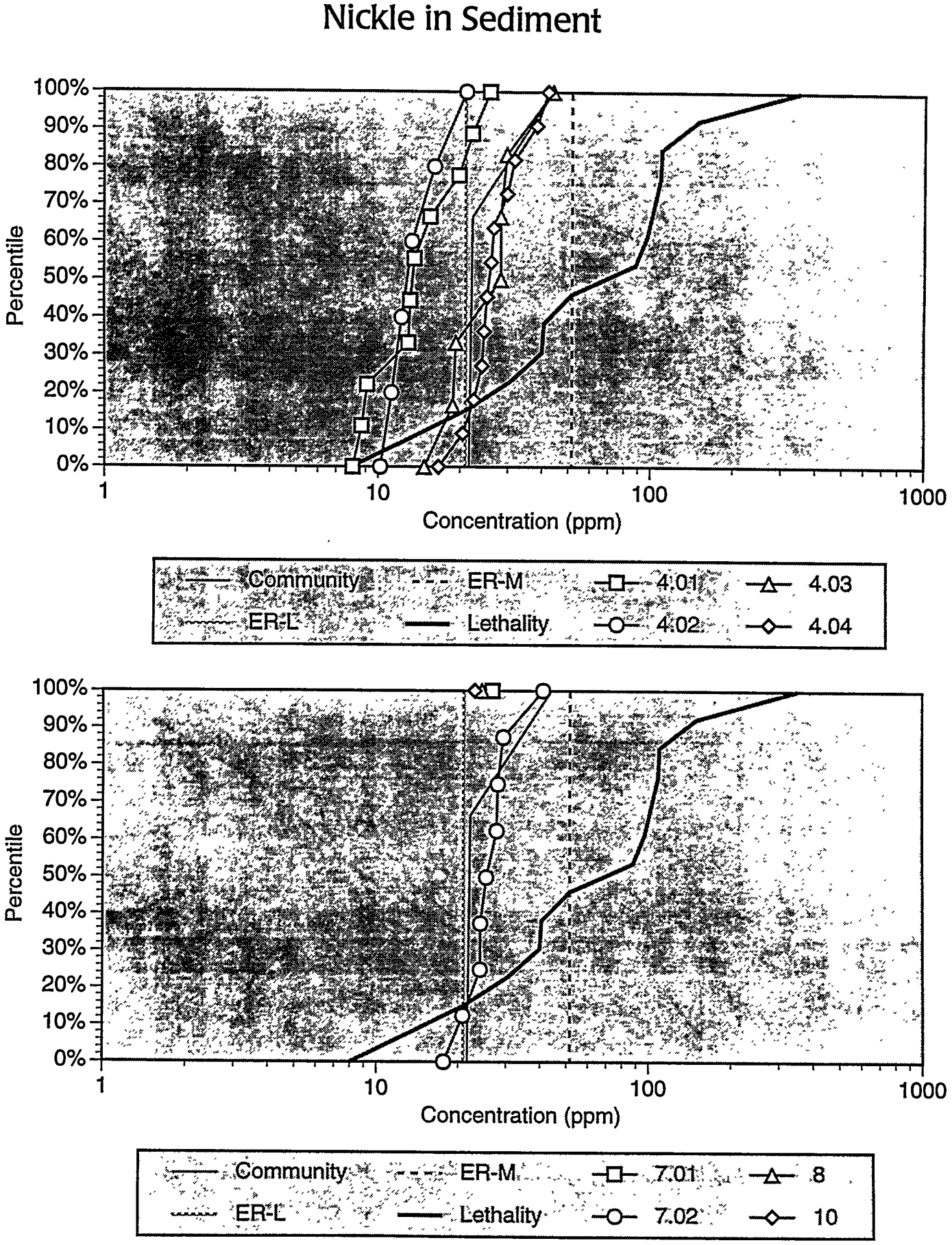


Fig. F3.12(c-d). Empirical distribution functions for sediment toxicity of nickel to sediment-associated organisms and individual measurements of nickel in sediments from the Clinch River and Poplar Creek System. Top graph (c) is Lower Clinch River bottom graph (d) is McCoy Branch Embayment and Walker Branch Embayment.

Silver in Sediments

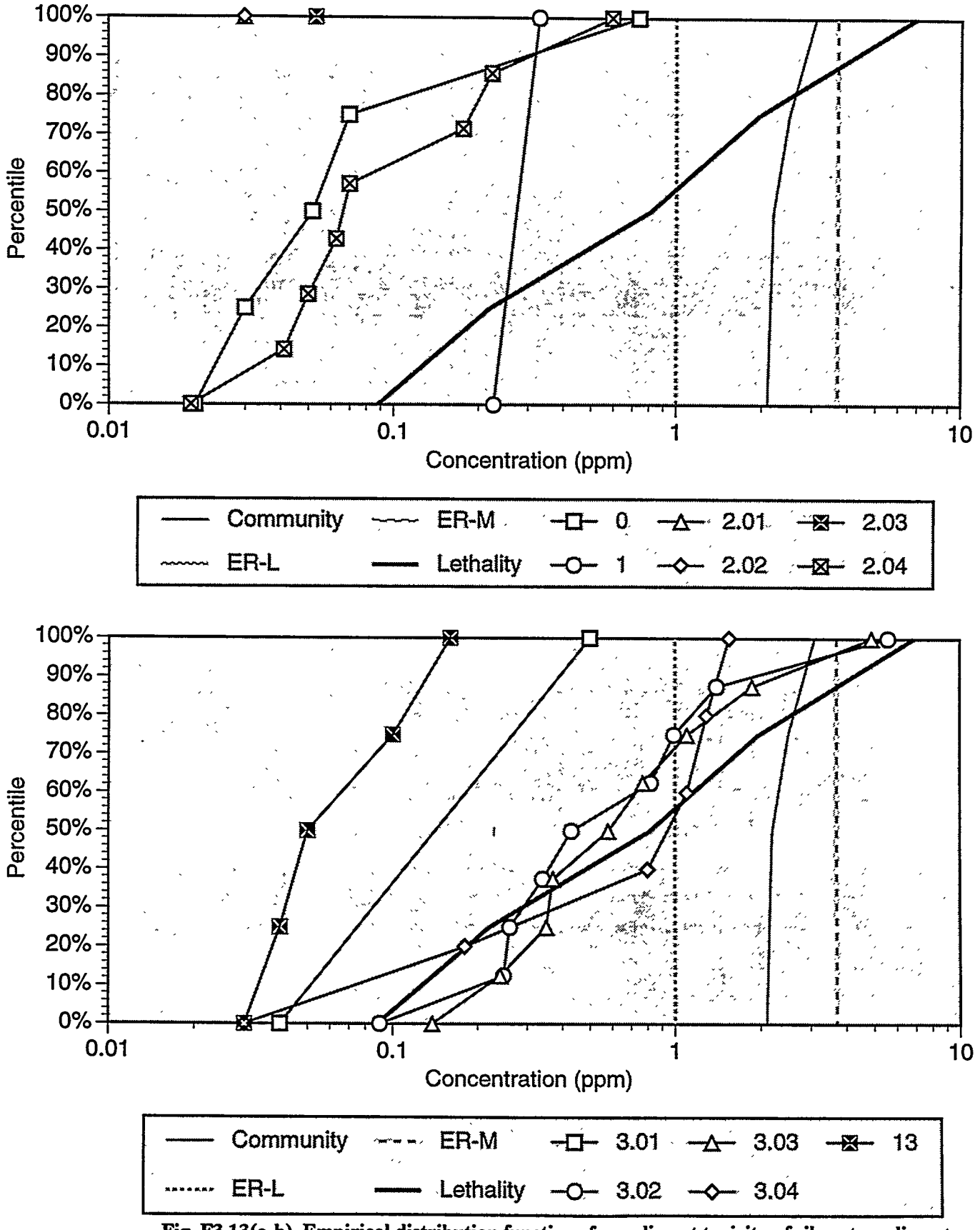


Fig. F3.13(a-b). Empirical distribution functions for sediment toxicity of silver to sediment-associated organisms and individual measurements of silver in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River, bottom graph (b) is Poplar Creek.

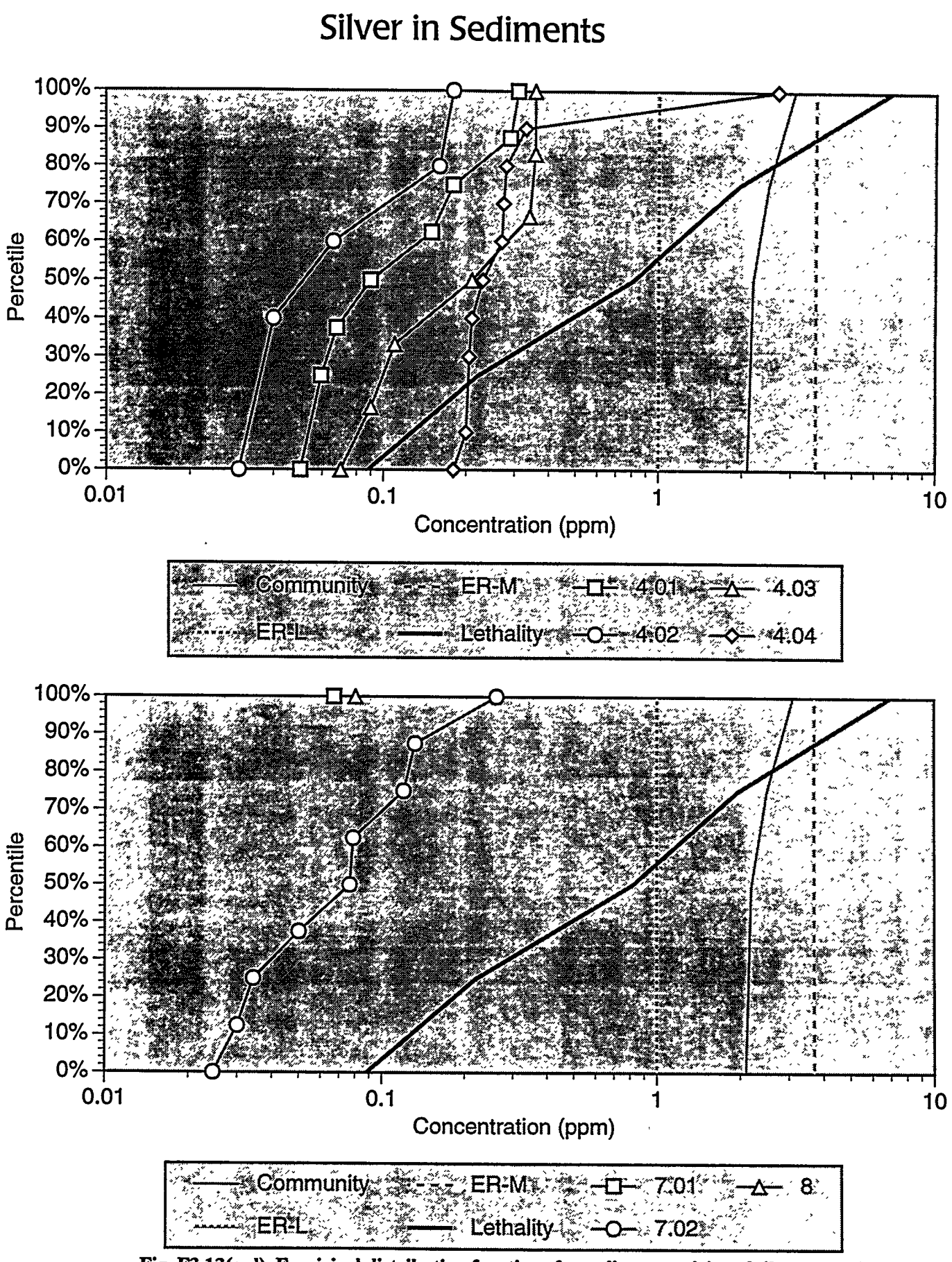


Fig. F3.13(c-d). Empirical distribution functions for sediment toxicity of silver to sediment-associated organisms and individual measurements of silver in sediments from the Clinch River and Poplar Creek System. Top graph (c) is Lower Clinch River bottom graph (d) is McCoy Branch Embayment and Walker Branch Embayment.

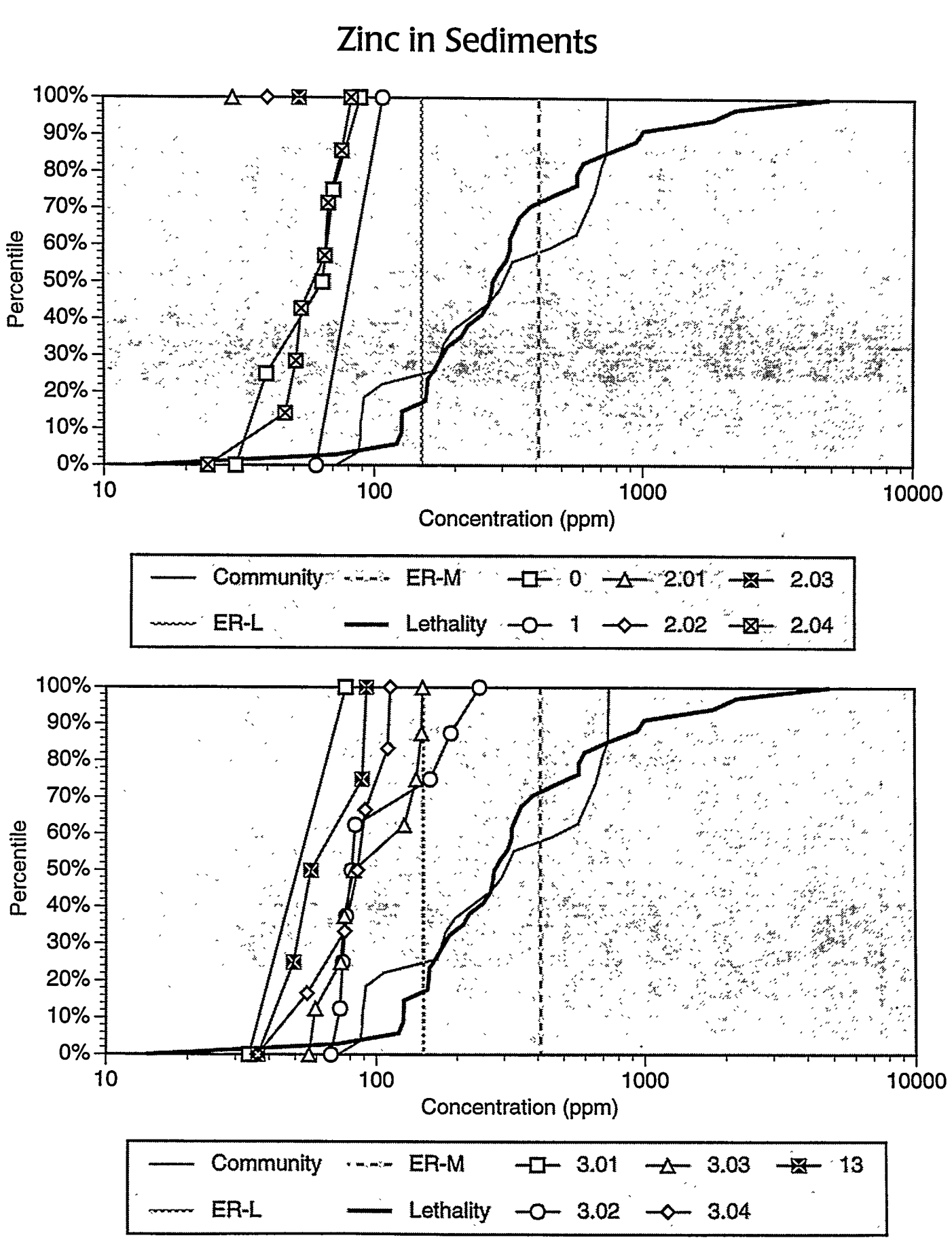


Fig. F3.14(a-b). Empirical distribution functions for sediment toxicity of zinc to sediment-associated organisms and individual measurements of zinc in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River, bottom graph (b) is Poplar Creek.

Zinc in Sediments

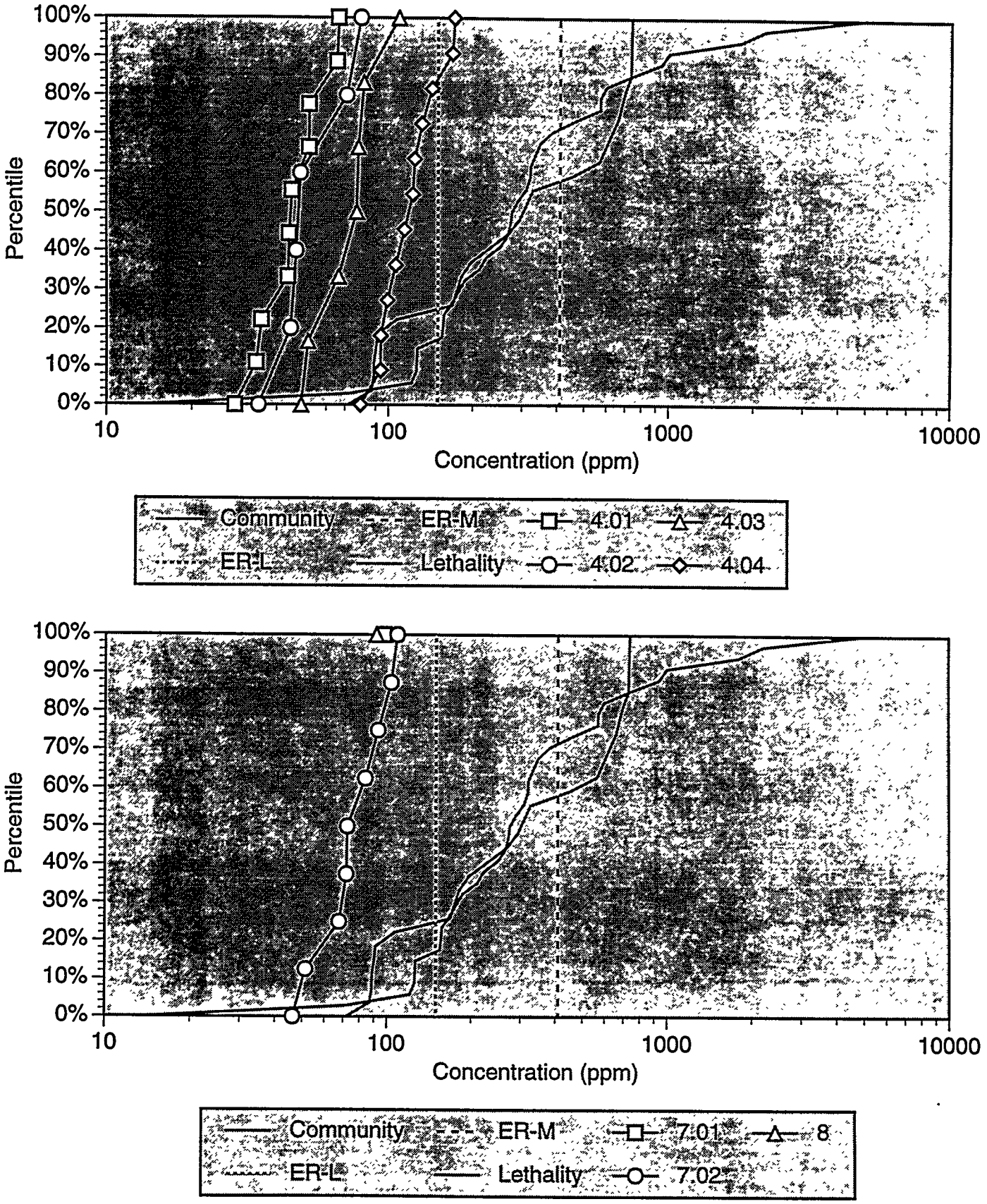


Fig. F3.14(c-d). Empirical distribution functions for sediment toxicity of zinc to sediment-associated organisms and individual measurements of zinc in sediments from the Clinch River and Poplar Creek System. Top graph (c) is Lower Clinch River bottom graph (d) is McCoy Branch Embayment and Walker Branch Embayment.

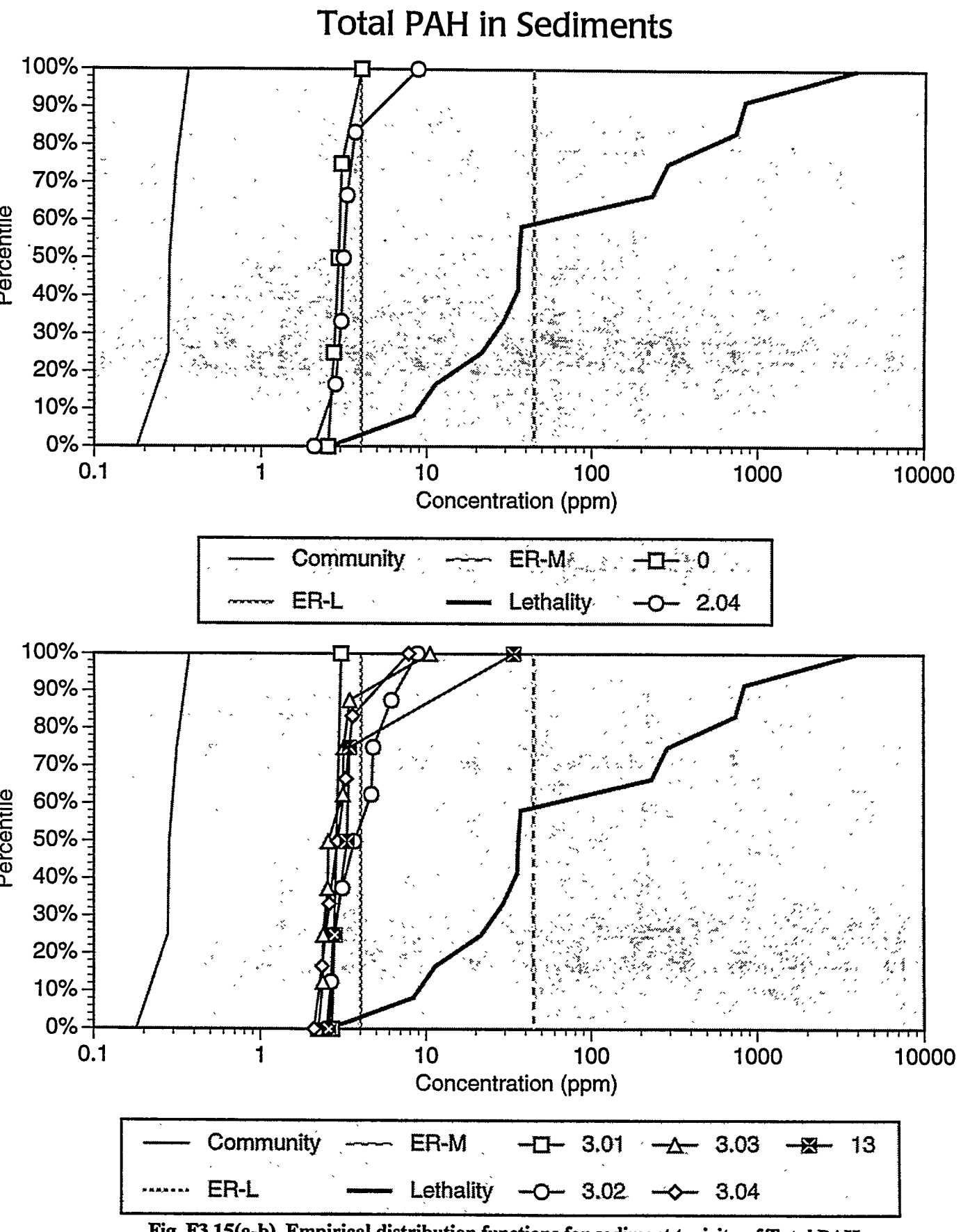


Fig. F3.15(a-b). Empirical distribution functions for sediment toxicity of Total PAH to sediment-associated organisms and individual measurements of 2-methylnaphthalene in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River, bottom graph (b) is Poplar Creek.

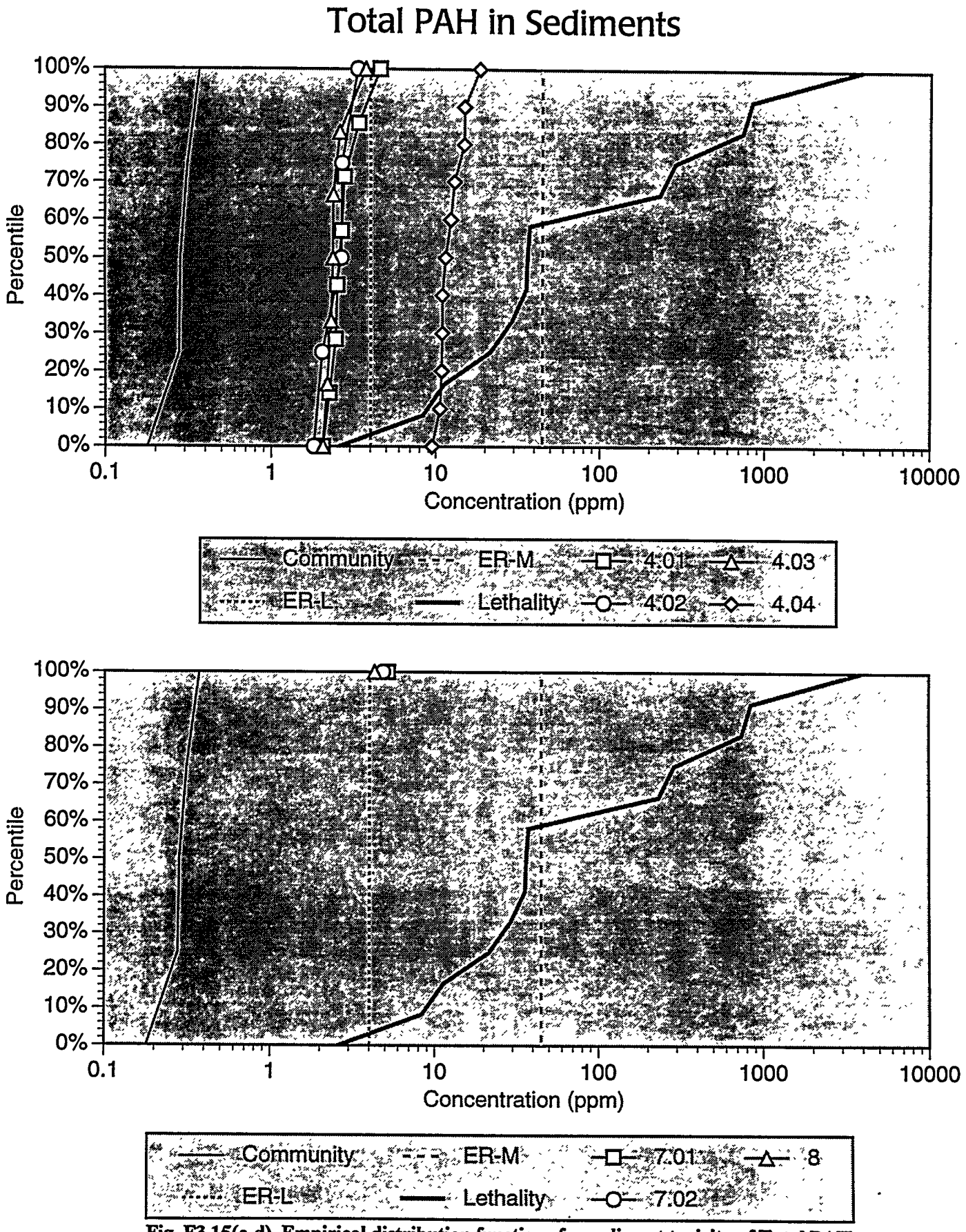


Fig. F3.15(c-d). Empirical distribution functions for sediment toxicity of Total PAH to sediment-associated organisms and individual measurements of 2-methylnaphthalene in sediments from the Clinch River and Poplar Creek System. Top graph (c) is Lower Clinch River bottom graph (d) is McCoy Branch Embayment and Walker Branch Embayment.

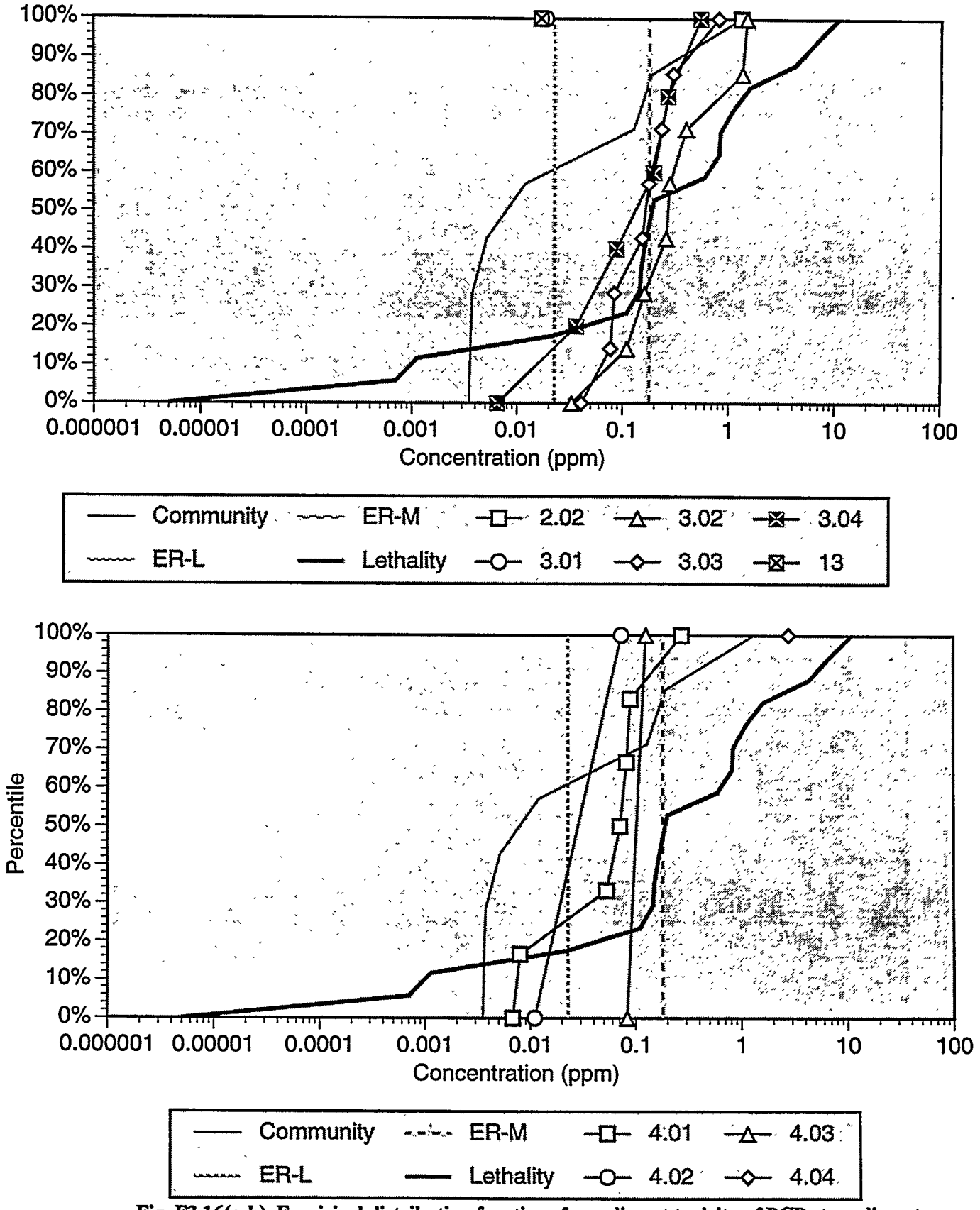


Fig. F3.16(a-b). Empirical distribution functions for sediment toxicity of PCBs to sediment-associated organisms and individual measurements of PCBs in sediments from the Clinch River and Poplar Creek System. Top graph (a) is Upper Clinch River and Poplar Creek, bottom graph (b) is Lower Clinch River.

Appendix F4

PISCIVOROUS WILDLIFE

Table F4.1. Life history parameters for osprey

Parameter	Value	Comments	Reference
Body Weight	1.5 kg (♂+♀)		EPA 1993 (GLWQC)
Food Consumption Rate	0.3 kg/d	fresh weight	EPA 1993 (GLWQC)
Water Consumption Rate	0.077 L/d		EPA 1993 (GLWQC)
Diet Composition	almost 100% fish	all parts of fish consumed except large bones	EPA 1993 (GLWQC)
	fish sizes: 0-10 cm=3.3% 11-20 cm=42.1% 21-30 cm=46.7% 31-40 cm=6.6% >41 cm=1.3%		VanDaele and VanDaele 1982
Home Range (foraging distance from nest site)	10-15 km		VanDaele and VanDaele 1982
Habitat Requirements	Coastal areas plus large rivers and lakes Nesting habitat requires open, shallow water nearby plus abundant fish. Nests atop isolated (often dead) trees and man-made structures		EPA 1993a
Population Density	0.005-0.1 nests/ha		EPA 1993a
Behavior	year-round resident in southern part of range (i.e. Florida) Migratory in Tennessee		EPA 1993a

Table F4.2. Life history parameters for great blue heron

Parameter	Value	Comments	Reference
Body Weight	2.576 kg (♂) 2.204 kg (♀) **2.39** kg (mean♂+♀)		Dunning 1984
Food Consumption Rate	**0.42** kg/d	estimated using allometric equation[a] specific for herons and egrets assuming 2.39 kg bw	Kushlan 1978
Water Consumption Rate	**0.1058** L/d	estimated using allometric equation[b] assuming 2.39 kg bw	After Calder and Braun 1983
Diet Composition	diet predominantly fish but may include crustaceans, insects, snails, amphibians, reptiles, birds, and mammals fish sizes: 0-10 cm=39.2% 11-20 cm=47.1% 21-30 cm=13.7%		Kushlan 1978 Collazo 1985 Hoffman 1978 Alexander 1977
Home Range (foraging distance from colony)	3.1 km 7 - 8 km	up to 24.2 km - S. Dakota - river N. Carolina - coastal	EPA 1993a. Short and Cooper 1985
Habitat Requirements	use both coastal and inland water-associated habitats Foraging: shallow shores of ponds, lakes, streams, wet meadows, wooded swamps, bays, and marshes breeding: trees for rookery sites. In absence of trees will use rock ledges, cliffs, and artificial structures		Short and Cooper 1985 DeGraaf et al. 1981 Short and Cooper 1985

Table F4.2 (continued)

Parameter	Value	Comments	Reference
Population Density	nest colonially, therefore population density depends on availability of nest habitat and suitable foraging habitat		EPA 1993a
Behavior	may or may not defend a feeding territory depending on local population size and food availability		Kushlan 1978
	Migrates in northern U.S. and southern Canada; year round resident from WV, PA south.		National Geographic Society 1987.

[a] Allometric equation for estimation of food consumption by herons and egrets is:

$$\log FIR = 0.966 \log bw - 0.640$$

where: FIR = food ingestion rate (g/d)
bw = body weight (g)

[b] Allometric equation for estimation of water consumption by birds is:

$$W=0.059(bw)^{0.67}$$

where: W = water consumption (L/d)
bw = body weight (kg)

Table F4.3. Life history parameters for mink

Parameter	Value	Comments	Reference
Body Weight	**1.0** kg (mean ♂+♀)		EPA 1993b
Food Consumption Rate	**0.137** kg/d (mean ♂+♀)		Bleavins and Aulerich 1981
Water Consumption Rate	**0.099** L/d	estimated using allometric equation[a] assuming 1.0 kg bw	After Calder and Braun 1983
Diet Composition	Diverse diet includes: mammals, fish, aquatic invertebrates, amphibians, and birds		Hamilton 1940, Sealander 1943, Korschgen 1958, Burgess and Bider 1980 Alexander 1977
	Proportion of aquatic prey (fish, amphibians, inverts, etc.) = 0.546±0.21	Proportion represents means of values from five studies	
	fish sizes: 0-10 cm=72% 11-20 cm=28%		
Home Range	2.63 km (♂) 1.85 km (♀)	stream - Sweden	Gerell 1970
	770 ha (♂)	prairie potholes, Manitoba	Arnold and Fritzell 1987
		range size and shape depends on habitat - linear along streams, circular in marshes	EPA 1993a.
Habitat Requirements	aquatic habitats - streams, lakes, marshes;		Burt and Grossenheider 1976
Population Density	0.03 - 0.085 /ha	river - Montana	Mitchell 1961
Behavior	nocturnal active year-round, does not hibernate		EPA 1993a

[a] Allometric equation for estimation of water consumption by mammals is:

$$W=0.099(bw)^{0.90}$$

where: W = water consumption (L/d)
bw = body weight (kg)

Table F4.4. Life history parameters for river otter

Parameter	Value	Comments	Reference
Body Weight	8.0 kg (mean ♂+♀)		EPA 1993b
Food Consumption Rate	0.9 kg/d (mean ♂+♀)		EPA 1993b
Water Consumption Rate	0.64 L/d		EPA 1993b
Diet Composition	Almost exclusively fish 2-50 cm in size; most ≥30 cm.		Melquist and Hornocker 1983
	50% large and 50% small fish		EPA 1993b
Home Range	10-78 km	river-Idaho	Melquist and Hornocker 1983
		range size and shape depends on habitat - linear along streams, circular in marshes	EPA 1993b
Habitat Requirements	aquatic habitats - streams, lakes, marshes;		EPA 1993b
Population Density	0.17 - 0.37 /km	river-Idaho	Melquist and Hornocker 1983
	0.0094-0.014/ha		EPA 1993b
Behavior	Generally most active morning and evening, but may be active at any time in day.		Melquist and Hornocker 1983
	active year-round, does not hibernate		EPA 1993b

Table F4.5. Fillet-to-whole fish ratios for contaminants detected in fish from the Clinch River

	N	Mean	Standard Error	Maximum	Minimum
DDD [a]		3.8	0.32	6.7	1.22
DDE [a]		3.8	0.32	6.7	1.22
DDT [a]		3.8	0.32	6.7	1.22
Aldrin [a]		3.8	0.32	6.7	1.22
Arsenic [c]	12	1.4	0.068	1.8	1.13
Beryllium [b]		1			
Bis(ethylhexyl)phthalate [a]		3.8	0.32	6.7	1.22
Chlordane, total	6	3.9	0.49	5.05	2.2
Copper [c]	12	6.8	3.4	43.5	0.86
Mercury [c]	12	0.68	0.019	0.74	0.54
Aroclor-1016 [a]		3.8	0.32	6.7	1.22
Aroclor-1254	22	3.8	0.32	6.7	1.22
Aroclor-1260	23	5.46	0.87	21.8	3.03
Selenium [c]	12	1.07	0.03	1.3	0.87
Zinc [c]	12	2.46	0.14	3.1	1.68

[a] Specific ratios were not available for these contaminants. Because K_{ow}s for these chemicals are comparable to that for Aroclor 1254, ratios were also assumed to be comparable.

[b] Specific ratio was not available. Because most inorganics had ratios ~1, assumed 1.

[c] Specific ratio from Clinch River was not available. Data from spotted bass from Southworth (1994).

Table F4.6. PLE 95% upper confidence bounds for contaminants in fish and water from Clinch River/Poplar Creek system, by subreach

Subreach	Analyte	Contaminant Concentration in Surface Water	Contaminant Concentrations in Whole Fish (by size class)[a]				
			0 to 10 cm	10 to 20 cm	20 to 30 cm	30 to 40 cm	>40 cm
0	As	0.05	*0.093*	0.093	0.196	0.270	0.424
0	Be	0.0012	*0.004*	0.004	0.000	0.004	0.000
0	Chlordane	0	*0.000*	0.000	0.000	0.107	0.797
0	DDD	0	*0.000*	0.000	0.000	0.000	0.017
0	DDE	0	*0.000*	0.000	0.000	0.011	0.070
0	Hg	0.00003	*0.056*	0.056	0.052	0.244	0.254
0	PCB-1254	0	*0.000*	0.000	0.000	0.114	0.807
0	PCB-1260	0	*0.000*	0.000	0.000	0.764	9.793
0	Se	0	*0.879*	0.879	0.578	1.083	0.791
0	Zn	0.015244	*22.179*	22.179	12.054	14.753	11.970
1	As	0.0012	*0.101*	0.101	0.000	0.550	0.112
1	Be	0.0014	*0.006*	0.006	0.000	0.000	0.000
1	Bis(2ethylhexyl)phthalate	0.002723	*0.000*	0.000	0.000	0.000	0.000
1	Chlordane	0	*0.000*	0.000	0.097	0.000	0.000
1	Hg	0.00001	*0.030*	0.030	0.000	0.081	0.050
1	PCB-1254	0	*0.000*	0.000	0.087	0.000	0.000
1	PCB-1260	0	*0.000*	0.000	0.258	0.000	0.000
1	Se	0	*0.986*	0.986	0.000	1.177	0.952
1	Zn	0.017743	*19.788*	19.788	0.000	22.849	12.546
2.01	As	0	*0.000*	0.000	*0.305*	0.609	0.472
2.01	Be	0	*0.004*	0.004	*0.002*	0.000	0.000
2.01	Chlordane	0	*0.000*	0.000	*0.144*	0.288	0.318
2.01	Cu	0.00741	*132.438*	132.438	*66.219*	0.000	0.000
2.01	Hg	0.00001	*0.000*	0.000	*0.044*	0.088	0.284
2.01	PCB-1254	0	*0.000*	0.000	*0.147*	0.293	0.902
2.01	PCB-1260	0	*0.000*	0.000	*0.177*	0.355	1.659
2.01	Se	0	*0.610*	0.610	*0.566*	0.522	0.424
2.01	Zn	0.019837	*0.000*	0.000	*0.000*	0.000	0.000
2.02	As	0.0011	*0.082*	0.082	0.025	0.415	0.448
2.02	Be	0	*0.002*	0.002	0.000	0.002	0.002
2.02	Bis(2ethylhexyl)phthalate	0.006315	*0.000*	0.000	0.000	0.000	0.000
2.02	Chlordane	0	*0.000*	0.000	0.068	0.331	0.623
2.02	Cu	0.0065	*1.878*	1.878	0.000	6.130	0.000
2.02	Hg	0.00007	*0.068*	0.068	0.068	0.156	0.366
2.02	PCB-1016	0	*0.000*	0.000	0.009	0.000	0.000

Table F4.6 (continued)

Subreach	Analyte	Contaminant Concentration in Surface Water	Contaminant Concentrations in Whole Fish (by size class)[a]				
			0 to 10 cm	10 to 20 cm	20 to 30 cm	30 to 40 cm	>40 cm
2.02	PCB-1254	0	*0.000*	0.000	0.145	1.198	2.487
2.02	PCB-1260	0	*0.000*	0.000	0.216	1.856	4.649
2.02	Se	0	*0.564*	0.564	0.997	0.494	0.556
2.02	Zn	0.015594	*18.213*	18.213	0.000	18.815	21.212
2.04	Aldrin	0	*0.000*	*0.000*	*0.000*	0.000	0.001
2.04	As	0.0011	*0.000*	*0.000*	*0.000*	0.000	0.000
2.04	Bis(2ethylhexyl)phthalate	0.0375	*0.000*	*0.000*	*0.000*	0.000	0.000
2.04	Chlordane	0	*0.000*	*0.000*	*0.000*	0.000	0.177
2.04	Cu	0.00873	*0.000*	*0.000*	*0.000*	0.000	0.000
2.04	DDE	0	*0.000*	*0.000*	*0.000*	0.000	0.015
2.04	DDT	0	*0.000*	*0.000*	*0.000*	0.000	0.003
2.04	Hg	0.00002	*0.000*	*0.000*	*0.000*	0.000	0.000
2.04	PCB-1254	0	*0.000*	*0.000*	*0.000*	0.000	1.736
2.04	PCB-1260	0	*19.190*	*19.190*	*19.190*	19.190	7.080
2.04	Zn	0.017309	*0.000*	*0.000*	*0.000*	0.000	0.000
3.01	Aldrin	0.00001	*0.000*	0.000	*0.000*	0.000	0.000
3.01	As	0	*0.165*	0.165	*0.082*	0.000	0.168
3.01	Be	0	*0.006*	0.006	*0.006*	0.006	0.008
3.01	Bis(2ethylhexyl)phthalate	0.005	*0.000*	0.000	*0.000*	0.000	0.000
3.01	Chlordane	0	*0.000*	0.000	*0.189*	0.377	0.529
3.01	Cu	0.00429	*6.227*	6.227	*3.114*	0.000	0.000
3.01	DDE	0	*0.000*	0.000	*0.104*	0.208	0.030
3.01	Hg	0.00013	*0.392*	0.392	*0.431*	0.469	1.272
3.01	PCB-1016	0	*0.000*	0.000	*0.000*	0.000	0.381
3.01	PCB-1254	0.00029	*0.000*	0.000	*0.323*	0.645	1.480
3.01	PCB-1260	0	*0.000*	0.000	*1.403*	2.806	3.160
3.01	Se	0	*0.538*	0.538	*0.269*	0.000	0.214
3.01	Zn	0.017248	*14.896*	14.896	*7.448*	0.000	0.000
3.02	As	0.0014	*0.091*	0.091	0.315	0.407	0.083
3.02	Be	0	*0.009*	0.009	0.008	0.006	0.000
3.02	Bis(2ethylhexyl)phthalate	0.004841	*0.000*	0.000	0.000	0.000	0.000
3.02	Chlordane	0	*0.000*	0.000	0.287	0.336	0.558
3.02	Cu	0.00336	*8.184*	8.184	0.000	0.000	0.000
3.02	Hg	0.00012	*0.367*	0.367	0.477	0.533	1.614
3.02	PCB-1254	0	*0.000*	0.000	3.549	1.785	7.853
3.02	PCB-1260	0	*0.000*	0.000	4.539	2.013	8.533

Table F4.6 (continued)

Subreach	Analyte	Contaminant Concentration in Surface Water	Contaminant Concentrations in Whole Fish (by size class)[a]				
			0 to 10 cm	10 to 20 cm	20 to 30 cm	30 to 40 cm	>40 cm
3.02	Se	0	*0.413*	0.413	0.653	0.214	0.321
3.02	Zn	0.012169	*15.268*	15.268	21.522	10.824	0.000
3.03	As	0.00145	*0.111*	0.111	0.154	0.000	0.205
3.03	Be	0	*0.014*	0.014	0.000	0.000	0.004
3.03	Bis(2ethylhexyl)phthalate	0.002138	*0.000*	0.000	0.000	0.000	0.000
3.03	Chlordane	0	*0.000*	0.000	0.000	0.284	0.231
3.03	Cu	0.00494	*0.000*	0.000	0.000	0.000	0.000
3.03	DDE	0	*0.000*	0.000	0.000	0.003	0.002
3.03	Hg	0.00013	*0.241*	0.241	0.270	0.000	0.554
3.03	PCB-1254	0	*0.000*	0.000	0.000	0.786	1.035
3.03	PCB-1260	0	*0.000*	0.000	0.000	4.158	5.244
3.03	Zn	0.014037	*19.004*	19.004	13.776	0.000	24.480
3.04	As	0.0012	*0.133*	0.133	0.000	0.403	0.329
3.04	Be	0	*0.002*	0.002	0.000	0.003	0.004
3.04	Bis(2ethylhexyl)phthalate	0.005	*0.000*	0.000	0.000	0.000	0.179
3.04	Chlordane	0	*0.000*	0.000	0.079	0.272	0.345
3.04	Cu	0.00496	*0.000*	0.000	0.000	0.000	0.000
3.04	DDE	0	*0.000*	0.000	0.000	0.003	0.003
3.04	Hg	0.00026	*0.251*	0.251	0.000	0.492	0.596
3.04	PCB-1254	0.00014	*0.000*	0.000	0.264	1.213	2.097
3.04	PCB-1260	0	*0.000*	0.000	0.437	2.320	5.175
3.04	Se	0	*0.322*	0.322	0.000	0.329	0.417
3.04	Zn	0.018682	*0.000*	0.000	0.000	0.000	0.000
4.01	As	0.00107	*0.092*	0.092	0.000	0.244	0.404
4.01	Be	0	*0.000*	0.000	0.000	0.004	0.000
4.01	Bis(2ethylhexyl)phthalate	0.005	*0.000*	0.000	0.000	0.000	0.000
4.01	Chlordane	0.00002	*0.000*	0.000	0.063	0.316	0.434
4.01	Cu	0.01781	*3.526*	3.526	0.000	9.009	1.500
4.01	Hg	0.00005	*0.257*	0.257	0.057	0.210	0.447
4.01	PCB-1254	0	*0.000*	0.000	0.272	1.238	2.017
4.01	PCB-1260	0	*0.000*	0.000	0.235	2.380	3.653
4.01	Se	0	*0.757*	0.757	0.000	0.259	0.972
4.01	Zn	0.042085	*16.726*	16.726	0.000	19.328	10.578
4.04	As	0.00169	0.000	0.078	0.000	0.378	0.257
4.04	Be	0	0.000	0.003	0.000	0.000	0.002

Table F4.6 (continued)

Subreach	Analyte	Contaminant Concentration in Surface Water	Contaminant Concentrations in Whole Fish (by size class)[a]				
			0 to 10 cm	10 to 20 cm	20 to 30 cm	30 to 40 cm	>40 cm
4.04	Bis(2ethylhexyl)phthalate	0.010114	0.000	0.000	0.000	0.000	0.000
4.04	Chlordane	0	0.073	0.000	0.069	0.480	0.468
4.04	Cu	0.00602	0.000	19.096	0.000	60.186	5.433
4.04	DDD	0	0.000	0.000	0.000	0.000	0.060
4.04	DDE	0	0.000	0.000	0.000	0.041	0.220
4.04	Hg	0.00003	0.000	0.075	0.000	0.170	0.230
4.04	PCB-1254	0	0.100	0.000	0.118	0.673	2.049
4.04	PCB-1260	0	0.090	0.000	0.176	1.809	4.336
4.04	Se	0	0.000	0.470	0.000	0.479	0.344
4.04	Zn	0.017114	0.000	18.889	0.000	10.086	10.302
5	Aldrin	0	0.000	0.000	0.000	0.000	0.013
5	As	0	0.000	0.104	0.000	0.257	0.271
5	Be	0	0.000	0.000	0.000	0.003	0.007
5	Chlordane	0	0.069	0.000	0.065	0.242	0.446
5	Cu	0	0.000	86.293	0.000	0.000	3.784
5	DDD	0	0.000	0.000	0.000	0.005	0.031
5	DDE	0	0.000	0.000	0.000	0.035	0.064
5	DDT	0	0.000	0.000	0.000	0.002	0.006
5	Hg	0	0.000	0.043	0.000	0.137	0.200
5	PCB-1254	0	0.060	0.000	0.177	0.459	1.791
5	PCB-1260	0	0.070	0.000	0.144	1.099	4.329
5	Se	0	0.000	0.362	0.000	0.409	0.315
5	Zn	0	0.000	39.510	0.000	9.594	11.542
6	Chlordane	0	*0.060*	*0.060*	0.060	*0.060*	*0.060*
6	PCB-1254	0	*0.167*	*0.167*	0.167	*0.167*	*0.167*
6	PCB-1260	0	*0.173*	*0.173*	0.173	*0.173*	*0.173*
10	As	0	0.000	0.083	0.157	0.420	0.262
10	Be	0	0.000	0.003	0.026	0.003	0.002
10	Bis(2ethylhexyl)phthalate	0.005	0.000	0.000	0.000	0.000	0.000
10	Chlordane	0	0.077	0.000	0.073	0.263	0.280
10	Cu	0	0.000	0.000	1.978	0.000	0.000
10	DDD	0	0.000	0.000	0.000	0.000	0.004
10	DDE	0	0.000	0.000	0.000	0.000	0.011
10	Hg	0	0.000	0.047	0.099	0.184	0.341
10	PCB-1254	0	0.000	0.000	0.052	0.262	0.253
10	PCB-1260	0	0.000	0.000	0.000	0.647	0.905
10	Se	0	0.000	0.449	0.568	0.507	0.555

Table F4.6 (continued)

Subreach	Analyte	Contaminant Concentration in Surface Water	Contaminant Concentrations in Whole Fish (by size class)[a]				
			0 to 10 cm	10 to 20 cm	20 to 30 cm	30 to 40 cm	>40 cm
10	Zn	0	0.000	14.355	17.475	12.208	18.092
13	Aldrin	0	*0.000*	0.000	*0.002*	0.003	0.004
13	As	0.0037	*0.083*	0.083	*0.041*	0.000	0.000
13	Bis(2ethylhexyl)phthalate	0.007443	*0.000*	0.000	*0.000*	0.000	0.000
13	Chlordane	0.00002	*0.000*	0.000	*0.183*	0.366	0.396
13	Cu	0.00471	*0.000*	0.000	*0.000*	0.000	0.000
13	DDE	0	*0.000*	0.000	*0.013*	0.026	0.008
13	Hg	0.00002	*0.205*	0.205	*0.102*	0.000	0.000
13	PCB-1254	0.00046	*0.000*	0.000	*0.362*	0.724	0.152
13	PCB-1260	0.00102	*0.000*	0.000	*1.717*	3.433	3.435
13	Se	0.0012	*0.000*	0.000	*0.000*	0.000	0.000
13	Zn	0.01308	*16.820*	16.820	*8.410*	0.000	0.000
15	As	0	*0.184*	0.184	*0.165*	0.145	0.200
15	Be	0	*0.000*	0.000	*0.008*	0.016	0.019
15	Chlordane	0	*0.000*	0.000	*0.598*	1.195	2.946
15	DDD	0	*0.000*	0.000	*0.000*	0.000	0.018
15	Hg	0	*0.078*	0.078	*0.114*	0.150	0.511
15	PCB-1254	0	*0.000*	0.000	*0.152*	0.305	0.882
15	PCB-1260	0	*0.000*	0.000	*0.273*	0.546	4.522
15	Se	0	*0.807*	0.807	*0.741*	0.674	0.000
15	Zn	0	*20.360*	20.360	*16.905*	13.450	15.238
18	As	0	0.000	0.038	0.000	0.386	0.379
18	Be	0	0.000	0.003	0.000	0.004	0.004
18	Chlordane	0	0.066	0.000	0.063	0.591	0.533
18	Hg	0.00007	0.000	0.034	0.000	0.172	0.234
18	PCB-1254	0	0.090	0.000	0.143	1.009	1.832
18	PCB-1260	0	0.070	0.000	0.237	2.361	4.309
18	Se	0	0.000	0.307	0.000	0.275	0.266
18	Zn	0.010578	0.000	0.000	0.000	0.000	0.000

[a]Italicized values represent estimated concentrations. No data were available for fish in these size classes. Concentrations assumed to be equivolent to that in the next higher size class for which contaminants were detected. If contaminants were detected in fish in size classes above and below that in which data are missing, concentrations were estimated to be the mean of the concentrations in the higher and lower size classes.

