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VOLUME III

BASELINE
ECOLOGICAL RISK
ASSESSMENT

SAUGET AREA 2
SITES

SAUGET, IL

FLOODPLAIN
ASSESSMENT

TABLES
FIGURES
APPENDICES

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DRAFT BASELINE
ECOLOGICAL RISK ASSESSMENT

SAUGET AREA 2 SITES
(SITES O, P, Q, R, S)
SAUGET, ILLINOIS

VOLUME III

FLOODPLAIN ASSESSMENT TABLES
FLOODPLAIN ASSESSMENT FIGURES
FLOODPLAIN ASSESSMENT APPENDICES

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Version 3

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SAUGET AREA 2 VEGETATIVE SPECIES LIST	
Common Name	***Scientific Name***
Trees	
Ash, Wafer	*Ptelea trifoliata*
Ash, White	*Fraxinus americana*
Boxelder	*Acer negundo*
Cottonwood, Eastern	*Populus deltoides*
Elm, American	*Ulmus americana*
Elm, Slippery	*Ulmus rubra*
Locust, Black	*Robinia pseudoacacia*
Maple, Silver	*Acer saccharinum*
Mulberry, White	*Morus alba*
Sumac, Smooth	*Rhus glabra*
Walnut, Black	*Juglans nigra*
Willow, Black	*Salix nigra*
Shrubs and Vines	
Creeper, Trumpet	*Campsis radicans*
Cucumber, Wild	*Echinocystis lobata*
Dogwood, Stiff	*Cornus foemina*
Dogwood, Silky	*Cornus amomum*
Grape	*Vitis sp.*
Honeysuckle, Tartarian	*Lonicera tartarica*
Ivy, Poison	*Toxicodendron radicans*
Wildflowers	
Artichoke, Jerusalem	*Helianthus tuberosus*
Aster, White Heath	*Aster pilosus*
Beardtongue, White	*Penstemon digitalis*
Bush Clover, Slender	*Lespedeza virginica*
Camphorweed	*Heterotheca subaxillaris*
Cleavers	*Galium aparine*
Clotbur, Common	*Xanthium chinense*
Dodder, Common	*Cuscuta gronovii*
Evening Primrose, Common	*Oenothera biennis*
Fog Fruit, Northern	*Phyla lanceolate*
Goldenrod, Canada	*Solidago canadensis*
Goldenrod, Late (Giant)	*Solidago gigantean*
Goldenrod, Tall	*Solidago altissima*
Hawkweed	*Hieracium gronovii*
Wildflowers (cont.)	
Horseweed	*Erigeron canadensis*
Jimsonweed	*Datura stramonium*
Knotweed (Jumpseed), Virginia	*Polygonum virginianum*

SAUGET AREA 2 VEGETATIVE SPECIES LIST	
Common Name	***Scientific Name***
Lady's Thumb	*Polygonum persicaria*
Milkweed, Common	*Asclepias syriaca*
Morning Glory, Ivy-Leaved	*Ipomoea hederacea*
Morning Glory, Small Red	*Ipomoea coccinea*
Morning Glory, Small White	*Ipomoea lacunose*
Mullein, Common	*Verbascum thapsus*
Nettle, Tall	*Urtica procera*
Pea, Partridge	*Cassia fasciculata*
Pokeweed, Common	*Phytolacca americana*
Ragweed, Common	*Ambrosia artemisiifolia*
Ragweed, Giant	*Ambrosia trifida*
Snakeroot, White	*Eupatorium rugosum*
Sneezeweed	*Helenium autumnale*
Sunflower, Tickseed	*Bidens aristosa*
Thoroughwort, Tall	*Eupatorium altissimum*
Tick Trefoil, Panicled	*Desmodium paniculatum*
Vetch, Crown	*Coronilla varia*
Water Pepper	*Polygonum hydropiper*
Grasses, Sedges, Rushes	
Brome, Smooth	*Bromus inermis*
Bluestem, Bushy	*Andropogon gerardi*
Dropseed, Tall	*Sporobolus heterolepis*
Fowl Meadowgrass	*Glyceria striata*
Foxtail, Meadow	*Alopecurus pratensis*
Grass, Barnyard	*Echinochloa crusgalli*
Grass, Indian	*Sorghastrum nutans*
Grass, Johnson	*Sorghum halepense*
Grass, Manna	*Glyceria obtuse*
Grass, Orchard	*Dactylis glomerata*
Sedge, Box	*Carex lurida*
Sedge, Umbrella	*Cyperus strigosus*

Table 7-7
Piscivorous COPECs for the Adjacent River Areas
Sauget, IL

Mink Modeling HQs	Osprey Modeling HQs
Nitrobenzene (NOAEL only)	Mercury (NOAEL only)
MCPP (NOAEL only)	
PCBs (NOAEL only)	
Dioxins/furans (NOAEL only)	
Aluminum (NOAEL only)	
Antimony (NOAEL only)	

NOTES:
Analytes listed are only for those exceeding their benchmark/TRV, based on detected values, and were above the background values.
Shaded entries are for those compounds that are COPECs for all receptors and all concentrations.

Table 7-8
Piscivorous COPECs for the Downstream River Areas
Sauget, IL

Mink Modeling HQs	Osprey Modeling HQs
PCBs (NOAEL only) Dioxins/furans (NOAEL only) Aluminum (NOAEL only) Antimony (NOAEL only)	None

NOTES:
Analytes listed are only for those exceeding their benchmark/TRV, based on detected values, and were above the background values.
Shaded entries are for those compounds that are COPECs for all receptors and all concentrations.

