

**Watershed Summary Information**

<b>Accounting Unit Name:</b>	Kansas
<b>State(s):</b>	KS MO
<b>Political Boundaries:</b>	Leavenworth, Douglas, Johnson, Jefferson, Atchison, Shawnee, Osage, Wyandotte, Jackson
<b>Major Waterways:</b>	Kansas R Wakarusa R Stranger Cr Crooked Cr Rock Cr
<b>Number of Stations in Watershed:</b>	Tier1 - 12 Tier2 - 15 Tier3 - 2

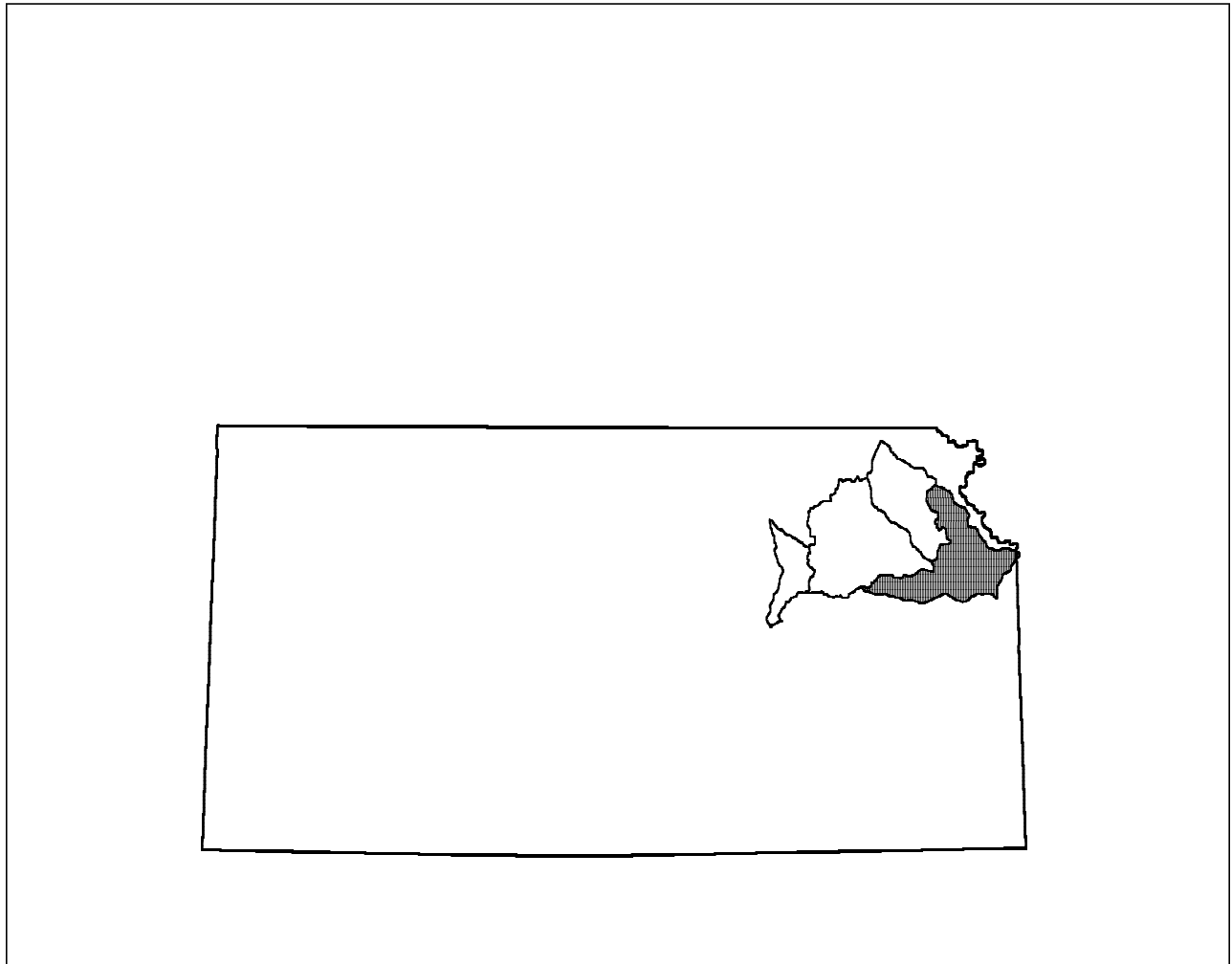


Figure 151. Watershed Location Map

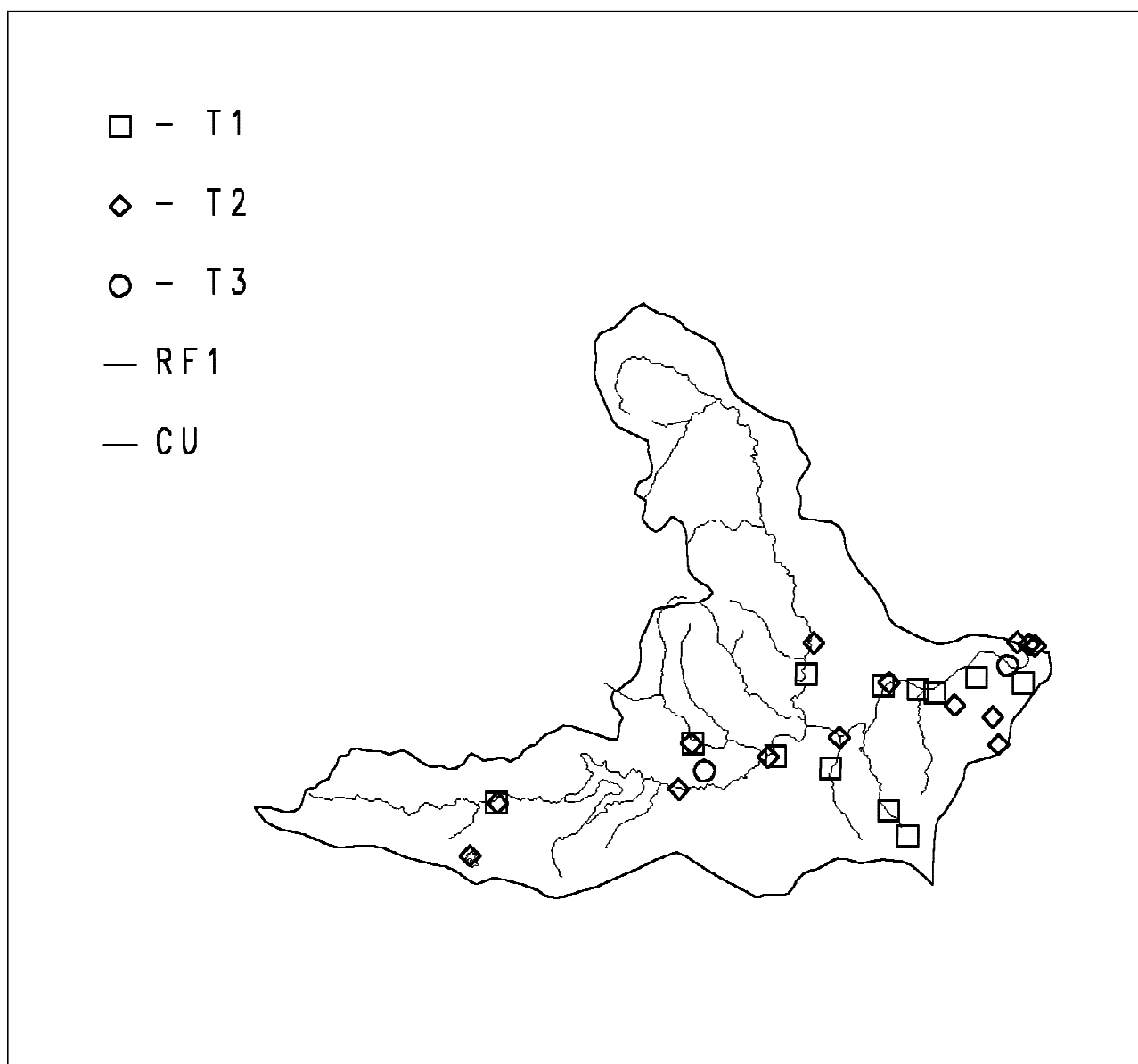


Figure 152. Major Waterways and Location of Sampling Stations

## Data Source(s) Used in Evaluation

Source: **STORET** Agency: **11FWS**

Monitoring Program: **US Fish & Wildlife Service Data - USEPA Hq Backdata Study**