Table F4.7. Exposure estimates for osprey in the Clinch River/Poplar Creek system

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
As	0	0.003	0.001	0.008	0.018	0.004	0.001	0.034	0.0
Be	0	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Chlordane	0	0.000	0.000	0.000	0.000	0.001	0.002	0.003	0.0
DDD	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.1
Hg	0	0.000	0.000	0.005	0.005	0.003	0.001	0.014	2.3
PCB-1254	0	0.000	0.000	0.000	0.000	0.002	0.002	0.004	0.0
PCB-1260	0	0.000	0.000	0.000	0.000	0.010	0.025	0.036	0.2
Se	0	0.000	0.006	0.074	0.054	0.014	0.002	0.150	0.3
Zn	0	0.001	0.146	1.867	1.126	0.195	0.031	3.366	0.2
As	1	0.000	0.001	0.008	0.000	0.007	0.000	0.017	0.0
Be	1	0.000	0.000	0.001	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	1	0.000	0.000	0.000	0.009	0.000	0.000	0.009	0.0
Hg	1	0.000	0.000	0.003	0.000	0.001	0.000	0.004	0.7
PCB-1254	1	0.000	0.000	0.000	0.008	0.000	0.000	0.008	0.1
PCB-1260	1	0.000	0.000	0.000	0.024	0.000	0.000	0.024	0.2
Se	1	0.000	0.007	0.083	0.000	0.016	0.002	0.108	0.2
Zn	1	0.001	0.131	1.666	0.000	0.302	0.033	2.132	0.1
As	2.01	0.000	0.000	0.000	0.028	0.008	0.001	0.038	0.0
Be	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Chlordane	2.01	0.000	0.000	0.000	0.013	0.004	0.001	0.018	0.0
Cu	2.01	0.000	0.874	11.151	6.185	0.000	0.000	18.211	0.8
Hg	2.01	0.000	0.000	0.000	0.004	0.001	0.001	0.006	1.0
PCB-1254	2.01	0.000	0.000	0.000	0.014	0.004	0.002	0.020	0.1
PCB-1260	2.01	0.000	0.000	0.000	0.017	0.005	0.004	0.026	0.2
Se	2.01	0.000	0.004	0.051	0.053	0.007	0.001	0.116	0.3
Zn	2.01	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
As	2.02	0.000	0.001	0.007	0.002	0.005	0.001	0.016	0.0
Be	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	2.02	0.000	0.000	0.000	0.006	0.004	0.002	0.012	0.0
Cu	2.02	0.000	0.012	0.158	0.000	0.081	0.000	0.252	0.0
Hg	2.02	0.000	0.000	0.006	0.006	0.002	0.001	0.016	2.6
PCB-1016	2.02	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.0
PCB-1254	2.02	0.000	0.000	0.000	0.014	0.016	0.006	0.036	0.2
PCB-1260	2.02	0.000	0.000	0.000	0.020	0.024	0.012	0.057	0.4
Se	2.02	0.000	0.004	0.047	0.093	0.007	0.001	0.152	0.3
Zn	2.02	0.001	0.120	1.534	0.000	0.248	0.055	1.958	0.1

Table F4.7 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
Aldrin	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Bis(2ethylhexyl) phthalate	2.04	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.0
Chlordane	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDT	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1254	2.04	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.0
PCB-1260	2.04	0.000	0.127	1.616	1.792	0.253	0.018	3.806	24.2
Zn	2.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Aldrin	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	3.01	0.000	0.001	0.014	0.008	0.000	0.000	0.023	0.0
Be	3.01	0.000	0.000	0.001	0.001	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	3.01	0.000	0.000	0.000	0.018	0.005	0.001	0.024	0.0
Cu	3.01	0.000	0.041	0.524	0.291	0.000	0.000	0.856	0.0
DDE	3.01	0.000	0.000	0.000	0.010	0.003	0.000	0.013	3.1
Hg	3.01	0.000	0.003	0.033	0.040	0.006	0.003	0.085	14.2
PCB-1016	3.01	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.0
PCB-1254	3.01	0.000	0.000	0.000	0.030	0.009	0.004	0.043	0.3
PCB-1260	3.01	0.000	0.000	0.000	0.131	0.037	0.008	0.176	1.1
Se	3.01	0.000	0.004	0.045	0.025	0.000	0.001	0.075	0.2
Zn	3.01	0.001	0.098	1.254	0.696	0.000	0.000	2.049	0.1
As	3.02	0.000	0.001	0.008	0.029	0.005	0.000	0.043	0.0
Be	3.02	0.000	0.000	0.001	0.001	0.000	0.000	0.002	
Bis(2ethylhexyl) phthalate	3.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	3.02	0.000	0.000	0.000	0.027	0.004	0.001	0.033	0.0
Cu	3.02	0.000	0.054	0.689	0.000	0.000	0.000	0.743	0.0
Hg	3.02	0.000	0.002	0.031	0.045	0.007	0.004	0.089	14.9
PCB-1254	3.02	0.000	0.000	0.000	0.331	0.024	0.020	0.375	2.4
PCB-1260	3.02	0.000	0.000	0.000	0.424	0.027	0.022	0.473	3.0
Se	3.02	0.000	0.003	0.035	0.061	0.003	0.001	0.102	0.2
Zn	3.02	0.001	0.101	1.286	2.010	0.143	0.000	3.540	0.2
As	3.03	0.000	0.001	0.009	0.014	0.000	0.001	0.025	0.0
Be	3.03	0.000	0.000	0.001	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	3.03	0.000	0.000	0.000	0.000	0.004	0.001	0.004	0.0

Table F4.7 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d) Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	NOAEL HQ
Cu	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	3.03	0.000	0.002	0.020	0.025	0.000	0.001	0.049	8.1
PCB-1254	3.03	0.000	0.000	0.000	0.000	0.010	0.003	0.013	0.1
PCB-1260	3.03	0.000	0.000	0.000	0.000	0.055	0.014	0.069	0.4
Zn	3.03	0.001	0.125	1.600	1.287	0.000	0.064	3.077	0.2
As	3.04	0.000	0.001	0.011	0.000	0.005	0.001	0.018	0.0
Be	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	3.04	0.000	0.000	0.000	0.007	0.004	0.001	0.012	0.0
Cu	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	3.04	0.000	0.002	0.021	0.000	0.006	0.002	0.031	5.1
PCB-1254	3.04	0.000	0.000	0.000	0.025	0.016	0.005	0.046	0.3
PCB-1260	3.04	0.000	0.000	0.000	0.041	0.031	0.013	0.085	0.5
Se	3.04	0.000	0.002	0.027	0.000	0.004	0.001	0.035	0.1
Zn	3.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
As	4.01	0.000	0.001	0.008	0.000	0.003	0.001	0.013	0.0
Be	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	4.01	0.000	0.000	0.000	0.006	0.004	0.001	0.011	0.0
Cu	4.01	0.001	0.023	0.297	0.000	0.119	0.004	0.444	0.0
Hg	4.01	0.000	0.002	0.022	0.005	0.003	0.001	0.033	5.4
PCB-1254	4.01	0.000	0.000	0.000	0.025	0.016	0.005	0.047	0.3
PCB-1260	4.01	0.000	0.000	0.000	0.022	0.031	0.010	0.063	0.4
Se	4.01	0.000	0.005	0.064	0.000	0.003	0.003	0.075	0.2
Zn	4.01	0.002	0.110	1.408	0.000	0.255	0.028	1.803	0.1
As	4.04	0.000	0.000	0.007	0.000	0.005	0.001	0.012	0.0
Be	4.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	4.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	4.04	0.000	0.000	0.000	0.006	0.006	0.001	0.014	0.0
Cu	4.04	0.000	0.000	1.608	0.000	0.794	0.014	2.417	0.1
DDD	4.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	4.04	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.3
Hg	4.04	0.000	0.000	0.006	0.000	0.002	0.001	0.009	1.5
PCB-1254	4.04	0.000	0.001	0.000	0.011	0.009	0.005	0.026	0.2
PCB-1260	4.04	0.000	0.001	0.000	0.016	0.024	0.011	0.052	0.3
Se	4.04	0.000	0.000	0.040	0.000	0.006	0.001	0.047	0.1
Zn	4.04	0.001	0.000	1.590	0.000	0.133	0.027	1.751	0.1

Table F4.7 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
Aldrin	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	5	0.000	0.000	0.009	0.000	0.003	0.001	0.013	0.0
Be	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	5	0.000	0.000	0.000	0.006	0.003	0.001	0.011	0.0
Cu	5	0.000	0.000	7.266	0.000	0.000	0.010	7.276	0.3
DDD	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	5	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.2
DDT	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	5	0.000	0.000	0.004	0.000	0.002	0.001	0.006	1.0
PCB-1254	5	0.000	0.000	0.000	0.017	0.006	0.005	0.028	0.2
PCB-1260	5	0.000	0.000	0.000	0.013	0.015	0.011	0.040	0.3
Se	5	0.000	0.000	0.031	0.000	0.005	0.001	0.037	0.1
Zn	5	0.000	0.000	3.327	0.000	0.127	0.030	3.483	0.2
Chlordane	6	0.000	0.000	0.005	0.006	0.001	0.000	0.012	0.0
PCB-1254	6	0.000	0.001	0.014	0.016	0.002	0.000	0.033	0.2
PCB-1260	6	0.000	0.001	0.015	0.016	0.002	0.000	0.035	0.2
As	10	0.000	0.000	0.007	0.015	0.006	0.001	0.028	0.0
Be	10	0.000	0.000	0.000	0.002	0.000	0.000	0.003	
Bis(2ethylhexyl) phthalate	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	10	0.000	0.001	0.000	0.007	0.003	0.001	0.012	0.0
Cu	10	0.000	0.000	0.000	0.185	0.000	0.000	0.185	0.0
DDD	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	10	0.000	0.000	0.004	0.009	0.002	0.001	0.016	2.7
PCB-1254	10	0.000	0.000	0.000	0.005	0.003	0.001	0.009	0.1
PCB-1260	10	0.000	0.000	0.000	0.000	0.009	0.002	0.011	0.1
Se	10	0.000	0.000	0.038	0.053	0.007	0.001	0.099	0.2
Zn	10	0.000	0.000	1.209	1.632	0.161	0.047	3.049	0.2
Aldrin	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	13	0.000	0.001	0.007	0.004	0.000	0.000	0.012	0.0
Bis(2ethylhexyl) phthalate	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	13	0.000	0.000	0.000	0.017	0.005	0.001	0.023	0.0
Cu	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	13	0.000	0.000	0.000	0.001	0.000	0.000	0.002	0.4
Hg	13	0.000	0.001	0.017	0.010	0.000	0.000	0.028	4.7
PCB-1254	13	0.000	0.000	0.000	0.034	0.010	0.000	0.044	0.3
PCB-1260	13	0.000	0.000	0.000	0.160	0.045	0.009	0.215	1.4
Se	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Zn	13	0.001	0.111	1.416	0.785	0.000	0.000	2.313	0.1

Table F4.7 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d) Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	NOAEL HQ
As	15	0.000	0.001	0.016	0.015	0.002	0.001	0.035	0.0
Be	15	0.000	0.000	0.000	0.001	0.000	0.000	0.001	
Chlordane	15	0.000	0.000	0.000	0.056	0.016	0.008	0.079	0.1
DDD	15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	15	0.000	0.001	0.007	0.011	0.002	0.001	0.021	3.5
PCB-1254	15	0.000	0.000	0.000	0.014	0.004	0.002	0.021	0.1
PCB-1260	15	0.000	0.000	0.000	0.025	0.007	0.012	0.044	0.3
Se	15	0.000	0.005	0.068	0.069	0.009	0.000	0.151	0.3
Zn	15	0.000	0.134	1.714	1.579	0.178	0.040	3.645	0.2
As	18	0.000	0.000	0.003	0.000	0.005	0.001	0.009	0.0
Be	18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	18	0.000	0.000	0.000	0.006	0.008	0.001	0.016	0.0
Hg	18	0.000	0.000	0.003	0.000	0.002	0.001	0.006	1.0
PCB-1254	18	0.000	0.001	0.000	0.013	0.013	0.005	0.032	0.2
PCB-1260	18	0.000	0.000	0.000	0.022	0.031	0.011	0.065	0.4
Se	18	0.000	0.000	0.026	0.000	0.004	0.001	0.030	0.1
Zn	18	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0

Table F4.8. Exposure estimates for great blue heron in the Clinch River/Poplar Creek system

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
As	0	0.002	0.006	0.008	0.005	0.000	0.000	0.021	0.0
Be	0	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Chlordane	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDD	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	0	0.000	0.004	0.005	0.001	0.000	0.000	0.010	2.0
PCB-1254	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	0	0.000	0.061	0.073	0.014	0.000	0.000	0.147	0.4
Zn	0	0.001	1.528	1.836	0.290	0.000	0.000	3.655	0.3
As	1	0.000	0.007	0.008	0.000	0.000	0.000	0.015	0.0
Be	1	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	1	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.0
Hg	1	0.000	0.002	0.002	0.000	0.000	0.000	0.005	0.9
PCB-1254	1	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.0
PCB-1260	1	0.000	0.000	0.000	0.006	0.000	0.000	0.006	0.0
Se	1	0.000	0.068	0.082	0.000	0.000	0.000	0.150	0.4
Zn	1	0.001	1.363	1.638	0.000	0.000	0.000	3.002	0.2
As	2.01	0.000	0.000	0.000	0.007	0.000	0.000	0.007	0.0
Be	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Chlordane	2.01	0.000	0.000	0.000	0.003	0.000	0.000	0.003	0.0
Cu	2.01	0.000	9.123	10.962	1.594	0.000	0.000	21.680	1.1
Hg	2.01	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.2
PCB-1254	2.01	0.000	0.000	0.000	0.004	0.000	0.000	0.004	0.0
PCB-1260	2.01	0.000	0.000	0.000	0.004	0.000	0.000	0.004	0.0
Se	2.01	0.000	0.042	0.050	0.014	0.000	0.000	0.106	0.3
Zn	2.01	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
As	2.02	0.000	0.006	0.007	0.001	0.000	0.000	0.013	0.0
Be	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	2.02	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.0
Cu	2.02	0.000	0.129	0.155	0.000	0.000	0.000	0.285	0.0
Hg	2.02	0.000	0.005	0.006	0.002	0.000	0.000	0.012	2.4
PCB-1016	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1254	2.02	0.000	0.000	0.000	0.003	0.000	0.000	0.003	0.0
PCB-1260	2.02	0.000	0.000	0.000	0.005	0.000	0.000	0.005	0.0
Se	2.02	0.000	0.039	0.047	0.024	0.000	0.000	0.110	0.3

Table F4.8 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
Zn	2.02	0.001	1.255	1.507	0.000	0.000	0.000	2.763	0.2
Aldrin	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Bis(2ethylhexyl) phthalate	2.04	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.0
Chlordane	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDT	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1254	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	2.04	0.000	1.322	1.588	0.462	0.000	0.000	3.372	25.0
Zn	2.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Aldrin	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	3.01	0.000	0.011	0.014	0.002	0.000	0.000	0.027	0.0
Be	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	3.01	0.000	0.000	0.000	0.005	0.000	0.000	0.005	0.0
Cu	3.01	0.000	0.429	0.515	0.075	0.000	0.000	1.020	0.1
DDE	3.01	0.000	0.000	0.000	0.003	0.000	0.000	0.003	0.8
Hg	3.01	0.000	0.027	0.032	0.010	0.000	0.000	0.070	14.0
PCB-1016	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1254	3.01	0.000	0.000	0.000	0.008	0.000	0.000	0.008	0.1
PCB-1260	3.01	0.000	0.000	0.000	0.034	0.000	0.000	0.034	0.3
Se	3.01	0.000	0.037	0.045	0.006	0.000	0.000	0.088	0.2
Zn	3.01	0.001	1.026	1.233	0.179	0.000	0.000	2.439	0.2
As	3.02	0.000	0.006	0.008	0.008	0.000	0.000	0.022	0.0
Be	3.02	0.000	0.001	0.001	0.000	0.000	0.000	0.002	
Bis(2ethylhexyl) phthalate	3.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	3.02	0.000	0.000	0.000	0.007	0.000	0.000	0.007	0.0
Cu	3.02	0.000	0.564	0.677	0.000	0.000	0.000	1.241	0.1
Hg	3.02	0.000	0.025	0.030	0.012	0.000	0.000	0.067	13.4
PCB-1254	3.02	0.000	0.000	0.000	0.085	0.000	0.000	0.085	0.6
PCB-1260	3.02	0.000	0.000	0.000	0.109	0.000	0.000	0.109	0.8
Se	3.02	0.000	0.028	0.034	0.016	0.000	0.000	0.078	0.2
Zn	3.02	0.001	1.052	1.264	0.518	0.000	0.000	2.834	0.2
As	3.03	0.000	0.008	0.009	0.004	0.000	0.000	0.021	0.0
Be	3.03	0.000	0.001	0.001	0.000	0.000	0.000	0.002	

Table F4.8 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
Bis(2ethylhexyl) phthalate	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	3.03	0.000	0.017	0.020	0.007	0.000	0.000	0.043	8.6
PCB-1254	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Zn	3.03	0.001	1.309	1.573	0.332	0.000	0.000	3.214	0.2
As	3.04	0.000	0.009	0.011	0.000	0.000	0.000	0.020	0.0
Be	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	3.04	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.0
Cu	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	3.04	0.000	0.017	0.021	0.000	0.000	0.000	0.038	7.6
PCB-1254	3.04	0.000	0.000	0.000	0.006	0.000	0.000	0.006	0.0
PCB-1260	3.04	0.000	0.000	0.000	0.011	0.000	0.000	0.011	0.1
Se	3.04	0.000	0.022	0.027	0.000	0.000	0.000	0.049	0.1
Zn	3.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
As	4.01	0.000	0.006	0.008	0.000	0.000	0.000	0.014	0.0
Be	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	4.01	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.0
Cu	4.01	0.001	0.243	0.292	0.000	0.000	0.000	0.536	0.0
Hg	4.01	0.000	0.018	0.021	0.001	0.000	0.000	0.040	8.1
PCB-1254	4.01	0.000	0.000	0.000	0.007	0.000	0.000	0.007	0.0
PCB-1260	4.01	0.000	0.000	0.000	0.006	0.000	0.000	0.006	0.0
Se	4.01	0.000	0.052	0.063	0.000	0.000	0.000	0.115	0.3
Zn	4.01	0.002	1.152	1.384	0.000	0.000	0.000	2.538	0.2
As	4.04	0.000	0.000	0.006	0.000	0.000	0.000	0.007	0.0
Be	4.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	4.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	4.04	0.000	0.005	0.000	0.002	0.000	0.000	0.007	0.0
Cu	4.04	0.000	0.000	1.581	0.000	0.000	0.000	1.581	0.1
DDD	4.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	4.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	4.04	0.000	0.000	0.006	0.000	0.000	0.000	0.006	1.2
PCB-1254	4.04	0.000	0.007	0.000	0.003	0.000	0.000	0.010	0.1

Table F4.8 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
PCB-1260	4.04	0.000	0.006	0.000	0.004	0.000	0.000	0.010	0.1
Se	4.04	0.000	0.000	0.039	0.000	0.000	0.000	0.039	0.1
Zn	4.04	0.001	0.000	1.563	0.000	0.000	0.000	1.564	0.1
Aldrin	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	5	0.000	0.000	0.009	0.000	0.000	0.000	0.009	0.0
Be	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	5	0.000	0.005	0.000	0.002	0.000	0.000	0.006	0.0
Cu	5	0.000	0.000	7.142	0.000	0.000	0.000	7.142	0.4
DDD	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDT	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	5	0.000	0.000	0.004	0.000	0.000	0.000	0.004	0.7
PCB-1254	5	0.000	0.004	0.000	0.004	0.000	0.000	0.008	0.1
PCB-1260	5	0.000	0.005	0.000	0.003	0.000	0.000	0.008	0.1
Se	5	0.000	0.000	0.030	0.000	0.000	0.000	0.030	0.1
Zn	5	0.000	0.000	3.270	0.000	0.000	0.000	3.270	0.2
Chlordane	6	0.000	0.004	0.005	0.001	0.000	0.000	0.011	0.0
PCB-1254	6	0.000	0.011	0.014	0.004	0.000	0.000	0.029	0.2
PCB-1260	6	0.000	0.012	0.014	0.004	0.000	0.000	0.030	0.2
As	10	0.000	0.000	0.007	0.004	0.000	0.000	0.011	0.0
Be	10	0.000	0.000	0.000	0.001	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	10	0.000	0.005	0.000	0.002	0.000	0.000	0.007	0.0
Cu	10	0.000	0.000	0.000	0.048	0.000	0.000	0.048	0.0
DDD	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	10	0.000	0.000	0.004	0.002	0.000	0.000	0.006	1.3
PCB-1254	10	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.0
PCB-1260	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	10	0.000	0.000	0.037	0.014	0.000	0.000	0.051	0.1
Zn	10	0.000	0.000	1.188	0.421	0.000	0.000	1.609	0.1
Aldrin	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	13	0.000	0.006	0.007	0.001	0.000	0.000	0.014	0.0
Bis(2ethylhexyl) phthalate	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	13	0.000	0.000	0.000	0.004	0.000	0.000	0.004	0.0
Cu	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.1
Hg	13	0.000	0.014	0.017	0.002	0.000	0.000	0.033	6.7

Table F4.8 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
PCB-1254	13	0.000	0.000	0.000	0.009	0.000	0.000	0.009	0.1
PCB-1260	13	0.000	0.000	0.000	0.041	0.000	0.000	0.041	0.3
Se	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Zn	13	0.001	1.159	1.392	0.202	0.000	0.000	2.754	0.2
As	15	0.000	0.013	0.015	0.004	0.000	0.000	0.032	0.0
Be	15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	15	0.000	0.000	0.000	0.014	0.000	0.000	0.014	0.0
DDD	15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	15	0.000	0.005	0.006	0.003	0.000	0.000	0.015	2.9
PCB-1254	15	0.000	0.000	0.000	0.004	0.000	0.000	0.004	0.0
PCB-1260	15	0.000	0.000	0.000	0.007	0.000	0.000	0.007	0.0
Se	15	0.000	0.056	0.067	0.018	0.000	0.000	0.140	0.4
Zn	15	0.000	1.403	1.685	0.407	0.000	0.000	3.495	0.3
As	18	0.000	0.000	0.003	0.000	0.000	0.000	0.003	0.0
Be	18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	18	0.000	0.005	0.000	0.002	0.000	0.000	0.006	0.0
Hg	18	0.000	0.000	0.003	0.000	0.000	0.000	0.003	0.6
PCB-1254	18	0.000	0.006	0.000	0.003	0.000	0.000	0.010	0.1
PCB-1260	18	0.000	0.005	0.000	0.006	0.000	0.000	0.011	0.1
Se	18	0.000	0.000	0.025	0.000	0.000	0.000	0.025	0.1
Zn	18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0

Table F4.9. Exposure estimates for mink in the Clinch River/Poplar Creek system

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
As	0	0.005	0.005	0.002	0.000	0.000	0.000	0.012	0.3
Be	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDD	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	0	0.000	0.003	0.001	0.000	0.000	0.000	0.004	0.3
PCB-1254	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	0	0.000	0.047	0.018	0.000	0.000	0.000	0.066	2.7
Zn	0	0.002	1.195	0.465	0.000	0.000	0.000	1.661	0.0
As	1	0.000	0.005	0.002	0.000	0.000	0.000	0.008	0.2
Be	1	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	1	0.000	0.002	0.001	0.000	0.000	0.000	0.002	0.2
PCB-1254	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	1	0.000	0.053	0.021	0.000	0.000	0.000	0.074	3.1
Zn	1	0.002	1.066	0.414	0.000	0.000	0.000	1.482	0.0
As	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Be	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	2.01	0.001	7.133	2.774	0.000	0.000	0.000	9.907	0.8
Hg	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1254	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	2.01	0.000	0.033	0.013	0.000	0.000	0.000	0.046	1.9
Zn	2.01	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.0
As	2.02	0.000	0.004	0.002	0.000	0.000	0.000	0.006	0.2
Be	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	2.02	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	2.02	0.001	0.101	0.039	0.000	0.000	0.000	0.141	0.0
Hg	2.02	0.000	0.004	0.001	0.000	0.000	0.000	0.005	0.3
PCB-1016	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1254	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	2.02	0.000	0.030	0.012	0.000	0.000	0.000	0.042	1.8
Zn	2.02	0.002	0.981	0.381	0.000	0.000	0.000	1.364	0.0

Table F4.9 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
Aldrin	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Bis(2ethylhexyl) phthalate	2.04	0.004	0.000	0.000	0.000	0.000	0.000	0.004	0.0
Chlordane	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	2.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
DDE	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDT	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1254	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	2.04	0.000	1.034	0.402	0.000	0.000	0.000	1.435	10.5
Zn	2.04	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.0
Aldrin	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	3.01	0.000	0.009	0.003	0.000	0.000	0.000	0.012	0.3
Be	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	3.01	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	3.01	0.000	0.335	0.130	0.000	0.000	0.000	0.466	0.0
DDE	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	3.01	0.000	0.021	0.008	0.000	0.000	0.000	0.029	2.0
PCB-1016	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1254	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	3.01	0.000	0.029	0.011	0.000	0.000	0.000	0.040	1.7
Zn	3.01	0.002	0.802	0.312	0.000	0.000	0.000	1.116	0.0
As	3.02	0.000	0.005	0.002	0.000	0.000	0.000	0.007	0.2
Be	3.02	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	3.02	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	3.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	3.02	0.000	0.441	0.171	0.000	0.000	0.000	0.613	0.1
Hg	3.02	0.000	0.020	0.008	0.000	0.000	0.000	0.027	1.8
PCB-1254	3.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	3.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	3.02	0.000	0.022	0.009	0.000	0.000	0.000	0.031	1.3
Zn	3.02	0.001	0.822	0.320	0.000	0.000	0.000	1.143	0.0
As	3.03	0.000	0.006	0.002	0.000	0.000	0.000	0.008	0.2
Be	3.03	0.000	0.001	0.000	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0

Table F4.9 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
Chlordane	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	3.03	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
DDE	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	3.03	0.000	0.013	0.005	0.000	0.000	0.000	0.018	1.2
PCB-1254	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Zn	3.03	0.001	1.024	0.398	0.000	0.000	0.000	1.423	0.0
As	3.04	0.000	0.007	0.003	0.000	0.000	0.000	0.010	0.3
Be	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	3.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	3.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
DDE	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	3.04	0.000	0.014	0.005	0.000	0.000	0.000	0.019	1.3
PCB-1254	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	3.04	0.000	0.017	0.007	0.000	0.000	0.000	0.024	1.0
Zn	3.04	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.0
As	4.01	0.000	0.005	0.002	0.000	0.000	0.000	0.007	0.2
Be	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	4.01	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	4.01	0.002	0.190	0.074	0.000	0.000	0.000	0.266	0.0
Hg	4.01	0.000	0.014	0.005	0.000	0.000	0.000	0.019	1.3
PCB-1254	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	4.01	0.000	0.041	0.016	0.000	0.000	0.000	0.057	2.4
Zn	4.01	0.004	0.901	0.350	0.000	0.000	0.000	1.256	0.0
As	4.04	0.000	0.000	0.002	0.000	0.000	0.000	0.002	0.0
Be	4.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	4.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	4.04	0.000	0.004	0.000	0.000	0.000	0.000	0.004	0.0
Cu	4.04	0.001	0.000	0.400	0.000	0.000	0.000	0.401	0.0
DDD	4.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	4.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	4.04	0.000	0.000	0.002	0.000	0.000	0.000	0.002	0.1
PCB-1254	4.04	0.000	0.005	0.000	0.000	0.000	0.000	0.005	0.0
PCB-1260	4.04	0.000	0.005	0.000	0.000	0.000	0.000	0.005	0.0

Table F4.9 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
Se	4.04	0.000	0.000	0.010	0.000	0.000	0.000	0.010	0.4
Zn	4.04	0.002	0.000	0.396	0.000	0.000	0.000	0.397	0.0
Aldrin	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	5	0.000	0.000	0.002	0.000	0.000	0.000	0.002	0.1
Be	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	5	0.000	0.004	0.000	0.000	0.000	0.000	0.004	0.0
Cu	5	0.000	0.000	1.807	0.000	0.000	0.000	1.807	0.2
DDD	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDT	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	5	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.1
PCB-1254	5	0.000	0.003	0.000	0.000	0.000	0.000	0.003	0.0
PCB-1260	5	0.000	0.004	0.000	0.000	0.000	0.000	0.004	0.0
Se	5	0.000	0.000	0.008	0.000	0.000	0.000	0.008	0.3
Zn	5	0.000	0.000	0.828	0.000	0.000	0.000	0.828	0.0
Chlordane	6	0.000	0.003	0.001	0.000	0.000	0.000	0.005	0.0
PCB-1254	6	0.000	0.009	0.003	0.000	0.000	0.000	0.012	0.1
PCB-1260	6	0.000	0.009	0.004	0.000	0.000	0.000	0.013	0.1
As	10	0.000	0.000	0.002	0.000	0.000	0.000	0.002	0.0
Be	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	10	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	10	0.000	0.004	0.000	0.000	0.000	0.000	0.004	0.0
Cu	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDD	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	10	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.1
PCB-1254	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	10	0.000	0.000	0.009	0.000	0.000	0.000	0.009	0.4
Zn	10	0.000	0.000	0.301	0.000	0.000	0.000	0.301	0.0
Aldrin	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	13	0.000	0.004	0.002	0.000	0.000	0.000	0.007	0.2
Bis(2ethylhexyl) phthalate	13	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Cu	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	13	0.000	0.011	0.004	0.000	0.000	0.000	0.015	1.0
PCB-1254	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0

Table F4.9 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
PCB-1260	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Zn	13	0.001	0.906	0.352	0.000	0.000	0.000	1.260	0.0
As	15	0.000	0.010	0.004	0.000	0.000	0.000	0.014	0.3
Be	15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDD	15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	15	0.000	0.004	0.002	0.000	0.000	0.000	0.006	0.4
PCB-1254	15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1260	15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Se	15	0.000	0.043	0.017	0.000	0.000	0.000	0.060	2.5
Zn	15	0.000	1.097	0.426	0.000	0.000	0.000	1.523	0.0
As	18	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.0
Be	18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	18	0.000	0.004	0.000	0.000	0.000	0.000	0.004	0.0
Hg	18	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.0
PCB-1254	18	0.000	0.005	0.000	0.000	0.000	0.000	0.005	0.0
PCB-1260	18	0.000	0.004	0.000	0.000	0.000	0.000	0.004	0.0
Se	18	0.000	0.000	0.006	0.000	0.000	0.000	0.006	0.3
Zn	18	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0

Table F4.10. Exposure estimates for river otter in the Clinch River/Poplar Creek system

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
As	0	0.004	0.002	0.002	0.004	0.008	0.012	0.031	1.5
Be	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	0	0.000	0.000	0.000	0.000	0.003	0.022	0.025	0.0
DDD	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	0	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.0
Hg	0	0.000	0.001	0.001	0.001	0.007	0.007	0.017	2.1
PCB-1254	0	0.000	0.000	0.000	0.000	0.003	0.023	0.026	0.4
PCB-1260	0	0.000	0.000	0.000	0.000	0.022	0.275	0.297	4.2
Se	0	0.000	0.017	0.017	0.011	0.030	0.022	0.097	8.0
Zn	0	0.001	0.417	0.417	0.226	0.415	0.337	1.813	0.0
As	1	0.000	0.002	0.002	0.000	0.015	0.003	0.022	1.1
Be	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	1	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.0
Hg	1	0.000	0.001	0.001	0.000	0.002	0.001	0.005	0.6
PCB-1254	1	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.0
PCB-1260	1	0.000	0.000	0.000	0.005	0.000	0.000	0.005	0.1
Se	1	0.000	0.019	0.019	0.000	0.033	0.027	0.097	8.1
Zn	1	0.001	0.372	0.372	0.000	0.643	0.353	1.740	0.0
As	2.01	0.000	0.000	0.000	0.006	0.017	0.013	0.036	1.8
Be	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	2.01	0.000	0.000	0.000	0.003	0.008	0.009	0.020	0.0
Cu	2.01	0.001	2.488	2.488	1.244	0.000	0.000	6.221	1.1
Hg	2.01	0.000	0.000	0.000	0.001	0.002	0.008	0.011	1.4
PCB-1254	2.01	0.000	0.000	0.000	0.003	0.008	0.025	0.036	0.5
PCB-1260	2.01	0.000	0.000	0.000	0.003	0.010	0.047	0.060	0.9
Se	2.01	0.000	0.011	0.011	0.011	0.015	0.012	0.060	5.0
Zn	2.01	0.002	0.000	0.000	0.000	0.000	0.000	0.002	0.0
As	2.02	0.000	0.002	0.002	0.000	0.012	0.013	0.028	1.4
Be	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	2.02	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	2.02	0.000	0.000	0.000	0.001	0.009	0.018	0.028	0.0
Cu	2.02	0.001	0.035	0.035	0.000	0.172	0.000	0.244	0.0
Hg	2.02	0.000	0.001	0.001	0.001	0.004	0.010	0.019	2.3
PCB-1016	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1254	2.02	0.000	0.000	0.000	0.003	0.034	0.070	0.106	1.5
PCB-1260	2.02	0.000	0.000	0.000	0.004	0.052	0.131	0.187	2.7
Se	2.02	0.000	0.011	0.011	0.019	0.014	0.016	0.069	5.8
Zn	2.02	0.001	0.342	0.342	0.000	0.529	0.597	1.811	0.0

Table 4.10 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
Aldrin	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Bis(2ethylhexyl) phthalate	2.04	0.003	0.000	0.000	0.000	0.000	0.000	0.003	0.0
Chlordane	2.04	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.0
Cu	2.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
DDE	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDT	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
PCB-1254	2.04	0.000	0.000	0.000	0.000	0.000	0.049	0.049	0.7
PCB-1260	2.04	0.000	0.361	0.361	0.361	0.540	0.199	1.820	26.0
Zn	2.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Aldrin	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	3.01	0.000	0.003	0.003	0.002	0.000	0.005	0.012	0.6
Be	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	3.01	0.000	0.000	0.000	0.004	0.011	0.015	0.029	0.0
Cu	3.01	0.000	0.117	0.117	0.058	0.000	0.000	0.293	0.0
DDE	3.01	0.000	0.000	0.000	0.002	0.006	0.001	0.009	0.0
Hg	3.01	0.000	0.007	0.007	0.008	0.013	0.036	0.072	9.0
PCB-1016	3.01	0.000	0.000	0.000	0.000	0.000	0.011	0.011	0.2
PCB-1254	3.01	0.000	0.000	0.000	0.006	0.018	0.042	0.066	0.9
PCB-1260	3.01	0.000	0.000	0.000	0.026	0.079	0.089	0.194	2.8
Se	3.01	0.000	0.010	0.010	0.005	0.000	0.006	0.031	2.6
Zn	3.01	0.001	0.280	0.280	0.140	0.000	0.000	0.701	0.0
As	3.02	0.000	0.002	0.002	0.006	0.011	0.002	0.023	1.2
Be	3.02	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	3.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	3.02	0.000	0.000	0.000	0.005	0.009	0.016	0.031	0.0
Cu	3.02	0.000	0.154	0.154	0.000	0.000	0.000	0.308	0.1
Hg	3.02	0.000	0.007	0.007	0.009	0.015	0.045	0.083	10.4
PCB-1254	3.02	0.000	0.000	0.000	0.067	0.050	0.221	0.338	4.8
PCB-1260	3.02	0.000	0.000	0.000	0.085	0.057	0.240	0.382	5.5
Se	3.02	0.000	0.008	0.008	0.012	0.006	0.009	0.043	3.6
Zn	3.02	0.001	0.287	0.287	0.404	0.304	0.000	1.283	0.0
As	3.03	0.000	0.002	0.002	0.003	0.000	0.006	0.013	0.6
Be	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0

Table 4.10 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
Chlordane	3.03	0.000	0.000	0.000	0.000	0.008	0.007	0.015	0.0
Cu	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	3.03	0.000	0.005	0.005	0.005	0.000	0.016	0.030	3.7
PCB-1254	3.03	0.000	0.000	0.000	0.000	0.022	0.029	0.051	0.7
PCB-1260	3.03	0.000	0.000	0.000	0.000	0.117	0.147	0.264	3.8
Zn	3.03	0.001	0.357	0.357	0.259	0.000	0.688	1.663	0.0
As	3.04	0.000	0.003	0.003	0.000	0.011	0.009	0.026	1.3
Be	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	3.04	0.000	0.000	0.000	0.000	0.000	0.005	0.005	0.0
Chlordane	3.04	0.000	0.000	0.000	0.001	0.008	0.010	0.019	0.0
Cu	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	3.04	0.000	0.005	0.005	0.000	0.014	0.017	0.040	5.0
PCB-1254	3.04	0.000	0.000	0.000	0.005	0.034	0.059	0.098	1.4
PCB-1260	3.04	0.000	0.000	0.000	0.008	0.065	0.146	0.219	3.1
Se	3.04	0.000	0.006	0.006	0.000	0.009	0.012	0.033	2.8
Zn	3.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
As	4.01	0.000	0.002	0.002	0.000	0.007	0.011	0.022	1.1
Be	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	4.01	0.000	0.000	0.000	0.001	0.009	0.012	0.022	0.0
Cu	4.01	0.001	0.066	0.066	0.000	0.253	0.042	0.429	0.1
Hg	4.01	0.000	0.005	0.005	0.001	0.006	0.013	0.029	3.7
PCB-1254	4.01	0.000	0.000	0.000	0.005	0.035	0.057	0.097	1.4
PCB-1260	4.01	0.000	0.000	0.000	0.004	0.067	0.103	0.174	2.5
Se	4.01	0.000	0.014	0.014	0.000	0.007	0.027	0.063	5.3
Zn	4.01	0.003	0.314	0.314	0.000	0.544	0.298	1.473	0.0
As	4.04	0.000	0.000	0.001	0.000	0.011	0.007	0.019	1.0
Be	4.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Bis(2ethylhexyl) phthalate	4.04	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	4.04	0.000	0.001	0.000	0.001	0.014	0.013	0.029	0.0
Cu	4.04	0.000	0.000	0.359	0.000	1.693	0.153	2.205	0.4
DDD	4.04	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.0
DDE	4.04	0.000	0.000	0.000	0.000	0.001	0.006	0.007	0.0
Hg	4.04	0.000	0.000	0.001	0.000	0.005	0.006	0.013	1.6
PCB-1254	4.04	0.000	0.002	0.000	0.002	0.019	0.058	0.081	1.2
PCB-1260	4.04	0.000	0.002	0.000	0.003	0.051	0.122	0.178	2.5

Table 4.10 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
Se	4.04	0.000	0.000	0.009	0.000	0.013	0.010	0.032	2.7
Zn	4.04	0.001	0.000	0.355	0.000	0.284	0.290	0.930	0.0
Aldrin	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	5	0.000	0.000	0.002	0.000	0.007	0.008	0.017	0.8
Be	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	5	0.000	0.001	0.000	0.001	0.007	0.013	0.022	0.0
Cu	5	0.000	0.000	1.621	0.000	0.000	0.106	1.728	0.3
DDD	5	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.0
DDE	5	0.000	0.000	0.000	0.000	0.001	0.002	0.003	0.0
DDT	5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	5	0.000	0.000	0.001	0.000	0.004	0.006	0.010	1.3
PCB-1254	5	0.000	0.001	0.000	0.003	0.013	0.050	0.068	1.0
PCB-1260	5	0.000	0.001	0.000	0.003	0.031	0.122	0.157	2.2
Se	5	0.000	0.000	0.007	0.000	0.012	0.009	0.027	2.3
Zn	5	0.000	0.000	0.742	0.000	0.270	0.325	1.337	0.0
Chlordane	6	0.000	0.001	0.001	0.001	0.002	0.002	0.007	0.0
PCB-1254	6	0.000	0.003	0.003	0.003	0.005	0.005	0.019	0.3
PCB-1260	6	0.000	0.003	0.003	0.003	0.005	0.005	0.019	0.3
As	10	0.000	0.000	0.002	0.003	0.012	0.007	0.024	1.2
Be	10	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Bis(2ethylhexyl) phthalate	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Chlordane	10	0.000	0.001	0.000	0.001	0.007	0.008	0.018	0.0
Cu	10	0.000	0.000	0.000	0.037	0.000	0.000	0.037	0.0
DDD	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Hg	10	0.000	0.000	0.001	0.002	0.005	0.010	0.018	2.2
PCB-1254	10	0.000	0.000	0.000	0.001	0.007	0.007	0.015	0.2
PCB-1260	10	0.000	0.000	0.000	0.000	0.018	0.025	0.044	0.6
Se	10	0.000	0.000	0.008	0.011	0.014	0.016	0.049	4.1
Zn	10	0.000	0.000	0.270	0.328	0.343	0.509	1.450	0.0
Aldrin	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
As	13	0.000	0.002	0.002	0.001	0.000	0.000	0.004	0.2
Bis(2ethylhexyl)phthalate	13	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0
Chlordane	13	0.000	0.000	0.000	0.003	0.010	0.011	0.025	0.0
Cu	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
DDE	13	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.0
Hg	13	0.000	0.004	0.004	0.002	0.000	0.000	0.010	1.2
PCB-1254	13	0.000	0.000	0.000	0.007	0.020	0.004	0.031	0.4

Table 4.10 (continued)