Hazard Quotients and Hazard In Ingestion of Fish and Surface Water

Mink

Upstream River

Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Pond Fish (mg/kg)	Area Use Factor (a)	Dietary Percentage of Pond Fish (b)	Dose from Pond Fish (mg/kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Dietary Percentage of River Fish (b)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in Pond Surface Water (mg/L)	Area Use Factor (a)	Dietary Percentage of Pond Surface Water (b)	Dose from Pond Surface Water (mg/kg/day)
SVOCs													
1,2,4-Trichlorobenzene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
1,2 Dichlorobenzene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
1,3 Dichlorobenzene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
1,4 Dichlorobenzene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2,2-Oxybis(1-Chloropropane)	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2,4,5-Trichlorophenol	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2,4,6-Trichlorophenol	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2,4 Dichlorophenol	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2,4 Dimethylphenol	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2,4 Dinitrophenol	0.14	*2.6E+00*	1.0	0.0	0.0E+00	*1.3E+00*	1.0	3.1E-01	0.10	*2.5E-02*	1.0	0.0	0.0E+00
2,4 Dinitrotoluene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2,6 Dinitrotoluene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2 Chloronaphthalene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2 Chlorophenol	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2 Methylnaphthalene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2-Methylphenol (o-Cresol)	0.14	*5.0E-01*	1.0	0.0	0.0E+00	2.1E-01	1.0	5.1E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
2 Nitroaniline	0.14	*2.6E+00*	1.0	0.0	0.0E+00	*1.3E+00*	1.0	3.1E-01	0.10	*2.5E-02*	1.0	0.0	0.0E+00
2 Nitrophenol	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
3,3 Dichlorobenzidine	0.14	*1.0E+00*	1.0	0.0	0.0E+00	*1.0E+00*	1.0	2.5E-01	0.10	*1.0E-02*	1.0	0.0	0.0E+00
3/4 Methylphenol (m&p-Cresol)	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
3 Nitroaniline	0.14	*2.6E+00*	1.0	0.0	0.0E+00	*1.3E+00*	1.0	3.1E-01	0.10	*2.5E-02*	1.0	0.0	0.0E+00
4,6 Dinitro-2-methylphenol	0.14	*2.6E+00*	1.0	0.0	0.0E+00	*1.3E+00*	1.0	3.1E-01	0.10	*2.5E-02*	1.0	0.0	0.0E+00
4 Bromophenyl Phenyl Ether	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
4 Chloro-3-methylphenol	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
4-Chloroaniline	0.14	*1.0E+00*	1.0	0.0	0.0E+00	*5.0E-01*	1.0	1.2E-01	0.10	*1.0E-02*	1.0	0.0	0.0E+00
4-Chlorophenyl Phenyl Ether	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
4 Nitroaniline	0.14	*2.6E+00*	1.0	0.0	0.0E+00	*1.3E+00*	1.0	3.1E-01	0.10	*2.5E-02*	1.0	0.0	0.0E+00
4 Nitrophenol	0.14	*2.6E+00*	1.0	0.0	0.0E+00	*1.3E+00*	1.0	3.1E-01	0.10	*2.5E-02*	1.0	0.0	0.0E+00
Acenaphthene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Acenaphthylene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Anthracene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Benzo(a)anthracene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Benzo(a)pyrene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Benzo(b)fluoranthene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Benzo(g,h,i)perylene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Benzo(k)fluoranthene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
bis(2-Chloroethoxy)methane	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
bis(2-Chloroethyl)ether	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
bis(2-Ethylhexyl)phthalate	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Butyl Benzyl Phthalate	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Carbazole	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Chrysene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Dibenzo(a,h)anthracene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Dibenzofuran	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Diethyl Phthalate	0.14	*5.0E-01*	1.0	0.0	0.0E+00	2.1E-01	1.0	5.1E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Dimethyl Phthalate	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Di-n-butylphthalate	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	3.2E-03	1.0	0.0	0.0E+00
Di-n-octylphthalate	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Fluoranthene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Fluorene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Hexachlorobenzene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Hexachlorobutadiene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Hexachlorocyclopentadiene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Hexachloroethane	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Indeno(1,2,3-cd)pyrene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Isophorone	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Naphthalene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	4.7E-03	1.0	0.0	0.0E+00
Nitrobenzene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
N-Nitroso-di-n-propylamine	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
N-Nitrosodiphenylamine	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Pentachlorophenol	0.14	*2.6E-02*	1.0	0.0	0.0E+00	*1.3E+00*	1.0	3.1E-01	0.10	*5.0E-04*	1.0	0.0	0.0E+00
Phenanthrene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Phenol	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00
Pyrene	0.14	*5.0E-01*	1.0	0.0	0.0E+00	*2.6E-01*	1.0	6.4E-02	0.10	*5.0E-03*	1.0	0.0	0.0E+00

NOTES

(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan

(b) - It was decided to adjust the dietary percentages of the pond fish/water and river fish/water to 0.0% and 100%, respectively, for the mink upstream modeling. This was done because the pond should not be included in the background investigation as it is an on site hazard

(c) - See Table III.C1

NOAEL - No Observable Adverse Effects Level

LOAEL - Lowest Observable Adverse Effects Level

HQ - Hazard Quotient

Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values

A shaded cell indicates an HI of equal to or greater than 1.0.

Table 7-9
Hazard Quotients and Hazard Indices for Ingestion of Fish and Surface Water
Mink
Upstream River
Sauget, IL