Num. of Stations: 1 Date Range: 1981-84

Source: **STORET** Agency: **1117MBR**

Monitoring Program: **USEPA Region 7 Data**

Num. of Stations: 19 Date Range: 1980-92

Source: **STORET** Agency: **112WRD**

Monitoring Program: **US Geological Survey Data**

Num. of Stations: 8 Date Range: 1982-89

Source: **STORET** Agency: **21KAN001**  
Monitoring Program: **Kansas Dept Health & Env Data**  
Num. of Stations: 1 Date Range: 1992

## Chemicals Responsible for Sampling Station Classification as Tier 1 or Tier 2

Classifying Parameter	Number of Stations							
	All Parameters				Aquatic Life		Human Health	
	Total	T.1&2	Tier1	Tier2	Tier1	Tier2	Tier1	Tier2
Chlordane	28	16	.	16	.	2	.	15
Arsenic	23	13	.	13	.	7	.	6
Polychlorinated biphenyls	28	11	11	.	.	.	11	.
Dieldrin	25	11	.	11	.	.	.	11
Nickel	19	9	.	9	.	9	.	.
Chromium	20	7	.	7	.	7	.	.
BHC	25	4	.	4	.	2	.	3
Heptachlor epoxide	27	4	.	4	.	.	.	4
Bis(2-ethylhexyl)phthalate	17	3	.	3	.	3	.	.
Copper	20	3	.	3	.	3	.	.
DDT	24	2	.	2	.	2	.	.
Heptachlor	28	2	.	2	.	.	.	2
Lead	23	2	.	2	.	2	.	.
Dioxins	9	1	1	.	.	.	1	.
Silver	19	1	1	.	1	.	.	.
Anthracene	15	1	.	1	.	1	.	.
Benzo(a)anthracene	15	1	.	1	.	1	.	1
Benzo(b)fluoranthene	17	1	.	1	.	.	.	1
Chrysene	17	1	.	1	.	1	.	.
Mercury	23	1	.	1	.	1	.	.
Pyrene	17	1	.	1	.	1	.	.
Toxaphene	25	1	.	1	.	.	.	1
Zinc	20	1	.	1	.	1	.	.

## Sediment Chemistry Data: Chemical Summary

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Acenaphthene	15	0.00	0.00	0	.	.
Acenaphthylene	15	0.00	0.00	0	.	.
Acrylonitrile	1	0.00	0.00	0	.	.
Aldrin	18	0.00	0.00	0	.	.
Anthracene	14	33.57	0.00	1	470.00	470.00
Antimony	11	918.18	1000.00	8	2600.00	900.00
Arsenic	11	5818.18	7500.00	8	9600.00	6400.00
Benzene	1	33.00	33.00	1	33.00	33.00