Analyte	Subreach	Exposure Estimate (mg/kg/d)							NOAEL HQ
		Water	0-10 cm fish	10-20 cm fish	20-30 cm fish	30-40 cm fish	>40 cm fish	Total	
PCB-1260	13	0.000	0.000	0.000	0.032	0.097	0.097	0.226	3.2
Se	13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Zn	13	0.001	0.316	0.316	0.158	0.000	0.000	0.791	0.0
As	15	0.000	0.003	0.003	0.003	0.004	0.006	0.020	1.0
Be	15	0.000	0.000	0.000	0.000	0.000	0.001	0.001	
Chlordane	15	0.000	0.000	0.000	0.011	0.034	0.083	0.128	0.2
DDD	15	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.0
Hg	15	0.000	0.001	0.001	0.002	0.004	0.014	0.024	3.0
PCB-1254	15	0.000	0.000	0.000	0.003	0.009	0.025	0.036	0.5
PCB-1260	15	0.000	0.000	0.000	0.005	0.015	0.127	0.148	2.1
Se	15	0.000	0.015	0.015	0.014	0.019	0.000	0.063	5.3
Zn	15	0.000	0.383	0.383	0.318	0.378	0.429	1.889	0.0
As	18	0.000	0.000	0.001	0.000	0.011	0.011	0.022	1.1
Be	18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Chlordane	18	0.000	0.001	0.000	0.001	0.017	0.015	0.034	0.0
Hg	18	0.000	0.000	0.001	0.000	0.005	0.007	0.012	1.5
PCB-1254	18	0.000	0.002	0.000	0.003	0.028	0.052	0.084	1.2
PCB-1260	18	0.000	0.001	0.000	0.004	0.066	0.121	0.193	2.8
Se	18	0.000	0.000	0.006	0.000	0.008	0.007	0.021	1.7
Zn	18	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.0

Table F4.11. Clinch River subreaches, endpoints, and contaminants where HQs>1 were observed and Monte Carlo simulations were performed

Subreach	Subreach Name	Endpoint			
		Osprey	Great Blue Heron	Mink	River Otter
10	Norris Reservoir	Hg	Hg		As, Hg, Se
0	Upper Melton Hill Reservoir	Hg	Hg	Se	As, Hg, PCBs, Se
1	Lower Melton Hill Reservoir			Se	As, Se
2.01	Clinch River: Melton Hill Dam	Hg	Cu	Se	As, Cu, Hg, PCBs, Se
2.02	Clinch River: White Oak Creek	Hg	Hg	Se	As, Hg, PCBs, Se
2.04	Clinch River: Grassy Creek	PCBs	PCBs	PCBs	PCBs
13	Upper Poplar Creek	Hg, PCBs	Hg	Hg	Hg, PCBs
3.01	Poplar Creek: East Fork Poplar Creek	DDE, Hg, PCBs	Hg	Hg, Se	Hg, PCBs, Se
3.02	Poplar Creek: Mitchell Branch	Hg, PCBs	Hg, PCBs	Hg, Se	As, Hg, PCBs, Se
3.03	Poplar Creek: CNF	Hg	Hg	Hg	Hg, PCBs
3.04	Poplar Creek: Mouth	Hg	Hg	Hg, Se	As, Hg, PCBs, Se
4.01	Clinch River: Poplar Creek	Hg	Hg	Hg, Se	As, Hg, PCBs, Se
4.04	Clinch River: Mouth	Hg	Hg		As, Hg, PCBs, Se
18	Tennessee River Arm	Hg			As, Hg, PCBs, Se
5	Lower Watts Bar	Hg			Hg, PCBs, Se
15	Chickamauga Reservoir	Hg	Hg	Se	As, Hg, PCBs, Se

Table F4.12. Mean and standard errors for concentrations of contaminants of concern for piscivorous wildlife in water and fish from the Clinch River/Poplar Creek system

Analyte	Subreach	Water (mg/L)		0 to 10 cm (mg/kg)		10 to 20 cm (mg/kg)		20 to 30 cm (mg/kg)		30 to 40 cm (mg/kg)		>40 cm (mg/kg)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
As	0	0.046	0.004	0.081	0.006	0.081	0.006	0.196	0.000	0.182	0.014	0.203	0.035
Hg	0	0.000	0.000	0.045	0.006	0.045	0.006	0.052	0.000	0.066	0.028	0.116	0.022
PCB-1254	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.114	0.000	0.324	0.228
PCB-1260	0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.764	0.000	5.205	2.277
Se	0	0.000	0.000	0.816	0.044	0.816	0.044	0.578	0.000	0.610	0.075	0.589	0.032
As	1	0.028	0.003	0.087	0.007	0.087	0.007	0.000	0.000	0.196	0.056	0.112	0.000
Se	1	0.000	0.000	0.915	0.039	0.915	0.039	0.000	0.000	1.033	0.144	0.952	0.000
As	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.252	0.022	0.504	0.045	0.336	0.058
Cu	2.01	0.004	0.001	39.376	37.304	39.376	37.304	19.688	18.652	0.000	0.000	0.000	0.000
Hg	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.031	0.006	0.063	0.012	0.199	0.036
PCB-1254	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.180	0.011	0.359	0.022	0.733	0.166
PCB-1260	2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.249	0.024	0.498	0.048	0.969	0.273
Se	2.01	0.000	0.000	0.502	0.056	0.502	0.056	0.452	0.053	0.401	0.051	0.321	0.044
As	2.02	0.021	0.005	0.056	0.006	0.056	0.006	0.025	0.000	0.357	0.032	0.338	0.058
Hg	2.02	0.000	0.000	0.062	0.005	0.062	0.005	0.044	0.009	0.125	0.017	0.270	0.050
PCB-1016	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.094	0.006	0.000	0.000	0.000	0.000
PCB-1254	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.118	0.017	0.958	0.201	2.218	0.172
PCB-1260	2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.155	0.037	1.209	0.432	3.836	0.488
Se	2.02	0.000	0.000	0.501	0.042	0.501	0.042	0.321	0.107	0.443	0.037	0.479	0.041

Table F4.12 (continued)

Analyte	Subreach	Water (mg/L)		0 to 10 cm (mg/kg)		10 to 20 cm (mg/kg)		20 to 30 cm (mg/kg)		30 to 40 cm (mg/kg)		>40 cm (mg/kg)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
PCB-1254	2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.533	0.191
PCB-1260	2.04	0.000	0.000	3.849	2.430	3.849	2.430	3.849	2.430	3.849	2.430	3.604	1.477
DDE	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.043	0.021	0.086	0.042	0.023	0.003
Hg	3.01	0.000	0.000	0.334	0.034	0.334	0.034	0.401	0.017	0.469	0.000	1.272	0.000
PCB-1016	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.381	0.000
PCB-1254	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.237	0.045	0.474	0.089	1.073	0.227
PCB-1260	3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.863	0.286	1.727	0.572	2.548	0.341
Se	3.01	0.000	0.000	0.545	0.028	0.545	0.028	0.273	0.014	0.000	0.000	0.214	0.000
As	3.02	0.002	0.000	0.084	0.008	0.084	0.008	0.207	0.051	0.203	0.082	0.074	0.001
Hg	3.02	0.000	0.000	0.321	0.027	0.321	0.027	0.286	0.090	0.364	0.072	0.884	0.116
PCB-1254	3.02	0.000	0.000	0.000	0.000	0.000	0.000	1.143	0.381	1.143	0.220	1.238	1.048
PCB-1260	3.02	0.000	0.000	0.000	0.000	0.000	0.000	1.092	0.546	1.092	0.315	1.638	1.092
Se	3.02	0.000	0.000	0.487	0.056	0.487	0.056	0.398	0.114	0.216	0.071	0.321	0.000
Hg	3.03	0.000	0.000	0.191	0.027	0.191	0.027	0.270	0.000	0.000	0.000	0.346	0.033
PCB-1254	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.305	0.076	0.579	0.214
PCB-1260	3.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.621	0.527	3.245	1.029
As	3.04	0.001	0.000	0.074	0.016	0.074	0.016	0.000	0.000	0.334	0.039	0.263	0.035
Hg	3.04	0.000	0.000	0.206	0.026	0.206	0.026	0.000	0.000	0.345	0.082	0.451	0.077
PCB-1254	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.206	0.033	0.930	0.162	1.666	0.254

Table F4.12 (continued)

Analyte	Subreach	Water (mg/L)		0 to 10 cm (mg/kg)		10 to 20 cm (mg/kg)		20 to 30 cm (mg/kg)		30 to 40 cm (mg/kg)		>40 cm (mg/kg)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
PCB-1260	3.04	0.000	0.000	0.000	0.000	0.000	0.000	0.280	0.089	1.689	0.364	4.265	0.537
Se	3.04	0.000	0.000	0.290	0.019	0.290	0.019	0.000	0.000	0.294	0.023	0.347	0.039
As	4.01	0.019	0.005	0.073	0.013	0.073	0.013	0.000	0.000	0.164	0.044	0.209	0.087
Hg	4.01	0.000	0.000	0.204	0.031	0.204	0.031	0.051	0.002	0.174	0.024	0.278	0.070
PCB-1254	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.213	0.029	0.971	0.154	1.538	0.264
PCB-1260	4.01	0.000	0.000	0.000	0.000	0.000	0.000	0.157	0.038	1.713	0.388	2.760	0.493
Se	4.01	0.000	0.000	0.642	0.065	0.642	0.065	0.000	0.000	0.192	0.058	0.524	0.183
As	4.04	0.002	0.000	0.000	0.000	0.083	0.008	0.000	0.000	0.295	0.045	0.224	0.024
Hg	4.04	0.000	0.000	0.000	0.000	0.074	0.010	0.000	0.000	0.147	0.021	0.204	0.018
PCB-1254	4.04	0.000	0.000	0.100	0.000	0.000	0.000	0.106	0.008	0.539	0.077	1.840	0.143
PCB-1260	4.04	0.000	0.000	0.090	0.000	0.000	0.000	0.159	0.012	1.267	0.313	3.812	0.322
Se	4.04	0.000	0.000	0.000	0.000	0.477	0.019	0.000	0.000	0.404	0.051	0.312	0.033
Hg	5	0.000	0.000	0.000	0.000	0.048	0.003	0.000	0.000	0.112	0.012	0.178	0.013
PCB-1254	5	0.000	0.000	0.080	0.003	0.000	0.000	0.123	0.029	0.384	0.047	1.606	0.111
PCB-1260	5	0.000	0.000	0.085	0.002	0.000	0.000	0.118	0.016	0.889	0.126	3.889	0.267
Se	5	0.000	0.000	0.000	0.000	0.459	0.023	0.000	0.000	0.394	0.054	0.320	0.024
As	10	0.000	0.000	0.000	0.000	0.073	0.010	0.124	0.017	0.381	0.023	0.200	0.036
Hg	10	0.000	0.000	0.000	0.000	0.045	0.004	0.084	0.007	0.166	0.011	0.299	0.025

Table F4.12 (continued)

Analyte	Subreach	Water (mg/L)		0 to 10 cm (mg/kg)		10 to 20 cm (mg/kg)		20 to 30 cm (mg/kg)		30 to 40 cm (mg/kg)		>40 cm (mg/kg)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
Se	10	0.000	0.000	0.000	0.000	0.417	0.028	0.476	0.057	0.493	0.020	0.518	0.027
Hg	13	0.000	0.000	0.119	0.047	0.119	0.047	0.059	0.023	0.000	0.000	0.000	0.000
PCB-1254	13	0.000	0.000	0.000	0.000	0.000	0.000	0.362	0.000	0.724	0.000	0.152	0.000
PCB-1260	13	0.000	0.000	0.000	0.000	0.000	0.000	0.683	0.164	1.365	0.328	1.884	0.246
As	15	0.000	0.000	0.130	0.026	0.130	0.026	0.115	0.022	0.100	0.018	0.112	0.014
Hg	15	0.000	0.000	0.060	0.010	0.060	0.010	0.095	0.010	0.131	0.010	0.208	0.048
PCB-1254	15	0.000	0.000	0.000	0.000	0.000	0.000	0.152	0.000	0.305	0.000	0.559	0.111
PCB-1260	15	0.000	0.000	0.000	0.000	0.000	0.000	0.273	0.000	0.546	0.000	2.657	0.639
Se	15	0.000	0.000	0.754	0.029	0.754	0.029	0.657	0.027	0.560	0.025	0.000	0.000
As	18	0.000	0.000	0.000	0.000	0.055	0.005	0.000	0.000	0.301	0.049	0.336	0.024
Hg	18	0.000	0.000	0.000	0.000	0.045	0.003	0.000	0.000	0.149	0.012	0.201	0.018
PCB-1254	18	0.000	0.000	0.090	0.000	0.000	0.000	0.121	0.013	0.780	0.129	1.565	0.159
PCB-1260	18	0.000	0.000	0.070	0.000	0.000	0.000	0.185	0.032	1.462	0.512	3.630	0.404
Se	18	0.000	0.000	0.000	0.000	0.266	0.021	0.000	0.000	0.214	0.034	0.240	0.014

Table F4.13. Results of Monte Carlo simulation of piscivore contaminant exposure estimates in the Clinch River/Poplar Creek system

Endpoint	Subreach	Analyte	Simulation Results (mg/kg/d)		
			Mean	Standard Deviation	80th percentile
Osprey	10	Hg	0.014	0.001	0.016
Osprey	0	Hg	0.010	0.001	0.011
Osprey	2.01	Hg	0.004	0.001	0.005
Osprey	2.02	Hg	0.012	0.001	0.013
Osprey	13	Hg	0.016	0.005	0.020
Osprey	3.01	Hg	0.075	0.007	0.082
Osprey	3.02	Hg	0.062	0.010	0.070
Osprey	3.03	Hg	0.042	0.004	0.046
Osprey	3.04	Hg	0.024	0.003	0.026
Osprey	4.01	Hg	0.026	0.003	0.028
Osprey	4.04	Hg	0.008	0.001	0.009
Osprey	18	Hg	0.006	0.001	0.007
Osprey	5	Hg	0.006	0.001	0.006
Osprey	15	Hg	0.016	0.002	0.018
Osprey	2.04	PCB	0.756	0.316	1.011
Osprey	13	PCB	0.118	0.011	0.128
Osprey	3.01	PCB	0.080	0.010	0.089
Osprey	3.02	PCB	0.242	0.067	0.297
Osprey	3.01	DDT	0.006	0.001	0.007
Great Blue Heron	10	Hg	0.006	0.001	0.007
Great Blue Heron	0	Hg	0.009	0.002	0.010
Great Blue Heron	2.02	Hg	0.012	0.002	0.013
Great Blue Heron	13	Hg	0.022	0.007	0.027
Great Blue Heron	3.01	Hg	0.068	0.012	0.077
Great Blue Heron	3.02	Hg	0.062	0.011	0.071
Great Blue Heron	3.03	Hg	0.040	0.008	0.045
Great Blue Heron	3.04	Hg	0.035	0.007	0.040
Great Blue Heron	4.01	Hg	0.036	0.008	0.041
Great Blue Heron	4.04	Hg	0.007	0.001	0.008

Table F4.13 (continued)

Endpoint	Subreach	Analyte	Simulation Results (mg/kg/d)		
			Mean	Standard Deviation	80th percentile
Great Blue Heron	15	Hg	0.013	0.002	0.014
Great Blue Heron	2.04	PCB	0.738	0.329	0.984
Great Blue Heron	3.02	PCB	0.061	0.021	0.079
Great Blue Heron	2.01	Cu	7.354	4.775	11.162
Mink	0	Se	0.067	0.035	0.092
Mink	1	Se	0.074	0.036	0.099
Mink	2.01	Se	0.041	0.020	0.055
Mink	2.02	Se	0.040	0.020	0.055
Mink	3.01	Se	0.044	0.022	0.060
Mink	3.02	Se	0.039	0.019	0.054
Mink	3.04	Se	0.023	0.011	0.032
Mink	4.01	Se	0.052	0.025	0.071
Mink	15	Se	0.063	0.032	0.085
Mink	13	Hg	0.010	0.006	0.014
Mink	3.01	Hg	0.027	0.013	0.037
Mink	3.02	Hg	0.026	0.013	0.035
Mink	3.03	Hg	0.015	0.008	0.021
Mink	3.04	Hg	0.017	0.008	0.022
Mink	4.01	Hg	0.017	0.008	0.023
Mink	2.04	PCB	0.311	0.223	0.475
River Otter	10	As	0.020	0.003	0.022
River Otter	0	As	0.021	0.003	0.024
River Otter	1	As	0.014	0.002	0.016
River Otter	2.01	As	0.028	0.004	0.032
River Otter	2.02	As	0.024	0.004	0.027
River Otter	3.02	As	0.015	0.003	0.018
River Otter	3.04	As	0.020	0.003	0.022
River Otter	4.01	As	0.015	0.003	0.017
River Otter	4.04	As	0.016	0.002	0.018
River Otter	18	As	0.019	0.003	0.021
River Otter	15	As	0.013	0.002	0.015
River Otter	10	Hg	0.016	0.002	0.017
River Otter	0	Hg	0.007	0.001	0.008
River Otter	2.01	Hg	0.008	0.001	0.009
River Otter	2.02	Hg	0.014	0.002	0.016
River Otter	13	Hg	0.006	0.002	0.007

Table F4.13 (continued)

Endpoint	Subreach	Analyte	Simulation Results (mg/kg/d)		
			Mean	Standard Deviation	80th percentile
River Otter	3.01	Hg	0.070	0.008	0.077
River Otter	3.02	Hg	0.053	0.008	0.059
River Otter	3.03	Hg	0.022	0.003	0.025
River Otter	3.04	Hg	0.030	0.005	0.035
River Otter	4.01	Hg	0.021	0.003	0.024
River Otter	4.04	Hg	0.011	0.002	0.013
River Otter	18	Hg	0.011	0.001	0.012
River Otter	5	Hg	0.009	0.001	0.010
River Otter	15	Hg	0.014	0.002	0.015
River Otter	10	Se	0.045	0.005	0.050
River Otter	0	Se	0.064	0.008	0.071
River Otter	1	Se	0.063	0.008	0.070
River Otter	2.01	Se	0.049	0.006	0.055
River Otter	2.02	Se	0.051	0.007	0.056
River Otter	3.01	Se	0.032	0.004	0.035
River Otter	3.02	Se	0.041	0.006	0.045
River Otter	3.04	Se	0.029	0.004	0.032
River Otter	4.01	Se	0.045	0.008	0.051
River Otter	4.04	Se	0.029	0.004	0.032
River Otter	18	Se	0.018	0.002	0.019
River Otter	5	Se	0.029	0.004	0.032
River Otter	15	Se	0.056	0.007	0.062
River Otter	0	PCB	0.161	0.066	0.215
River Otter	2.01	PCB	0.081	0.013	0.092
River Otter	2.02	PCB	0.240	0.035	0.269
River Otter	2.04	PCB	0.445	0.121	0.547
River Otter	13	PCB	0.139	0.020	0.156
River Otter	3.01	PCB	0.193	0.031	0.219
River Otter	3.02	PCB	0.185	0.052	0.228
River Otter	3.03	PCB	0.191	0.040	0.223
River Otter	3.04	PCB	0.253	0.037	0.283
River Otter	4.01	PCB	0.205	0.031	0.231
River Otter	4.04	PCB	0.220	0.029	0.245
River Otter	18	PCB	0.220	0.033	0.249
River Otter	5	PCB	0.199	0.025	0.222
River Otter	15	PCB	0.124	0.024	0.142
River Otter	2.01	Cu	1.681	1.023	2.518

Table F4.14. Estimated NOAELs and LOAELs for osprey and great blue heron

Contaminant	Experimental Information						Estimated NOAEL (mg/kg/d)		Estimated LOAEL (mg/kg/d)	
	Form	Test Species	NOAEL (mg/kg/d) and Duration	LOAEL (mg/kg/d) and Duration	Endpoint	Citation	Osprey	Great Blue Heron	Osprey	Great Blue Heron
Arsenic	arsenite	mallard duck	5.14 128d	12.84 128d	mortality	USFWS 1964	4.49	3.9	11.2	9.6
Copper	oxide	chicken	33.2 10 wk	46.97 10 wk	growth/ mortality	Mehring et al. 1960	23.6	20.25	33.4	28.6
Mercury	methyl	mallard duck	0.0064[2] 3 gen.	0.064 3 gen.	reproduction	Heinz 1979	0.006	0.005	0.056	0.048
Selenium	selenite	mallard duck	0.5 10 wk	1.0 10 wk	reproduction	Heinz et al. 1987	0.44	0.38	0.87	0.75
Zinc	zinc sulfate	chicken	14.5 44 wk	130.9 44 wk	reproduction	Stahl et al. 1990	15.8	13.5	138.2	118.5
Aldrin	dieldrin	barn owl	0.077 2 yr		reproduction	Mendenhall et al. 1983	0.05	0.045		
Bis(2-ethylhexyl) Phthalate		ring dove	1.11 4 wk		reproduction	Peakall 1974	0.53	0.45		
Chlordane		redwinged blackbird	2.14 84 d	10.7 84 d	mortality	Stickel et al. 1983	0.76	0.65	3.8	3.2
DDT and metabolites		Brown Pelican	0.0028[3] >1 yr	0.028[3] >1 yr	reproduction	Anderson et al. 1975	0.004	0.003	0.037	0.03

Table F4.14 (continued)

Contaminant	Experimental Information						Estimated NOAEL (mg/kg/d)		Estimated LOAEL (mg/kg/d)	
	Form	Test Species	NOAEL (mg/kg/d) and Duration	LOAEL (mg/kg/d) and Duration	Endpoint	Citation	Osprey	Great Blue Heron	Osprey	Great Blue Heron
PCBs	Aroclor 1254	Ring-necked Pheasant	0.18[2] 17 wk	0.18 17 wk	reproduction	Dahlgren et al. 1972	0.16	0.14	1.6	1.4

[1] Estimated NOAEL: subchronic to chronic factor of 10 applied.
[2] Estimated NOAEL: LOAEL to NOAEL factor of 10 applied.
[3] NOAEL and LOAEL as determined in EPA 1993b

Table F4.15. Estimated NOAEL's and LOAEL's for mink and river otter

Contaminant	Experimental Information						Estimated NOAEL (mg/kg/d)		Estimated LOAEL (mg/kg/d)	
	Form	Test Species	NOAEL (mg/kg/d) and Duration	LOAEL (mg/kg/d) and Duration	Endpoint	Citation	Mink	River Otter	Mink	River Otter
Arsenic	As+3	mouse	0.126[1] 3 gen.	1.26 3 gen.	reproduction	Schroeder and Mitchner 1971	0.04	0.02	0.4	0.2
Beryllium	sulfate	rat	0.66 1126 d		longevity/ wt. loss	Schroeder and Mitchner 1975	0.47	0.24		
Copper	sulfate	mink	11.71 1 yr	15.14 1 yr	reproduction	Aulerich et al. 1982	11.7	5.9	15.1	7.6
Mercury	methyl	mink	0.015[2] 93 d		mortality	Wobeser et al. 1976	0.015	0.008		
Mercury	methyl	rat		0.16 3 gen.	reproduction	Verschuuren et al. 1976			0.11	0.06
Selenium	selenate	mouse	0.075[1] 3 gen	0.75 3 gen	reproduction	Schroeder and Mitchner 1971	0.024	0.012	0.24	0.12
Zinc	oxide	rat	160 gestation	320 gestation	reproduction	Schlicker and Cox 1968	113.2	57	226.3	114
Aldrin		rat	0.2 3 gen	1.0 3 gen	reproduction	Treon and Cleveland 1955	0.14	0.07	0.7	0.36
Bis(2-ethylhexyl) Phthalate		mouse	18.33 105 d	183.3 105 d	reproduction	Lamb et al. 1987	5.76	2.88	57.6	28.8
Chlordane		mouse	4.6 6 gen	9.2 6 gen	reproduction	WHO 1984	1.4	0.73	2.9	1.5
DDT and metabolites		rat	0.8 2 yr	4.0 2 yr	reproduction	Fitzhugh 1948	0.57	0.29	2.8	1.4
PCB's	Aroclor 1254	mink	0.137 4.5 mo.	0.685 4.5 mo.	reproduction	Aulerich and Ringer 1987	0.14	0.07	0.69	0.35

[1] Estimated NOAEL: LOAEL to NOAEL factor of 10 applied.
[2] Estimated NOAEL: subchronic to chronic factor of 10 applied.

Table F4.16. Water benchmarks for osprey, great blue heron, and mink[a]

Analyte	Water Benchmark (mg/L)			
	Osprey	Great Blue Heron	Mink	River Otter
1,1-Dichloroethane	-	-	-	
1,2-Dichloroethene	-	-	143.5	89.4
Acetone	-	-	71.4	44.5
Aluminum	1026.1	1020.3	6.1	3.8
Antimony	-	-	0.4	0.25
Arsenic	87.5	87.0	0.4	0.25
Barium	177.1	176.1	38.8	24.4
Beryllium	-	-	4.7	2.9
Bis(2-ethylhexyl)phthalate	10.2	10.2	58.2	36.2
Cadmium	25.9	25.8	0.6	0.36
Chlordane, total	14.7	14.6	14.5	9.1
Chloroform	-	-	107.2	66.8
Chromium	18.3	18.2	23.4	14.6
Cobalt	-	-	-	
Copper	460.1	457.5	118.3	73.6
Di-n-butylphthalate	1.1	1.1	1746.6	1088
Diethylphthalate	-	-	14553	9067
Endosulfan sulfate	125.9	125.2	1.1	0.67
Endrin ketone	5.4	5.3	0.3	0.18
Fluoride	75.6	75.2	316.9	197
Lead	33.5	33.3	57.1	35.6
Manganese	-	-	628.6	391
Mercury	0.11	0.11	0.15	0.09
Methoxychlor	-	-	28.6	17.8
Methyl Mercury	0.11	0.11	0.15	0.09
Methylene chloride	-	-	41.8	26
Nickel	1216.2	1209.3	285.7	178
Nitrate	-	-	4872.6	3035
PCB-1254	3.1	3.1	1.4	0.88

Table F4.16 (continued)

Analyte	Water Benchmark (mg/L)			
	Osprey	Great Blue Heron	Mink	River Otter
Selenium	8.5	8.5	0.24	0.15
Tetrachloroethene	-	-	4.45	2.8
Thallium	-	-	0.05	0.033
Toluene	-	-	82.5	51.4
Trichloroethene	-	-	2.2	1.4
Uranium	293.5	291.8	9.5	5.9
Vanadium	204.2	203.1	1.4	0.85
Vinyl chloride	-	-	1.2	0.76
Zinc	51.1	50.8	1.2	712
alpha-BHC	5.1	5.1	0.14	0.09

a Water benchmarks for great blue heron and mink from Opresko et al. (1984). Benchmarks for osprey and river otter calculated using methods and data presented in Opresko et al. (1984) and body weight and water ingestion rates presented in Sect. 6.4.1.1.

Table F4.17. Surface water concentrations and hazard assessment for mink, great blue heron, and osprey

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
1,1-Dichloroethane	21	0.0012	-[b]	-	-	-
1,2-Dichloroethene	21	0.02002	-	-	0.0001	0.0002
Acetone	0	0.0097	-	-	0.0001	0.0002
Acetone	1	0.007	-	-	0.0001	0.0002
Acetone	2.02	0.014	-	-	0.0002	0.0003
Acetone	3.03	0.013	-	-	0.0002	0.0003
Acetone	13	0.045	-	-	0.0006	0.0010
Acetone	18	0.003	-	-	0.0000	0.0001
Acetone	20.02	0.003	-	-	0.0000	0.0001
Acetone	22	0.0078	-	-	0.0001	0.0002
Aluminum	0	0.50129	0.0005	0.0005	0.0818	0.1319
Aluminum	1	0.33313	0.0003	0.0003	0.0544	0.0877
Aluminum	2.01	0.29901	0.0003	0.0003	0.0488	0.0787
Aluminum	2.02	0.34387	0.0003	0.0003	0.0561	0.0905
Aluminum	2.03	0.32668	0.0003	0.0003	0.0533	0.0860
Aluminum	2.04	0.30986	0.0003	0.0003	0.0506	0.0815
Aluminum	3.01	0.53873	0.0005	0.0005	0.0879	0.1418
Aluminum	3.02	0.47787	0.0005	0.0005	0.0780	0.1258
Aluminum	3.03	0.65273	0.0006	0.0006	0.1065	0.1718
Aluminum	3.04	0.48615	0.0005	0.0005	0.0793	0.1279
Aluminum	4.01	0.43062	0.0004	0.0004	0.0703	0.1133
Aluminum	4.02	0.26664	0.0003	0.0003	0.0435	0.0702
Aluminum	4.04	0.29473	0.0003	0.0003	0.0481	0.0776
Aluminum	7.01	0.23407	0.0002	0.0002	0.0382	0.0616
Aluminum	7.02	0.19494	0.0002	0.0002	0.0318	0.0513
Aluminum	8	0.25849	0.0003	0.0003	0.0422	0.0680
Aluminum	13	0.491	0.0005	0.0005	0.0801	0.1292
Aluminum	18	0.93591	0.0009	0.0009	0.1527	0.2463

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
Aluminum	20.01	0.347	0.0003	0.0003	0.0566	0.0913
Aluminum	20.02	0.30419	0.0003	0.0003	0.0496	0.0801
Aluminum	21	2.1069	0.0021	0.0021	0.3438	0.5544
Aluminum	22	1.41099	0.0014	0.0014	0.2302	0.3713
Antimony	2.01	0.0013	-	-	0.0033	0.0052
Antimony	3.01	0.00142	-	-	0.0036	0.0057
Antimony	3.02	0.0012	-	-	0.0030	0.0048
Antimony	3.04	0.00175	-	-	0.0044	0.0070
Antimony	4.01	0.00176	-	-	0.0044	0.0070
Antimony	4.02	0.00166	-	-	0.0042	0.0066
Antimony	7.02	0.0012	-	-	0.0030	0.0048
Antimony	13	0.00118	-	-	0.0030	0.0047
Arsenic	0	0.05	0.0006	0.0006	0.1645	0.2000
Arsenic	1	0.0012	0.0000	0.0000	0.0039	0.0048
Arsenic	2.02	0.0011	0.0000	0.0000	0.0036	0.0044
Arsenic	2.04	0.0012	0.0000	0.0000	0.0039	0.0048
Arsenic	3.02	0.0014	0.0000	0.0000	0.0046	0.0056
Arsenic	3.03	0.00145	0.0000	0.0000	0.0048	0.0058
Arsenic	3.04	0.0012	0.0000	0.0000	0.0039	0.0048
Arsenic	4.01	0.00107	0.0000	0.0000	0.0035	0.0043
Arsenic	4.02	0.0013	0.0000	0.0000	0.0043	0.0052
Arsenic	4.04	0.00166	0.0000	0.0000	0.0055	0.0066
Arsenic	7.01	0.00523	0.0001	0.0001	0.0172	0.0209
Arsenic	7.02	0.00129	0.0000	0.0000	0.0042	0.0052
Arsenic	13	0.00366	0.0000	0.0000	0.0120	0.0146
Arsenic	20.01	0.0545	0.0006	0.0006	0.1793	0.2180
Barium	0	0.07445	0.0004	0.0004	0.0019	0.0031
Barium	1	0.03457	0.0002	0.0002	0.0009	0.0014
Barium	2.01	0.03561	0.0002	0.0002	0.0009	0.0015

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
Barium	2.02	0.03178	0.0002	0.0002	0.0008	0.0013
Barium	2.03	0.03045	0.0002	0.0002	0.0008	0.0012
Barium	2.04	0.03302	0.0002	0.0002	0.0009	0.0014
Barium	3.01	0.03636	0.0002	0.0002	0.0009	0.0015
Barium	3.02	0.040289	0.0002	0.0002	0.0010	0.0017
Barium	3.03	0.037231	0.0002	0.0002	0.0010	0.0015
Barium	3.04	0.03642	0.0002	0.0002	0.0009	0.0015
Barium	4.01	0.03123	0.0002	0.0002	0.0008	0.0013
Barium	4.02	0.028902	0.0002	0.0002	0.0007	0.0012
Barium	4.04	0.028776	0.0002	0.0002	0.0007	0.0012
Barium	7.01	0.037219	0.0002	0.0002	0.0010	0.0015
Barium	7.02	0.028599	0.0002	0.0002	0.0007	0.0012
Barium	8	0.029057	0.0002	0.0002	0.0007	0.0012
Barium	13	0.045121	0.0003	0.0003	0.0012	0.0018
Barium	18	0.030569	0.0002	0.0002	0.0008	0.0013
Barium	20.01	0.034383	0.0002	0.0002	0.0009	0.0014
Barium	20.02	0.090238	0.0005	0.0005	0.0023	0.0037
Barium	21	0.061382	0.0003	0.0003	0.0016	0.0025
Barium	22	0.079053	0.0004	0.0004	0.0020	0.0032
Beryllium	0	0.0012	-	-	0.0003	0.0004
Beryllium	1	0.0014	-	-	0.0003	0.0005
Beryllium	20.02	0.001	-	-	0.0002	0.0003
Bis(2-ethylhexyl)phthalate	1	0.002239	0.0002	0.0002	0.0000	0.0001
Bis(2-ethylhexyl)phthalate	2.02	0.004322	0.0004	0.0004	0.0001	0.0001
Bis(2-ethylhexyl)phthalate	2.03	0.001	0.0001	0.0001	0.0000	0.0000
Bis(2-ethylhexyl)phthalate	2.04	0.07	0.0068	0.0069	0.0012	0.0019
Bis(2-ethylhexyl)phthalate	3.01	0.002391	0.0002	0.0002	0.0000	0.0001
Bis(2-ethylhexyl)phthalate	3.02	0.004339	0.0004	0.0004	0.0001	0.0001
Bis(2-ethylhexyl)phthalate	3.03	0.002391	0.0002	0.0002	0.0000	0.0001

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
Bis(2-ethylhexyl)phthalate	3.04	0.00169	0.0002	0.0002	0.0000	0.0000
Bis(2-ethylhexyl)phthalate	4.01	0.001	0.0001	0.0001	0.0000	0.0000
Bis(2-ethylhexyl)phthalate	4.02	0.00301	0.0003	0.0003	0.0001	0.0001
Bis(2-ethylhexyl)phthalate	4.04	0.007913	0.0008	0.0008	0.0001	0.0002
Bis(2-ethylhexyl)phthalate	7.01	0.001	0.0001	0.0001	0.0000	0.0000
Bis(2-ethylhexyl)phthalate	7.02	0.002342	0.0002	0.0002	0.0000	0.0001
Bis(2-ethylhexyl)phthalate	10	0.005	0.0005	0.0005	0.0001	0.0001
Bis(2-ethylhexyl)phthalate	13	0.004208	0.0004	0.0004	0.0001	0.0001
Cadmium	22	0.00036	0.0000	0.0000	0.0006	0.0010
Chlordane, total	13	0.000002	0.0000	0.0000	0.0000	0.0000
Chloroform	3.03	0.004	-	-	0.0000	0.0001
Chloroform	21	0.002863	-	-	0.0000	0.0000
Chromium	0	0.006217	0.0003	0.0003	0.0003	0.0004
Chromium	1	0.003127	0.0002	0.0002	0.0001	0.0002
Chromium	2.01	0.003926	0.0002	0.0002	0.0002	0.0003
Chromium	2.02	0.005427	0.0003	0.0003	0.0002	0.0004
Chromium	2.03	0.002622	0.0001	0.0001	0.0001	0.0002
Chromium	2.04	0.0017	0.0001	0.0001	0.0001	0.0001
Chromium	3.01	0.002072	0.0001	0.0001	0.0001	0.0001
Chromium	3.02	0.001851	0.0001	0.0001	0.0001	0.0001
Chromium	3.03	0.002601	0.0001	0.0001	0.0001	0.0002
Chromium	3.04	0.002291	0.0001	0.0001	0.0001	0.0002
Chromium	4.01	0.001873	0.0001	0.0001	0.0001	0.0001
Chromium	4.02	0.001895	0.0001	0.0001	0.0001	0.0001
Chromium	4.04	0.003832	0.0002	0.0002	0.0002	0.0003
Chromium	7.01	0.001812	0.0001	0.0001	0.0001	0.0001
Chromium	7.02	0.001777	0.0001	0.0001	0.0001	0.0001
Chromium	8	0.001	0.0001	0.0001	0.0000	0.0001
Chromium	13	0.002523	0.0001	0.0001	0.0001	0.0002

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
Chromium	18	0.005493	0.0003	0.0003	0.0002	0.0004
Chromium	20.02	0.011603	0.0006	0.0006	0.0005	0.0008
Chromium	21	0.008189	0.0004	0.0004	0.0003	0.0006
Chromium	22	0.016961	0.0009	0.0009	0.0007	0.0012
Cobalt	1	0.0045	-	-	-	-
Cobalt	2.02	0.0045	-	-	-	-
Cobalt	3.01	0.0012	-	-	-	-
Cobalt	3.03	0.0019	-	-	-	-
Cobalt	3.04	0.00117	-	-	-	-
Cobalt	13	0.00123	-	-	-	-
Cobalt	18	0.0052	-	-	-	-
Cobalt	21	0.00629	-	-	-	-
Cobalt	22	0.0077	-	-	-	-
Copper	0	0.0023	0.0000	0.0000	0.0000	0.0000
Copper	1	0.00807	0.0000	0.0000	0.0001	0.0001
Copper	2.01	0.00741	0.0000	0.0000	0.0001	0.0001
Copper	2.02	0.0065	0.0000	0.0000	0.0001	0.0001
Copper	2.03	0.01329	0.0000	0.0000	0.0001	0.0002
Copper	2.04	0.00873	0.0000	0.0000	0.0001	0.0001
Copper	3.01	0.00425	0.0000	0.0000	0.0000	0.0001
Copper	3.02	0.00336	0.0000	0.0000	0.0000	0.0000
Copper	3.03	0.00494	0.0000	0.0000	0.0000	0.0001
Copper	3.04	0.00529	0.0000	0.0000	0.0000	0.0001
Copper	4.01	0.01784	0.0000	0.0000	0.0002	0.0002
Copper	4.02	0.00366	0.0000	0.0000	0.0000	0.0000
Copper	4.04	0.00597	0.0000	0.0000	0.0001	0.0001
Copper	7.01	0.01614	0.0000	0.0000	0.0001	0.0002
Copper	7.02	0.01263	0.0000	0.0000	0.0001	0.0002
Copper	8	0.0187	0.0000	0.0000	0.0002	0.0003

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
Copper	13	0.0047	0.0000	0.0000	0.0000	0.0001
Copper	21	0.01341	0.0000	0.0000	0.0001	0.0002
Di-n-butylphthalate	0	0.002	0.0020	0.0020	0.0000	0.0000
Di-n-butylphthalate	1	0.00241	0.0024	0.0024	0.0000	0.0000
Di-n-butylphthalate	2.02	0.00309	0.0030	0.0030	0.0000	0.0000
Di-n-butylphthalate	2.03	0.00396	0.0039	0.0039	0.0000	0.0000
Di-n-butylphthalate	3.01	0.00364	0.0036	0.0036	0.0000	0.0000
Di-n-butylphthalate	3.02	0.00304	0.0030	0.0030	0.0000	0.0000
Di-n-butylphthalate	3.03	0.00201	0.0020	0.0020	0.0000	0.0000
Di-n-butylphthalate	3.04	0.00355	0.0035	0.0035	0.0000	0.0000
Di-n-butylphthalate	4.01	0.00189	0.0018	0.0019	0.0000	0.0000
Di-n-butylphthalate	4.04	0.002	0.0020	0.0020	0.0000	0.0000
Di-n-butylphthalate	7.01	0.003	0.0029	0.0029	0.0000	0.0000
Di-n-butylphthalate	7.02	0.00294	0.0029	0.0029	0.0000	0.0000
Di-n-butylphthalate	8	0.004	0.0039	0.0039	0.0000	0.0000
Di-n-butylphthalate	13	0.00259	0.0025	0.0025	0.0000	0.0000
Diethylphthalate	2.02	0.001	-	-	0.0000	0.0000
Diethylphthalate	3.03	0.002	-	-	0.0000	0.0000
Diethylphthalate	13	0.00167	-	-	0.0000	0.0000
Endosulfan sulfate	13	0	0.0000	0.0000	0.0000	0.0000
Endrin ketone	13	0	0.0000	0.0000	0.0000	0.0000
Fluoride	0	0.11755	0.0016	0.0016	0.0004	0.0006
Fluoride	1	0.13308	0.0018	0.0018	0.0004	0.0007
Fluoride	2.02	0.11421	0.0015	0.0015	0.0004	0.0006
Fluoride	2.04	0.1135	0.0015	0.0015	0.0004	0.0006
Fluoride	3.03	0.24979	0.0033	0.0033	0.0008	0.0013
Fluoride	4.01	0.10336	0.0014	0.0014	0.0003	0.0005
Fluoride	13	0.16039	0.0021	0.0021	0.0005	0.0008
Fluoride	18	0.29294	0.0039	0.0039	0.0009	0.0015

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Héron	Mink	River Otter
Fluoride	20.01	6.46241	0.0855	0.0859	0.0204	0.0328
Fluoride	20.02	0.25661	0.0034	0.0034	0.0008	0.0013
Fluoride	21	0.28813	0.0038	0.0038	0.0009	0.0015
Fluoride	22	0.80315	0.0106	0.0107	0.0025	0.0041
Lead	0	0.001	0.0000	0.0000	0.0000	0.0000
Lead	1	0.00173	0.0001	0.0001	0.0000	0.0000
Lead	2.01	0.00348	0.0001	0.0001	0.0001	0.0001
Lead	2.02	0.00136	0.0000	0.0000	0.0000	0.0000
Lead	2.03	0.002	0.0001	0.0001	0.0000	0.0001
Lead	3.01	0.00172	0.0001	0.0001	0.0000	0.0000
Lead	3.02	0.00131	0.0000	0.0000	0.0000	0.0000
Lead	3.03	0.00193	0.0001	0.0001	0.0000	0.0001
Lead	3.04	0.00186	0.0001	0.0001	0.0000	0.0001
Lead	4.01	0.00176	0.0001	0.0001	0.0000	0.0000
Lead	4.02	0.0028	0.0001	0.0001	0.0000	0.0001
Lead	4.04	0.00133	0.0000	0.0000	0.0000	0.0000
Lead	7.01	0.00155	0.0000	0.0000	0.0000	0.0000
Lead	7.02	0.0015	0.0000	0.0000	0.0000	0.0000
Lead	8	0.0023	0.0001	0.0001	0.0000	0.0001
Lead	13	0.00162	0.0000	0.0000	0.0000	0.0000
Manganese	0	0.10362	-	-	0.0002	0.0003
Manganese	1	0.06231	-	-	0.0001	0.0002
Manganese	2.01	0.05211	-	-	0.0001	0.0001
Manganese	2.02	0.05545	-	-	0.0001	0.0001
Manganese	2.03	0.05192	-	-	0.0001	0.0001
Manganese	2.04	0.14384	-	-	0.0002	0.0004
Manganese	3.01	0.0908	-	-	0.0001	0.0002
Manganese	3.02	0.08856	-	-	0.0001	0.0002
Manganese	3.03	0.08943	-	-	0.0001	0.0002

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
Manganese	3.04	0.08827	-	-	0.0001	0.0002
Manganese	4.01	0.0578	-	-	0.0001	0.0001
Manganese	4.02	0.06947	-	-	0.0001	0.0002
Manganese	4.04	0.07159	-	-	0.0001	0.0002
Manganese	7.01	0.05739	-	-	0.0001	0.0001
Manganese	7.02	0.07628	-	-	0.0001	0.0002
Manganese	8	0.10297	-	-	0.0002	0.0003
Manganese	13	0.13031	-	-	0.0002	0.0003
Manganese	18	0.08551	-	-	0.0001	0.0002
Manganese	20.01	0.03178	-	-	0.0001	0.0001
Manganese	20.02	0.03272	-	-	0.0001	0.0001
Manganese	21	0.40127	-	-	0.0006	0.0010
Manganese	22	0.15068	-	-	0.0002	0.0004
Mercury	0	0.00003	0.0003	0.0003	0.0007	0.0003
Mercury	1	0.00001	0.0001	0.0001	0.0002	0.0001
Mercury	2.01	0.00001	0.0001	0.0001	0.0002	0.0001
Mercury	2.02	0.00007	0.0006	0.0006	0.0015	0.0008
Mercury	2.03	0.00001	0.0001	0.0001	0.0002	0.0001
Mercury	2.04	0.00002	0.0002	0.0002	0.0004	0.0002
Mercury	3.01	0.00013	0.0012	0.0012	0.0028	0.0014
Mercury	3.02	0.00012	0.0011	0.0011	0.0026	0.0013
Mercury	3.03	0.00013	0.0012	0.0012	0.0028	0.0014
Mercury	3.04	0.00025	0.0023	0.0023	0.0054	0.0028
Mercury	4.01	0.00005	0.0005	0.0005	0.0011	0.0006
Mercury	4.02	0.00004	0.0004	0.0004	0.0009	0.0004
Mercury	4.04	0.00003	0.0003	0.0003	0.0007	0.0003
Mercury	7.01	0.00001	0.0001	0.0001	0.0002	0.0001
Mercury	7.02	0	0.0000	0.0000	0.0000	0.0000
Mercury	8	0.00001	0.0001	0.0001	0.0002	0.0001

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
Mercury	13	0.00002	0.0002	0.0002	0.0004	0.0002
Mercury	18	0.00007	0.0006	0.0006	0.0015	0.0008
Mercury	20.01	0.00009	0.0008	0.0008	0.0020	0.0010
Mercury	20.02	0.00008	0.0007	0.0007	0.0017	0.0009
Mercury	21	0.00007	0.0006	0.0006	0.0015	0.0008
Mercury	22	0.00013	0.0012	0.0012	0.0028	0.0014
Methoxychlor	13	0	-	-	0.0000	0.0000
Methyl Mercury	0	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	1	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	2.01	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	2.03	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	2.04	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	3.01	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	3.02	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	3.03	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	3.04	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	4.01	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	4.02	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	4.04	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	7.01	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	7.02	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	8	0	0.0000	0.0000	0.0000	0.0000
Methyl Mercury	13	0	0.0000	0.0000	0.0000	0.0000
Methylene chloride	20.02	0.0026	-	-	0.0001	0.0001
Nickel	0	0.0055	0.0000	0.0000	0.0000	0.0000
Nickel	1	0.0036	0.0000	0.0000	0.0000	0.0000
Nickel	2.01	0.0139	0.0000	0.0000	0.0000	0.0001
Nickel	2.02	0.0045	0.0000	0.0000	0.0000	0.0000
Nickel	2.03	0.0051	0.0000	0.0000	0.0000	0.0000

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a] Osprey	Heron	Mink	River Otter
Nickel	2.04	0.0021	0.0000	0.0000	0.0000	0.0000
Nickel	3.01	0.0047	0.0000	0.0000	0.0000	0.0000
Nickel	3.02	0.0042	0.0000	0.0000	0.0000	0.0000
Nickel	3.03	0.0042	0.0000	0.0000	0.0000	0.0000
Nickel	3.04	0.0042	0.0000	0.0000	0.0000	0.0000
Nickel	4.01	0.0027	0.0000	0.0000	0.0000	0.0000
Nickel	4.02	0.0029	0.0000	0.0000	0.0000	0.0000
Nickel	4.04	0.0034	0.0000	0.0000	0.0000	0.0000
Nickel	7.01	0.0046	0.0000	0.0000	0.0000	0.0000
Nickel	7.02	0.0042	0.0000	0.0000	0.0000	0.0000
Nickel	8	0.0029	0.0000	0.0000	0.0000	0.0000
Nickel	13	0.0045	0.0000	0.0000	0.0000	0.0000
Nickel	21	0.0219	0.0000	0.0000	0.0001	0.0001
Nitrate	0	2.8427	-	-	0.0006	0.0009
Nitrate	1	4.9984	-	-	0.0010	0.0016
Nitrate	2.02	3.7003	-	-	0.0008	0.0012
Nitrate	2.04	3.6173	-	-	0.0007	0.0012
Nitrate	3.03	5.0741	-	-	0.0010	0.0017
Nitrate	4.01	4.3661	-	-	0.0009	0.0014
Nitrate	13	2.3615	-	-	0.0005	0.0008
Nitrate	18	4.634	-	-	0.0010	0.0015
Nitrate	20.01	23.9563	-	-	0.0049	0.0079
Nitrate	20.02	14.9497	-	-	0.0031	0.0049
Nitrate	21	2.5481	-	-	0.0005	0.0008
Nitrate	22	2.0365	-	-	0.0004	0.0007
PCB-1254	3.01	0.0003	0.0001	0.0001	0.0002	0.0003
PCB-1254	3.04	0.0001	0.0000	0.0000	0.0001	0.0001
PCB-1254	13	0.0005	0.0002	0.0002	0.0004	0.0006
PCB-1254	13	0.001	0.0003	0.0003	0.0007	0.0011