Analyte	Concentration of Contaminant in River Surface Water (Plot 1 A-Line) (mg/L)	Dietary Percentage of River Surface Water (b)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (c)		Hazard Quotient	
							(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs										
1,2,4-Trichlorobenzene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.1E+01	4.1E+01	5.7E-03	1.6E-03
1,2-Dichlorobenzene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	6.6E+01	9.2E+02	9.8E-04	7.0E-05
1,3-Dichlorobenzene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	6.6E+01	9.2E+02	9.8E-04	7.0E-05
1,4-Dichlorobenzene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	6.6E+01	1.2E+02	9.8E-04	5.6E-04
2,2'-Oxybis(1-Chloropropane)	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.5E+01	8.2E+01	4.3E-03	7.8E-04
2,4,5-Trichlorophenol	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	7.7E+00	2.3E+01	8.4E-03	2.8E-03
2,4,6-Trichlorophenol	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	3.8E+02	2.3E+01	1.7E-04	2.8E-03
2,4-Dichlorophenol	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	2.3E-01	2.3E+00	2.8E-01	2.8E-02
2,4-Dimethylphenol	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	2.1E+00	1.0E+01	3.1E-02	6.2E-03
2,4-Dinitrophenol	*2.5E-02*	1.0	4.5E-03	0.55	1.0	3.2E-01	1.3E-03	1.3E-02	**2.4E+02**	**2.4E+01**
2,4-Dinitrotoluene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	3.8E-01	2.3E+00	1.7E-01	2.3E-02
2,6-Dinitrotoluene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	5.4E-01	5.4E+00	1.2E-01	1.2E-02
2-Chloronaphthalene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.0E+01	7.5E+01	6.2E-03	2.6E-03
2-Chlorophenol	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	3.8E+01	3.8E+00	1.7E-03	1.7E-02
2-Methylnaphthalene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.2E+03	1.2E+04	5.4E-05	5.4E-06
2-Methylphenol (o-Cresol)	*5.0E-03*	1.0	9.0E-04	0.55	1.0	5.2E-02	2.2E+02	2.2E+03	2.4E-04	2.4E-05
2-Nitroaniline	*2.5E-02*	1.0	4.5E-03	0.55	1.0	3.2E-01	3.2E+00	3.2E+01	9.8E-02	9.8E-03
2-Nitrophenol	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.9E+00	5.4E+00	3.4E-02	1.2E-02
3,3'-Dichlorobenzidine	*1.0E-02*	1.0	1.8E-03	0.55	1.0	2.5E-01	2.0E+01	2.1E+02	1.3E-02	1.2E-03
3/4 Methylphenol (m&p-Cresol)	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	2.2E+02	2.2E+03	2.9E-04	2.9E-05
3-Nitroaniline	*2.5E-02*	1.0	4.5E-03	0.55	1.0	3.2E-01	3.2E+00	3.2E+01	9.8E-02	9.8E-03
4,6-Dinitro-2-methylphenol	*2.5E-02*	1.0	4.5E-03	0.55	1.0	3.2E-01	1.9E-01	3.5E+00	**1.6E+00**	9.0E-02
4-Bromophenyl Phenyl Ether	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	7.7E-01	6.2E+00	8.4E-02	1.0E-02
4-Chloro-3-methylphenol	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	8.6E+01	8.6E+02	7.5E-04	7.5E-05
4-Chloroaniline	*1.0E-02*	1.0	1.8E-03	0.55	1.0	1.3E-01	9.6E-01	9.6E+00	1.3E-01	1.3E-02
4-Chlorophenyl Phenyl Ether	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	7.7E-01	6.2E+00	8.4E-02	1.0E-02
4-Nitroaniline	*2.5E-02*	1.0	4.5E-03	0.55	1.0	3.2E-01	3.2E+00	3.2E+01	9.8E-02	9.8E-03
4-Nitrophenol	*2.5E-02*	1.0	4.5E-03	0.55	1.0	3.2E-01	1.9E+00	5.4E+00	1.6E-01	5.9E-02
Acenaphthene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	7.3E+00	1.5E+01	8.8E-03	4.4E-03
Acenaphthylene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	7.3E+00	1.5E+01	8.8E-03	4.4E-03
Anthracene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.2E+01	4.2E+02	1.5E-03	1.5E-04
Benzo(a)anthracene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.2E-01	4.2E+00	1.5E-01	1.5E-02
Benzo(a)pyrene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.2E-01	4.2E+00	1.5E-01	1.5E-02
Benzo(b)fluoranthene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.2E-01	4.2E+00	1.5E-01	1.5E-02
Benzo(g,h,i)perylene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.2E-01	4.2E+00	1.5E-01	1.5E-02
Benzo(k)fluoranthene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.2E-01	4.2E+00	1.5E-01	1.5E-02
bis(2-Chloroethoxy)methane	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.5E+01	8.2E+01	4.3E-03	7.8E-04
bis(2-Chloroethyl)ether	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.5E+01	8.2E+01	4.3E-03	7.8E-04
bis(2-Ethylhexyl)phthalate	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	7.6E+00	7.6E+01	8.5E-03	8.5E-04
Butyl Benzyl Phthalate	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.2E+01	3.6E+01	5.3E-03	1.8E-03
Carbazole	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.2E+00	1.2E+01	5.2E-02	5.2E-03
Chrysene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.2E-01	4.2E+00	1.5E-01	1.5E-02
Dibenzo(a,h)anthracene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.2E-01	4.2E+00	1.5E-01	1.5E-02
Dibenzofuran	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.0E-02	1.0E-01	**6.4E+00**	6.4E-01
Diethyl Phthalate	*5.0E-03*	1.0	9.0E-04	0.55	1.0	5.2E-02	1.9E+03	1.9E+04	2.7E-05	2.7E-06
Dimethyl Phthalate	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.9E+03	1.9E+04	3.4E-05	3.4E-06
Di-n-butylphthalate	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	2.3E+02	7.6E+02	2.8E-04	8.4E-05
Di-n-octylphthalate	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	2.3E+02	7.6E+02	2.8E-04	8.4E-05
Fluoranthene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	5.2E+00	1.0E+01	1.2E-02	6.2E-03
Fluorene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	5.2E+00	1.0E+01	1.2E-02	6.2E-03
Hexachlorobenzene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	6.2E-02	2.2E-01	**1.0E+00**	2.9E-01
Hexachlorobutadiene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.5E-01	1.5E-01	4.2E-01	4.2E-01
Hexachlorocyclopentadiene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.6E-01	8.5E-01	1.4E-01	7.6E-02
Hexachloroethane	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	7.7E-02	1.2E+00	8.4E-01	5.6E-02
Indeno(1,2,3-cd)pyrene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.2E-01	4.2E+00	1.5E-01	1.5E-02
Isophorone	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	2.8E+01	1.4E+02	2.3E-03	4.7E-04
Naphthalene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	5.5E+00	1.1E+01	1.2E-02	5.9E-03
Nitrobenzene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.9E-02	1.9E-01	**3.4E+00**	3.4E-01
N-Nitroso-di-n-propylamine	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.2E-03	4.2E-02	**1.5E+01**	**1.5E+00**
N-Nitrosodiphenylamine	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	1.5E+02	3.8E+01	4.2E-04	1.7E-03
Pentachlorophenol	*5.0E-04*	1.0	9.0E-05	0.55	1.0	3.1E-01	1.8E-01	1.8E+00	**1.7E+00**	1.7E-01
Phenanthrene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	7.3E+00	1.5E+01	8.8E-03	4.4E-03
Phenol	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	4.6E+01	9.2E+01	1.4E-03	7.0E-04
Pyrene	*5.0E-03*	1.0	9.0E-04	0.55	1.0	6.4E-02	3.1E+00	5.2E+00	2.1E-02	1.2E-02
Hazard Index - SVOCs									**2.7E+02**	**2.8E+01**

NOTES
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - It was decided to adjust the dietary percentages of the pond fish/water and river fish/water to 0.0% and 100%, respectively, for the mink upstream modeling. This was done because the pond should not be included in the background investigation as it is an on-site hazard.
(c) - See Table III-C1.

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non detected values or a mean/95% UCL based entirely on non detected values
A shaded cell indicates an HI of equal to or greater than 1.0.