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Benzo(a)anthracene	14	196.43	0.00	3	1400.00	370.00
Benzo(a)pyrene	15	0.00	0.00	0	.	.
Benzo(b)fluoranthene	15	131.33	0.00	2	1000.00	970.00
Benzo(ghi)perylene	3	0.00	0.00	0	.	.
Benzo(k)fluoranthene	14	0.00	0.00	0	.	.
Bis(2-ethylhexyl)phthalate	15	395.33	0.00	6	1800.00	230.00
Bromophenyl phenyl ether, 4-	15	0.00	0.00	0	.	.
Butyl benzyl phthalate	15	65.33	0.00	3	420.00	280.00
BHC	38	1.32	0.00	2	49.00	1.10
Cadmium	11	51.91	0.00	2	342.00	229.00
Chlordane	15	6.37	0.00	3	87.00	0.10
Chlorobenzene	1	0.00	0.00	0	.	.
Chromium	11	54337.73	61000.00	11	93000.00	7725.00
Chrysene	15	178.00	0.00	3	1400.00	500.00
Copper	11	19639.91	17000.00	11	48000.00	8361.00
Di-n-butyl phthalate	15	0.00	0.00	0	.	.
Di-n-octyl phthalate	15	0.00	0.00	0	.	.
Dibenzo(a,h)anthracene	15	0.00	0.00	0	.	.
Dibromochloromethane	1	0.00	0.00	0	.	.
Dichlorobenzene, 1,2-	15	0.00	0.00	0	.	.
Dichlorobenzene, 1,3-	15	0.00	0.00	0	.	.
Dichlorobenzene, 1,4-	15	0.00	0.00	0	.	.
Dichloroethane 1,1-	1	0.00	0.00	0	.	.
Dichloroethane 1,2-	1	0.00	0.00	0	.	.
Dichloroethene, trans-1,2-	1	0.00	0.00	0	.	.
Dichloromethane	1	0.00	0.00	0	.	.
Dichloropropane, 1,2-	1	0.00	0.00	0	.	.
Dieldrin	18	0.00	0.00	0	.	.
Diethyl phthalate	15	0.00	0.00	0	.	.
Dimethyl phthalate	15	0.00	0.00	0	.	.
Dimethylphenol, 2,4-	15	0.00	0.00	0	.	.
Dioxins	3	0.00	0.00	0	.	.
DCPA/Dacthal	2	0.00	0.00	0	.	.
DDT	36	0.47	0.00	3	9.00	3.00
Endosulfan mixed isomers	1	0.00	0.00	0	.	.
Endosulfan, alpha-	15	0.00	0.00	0	.	.
Endosulfan, beta-	3	0.00	0.00	0	.	.
Endrin	18	0.31	0.00	1	5.60	5.60
Ethylbenzene	1	0.00	0.00	0	.	.
Fluoranthene	15	161.33	0.00	4	770.00	390.00
Fluorene	15	0.00	0.00	0	.	.
Heptachlor	18	0.36	0.00	1	6.50	6.50
Heptachlor epoxide	18	0.10	0.00	1	1.80	1.80
Hexachlorobenzene	15	0.00	0.00	0	.	.

Sediment Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Hexachlorobutadiene	15	0.00	0.00	0	.	.
Hexachloroethane	15	0.00	0.00	0	.	.
Indeno(1,2,3-cd)pyrene	15	0.00	0.00	0	.	.
Isophorone	15	0.00	0.00	0	.	.
Lead	11	24035.45	22000.00	10	61000.00	10480.00
Mercury	11	37.27	20.00	8	240.00	20.00
Methoxychlor	3	0.00	0.00	0	.	.
Mirex/Dechlorane	1	0.00	0.00	0	.	.
Naphthalene	15	0.00	0.00	0	.	.
Nickel	11	22085.36	24000.00	11	33000.00	9069.00
Nitrosodiphenylamine, N-	15	0.00	0.00	0	.	.
Pentachlorophenol	15	0.00	0.00	0	.	.
Phenanthrene	15	258.67	0.00	4	1500.00	680.00
Phenol	15	0.00	0.00	0	.	.
Polychlorinated biphenyls	120	0.00	0.00	0	.	.
Pyrene	15	214.67	0.00	4	1200.00	490.00
Silver	11	727.27	0.00	1	8000.00	8000.00
Tetrachloroethane, 1,1,2,2-	1	0.00	0.00	0	.	.
Tetrachloroethene	1	0.00	0.00	0	.	.
Tetrachloromethane	1	0.00	0.00	0	.	.
Toluene	1	0.00	0.00	0	.	.
Toxaphene	18	0.00	0.00	0	.	.
Tribromomethane/Bromoform	1	0.00	0.00	0	.	.
Trichlorobenzene, 1,2,4-	15	0.00	0.00	0	.	.
Trichloroethane, 1,1,1-	1	0.00	0.00	0	.	.
Trichloroethane, 1,1,2-	1	0.00	0.00	0	.	.
Trichloroethene	1	0.00	0.00	0	.	.
Trichlorofluoromethane	1	0.00	0.00	0	.	.
Trichloromethane/Chloroform	1	0.00	0.00	0	.	.
Zinc	11	77250.91	74000.00	11	200000.0	33120.00