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
Selenium	7.02	0.0011	0.0001	0.0001	0.0046	0.0073
Selenium	13	0.0012	0.0001	0.0001	0.0050	0.0080
Tetrachloroethene	21	0.0013	-	-	0.0003	0.0005
Thallium	1	1.1	-	-	20.3704	33.3333
Thallium	3.03	0.007	-	-	0.1296	0.2121
Thallium	20.02	0.0056	-	-	0.1037	0.1697
Toluene	2.04	0.001	-	-	0.0000	0.0000
Trichloroethene	2.02	0.003	-	-	0.0013	0.0021
Trichloroethene	21	0.0256	-	-	0.0115	0.0183
Uranium	0	0.0003	0.0000	0.0000	0.0000	0.0001
Uranium	1	0.0004	0.0000	0.0000	0.0000	0.0001
Uranium	2.02	0.0009	0.0000	0.0000	0.0001	0.0002
Uranium	2.04	0.0004	0.0000	0.0000	0.0000	0.0001
Uranium	3.01	0.0033	0.0000	0.0000	0.0003	0.0006
Uranium	3.02	0.0027	0.0000	0.0000	0.0003	0.0005
Uranium	3.03	0.0031	0.0000	0.0000	0.0003	0.0005
Uranium	3.04	0.00223	0.0000	0.0000	0.0002	0.0004
Uranium	4.01	0.00071	0.0000	0.0000	0.0001	0.0001
Uranium	7.01	0.0021	0.0000	0.0000	0.0002	0.0004
Uranium	7.02	0.0054	0.0000	0.0000	0.0006	0.0009
Uranium	13	0.00026	0.0000	0.0000	0.0000	0.0000
Uranium	18	0.00052	0.0000	0.0000	0.0001	0.0001
Uranium	20.01	0.01031	0.0000	0.0000	0.0011	0.0017
Uranium	20.02	0.02658	0.0001	0.0001	0.0028	0.0045
Uranium	21	0.00933	0.0000	0.0000	0.0010	0.0016
Uranium	22	0.00491	0.0000	0.0000	0.0005	0.0008
Vanadium	0	0.00868	0.0000	0.0000	0.0064	0.0102
Vanadium	1	0.00281	0.0000	0.0000	0.0021	0.0033
Vanadium	2.02	0.00173	0.0000	0.0000	0.0013	0.0020

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
Vanadium	2.04	0.0024	0.0000	0.0000	0.0018	0.0028
Vanadium	3.01	0.00139	0.0000	0.0000	0.0010	0.0016
Vanadium	3.02	0.00127	0.0000	0.0000	0.0009	0.0015
Vanadium	3.03	0.00185	0.0000	0.0000	0.0014	0.0022
Vanadium	3.04	0.00154	0.0000	0.0000	0.0011	0.0018
Vanadium	4.01	0.00162	0.0000	0.0000	0.0012	0.0019
Vanadium	4.02	0.0012	0.0000	0.0000	0.0009	0.0014
Vanadium	4.04	0.00138	0.0000	0.0000	0.0010	0.0016
Vanadium	7.01	0.00155	0.0000	0.0000	0.0011	0.0018
Vanadium	7.02	0.00103	0.0000	0.0000	0.0008	0.0012
Vanadium	13	0.00133	0.0000	0.0000	0.0010	0.0016
Vanadium	18	0.0066	0.0000	0.0000	0.0049	0.0078
Vanadium	20.01	0.002	0.0000	0.0000	0.0015	0.0024
Vanadium	20.02	0.00959	0.0000	0.0000	0.0071	0.0113
Vanadium	21	0.00534	0.0000	0.0000	0.0039	0.0063
Vanadium	22	0.00311	0.0000	0.0000	0.0023	0.0037
Vinyl chloride	21	0.00498	-	-	0.0041	0.0066
Zinc	0	0.01524	0.0003	0.0003	0.0126	0.0000
Zinc	1	0.01774	0.0003	0.0003	0.0146	0.0000
Zinc	2.01	0.01984	0.0004	0.0004	0.0163	0.0000
Zinc	2.02	0.01559	0.0003	0.0003	0.0128	0.0000
Zinc	2.03	0.01938	0.0004	0.0004	0.0160	0.0000
Zinc	2.04	0.01656	0.0003	0.0003	0.0136	0.0000
Zinc	3.01	0.01718	0.0003	0.0003	0.0142	0.0000
Zinc	3.02	0.01217	0.0002	0.0002	0.0100	0.0000
Zinc	3.03	0.01404	0.0003	0.0003	0.0116	0.0000
Zinc	3.04	0.01882	0.0004	0.0004	0.0155	0.0000
Zinc	4.01	0.04214	0.0008	0.0008	0.0347	0.0001
Zinc	4.02	0.00844	0.0002	0.0002	0.0070	0.0000

Table F4.17 (continued)

Analyte	Subreach	Water 95% UCL (mg/L)	Hazard Quotients[a]			
			Osprey	Heron	Mink	River Otter
Zinc	4.04	0.0161	0.0003	0.0003	0.0133	0.0000
Zinc	7.01	0.02273	0.0004	0.0004	0.0187	0.0000
Zinc	7.02	0.01407	0.0003	0.0003	0.0116	0.0000
Zinc	8	0.11776	0.0023	0.0023	0.0970	0.0002
Zinc	13	0.01312	0.0003	0.0003	0.0108	0.0000
Zinc	18	0.01058	0.0002	0.0002	0.0087	0.0000
Zinc	20.01	0.0152	0.0003	0.0003	0.0125	0.0000
Zinc	20.02	0.0297	0.0006	0.0006	0.0245	0.0000
Zinc	21	0.03175	0.0006	0.0006	0.0262	0.0000
Zinc	22	0.02649	0.0005	0.0005	0.0218	0.0000

[a] Hazard quotient=water concentration/water benchmark (from Table F4-16)
[b] - = no water benchmark available

Table F4.18. Comparison of Monte Carlo simulation of piscivore contaminant exposure estimates to literature-based NOAELs and LOAELs

			Within Subreach Exposure Estimate	
Endpoint	Subreach	Analyte	% > NOAEL	% > LOAEL
Osprey	10	Hg	>99%	<1%
Osprey	0	Hg	>99%	<1%
Osprey	2.01	Hg	<1%	<1%
Osprey	2.02	Hg	>99%	<1%
Osprey	13	Hg	>99%	<1%
Osprey	3.01	Hg	>99%	>99%
Osprey	3.02	Hg	>99%	70%
Osprey	3.03	Hg	>99%	1%
Osprey	3.04	Hg	>99%	<1%
Osprey	4.01	Hg	>99%	<1%
Osprey	4.04	Hg	>99%	<1%
Osprey	18	Hg	>99%	<1%
Osprey	5	Hg	>99%	<1%
Osprey	15	Hg	>99%	<1%
Osprey	2.04	PCB	>99%	<1%
Osprey	13	PCB	<1%	<1%
Osprey	3.01	PCB	<1%	<1%
Osprey	3.02	PCB	90%	<1%
Osprey	3.01	DDT	>99%	<1%
Great Blue Heron	10	Hg	95%	<1%
Great Blue Heron	0	Hg	>99%	<1%
Great Blue Heron	2.02	Hg	>99%	<1%
Great Blue Heron	13	Hg	>99%	<1%
Great Blue Heron	3.01	Hg	>99%	>99%
Great Blue Heron	3.02	Hg	>99%	90-95%
Great Blue Heron	3.03	Hg	>99%	10%
Great Blue Heron	3.04	Hg	>99%	5%
Great Blue Heron	4.01	Hg	>99%	5%
Great Blue Heron	4.04	Hg	95%	<1%
Great Blue Heron	15	Hg	>99%	<1%
Great Blue Heron	2.04	PCB	>99%	<1%
Great Blue Heron	3.02	PCB	<1%	<1%
Great Blue Heron	2.01	Cu	<1%	<1%
Mink	0	Se	90-95%	<1%
Mink	1	Se	90-95%	<1%
Mink	2.01	Se	80%	<1%
Mink	2.02	Se	80%	<1%
Mink	3.01	Se	85%	<1%
Mink	3.02	Se	75-80%	<1%
Mink	3.04	Se	40%	<1%

Table F4.18 (continued)

Endpoint	Subreach	Analyte	Within Subreach Exposure Estimate	
			% > NOAEL	% > LOAEL
Mink	4.01	Se	85%	<1%
Mink	15	Se	90-95%	<1%
Mink	13	Hg	15%	<1%
Mink	3.01	Hg	85%	<1%
Mink	3.02	Hg	80%	<1%
Mink	3.03	Hg	45-50%	<1%
Mink	3.04	Hg	50-55%	<1%
Mink	4.01	Hg	50-55%	<1%
Mink	2.04	PCB	75-80%	5%
River Otter	10	As	45%	<1%
River Otter	0	As	65%	<1%
River Otter	1	As	<5%	<1%
River Otter	2.01	As	>99%	<1%
River Otter	2.02	As	90%	<1%
River Otter	3.02	As	5%	<1%
River Otter	3.04	As	45%	<1%
River Otter	4.01	As	10%	<1%
River Otter	4.04	As	10%	<1%
River Otter	18	As	30%	<1%
River Otter	15	As	<1%	<1%
River Otter	10	Hg	>99%	<1%
River Otter	0	Hg	10-15%	<1%
River Otter	2.01	Hg	45-50%	<1%
River Otter	2.02	Hg	>99%	<1%
River Otter	13	Hg	5%	<1%
River Otter	3.01	Hg	>99%	85%
River Otter	3.02	Hg	>99%	15%
River Otter	3.03	Hg	>99%	<1%
River Otter	3.04	Hg	>99%	<1%
River Otter	4.01	Hg	>99%	<1%
River Otter	4.04	Hg	>99%	<1%
River Otter	18	Hg	>99%	<1%
River Otter	5	Hg	80%	<1%
River Otter	15	Hg	>99%	<1%
River Otter	10	Se	>99%	<1%
River Otter	0	Se	>99%	<1%
River Otter	1	Se	>99%	<1%
River Otter	2.01	Se	>99%	<1%
River Otter	2.02	Se	>99%	<1%
River Otter	3.01	Se	>99%	<1%
River Otter	3.02	Se	>99%	<1%

Table F4.18 (continued)

Endpoint	Subreach	Analyte	Within Subreach Exposure Estimate	
			% > NOAEL	% > LOAEL
River Otter	3.04	Se	>99%	<1%
River Otter	4.01	Se	>99%	<1%
River Otter	4.04	Se	>99%	<1%
River Otter	18	Se	>99%	<1%
River Otter	5	Se	>99%	<1%
River Otter	15	Se	>99%	<1%
River Otter	0	PCB	90-95%	<1%
River Otter	2.01	PCB	80%	<1%
River Otter	2.02	PCB	99%	<1%
River Otter	2.04	PCB	>99%	80%
River Otter	13	PCB	>99%	<1%
River Otter	3.01	PCB	>99%	<1%
River Otter	3.02	PCB	>99%	<1%
River Otter	3.03	PCB	>99%	<1%
River Otter	3.04	PCB	>99%	<1%
River Otter	4.01	PCB	>99%	<1%
River Otter	4.04	PCB	>99%	<1%
River Otter	18	PCB	>99%	<1%
River Otter	5	PCB	>99%	<1%
River Otter	15	PCB	>99%	<1%
River Otter	2.01	Cu	<1%	<1%

Table F4.19. Summary of number of individuals of piscivore endpoint species estimated to be experiencing adverse effects within Clinch River/Poplar Creek subreaches

Subreach	Endpoint	Analyte	%>LOAEL	Number in Subreach	Number Adversely Affected	Percent Adversely Affected
2.02	Great Blue Heron	Hg	<1	24	0	0
3.01	Great Blue Heron	Hg	99	7	7	100
3.02	Great Blue Heron	Hg	95	13	13	100
3.03	Great Blue Heron	Hg	10	22	0	0
3.04	Great Blue Heron	Hg	5	10	0	0
4.01	Great Blue Heron	Hg	5	44	0	0
4.04	Great Blue Heron	Hg	1	17	0	0
Total	Great Blue Heron	Hg		360	20	6
2.04	Great Blue Heron	PCB	1	53	0	0
3.02	Great Blue Heron	PCB	1	13	0	0
2.01	Great Blue Heron	Cu	1	18	0	0
2.01	Mink	Se	1	5	0	0
2.02	Mink	Se	1	6	0	0
3.01	Mink	Se	1	2	0	0
3.02	Mink	Se	1	3	0	0
3.04	Mink	Se	1	3	0	0
4.01	Mink	Se	1	12	0	0
3.01	Mink	Hg	1	2	0	0
3.02	Mink	Hg	1	3	0	0
3.03	Mink	Hg	1	6	0	0

Table F4.19 (continued)

Subreach	Endpoint	Analyte	%>LOAEL	Number in Subreach	Number Adversely Affected	Percent Adversely Affected
3.04	Mink	Hg	1	3	0	0
4.01	Mink	Hg	1	12	0	0
2.04	Mink	PCB	5	14	0	0
2.01	Otter	As	1	3	0	0
2.02	Otter	As	1	4	0	0
3.02	Otter	As	1	2	0	0
3.04	Otter	As	1	2	0	0
4.01	Otter	As	1	7	0	0
4.04	Otter	As	1	7	0	0
2.01	Otter	Hg	1	3	0	0
2.02	Otter	Hg	1	4	0	0
3.01	Otter	Hg	85	1	1	100
3.02	Otter	Hg	15	2	0	0
3.03	Otter	Hg	1	4	0	0
3.04	Otter	Hg	1	2	0	0
4.01	Otter	Hg	1	7	0	0
4.04	Otter	Hg	1	3	0	0
2.01	Otter	Se	1	3	0	0
2.02	Otter	Se	1	4	0	0
3.01	Otter	Se	1	1	0	0
3.02	Otter	Se	1	2	0	0
3.04	Otter	Se	1	2	0	0
4.01	Otter	Se	1	7	0	0
4.04	Otter	Se	1	3	0	0
2.01	Otter	PCB	1	3	0	0
2.02	Otter	PCB	1	4	0	0
2.04	Otter	PCB	80	9	9	100
3.01	Otter	PCB	1	1	0	0

Table F4.19 (continued)

Subreach	Endpoint	Analyte	%>LOAEL	Number in Subreach	Number Adversely Affected	Percent Adversely Affected
3.02	Otter	PCB	1	2	0	0
3.03	Otter	PCB	1	4	0	0
3.04	Otter	PCB	1	2	0	0
4.01	Otter	PCB	1	7	0	0
4.04	Otter	PCB	1	3	0	0
2.01	Otter	Cu	1	3	0	0

Table F4.20. Simulation of exposure of mink to mercury and PCBs in toxicity test diets

Diet	Analyte	Concentration in Diet				Distribution Used in Simulation	Modeled Exposure (mg/kg-d)			% > NOAEL[a]	% > LOAEL[a]
		Mean	STD	Min	Max		Mean	STD	80th Percentile		
A	Mercury	0.02	0	0.02	0.03	Triangular	0.0034	0.0009	0.0042	<1%	0%
B	Mercury	0.05	0	0.04	0.06	Triangular	0.0074	0.0019	0.0088	1-5%	<0.01%
C	Mercury	0.09	0	0.08	0.11	Triangular	0.0138	0.0035	0.016	30%	<0.01%
D	Mercury	0.15	0.01			Normal	0.022	0.0059	0.026	90-95%	<0.01%
E	Mercury	0.22	0.01			Normal	0.033	0.008	0.038	>99%	<1%
A	Aroclor 1260	0.169	0.002			Normal	0.025	0.0063	0.029	<1%	<1%
B	Aroclor 1260	11.44	0.327			Normal	1.70	0.43	1.97	>99%	>99%
C	Aroclor 1260	4.697	0.174			Normal	0.698	0.18	0.82	>99%	40-45%
D	Aroclor 1260	10.41	0.25			Normal	1.54	0.39	1.79	>99%	>99%
E	Aroclor 1260	20.67	0.458			Normal	3.07	0.77	3.55	>99%	>99%

[a] Aroclor 1260 evaluated by comparison to NOAEL and LOAEL for Aroclor 1254.

Appendix F5

INSECTIVOROUS WILDLIFE

Table F5.1. Life history parameters for rough-winged swallows (*Stelgidopteryx serripennis*)

Parameter	Value[a]	Comments	Reference
Body Weight	**0.0159 ± 0.00058 kg**		Dunning 1984
Food Consumption Rate	**0.012 kg/d**	0.0042 kg/d (dry; calculation according to Nagy 1987); adjusted to wet weight using 65% water content reported for terrestrial insects in EPA 1993a	Nagy 1987
Water Consumption Rate	**0.0037 L/d**	estimated using allometric equation [b] assuming 0.0159 kg bw	Calder and Braun 1983
Soil Consumption Rate	as an aerial insectivore, assumed to be negligible		
Diet Composition	Diptera (32.89%) Hymenoptera (30.9%), Hemiptera (14.9%), Coleoptera (14.83%), Lepidoptera (1.11%), Ephemeroptera (5.04%), Orthoptera (.12%) and vegetation (.21%)	percent occurence in 136 stomachs collected from 15 states, the District of Columbia, and Canada	Beal 1918
Home Range	≤ .5 mile from nesting site		Stoner and Stoner 1941
Habitat Requirements	during breeding season: abandoned burrows along river banks migration south in fall foraging habitat: primarily over water, forests and field,		Lunk 1962
Population Density	no data		

[a] Suggested values for use in exposure assessment are in bold.

[b] Allometric equation for estimation of water consumption for rough-winged swallows is:

$$WIR = 0.059(BW)^{0.67}$$

where: WIR= water ingestion rate (L water/individual/day).

Table F5.2. Life history parameters for little brown bats (*Myotis lucifugus*)[a]

Parameter	Value[b]	Comments	Reference
Body Weight	**0.0075** kg		Gould 1955
Food Consumption Rate	**0.0025** kg/d	pregnant ♂ (field)	Anthony and Kunz 1977
	0.0037 kg/d	lactating ♂ (field)	
	0.0018 kg/d	juvenile (field)	
Water Consumption Rate	**0.0012** L/d	estimated using allometric equation[c] assuming 0.0075 kg bw	
Soil Consumption Rate	as an aerial insectivore, assumed to be negligible		
Diet Composition	highly variable; mostly flying insects, taken opportunistically as available.		Fenton and Barclay 1980
	Chironomidae 39.5% Trichoptera 31.5% Lepidoptera 11.0% Misc. Insects 9.4% Coleoptera 5.5% Neuroptera 3.1%	percent volume in diet in Ontario, Nova Scotia, and New York	Belwood and Fenton 1976
Home Range	8.5 Km from roost.	Gray bats (*Myotis gresescens & M. sodalis*).	LaVal et al. 1977
Habitat Requirements	day roosts: buildings, trees, occasionally in caves.		Fenton and Barclay 1980
	night roosts: similar to day roosts but more confined space		
	hibernation sites: caves, abandoned mines		
	foraging habitat: forest and edge	Missouri	LaVal et al. 1977
	Forest, field, and over streams and ponds	Ontario	Fenton and Bell 1979

Parameter	Value[b]	Comments	Reference
Population Density	no data, however populations may be limited by availability of roost sites not by food		Fenton and Barclay 1980
Behavior	nocturnal; bimodal activity pattern: ~2200-2400 and ~0330-0500		Anthony and Kunz 1977
	hibernation September-May (north) November-March (south)		Fenton and Barclay 1980
Other	long-lived; may live up to 30 yrs. mean life expectancy: ♂ = 4.9 yrs ♀ = 2.9 yrs		Keen and Hitchcock, 1980

[a] The little brown bat is considered a surrogate species for the federally endangered gray bat. Since the gray bat is appoximately the same size as the little brown bat, the exposure parameters for the two species are similar.

[b] Suggested values for use in exposure assessment are in bold.

[c] Allometric equation for estimation of water consumption for bats is:

$$WIR = 0.099(BW)^{0.90}$$

where: WIR= water ingestion rate (L water/individual/day).

Table F5.3. Contaminant concentrations found in mayflies used for Monte Carlo simulations

Analyte	Subreach	Detects	Mininum (mg/kg)	Maximum (mg/kg)	PLE Mean
Arsenic	3.03	3	0.0265	0.0490	0.0344
	4.04	3	0.0260	0.0453	0.0331
	18	3	0.0288	0.0440	0.0349
Lead	3.03	3	0.0697	0.2020	0.1206
	4.04	2	0.0398	0.1350	0.0717
	18	2	0.0400	0.0540	0.0499
Mercury	3.03	3	0.0251	0.0290	0.0276
	4.04	3	0.0188	0.0259	0.0231
	18	3	0.0189	0.0249	0.0212
Aroclor 1254	3.03	3	0.0850	0.1000	0.0940
	4.04	3	0.1200	0.1400	0.1300
	18	3	0.1300	0.1600	0.1400
Zinc	3.03	3	58.124	73.200	63.408
	4.04	3	66.700	89.200	77.800
	18	3	77.100	80.500	78.833

Table F5.4. Sediment to mayfly uptake factors for the Clinch River

Analyte	Subreach	SEDIMENT PLE Mean[a] (mg/kg)	MAYFLY PLE Mean (mg/kg)	Uptake Factor	Mean	Std Err
Arsenic	3.03	19.646	0.034	0.002	0.003946	0.001389
	4.04	9.271	0.033	0.004		
	18	5.355	0.035	0.007		
Lead	3.03	22.23	0.121	0.005	0.00325	0.0011
	4.04	29.216	0.072	0.003		
	18	26.657	0.050	0.002		
Mercury	3.03	7.169	0.028	0.004		
	4.04	1.636	0.023	0.014		
	18	0.11	0.021	0.193	0.008985[b]	0.005135[b]
Aroclor 1254	3.03	0.142	0.094	0.682	0.354267	0.307705
	4.04	2.792	0.130	0.047		
	18		0.140			
Zinc	3.03	102.093	63.41	0.621	0.621574	0.013144
	4.04	120.7	77.8	0.645		
	18	131.592	78.83	0.599		

[a] Sediment data for subreach 3.03 is from PCM 1.1, 1.3, 1.4, 2.2, 2.5, and 2.7.
Sediment data for subreach 18 is from TRM 570.8 only.

[b] Average mercury uptake factor was not calculated using the mayfly uptake factor from subreach 18 in the Tennessee River. The mercury concentrations in mayflies and sediment in subreach 18 showed obvious differences compared to ORR sites. This may be a result of mercury speciation found off-site.

Table F5.5. Average actual and estimated contaminant concentrations in Clinch River mayflies

Analyte	Actual Mayfly Concentration		Estimated Mayfly Concentration[a]	
	Mean	Standard Error	Mean	Standard Error
Arsenic	0.0341	0.000536	0.0451	0.0168
Mercury	0.0240	0.00190	0.0267	0.0193
Lead	0.0807	0.0209	0.0846	0.00662
PCBs	0.121	0.0140	0.346	0.322
Zinc	73.348	4.978	73.426	5.353

[a] Estimated mayfly contaminant concentrations were calculated with the sediment concentrations at the site and the mayfly uptake factor.

Table F5.6. Estimated arsenic exposure and hazard assessment for rough-winged swallows

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
10	6.875	0.000	0.027	0.008	0.000	0.008	0.000	0.000
0	4.727	0.050	0.019	0.005	0.012	0.017	0.001	0.000
1	25.856	0.001	0.102	0.029	0.000	0.029	0.001	0.001
7.01	97.114	0.005	0.383	0.110	0.001	0.111	0.006	0.002
7.02	15.376	0.001	0.061	0.017	0.000	0.018	0.001	0.000
8	7.900	0.000	0.031	0.009	0.000	0.009	0.000	0.000
2.01	1.800	0.000	0.007	0.002	0.000	0.002	0.000	0.000
22	3.859	0.000	0.015	0.004	0.000	0.004	0.000	0.000
2.02	3.091	0.001	0.012	0.003	0.000	0.004	0.000	0.000
2.03	2.038	0.000	0.008	0.002	0.000	0.002	0.000	0.000
2.04	7.832	0.001	0.031	0.009	0.000	0.009	0.000	0.000
13	4.035	0.004	0.016	0.005	0.001	0.005	0.000	0.000
3.01	10.742	0.000	0.042	0.012	0.000	0.012	0.001	0.000
3.02	8.665	0.001	0.034	0.010	0.000	0.010	0.001	0.000
3.03	6.012	0.001	0.056	0.016	0.000	0.016	0.001	0.000
3.04	42.485	0.001	0.168	0.048	0.000	0.048	0.002	0.001
4.01	4.502	0.001	0.018	0.005	0.000	0.005	0.000	0.000
4.02	7.548	0.001	0.030	0.009	0.000	0.009	0.000	0.000

Table F5.6 (continued)

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
4.03	9.819	0.000	0.039	0.011	0.000	0.011	0.001	0.000
4.04	10.920	0.002	0.051	0.015	0.000	0.015	0.001	0.000
18	6.226	0.000	0.048	0.014	0.000	0.014	0.001	0.000
5	11.265	0.000	0.044	0.013	0.000	0.013	0.001	0.000

Table F5.7. Estimated lead exposure and hazard assessment for rough-winged swallows

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
10	37.979	0.000	0.123	0.035	0.000	0.035	0.005	0.001
0	26.161	0.001	0.085	0.024	0.000	0.025	0.003	0.001
1	72.825	0.002	0.237	0.068	0.000	0.068	0.009	0.003
7.01	16.361	0.002	0.053	0.015	0.000	0.016	0.002	0.001
7.02	24.695	0.002	0.080	0.023	0.000	0.023	0.003	0.001
8	27.700	0.002	0.090	0.026	0.001	0.026	0.003	0.001
2.01	5.400	0.003	0.018	0.005	0.001	0.006	0.001	0.000
22	120.208	0.000	0.391	0.112	0.000	0.112	0.015	0.005
2.02	9.735	0.001	0.032	0.009	0.000	0.009	0.001	0.000
2.03	8.567	0.002	0.028	0.008	0.000	0.008	0.001	0.000
2.04	39.110	0.000	0.127	0.036	0.000	0.036	0.005	0.002
13	17.241	0.002	0.056	0.016	0.000	0.016	0.002	0.001
3.01	44.140	0.002	0.143	0.041	0.000	0.041	0.005	0.002
3.02	33.475	0.001	0.109	0.031	0.000	0.031	0.004	0.001
3.03	29.141	0.002	0.241	0.069	0.000	0.069	0.009	0.003
3.04	25.843	0.002	0.084	0.024	0.000	0.024	0.003	0.001
4.01	22.601	0.002	0.073	0.021	0.000	0.021	0.003	0.001
4.02	25.757	0.003	0.084	0.024	0.001	0.025	0.003	0.001

Table F5.7 (continued)

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
4.03	46.629	0.000	0.152	0.043	0.000	0.043	0.006	0.002
4.04	35.445	0.001	0.178	0.051	0.000	0.051	0.007	0.002
18	29.114	0.000	0.057	0.016	0.000	0.016	0.002	0.001
5	48.009	0.000	0.156	0.045	0.000	0.045	0.006	0.002

Table F5.8. Estimated mercury concentrations and hazard assessment for rough-winged swallows

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
10	0.070	0.000	0.001	0.000	0.000	0.000	0.007	0.001
0	0.063	0.000	0.001	0.000	0.000	0.000	0.007	0.001
1	0.427	0.000	0.004	0.001	0.000	0.001	0.044	0.004
7.01	0.160	0.000	0.001	0.000	0.000	0.000	0.017	0.002
7.02	0.109	0.000	0.001	0.000	0.000	0.000	0.011	0.001
8	0.764	0.000	0.007	0.002	0.000	0.002	0.079	0.008
2.01	0.237	0.000	0.002	0.001	0.000	0.001	0.024	0.002
22	114.073	0.000	1.025	0.293	0.000	0.293	11.737	1.174
2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
2.03	0.026	0.000	0.000	0.000	0.000	0.000	0.003	0.000
2.04	0.286	0.000	0.003	0.001	0.000	0.001	0.030	0.003
13	0.818	0.000	0.007	0.002	0.000	0.002	0.084	0.008
3.01	16.762	0.000	0.151	0.043	0.000	0.043	1.726	0.173
3.02	20.237	0.000	0.182	0.052	0.000	0.052	2.083	0.208
3.03	7.442	0.000	0.031	0.009	0.000	0.009	0.361	0.036
3.04	60.959	0.000	0.548	0.157	0.000	0.157	6.274	0.627
4.01	4.163	0.000	0.037	0.011	0.000	0.011	0.429	0.043
4.02	1.963	0.000	0.018	0.005	0.000	0.005	0.202	0.020

Table F5.8 (continued)

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
4.03	2.991	0.000	0.027	0.008	0.000	0.008	0.308	0.031
4.04	1.832	0.000	0.029	0.008	0.000	0.008	0.337	0.034
18	0.132	0.000	0.027	0.008	0.000	0.008	0.306	0.031
5	1.141	0.000	0.010	0.003	0.000	0.003	0.117	0.012

Table F5.9. Estimated PCB exposure and hazard assessment for rough-winged swallows

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	1.594	0.000	0.565	0.162	0.000	0.162	0.229	0.023
2.02	1.167	0.000	0.413	0.118	0.000	0.118	0.168	0.017
2.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.017	0.001	0.006	0.002	0.000	0.002	0.003	0.000
3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3.02	0.621	0.000	0.220	0.063	0.000	0.063	0.089	0.009
3.03	0.230	0.000	0.107	0.031	0.000	0.031	0.044	0.004
3.04	0.154	0.000	0.055	0.016	0.000	0.016	0.022	0.002
4.01	0.263	0.000	0.093	0.027	0.000	0.027	0.038	0.004
4.02	0.036	0.000	0.013	0.004	0.000	0.004	0.005	0.001

Table F5.9 (continued)

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
4.03	0.069	0.000	0.024	0.007	0.000	0.007	0.010	0.001
4.04	2.792	0.000	0.147	0.042	0.000	0.042	0.060	0.006
18	0.000	0.000	0.169	0.048	0.000	0.048	0.069	0.007
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table F5.10. Estimated zinc exposure and hazard assessment for rough-winged swallows

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
10	98.765	0.000	61.392	17.574	0.000	17.574	0.249	0.028
0	81.296	0.015	50.534	14.466	0.004	14.470	0.205	0.023
1	232.565	0.018	144.562	41.383	0.004	41.387	0.586	0.067
7.01	97.479	0.023	60.593	17.346	0.005	17.351	0.246	0.028
7.02	91.189	0.014	56.683	16.226	0.003	16.230	0.230	0.026
8	91.700	0.000	57.001	16.317	0.000	16.317	0.231	0.026
2.01	29.900	0.020	18.586	5.320	0.005	5.325	0.075	0.009
22	112.840	0.026	70.141	20.079	0.006	20.085	0.284	0.032
2.02	40.247	0.016	25.018	7.162	0.004	7.165	0.101	0.012
2.03	52.778	0.019	32.807	9.391	0.005	9.396	0.133	0.015
2.04	70.760	0.017	43.984	12.591	0.004	12.595	0.178	0.020
13	88.195	0.013	54.822	15.694	0.003	15.697	0.222	0.025
3.01	192.043	0.017	119.374	34.172	0.004	34.176	0.484	0.055
3.02	156.543	0.012	97.307	27.856	0.003	27.858	0.394	0.045
3.03	125.700	0.014	77.720	22.248	0.003	22.252	0.315	0.036
3.04	101.683	0.019	63.206	18.094	0.004	18.098	0.256	0.029
4.01	54.066	0.042	33.607	9.621	0.010	9.630	0.136	0.016
4.02	68.528	0.008	42.597	12.194	0.002	12.196	0.173	0.020

Table F5.10 (continued)

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
4.03	88.214	0.000	54.834	15.697	0.000	15.697	0.222	0.025
4.04	135.919	0.016	96.770	27.702	0.004	27.706	0.392	0.045
18	143.469	0.011	81.700	23.388	0.002	23.390	0.331	0.038
5	265.305	0.000	164.914	47.209	0.000	47.209	0.668	0.076

Table F5.11. Estimated arsenic exposure and hazard assessment for little brown and gray bats

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
10	6.875	0.000	0.027	0.009	0.000	0.009	0.060	0.005
0	4.727	0.050	0.019	0.006	0.008	0.014	0.094	0.007
1	25.856	0.001	0.102	0.034	0.000	0.034	0.226	0.017
7.01	97.114	0.005	0.383	0.128	0.001	0.129	0.851	0.065
7.02	15.376	0.001	0.061	0.020	0.000	0.020	0.135	0.010
8	7.900	0.000	0.031	0.010	0.000	0.010	0.069	0.005
2.01	1.800	0.000	0.007	0.002	0.000	0.002	0.016	0.001
22	3.859	0.000	0.015	0.005	0.000	0.005	0.034	0.003
2.02	3.091	0.001	0.012	0.004	0.000	0.004	0.028	0.002
2.03	2.038	0.000	0.008	0.003	0.000	0.003	0.018	0.001
2.04	7.832	0.001	0.031	0.010	0.000	0.010	0.069	0.005
13	4.035	0.004	0.016	0.005	0.001	0.006	0.039	0.003
3.01	10.742	0.000	0.042	0.014	0.000	0.014	0.094	0.007
3.02	8.665	0.001	0.034	0.011	0.000	0.012	0.077	0.006
3.03	6.012	0.001	0.056	0.019	0.000	0.019	0.124	0.009
3.04	42.485	0.001	0.168	0.056	0.000	0.056	0.371	0.028
4.01	4.502	0.001	0.018	0.006	0.000	0.006	0.040	0.003
4.02	7.548	0.001	0.030	0.010	0.000	0.010	0.067	0.005

Table F5.11 (continued)

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
4.03	9.819	0.000	0.039	0.013	0.000	0.013	0.086	0.006
4.04	10.920	0.002	0.051	0.017	0.000	0.017	0.114	0.009
18	6.226	0.000	0.048	0.016	0.000	0.016	0.107	0.008
5	11.265	0.000	0.044	0.015	0.000	0.015	0.098	0.007

Table F5.12. Estimated lead exposure and hazard assessment for little brown bats and gray bats

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
10	37.979	0.000	0.123	0.041	0.000	0.041	0.001	0.000
0	26.161	0.001	0.085	0.028	0.000	0.029	0.001	0.000
1	72.825	0.002	0.237	0.079	0.000	0.079	0.003	0.000
7.01	16.361	0.002	0.053	0.018	0.000	0.018	0.001	0.000
7.02	24.695	0.002	0.080	0.027	0.000	0.027	0.001	0.000
8	27.700	0.002	0.090	0.030	0.000	0.030	0.001	0.000
2.01	5.400	0.003	0.018	0.006	0.001	0.006	0.000	0.000
22	120.208	0.000	0.391	0.130	0.000	0.130	0.005	0.000
2.02	9.735	0.001	0.032	0.011	0.000	0.011	0.000	0.000
2.03	8.567	0.002	0.028	0.009	0.000	0.010	0.000	0.000
2.04	39.110	0.000	0.127	0.042	0.000	0.042	0.001	0.000
13	17.241	0.002	0.056	0.019	0.000	0.019	0.001	0.000
3.01	44.140	0.002	0.143	0.048	0.000	0.048	0.002	0.000
3.02	33.475	0.001	0.109	0.036	0.000	0.036	0.001	0.000
3.03	29.141	0.002	0.241	0.080	0.000	0.081	0.003	0.000
3.04	25.843	0.002	0.084	0.028	0.000	0.028	0.001	0.000
4.01	22.601	0.002	0.073	0.024	0.000	0.025	0.001	0.000
4.02	25.757	0.003	0.084	0.028	0.000	0.028	0.001	0.000

Table F5.12 (continued)

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
4.03	46.629	0.000	0.152	0.051	0.000	0.051	0.002	0.000
4.04	35.445	0.001	0.178	0.059	0.000	0.060	0.002	0.000
18	29.114	0.000	0.057	0.019	0.000	0.019	0.001	0.000
5	48.009	0.000	0.156	0.052	0.000	0.052	0.002	0.000

Table F5.13. Estimated mercury concentrations and hazard assessment in little brown and gray bats

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
10	0.070	0.000	0.001	0.000	0.000	0.000	0.002	0.000
0	0.063	0.000	0.001	0.000	0.000	0.000	0.002	0.000
1	0.427	0.000	0.004	0.001	0.000	0.001	0.011	0.002
7.01	0.160	0.000	0.001	0.000	0.000	0.000	0.004	0.001
7.02	0.109	0.000	0.001	0.000	0.000	0.000	0.003	0.001
8	0.764	0.000	0.007	0.002	0.000	0.002	0.020	0.004
2.01	0.237	0.000	0.002	0.001	0.000	0.001	0.006	0.001
22	114.073	0.000	1.025	0.342	0.000	0.342	2.997	0.599
2.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.03	0.026	0.000	0.000	0.000	0.000	0.000	0.001	0.000
2.04	0.286	0.000	0.003	0.001	0.000	0.001	0.008	0.002
13	0.818	0.000	0.007	0.002	0.000	0.002	0.022	0.004
3.01	16.762	0.000	0.151	0.050	0.000	0.050	0.441	0.088
3.02	20.237	0.000	0.182	0.061	0.000	0.061	0.532	0.106
3.03	7.442	0.000	0.031	0.010	0.000	0.010	0.092	0.018
3.04	60.959	0.000	0.548	0.183	0.000	0.183	1.602	0.320
4.01	4.163	0.000	0.037	0.012	0.000	0.012	0.109	0.022
4.02	1.963	0.000	0.018	0.006	0.000	0.006	0.052	0.010

Table F5.13 (continued)

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
4.03	2.991	0.000	0.027	0.009	0.000	0.009	0.079	0.016
4.04	1.832	0.000	0.029	0.010	0.000	0.010	0.086	0.017
18	0.132	0.000	0.027	0.009	0.000	0.009	0.078	0.016
5	1.141	0.000	0.010	0.003	0.000	0.003	0.030	0.006

Table F5.14. Estimated PCB exposure and hazard assessment for little brown and gray bats

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7.02	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	1.594	0.000	0.565	0.188	0.000	0.188	1.007	0.101
2.02	1.167	0.000	0.413	0.138	0.000	0.138	0.737	0.074
2.03	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2.04	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.017	0.001	0.006	0.002	0.000	0.002	0.012	0.001
3.01	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3.02	0.621	0.000	0.220	0.073	0.000	0.073	0.392	0.039
3.03	0.230	0.000	0.107	0.036	0.000	0.036	0.191	0.019
3.04	0.154	0.000	0.055	0.018	0.000	0.018	0.097	0.010
4.01	0.263	0.000	0.093	0.031	0.000	0.031	0.166	0.017
4.02	0.036	0.000	0.013	0.004	0.000	0.004	0.023	0.002

Table F5.14 (continued)

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
4.03	0.069	0.000	0.024	0.008	0.000	0.008	0.044	0.004
4.04	2.792	0.000	0.147	0.049	0.000	0.049	0.262	0.026
18	0.000	0.000	0.169	0.056	0.000	0.056	0.302	0.030
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table F5.15. Estimated zinc exposure and hazard assessment for little brown and gray bats

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
10	98.765	0.000	61.392	20.464	0.000	20.464	0.036	0.018
0	81.296	0.015	50.534	16.845	0.002	16.847	0.030	0.015
1	232.565	0.018	144.562	48.187	0.003	48.190	0.085	0.042
7.01	97.479	0.023	60.593	20.198	0.004	20.201	0.036	0.018
7.02	91.189	0.014	56.683	18.894	0.002	18.897	0.033	0.017
8	91.700	0.000	57.001	19.000	0.000	19.000	0.033	0.017
2.01	29.900	0.020	18.586	6.195	0.003	6.198	0.011	0.005
22	112.840	0.026	70.141	23.380	0.004	23.385	0.041	0.021
2.02	40.247	0.016	25.018	8.339	0.002	8.342	0.015	0.007
2.03	52.778	0.019	32.807	10.936	0.003	10.939	0.019	0.010
2.04	70.760	0.017	43.984	14.661	0.003	14.664	0.026	0.013
13	88.195	0.013	54.822	18.274	0.002	18.276	0.032	0.016
3.01	192.043	0.017	119.374	39.791	0.003	39.794	0.070	0.035
3.02	156.543	0.012	97.307	32.436	0.002	32.438	0.057	0.029
3.03	125.700	0.014	77.720	25.907	0.002	25.909	0.046	0.023
3.04	101.683	0.019	63.206	21.069	0.003	21.072	0.037	0.019
4.01	54.066	0.042	33.607	11.202	0.007	11.209	0.020	0.010
4.02	68.528	0.008	42.597	14.199	0.001	14.200	0.025	0.012

Table F5.15 (continued)

Subreach	Sediment (95% UCL)	Water (95% UCL)	Estimated Mayfly (95% UCL)	Food Exposure (mg/kg/d)	Water Exposure (mg/kg/d)	Total Exposure (mg/kg/d)	NOAEL HQ	LOAEL HQ
4.03	88.214	0.000	54.834	18.278	0.000	18.278	0.032	0.016
4.04	135.919	0.016	96.770	32.257	0.003	32.259	0.057	0.028
18	143.469	0.011	81.700	27.233	0.002	27.235	0.048	0.024
5	265.305	0.000	164.914	54.971	0.000	54.971	0.097	0.048

Table F5.16. Subreach-contaminant exposure combinations where Monte Carlo simulations were performed

Subreach	Subreach Name	Endpoint	
		Rough-winged Swallow	Little Brown or Gray Bats
3.01	Poplar Creek: East Fork Poplar Creek	Hg	Hg
3.02[b]	Poplar Creek: Mitchell Branch	Hg	Hg
3.03[b]	Poplar Creek:	Hg	Hg
3.04	Poplar Creek Mouth	Hg	Hg

[a] The Monte Carlo simulation was performed to determine exposure for little brown/gray bats foraging at multiple subreaches to modify for home range.

[b] Monte Carlo simulation was performed on data from subreaches 3.02 and 3.03 even though hazard quoteints were less than 1. The results were obtained to observe differences in exposure distributions as swallows and bats foraged progressively downstream.

Table F5.17. Measured mercury concentrations in sediment and estimated concentrations in mayflies from Poplar Creek used in the Monte Carlo simulation

Subreach	Lognormal Sediment Concentration (mg/kg)		Estimated Mayfly Concentration (mg/kg)	
	Mean	Standard Deviation	Mean	Standard Error
3.01	-0.9797	2.5071	0.9749	0.2243
3.02	1.9344	0.4206	0.1414	0.0055
3.03	1.5822	0.1844	0.0271[a]	0[a]
3.04	2.2773	0.5394	0.2938	0.0139

[a] Actual mercury concentration found in mayflies at subreach 3.03.

Table F5.18. Contaminant concentrations in surface water used in the Monte Carlo simulations

Analyte	Subreach	Mean	Standard Error
Mercury	3.01	0.00016	0.000016
	3.02	0.00015	0.000016
	3.03	0.00014	0.000015
	3.04	0.00022	0.000041

Table F5.19. Estimated NOAELs and LOAELs for rough-winged swallows

Contaminant	Form	Test Species	Experimental Information: NOAEL (mg/kg/d) and Duration	Experimental Information: LOAEL (mg/kg/d) and Duration	Endpoint	Citation	Estimated NOAEL (mg/kg/d)	Estimated LOAEL (mg/kg/d)
Arsenic	arsenite	mallard duck	5.14 128d	12.84 128d	mortality	USFWS 1964	20.141	50.36
Lead	metal	American kestrel	3.85 7 mo		reproduction	Pattee 1984	7.7	
Lead	acetate	Japanese quail		11.26 12 wk	reproduction	Edens et al. 1976		23.61
Mercury	methyl	mallard duck	0.0064[1] 3 gen.	0.064 3 gen.	reproduction	Heinz 1979	0.025	0.25
Zinc	zinc sulfate	chicken	14.5 44 wk	130.9 44 wk	reproduction	Stahl et al. 1990	70.66	619.42
PCBs	Aroclor 1254	Ring-necked Pheasant	0.18[1] 17 wk	0.18 17 wk	reproduction	Dahlgren et al. 1972	0.706	7.06

[1] Estimated NOAEL: LOAEL to NOAEL factor applied.

Table F5.20. Estimated NOAELs and LOAELs for little brown bats and gray bats

Contaminantz	Experimental Information						Estimated NOAEL (mg/kg/d)	Estimated LOAEL (mg/kg/d)
	Form	Test Species	NOAEL (mg/kg/d) and Duration	LOAEL (mg/kg/d) and Duration	Endpoint	Citation		
Arsenic	As+3	mouse	0.126[1] 3 gen.	1.26 3 gen.	reproduction	Schroeder and Mitchner 1971	0.199	1.99
Lead	acetate	rat	8 3 gen	80 3 gen	reproduction	Azar et al. 1973	28.43	284.35
Mercury	methyl	rat	0.032 3 gen.	0.16 3 gen.	reproduction	Verschuuren et al. 1976	0.114	0.57
Zinc	oxide	rat	160 gestation	320 gestation	reproduction	Schlicker and Cox 1968	568	904
PCBs	Aroclor 1254	white-footed mouse	0.135[1] 18 mo.	1.35 18 mo.	reproduction	Linzey 1987	0.187	1.87

[1] Estimated NOAEL: LOAEL to NOAEL factor applied.

Appendix F6

DREDGE SPOIL ECOLOGICAL RISKS

Table F6.1. Life history parameters for the eastern cottontail (*Sylvilagus floridanus*)

Parameter	Value[a]	Comments	Reference
Body Weight	1.134 kg (♂) 1.244 kg (♀) **1.2 kg** (mean♂+♀)		Chapman et al. 1980
Food Consumption Rate	**0.237 kg/d**		Dalke and Sime 1941
Water Consumption Rate	**0.116 L/d**	estimated using Equation 12; assuming 1.2 kg bw	
Soil Consumption Rate	**0.015 kg/d**	assumed comparable to that for black-tailed jackrabbit (6.3% of diet) assuming diet of 0.237 kg/d and a 6.3% soil consumption rate	Arthur and Gates 1988
Diet Composition	exclusively herbivorous bark, twigs, buds, dried herbs (fall, winter) herbaceous plants (spring, summer)		Dalke and Sime 1941
Home Range	3.2 ha (♂); 2.1 ha (♀) 7.2 ha (♂); 2.8 ha (♀) 7.8 ha (♂); 2.4 ha (♀) 3.1 ha (♂); 1.5 ha (♀)	winter - Pennsylvania spring summer fall	Althoff and Storm 1989
Habitat Requirements	wide variety of habitats used; old fields preferred		Chapman et al. 1980
Population Density	0.41 - 2.10 /ha (mean = 1.1/ ha)	Michigan	Eberhardt et al. 1963
Behavior	activity is greatest at dusk and dawn (crepuscular) active year round - does not hibernate		Chapman et al. 1980 EPA 1993a

[a] Suggested values for use in exposure assessment are in bold.