Hazard Quotients and Hazard I ingestion of Fish and Surface Water
..nk
Upstream River
Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Pond Fish (mg/kg)	Area Use Factor (a)	Dietary Percentage of Pond Fish (b)	Dose from Pond Fish (mg/kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Dietary Percentage of River Fish (b)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in Pond Surface Water (mg/L)	Area Use Factor (a)	Dietary Percentage of Pond Surface Water (b)	Dose from Pond Surface Water (mg/kg/day)
Pesticides													
4,4-DDD	0.14	***5.0E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***5.0E-05***	1.0	0.0	0.0E+00
4,4-DDE	0.14	***5.0E-03***	1.0	0.0	0.0E+00	2.1E-02	1.0	5.2E-03	0.10	***5.0E-05***	1.0	0.0	0.0E+00
4,4-DDT	0.14	***2.0E-02***	1.0	0.0	0.0E+00	1.5E-02	1.0	3.7E-03	0.10	3.9E-05	1.0	0.0	0.0E+00
Aldrin	0.14	***2.6E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	1.7E-05	1.0	0.0	0.0E+00
alpha-BHC	0.14	***2.6E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***2.5E-05***	1.0	0.0	0.0E+00
alpha-Chlordane	0.14	***2.6E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***2.5E-05***	1.0	0.0	0.0E+00
beta-BHC	0.14	***2.6E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	1.6E-05	1.0	0.0	0.0E+00
delta-BHC	0.14	2.4E-02	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***2.5E-05***	1.0	0.0	0.0E+00
Dieldrin	0.14	1.4E-01	1.0	0.0	0.0E+00	2.1E-02	1.0	5.3E-03	0.10	3.0E-05	1.0	0.0	0.0E+00
Endosulfan I	0.14	***2.6E-03***	1.0	0.0	0.0E+00	1.4E-02	1.0	3.4E-03	0.10	***2.5E-05***	1.0	0.0	0.0E+00
Endosulfan II	0.14	***5.0E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***5.0E-05***	1.0	0.0	0.0E+00
Endosulfan Sulfate	0.14	***5.0E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***5.0E-05***	1.0	0.0	0.0E+00
Endrin	0.14	***5.0E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***5.0E-05***	1.0	0.0	0.0E+00
Endrin Aldehyde	0.14	***5.0E-03***	1.0	0.0	0.0E+00	1.3E-02	1.0	3.1E-03	0.10	***5.0E-05***	1.0	0.0	0.0E+00
Endrin Ketone	0.14	3.6E-03	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***5.0E-05***	1.0	0.0	0.0E+00
gamma-BHC (Lindane)	0.14	***2.6E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***2.5E-05***	1.0	0.0	0.0E+00
gamma-Chlordane	0.14	***2.6E-03***	1.0	0.0	0.0E+00	1.4E-02	1.0	3.6E-03	0.10	***2.5E-05***	1.0	0.0	0.0E+00
Heptachlor	0.14	***2.6E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***2.5E-05***	1.0	0.0	0.0E+00
Heptachlor Epoxide	0.14	***2.6E-03***	1.0	0.0	0.0E+00	***1.7E-02***	1.0	4.2E-03	0.10	***2.5E-05***	1.0	0.0	0.0E+00
Methoxychlor	0.14	***2.6E-02***	1.0	0.0	0.0E+00	***6.7E-02***	1.0	1.7E-02	0.10	***2.5E-04***	1.0	0.0	0.0E+00
Toxaphene	0.14	***2.6E-01***	1.0	0.0	0.0E+00	***5.7E-01***	1.0	1.4E-01	0.10	***2.5E-03***	1.0	0.0	0.0E+00
Herbicides													
2,4-D	0.14	***1.3E-02***	1.0	0.0	0.0E+00	***4.2E-03***	1.0	1.0E-03	0.10	***2.5E-04***	1.0	0.0	0.0E+00
2,4-DB	0.14	***1.3E-02***	1.0	0.0	0.0E+00	***4.2E-03***	1.0	1.0E-03	0.10	***2.5E-04***	1.0	0.0	0.0E+00
2,4,5-T	0.14	***1.3E-02***	1.0	0.0	0.0E+00	5.1E-03	1.0	1.3E-03	0.10	***2.5E-04***	1.0	0.0	0.0E+00
2,4,5-TP (Silvex)	0.14	***1.3E-02***	1.0	0.0	0.0E+00	5.3E-03	1.0	1.3E-03	0.10	***2.5E-04***	1.0	0.0	0.0E+00
Dalapon	0.14	***3.0E+00***	1.0	0.0	0.0E+00	***1.0E+00***	1.0	2.5E-01	0.10	***6.0E-02***	1.0	0.0	0.0E+00
Dicamba	0.14	***3.0E-02***	1.0	0.0	0.0E+00	7.2E-03	1.0	1.8E-03	0.10	***6.0E-04***	1.0	0.0	0.0E+00
Dichlorprop	0.14	***1.5E-01***	1.0	0.0	0.0E+00	***5.0E-02***	1.0	1.2E-02	0.10	***3.0E-03***	1.0	0.0	0.0E+00
Dinoseb	0.14	***5.0E-01***	1.0	0.0	0.0E+00	***5.0E-02***	1.0	1.2E-02	0.10	***5.0E-03***	1.0	0.0	0.0E+00
MCPA	0.14	***3.0E+00***	1.0	0.0	0.0E+00	***1.0E+00***	1.0	2.5E-01	0.10	***6.0E-02***	1.0	0.0	0.0E+00
MCPP	0.14	***3.0E+00***	1.0	0.0	0.0E+00	***1.0E+00***	1.0	2.5E-01	0.10	***6.0E-02***	1.0	0.0	0.0E+00
PCBs													
Total PCBs	0.14	8.4E+00	1.0	0.0	0.0E+00	***2.5E-02***	1.0	6.2E-03	0.10	***2.5E-04***	1.0	0.0	0.0E+00
Dioxins/Furans (d)													
TEQ	0.14	9.9E-06	1.0	0.0	0.0E+00	1.8E-06	1.0	4.4E-07	0.10	1.1E-08	1.0	0.0	0.0E+00
Metals (e)													
Aluminum	0.14	1.6E+01	1.0	0.0	0.0E+00	2.1E+00	1.0	5.3E-01	0.10	3.9E+00	1.0	0.0	0.0E+00
Antimony	0.14	***9.0E-01***	1.0	0.0	0.0E+00	***4.0E-01***	1.0	1.0E-01	0.10	***1.0E-02***	1.0	0.0	0.0E+00
Arsenic	0.14	7.3E-01	1.0	0.0	0.0E+00	***5.7E+00***	1.0	1.4E+00	0.10	4.7E-03	1.0	0.0	0.0E+00
Barium	0.14	5.3E+00	1.0	0.0	0.0E+00	3.8E+01	1.0	9.5E+00	0.10	1.6E-01	1.0	0.0	0.0E+00
Beryllium	0.14	***1.8E-01***	1.0	0.0	0.0E+00	***1.2E-01***	1.0	3.1E-02	0.10	***2.0E-03***	1.0	0.0	0.0E+00
Cadmium	0.14	***2.3E-01***	1.0	0.0	0.0E+00	***2.3E+00***	1.0	5.6E-01	0.10	1.6E-03	1.0	0.0	0.0E+00
Chromium	0.14	3.3E-01	1.0	0.0	0.0E+00	***9.5E-02***	1.0	2.4E-02	0.10	7.5E-03	1.0	0.0	0.0E+00
Cobalt	0.14	***4.6E-01***	1.0	0.0	0.0E+00	***8.7E+00***	1.0	2.2E+00	0.10	4.3E-03	1.0	0.0	0.0E+00
Copper	0.14	9.1E-01	1.0	0.0	0.0E+00	***7.1E+00***	1.0	1.8E+00	0.10	1.2E-02	1.0	0.0	0.0E+00
Lead	0.14	***2.3E-01***	1.0	0.0	0.0E+00	***2.3E-04***	1.0	5.6E-05	0.10	8.3E-03	1.0	0.0	0.0E+00
Manganese	0.14	9.9E+00	1.0	0.0	0.0E+00	1.5E+02	1.0	3.6E+01	0.10	2.5E-01	1.0	0.0	0.0E+00
Mercury	0.14	6.2E-02	1.0	0.0	0.0E+00	***1.1E+00***	1.0	2.8E-01	0.10	***1.0E-04***	1.0	0.0	0.0E+00
Nickel	0.14	***1.8E+00***	1.0	0.0	0.0E+00	***1.6E+00***	1.0	3.9E-01	0.10	1.5E-02	1.0	0.0	0.0E+00
Selenium	0.14	***4.6E-01***	1.0	0.0	0.0E+00	***6.5E-01***	1.0	1.6E-01	0.10	***5.0E-03***	1.0	0.0	0.0E+00
Silver	0.14	***4.6E-01***	1.0	0.0	0.0E+00	***4.4E-01***	1.0	1.1E-01	0.10	***5.0E-03***	1.0	0.0	0.0E+00
Thallium	0.14	***4.6E-01***	1.0	0.0	0.0E+00	***5.0E+01***	1.0	1.2E+01	0.10	***5.0E-03***	1.0	0.0	0.0E+00
Vanadium	0.14	***4.6E-01***	1.0	0.0	0.0E+00	***8.7E+00***	1.0	2.2E+00	0.10	1.2E-02	1.0	0.0	0.0E+00
Zinc	0.14	4.6E+01	1.0	0.0	0.0E+00	***2.1E+01***	1.0	5.1E+00	0.10	3.1E-02	1.0	0.0	0.0E+00