## Tissue Residue Data: Chemical Summary

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Acenaphthene	11	0.00	0.00	0	.	.
Acrolein	11	0.00	0.00	0	.	.
Acrylonitrile	11	0.00	0.00	0	.	.
Alachlor/Lasso	51	0.00	0.00	0	.	.
Aldrin	63	0.00	0.00	0	.	.
Anthracene	8	0.00	0.00	0	.	.
Antimony	22	0.00	0.00	0	.	.
Arsenic	58	308.74	0.00	16	9000.00	50.00

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Atrazine	38	0.00	0.00	0	.	.
Barium	37	4372.16	4190.00	37	8700.00	1630.00
Benzene	33	0.21	0.00	1	7.00	7.00
Benzidine	10	0.00	0.00	0	.	.
Benzo(a)anthracene	8	0.00	0.00	0	.	.
Benzo(a)pyrene	11	0.00	0.00	0	.	.
Benzo(b)fluoranthene	11	0.00	0.00	0	.	.
Benzo(k)fluoranthene	8	0.00	0.00	0	.	.
Beryllium	22	0.00	0.00	0	.	.
Bis(2-chloroethyl)ether	11	0.00	0.00	0	.	.
Bis(2-ethylhexyl)phthalate	11	27.27	0.00	1	300.00	300.00
Bromodichloromethane	11	0.00	0.00	0	.	.
Bromomethane	11	0.00	0.00	0	.	.
Bromophenyl phenyl ether, 4-	11	0.00	0.00	0	.	.
Butyl benzyl phthalate	11	0.00	0.00	0	.	.
BHC	234	1.42	0.00	24	64.00	1.40
Cadmium	58	66.93	59.00	40	352.00	20.00
Chlordane	382	105.58	27.50	313	2000.00	2.00
Chlorobenzene	25	0.00	0.00	0	.	.
Chloroethane	11	0.00	0.00	0	.	.
Chloroethene	19	0.00	0.00	0	.	.
Chloroethylvinyl ether, 2-	11	0.00	0.00	0	.	.
Chloromethane	25	0.00	0.00	0	.	.
Chloronaphthalene, 2-	11	0.00	0.00	0	.	.
Chlorophenol, 2-	11	0.00	0.00	0	.	.
Chlorpyrifos/Dursban	10	0.00	0.00	0	.	.
Chromium	37	357.92	320.00	37	798.00	187.00
Chrysene	11	0.00	0.00	0	.	.
Copper	36	906.69	898.00	36	1710.00	330.00
Cyanazine	16	0.00	0.00	0	.	.
Di-n-butyl phthalate	11	0.00	0.00	0	.	.
Di-n-octyl phthalate	11	0.00	0.00	0	.	.
Dibenzo(a,h)anthracene	11	0.00	0.00	0	.	.
Dibromochloromethane	11	0.00	0.00	0	.	.
Dichlorobenzene, 1,2-	25	0.00	0.00	0	.	.
Dichlorobenzene, 1,3-	19	0.00	0.00	0	.	.
Dichlorobenzene, 1,4-	23	0.00	0.00	0	.	.
Dichlorobenzidine, 3,3'-	11	0.00	0.00	0	.	.
Dichlorodifluoromethane	3	0.00	0.00	0	.	.
Dichloroethane 1,1-	11	0.00	0.00	0	.	.
Dichloroethane 1,2-	32	0.00	0.00	0	.	.
Dichloroethene, trans-1,2-	25	0.00	0.00	0	.	.
Dichloroethene, 1,1-	33	0.00	0.00	0	.	.
Dichloromethane	11	13.36	0.00	3	69.00	12.00