Table F6.2. Chemical concentrations found in deep water sediment (future spoil material) within each subreach

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
1	4,4'-DDD	1	0.256	0.129	1.07	0.127	0.385	0.127
1	4,4'-DDT	1	0.259	0.125	1.052	0.134	0.385	0.134
1	Arsenic	2	8.02	3.014	27.05	5.006	11.034	8.02
1	Benzo(a)anthracene	1	0.653	0.137	1.515	0.516	0.789	0.789
1	Benzo(k)fluoranthene	1	0.653	0.137	1.521	0.516	0.791	0.791
1	Beryllium	2	0.701	0.107	1.377	0.594	0.808	0.701
1	Cadmium	2	0.572	0.155	1.549	0.417	0.727	0.572
1	Chromium	2	14.735	4.869	45.478	9.866	19.604	14.735
1	Chrysene	1	0.655	0.14	1.536	0.516	0.795	0.795
1	Copper	2	27.728	1.359	36.307	26.369	29.087	27.728
1	Fluoranthene	1	0.669	0.153	1.632	0.516	0.821	0.821
1	Lead	2	34.674	4.558	63.455	30.116	39.233	34.674
1	Mercury	2	0.092	0.032	0.295	0.059	0.124	0.092
1	Nickel	2	18.447	4.877	49.209	13.575	23.319	18.447
1	Pyrene	1	0.665	0.149	1.608	0.516	0.815	0.815
1	Selenium	2	0.557	0.138	1.426	0.42	0.695	0.557
1	Silver	2	0.267	0.062	0.661	0.205	0.329	0.267
1	Zinc	2	95.855	26.277	261.763	69.577	122.132	95.855
7	2-Methylnaphthalene	2	0.11	0.041	0.37	0.07	0.15	0.11

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
7	4-Nitrophenol	1	0.694	0.125	1.485	0.569	0.82	0.569
7	Aluminum	2	15469.95	938.86	21397.67	14531.1	16408.81	15469.95
7	Antimony	4	0.37	0.055	0.47	0.2	0.68	0.27
7	Arsenic	10	16.67	5.374	26.52	4.25	63.84	16.67
7	Barium	2	142.99	15.922	243.52	127.06	158.91	142.99
7	Benzo(a)anthracene	2	0.21	0.02	0.31	0.19	0.22	0.21
7	Benzo(a)pyrene	2	0.54	0.08	1.07	0.46	0.63	0.54
7	Benzo(b)fluoranthene	2	0.05	0	0.07	0.04	0.05	0.05
7	Benzo(ghi)perylene	2	0.04	0	0.06	0.04	0.05	0.04
7	Beryllium	10	1.09	0.061	1.21	0.75	1.52	1.09
7	Boron	2	5.27	0.492	8.38	4.78	5.76	5.27
7	Cadmium	5	0.46	0.057	0.57	0.26	0.82	0.4
7	Calcium	2	5507.36	956.747	11548.03	4550.62	6464.11	5507.36
7	Chromium	10	29.73	3.935	36.94	19.15	58.61	29.73
7	Chrysene	2	0.03	0	0.05	0.03	0.04	0.03
7	Cobalt	2	13.36	0.113	14.07	13.24	13.47	13.36
7	Copper	10	23.66	2.404	28.06	14.82	37.25	23.66
7	Fluoranthene	1	0.26	0.09	0.83	0.17	0.35	0.17
7	Indeno(1,2,3-cd)pyrene	2	0.04	0	0.05	0.04	0.04	0.04
7	Iron	2	26615.44	2320.46	41266.26	24294.98	28935.9	26615.44

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
7	Lead	10	20.9	1.87	24.32	13.58	30.09	20.9
7	Magnesium	2	2485.09	186.65	3663.54	2298.44	2671.74	2485.09
7	Manganese	2	1295.65	282.74	3080.82	1012.9	1578.39	1295.65
7	Mercury	2	0.13	0.023	0.17	0.05	0.23	0.12
7	Nickel	10	26.14	1.959	29.73	17.71	41.02	26.14
7	Phenanthrene	2	0.04	0.014	0.13	0.03	0.05	0.04
7	Potassium	2	1720.37	296.896	3594.9	1423.48	2017.27	1720.37
7	Pyrene	2	0.06	0.01	0.13	0.05	0.07	0.06
7	Selenium	8	2.03	0.885	3.66	0.27	9.5	2.04
7	Silver	7	0.09	0.025	0.14	0.02	0.26	0.1
7	Sodium	2	50.82	3.464	72.69	47.35	54.28	50.82
7	Thallium	1	0.4	0.03	0.45	0.25	0.57	0.57
7	Uranium	2	0.76	0.022	0.89	0.73	0.78	0.76
7	Vanadium	2	36.75	5.903	74.02	30.84	42.65	36.75
7	Zinc	10	76.86	6.224	88.27	46.29	103.68	76.86
2.04	2-Methylnaphthalene	4	0.15	0.1	0.38	0.03	0.44	0.15
2.04	4-Nitrophenol	1	0.991	0.497	2.161	0.193	2.444	0.193
2.04	Aluminum	3	9225.09	862.83	11744.55	7583	10505.59	9225.09
2.04	Arsenic	4	6.42	1.41	9.74	4.17	10.21	6.42

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
2.04	Barium	3	101.8	19.56	158.91	65.21	132.06	101.8
2.04	Benzo(a)anthracene	1	0.27	0.08	0.47	0.1	0.5	0.1
2.04	Benzo(a)pyrene	3	0.36	0.07	0.53	0.17	0.5	0.31
2.04	Benzo(b)fluoranthene	3	0.187	0.108	0.441	0.019	0.503	0.082
2.04	Benzo(ghi)perylene	3	0.199	0.104	0.444	0.062	0.503	0.097
2.04	Benzo(k)fluoranthene	1	0.257	0.097	0.485	0.031	0.503	0.031
2.04	Beryllium	4	0.66	0.08	0.85	0.44	0.78	0.66
2.04	Bis(2-ethylhexyl)phthalate	3	0.227	0.128	0.527	0.045	0.589	0.183
2.04	Boron	3	3.42	0.23	4.08	3.16	3.87	3.42
2.04	Cadmium	4	0.34	0.06	0.48	0.2	0.48	0.34
2.04	Calcium	3	6516.11	1376.29	10534.86	4470	9133.72	6516.11
2.04	Chromium	4	14.19	1.09	16.77	11.01	16.02	14.19
2.04	Chrysene	3	0.21	0.1	0.445	0.066	0.503	0.112
2.04	Cobalt	3	15.32	3.29	24.92	9.32	20.65	15.32
2.04	Copper	4	10.12	0.83	12.07	8.45	12.32	10.12
2.04	Di-n-butylphthalate	2	0.33	0.05	0.45	0.22	0.44	0.4
2.04	Dibenzofuran	1	0.257	0.097	0.485	0.03	0.503	0.03
2.04	Diethylphthalate	1	0.26	0.1	0.49	0.03	0.5	0.03
2.04	Fluoranthene	4	0.187	0.051	0.306	0.095	0.331	0.187
2.04	Fluorene	1	0.28	0.08	0.47	0.11	0.5	0.11

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
2.04	Indeno(1,2,3-cd)pyrene	3	0.198	0.104	0.444	0.055	0.503	0.097
2.04	Iron	3	16701.42	2463.58	23895.04	11927.27	20143.64	16701.42
2.04	Kjeldahl nitrogen	3	888.14	290.11	1735.25	314.43	1250	888.14
2.04	Magnesium	3	2933.04	608.91	4711.06	2250	4147.73	2933.04
2.04	Manganese	3	2716.64	1067.54	5833.85	795.7	4484.22	2716.64
2.04	Mercury	4	0.12	0.04	0.23	0.07	0.25	0.12
2.04	Naphthalene	4	0.14	0.11	0.4	0.02	0.47	0.14
2.04	Nickel	4	13.72	0.94	15.93	11.31	15.39	13.72
2.04	Pentachlorophenol	1	1.1	0.69	3.11	0.17	2.44	0.17
2.04	Phenanthrene	4	0.14	0.07	0.3	0.02	0.33	0.14
2.04	Potassium	3	952.54	3.78	963.58	947.64	959.97	952.54
2.04	Pyrene	2	0.234	0.069	0.397	0.035	0.356	0.115
2.04	Selenium	1	1.06	0.69	3.07	0.33	2.44	0.33
2.04	Silver	4	0.24	0.11	0.49	0.07	0.55	0.24
2.04	Sodium	3	32.99	2.52	40.34	28	36.08	32.99
2.04	Total combustible organics (TCO)	3	349377.8	39039.13	463371.5	293000	424346.	2349377.8
2.04	Total organic carbon (TOC)	3	9550	2784.76	17681.75	4050	13058.56	9550.29
2.04	Uranium	3	0.6	0.19	1.14	0.35	0.96	0.6
2.04	Vanadium	3	16.32	2.27	22.96	12.2	20.04	16.32
2.04	Zinc	4	60.84	3.34	68.7	52.6	67.55	60.84

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
3.01	Aluminum	1	6954.67	.	.	6954.67	6954.67	6954.67
3.01	Arsenic	1	1.31	.	.	1.31	1.31	1.31
3.01	Barium	1	59.54	.	.	59.54	59.54	59.54
3.01	Benzo(b)fluoranthene	1	0.162	.	.	0.162	0.162	0.162
3.01	Beryllium	1	0.53	.	.	0.53	0.53	0.53
3.01	Bis(2-ethylhexyl)phthalate	1	0.025	.	.	0.025	0.025	0.025
3.01	Cadmium	1	0.09	.	.	0.09	0.09	0.09
3.01	Calcium	1	496.15	.	.	496.15	496.15	496.15
3.01	Chromium	1	10.26	.	.	10.26	10.26	10.26
3.01	Chrysene	1	0.158	.	.	0.158	0.158	0.158
3.01	Cobalt	1	9.74	.	.	9.74	9.74	9.74
3.01	Copper	1	5.4	.	.	5.4	5.4	5.4
3.01	Di-n-butylphthalate	1	0.02	.	.	0.02	0.02	0.02
3.01	Diethylphthalate	1	0.08	.	.	0.08	0.08	0.08
3.01	Fluoranthene	1	0.161	.	.	0.161	0.161	0.016
3.01	Heptachlor	1	0	.	.	0	0	0
3.01	Iron	1	10908.23	.	.	10908.23	10908.23	10908.23
3.01	Kjeldahl nitrogen	1	76.84	.	.	76.84	76.84	76.84
3.01	Lead	1	8.48	.	.	8.48	8.48	8.48
3.01	Magnesium	1	950.43	.	.	950.43	950.43	950.43

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
3.01	Manganese	1	319.04	.	.	319.04	319.04	319.04
3.01	Mercury	1	0.04	.	.	0.04	0.04	0.04
3.01	Nickel	1	10.34	.	.	10.34	10.34	10.34
3.01	Pentachlorophenol	1	0.15	.	.	0.15	0.15	0.15
3.01	Phenanthrene	1	0.16	.	.	0.16	0.16	0.16
3.01	Potassium	1	606.14	.	.	606.14	606.14	606.14
3.01	Pyrene	1	0.026	.	.	0.026	0.026	0.026
3.01	Silver	1	0.03	.	.	0.03	0.03	0.03
3.01	Sodium	1	22.62	.	.	22.62	22.62	22.62
3.01	Total combustible organics (TCO)	1	33449.94	.	.	33449.94	33449.9	433449.94
3.01	Total organic carbon (TOC)	1	6287.04	.	.	6287.04	6287.04	6287.04
3.01	Uranium	1	0.61	.	.	0.61	0.61	0.61
3.01	Vanadium	1	10.55	.	.	10.55	10.55	10.55
3.01	Zinc	1	28.21	.	.	28.21	28.21	28.21
3.02	2-Methylnaphthalene	3	0.2	0.08	0.38	0.06	0.41	0.13
3.02	3-Nitroaniline	3	652.94	234.97	1339.05	369.06	1119.21	652.94
3.02	Acenaphthene	2	0.25	0.05	0.38	0.17	0.41	0.19
3.02	Acenaphthylene	1	0.251	0.061	0.395	0.119	0.414	0.119
3.02	Aluminum	3	12227.09	2036.55	18173.79	9444.22	16194.25	12227.09

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
3.02	Anthracene	2	0.258	0.053	0.382	0.183	0.414	0.196
3.02	Antimony	1	0.46	0.08	0.7	0.3	0.59	0.3
3.02	Arsenic	5	3.36	0.79	5.05	1.45	6.26	3.36
3.02	Barium	3	107.76	3	116.51	101.85	111.61	107.76
3.02	Benzo(a)anthracene	2	0.413	0.193	0.867	0.062	0.95	0.284
3.02	Benzo(a)pyrene	3	0.35	0.088	0.556	0.194	0.568	0.299
3.02	Benzo(b)fluoranthene	3	0.397	0.208	0.887	0.056	0.978	0.318
3.02	Benzo(ghi)perylene	1	0.284	0.044	0.387	0.224	0.414	0.25
3.02	Benzo(k)fluoranthene	3	0.311	0.053	0.436	0.213	0.408	0.308
3.02	Beryllium	5	0.55	0.1	0.77	0.3	0.81	0.55
3.02	Bis(2-ethylhexyl)phthalate	3	0.265	0.076	0.443	0.125	0.401	0.22
3.02	Boron	3	5.04	2.17	11.36	2.57	9.36	5.04
3.02	Butylbenzylphthalate	1	0.23	0.08	0.41	0.03	0.41	0.03
3.02	Cadmium	5	0.51	0.19	0.91	0.23	1.24	0.51
3.02	Calcium	3	2226.89	562.48	3869.32	1309.63	3249.54	2226.89
3.02	Carbazole	2	0.18	0.03	0.27	0.12	0.22	0.16
3.02	Chromium	5	17.79	3.07	24.32	9.28	28.16	17.79
3.02	Chrysene	2	0.35	0.143	0.686	0.047	0.715	0.214
3.02	Cobalt	3	17.23	1.87	22.69	13.83	20.28	17.23
3.02	Copper	5	18.28	5.21	29.39	9.26	37.95	18.28

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
3.02	Dibenz(a,h)anthracene	1	0.237	0.072	0.406	0.064	0.414	0.064
3.02	Dibenzofuran	2	0.241	0.063	0.389	0.113	0.414	0.164
3.02	Fluoranthene	3	0.527	0.292	1.214	0.084	1.378	0.492
3.02	Fluorene	2	0.26	0.05	0.38	0.2	0.41	0.2
3.02	Indeno(1,2,3-cd)pyrene	2	0.294	0.047	0.404	0.214	0.414	0.25
3.02	Iron	3	19420.86	911.48	22082.35	17598.69	20378.28	19420.86
3.02	Magnesium	3	1761.5	280.02	2579.14	1209.94	2121.32	1761.5
3.02	Manganese	3	855.85	144.22	1276.96	575.99	1056.22	855.85
3.02	Mercury	5	1.68	1.12	4.07	0.03	6.1	1.68
3.02	Naphthalene	2	0.21	0.08	0.39	0.04	0.41	0.1
3.02	Nickel	5	29.58	10.7	52.39	7.78	70.58	29.58
3.02	PCB-1248	1	0.154	0.091	0.368	0.009	0.388	0.208
3.02	PCB-1254	3	0.32	0.181	0.745	0.01	0.73	0.32
3.02	PCB-1260	1	0.27	0.183	0.704	0.01	0.79	0.28
3.02	Phenanthrene	3	0.52	0.3	1.23	0.04	1.4	0.47
3.02	Phenol	1	0.28	0.467	0.385	0.22	0.41	0.22
3.02	Potassium	3	1262.24	229.87	1933.45	921.29	1699.79	1262.24
3.02	Pyrene	3	0.501	0.272	1.141	0.076	1.29	0.464
3.02	Selenium	2	0.73	0.28	1.39	0.25	1.4	0.28
3.02	Silver	5	0.3	0.22	0.76	0.02	1.17	0.3

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
3.02	Sodium	3	49.96	0.14	50.36	49.69	50.15	49.96
3.02	Uranium	3	6.96	4.8	20.99	1.17	16.49	6.96
3.02	Vanadium	3	18.63	1.94	24.29	15.41	22.12	18.63
3.02	Zinc	5	76.88	18.74	116.83	49.74	149.85	76.88
3.03	Acenaphthene	1	0.03	.	.	0.03	0.03	0.03
3.03	Acenaphthylene	1	0.121	.	.	0.121	0.121	0.121
3.03	Aluminum	1	14985.24	.	.	14985.24	14985.24	14985.24
3.03	Anthracene	1	0.042	.	.	0.042	0.042	0.042
3.03	Arsenic	1	5.28	.	.	5.28	5.28	5.28
3.03	Barium	1	120.6	.	.	120.6	120.6	120.6
3.03	Benzo(a)anthracene	1	0.231	.	.	0.231	0.231	0.231
3.03	Benzo(a)pyrene	1	0.159	.	.	0.159	0.159	0.159
3.03	Benzo(b)fluoranthene	1	0.285	.	.	0.285	0.285	0.285
3.03	Benzo(ghi)perylene	1	0.175	.	.	0.175	0.175	0.175
3.03	Benzo(k)fluoranthene	1	0.067	.	.	0.067	0.067	0.067
3.03	Beryllium	1	0.92	.	.	0.92	0.92	0.92
3.03	Boron	1	12	.	.	12	12	12
3.03	Cadmium	1	3.31	.	.	3.31	3.31	3.31
3.03	Calcium	1	2594.28	.	.	2594.28	2594.28	2594.28

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
3.03	Carbazole	1	0.05	.	.	0.05	0.05	0.05
3.03	Chromium	1	44.36	.	.	44.36	44.36	44.36
3.03	Chrysene	1	0.238	.	.	0.238	0.238	0.238
3.03	Cobalt	1	20.12	.	.	20.12	20.12	20.12
3.03	Copper	1	36.3	.	.	36.3	36.3	36.3
3.03	Dibenz(a,h)anthracene	1	0.036	.	.	0.036	0.036	0.036
3.03	Dibenzofuran	1	0.105	.	.	0.105	0.105	0.105
3.03	Fluoranthene	1	0.479	.	.	0.479	0.479	0.479
3.03	Fluorene	1	0.05	.	.	0.05	0.05	0.05
3.03	Indeno(1,2,3-cd)pyrene	1	0.162	.	.	0.162	0.162	0.162
3.03	Iron	1	24873.89	.	.	24873.89	24873.89	24873.89
3.03	Kjeldahl nitrogen	1	608.8	.	.	608.8	608.8	608.8
3.03	Lead	1	37.73	.	.	37.73	37.73	37.73
3.03	Magnesium	1	2238.63	.	.	2238.63	2238.63	2238.63
3.03	Manganese	1	692.45	.	.	692.45	692.45	692.45
3.03	Mercury	1	6.67	.	.	6.67	6.67	6.67
3.03	Naphthalene	1	0.21	.	.	0.21	0.21	0.21
3.03	Nickel	1	62.44	.	.	62.44	62.44	62.44
3.03	Phenanthrene	1	0.38	.	.	0.38	0.38	0.38
3.03	Phenol	1	0.21	.	.	0.21	0.21	0.21

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
3.03	Potassium	1	1719.32	.	.	1719.32	1719.32	1719.32
3.03	Pyrene	1	0.296	.	.	0.296	0.296	0.296
3.03	Silver	1	3.32	.	.	3.32	3.32	3.32
3.03	Sodium	1	74.33	.	.	74.33	74.33	74.33
3.03	Total combustible organics (TCO)	1	89231.29	.	.	89231.29	89231.2	989231.29
3.03	Total organic carbon (TOC)	1	16964.8	.	.	16964.8	16964.8	16964.8
3.03	Uranium	1	8.7	.	.	8.7	8.7	8.7
3.03	Vanadium	1	21.52	.	.	21.52	21.52	21.52
3.03	Zinc	1	160.94	.	.	160.94	160.94	160.94
3.04	1,4-Dichlorobenzene	1	0.25	0.016	0.298	0.23	0.28	0.23
3.04	2-Methylnaphthalene	3	0.12	0.07	0.32	0.04	0.26	0.12
3.04	4-Chloro-3-methylphenol	1	0.241	0.027	0.319	0.19	0.281	0.19
3.04	4-Methylphenol	1	0.26	0.011	0.294	0.25	0.28	0.28
3.04	Acenaphthene	3	0.17	0.01	0.2	0.15	0.19	0.17
3.04	Acenaphthylene	2	0.211	0.036	0.315	0.165	0.281	0.176
3.04	Aluminum	3	16118.21	2700.13	24002.55	11183.31	20484.92	16118.21
3.04	Anthracene	1	0.216	0.034	0.315	0.149	0.253	0.149
3.04	Arsenic	3	40.96	26.96	119.69	5.32	93.83	40.96
3.04	Barium	3	195.4	53.77	352.41	104.12	290.28	195.4

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
3.04	Benzo(a)anthracene	3	0.123	0.023	0.19	0.09	0.167	0.123
3.04	Benzo(a)pyrene	3	0.13	0.045	0.263	0.084	0.221	0.13
3.04	Benzo(b)fluoranthene	3	0.169	0.035	0.272	0.115	0.235	0.169
3.04	Benzo(ghi)perylene	2	0.17	0.044	0.298	0.096	0.247	0.132
3.04	Benzo(k)fluoranthene	1	0.179	0.071	0.386	0.037	0.253	0.037
3.04	Beryllium	3	1.23	0.27	2.02	0.75	1.69	1.23
3.04	Bis(2-ethylhexyl)phthalate	2	0.45	0.258	1.203	0.1	0.95	0.39
3.04	Boron	3	24.25	9.8	52.85	14.2	43.84	24.25
3.04	Butylbenzylphthalate	2	0.22	0.02	0.29	0.17	0.25	0.2
3.04	Cadmium	3	2.39	1.6	7.07	0.79	5.6	2.39
3.04	Calcium	3	4196	1204.27	7712.45	2196	6358.23	4196
3.04	Carbazole	1	0.19	0.06	0.37	0.06	0.25	0.06
3.04	Chromium	3	33.71	4.98	48.26	23.76	39.19	33.71
3.04	Chrysene	3	0.121	0.015	0.163	0.093	0.143	0.121
3.04	Cobalt	3	16.71	0.97	19.55	14.87	18.18	16.71
3.04	Copper	3	52.36	14.02	93.31	24.37	68.03	52.36
3.04	Dibenz(a,h)anthracene	1	0.173	0.077	0.397	0.02	0.253	0.02
3.04	Dibenzofuran	2	0.182	0.057	0.347	0.069	0.247	0.149
3.04	Diethylphthalate	2	0.21	0.06	0.37	0.1	0.28	0.17
3.04	Fluoranthene	3	0.165	0.041	0.284	0.09	0.231	0.165

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
3.04	Fluorene	2	0.17	0.07	0.37	0.03	0.25	0.13
3.04	Indeno(1,2,3-cd)pyrene	2	0.163	0.049	0.307	0.076	0.247	0.12
3.04	Iron	3	27969.13	4470.86	41023.98	21234.41	36430.46	27969.13
3.04	Kjeldahl nitrogen	3	286.87	77.86	514.23	179.77	438.33	286.87
3.04	Lead	3	25.08	2.02	30.97	21.07	27.43	25.08
3.04	Magnesium	3	1914.53	94.58	2190.71	1732.66	2050.53	1914.53
3.04	Manganese	3	660.01	41.21	780.34	593.54	735.44	660.01
3.04	Mercury	3	12.45	6.66	31.9	4.54	25.69	12.45
3.04	Naphthalene	3	0.16	0.02	0.22	0.13	0.2	0.16
3.04	Nickel	3	44.05	4.94	58.48	34.37	50.61	44.05
3.04	PCB-1248	2	0.032	0.017	0.081	0.011	0.065	0.034
3.04	PCB-1254	3	0.08	0.052	0.23	0.01	0.18	0.08
3.04	PCB-1260	3	0.07	0.03	0.153	0.03	0.13	0.07
3.04	Phenanthrene	3	0.14	0.05	0.28	0.07	0.24	0.14
3.04	Phenol	1	0.19	0.061	0.366	0.07	0.25	0.07
3.04	Potassium	3	1809.08	348.47	2826.6	1218.89	2425.19	1809.08
3.04	Pyrene	3	0.163	0.032	0.258	0.104	0.215	0.163
3.04	Selenium	2	1.03	0.27	1.82	0.74	1.57	1.05
3.04	Silver	3	0.98	0.23	1.64	0.64	1.41	0.98
3.04	Sodium	3	181.92	66.71	376.72	74.69	304.29	181.92

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
3.04	Thallium	2	0.41	0.16	0.87	0.21	0.72	0.38
3.04	Total combustible organics (TCO)	3	56402.65	9807.72	85041.04	41013.54	74630.74	56402.65
3.04	Total organic carbon (TOC)	1	13474.22	.	.	13474.22	13474.22	13474.22
3.04	Uranium	3	8.52	3.86	19.79	3.44	16.1	8.52
3.04	Vanadium	3	37.79	11.83	72.34	18.27	59.14	37.79
3.04	Zinc	3	103.49	6.66	122.95	92.56	115.56	103.49
4.01	2-Methylnaphthalene	2	0.25	0.13	0.62	0.08	0.5	0.13
4.01	Acenaphthene	1	0.28	0.11	0.61	0.12	0.5	0.12
4.01	Aluminum	2	9432.43	2521.42	25352.03	6911.01	11953.85	9432.43
4.01	Anthracene	1	0.282	0.112	0.609	0.124	0.499	0.124
4.01	Arsenic	3	5.38	2.34	12.21	2.27	9.96	5.38
4.01	Barium	2	70.33	8.7	125.28	61.63	79.04	70.33
4.01	Benzo(a)anthracene	1	0.271	0.12	0.621	0.092	0.499	0.092
4.01	Benzo(a)pyrene	1	0.263	0.1257	0.63048	0.0692	0.499	0.069
4.01	Benzo(b)fluoranthene	1	0.279	0.114	0.612	0.116	0.499	0.116
4.01	Benzo(ghi)perylene	1	0.261	0.128	0.634	0.062	0.499	0.062
4.01	Benzo(k)fluoranthene	1	0.294	0.103	0.595	0.172	0.499	0.172
4.01	Beryllium	3	0.64	0.08	0.88	0.5	0.77	0.64
4.01	Bis(2-ethylhexyl)phthalate	3	0.336	0.316	1.259	0.02	0.968	0.336

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
4.01	Boron	2	6.29	1.17	13.71	5.12	7.47	6.29
4.01	Cadmium	3	0.36	0.15	0.78	0.17	0.65	0.36
4.01	Calcium	2	2201.81	151.08	3155.72	2050.72	2352.89	2201.81
4.01	Carbazole	1	0.17	0.05	0.49	0.12	0.22	0.12
4.01	Chromium	3	16.89	0.9	19.5	15.23	18.31	16.89
4.01	Chrysene	2	0.251	0.127	0.621	0.082	0.499	0.126
4.01	Cobalt	2	7.83	0.8	12.88	7.02	8.63	7.83
4.01	Copper	3	11.6	4.91	25.94	6.24	21.41	11.6
4.01	Dibenz(a,h)anthracene	1	0.281	0.112	0.61	0.123	0.499	0.123
4.01	Dibenzofuran	1	0.259	0.129	0.636	0.055	0.499	0.055
4.01	Fluoranthene	3	0.28	0.105	0.586	0.174	0.489	0.28
4.01	Fluorene	1	0.29	0.11	0.6	0.15	0.5	0.15
4.01	Heptachlor	2	0.03	0.03	0.13	0	0.1	0
4.01	Iron	2	13266.98	1638.76	23613.69	11628.22	14905.74	13266.98
4.01	Kjeldahl nitrogen	2	341.97	72.11	797.25	269.86	414.08	341.97
4.01	Lead	3	13.84	1.35	17.77	11.74	16.35	13.84
4.01	Magnesium	2	1819.82	239.15	3329.77	1580.67	2058.98	1819.82
4.01	Manganese	2	566.15	275.33	2304.52	290.82	841.48	566.15
4.01	Mercury	3	4.56	3.81	15.68	0.33	12.16	4.56
4.01	N-Nitroso-di-n-propylamine	1	0.31	0.094	0.586	0.21	0.499	0.499

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
4.01	Naphthalene	2	0.19	0.16	0.64	0.02	0.5	0.03
4.01	Nickel	3	16.11	2.25	22.68	11.88	19.54	16.11
4.01	PCB-1254	3	0.15	0.13	0.52	0.01	0.4	0.15
4.01	PCB-1260	1	0.7	0.68	2.69	0.01	2.06	0.01
4.01	Pentachlorophenol	1	1.13	0.64	3.01	0.44	2.42	0.44
4.01	Phenanthrene	3	0.27	0.12	0.61	0.13	0.5	0.27
4.01	Phenol	1	0.3	0.1	0.59	0.18	0.5	0.18
4.01	Potassium	2	1255.17	331.63	3349.02	923.54	1586.8	1255.17
4.01	Pyrene	3	0.274	0.11	0.594	0.156	0.493	0.274
4.01	Selenium	1	0.26	0.06	0.44	0.19	0.38	0.21
4.01	Silver	3	0.64	0.58	2.33	0.05	1.8	0.64
4.01	Sodium	2	36.23	5.21	69.13	31.02	41.44	36.23
4.01	Total combustible organics (TCO)	2	43818.41	2505.17	59635.46	41313.24	46323.59	43818.41
4.01	Total organic carbon (TOC)	2	8983.19	737.75	13641.17	8245.44	9720.94	8983.19
4.01	Uranium	2	0.55	0.16	1.55	0.39	0.71	0.55
4.01	Vanadium	2	13.75	2.13	27.23	11.62	15.89	13.75
4.01	Zinc	3	57.37	5.7	74.02	46.37	65.48	57.37
4.02	2-Methylnaphthalene	1	0.03	.	.	0.03	0.03	0.03
4.02	Aluminum	1	7610	.	.	7610	7610	7610

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
4.02	Arsenic	1	11.2	.	.	11.2	11.2	11.2
4.02	Barium	1	107	.	.	107	107	107
4.02	Benzo(b)fluoranthene	1	0.016	.	.	0.016	0.016	0.016
4.02	Beryllium	1	0.67	.	.	0.67	0.67	0.67
4.02	Bis(2-ethylhexyl)phthalate	1	0.058	.	.	0.058	0.058	0.058
4.02	Boron	1	3.5	.	.	3.5	3.5	3.5
4.02	Cadmium	1	0.19	.	.	0.19	0.19	0.19
4.02	Calcium	1	1500	.	.	1500	1500	1500
4.02	Chromium	1	14.3	.	.	14.3	14.3	14.3
4.02	Cobalt	1	8	.	.	8	8	8
4.02	Copper	1	6.3	.	.	6.3	6.3	6.3
4.02	Iron	1	13300	.	.	13300	13300	13300
4.02	Kjeldahl nitrogen	1	394	.	.	394	394	394
4.02	Lead	1	9.7	.	.	9.7	9.7	9.7
4.02	Magnesium	1	1180	.	.	1180	1180	1180
4.02	Manganese	1	665	.	.	665	665	665
4.02	Mercury	1	0.34	.	.	0.34	0.34	0.34
4.02	Naphthalene	1	0.02	.	.	0.02	0.02	0.02
4.02	Nickel	1	13.3	.	.	13.3	13.3	13.3
4.02	Phenanthrene	1	0.02	.	.	0.02	0.02	0.02

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
4.02	Potassium	1	849	.	.	849	849	849
4.02	Pyrene	1	0.017	.	.	0.017	0.017	0.017
4.02	Silver	1	0.04	.	.	0.04	0.04	0.04
4.02	Sodium	1	21.1	.	.	21.1	21.1	21.1
4.02	Uranium	1	0.31	.	.	0.31	0.31	0.31
4.02	Vanadium	1	12.2	.	.	12.2	12.2	12.2
4.02	Zinc	1	46.8	.	.	46.8	46.8	46.8
4.03	2-Methylnaphthalene	2	0.16	0.07	0.58	0.09	0.23	0.16
4.03	Acenaphthene	1	0.19	0.08	0.68	0.11	0.27	0.11
4.03	Aluminum	2	13152.81	1448.24	22296.65	11704.57	14601.05	13152.81
4.03	Anthracene	1	0.189	0.078	0.681	0.111	0.267	0.111
4.03	Arsenic	2	6.56	1.28	14.63	5.29	7.84	6.56
4.03	Barium	2	116.63	13.01	198.77	103.62	129.64	116.63
4.03	Benzo(a)anthracene	2	0.089	0.023	0.231	0.066	0.111	0.089
4.03	Benzo(a)pyrene	2	0.262	0.221	1.655	0.041	0.482	0.262
4.03	Benzo(b)fluoranthene	2	0.126	0.05	0.445	0.076	0.177	0.126
4.03	Benzo(ghi)perylene	2	0.063	0.026	0.225	0.038	0.089	0.063
4.03	Benzo(k)fluoranthene	2	0.032	0.01	0.094	0.022	0.042	0.032
4.03	Beryllium	2	0.93	0.16	1.92	0.77	1.08	0.93

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
4.03	Bis(2-ethylhexyl)phthalate	2	0.176	0.108	0.86	0.067	0.284	0.176
4.03	Boron	2	3.75	0.2	5	3.55	3.95	3.75
4.03	Cadmium	2	0.58	0.02	0.71	0.55	0.6	0.58
4.03	Calcium	2	3729.12	629.85	7705.84	3099.27	4358.97	3729.12
4.03	Chromium	2	34.13	2.78	51.67	31.35	36.91	34.13
4.03	Chrysene	2	0.102	0.032	0.302	0.07	0.133	0.102
4.03	Cobalt	2	19.61	5.38	53.59	14.23	24.99	19.61
4.03	Copper	2	29.26	6.63	71.15	22.63	35.9	29.26
4.03	Dibenz(a,h)anthracene	1	0.145	0.122	0.913	0.023	0.267	0.023
4.03	Dibenzofuran	2	0.04	0.017	0.149	0.023	0.057	0.04
4.03	Fluoranthene	2	0.133	0.028	0.307	0.105	0.16	0.133
4.03	Fluorene	1	0.15	0.12	0.9	0.03	0.27	0.03
4.03	Indeno(1,2,3-cd)pyrene	2	0.065	0.024	0.219	0.041	0.089	0.065
4.03	Iron	2	23180.05	2543.58	39239.56	20636.47	25723.62	23180.05
4.03	Kjeldahl nitrogen	2	1216.87	288.86	3040.65	928.01	1505.72	1216.87
4.03	Lead	2	34.38	4.37	61.96	30.01	38.75	34.38
4.03	Magnesium	2	2561.2	162.28	3585.8	2398.92	2723.48	2561.2
4.03	Manganese	2	1451.33	116.68	2188.01	1334.65	1568.01	1451.33
4.03	Mercury	2	3.36	0.16	4.37	3.2	3.52	3.36
4.03	Naphthalene	2	0.08	0.03	0.27	0.06	0.11	0.08

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
4.03	Nickel	2	35.8	4.38	63.44	31.43	40.18	35.8
4.03	PCB-1254	2	0.05	0.017	0.154	0.03	0.06	0.05
4.03	PCB-1260	2	0.03	0.003	0.051	0.03	0.03	0.03
4.03	Phenanthrene	2	0.15	0.06	0.5	0.09	0.2	0.15
4.03	Potassium	2	1235.07	124.41	2020.57	1110.66	1359.48	1235.07
4.03	Pyrene	2	0.136	0.034	0.349	0.103	0.17	0.136
4.03	Selenium	1	0.65	0.29	2.5	0.35	0.94	0.35
4.03	Silver	2	0.4	0.01	0.48	0.39	0.41	0.4
4.03	Sodium	2	46.19	0.43	48.88	45.77	46.62	46.19
4.03	Uranium	2	1.95	0.23	3.38	1.73	2.18	1.95
4.03	Vanadium	2	24.31	2.85	42.31	21.46	27.16	24.31
4.03	Zinc	2	102.31	12.09	178.63	90.22	114.4	102.31
4.04	2-Methylnaphthalene	11	0.5	0.284	1.01	0.07	3.54	0.22
4.04	Aluminum	11	14502.77	1228.59	16729.55	7370	20260.22	14502.77
4.04	Antimony	1	0.6	0.055	0.7	0.27	0.78	0.41
4.04	Arsenic	12	9.36	0.536	10.33	6.02	12.16	9.36
4.04	Barium	11	123.32	8.219	138.22	76.4	154.28	123.32
4.04	Benzo(a)anthracene	10	0.54	0.29	1.06	0.07	3.54	0.17
4.04	Benzo(a)pyrene	8	1.12	0.25	1.56	0.06	3.54	0.77

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
4.04	Benzo(b)fluoranthene	11	0.421	0.284	0.93	0.085	3.539	0.137
4.04	Benzo(ghi)perylene	6	0.937	0.27	1.422	0.071	3.539	0.345
4.04	Beryllium	12	1.14	0.05	1.23	0.82	1.42	1.14
4.04	Bis(2-ethylhexyl)phthalate	8	0.528	0.188	0.864	0.07	1.868	0.104
4.04	Boron	11	5.46	0.346	6.09	3.67	7.33	5.46
4.04	Cadmium	12	0.58	0.078	0.73	0.45	1.41	0.58
4.04	Calcium	11	2794.18	120.63	3012.82	1815.76	3313.96	2794.18
4.04	Chromium	12	22.46	2.064	26.17	10.7	33.38	22.46
4.04	Chrysene	8	0.673	0.296	1.206	0.066	3.539	0.113
4.04	Cobalt	11	18.71	1.544	21.5	11.6	26.01	18.71
4.04	Copper	12	37.09	3.173	42.79	18.8	53.42	37.09
4.04	Dibenz(a,h)anthracene	1	1.2	0.22	1.6	0.41	3.54	0.41
4.04	Fluoranthene	11	0.428	0.283	0.936	0.092	3.539	0.145
4.04	Indeno(1,2,3-cd)pyrene	2	1.185	0.223	1.584	0.447	3.539	0.63
4.04	Iron	11	23862.38	1855.06	27224.6	12900	30564.46	23862.38
4.04	Lead	12	30.28	2.32	34.45	14.8	46.38	30.28
4.04	Magnesium	11	2007.91	134.63	2251.92	1270	2697.99	2007.91
4.04	Manganese	11	1408.81	141.42	1665.12	617	2009.59	1408.81
4.04	Mercury	12	2.47	0.33	3.05	1.04	5.56	2.47
4.04	Naphthalene	8	0.73	0.292	1.26	0.05	3.54	0.21

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
4.04	Nickel	12	32.01	1.95	35.51	20.5	40.12	32.01
4.04	PCB-1254	1	0.093	0.08	0.237	0.011	0.975	0.975
4.04	Phenanthrene	11	0.44	0.282	0.94	0.1	3.54	0.15
4.04	Potassium	11	1178.5	118.79	1393.79	478	1744	1178.5
4.04	Pyrene	11	0.442	0.282	0.948	0.099	3.539	0.16
4.04	Selenium	8	0.63	0.114	0.84	0.18	1.24	0.63
4.04	Silver	11	0.39	0.07	0.51	0.2	1	0.39
4.04	Sodium	11	61.57	3.581	68.06	39.72	76.48	61.57
4.04	Uranium	11	1.45	0.128	1.69	0.95	2.21	1.45
4.04	Vanadium	11	25.63	1.706	28.72	15.7	33.4	25.63
4.04	Zinc	12	129.22	6.847	141.51	91.58	156.8	129.22
13	2,4-Dimethylphenol	1	0.232	0.004	0.241	0.22	0.245	0.236
13	Phenol	1	0.248	0.033	0.319	0.174	0.373	0.174
13	PCB-1254	1	0.01	0	0.011	0.009	0.012	0.012
13	Bis(2-ethylhexyl)phthalate	5	0.072	0.008	0.089	0.054	0.094	0.072
13	Anthracene	1	0.246	0.035	0.32	0.163	0.373	0.163
13	Pyrene	4	0.132	0.035	0.207	0.048	0.23	0.107
13	Dibenzofuran	4	0.245	0.063	0.378	0.164	0.491	0.233
13	Benzo(ghi)perylene	4	0.169	0.034	0.241	0.044	0.23	0.154

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
13	Indeno(1,2,3-cd)pyrene	4	0.166	0.034	0.238	0.04	0.23	0.15
13	Benzo(b)fluoranthene	4	0.114	0.037	0.193	0.04	0.245	0.082
13	Fluoranthene	4	0.142	0.041	0.229	0.045	0.236	0.112
13	Benzo(k)fluoranthene	2	0.181	0.067	0.324	0.021	0.373	0.029
13	Acenaphthylene	1	0.245	0.036	0.322	0.149	0.373	0.149
13	Chrysene	4	0.105	0.034	0.176	0.042	0.23	0.073
13	Benzo(a)pyrene	5	0.255	0.087	0.441	0.036	0.441	0.255
13	Dibenz(a,h)anthracene	1	0.246	0.036	0.322	0.152	0.373	0.152
13	Benzo(a)anthracene	3	0.214	0.044	0.308	0.11	0.373	0.155
13	Benzoic acid	2	0.505	0.125	0.772	0.127	0.881	0.249
13	Aluminum	5	11100	675	12500	9620	13400	11100
13	Iron	5	16800	815	18600	14900	19100	16800
13	Lead	5	15.3	0.445	16.2	13.8	16.4	15.3
13	Magnesium	5	1550	56.4	1680	1390	1690	1550
13	Manganese	5	585	122	845	240	905	585
13	Mercury	5	0.941	0.856	2.77	0.037	4.37	0.941
13	Nickel	5	24.2	4.24	33.2	17.5	40	24.2
13	Potassium	5	1260	53.9	1380	1120	1440	1260
13	Silver	5	0.058	0.011	0.082	0.037	0.094	0.058
13	Sodium	5	46.6	4.7	56.6	28.8	55.4	46.6

Table F6.2 (continued)

Reach	Chemical	Detects	Mean	SEM	95% UCL	MIN	MAX	PLE Mean
13	Arsenic	5	3.23	0.261	3.79	2.56	4.04	3.23
13	Barium	5	97.6	6.67	112	82.8	122	97.6
13	Beryllium	5	0.696	0.04	0.783	0.6	0.834	0.696
13	Boron	5	7.14	1.29	9.89	2.08	9.15	7.14
13	Cadmium	5	0.201	0.055	0.319	0.08	0.376	0.201
13	Chromium	5	16	0.664	17.5	14.1	17.7	16
13	Cobalt	5	14.7	1.21	17.3	11.2	18.3	14.7
13	Copper	5	11	0.923	13	8.89	14.4	11
13	Uranium	5	1.17	0.387	1.99	0.714	2.71	1.17
13	Vanadium	5	17.7	0.754	19.3	16.3	20.1	17.7
13	Zinc	5	61.9	7.48	77.9	45.2	85.3	61.9
13	Calcium	5	1120	47.5	1220	997	1210	1120
13	Selenium	1	0.668	0.433	1.59	0.2	2.4	0.315
13	Acenaphthene	1	0.23	0.004	0.239	0.22	0.245	0.224
13	Di-n-butylphthalate	1	0.27	0.051	0.378	0.114	0.433	0.114
13	Phenanthrene	5	0.189	0.097	0.395	0.039	0.568	0.189
13	Butylbenzylphthalate	4	0.169	0.031	0.236	0.091	0.245	0.15
13	Fluorene	2	0.218	0.017	0.254	0.151	0.245	0.172
13	Carbazole	3	0.203	0.019	0.244	0.151	0.245	0.181
13	Naphthalene	5	0.306	0.236	0.81	0.041	1.25	0.306
13	2-Methylnaphthalene	5	0.423	0.31	1.08	0.052	1.66	0.423

Table F6.3. Deep water sediment concentrations within each subreach compared to background concentrations from reach 13 (a reference site)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
1	Arsenic	27.05	11.034	6.46	yes
1	Beryllium	1.377	0.808	1.392	no
1	Cadmium	1.549	0.727	0.402	yes
1	Chromium	45.478	19.604	32	no
1	Copper	36.307	29.087	22	yes
1	Lead	63.455	39.233	30.6	yes
1	Mercury	0.295	0.124	1.882	no
1	Nickel	49.209	23.319	48.4	no
1	Selenium	1.426	0.695	1.336	no
1	Silver	0.661	0.329	0.116	yes
1	Zinc	261.763	122.132	123.8	no
7	Aluminum	21397.67	16408.81	22200	no
7	Antimony	0.47	0.68	NA	yes
7	Arsenic	26.52	63.84	6.46	yes
7	Barium	243.52	158.91	195.2	no
7	Beryllium	1.21	1.52	1.392	yes
7	Boron	8.38	5.76	14.28	no
7	Cadmium	0.57	0.82	0.402	yes

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
7	Calcium	11548.03	6464.11	2240	yes
7	Chromium	36.94	58.61	32	yes
7	Cobalt	14.07	13.47	29.4	no
7	Copper	28.06	37.25	22	yes
7	Iron	41266.26	28935.9	33600	no
7	Lead	24.32	30.09	30.6	no
7	Magnesium	3663.54	2671.74	3100	no
7	Manganese	3080.82	1578.39	1170	yes
7	Mercury	0.17	0.23	1.882	no
7	Nickel	29.73	41.02	48.4	no
7	Potassium	3594.9	2017.27	2520	no
7	Selenium	3.66	9.5	1.336	yes
7	Silver	0.14	0.26	0.116	yes
7	Sodium	72.69	54.28	93.2	no
7	Thallium	0.45	0.57	NA	yes
7	Uranium	0.89	0.78	2.34	no
7	Vanadium	74.02	42.65	35.4	yes
7	Zinc	88.27	103.68	123.8	no

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
2.04	Aluminum	11744.55	10505.59	22200	no
2.04	Arsenic	9.74	10.21	6.46	yes
2.04	Barium	158.91	132.06	195.2	no
2.04	Beryllium	0.85	0.78	1.392	no
2.04	Boron	4.08	3.87	14.28	no
2.04	Cadmium	0.48	0.48	0.402	yes
2.04	Calcium	10534.86	9133.72	2240	yes
2.04	Chromium	16.77	16.02	32	no
2.04	Cobalt	24.92	20.65	29.4	no
2.04	Copper	12.07	12.32	22	no
2.04	Iron	23895.04	20143.64	33600	no
2.04	Magnesium	4711.06	4147.73	3100	yes
2.04	Manganese	5833.85	4484.22	1170	yes
2.04	Mercury	0.23	0.25	1.882	no
2.04	Nickel	15.93	15.39	48.4	no
2.04	Potassium	963.58	959.97	2520	no
2.04	Selenium	3.07	2.44	1.336	yes
2.04	Silver	0.49	0.55	0.116	yes
2.04	Sodium	40.34	36.08	93.2	no

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
2.04	Uranium	1.14	0.96	2.34	no
2.04	Vanadium	22.96	20.04	35.4	no
2.04	Zinc	68.7	67.55	123.8	no
3.01	Aluminum	.	6954.67	22200	no
3.01	Arsenic	.	1.31	6.46	no
3.01	Barium	.	59.54	195.2	no
3.01	Beryllium	.	0.53	1.392	no
3.01	Cadmium	.	0.09	0.402	no
3.01	Calcium	.	496.15	2240	no
3.01	Chromium	.	10.26	32	no
3.01	Cobalt	.	9.74	29.4	no
3.01	Copper	.	5.4	22	no
3.01	Iron	.	10908.23	33600	no
3.01	Lead	.	8.48	30.6	no
3.01	Magnesium	.	950.43	3100	no
3.01	Manganese	.	319.04	1170	no
3.01	Mercury	.	0.04	1.882	no
3.01	Nickel	.	10.34	48.4	no

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
3.01	Potassium	.	606.14	2520	no
3.01	Silver	.	0.03	0.116	no
3.01	Sodium	.	22.62	93.2	no
3.01	Uranium	.	0.61	2.34	no
3.01	Vanadium	.	10.55	35.4	no
3.01	Zinc	.	28.21	123.8	no
3.02	Aluminum	18173.79	16194.25	22200	no
3.02	Antimony	0.7	0.59	NA	yes
3.02	Arsenic	5.05	6.26	6.46	no
3.02	Barium	116.51	111.61	195.2	no
3.02	Beryllium	0.77	0.81	1.392	no
3.02	Boron	11.36	9.36	14.28	no
3.02	Cadmium	0.91	1.24	0.402	yes
3.02	Calcium	3869.32	3249.54	2240	yes
3.02	Chromium	24.32	28.16	32	no
3.02	Cobalt	22.69	20.28	29.4	no
3.02	Copper	29.39	37.95	22	yes
3.02	Iron	22082.35	20378.28	33600	no