NOTES
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - It was decided to adjust the dietary percentages of the pond fish/water and river fish/water to 0.0% and 100%, respectively, for the mink upstream modeling. This was done because the pond should not be included in the background investigation as it is an on site hazard
(c) - See Table III-C1
(d) - Dioxins/furans were not analyzed for the A-Line surface water samples. The B-Line sample values for dioxins/furans were used instead.
(e) - Metals were not analyzed for whole-body river fish tissue. Therefore, the surface water values were multiplied by their surface water to fish bioconcentration factors (BCFs) (USEPA, 1999). See Table III-B10

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
A shaded cell indicates an HI of equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-9
Hazard Quotients and Hazard Indices for Ingestion of Fish and Surface Water
Mink
Upstream River
Sauget, IL

Analyte	Concentration of Contaminant in River Surface Water (Plot 1 A-Line) (mg/L)	Dietary Percentage of River Surface Water (b)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (c)		Hazard Quotient	
							(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides										
4,4'-DDD	*5.0E-05*	1.0	9.0E-06	0.55	1.0	4.2E-03	6.2E-01	3.1E+00	6.8E-03	1.4E-03
4,4'-DDE	*5.0E-05*	1.0	9.0E-06	0.55	1.0	5.2E-03	6.2E-01	3.1E+00	8.5E-03	1.7E-03
4,4'-DDT	*5.0E-05*	1.0	9.0E-06	0.55	1.0	3.8E-03	6.2E-01	3.1E+00	6.1E-03	1.2E-03
Aldrin	*2.5E-05*	1.0	4.5E-06	0.55	1.0	4.2E-03	1.5E-01	7.7E-01	2.7E-02	5.4E-03
alpha-BHC	*2.5E-05*	1.0	4.5E-06	0.55	1.0	4.2E-03	1.4E-02	1.4E-01	3.0E-01	3.0E-02
alpha-Chlordane	*2.5E-05*	1.0	4.5E-06	0.55	1.0	4.2E-03	1.9E+00	3.8E+00	2.2E-03	1.1E-03
beta-BHC	*2.5E-05*	1.0	4.5E-06	0.55	1.0	4.2E-03	3.1E-01	1.5E+00	1.4E-02	2.7E-03
delta-BHC	*2.5E-05*	1.0	4.5E-06	0.55	1.0	4.2E-03	1.4E-02	1.4E-01	3.0E-01	3.0E-02
Dieldrin	*5.0E-05*	1.0	9.0E-06	0.55	1.0	5.3E-03	1.5E-02	1.5E-01	3.4E-01	3.4E-02
Endosulfan I	*2.5E-05*	1.0	4.5E-06	0.55	1.0	3.4E-03	1.2E-01	1.2E+00	2.9E-02	2.9E-03
Endosulfan II	*5.0E-05*	1.0	9.0E-06	0.55	1.0	4.2E-03	1.2E-01	1.2E+00	3.6E-02	3.6E-03
Endosulfan Sulfate	*5.0E-05*	1.0	9.0E-06	0.55	1.0	4.2E-03	1.2E-01	1.2E+00	3.6E-02	3.6E-03
Endrin	*5.0E-05*	1.0	9.0E-06	0.55	1.0	4.2E-03	3.8E-02	3.8E-01	1.1E-01	1.1E-02
Endrin Aldehyde	*5.0E-05*	1.0	9.0E-06	0.55	1.0	3.1E-03	3.8E-02	3.8E-01	8.2E-02	8.2E-03
Endrin Ketone	*5.0E-05*	1.0	9.0E-06	0.55	1.0	4.2E-03	3.8E-02	3.8E-01	1.1E-01	1.1E-02
gamma-BHC (Lindane)	*2.5E-05*	1.0	4.5E-06	0.55	1.0	4.2E-03	6.2E+00	6.2E+01	6.8E-04	6.8E-05
gamma-Chlordane	*2.5E-05*	1.0	4.5E-06	0.55	1.0	3.6E-03	1.9E+00	3.8E+00	1.9E-03	9.4E-04
Heptachlor	*2.5E-05*	1.0	4.5E-06	0.55	1.0	4.2E-03	1.0E-01	1.0E+00	4.2E-02	4.2E-03
Heptachlor Epoxide	*2.5E-05*	1.0	4.5E-06	0.55	1.0	4.2E-03	9.6E-04	2.4E-02	4.3E+00	1.8E-01
Methoxychlor	*2.5E-04*	1.0	4.5E-05	0.55	1.0	1.7E-02	3.1E+00	6.2E+00	5.4E-03	2.7E-03
Toxaphene	*2.5E-03*	1.0	4.5E-04	0.55	1.0	1.4E-01	6.2E+00	6.2E+01	2.3E-02	2.3E-03
									5.8E+00	3.3E-01
Herbicides										
2,4-D	*2.5E-04*	1.0	4.5E-05	0.55	1.0	1.1E-03	7.7E-01	3.8E+00	1.4E-03	2.8E-04
2,4-DB	*2.5E-04*	1.0	4.5E-05	0.55	1.0	1.1E-03	1.5E+00	4.7E+00	7.1E-04	2.3E-04
2,4,5-T	*2.5E-04*	1.0	4.5E-05	0.55	1.0	1.3E-03	2.3E+00	7.7E+00	5.7E-04	1.7E-04
2,4,5-TP (Silvex)	*2.5E-04*	1.0	4.5E-05	0.55	1.0	1.4E-03	1.4E+00	4.7E+00	9.6E-04	2.9E-04
Dalapon	*6.0E-02*	1.0	1.1E-02	0.55	1.0	2.6E-01	6.5E+00	2.2E+01	4.0E-02	1.2E-02
Dicamba	*6.0E-04*	1.0	1.1E-04	0.55	1.0	1.9E-03	3.1E+00	1.0E+01	6.1E-04	1.8E-04
Dichlorprop	*3.0E-03*	1.0	5.4E-04	0.55	1.0	1.3E-02	8.3E-02	8.3E-01	1.6E-01	1.6E-02
Dinoseb	*5.0E-03*	1.0	9.0E-04	0.55	1.0	1.3E-02	7.7E-02	7.7E-01	1.7E-01	1.7E-02
MCPA	*6.0E-02*	1.0	1.1E-02	0.55	1.0	2.6E-01	2.8E-01	1.4E+00	9.2E-01	1.8E-01
MCPP	*6.0E-02*	1.0	1.1E-02	0.55	1.0	2.6E-01	2.3E-01	6.9E-01	1.1E+00	3.8E-01
									2.4E+00	6.0E-01
PCBs										
Total PCBs	*2.5E-04*	1.0	4.5E-05	0.55	1.0	6.3E-03	7.7E-02	7.7E-01	8.2E-02	8.2E-03
Dioxin/Furans (d)										
TEQ	*2.1E-09*	1.0	3.8E-10	0.55	1.0	4.4E-07	7.7E-07	7.7E-06	5.7E-01	5.7E-02
Metals (e)										
Aluminum	7.9E-01	1.0	1.4E-01	0.55	1.0	6.7E-01	8.0E-01	8.0E+00	8.4E-01	8.4E-02
Antimony	*1.0E-02*	1.0	1.8E-03	0.55	1.0	1.0E-01	5.2E-02	5.2E-01	1.9E+00	1.9E-01
Arsenic	*5.0E-02*	1.0	9.0E-03	0.55	1.0	1.4E+00	5.2E-02	5.2E-01	2.7E+01	2.7E+00
Barium	6.0E-02	1.0	1.1E-02	0.55	1.0	9.5E+00	3.9E+00	1.5E+01	2.4E+00	6.2E-01
Beryllium	*2.0E-03*	1.0	3.6E-04	0.55	1.0	3.1E-02	5.1E-01	5.1E+00	6.2E-02	6.2E-03
Cadmium	*2.5E-03*	1.0	4.5E-04	0.55	1.0	5.7E-01	7.7E-01	7.7E+00	7.3E-01	7.3E-02
Chromium	*5.0E-03*	1.0	9.0E-04	0.55	1.0	2.5E-02	2.5E+00	1.0E+01	9.7E-03	2.4E-03
Cobalt	*5.0E-03*	1.0	9.0E-04	0.55	1.0	2.2E+00	3.8E-02	3.8E-01	5.6E+01	5.6E+00
Copper	*1.0E-02*	1.0	1.8E-03	0.55	1.0	1.8E+00	1.2E+01	1.5E+01	1.5E-01	1.1E-01
Lead	*2.5E-03*	1.0	4.5E-04	0.55	1.0	5.1E-04	6.2E+00	6.2E+01	8.2E-05	8.2E-06
Manganese	8.4E-02	1.0	1.5E-02	0.55	1.0	3.6E+01	6.8E+01	2.2E+02	5.4E-01	1.7E-01
Mercury	*1.0E-04*	1.0	1.8E-05	0.55	1.0	2.8E-01	1.5E-02	2.5E-02	1.9E+01	1.1E+01
Nickel	*2.0E-02*	1.0	3.6E-03	0.55	1.0	3.9E-01	3.1E+01	6.2E+01	1.3E-02	6.4E-03
Selenium	*5.0E-03*	1.0	9.0E-04	0.55	1.0	1.6E-01	1.5E-01	2.5E-01	1.1E+00	6.4E-01
Silver	*5.0E-03*	1.0	9.0E-04	0.55	1.0	1.1E-01	7.5E-02	7.5E-01	1.5E+00	1.5E-01
Thallium	*5.0E-03*	1.0	9.0E-04	0.55	1.0	1.2E+01	5.7E-03	5.7E-02	2.2E+03	2.2E+02
Vanadium	5.0E-03	1.0	9.0E-04	0.55	1.0	2.2E+00	1.6E-01	1.6E+00	1.3E+01	1.3E+00
Zinc	*1.0E-02*	1.0	1.8E-03	0.55	1.0	5.1E+00	1.2E+02	2.5E+02	4.2E-02	2.1E-02
Hazard Index - Metals									2.3E+03	2.4E+02