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Dichlorophenol, 2,4-	11	0.00	0.00	0	.	.
Dichloropropane, 1,2-	11	0.00	0.00	0	.	.
Dieldrin	68	50.93	29.50	47	460.00	3.00
Diethyl phthalate	11	0.00	0.00	0	.	.
Dimethyl phthalate	11	0.00	0.00	0	.	.
Dimethylphenol, 2,4-	11	0.00	0.00	0	.	.
Dinitrophenol, 2,4-	11	0.00	0.00	0	.	.
Dinitrotoluene, 2,4-	11	0.00	0.00	0	.	.
Dinitrotoluene, 2,6-	11	0.00	0.00	0	.	.
Dioxins	14	0.00	0.00	2	0.00	0.00
Diphenylhydrazine, 1,2-	11	0.00	0.00	0	.	.
DCPA/Dacthal	5	10.00	10.00	5	10.00	10.00
DDT	294	13.57	0.00	74	290.00	5.00
Endosulfan, alpha-	63	0.29	0.00	1	18.00	18.00
Endosulfan, beta-	36	0.00	0.00	0	.	.
Endrin	68	0.92	0.00	7	10.00	6.20
Ethylbenzene	25	0.00	0.00	0	.	.
Fluoranthene	11	0.00	0.00	0	.	.
Fluorene	11	0.00	0.00	0	.	.
Fonofos	10	0.00	0.00	0	.	.
Heptachlor	80	3.07	0.00	13	52.00	4.80
Heptachlor epoxide	76	6.86	0.00	36	90.00	2.00
Hexachlorobenzene	37	1.88	0.00	15	10.00	1.10
Hexachlorobutadiene	11	0.00	0.00	0	.	.
Hexachloroethane	11	0.00	0.00	0	.	.
Indeno(1,2,3-cd)pyrene	11	0.00	0.00	0	.	.
Isophorone	11	0.00	0.00	0	.	.
Lead	58	41.78	0.00	15	315.00	80.00
Malathion	10	0.00	0.00	0	.	.
Manganese	22	4694.09	4140.00	22	9610.00	1800.00
Mercury	58	79.71	63.60	54	275.00	10.00
Methoxychlor	33	0.00	0.00	0	.	.
Metribuzin	10	0.00	0.00	0	.	.
Mirex/Dechlorane	14	3.57	0.00	5	10.00	10.00
Molybdenum	28	22.64	0.00	5	149.00	85.00
Naphthalene	11	0.00	0.00	0	.	.
Nickel	31	77.84	0.00	6	1010.00	109.00
Nitrobenzene	11	0.00	0.00	0	.	.
Nitrophenol, 4	11	0.00	0.00	0	.	.
Nitrosodi-n-propylamine, N-	11	0.00	0.00	0	.	.
Nitrosodiphenylamine, N-	11	0.00	0.00	0	.	.
Parathion ethyl	10	0.00	0.00	0	.	.
Pentachlorophenol	25	0.00	0.00	0	.	.
Phenol	11	0.00	0.00	0	.	.

Tissue Parameter	Total Observations			Detected Observations		
	Num.	Mean (ppb)	Median (ppb)	Num.	Max (ppb)	Min (ppb)
Polychlorinated biphenyls	330	39.55	0.00	81	730.00	14.00
Prometon/Pramitol	10	0.00	0.00	0	.	.
Pyrene	11	0.00	0.00	0	.	.
Selenium	22	2641.36	465.00	21	49000.00	240.00
Silver	22	0.00	0.00	0	.	.
Simazine	10	0.00	0.00	0	.	.
Styrene	8	0.00	0.00	0	.	.
Tetrachloroethane, 1,1,2,2-	33	0.00	0.00	0	.	.
Tetrachloroethene	33	2.09	0.00	2	59.00	10.00
Tetrachloromethane	33	0.00	0.00	0	.	.
Toluene	25	0.80	0.00	1	20.00	20.00
Toxaphene	54	35.19	0.00	5	700.00	100.00
Tribromomethane/Bromoform	25	0.00	0.00	0	.	.
Trichlorobenzene, 1,2,4-	11	0.00	0.00	0	.	.
Trichloroethane, 1,1,1-	25	0.00	0.00	0	.	.
Trichloroethane, 1,1,2-	27	0.00	0.00	0	.	.
Trichloroethene	33	0.00	0.00	0	.	.
Trichlorofluoromethane	3	0.00	0.00	0	.	.
Trichloromethane/Chloroform	33	0.00	0.00	0	.	.
Trichlorophenol, 2,4,6-	11	0.00	0.00	0	.	.
Trifluralin/Treflan	32	4.87	0.00	8	52.00	6.10
Vanadium	28	163.82	180.00	24	280.00	105.00
Zinc	36	51338.89	53850.00	36	75500.00	11500.00