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
3.02	Magnesium	2579.14	2121.32	3100	no
3.02	Manganese	1276.96	1056.22	1170	no
3.02	Mercury	4.07	6.1	1.882	yes
3.02	Nickel	52.39	70.58	48.4	yes
3.02	Selenium	1.39	1.4	1.336	yes
3.02	Silver	0.76	1.17	0.116	yes
3.02	Sodium	50.36	50.15	93.2	no
3.02	Uranium	20.99	16.49	2.34	yes
3.02	Vanadium	24.29	22.12	35.4	no
3.02	Zinc	116.83	149.85	123.8	yes
3.03	Aluminum	.	14985.24	22200	no
3.03	Arsenic	.	5.28	6.46	no
3.03	Barium	.	120.6	195.2	no
3.03	Beryllium	.	0.92	1.392	no
3.03	Boron	.	12	14.28	no
3.03	Cadmium	.	3.31	0.402	yes
3.03	Calcium	.	2594.28	2240	yes
3.03	Chromium	.	44.36	32	yes

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
3.03	Cobalt	.	20.12	29.4	no
3.03	Copper	.	36.3	22	yes
3.03	Iron	.	24873.89	33600	no
3.03	Lead	.	37.73	30.6	yes
3.03	Magnesium	.	2238.63	3100	no
3.03	Manganese	.	692.45	1170	no
3.03	Mercury	.	6.67	1.882	yes
3.03	Nickel	.	62.44	48.4	yes
3.03	Potassium	.	1719.32	2520	no
3.03	Silver	.	3.32	0.116	yes
3.03	Sodium	.	74.33	93.2	no
3.03	Uranium	.	8.7	2.34	yes
3.03	Vanadium	.	21.52	35.4	no
3.03	Zinc	.	160.94	123.8	yes
3.04	Aluminum	24002.55	20484.92	22200	no
3.04	Arsenic	119.69	93.83	6.46	yes
3.04	Barium	352.41	290.28	195.2	yes
3.04	Beryllium	2.02	1.69	1.392	yes

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
3.04	Boron	52.85	43.84	14.28	yes
3.04	Cadmium	7.07	5.6	0.402	yes
3.04	Calcium	7712.45	6358.23	2240	yes
3.04	Chromium	48.26	39.19	32	yes
3.04	Cobalt	19.55	18.18	29.4	no
3.04	Copper	93.31	68.03	22	yes
3.04	Iron	41023.98	36430.46	33600	yes
3.04	Lead	30.97	27.43	30.6	no
3.04	Magnesium	2190.71	2050.53	3100	no
3.04	Manganese	780.34	735.44	1170	no
3.04	Mercury	31.9	25.69	1.882	yes
3.04	Nickel	58.48	50.61	48.4	yes
3.04	Potassium	2826.6	2425.19	2520	no
3.04	Selenium	1.82	1.57	1.336	yes
3.04	Silver	1.64	1.41	0.116	yes
3.04	Sodium	376.72	304.29	93.2	yes
3.04	Thallium	0.87	0.72	NA	yes
3.04	Uranium	19.79	16.1	2.34	yes
3.04	Vanadium	72.34	59.14	35.4	yes

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
3.04	Zinc	122.95	115.56	123.8	no
4.01	Aluminum	25352.03	11953.85	22200	no
4.01	Arsenic	12.21	9.96	6.46	yes
4.01	Barium	125.28	79.04	195.2	no
4.01	Beryllium	0.88	0.77	1.392	no
4.01	Boron	13.71	7.47	14.28	no
4.01	Cadmium	0.78	0.65	0.402	yes
4.01	Calcium	3155.72	2352.89	2240	yes
4.01	Chromium	19.5	18.31	32	no
4.01	Cobalt	12.88	8.63	29.4	no
4.01	Copper	25.94	21.41	22	no
4.01	Iron	23613.69	14905.74	33600	no
4.01	Lead	17.77	16.35	30.6	no
4.01	Magnesium	3329.77	2058.98	3100	no
4.01	Manganese	2304.52	841.48	1170	no
4.01	Mercury	15.68	12.16	1.882	yes
4.01	Nickel	22.68	19.54	48.4	no
4.01	Potassium	3349.02	1586.8	2520	no

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
4.01	Selenium	0.44	0.38	1.336	no
4.01	Silver	2.33	1.8	0.116	yes
4.01	Sodium	69.13	41.44	93.2	no
4.01	Uranium	1.55	0.71	2.34	no
4.01	Vanadium	27.23	15.89	35.4	no
4.01	Zinc	74.02	65.48	123.8	no
4.02	Aluminum	.	7610	22200	no
4.02	Arsenic	.	11.2	6.46	yes
4.02	Barium	.	107	195.2	no
4.02	Beryllium	.	0.67	1.392	no
4.02	Boron	.	3.5	14.28	no
4.02	Cadmium	.	0.19	0.402	no
4.02	Calcium	.	1500	2240	no
4.02	Chromium	.	14.3	32	no
4.02	Cobalt	.	8	29.4	no
4.02	Copper	.	6.3	22	no
4.02	Iron	.	13300	33600	no
4.02	Lead	.	9.7	30.6	no

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
4.02	Magnesium	.	1180	3100	no
4.02	Manganese	.	665	1170	no
4.02	Mercury	.	0.34	1.882	no
4.02	Nickel	.	13.3	48.4	no
4.02	Potassium	.	849	2520	no
4.02	Silver	.	0.04	0.116	no
4.02	Sodium	.	21.1	93.2	no
4.02	Uranium	.	0.31	2.34	no
4.02	Vanadium	.	12.2	35.4	no
4.02	Zinc	.	46.8	123.8	no
4.03	Aluminum	22296.65	14601.05	22200	no
4.03	Arsenic	14.63	7.84	6.46	yes
4.03	Barium	198.77	129.64	195.2	no
4.03	Beryllium	1.92	1.08	1.392	no
4.03	Boron	5	3.95	14.28	no
4.03	Cadmium	0.71	0.6	0.402	yes
4.03	Calcium	7705.84	4358.97	2240	yes
4.03	Chromium	51.67	36.91	32	yes

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
4.03	Cobalt	53.59	24.99	29.4	no
4.03	Copper	71.15	35.9	22	yes
4.03	Iron	39239.56	25723.62	33600	no
4.03	Lead	61.96	38.75	30.6	yes
4.03	Magnesium	3585.8	2723.48	3100	no
4.03	Manganese	2188.01	1568.01	1170	yes
4.03	Mercury	4.37	3.52	1.882	yes
4.03	Nickel	63.44	40.18	48.4	no
4.03	Potassium	2020.57	1359.48	2520	no
4.03	Selenium	2.5	0.94	1.336	no
4.03	Silver	0.48	0.41	0.116	yes
4.03	Sodium	48.88	46.62	93.2	no
4.03	Uranium	3.38	2.18	2.34	no
4.03	Vanadium	42.31	27.16	35.4	no
4.03	Zinc	178.63	114.4	123.8	no
4.04	Aluminum	16729.55	20260.22	22200	no
4.04	Antimony	0.7	0.78	NA	yes
4.04	Arsenic	10.33	12.16	6.46	yes

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
4.04	Barium	138.22	154.28	195.2	no
4.04	Beryllium	1.23	1.42	1.392	yes
4.04	Boron	6.09	7.33	14.28	no
4.04	Cadmium	0.73	1.41	0.402	yes
4.04	Calcium	3012.82	3313.96	2240	yes
4.04	Chromium	26.17	33.38	32	yes
4.04	Cobalt	21.5	26.01	29.4	no
4.04	Copper	42.79	53.42	22	yes
4.04	Iron	27224.6	30564.46	33600	no
4.04	Lead	34.45	46.38	30.6	yes
4.04	Magnesium	2251.92	2697.99	3100	no
4.04	Manganese	1665.12	2009.59	1170	yes
4.04	Mercury	3.05	5.56	1.882	yes
4.04	Nickel	35.51	40.12	48.4	no
4.04	Potassium	1393.79	1744	2520	no
4.04	Selenium	0.84	1.24	1.336	no
4.04	Silver	0.51	1	0.116	yes
4.04	Sodium	68.06	76.48	93.2	no
4.04	Uranium	1.69	2.21	2.34	no

Table F6.3 (continued)

Subreach	Chemical	Sediment Concentration		Mean Background X 2 (mg/kg)	Retained?
		95% UCL	MAX		
4.04	Vanadium	28.72	33.4	35.4	no
4.04	Zinc	141.51	156.8	123.8	yes

Table F6.4. Total contaminant exposure and hazard quotients (HQs) for cottontail rabbits foraging on future spoils within each subreach

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
1	4,4'-DDD	0.385	0.002	0.0048	0.0004	0.0052	0.53	0.01
1	4,4'-DDT	0.385	0.001	0.0048	0.0002	0.005	0.53	0.01
1	Arsenic	11.034	0.013	0.1379	0.0026	0.1405	0.037	3.8
1	Benzo(a)anthracene	0.789	0.005	0.0099	0.001	0.0109	-	-
1	Benzo(k)fluoranthene	0.791	0.002	0.0099	0.0004	0.0103	-	-
1	Cadmium	0.727	0.007	0.0091	0.0014	0.0105	0.005	2.1
1	Chrysene	0.795	0.005	0.0099	0.001	0.0109	-	-
1	Copper	29.087	11.63	0.3636	2.2969	2.6605	11	0.24
1	Fluoranthene	0.821	0.082	0.0103	0.0162	0.0265	-	-
1	Lead	39.233	1.765	0.4904	0.3486	0.839	5.3	0.16
1	Pyrene	0.815	0.013	0.0102	0.0026	0.0128	-	-
1	Silver	0.329	0.017	0.0041	0.0034	0.0075	-	-
7	2-Methylnaphthalene	0.15		0.0019	0	0.0019	-	-
7	4-Nitrophenol	0.82		0.0103	0	0.0103	-	-
7	Antimony	0.47	0.001	0.0059	0.0002	0.0061	0.037	0.16
7	Arsenic	26.52	0.03	0.3315	0.0059	0.3374	0.037	9.12

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
7	Benzo(a)anthracene	0.22	0.001	0.0028	0.0002	0.0029	-	-
7	Benzo(a)pyrene	0.63	0.002	0.0079	0.0004	0.0083	0.296	0.03
7	Benzo(b)fluoranthene	0.05	0	0.0006	0	0.0006	-	-
7	Benzo(ghi)perylene	0.05		0.0006	0	0.0006	-	-
7	Beryllium	1.21	0.001	0.0151	0.0002	0.0153	0.44	0.03
7	Cadmium	0.57	0.005	0.0071	0.001	0.0081	0.005	1.62
7	Calcium	6464.11		80.8014	0	80.8014	-	-
7	Chromium	36.94	0.12	0.4618	0.0237	0.4855	1822.596	0
7	Chrysene	0.04	0	0.0005	0	0.0005	-	-
7	Copper	28.06	11.224	0.3508	2.2167	2.5675	11	0.23
7	Fluoranthene	0.35	0.005	0.0044	0.001	0.0054	-	-
7	Indeno(1,2,3-cd)pyrene	0.04	0	0.0005	0	0.0005	-	-
7	Manganese	1578.39	160	19.7299	31.6	51.3299	58.6	0.88
7	Phenanthrene	0.05	0.0051	0.0006	0.001	0.0016	-	-
7	Pyrene	0.07	0.001	0.0009	0.0002	0.0011	-	-
7	Selenium	3.66	0.095	0.0458	0.0188	0.0645	0.023	2.8
7	Silver	0.14	0.007	0.0018	0.0014	0.0031	-	-
7	Thallium	0.45		0.0056	0	0.0056	0.005	1.13

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
7	Vanadium	42.65	0.047	0.5331	0.0093	0.5424	0.13	4.17
2.04	2-Methylnaphthalene	0.38		0.0048	0	0.0048	-	-
2.04	4-Nitrophenol	2.161		0.027	0	0.027	-	-
2.04	Arsenic	9.74	0.011	0.1218	0.0022	0.1239	0.028	4.43
2.04	Benzo(a)anthracene	0.47	0.003	0.0059	0.0006	0.0065	-	-
2.04	Benzo(a)pyrene	0.5	0.002	0.0063	0.0004	0.0066	0.296	0.02
2.04	Benzo(b)fluoranthene	0.441	0.001	0.0055	0.0002	0.0057	-	-
2.04	Benzo(ghi)perylene	0.444		0.0056	0	0.0056	-	-
2.04	Benzo(k)fluoranthene	0.485	0.001	0.0061	0.0002	0.0063	-	-
2.04	Bis(2-ethylhexyl)phthalate	0.527	0.008	0.0066	0.0016	0.0082	5.4	0
2.04	Cadmium	0.48	0.005	0.006	0.001	0.007	0.005	1.4
2.04	Calcium	9133.72		114.1715	0	114.1715	-	-
2.04	Chrysene	0.445	0.001	0.0056	0.0002	0.0058	-	-
2.04	Di-n-butylphthalate	0.44	0.007	0.0055	0.0014	0.0069	163	0
2.04	Dibenzofuran	0.485	0.078	0.0061	0.0154	0.0215	-	-
2.04	Diethylphthalate	0.49	0.18	0.0061	0.0356	0.0417	1357	0
2.04	Fluoranthene	0.306	0.0153	0.0038	0.003	0.0068	-	-

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
2.04	Fluorene	0.47	0.015	0.0059	0.003	0.0088	-	-
2.04	Indeno(1,2,3-cd)pyrene	0.444	0	0.0056	0	0.0056	-	-
2.04	Magnesium	4147.73		51.8466	0	51.8466	-	-
2.04	Manganese	4484.22	450	56.0528	88.875	144.9278	58.6	2.47
2.04	Naphthalene	0.4	0.208	0.005	0.0411	0.0461	-	-
2.04	Pentachlorophenol	2.44	0.012	0.0305	0.0024	0.0329	0.16	0.21
2.04	Phenanthrene	0.3	0.031	0.0038	0.0061	0.0099	-	-
2.04	Pyrene	0.356	0.005	0.0045	0.001	0.0054	-	-
2.04	Selenium	2.44	0.063	0.0305	0.0124	0.0429	0.023	1.87
2.04	Silver	0.49	0.025	0.0061	0.0049	0.0111	-	-
3.01	Benzo(b)fluoranthene	0.162	0.001	0.002	0.0002	0.0022	-	-
3.01	Bis(2-ethylhexyl)phthalate	0.025	0	0.0003	0	0.0003	5.4	0
3.01	Chrysene	0.158	0.001	0.002	0.0002	0.0022	-	-
3.01	Di-n-butylphthalate	0.02	0	0.0003	0	0.0003	163	0
3.01	Diethylphthalate	0.08	0.029	0.001	0.0057	0.0067	1357	0
3.01	Fluoranthene	0.161	0.0081	0.002	0.0016	0.0036	-	-
3.01	Heptachlor	0	0	0	0	0	0.09	0

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
3.01	Pentachlorophenol	0.15	0.001	0.0019	0.0002	0.0021	0.16	0.01
3.01	Phenanthrene	0.16	0.016	0.002	0.0032	0.0052	-	-
3.01	Pyrene	0.026	0	0.0003	0	0.0003	-	-
3.02	2-Methylnaphthalene	0.38		0.0048	0	0.0048	-	-
3.02	3-Nitroaniline	1119.21		13.9901	0	13.9901	-	-
3.02	Acenaphthene	0.38	0.007	0.0048	0.0014	0.0061	-	-
3.02	Acenaphthylene	0.395	0.103	0.0049	0.0203	0.0253	-	-
3.02	Anthracene	0.382	0.006	0.0048	0.0012	0.006	-	-
3.02	Antimony	0.59	0.002	0.0074	0.0004	0.0078	0.037	0.21
3.02	Benzo(a)anthracene	0.867	0.006	0.0108	0.0012	0.012	-	-
3.02	Benzo(a)pyrene	0.556	0.002	0.007	0.0004	0.0073	0.296	0.02
3.02	Benzo(b)fluoranthene	0.887	0.003	0.0111	0.0006	0.0117	-	-
3.02	Benzo(ghi)perylene	0.387		0.0048	0	0.0048	-	-
3.02	Benzo(k)fluoranthene	0.408	0.001	0.0051	0.0002	0.0053	-	-
3.02	Bis(2-ethylhexyl)phthalate	0.401	0.006	0.005	0.0012	0.0062	5.4	0
3.02	Butylbenzylphthalate	0.41	0.006	0.0051	0.0012	0.0063	-	-
3.02	Cadmium	0.91	0.009	0.0114	0.0018	0.0132	0.005	2.64

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
3.02	Carbazole	0.22	0.015	0.0028	0.003	0.0057	-	-
3.02	Chrysene	0.686	0.004	0.0086	0.0008	0.0094	-	-
3.02	Copper	29.39	11.756	0.3674	2.3218	2.6892	11	0.24
3.02	Dibenz(a,h)anthracene	0.406	0.001	0.0051	0.0002	0.0053	-	-
3.02	Dibenzofuran	0.389	0.063	0.0049	0.0124	0.0173	-	-
3.02	Fluoranthene	1.214	0.0608	0.0152	0.012	0.0272	-	-
3.02	Fluorene	0.38	0.006	0.0048	0.0012	0.0059	-	-
3.02	Indeno(1,2,3-cd)pyrene	0.404	0.001	0.0051	0.0002	0.0052	-	-
3.02	Mercury	4.07	0.31	0.0509	0.0612	0.1121	0.021	5.34
3.02	Naphthalene	0.39	0.202	0.0049	0.0399	0.0448	-	-
3.02	Nickel	52.39	0.7	0.6549	0.1383	0.7931	26.636	0.03
3.02	PCB-1248	0.368	0.002	0.0046	0.0004	0.005	0.02	0.25
3.02	PCB-1254	0.73	0.003	0.0091	0.0006	0.0097	0.016	0.61
3.02	PCB-1260	0.704	0.001	0.0088	0.0002	0.009	0.016	0.56
3.02	Phenanthrene	1.23	0.126	0.0154	0.0249	0.0403	-	-
3.02	Phenol	0.385	0.58	0.0048	0.1146	0.1194	-	-
3.02	Potassium	1699.79		21.2474	0	21.2474	-	-
3.02	Pyrene	1.141	0.018	0.0143	0.0036	0.0178	-	-

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
3.02	Selenium	1.39	0.009	0.0174	0.0018	0.0192	0.023	0.83
3.02	Silver	0.76	0.039	0.0095	0.0077	0.0172	-	-
3.02	Uranium	16.49	0.1039	0.2061	0.0205	0.2266	0.89	0.25
3.02	Zinc	116.83	12	1.4604	2.37	3.8304	106.546	0.04
3.03	2-Methylnaphthalene	0.35		0.0044	0	0.0044	-	-
3.03	Acenaphthene	0.03	0.001	0.0004	0.0002	0.0006	-	-
3.03	Acenaphthylene	0.121	0.031	0.0015	0.0061	0.0076	-	-
3.03	Anthracene	0.042	0.001	0.0005	0.0002	0.0007	-	-
3.03	Benzo(a)anthracene	0.231	0.001	0.0029	0.0002	0.0031	-	-
3.03	Benzo(a)pyrene	0.159	0.001	0.002	0.0002	0.0022	0.296	0.01
3.03	Benzo(b)fluoranthene	0.285	0.001	0.0036	0.0002	0.0038	-	-
3.03	Benzo(ghi)perylene	0.175		0.0022	0	0.0022	-	-
3.03	Benzo(k)fluoranthene	0.067	0	0.0008	0	0.0008	-	-
3.03	Cadmium	3.31	0.034	0.0414	0.0067	0.0481	0.005	9.62
3.03	Carbazole	0.05	0.003	0.0006	0.0006	0.0012	-	-
3.03	Chromium	44.36	0.14	0.5545	0.0277	0.5822	1822.596	0
3.03	Chrysene	0.238	0.001	0.003	0.0002	0.0032	-	-

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
3.03	Copper	36.3	14.52	0.4538	2.8677	3.3215	11	0.3
3.03	Dibenz(a,h)anthracene	0.036	0	0.0005	0	0.0005	-	-
3.03	Dibenzofuran	0.105	1.69	0.0013	0.3338	0.3351	-	-
3.03	Fluoranthene	0.479	0.024	0.006	0.0047	0.0107	-	-
3.03	Fluorene	0.05	0.001	0.0006	0.0002	0.0008	-	-
3.03	Indeno(1,2,3-cd)pyrene	0.162	0	0.002	0	0.002	-	-
3.03	Lead	37.73	1.698	0.4716	0.3354	0.807	5.3	0.15
3.03	Mercury	6.67	0.5	0.0834	0.0988	0.1821	0.021	8.67
3.03	Naphthalene	0.21	0.109	0.0026	0.0215	0.0242	-	-
3.03	Nickel	62.44	0.83	0.7805	0.1639	0.9444	26.636	0.04
3.03	Phenanthrene	0.38	0.039	0.0048	0.0077	0.0125	-	-
3.03	Phenol	0.21	0.29	0.0026	0.0573	0.0599	-	-
3.03	Pyrene	0.296	0.005	0.0037	0.001	0.0047	-	-
3.03	Silver	3.32		0.0415	0	0.0415	-	-
3.03	Uranium	8.7	0.055	0.1088	0.0109	0.1196	0.89	0.13
3.03	Zinc	160.94	16	2.0118	3.16	5.1718	106.546	0.05
3.04	1,4-Dichlorobenzene	0.28	0.03	0.0035	0.0059	0.0094	-	-

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
3.04	2-Methylnaphthalene	0.26		0.0033	0	0.0033	-	-
3.04	4-Chloro-3-methylphenol	0.281		0.0035	0	0.0035	-	-
3.04	4-Methylphenol	0.28	0.21	0.0035	0.0415	0.045	-	-
3.04	Acenaphthene	0.19	0.006	0.0024	0.0012	0.0036	-	-
3.04	Acenaphthylene	0.281	0.0731	0.0035	0.0144	0.0179	-	-
3.04	Anthracene	0.253	0.007	0.0032	0.0014	0.0045	-	-
3.04	Arsenic	93.83	0.11	1.1729	0.0217	1.1946	-	-
3.04	Barium	290.28	0.95	3.6285	0.1876	3.8161	3.6	1.06
3.04	Benzo(a)anthracene	0.167	0.001	0.0021	0.0002	0.0023	-	-
3.04	Benzo(a)pyrene	0.221	0.001	0.0028	0.0002	0.003	0.296	0.01
3.04	Benzo(b)fluoranthene	0.235	0.001	0.0029	0.0002	0.0031	-	-
3.04	Benzo(ghi)perylene	0.247		0.0031	0	0.0031	-	-
3.04	Benzo(k)fluoranthene	0.253	0	0.0032	0	0.0032	-	-
3.04	Beryllium	1.69	0.002	0.0211	0.0004	0.0215	0.44	0.05
3.04	Bis(2-ethylhexyl)phthalate	0.95	0.015	0.0119	0.003	0.0148	5.4	0
3.04	Boron	43.84	1.3	0.548	0.2568	0.8048	-	-
3.04	Butylbenzylphthalate	0.25	0.004	0.0031	0.0008	0.0039	-	-
3.04	Cadmium	5.6	0.057	0.07	0.0113	0.0813	0.005	16.2

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
3.04	Calcium	6358.23		79.4779	0	79.4779	-	-
3.04	Carbazole	0.25	0.017	0.0031	0.0034	0.0065	-	-
3.04	Chromium	39.19	0.13	0.4899	0.0257	0.5156	1822.596	0
3.04	Chrysene	0.143	0.001	0.0018	0.0002	0.002	-	-
3.04	Copper	68.03	27.212	0.8504	5.3744	6.2247	11	0.57
3.04	Dibenz(a,h)anthracene	0.253	0	0.0032	0	0.0032	-	-
3.04	Dibenzofuran	0.247	0.0397	0.0031	0.0078	0.0109	-	-
3.04	Diethylphthalate	0.28	0.1	0.0035	0.0198	0.0233	1357	0
3.04	Fluoranthene	0.231	0.01158	0.0029	0.0023	0.0052	-	-
3.04	Fluorene	0.25	0.007	0.0031	0.0014	0.0045	-	-
3.04	Indeno(1,2,3-cd)pyrene	0.247	0.001	0.0031	0.0002	0.0033	-	-
3.04	Mercury	25.69	1.9	0.3211	0.3753	0.6964	0.021	33.16
3.04	Naphthalene	0.2	0.1038	0.0025	0.0205	0.023	-	-
3.04	Nickel	50.61	0.67	0.6326	0.1323	0.765	26.636	0.03
3.04	PCB-1248	0.065	0	0.0008	0	0.0008	0.02	0.04
3.04	PCB-1254	0.18	0.001	0.0023	0.0002	0.0024	0.016	0.15
3.04	PCB-1260	0.13	0	0.0016	0	0.0016	0.016	0.1
3.04	Phenanthrene	0.24	0.02457	0.003	0.0049	0.0079	-	-

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
3.04	Phenol	0.25	0.35	0.0031	0.0691	0.0723	-	-
3.04	Pyrene	0.215	0.003	0.0027	0.0006	0.0033	-	-
3.04	Selenium	1.57	0.041	0.0196	0.0081	0.0277	0.023	1.21
3.04	Silver	1.41	0.072	0.0176	0.0142	0.0318	-	-
3.04	Thallium	0.72		0.009	0	0.009	0.005	1.8
3.04	Uranium	16.1	0.101	0.2013	0.0199	0.2212	0.89	0.25
3.04	Vanadium	59.14	0.065	0.7393	0.0128	0.7521	0.13	5.79
4.01	2-Methylnaphthalene	0.5		0.0063	0	0.0063	-	-
4.01	Acenaphthene	0.5	0.016	0.0063	0.0032	0.0094	-	-
4.01	Anthracene	0.499	0.013	0.0062	0.0026	0.0088	-	-
4.01	Arsenic	9.96	0.011	0.1245	0.0022	0.1267	0.028	4.52
4.01	Benzo(a)anthracene	0.499	0.003	0.0062	0.0006	0.0068	-	-
4.01	Benzo(a)pyrene	0.499	0.002	0.0062	0.0004	0.0066	0.296	0.02
4.01	Benzo(b)fluoranthene	0.499	0.002	0.0062	0.0004	0.0066	-	-
4.01	Benzo(ghi)perylene	0.499		0.0062	0	0.0062	-	-
4.01	Benzo(k)fluoranthene	0.499	0.001	0.0062	0.0002	0.0064	-	-
4.01	Bis(2-ethylhexyl)phthalate	0.968	0.015	0.0121	0.003	0.0151	5.4	0

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
4.01	Cadmium	0.65	0.007	0.0081	0.0014	0.0095	0.005	1.9
4.01	Calcium	2352.89		29.4111	0	29.4111	-	-
4.01	Carbazole	0.22	0.015	0.0028	0.003	0.0057	-	-
4.01	Chrysene	0.499	0.002	0.0062	0.0004	0.0066	-	-
4.01	Dibenz(a,h)anthracene	0.499	0.001	0.0062	0.0002	0.0064	-	-
4.01	Dibenzofuran	0.499	0.0803	0.0062	0.0159	0.0221	-	-
4.01	Fluoranthene	0.489	0.0245	0.0061	0.0048	0.011	-	-
4.01	Fluorene	0.5	0.015	0.0063	0.003	0.0092	-	-
4.01	Heptachlor	0.1	0	0.0013	0	0.0013	0.533	0
4.01	Indeno(1,2,3-cd)pyrene	0.499	0.001	0.0062	0.0002	0.0064	-	-
4.01	Mercury	12.16	0.92	0.152	0.1817	0.3337	0.021	15.89
4.01	N-Nitroso-di-n-propylamine	0.499	0.79	0.0062	0.156	0.1623	-	-
4.01	Naphthalene	0.5	0.25956	0.0063	0.0513	0.0575	-	-
4.01	PCB-1254	0.4	0.002	0.005	0.0004	0.0054	0.016	0.34
4.01	PCB-1260	2.06	0.003	0.0258	0.0006	0.0263	0.016	1.65
4.01	Pentachlorophenol	2.42	0.011	0.0303	0.0022	0.0324	-	-
4.01	Phenanthrene	0.5	0.0512	0.0063	0.0101	0.0164	-	-
4.01	Phenol	0.5	0.69	0.0063	0.1363	0.1425	-	-

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
4.01	Pyrene	0.493	0.008	0.0062	0.0016	0.0077	-	-
4.01	Silver	1.8	0.091	0.0225	0.018	0.0405	-	-
4.02	2-Methylnaphthalene	0.03		0.0004	0	0.0004	-	-
4.02	Arsenic	11.2	0.013	0.14	0.0026	0.1426	0.028	5.09
4.02	Benzo(b)fluoranthene	0.016	0	0.0002	0	0.0002	-	-
4.02	Bis(2-ethylhexyl)phthalate	0.058	0.001	0.0007	0.0002	0.0009	5.4	0
4.02	Naphthalene	0.02	0.01	0.0003	0.002	0.0022	-	-
4.02	Phenanthrene	0.02	0.002	0.0003	0.0004	0.0006	-	-
4.02	Pyrene	0.017	0	0.0002	0	0.0002	-	-
4.03	2-Methylnaphthalene	0.23		0.0029	0	0.0029	-	-
4.03	Acenaphthene	0.27	0.008	0.0034	0.0016	0.005	-	-
4.03	Anthracene	0.267	0.007	0.0033	0.0014	0.0047	-	-
4.03	Arsenic	7.84	0.009	0.098	0.0018	0.0998	0.028	3.56
4.03	Benzo(a)anthracene	0.111	0.001	0.0014	0.0002	0.0016	-	-
4.03	Benzo(a)pyrene	0.482	0.002	0.006	0.0004	0.0064	0.296	0.02
4.03	Benzo(b)fluoranthene	0.177	0.001	0.0022	0.0002	0.0024	-	-

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
4.03	Benzo(ghi)perylene	0.089		0.0011	0	0.0011	-	-
4.03	Benzo(k)fluoranthene	0.042	0	0.0005	0	0.0005	-	-
4.03	Bis(2-ethylhexyl)phthalate	0.284	0.004	0.0036	0.0008	0.0043	5.4	0
4.03	Cadmium	0.6	0.006	0.0075	0.0012	0.0087	0.005	1.74
4.03	Calcium	4358.97		54.4871	0	54.4871	-	-
4.03	Chromium	36.91	0.12	0.4614	0.0237	0.4851	1822.596	0
4.03	Chrysene	0.133	0.001	0.0017	0.0002	0.0019	-	-
4.03	Copper	35.9	14.36	0.4488	2.8361	3.2849	11	0.3
4.03	Dibenz(a,h)anthracene	0.267	0	0.0033	0	0.0033	-	-
4.03	Dibenzofuran	0.057	0.0092	0.0007	0.0018	0.0025	-	-
4.03	Fluoranthene	0.16	0.00802	0.002	0.0016	0.0036	-	-
4.03	Fluorene	0.27	0.008	0.0034	0.0016	0.005	-	-
4.03	Indeno(1,2,3-cd)pyrene	0.089	0	0.0011	0	0.0011	-	-
4.03	Lead	38.75	2.788	0.4844	0.5506	1.035	5.3	0.2
4.03	Manganese	1568.01	160	19.6001	31.6	51.2001	58.6	0.87
4.03	Mercury	3.52	0.27	0.044	0.0533	0.0973	0.021	4.63
4.03	Naphthalene	0.11	0.0571	0.0014	0.0113	0.0127	-	-
4.03	PCB-1254	0.06	0	0.0008	0	0.0008	0.016	0.05

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
4.03	PCB-1260	0.03	0	0.0004	0	0.0004	0.016	0.02
4.03	Phenanthrene	0.2	0.0205	0.0025	0.004	0.0065	-	-
4.03	Pyrene	0.17	0.003	0.0021	0.0006	0.0027	-	-
4.03	Silver	0.41	0.021	0.0051	0.0041	0.0093	-	-
4.04	2-Methylnaphthalene	1.01		0.0126	0	0.0126	-	-
4.04	Antimony	0.7	0.003	0.0088	0.0006	0.0093	0.037	0.25
4.04	Arsenic	10.33	0.012	0.1291	0.0024	0.1315	0.028	4.7
4.04	Benzo(a)anthracene	1.06	0.002	0.0133	0.0004	0.0136	-	-
4.04	Benzo(a)pyrene	1.56	0.004	0.0195	0.0008	0.0203	0.296	0.07
4.04	Benzo(b)fluoranthene	0.93	0.001	0.0116	0.0002	0.0118	-	-
4.04	Benzo(ghi)perylene	1.422		0.0178	0	0.0178	-	-
4.04	Beryllium	1.23	0.001	0.0154	0.0002	0.0156	0.44	0.04
4.04	Bis(2-ethylhexyl)phthalate	0.864	0.002	0.0108	0.0004	0.0112	5.4	0
4.04	Cadmium	0.73	0.007	0.0091	0.0014	0.0105	0.005	2.1
4.04	Chromium	26.17	0.085	0.3271	0.0168	0.3439	1822.596	0
4.04	Chrysene	1.206	0.001	0.0151	0.0002	0.0153	-	-
4.04	Copper	42.79	17.116	0.5349	3.3804	3.9153	11	0.36

Table F6.4 (continued)

Subreach	Chemical	Sediment (mg/kg)	Modeled Vegetation (mg/kg)	Exposure (mg/kg/d)			NOAEL Toxicity Benchmark	Hazard Quotient
				Soil	Vegetation	Total		
4.04	Dibenz(a,h)anthracene	1.6	0.007	0.02	0.0014	0.0214	-	-
4.04	Fluoranthene	0.936	0.002	0.0117	0.0004	0.0121	-	-
4.04	Indeno(1,2,3-cd)pyrene	1.584	0.002	0.0198	0.0004	0.0202	-	-
4.04	Lead	34.45	1.55	0.4306	0.3061	0.7368	5.3	0.14
4.04	Manganese	1665.12	170	20.814	33.575	54.389	58.6	0.93
4.04	Mercury	3.05	0.23	0.0381	0.0454	0.0836	0.021	3.98
4.04	Naphthalene	1.26	0.654	0.0158	0.1292	0.1449	-	-
4.04	PCB-1254	0.237	0.004	0.003	0.0008	0.0038	0.016	0.23
4.04	Phenanthrene	0.94	0.096	0.0118	0.019	0.0307	-	-
4.04	Pyrene	0.948	0.003	0.0119	0.0006	0.0124	-	-
4.04	Silver	0.51	0.026	0.0064	0.0051	0.0115	-	-
4.04	Zinc	141.51	14	1.7689	2.765	4.5339	106.546	0.04

Table F6.5. Comparison of contaminant concentrations found in deep sediments (future spoil) in each Clinch River reach to screening benchmarks for toxicity to plants

Subreach	Chemical	Sediment Concentration Maximum (mg/kg)	Phytotoxicity Benchmark (mg/kg)	Hazard Quotient
1	Arsenic	11.034	10	**1.1**
1	Cadmium	0.727	3	0.24
1	Copper	29.087	100	0.29
1	Lead	39.233	50	0.78
1	Silver	0.329	2	0.16
7	Antimony	0.68	5	0.14
7	Arsenic	63.84	10	**6.38**
7	Beryllium	1.52	10	0.15
7	Cadmium	0.82	3	0.27
7	Chromium	58.61	1	**58.61**
7	Copper	37.25	100	0.37
7	Manganese	1578.39	500	**3.16**
7	Selenium	9.5	1	**9.5**
7	Silver	0.26	2	0.13
7	Thallium	0.57	1	0.57
7	Vanadium	42.65	2	**21.33**
2.04	Arsenic	10.21	10	**1.02**
2.04	Cadmium	0.48	3	0.16
2.04	Di-n-butylphthalate	0.44	200	0
2.04	Manganese	4484.22	500	**8.97**
2.04	Selenium	2.44	1	**2.44**
2.04	Silver	0.55	2	0.28
3.01	Di-n-butylphthalate	0.02	200	0
3.02	Antimony	0.59	5	0.12

Table F6.5 (continued)

Subreach	Chemical	Sediment Concentration Maximum (mg/kg)	Phytotoxicity Benchmark (mg/kg)	Hazard Quotient
3.02	Cadmium	1.24	3	0.41
3.02	Copper	37.95	100	0.38
3.02	Mercury	6.1	0.3	**20.33**
3.02	Nickel	70.58	30	**2.35**
3.02	PCB-1248	0.388	40	0.01
3.02	PCB-1254	0.73	40	0.02
3.02	PCB-1260	0.79	40	0.02
3.02	Selenium	1.4	1	**1.4**
3.02	Silver	1.17	2	0.59
3.02	Uranium	16.49	5	**3.3**
3.02	Zinc	149.85	50	**3**
3.03	Cadmium	3.31	3	**1.1**
3.03	Chromium	44.36	1	**44.36**
3.03	Copper	36.3	100	0.36
3.03	Lead	37.73	50	0.75
3.03	Mercury	6.67	0.3	**22.23**
3.03	Nickel	62.44	30	**2.08**
3.03	Silver	3.32	2	**1.66**
3.03	Uranium	8.7	5	**1.74**
3.03	Zinc	160.94	50	**3.22**
3.04	Arsenic	93.83	10	**9.38**
3.04	Barium	290.28	500	0.58
3.04	Beryllium	1.69	10	0.17
3.04	Boron	43.84	0.5	**87.68**
3.04	Cadmium	5.6	3	**1.87**
3.04	Chromium	39.19	1	**39.19**
3.04	Copper	68.03	100	0.68
3.04	Mercury	25.69	0.3	**85.63**
3.04	Nickel	50.61	30	**1.69**

Table F6.5 (continued)

Subreach	Chemical	Sediment Concentration Maximum (mg/kg)	Phytotoxicity Benchmark (mg/kg)	Hazard Quotient
3.04	PCB-1248	0.065	40	0
3.04	PCB-1254	0.18	40	0
3.04	PCB-1260	0.13	40	0
3.04	Selenium	1.57	1	**1.57**
3.04	Silver	1.41	2	0.71
3.04	Thallium	0.72	1	0.72
3.04	Uranium	16.1	5	**3.22**
3.04	Vanadium	59.14	2	**29.57**
4.01	Arsenic	9.96	10	**1**
4.01	Cadmium	0.65	3	0.22
4.01	Mercury	12.16	0.3	**40.53**
4.01	PCB-1254	0.4	40	0.01
4.01	PCB-1260	2.06	40	0.05
4.01	Silver	1.8	2	0.9
4.02	Arsenic	11.2	10	**1.12**
4.03	Arsenic	7.84	10	0.78
4.03	Cadmium	0.6	3	0.2
4.03	Chromium	36.91	1	**36.91**
4.03	Copper	35.9	100	0.36
4.03	Lead	38.75	50	0.78
4.03	Manganese	1568.01	500	**3.14**
4.03	Mercury	3.52	0.3	**11.73**
4.03	PCB-1254	0.06	40	0
4.03	PCB-1260	0.03	40	0
4.03	Silver	0.41	2	0.21
4.04	Antimony	0.78	5	0.16
4.04	Arsenic	12.16	10	**1.22**

Table F6.5 (continued)

Subreach	Chemical	Sediment Concentration Maximum (mg/kg)	Phytotoxicity Benchmark (mg/kg)	Hazard Quotient
4.04	Beryllium	1.42	10	0.14
4.04	Cadmium	1.41	3	0.47
4.04	Chromium	33.38	1	**33.38**
4.04	Copper	53.42	100	0.53
4.04	Lead	46.38	50	0.93
4.04	Manganese	2009.59	500	**4.02**
4.04	Mercury	5.56	0.3	**18.53**
4.04	PCB-1254	0.975	40	0.02
4.04	Silver	1	2	0.5
4.04	Zinc	156.8	50	**3.14**

Table F6.6. Estimated NOAELs and LOAELs for the eastern cottontail

Contaminant	Experimental Information						Estimated NOAEL (mg/kg/d)	Estimated LOAEL (mg/kg/d)
	Form	Test Species	NOAEL (mg/kg/d) and Duration	LOAEL (mg/kg/d) and Duration	Endpoint	Citation		
Arsenic	As+3	mouse	0.126[1] 3 gen.	1.26 3 gen.	reproduction	Schroeder and Mitchner 1971	0.037	0.37
Barium	chloride	rat	1.98 16 mo.		growth	Perry et al. 1983	3.6	13.2
	chloride			19.8 10 days	mortality	Borzelleca et al. 1988		
Cadmium	salt	rat	0.008 4 gen.	0.01	reproduction	Wills et al. 1981	0.005	0.007
Manganese	oxide	rat	88 gestation	284	reproduction	Laskey et al. 1992	58.6	189.0
Mercury	methyl	rat	0.032 3 gen.	0.16 3 gen.	reproduction	Verschuuren et al. 1976	0.021	0.110
PCBs	Aroclor 1254	oldfield mouse	0.068[1] 12 mo.	0.68 18 mo.	reproduction	McCoy et al. 1995	0.016	0.16
Selenium	selanate	mouse	0.076[1] 3 gen.	0.76 3 gen.	reproduction	Schroeder and Mitchner 1971	0.023	0.22
Thallium	sulfate	rat	0.0074[1] 60 days	0.074 60 days	reproduction	Formigli et al. 1986	0.005	0.05
Vanadium	sodium metavanadate	rat	0.21[1] 60 days	2.1 60 days	reproduction	Domingo et al. 1986	0.13	1.3

[1] Estimated NOAEL: LOAEL to NOAEL factor applied.

Appendix F7

RADIOLOGICAL RISKS

F7. RADIOLOGICAL RISKS

Estimation of Radiation Doses to Biota

Applicable methodologies for estimating radiation doses to biota have been published by Woodhead (1979), NCRP (1991), Baker and Soldat (1992), and Blaylock et al. (1993). An additional useful reference for general application to external dosimetry was published by Eckerman and Ryan (1992). These references represent the primary source of equations and data used to calculate doses for the exposure scenarios evaluated in this report.

Radiation Dose to Benthic Invertebrates

The highest concentrations of radionuclides in the Clinch River, Poplar Creek, and Watts Bar Reservoir occur in the sediments. The mayfly *Hexagenia bilineata* was chosen as the model organism for evaluating the biological risk to benthic invertebrates. This organism was chosen because it lives almost all of its life cycle in the sediments and is an important part of the natural aquatic food-chain web. Mayfly adults hatch and leave the sediment/water environment after a year of larval development in sediments. An organism which lives imbedded in sediments would be expected to receive a maximized environmental dose. Thus, the mayfly model should represent an upper limit of exposure for the benthic class of invertebrate organisms.

The Blaylock et al. (1993) model for gamma-radiation dose rate to a small organism completely immersed in a mixture of radionuclides in sediments is written:

Immersed in Sediments

$$D_{\gamma}\ (\text{mayfly}) = 18.7 \sum_i E_{\gamma,i}\, n_i\, (1 - \Phi)\, C_{s,i} \quad \text{mrad/year} \qquad (1)$$

where

$E_{\gamma,i}$ is the photon energy per disintegration during transition from a higher to a lower energy state (Mev/disintegration),

n_i is the proportion of disintegrations producing a gamma ray (dimensionless),

Φ is the fraction of energy $E_{\gamma,i}$ (dimensionless), absorbed by organism (figures appear in Blaylock et al. 1993),

$C_{s,i}$ is the concentration of the radionuclide in sediments (pCi/gm), and

18.7 is a constant for converting $E_{\gamma,i}$ and $C_{s,i}$ to mrad/year.

The total dose from a mixture of gamma-emitters is calculated by solving equation 1 for each radionuclide and summing over radionuclides.

The comparable equation for beta-radiation dose is similar but substitutes the average beta energy per disintegration, the proportion of the transitions producing a beta particle of that average energy, and an absorbed fraction for the appropriate beta particles. This equation is written :

Immersed in Sediments

$$D_{\beta}\ (\text{mayfly}) = 18.7 \sum_i E_{\beta,i}\, n_i\, (1 - \Phi)\, C_{s,i} \quad \text{mrad/year} \qquad (2)$$

where

$E_{\beta, i}$ is the average energy per disintegration of the beta-particle (Mev/disintegration),

n_i is the proportion of transitions producing a beta-particle of energy $E_{\beta, i}$,

Φ is the absorbed fraction for the appropriate beta particle (figures appear in Blaylock et al. 1993), and

$C_{s, i}$ is the concentration of the beta-emitting radionuclide in sediments (pCi/gm).

The remaining terms are as defined in equation 1, and the total beta dose from a mixture of radionuclides is obtained by summation similar to the treatment of gamma emitters.

The dose from internally deposited radionuclides was neglected because mayfly larvae attain an average size of only 25 mm before hatching, and the resulting dose would be a minor fraction of the dose received from immersion in an extensive body of sediments.

Radiation Dose to Epibenthic Fish

The epibenthic fish size is represented by the large fish model in Blaylock et al. (1993). Dimensions of this organism are 1 kg for mass and an ellipsoid geometry of 45 cm x 8.7 cm x 4.9 cm for the major and two minor axes, respectively. Carp (*Cyprinus*), suckers and redhorse (*Moxastoma*), and catfish (*Ictalurus* and *Ameiurus*) are all representative epibenthic fish for Poplar Creek, the Clinch River, and Watts Bar Lake. The exposure scenario assumes that the model fish lies in close proximity to the bottom sediments and is irradiated by radionuclides in the bottom sediments, water, and by ingestion of natural food contaminated with radionuclides. Because self-absorption/shielding of beta particle emissions originating from water and sediment immersion results in a negligible contribution to absorbed dose to the large fish, the beta-emission component of dose was not included in the total dose rate for epibenthic fish. The dose components included are gamma dose rates from water immersion and sediment surface, and beta and gamma dose rates from internally deposited radionuclides.

The equation for estimating the dose received from immersion in water and exposure to sediments is the same as equation 1, but the appropriate concentration (pCi/gm) of each radionuclide in water is used for the water immersion dose. The absorbed fractions for the large fish model of Blaylock et al. (1993) are used for the gamma-ray energies of the radionuclides under consideration. It is also appropriate to multiply the dose from sediments by 0.5 because the model fish is above an infinite plane of sediments and not immersed. With these considerations noted, the dose rate to a large epibenthic fish from exposure to gamma-emitting radionuclides in sediments is written:

Above Sediments

$$D_\gamma \text{ (fish)} = 9.4 \sum_i E_{\gamma,i}\, n_i\, (1 - \Phi)\, C_{s,i} \quad \text{mrad/year} \qquad (3)$$

where the terms have been defined above.

Estimation of the immersion dose rate to a large fish is also derived from equation 1, with the concentration of the gamma-emitting radionuclides in water, $C_{w, i}$ (pCi/gm), used in place of the sediment concentration. The equation is written:

Immersed in Water

$$D_\gamma \text{ (fish)} = 18.7 \sum_i E_{\gamma, i}\, n_i\, (1 - \Phi)\, C_{w, i} \quad \text{mrad/year} \qquad (4)$$

where the terms have been defined above.

Internal dose from food-chain intake results from both gamma and beta emitters deposited in tissues. This deposition can be determined from direct measurements of radionuclides in fish tissues, or estimated by multiplying a bioaccumulation factor times the concentration of the radionuclide in water under equilibrium conditions. Bioaccumulation factors are listed by Blaylock et al. (1993). The equation for calculating the dose to an epibenthic fish from internal exposure to gamma-emitting radionuclides is written:

Ingestion

$$D_\gamma \text{ (fish)} = 18.7 \sum_i E_{\gamma,_i}\, n_i\, \Phi\, C_{f,i} \qquad \text{mrad/year} \qquad (5)$$

where

$C_{f,i}$ is the concentration of radionuclide i in the fish (pCi/gm) and may be calculated from the relationship

$$C_{f,i} = C_{w,i} \times \text{Bioaccumulation Factor for radionuclide i in fish} \qquad \text{pCi/gm} \quad (6)$$

The dose rate to an epibenthic fish from beta-emitting radionuclides deposited internally is written

Ingestion

$$D_\beta \text{ (fish)} = 18.7 \sum_i E_{\beta,i}\, n_i\, C_{f,i} \qquad \text{mrad/year} \qquad (7)$$

where the terms have been defined above.