NOTES
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - It was decided to adjust the dietary percentages of the pond fish/water and river fish/water to 0.0% and 100%, respectively, for the mink upstream modeling. This was done because the pond should not be included in the background investigation as it is an on site hazard.
(c) - See Table III.C1
(d) - Dioxins/furans were not analyzed for the A-Line surface water samples. The B-Line sample values for dioxins/furans were used instead.
(e) - Metals were not analyzed for whole body river fish tissue. Therefore, the surface water values were multiplied by their surface water to fish bioconcentration factors (BCFs) (USEPA, 1999). See Table III.B10.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
A shaded cell indicates an HI of equal to or greater than 1.0.

Hazard Quotients and Hazard Ir ... ngestion of Fish and Surface Water

Adjacent River
Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant In Pond Fish (mg/kg)	Area Use Factor (a)	Dietary Percentage of Pond Fish (b)	Dose from Pond Fish (mg/kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Dietary Percentage of River Fish (b)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant In Pond Surface Water (mg/L)	Area Use Factor (a)	Dietary Percentage of Pond Surface Water (b)	Dose from Pond Surface Water (mg/kg/day)
SVOCs													
1,2,4-Trichlorobenzene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
1,2-Dichlorobenzene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	2.3E-01	0.72	4.1E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
1,3-Dichlorobenzene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
1,4-Dichlorobenzene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	2.4E-01	0.72	4.3E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2,2-Oxybis(1-Chloropropane)	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2,4,5-Trichlorophenol	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2,4,6-Trichlorophenol	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2,4-Dichlorophenol	0.14	***5.0E-01***	1.0	0.28	3.5E-02	2.3E-01	0.72	4.1E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2,4-Dimethylphenol	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2,4-Dinitrophenol	0.14	***2.6E+00***	1.0	0.28	1.8E-01	***1.3E+00***	0.72	2.2E-01	0.10	***2.5E-02***	1.0	0.28	1.3E-03
2,4-Dinitrotoluene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2,6-Dinitrotoluene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2-Chloronaphthalene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2-Chlorophenol	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2-Methylnaphthalene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2-Methylphenol (o-Cresol)	0.14	***5.0E-01***	1.0	0.28	3.5E-02	2.2E-01	0.72	4.0E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
2-Nitroaniline	0.14	***2.6E+00***	1.0	0.28	1.8E-01	***1.3E+00***	0.72	2.2E-01	0.10	***2.5E-02***	1.0	0.28	1.3E-03
2-Nitrophenol	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
3,3-Dichlorobenzidine	0.14	***1.0E+00***	1.0	0.28	7.0E-02	***1.0E+00***	0.72	1.8E-01	0.10	***1.0E-02***	1.0	0.28	5.0E-04
3/4-Methylphenol (m&p Cresol)	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
3-Nitroaniline	0.14	***2.6E+00***	1.0	0.28	1.8E-01	***1.3E+00***	0.72	2.2E-01	0.10	***2.5E-02***	1.0	0.28	1.3E-03
4,6-Dinitro-2-methylphenol	0.14	***2.6E+00***	1.0	0.28	1.8E-01	***1.3E+00***	0.72	2.2E-01	0.10	***2.5E-02***	1.0	0.28	1.3E-03
4-Bromophenyl Phenyl Ether	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
4-Chloro-3-methylphenol	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
4-Chloroaniline	0.14	***1.0E+00***	1.0	0.28	7.0E-02	***5.0E-01***	0.72	8.9E-02	0.10	***1.0E-02***	1.0	0.28	5.0E-04
4-Chlorophenyl Phenyl Ether	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
4-Nitroaniline	0.14	***2.6E+00***	1.0	0.28	1.8E-01	***1.3E+00***	0.72	2.2E-01	0.10	***2.5E-02***	1.0	0.28	1.3E-03
4-Nitrophenol	0.14	***2.6E+00***	1.0	0.28	1.8E-01	***1.3E+00***	0.72	2.2E-01	0.10	***2.5E-02***	1.0	0.28	1.3E-03
Acenaphthene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Acenaphthylene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Anthracene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Benzo(a)anthracene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Benzo(a)pyrene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Benzo(b)fluoranthene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Benzo(g,h,i)perylene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Benzo(k)fluoranthene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
bis(2-Chloroethoxy)methane	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
bis(2-Chloroethyl)ether	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
bis(2-Ethylhexyl)phthalate	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Butyl Benzyl Phthalate	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Carbazole	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Chrysene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Dibenzo(a,h)anthracene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Dibenzofuran	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Diethyl Phthalate	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Dimethyl Phthalate	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Di-n-butylphthalate	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	3.2E-03	1.0	0.28	1.6E-04
Di-n-octylphthalate	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Fluoranthene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Fluorene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Hexachlorobenzene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Hexachlorobutadiene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Hexachlorocyclopentadiene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Hexachloroethane	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Indeno(1,2,3-cd)pyrene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Isophorone	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Naphthalene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	4.7E-03	1.0	0.28	2.3E-04
Nitrobenzene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
N-Nitrosodi-n-propylamine	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
N-Nitrosodiphenylamine	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Pentachlorophenol	0.14	***2.6E-02***	1.0	0.28	1.8E-03	***1.3E+00***	0.72	2.2E-01	0.10	***5.0E-04***	1.0	0.28	2.5E-05
Phenanthrene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Phenol	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Pyrene	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***2.6E-01***	0.72	4.6E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04

NOTES
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) The dietary percentage of the pond and river fish/water were calculated by dividing the length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site
i.e. Small Pond = 1,375 ft, Large Pond = 2,770 ft, River = 14,956 ft so % for pond fish/water ingestion = (1,375+2,770)/14956 = 0.28
(c) - See Table III-C1

NOAEL No Observable Adverse Effects Level
LOAEL Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
A shaded cell indicates an HI of equal to or greater than 1.0.

Table 7-10
Hazard Quotients and Hazard Indices for Ingestion of Fish and Surface Water
Mink
Adjacent River
Sauget, IL

Analyte	Concentration of Contaminant in River Surface Water (Plots 2-5 A-Line) (mg/L)	Dietary Percentage of River Surface Water (b)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (c)		Hazard Quotient	
							(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs										
1,2,4-Trichlorobenzene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.1E+01	4.1E+01	7.1E-03	2.0E-03
1,2-Dichlorobenzene	7.5E-03	0.72	9.7E-04	0.55	1.0	7.7E-02	6.6E+01	9.2E+02	1.2E-03	8.3E-05
1,3-Dichlorobenzene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	6.6E+01	9.2E+02	1.2E-03	8.8E-05
1,4-Dichlorobenzene	4.9E-03	0.72	6.4E-04	0.55	1.0	7.9E-02	6.6E+01	1.2E+02	1.2E-03	6.8E-04
2,2'-Oxybis(1-Chloropropane)	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.5E+01	8.2E+01	5.4E-03	9.8E-04
2,4,5-Trichlorophenol	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	7.7E+00	2.3E+01	1.1E-02	3.5E-03
2,4,6-Trichlorophenol	5.9E-03	0.72	7.6E-04	0.55	1.0	8.1E-02	3.8E+02	2.3E+01	2.1E-04	3.5E-03
2,4-Dichlorophenol	8.3E-03	0.72	1.1E-03	0.55	1.0	7.7E-02	2.3E-01	2.3E+00	3.3E-01	3.3E-02
2,4-Dimethylphenol	5.2E-03	0.72	6.8E-04	0.55	1.0	8.1E-02	2.1E+00	1.0E+01	3.9E-02	7.8E-03
2,4-Dinitrophenol	*2.5E-02*	0.72	3.2E-03	0.55	1.0	4.1E-01	1.3E-03	1.3E-02	3.1E+02	3.1E+01
2,4-Dinitrotoluene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	3.8E-01	2.8E+00	2.1E-01	2.9E-02
2,6-Dinitrotoluene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	5.4E-01	5.4E+00	1.5E-01	1.5E-02
2-Chloronaphthalene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.0E+01	2.5E+01	7.8E-03	3.3E-03
2-Chlorophenol	5.9E-03	0.72	7.7E-04	0.55	1.0	8.1E-02	3.8E+01	3.8E+00	2.1E-03	2.1E-02
2-Methylnaphthalene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.2E+03	1.2E+04	6.8E-05	6.8E-06
2-Methylphenol (o-Cresol)	*5.0E-03*	0.72	6.5E-04	0.55	1.0	7.5E-02	2.2E+02	2.2E+03	3.4E-04	3.4E-05
2-Nitroaniline	*2.5E-02*	0.72	3.2E-03	0.55	1.0	4.1E-01	3.2E+00	3.2E+01	1.3E-01	1.3E-02
2-Nitrophenol	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.9E+00	5.4E+00	4.2E-02	1.5E-02
3,3'-Dichlorobenzidine	*1.0E-02*	0.72	1.3E-03	0.55	1.0	2.5E-01	2.0E+01	2.1E+02	1.3E-02	1.2E-03
3/4-Methylphenol (m&p-Cresol)	6.6E-03	0.72	8.5E-04	0.55	1.0	8.1E-02	2.2E+02	2.2E+03	3.7E-04	3.7E-05
3-Nitroaniline	*2.5E-02*	0.72	3.2E-03	0.55	1.0	4.1E-01	3.2E+00	3.2E+01	1.3E-01	1.3E-02
4,6-Dinitro-2-methylphenol	*2.5E-02*	0.72	3.2E-03	0.55	1.0	4.1E-01	1.9E-01	3.5E+00	2.1E+00	1.2E-01
4-Bromophenyl Phenyl Ether	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	7.7E-01	6.2E+00	1.1E-01	1.3E-02
4-Chloro-3-methylphenol	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	8.6E+01	8.6E+02	9.4E-04	9.4E-05
4-Chloroaniline	1.8E-02	0.72	2.4E-03	0.55	1.0	1.6E-01	9.6E-01	9.6E+00	1.7E-01	1.7E-02
4-Chlorophenyl Phenyl Ether	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	7.7E-01	6.2E+00	1.1E-01	1.3E-02
4-Nitroaniline	*2.5E-02*	0.72	3.2E-03	0.55	1.0	4.1E-01	3.2E+00	3.2E+01	1.3E-01	1.3E-02
4-Nitrophenol	*2.5E-02*	0.72	3.2E-03	0.55	1.0	4.1E-01	1.9E+00	5.4E+00	2.1E-01	7.6E-02
Acenaphthene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	7.3E+00	1.5E+01	1.1E-02	5.6E-03
Acenaphthylene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	7.3E+00	1.5E+01	1.1E-02	5.6E-03
Anthracene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E+01	4.2E+02	2.0E-03	2.0E-04
Benzo(a)anthracene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Benzo(a)pyrene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Benzo(b)fluoranthene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Benzo(g,h,i)perylene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Benzo(k)fluoranthene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
bis(2-Chloroethoxy)methane	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.5E+01	8.2E+01	5.4E-03	9.8E-04
bis(2-Chloroethyl)ether	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.5E+01	8.2E+01	5.4E-03	9.8E-04
bis(2-Ethylhexyl)phthalate	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	7.6E+00	7.6E+01	1.1E-02	1.1E-03
Butyl Benzyl Phthalate	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.2E+01	3.6E+01	6.6E-03	2.2E-03