Radiation Dose to Great Blue Heron

The great blue heron is one of the most common large water birds that completes its entire life cycle in the environs of Poplar Creek, the Clinch River, and Watts Bar Reservoir. Adults stand over one meter tall and they spend most of their time wading at the water's edge catching fish for food. The internal dose to a heron from consumption of fish contaminated with radionuclides in their flesh was treated in detail by Baker and Soldat (1992). Their model for internal dose rate to a heron, D (heron), is written:

Ingestion

$$D \text{ (heron)} = \sum_i b_i\, U_h\, f_{l,i}\, E_{h,i}\, (1 - \exp - \lambda_{h,i}\, T_e) / m_h\, \lambda_{h,i} \qquad \text{rad/day} \quad (8)$$

where

b_i = body burden concentration of radionuclide i in fish eaten by heron (Ci/kg),
U_h = rate of consumption of fish by heron (0.42 kg/day),
$f_{l,i}$ = uptake fraction of radionuclide i in heron (dimensionless),
m_h = mass of heron (2.39 kg),
$\lambda_{h,i}$ = effective decay constant of radionuclide i in heron (1/days),
T_e = time of exposure (365 days), and
$E_{h,i} = 5.12E10+4\ \epsilon_{h,i}$, where $\epsilon_{h,i}$ is the effective absorbed energy (kg - rad/Ci - day).

Simplification of the constants in equation 8 and conversion of b_i to units of pCi/gm gives the equation for mrad/year which is written:

Ingestion

$$D\ (\text{heron}) = 3.28 \sum_i b_i\, f_{l,i}\, \epsilon_{h,i}\, (1 - \exp - 365\, \lambda_{h,i})/\lambda_{h,i} \qquad \text{mrad/year.} \quad (9)$$

Baker and Soldat (1992) also discuss the exposure a heron could receive from immersion in contaminated water and direct irradiation from a contaminated shoreline. They recommend an exposure-time reduction factor of 0.3 for both modes of exposure, e. g., the heron receives external exposure from sediments approximately one-third of the time, external exposure from contaminated water one-third of the time, and no external exposure the remaining one-third of the time. This is in contrast to internal exposure which continues uninterrupted after ingestion of contaminated fish. The immersion dose coefficient is also further reduced by 0.5 because the heron's body is above the water, not immersed. They also recommend a dose reduction factor of 0.2 for shoreline roughness and height of the heron above the shoreline. The equations to estimate external dose rates, D (heron), received by the model great blue heron were calculated with the dose coefficients published by Eckerman and Ryman (1992) and are written:

Shoreline

$$D\ (\text{heron}) = 1.87\text{E+}17 \times 0.3 \times 0.2\ \Sigma_i\ K_i\ C_{s,i} \quad \text{mrad/year} \quad (10)$$

where

1.87E+17 = a conversion factor to change Sv/sec per Bq/kg to mrad/year per Ci/kg,

0.3 = dose rate reduction factor to account for the fraction of the time the heron is exposed to shoreline radiation,

0.2 = dose rate reduction factor to account for shoreline roughness, and

Above Water

$$D\ (\text{heron}) = 1.17\text{E+}17 \times 0.3 \times 0.5\ \sum_i\ K_i\ C_{w,i} \quad \text{mrad/year} \quad (11)$$

where

0.3 = dose reduction factor to account for the fraction of the time the heron is exposed above water, and

0.5 = dose reduction factor to account for one-half of an immersion dose.

Radiation Dose to Rabbit

If dredged sediments were deposited on land and allowed to support vegetation through secondary plant succession, or cultivated and planted in forage, the area would attract animal life as a habitat providing food and shelter. This section provides the biological assumptions (USEPA 1993) and dosimetry equations for a model rabbit that might inhabit an hypothetical area of dredged sediments.

Assume that the rabbit is a typical eastern cottontail (*Sylvilagus floridanus*) and lives its entire life cycle on the area covered by sediments. The model rabbit is assumed to weigh 1.2 kg, consume 0.24 kg of fresh vegetation per day, and spend time above and below ground in equal proportion. Equation 8 from Baker and Soldat (1992) can be modified to compute the dose rate to a rabbit that consumes radioactive vegetation growing on the dredged sediments contaminated with radionuclides. These changes result in redefining b_i and U_h in terms of vegetation consumption by a rabbit, and the mass in the denominator is changed to 1.2 kg. The internal dose rate, D (rabbit), from ingestion is written:

Ingestion

$$D\ (\text{rabbit}) = \sum_i p_i\ U_r\ f_{1,i}\ E_{r,i}\ (1 - \exp - \lambda_{r,i} T_e)\ m_r\ \lambda_{r,i} \qquad \text{rad/day} \qquad (12)$$

where

p_i = concentration of radionuclide i in vegetation eaten by rabbit (Ci/kg),
U_r = rate of consumption of vegetation by rabbit (0.24 kg/day),
m_r = mass of rabbit (1.2 kg),

and the remainder of the terms are similar to equation 8, but are defined as pertaining to a rabbit. Simplification of the constants in equation 12 and conversion of the dose rate units to mrad/year gives

Ingestion

$$D\ (\text{rabbit}) = 3.73 \sum_i p_i\ f_{1,i}\ \epsilon_{r,i}\ (1 - \exp - 365\lambda_{r,i})/\lambda_{r,i} \qquad \text{mrad/year} \qquad (13)$$

It is also possible for the model rabbit to receive an additional internal dose from inhalation of dust originating from the radioactively contaminated sediments. The expression for estimating intake of radionuclide i by inhalation, $I_{r,i}$, is written:

$$I_{r,i} = C_{s,i} \times A \times B_r \qquad \text{Ci/day} \qquad (14)$$

where

$C_{s,i}$ = concentration of radionuclide i in sediments (Ci/kg),
A = mass of sediment dust per volume of air breathed (1E10-4 kg/m^3), and
B_r = inhalation rate of rabbit (0.63 m^3/day).

The value for mass of respirable dust, A, is an arbitrary choice that is believed to be conservative. After substitution of constants for inhalation rate and mass of sediment dust per volume of air breathed, the final form of the equation for dose rate (mrad/year) due to inhalation is written:

Inhalation

$$D\ (\text{rabbit}) = 0.944 \sum_i C_{s,i}\ f_{1,i}\ \epsilon_{r,i}\ (1 - \exp - 365\lambda_{r,i})/\lambda_{r,i} \qquad \text{mrad/day} \qquad (15)$$

The total dose rate to the rabbit from internal irradiation is obtained by summation of equations 13 and 15.

The external dose rates received by the model rabbit were calculated with the dose coefficients published by Eckerman and Ryman (1992). The equation for calculating the external dose rate, D (rabbit), from residence on a landscape contaminated by radioactive sediments is written:

Above Soil

$$D\ (\text{rabbit}) = 1.87\text{E+17} \times 0.5 \sum_i\ K_i\ C_{s,i} \qquad \text{mrad/year} \qquad (16)$$

where

0.5 = dose rate reduction factor to account for the fraction of the total time that is spent above ground.

The equation for calculating external dose rate received by a model rabbit residing in a burrow dug in contaminated soil is written:

Burrow in Soil

$$D\ (\text{rabbit}) = 3.74E{+}17 \times 0.5 \sum_i K_i\ C_{s,i} \quad \text{mrad/year.} \qquad (17)$$

This mode of exposure was treated as immersion in a continuous soil medium and is simply twice the dose rate from exposure above the soil surface. The dose rate reduction factor in this equation accounts for the other one-half of the rabbit's time.

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Appendix F8

ANALYSIS OF FISH AND BENTHIC INVERTEBRATE COMMUNITIES

F8. ANALYSIS OF BIOLOGICAL COMMUNITIES IN TVA RESERVOIRS

F8.1 FISH COMMUNITIES

F8.1.1 Data Sets

The Vital Signs Monitoring Program was initiated in 1990 and was expanded in 1991 to include 24 reservoirs. Data for 1991 through 1993 were available for this risk assessment. As explained in Brown et al. (1993), three "zones" were sampled within each reservoir: (1) the forebay immediately upstream of the dam, (2) the transition zone, defined as the mid-reservoir region where the water changes from free-flowing to quiescent, and (3) the inflow or headwater region of the reservoir. Sampling occurred in the fall of each year. Within each zone, two types of samples were collected. Ten electrofishing transects were sampled during daylight hours in the shoreline. Habitats were sampled "in proportion to their occurrence in the zone." Where conditions permitted, 12 overnight gill net samples (100-ft nets with five 20-ft panels with mesh sizes ranging from 1 to 3 inches) were collected in each reservoir zone. Because these two gears have greatly different efficiencies at collecting fish of different species and sizes, separate analyses were performed for each gear type.

TVA survey data were obtained in electronic form from TVA's Norris Laboratory. For purposes of our analysis, data for the 13 mainstem reservoirs were aggregated in two different ways. To examine between-year differences, the 13 mainstem reservoirs were grouped (Table F8.1.) into seven river systems: French Broad, Tennessee (split into eastern and western portions), Watts Bar, Clinch, Powell, and Holston. Alternatively, the differences among the thirteen reservoirs were examined by combining the three years of data for each gear type.

A similar survey for the Clinch River Remedial Investigation was conducted in 1992 and 1993. This survey included three sites in the Clinch River arm of Watts Bar Reservoir, three sites in Poplar Creek Embayment, and one site each in lower Watts Bar, the Tennessee River arm of Watts Bar, and Norris Reservoir. Sampling techniques were the same as those used in the Vital Signs Monitoring Program, except that only five electrofishing runs and five gill net sets were performed during each sampling period.

F8.1.2 Methods

We used discriminant analysis to explore the differences in fish community composition of river systems and reservoirs. Our objective was to determine whether the samples of fish communities from Watts Bar reservoir are unusual when compared with the communities of ecologically similar reservoirs in the Tennessee Valley. Discriminant analysis answers this question by identifying the equations that best predict the source of a sample based on its species composition. If this discriminant function is unable to predict the source well, then it is safe to say that we do not have enough statistical power to detect differences in community composition between reservoirs.

Because the variables used to discriminate must be interval, we used species abundances as our discriminating variables. When abundances are used as discriminating variables, species or age classes with inherently high spatial or temporal variability can create spurious variation that hides meaningful patterns in the data. Gizzard shad, threadfin shad, and young-of-the-year fish in general are both abundant and highly variable. To address concerns about seasonal and spatial variation in abundances,

we removed gizzard and threadfin shad and young-of-the-year fish of all species from the analysis. Abundances of all remaining species were log-transformed to improve normality. Finally, we used a stepwise procedure to remove species that failed to contribute to (or reduced) our ability to discriminate between samples from different rivers. In the stepwise analysis, we retained species that contributed an additional 5% to the canonical correlation between species and sections of river.

We used a canonical discriminant method that assumes that the species abundances are drawn from a multivariate normal distribution with a common underlying variance- covariance matrix. This assumption is needed mainly for the hypothesis testing, and not for the development of discriminant functions and classification. Although the assumption can never be definitively tested, more replicates in each river section would have enabled us to compare the variance-covariance matrices of the samples. We used cross-validation to compare the parametric and non-parametric methods of discriminant analysis provided in SAS's DISCRIM procedure. We found that the ability of the discriminant functions to classify observations was better for the multivariate normal, parametric method.

We chose canonical discriminant analysis for several reasons. First, canonical discriminant functions allowed us to visualize the reservoirs in a reduced-dimensional space. Second, the pooled-within river correlation matrix allowed us to identify species making the largest contributions to differences in fish communities between rivers. Finally, canonical discriminant functions are numerically stable in comparison to other multivariate methods because colinearity between species is less influential.

Klecka (1980) describes these functions as linear combinations of the discriminating variables (species abundances):

$$f_{km} = u_0 + u_1 X_{1km} + u_2 X_{2km} + \ldots + u_p X_{pkm},$$

where f_{km} is the weight of sample m in group (e.g., reservoir) k on the canonical discriminant function; X_{ikm} is the abundance of species i for sample m in group k. The coefficients u_i of the first canonical discriminant function are calculated such that they maximize the distances among all group means. The coefficients of subsequent functions also maximize distances among group means, but with the added constraint that they are orthogonal to each other. In general, the classification resulting from canonical discriminant analysis with all axes is the same as that from regular discriminant analysis except when colinearity exists among river sections. In that situation, the canonical analysis is more robust (Klecka 1980).

To classify a sample, a posterior probability of group (river) membership is estimated. The probability depends on two factors: the fraction of samples in each group and the Mahalanobis distance from the sample to each group centroid (mean). The sample is assigned to the group with the highest posterior probability. The Mahalanobis distance measure accounts for correlations between species abundances and scales species according the variability in their observed abundances. It turns out that the squared Mahalanobis distance between group means has a chi-square distribution with p-degrees of freedom. This fact allows us to test the significance of distances between reservoirs or groups of reservoirs. The Mahalanobis distance (in species abundance space) between all pairs of river sections can be observed in the results. In general, the river with the lowest cross-validation error rate shows the most unique species composition.

Multivariate methods provide useful graphical summaries and rigorous statistical criteria for determining differences between sites. However, because they incorporate both species composition and relative abundance, they are subject to errors introduced by spatial and temporal variability of species distributions (due to weather or current changes or simple random fluctuations) that can introduce

extraneous variability and either mask real differences between sites or introduce spurious differences. Therefore, a second analysis based only on species richness, defined as number of species per sample, was performed.

We evaluated differences in species richness among reservoirs. The data set included all species, but excluded young-of-the-year. The counts were transformed using a square-root transformation to obtain approximately normal distributions of richness. Differences among reservoirs and among locations within the Clinch River/Poplar Creek system were evaluated using SAS statistical software (GLM procedure). Mean transformed fish species richness values were compared using the Waller-Duncan k-ratio t-test. We used a k-ratio of 100. This ratio reflects the ratio of type 1 to type 2 error and roughly corresponds to an alpha level of 0.05. This method minimizes the Bayes risk under additive loss, where the loss function is the difference between means. It assumes that the population means have a normal prior distribution with unknown variance, the log of which has a uniform prior distribution. For the Vital Signs data, richness values were square-root-transformed prior to analysis. For the Clinch River/Poplar Creek data, no transformation was necessary.

Results: TVA Vital Signs Data

Results of the canonical discriminant analyses of the Vital Signs data are summarized in figure F8.1.1 through F8.1.10. Figures F8.1.1 through F8.1.6 display results by year, with the reservoirs grouped into river systems. Figures F8.1.7 and F8.1.8 display comparisons among individual reservoirs, with all years combined. Only the first two canonical variables are plotted for each data set. However, plots of the third through sixth variates show similar patterns to those of the first two. The symbols represent individual sample values; the names of the river systems are printed at the location of the mean value for each system. For all three years, and both gear types, all river systems were significantly different from all other systems. A regional pattern is, however, apparent. Regardless of year or gear type, West Tennessee, Tennessee, and Watts Bar cluster together near the center of the plots. The reservoirs comprising all three of these systems are mainstem, run-of-the-river reservoirs. The most extreme reservoirs for each year and gear type are always storage reservoirs located in the upper Tennessee Valley: the Powell (Powell Arm of Norris Lake) in 1991, the Holston (Cherokee Lake) and French Broad (Douglas Lake) in 1992, and the Powell, Clinch, Holston, and French Broad in 1993. Results for the combined-years analysis were similar. For the gill net data (Fig. F8.1.7), the three storage reservoirs stand out as distinctly different from the run-of-the-river reservoirs. For the electrofishing data (Fig. F8.1.8), mean canonical variate values for all reservoirs upstream from Watts Bar reservoir are located on the left side of the plot; means for all reservoirs downstream from Watts Bar are located on the right side.

We also looked at "loadings," i.e., the contribution of different fish species to the discriminant functions. Species with high (>0.30) correlations with any of the first four canonical variables for each year and data set are listed in Table F8.1.2. The most obvious visible pattern in this table is that different sets of species are important for each gear type. For the electrofishing data, more than half of the species with high loadings are centrarchids (largemouth bass, spotted bass, readear/redbreast/longear sunfish, white/black crappie). These species are, for the most part, non migratory. They have relatively small home ranges and are relatively invulnerable to static gear such as gill nets. In contrast, relatively few of the species making major contributions to the discriminant functions for the gill net data sets are centrarchids. Fish with high loadings in the gill net are predominantly mobile species such as quillback, striped bass, and suckers. The only species that is frequently important for both gear types is the walleye, a species that is found predominantly in the upper Tennessee Valley because of temperature and spawning habitat requirements.

Figure 6.8 and 6.9 show results of the species richness analysis for all three years and both gear types. Melton Hill Reservoir is either lowest or next-to-lowest in species richness for every year and gear type. Results of the Waller-Duncan K-ratio test show that Melton Hill falls into the lowest significance group for every data set except the 1993 gill net data. For most data sets, the reservoirs with the highest species richness are located in the lower Tennessee Valley (i.e., below Chattanooga): Kentucky Reservoir in the 1992 and 1993 gill net data and the 1991 and 1992 electrofishing data; Wilson Reservoir in the 1991 gill net data, and Nickajack Reservoir in the 1993 electrofishing data. Among the seven upper-valley reservoirs (Chickamauga, Watts Bar, Ft. Loudon, Melton Hill, Norris, Cherokee, and Douglas), Chickamauga Reservoir had the highest species richness in every data set except the 1991 gill net and 1992 electrofishing data; Watts Bar reservoir ranked first or second among the upper valley reservoirs for every data set except the 1992 gillnet and the 1991 electofishing. The different gear types give substantially different results. For the gill net data, no geographic trends are apparent except that Melton Hill is the lowest. For the electrofishing data, Chickamauga Reservoir is the only upper valley reservoir in the top half of the rankings; the five reservoirs upstream from Watts Bar are the five lowest in species richness. Cherokee, Norris, Douglas, and Melton Hill are all significantly lower in richness than every other reservoir in the valley.

Parallel analyses were performed for total fish density (individuals per sample), however, it was found that abundance and richness were highly correlated for every data set. Similar patterns were evident, e.g., Melton hill consistently the lowest in fish density, lower valley reservoirs in general with higher fish density than upper valley reservoirs, and Watts Bar intermediate within the valley as a whole.

In spite of the clear differences in species composition between gear types, the overall pattern in river system similarity is the same for both: storage reservoirs are different from run-of-the-river reservoirs, and upper Tennessee Valley reservoirs are different from lower Tennessee Valley reservoirs. These large-scale geographic patterns must be considered when valley-wide ecological data are used to evaluate the condition of a single reservoir. The implication of this result for the Clinch Arm BERA is that no single reservoir can serve as a comparable reference ecosystem. Although upstream reservoirs such as Norris can be presumed unaffected by DOE-derived contaminants, they are ecologically distinct for a variety of reasons unrelated to contaminants.

Table F8.1.1. Assignment of fish sampling stations[1] to river systems

	River System						
Reservoir	Clinch	Powell	French Broad	Holston	Tennessee	Watts Bar	West Tennessee
Norris	F, T, T1	T2					
Douglas			I, FB, T				
Cherokee				I, FB, T			
Melton Hill	I, FB, T						
Ft. Loudon					I, FB, T		
Watts Bar						I1, I2, FB, T	
Chicka-mauga					I, FB, T		
Nickajack					I, FB, T		
Pickwick							I, FB, T
Wilson							I, FB
Wheeler							I, FB, T
Gunters-ville							I, FB, T
Kentucky							I, FB, T

[1]Station codes: I = reservoir inflow
T = reservoir transition zone
F = reservoir forebay

Table F8.1.2. Species having high contributions to canonical variable values

Data set	1st canonical variable	2nd canonical variable	3rd canonical variable	4th canonical variable
1991 electrofish	walleye black redhorse shorthead red-horse	redbreast sunfish white bass redear sunfish largemouth bass spotted bass	redear sunfish spotted sucker	redbreast sunfish
1991 gill net	quillback silver redhorse walleye	quillback silver redhorse	quillback white crappie river carp-sucker	white crappie walleye black crappie
1992 electrofish	largemouth bass redear sunfish warmouth	redbreast sunfish longear sunfish northern hog-sucker	redear sunfish redbreast sun-fish black redhorse	warmouth white bass
1992 gill net	walleye striped bass quillback skipjack herring	sauger striped bass silver redhorse	walleye sauger silver redhorse black redhorse	walleye striped bass blue catfish
1993 electrofish	spotted bass white bass white crappie redear sunfish	largemouth bass spotted bass longear sunfish common carp redbreast sun-fish northern hog-sucker	white bass longear sunfish black redhorse walleye	white crappie walleye redbreast sun-fish redear sunfish, northern hog-sucker
1993 gill net	skipjack herring river carp-sucker walleye striped bass yellow bass quillback	silver redhorse river carp-sucker walleye	silver redhorse golden red-horse white crappie sauger	striped bass
Electrofish - across years	spotted bass common carp redear sunfish emerald shiner	spotted bass longear sunfish redbreast sun-fish	common carp redbreast sun-fish shorthead red-horse	largemouth bass white bass
Gill net - across years	quillback striped bass walleye skipjack herring	walleye white crappie sauger	striped bass sauger	goldeye

F8.2 BENTHIC MACROINVERTEBRATES

Sources of data

The Vital Signs Monitoring Program sampled three zones within each reservoir (Masters 1993): (1) the forebay immediately upstream of the dam, (2) the transition zone, defined as the mid-reservoir region where the water changes from free-flowing to quiescent, and (3) the inflow or headwater region of the reservoir. At each sampling location, ten evenly-spaced samples were collected along the length of a line-of-sight transect across the reservoir. Most samples were taken using a Ponar dredge, however, a Peterson dredge was used where rocky substrates predominated.

Vital Signs data were obtained in electronic form from T. McDonough at the TVA Norris laboratory. Planktonic organisms, fish eggs, and terrestrial species recorded during sample sorting were deleted from the data sets prior to analysis. Counts of individual species were standardized to a per m^2 basis. To check for errors introduced during these procedures, total densities (numbers per m^2) per site were calculated and compared to values in TVA's published tables. In the original data sets, organisms were classified "to the lowest practical taxon" (Masters 1993). This classification scheme produced an excessively large number of total taxa (142-189). For our analysis TVA's taxa were grouped into families, resulting in a more manageable 37-56 unique taxa. Each dredge haul was treated as a separate sample, yielding a total of ten samples per transect. All data were log-transformed prior to analysis. To maximize the ecological similarity of the sites being compared, only mainstem reservoirs (Kentucky, Pickwick, Wilson, Wheeler, Guntersville, Nickajack, Chickamauga, Watts Bar, Ft. Loudoun, Melton Hill, Norris, Douglas, and Cherokee) were included in the analysis.

ER-program data were obtained through Task 9 of the TVA/DOE Interagency Agreement supporting the Clinch River Remedial Investigation. These data were collected at eight stations in the Clinch River between Melton Hill Dam and Watts Bar Reservoir and at eight stations in Poplar Creek. These data were collected using the same sampling protocol used for the Vital Signs data and were transformed prior to analysis using the procedures described above.

For the Vital Signs data, canonical discriminant analyses were performed for each year to identify general patterns in community structure across reservoirs (Sect. 6.2.2.4). A similar analysis was performed for the ER Program data. However, due to sample size considerations it was necessary to combine the sampling sites into three groups: Clinch River above Poplar Creek (CRM-21, CRM-19, and CRM-14.5), Poplar Creek (PCM-8, PCM-7, PCM-6, PCM-5.1, PCM-4.3, PCM-2.9, PCM 1., and PCM-0.5), and Clinch River below Poplar Creek (CRM-11, CRM-9, CRM-6.7, and CRM-3.7). Station CRM-1.0, which is located in the Clinch arm of Watts Bar Reservoir, was considered ecologically distinct from the other Clinch River sites and deleted from this analysis.

One-way analysis of variance was used to investigate patterns in species richness, defined as number of species per m^2. For the Vital Signs data, richness values were square-root-transformed prior to analysis. For the near-field data, no transformation was necessary. For both analyses the ANOVA was followed by a multiple-comparison test (the Ryan-Einot-Gabriel-Welsch Multiple Range Test from the SAS GLM Procedure) to determine significant differences between reservoirs.

A multiple linear regression analysis was performed to investigate the influence of physical characteristics and contaminant concentrations on benthic community structure in the Clinch River and in Poplar Creek. Physical and Chemical data were obtained from the CRRI database.

Benthic community measures investigated using multiple linear regression analysis included (1) total species richness and dominance, and (2) the abundance of five major invertebrate taxa: Tubificidae, Chironomidae, Diptera, Hexagenia, and Veneroida. Explanatory variables investigated included depth; substrate characteristics (% sand, % silt, % clay, % gravel); total organic carbon (TOC); total PCBs, total PAH, and toxic metals in whole sediment samples; and ammonia nitrogen and aluminum in sediment pore water. The metals investigated included arsenic, cadmium, chromium, lead, mercury, nickel, silver, and zinc. Because all of these were found to be highly intercorrelated in initial exploratory analyses, the concentrations of the individual metals (except for aluminum) were combined into toxic units (TUs) prior to analysis. TUs were calculated by normalizing the concentration of each metal to the ER-L for that metal and then summing the TUs for all metals.

The Clinch River and Poplar Creek data were analyzed separately. First, a step-wise backward elimination procedure was used to develop explanatory models for each of the community measures. In most of these analyses toxic metals were eliminated. PCB and PAH were retained in most of the final models. However, because of the high collinearity of many of the explanatory variables (especially correlations between PAH, PCB, and TOC), it was not possible to identify influences of specific contaminants on benthic macroinvertebrate communities. To provide a more robust analysis (i.e., one less influenced by collinearity among variables), a two-stage analysis of physical vs. chemical effects was performed. In the first stage, a regression model that included only the physical variables (i.e., depth, % sand % silt, % clay, % gravel, and TOC) was developed. No backward elimination step was performed. In the second stage, a model that included both the physical variables and all of the chemical variables was developed. The significance of the influence of the chemical variables on the benthic community measures was tested by comparing the residual sums of squares for the two models.

Results: Vital Signs Data

Results of the canonical discriminant analyses of the Vital Signs data are summarized in figures F8.2.1 through F8.2.3. Only the first two canonical variables are plotted. The symbols represent individual sample values; the names of the reservoirs are printed at the location of the mean value for each reservoir. For all three years, most reservoirs were significantly different from all other reservoirs. Some regional patterns are, however, apparent. Reservoirs in the upper Tennessee Valley (Watts Bar, Ft. Loudoun, Melton Hill, Norris, Douglas, and Cherokee), were more similar to each other than to reservoirs below Watts Bar Dam. Figures F8.2.1 through F8.2.3 show that these six reservoirs consistently tend to cluster together. Reservoirs in the lower Tennessee Valley (Wilson, Wheeler, Pickwick, Chicamauga, Guntersville, Nickajack, and Kentucky) are more dispersed and therefore more distinct from each other. Benthic invertebrate families with high (>0.30) correlations with any of the first four canonical variables for each data set are listed in Table F8.2.1. The Corbiculidae and the Hydropsychidae are the most important families in terms of contributions to the discriminant functions. The Corbiculidae have high correlations with the first canonical variable for all three Vital Signs data sets; the Hydropsychidae contribute to the first canonical variable in two of the three data sets and contribute to one or more of the canonical variables in every data set. Of the 56 benthic macroinvertebrate families represented in the Vital Signs data, only 18 are highly correlated with any canonical variable. Note that, in spite of their high abundance and frequent numerical dominance, Tubificidae and Chironomidae are relatively unimportant contributors to the discriminant analyses for the Vital Signs data. Hence, Tennessee Valley reservoirs in general differ more with respect to rarer taxa than with respect to the abundant and widely-distributed tubificids and chironomids.

Results from the richness analyses were similar. The six upper reservoirs were consistently in the lower half of the data set when ranked by species richness. Melton Hill in 1992 is the only exception to this pattern. Douglas Lake had the lowest species richness in every year and Ft. Loudoun, Cherokee, and

Douglas were among the four lowest in two of the three years. Watts Bar Reservoir ranked 8th in richness in 1992, 12th in 1993, and 9th in 1994. Figure F8.2.4 displays this pattern graphically. A general decline in richness is evident above Nickajack Reservoir in 1992 and 1994 and above Chickamauga Reservoir in 1993.

Figure F8.2.5 shows that these trends are generally unrelated to benthic invertebrate density (#/m^2), for which the only apparent trend is consistently lower density in Douglas and Cherokee Reservoirs. Figures F8.2.6 and F8.2.7, however, show a visible trend in species composition: the per cent of tubificids and, to a lesser extent, chironomids in benthic samples is higher in the upper reservoirs than in the lower reservoirs.

Thus, valley-wide benthic invertebrate communities show a consistent geographic pattern: reservoirs in the lower Tennessee Valley are relatively diverse and distinct from each other; reservoirs in the upper valley are less diverse and more similar to each other.

Results: Near-Field Data

Results of the discriminant analysis of ER Program data are summarized in Figure F8.2.8. The three groups of sites are roughly equally different from each other, as shown by the positions of the mean canonical variable values. In particular, the two groups of Clinch River sites are roughly as different from each other in terms of benthic community structure as either is from Poplar Creek. The "below" sites and the Poplar Creek sites differ primarily in terms of the first canonical variable (X-axis on Figure F8.2.8). Table F8.2.1 shows that the families making important contributions to this variable are the Ephemeridae, Ceratopogonidae, and Chironomidae. Differences in abundance of these three families are therefore the most important in distinguishing Poplar Creek from the Clinch River below Poplar Creek. Similarly, Canonical Variable 2 separates the "above" sites from Poplar creek and the Clinch River below Poplar Creek. Table F8.2.1 shows that the Ephemeridae, Tubificidae, Chironomidae, and Corbiculidae are the families that distinguish the Clinch River above Poplar Creek from the other two reaches. Because it was necessary to group sites to achieve sufficient replication for an analysis, it was not possible to use the discriminant analysis to check for gradients in community structure along the length of the Clinch River.

Some spatial information is, however, available from the analysis of taxonomic richness. Figure 6.16 shows spatial trends in benthic invertebrate abundance and richness. A clear trend is evident in abundance, with abundance generally increasing with decreasing distance from Watts Bar Reservoir. The analysis of variance showed that benthic invertebrate abundance is significantly higher at the three lower-most stations (CRM-1, CRM-3.7, and CRM-6.7) than at stations CRM-9 and higher. Species richness shows a generally increasing trend, except for the very high richness ar CRM-14.5. Figure 6.17 shows trends in % Chironomidae and Tubificidae. Chironomids were relatively more abundant at CRM-1 and CRM-3.7 than at upstream sites, otherwise no trend is evident. Tubificids, in contrast, were relatively less abundant at CRM-1, CRM-3.7, and CRM-6.7 than at upstream sites. None of the above trends show distinct changes in abundance, richness, or composition immediately above or below the mouth of Poplar Creek (CRM-14.5 and CRM-11, respectively).

Few consistent trends are evident for stations within Poplar Creek. The two most-upstream sites, PCM-8 and PCM-7, had lower invertebrate abundance and richness than did other poplar creek sites (Figure 6.18), however, because of high within-transect variability most of the differences are not statistically significant. There is some indication chironomids were relatively more abundant, and tubificids relatively less abundant, at upstream sites (Figure 6.19). Again, because of high variability, these differences are not statistically significant.

Tables 6.9 and 6.10 present results of the two-stage multiple linear regression analysis of the influence of physical characteristics and contaminant concentrations on benthic community structure. Table 6.9 presents (1) the % of the total variance in each community measure explained by the physical model alone, (2) the additional variance explained by inclusion of chemical variables, and (3) results of a significance test for the chemical variables. Table 6.9 shows that, for both the Clinch River and Poplar Creek, physical variables are much more important than chemical variables. Depth and TOC were by far the most important variables. Chemical variables did, however, explain significant additional amounts of variance over that explained by the physical variables alone. An analysis of the signs of coefficients for each of these variables is presented in table 6.10 Chironimidae and Tubificidae are generally recognized as indicators of poor water quality. Abundance of these families should, therefore, be positively correlated with contaminant concentrations in sediment. Dominance, i.e., the % of total benthic invertebrates belonging to the two most abundant taxa, should also be positively correlated with contaminant concentrations. Species richness and the abundance of all of the other invertebrate taxa is expected to be negatively correlated with sediment contamination. Table 6.10 presents, from the analysis of the full model with physical and chemical variables, (1) the number of times each chemical variable was significantly correlated with a community measure, (2) the consistency of the signs of the correlations with expectation, and (3) the number of correlations that were not significant.

Table 6.10 provides no evidence for an effect of any specific contaminants on benthic invertebrates. Although all of the contaminants other than ammonia nitrogen are significantly correlated with community measures more often than not, the signs of the correlation coefficients are roughly equally divided between "consistent" and "inconsistent" with the hypothesis that contaminants are affecting benthic invertebrates. For Poplar Creek, PAH and aluminum in pore water were significantly correlated with community measures more often than not, and the signs of the correlations were consistent with the "contaminant effects" hypothesis more often than not. Toxic metals, however, were not significantly correlated with community measures more often than not, and none of the signs of the correlations were consistent with the "contaminant effects" hypothesis.

The fact that chemical variables explain a significant additional amount of variance over the physical variables in a variety of community measures for the Clinch River and Poplar Creek provides some (admittedly weak) evidence that contaminants may be adversely affecting the benthic community in some locations. Of the contaminants included in the analysis, PAH would appear to be the most likely to be important, however, the evidence is weak. Also, toxic metals in Poplar Creek would appear to be the least likely to be important.

Table F8.2.1. Invertebrate families having high (>0.3) correlations with canonical variables

Data set	1st canonical variable	2nd canonical variable	3rd canonical variable	4th canonical variable
ER Program	Ephemeridae Ceratopogonidae Chironomidae	Ephemeridae Tubificidae Chironomidae Corbiculidae	N/A	N/A
Vital Signs 1992	Corbiculidae	Gammaridae Unionidae Pleuroceridae Asellidae	Erpobdellidae Sphaeriidae Polycentropodidae	Hydropsychidae
Vital Signs 1993	Corbiculidae Hydropsychidae Ephemeridae	Hydropsychidae Viviparidae Glossiphoniadae	Tubificidae	Naididae Tubificidae Sphaeriidae Asellidae
Vital Signs 1994	Hydropsychidae Corbiculidae Planariidae	Hydropsychidae Corbiculidae Glossiphoniidae Pleuroceridae	Hydropsychidae Ephemeridae Pleuroceridae Hydrobiidae	Glossiphoniidae Crangonyctidae

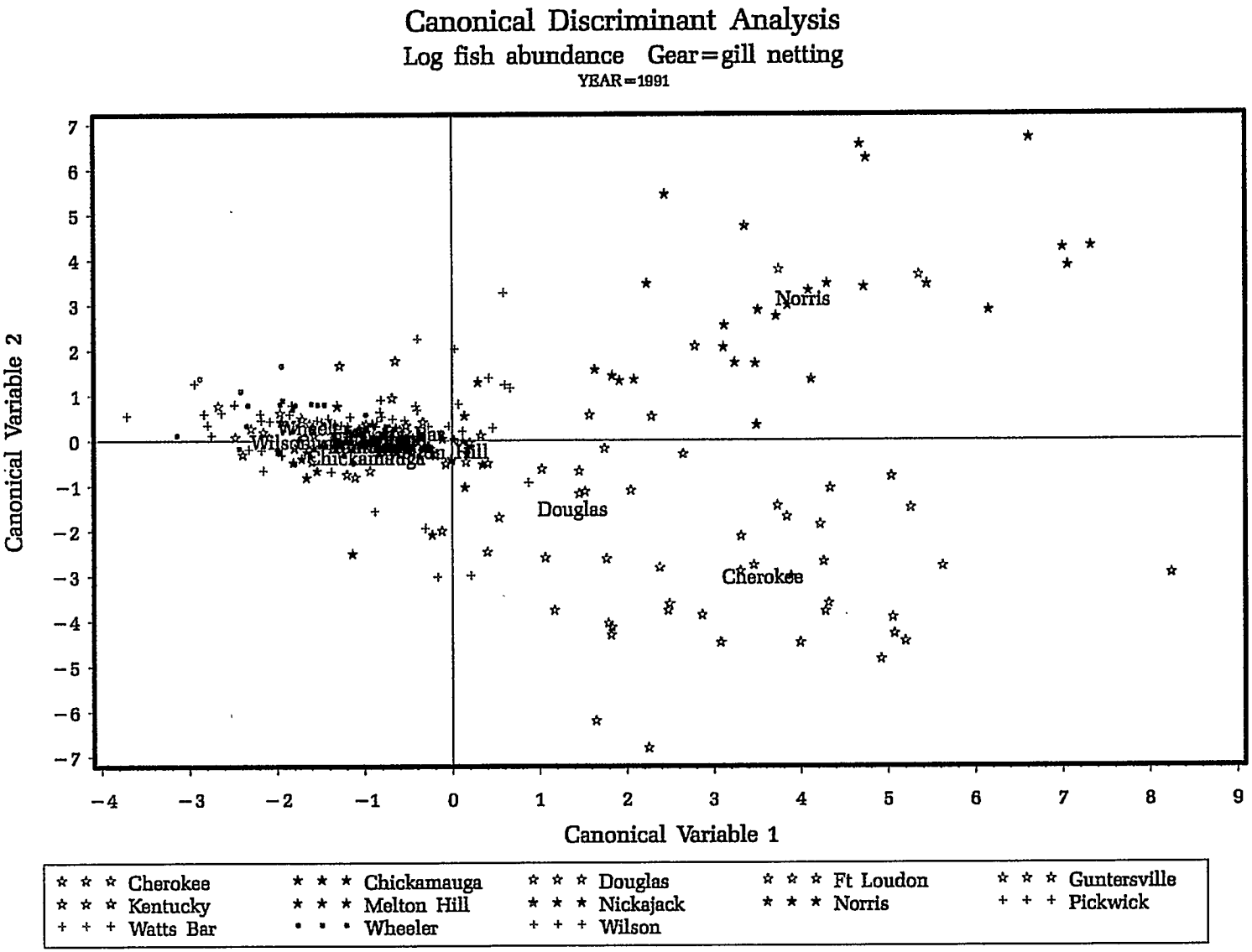

Fig. F8.1.1. Canonical discriminant analysis of the fish communities sampled by gill netting in Tennessee Valley reservoirs in 1991, grouped by drainage.

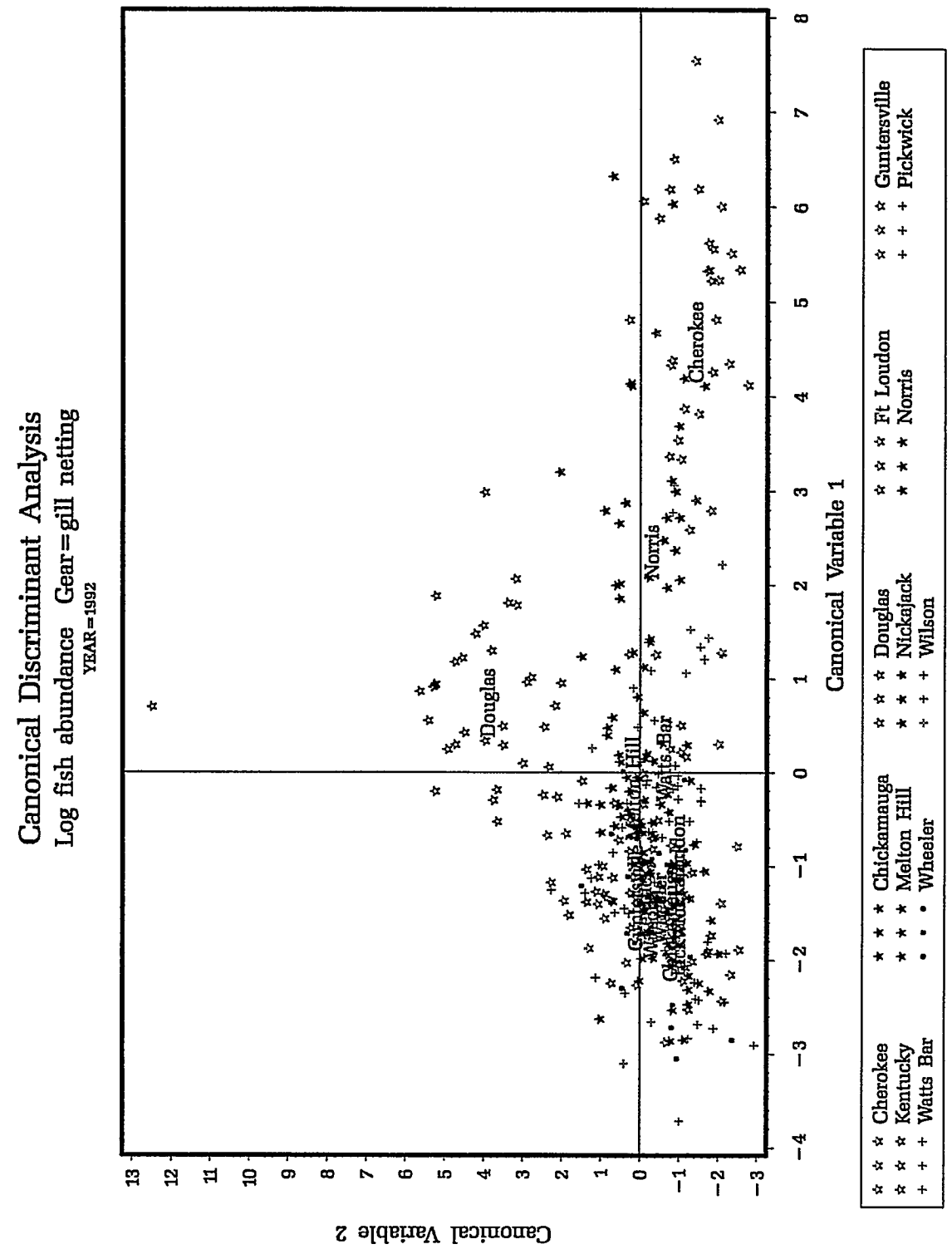

Fig. F8.1.2. Canonical discriminant analysis of the fish communities sampled by gill netting in Tennessee Valley reservoirs in 1992, grouped by drainage.

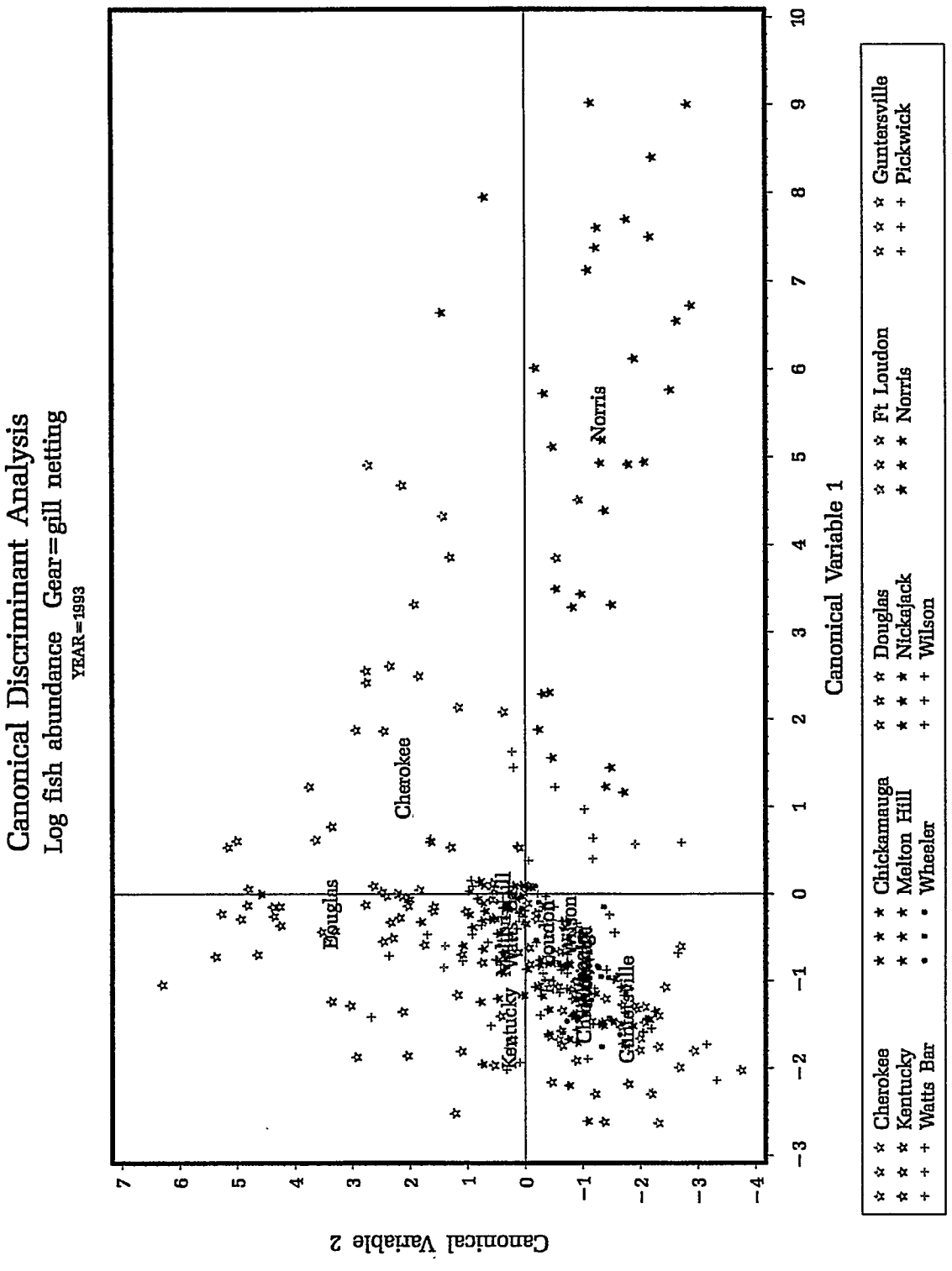

Fig. F8.1.3. Canonical discriminant analysis of the fish communities sampled by gill netting in Tennessee Valley reservoirs in 1993, grouped by drainage.

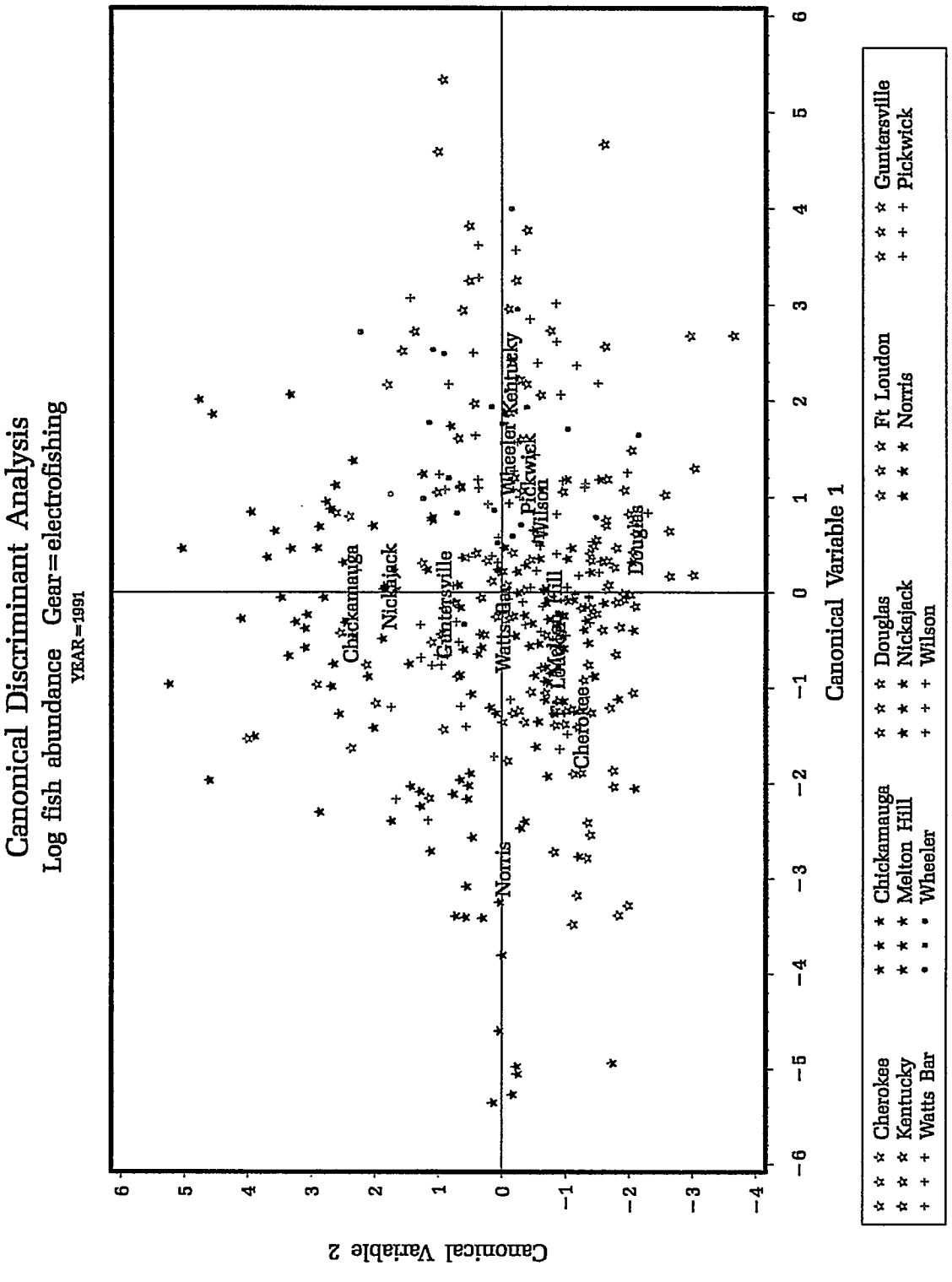

Fig. F8.1.4. Canonical discriminant analysis of the fish communities sampled by electrofishing in Tennessee Valley reservoirs in 1991, grouped by drainage.

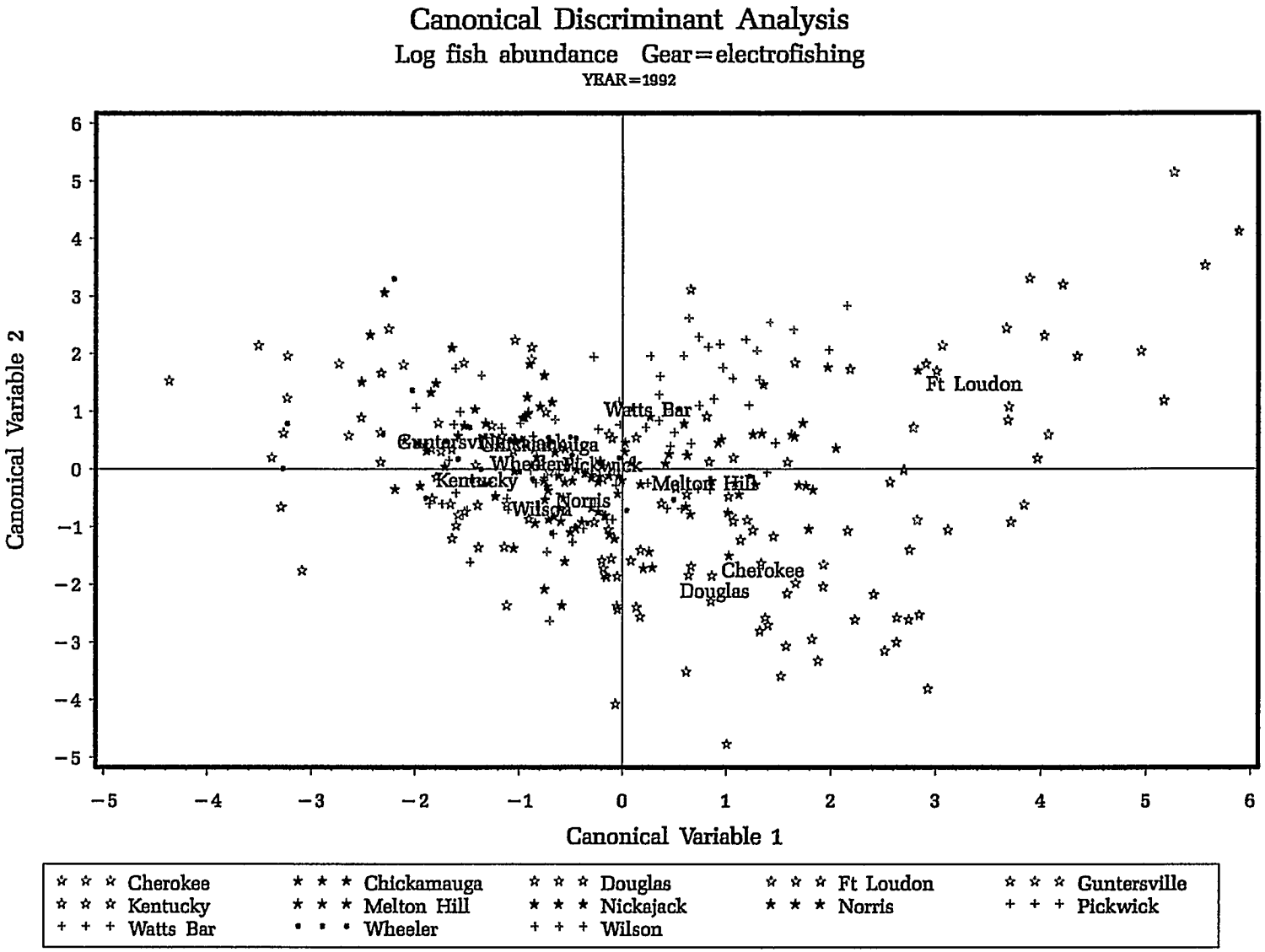

Fig. F8.1.5. Canonical discriminant analysis of the fish communities sampled by electrofishing in Tennessee Valley reservoirs in 1992, grouped by drainage.

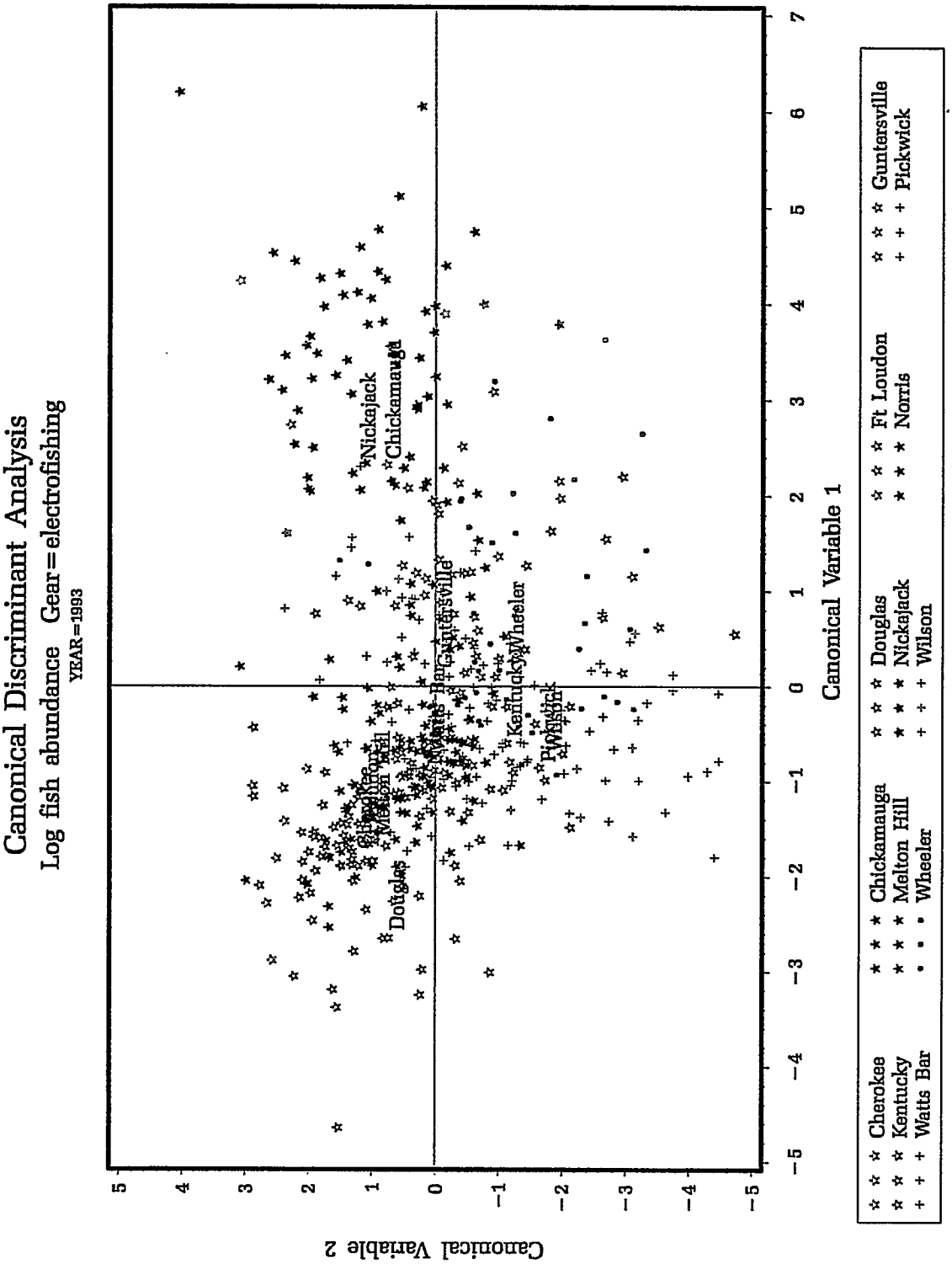

Fig. F8.1.6. Canonical discriminant analysis of the fish communities sampled by electrofishing in Tennessee Valley reservoirs in 1993, grouped by drainage.

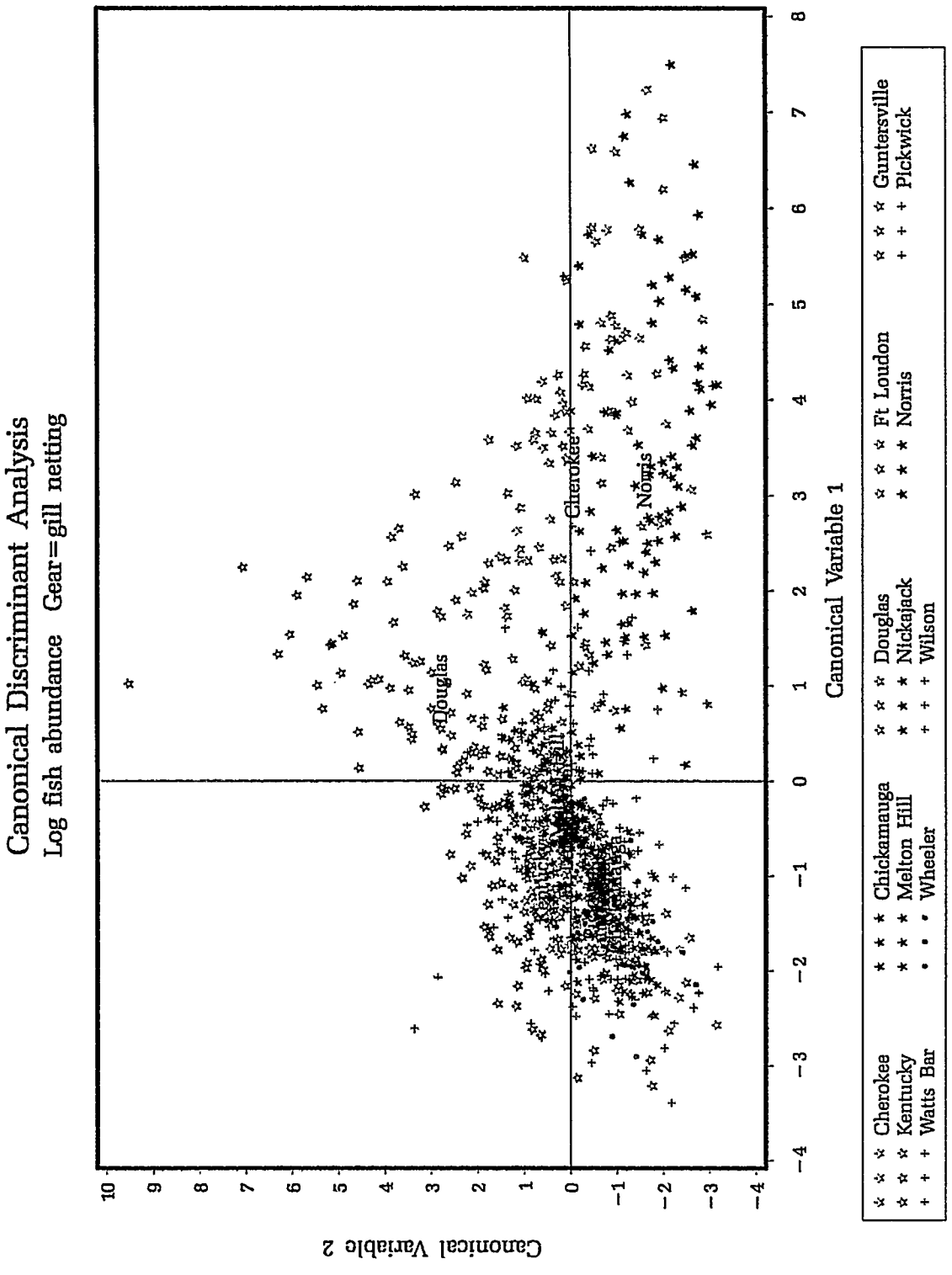

Fig. F8.1.7. Canonical discriminant analysis of the fish communities sampled by gill netting in individual Tennessee Valley reservoirs.

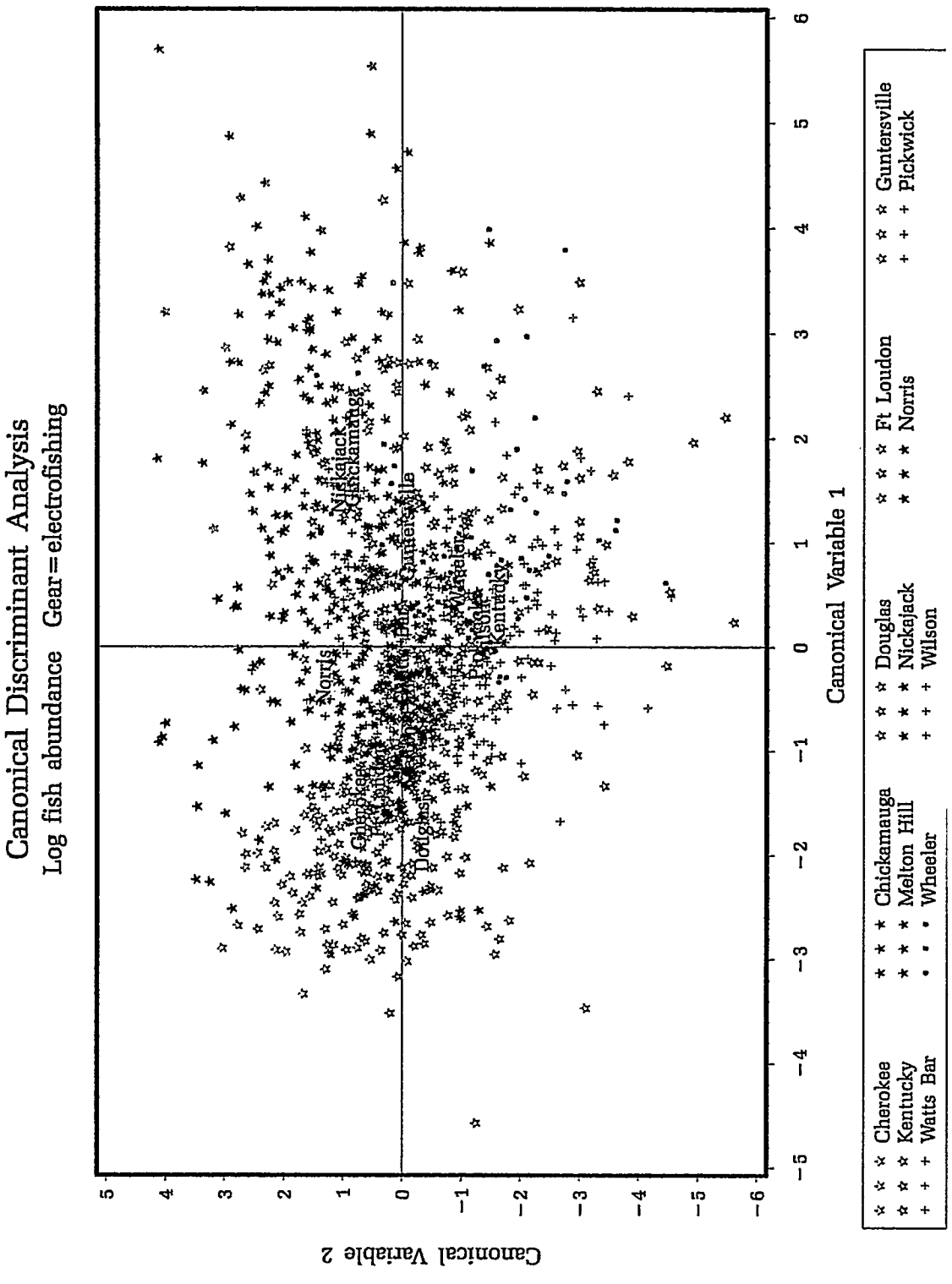

Fig. F8.1.8. Canonical discriminant analysis of the fish communities sampled by electrofishing in individual Tennessee Valley reservoirs.

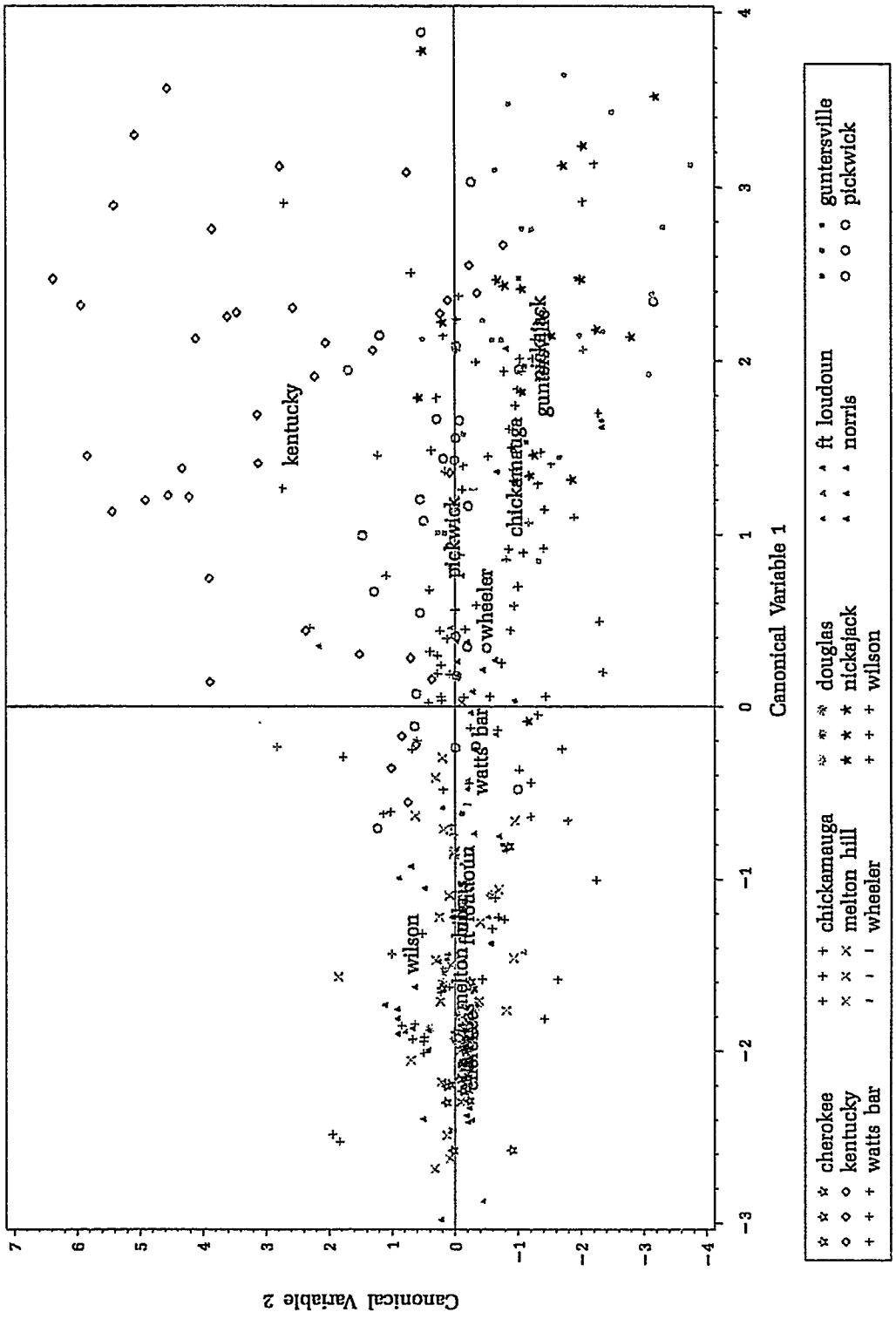

Fig. F8.2.1. Canonical discriminant analysis of the benthic macroinvertebrate communities sampled for the Vitalsigns Program in individual Tennessee Valley reservoirs in 1992.

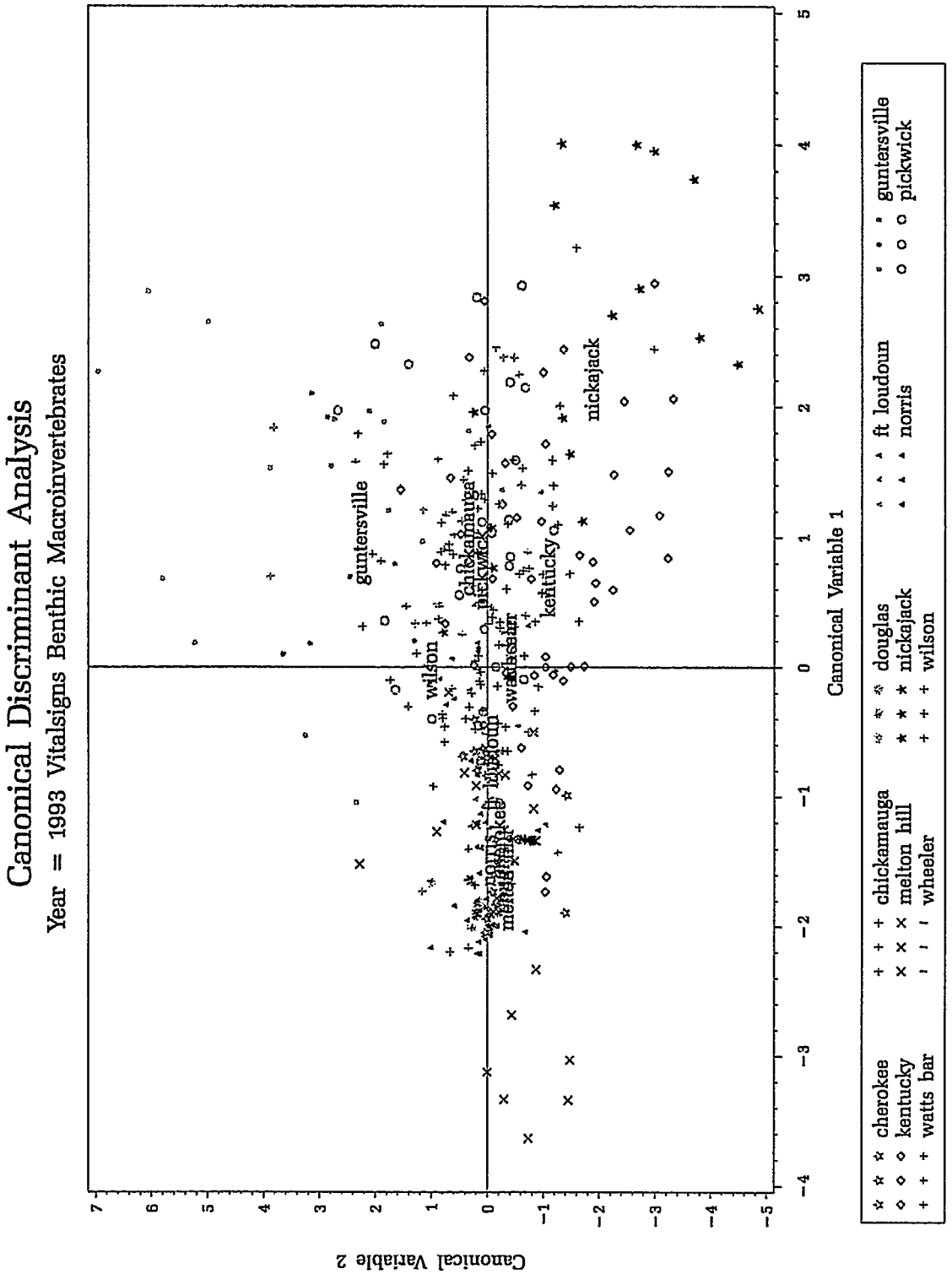

Fig. F8.2.2. Canonical discriminant analysis of the benthic macroinvertebrate communities sampled for the Vitalsigns Program in individual Tennessee Valley reservoirs in 1993.

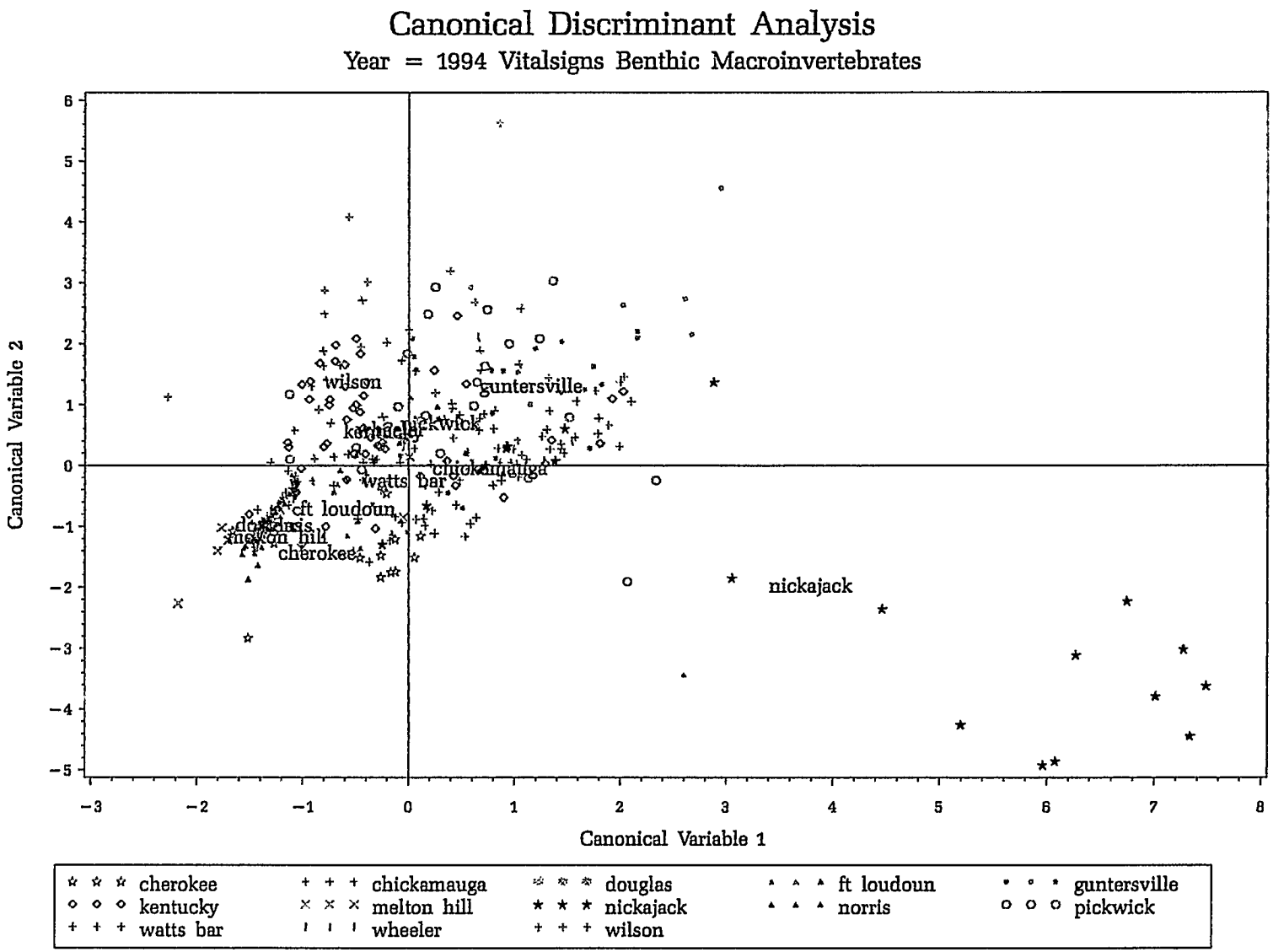

Fig. F8.2.3. Canonical discriminant analysis of the benthic macroinvertebrate communities sampled for the Vitalsigns Program in individual Tennessee Valley reservoirs in 1994.

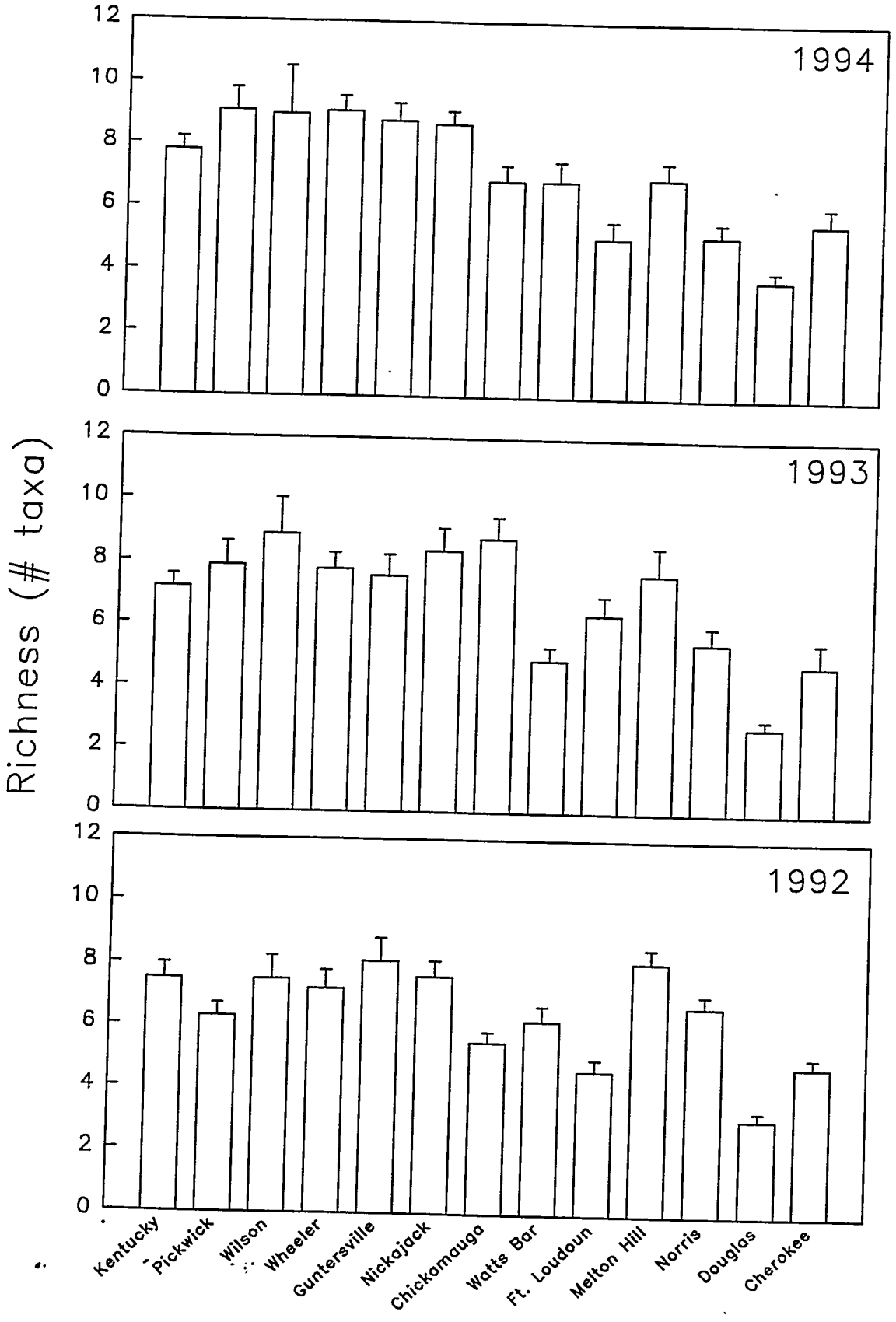

Fig. F8.2.4. Taxonomic richness (Mean ± SE) of benthic macroinvertebrates sampled for the Vitalsigns Program in individual reservoirs in 1992–1994.

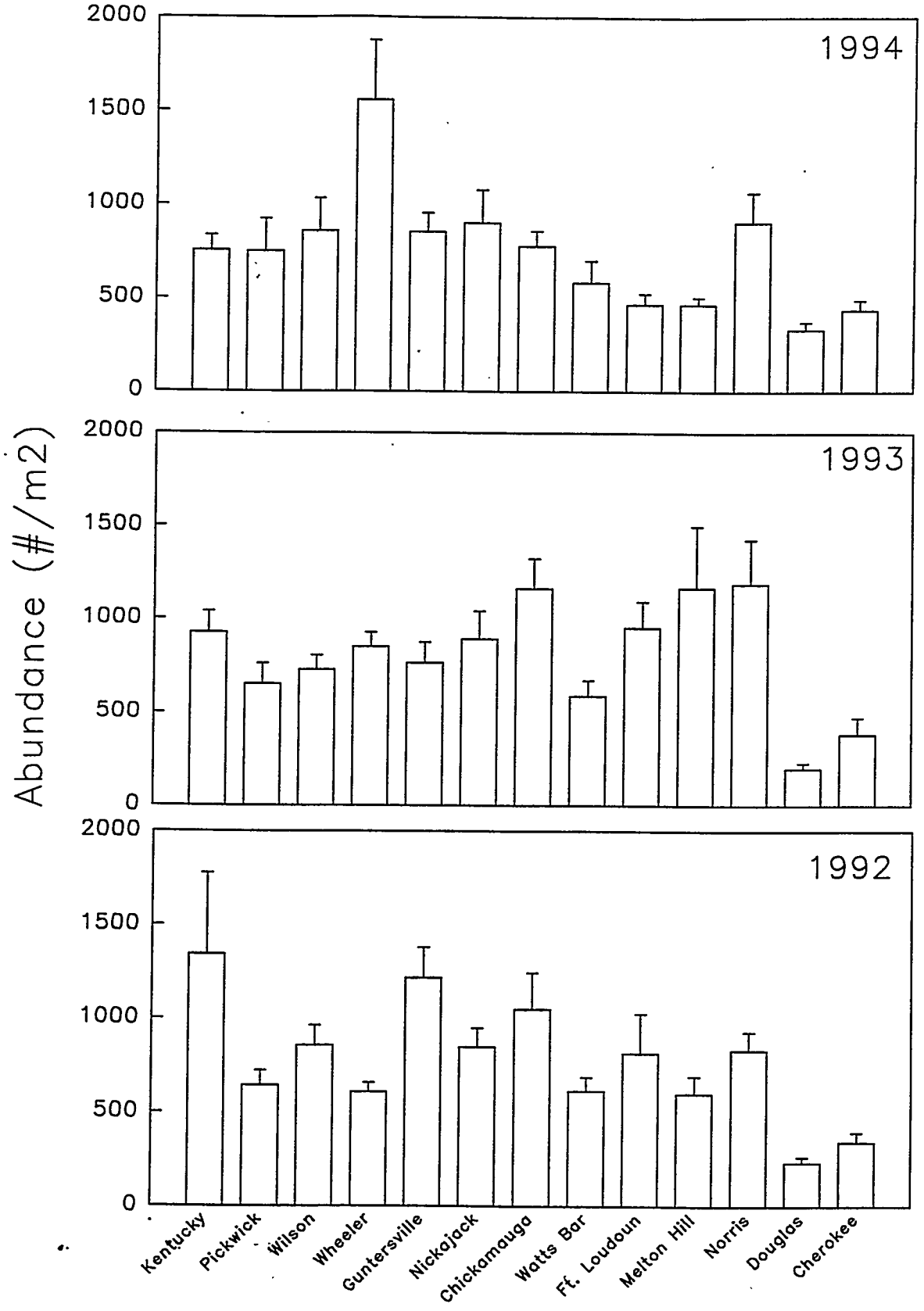

Fig. F8.2.5. Abundance (Mean ± SE) of benthic macroinvertebrates sampled for the Vitalsigns Program in individual reservoirs in 1992–1994.

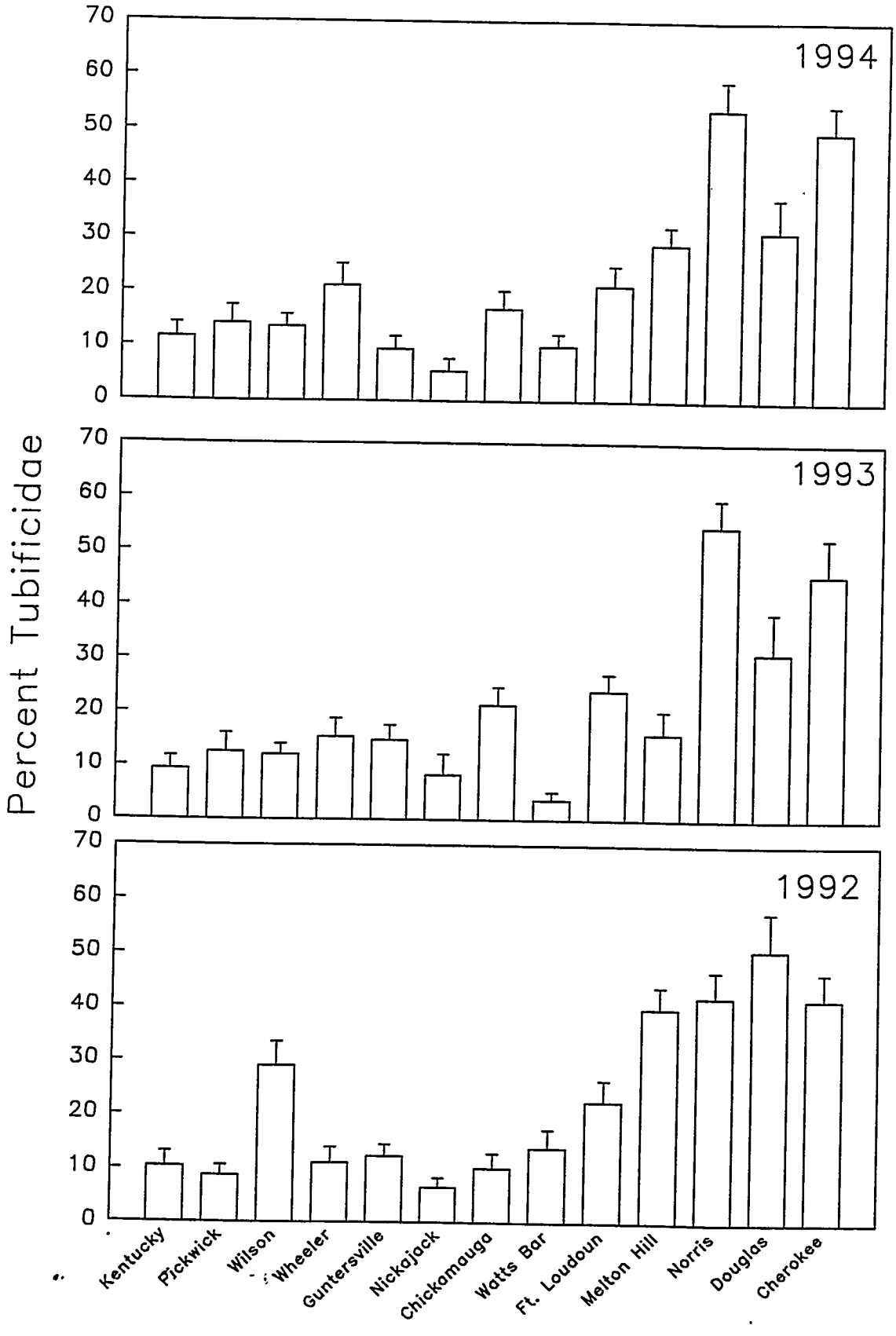

Fig. F8.2.6. Percentage (Mean ± SE) of benthic macroinvertebrate community represented by *Tubificidae* in individual reservoirs in 1992–1994.

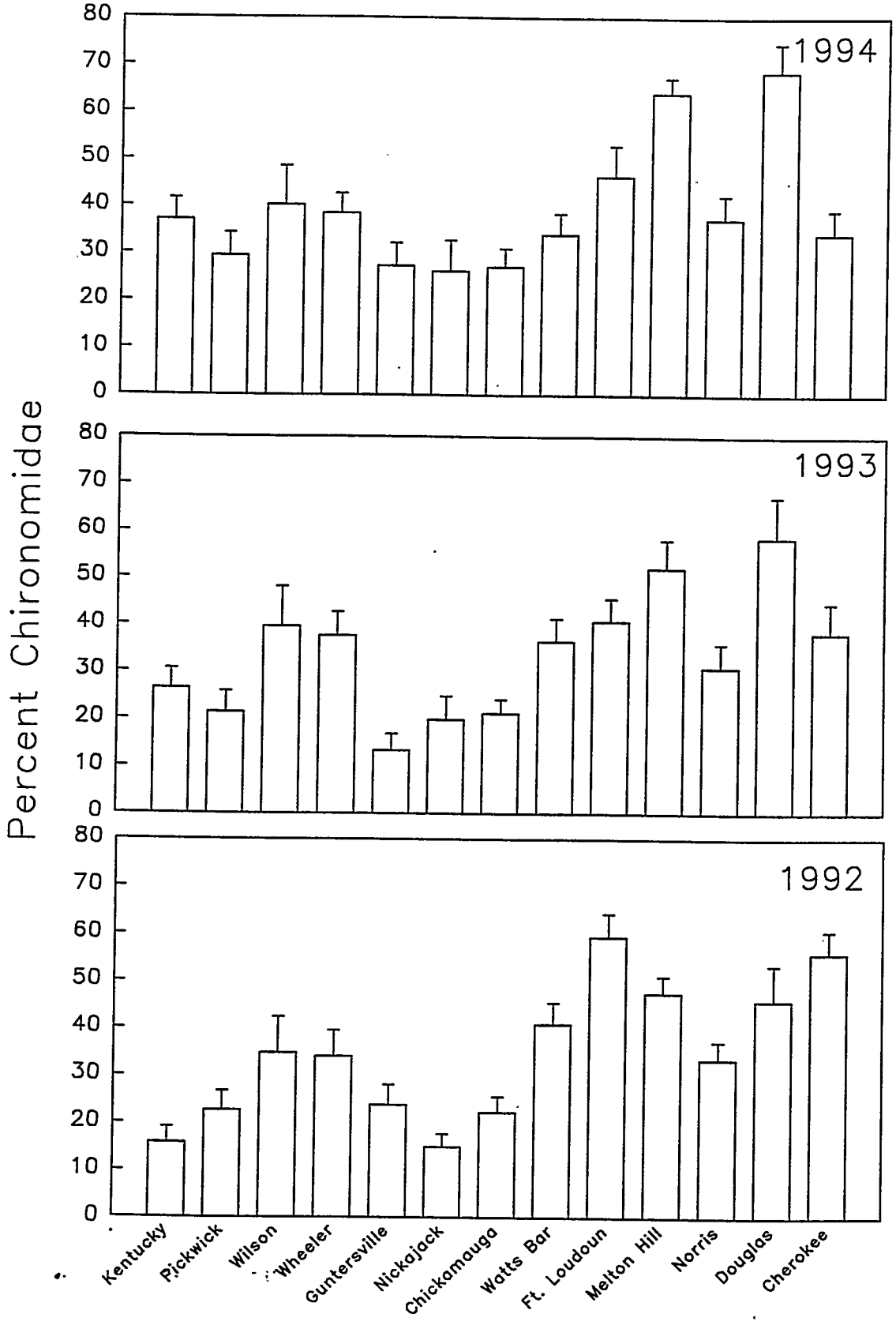

Fig. F8.2.7. Percentage (Mean ± SE) of benthic macroinvertebrate community represented by *Chironomidae* in individual reservoirs in 1992–1994.

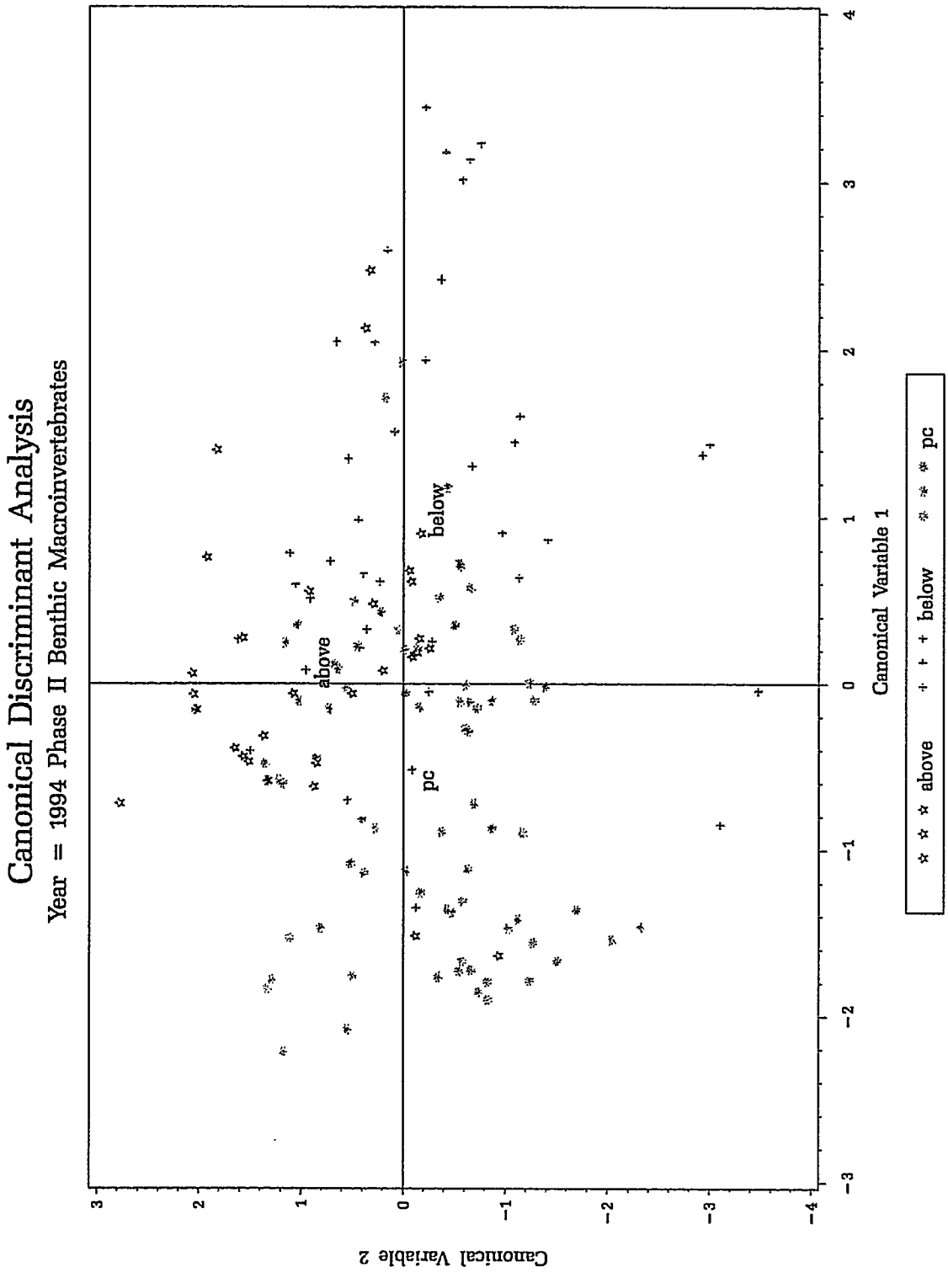

Fig. F8.2.8. Canonical discriminant analysis of the benthic macroinvertebrate communities sampled for the Environmental Restoration Program in the CR/PC system in 1994, grouped by location relative to Poplar Creek.