Carbazole	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.2E+00	1.2E+01	6.5E-02	6.5E-03
Chrysene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Dibenz(a,h)anthracene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Dibenzofuran	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.0E-02	1.0E-01	8.0E+00	8.0E-01
Diethyl Phthalate	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.9E+03	1.9E+04	4.3E-05	4.3E-06
Dimethyl Phthalate	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.9E+03	1.9E+04	4.3E-05	4.3E-06
Di-n-butylphthalate	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	2.3E+02	7.6E+02	3.5E-04	1.1E-04
Di-n-octylphthalate	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	2.3E+02	7.6E+02	3.5E-04	1.1E-04
Fluoranthene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	5.2E+00	1.0E+01	1.6E-02	7.8E-03
Fluorene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	5.2E+00	1.0E+01	1.6E-02	7.8E-03
Hexachlorobenzene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	6.2E-02	2.2E-01	1.3E+00	3.6E-01
Hexachlorobutadiene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.5E-01	1.5E-01	5.3E-01	5.3E-01
Hexachlorocyclopentadiene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.6E-01	8.5E-01	1.8E-01	9.6E-02
Hexachloroethane	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	7.7E-02	1.2E+00	1.1E+00	7.0E-02
Indeno(1,2,3-cd)pyrene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Isophorone	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	2.8E+01	1.4E+02	2.9E-03	5.9E-04
Naphthalene	6.1E-03	0.72	8.0E-04	0.55	1.0	8.1E-02	5.5E+00	1.1E+01	1.5E-02	7.4E-03
Nitrobenzene	4.8E-03	0.72	6.2E-04	0.55	1.0	8.1E-02	1.9E-02	1.9E-01	4.2E+00	4.2E-01
N-Nitroso-di-n-propylamine	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-03	4.2E-02	2.0E+01	2.0E+00
N-Nitrosodiphenylamine	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	1.5E+02	3.8E+01	5.3E-04	2.1E-03
Pentachlorophenol	6.0E-04	0.72	7.8E-05	0.55	1.0	2.3E-01	1.8E-01	1.8E+00	1.2E+00	1.2E-01
Phenanthrene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	7.3E+00	1.5E+01	1.1E-02	5.6E-03
Phenol	6.1E-03	0.72	7.9E-04	0.55	1.0	8.1E-02	4.6E+01	9.2E+01	1.8E-03	8.8E-04
Pyrene	*5.0E-03*	0.72	6.5E-04	0.55	1.0	8.1E-02	3.1E+00	5.2E+00	2.6E-02	1.6E-02
Hazard Index - SVOCs									3.5E+02	3.6E+01

NOTES
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - The dietary percentage of the pond and river fish/water were calculated by dividing the length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site
i.e. Small Pond = 1,375 ft, Large Pond = 2,770 ft, River = 14,956 ft so % for pond fish/water ingestion = (1,375+2,770)/14956 = 0.28
(c) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
A shaded cell indicates an HI of equal to or greater than 1.0.

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Hazard Quotients and Hazard Ind gestion of Fish and Surface Water

Adjacent River
Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Pond Fish (mg/kg)	Area Use Factor (a)	Dietary Percentage of Pond Fish (b)	Dose from Pond Fish (mg/kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Dietary Percentage of River Fish (b)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in Pond Surface Water (mg/L)	Area Use Factor (a)	Dietary Percentage of Pond Surface Water (b)	Dose from Pond Surface Water (mg/kg/day)
Pesticides													
4,4'-DDD	0.14	*5.0E-03*	1.0	0.28	3.5E-04	1.1E-02	0.72	2.0E-03	0.10	*5.0E-05*	1.0	0.28	2.5E-06
4,4'-DDE	0.14	*5.0E-03*	1.0	0.28	3.5E-04	1.8E-02	0.72	3.3E-03	0.10	*5.0E-05*	1.0	0.28	2.5E-06
4,4'-DDT	0.14	*2.0E-02*	1.0	0.28	1.4E-03	1.3E-02	0.72	2.3E-03	0.10	3.9E-05	1.0	0.28	2.0E-06
Aldrin	0.14	*2.6E-03*	1.0	0.28	1.8E-04	*1.3E-02*	0.72	2.2E-03	0.10	1.7E-05	1.0	0.28	8.5E-07
alpha-BHC	0.14	*2.6E-03*	1.0	0.28	1.8E-04	1.1E-02	0.72	2.0E-03	0.10	*2.5E-05*	1.0	0.28	1.3E-06
alpha-Chlordane	0.14	*2.6E-03*	1.0	0.28	1.8E-04	1.2E-02	0.72	2.1E-03	0.10	*2.5E-05*	1.0	0.28	1.3E-06
beta-BHC	0.14	*2.6E-03*	1.0	0.28	1.8E-04	*1.3E-02*	0.72	2.2E-03	0.10	1.6E-05	1.0	0.28	8.3E-07
delta-BHC	0.14	2.4E-02	1.0	0.28	1.7E-03	*1.3E-02*	0.72	2.2E-03	0.10	*2.5E-05*	1.0	0.28	1.3E-06
Dieldrin	0.14	1.4E-01	1.0	0.28	9.8E-03	1.5E-02	0.72	2.7E-03	0.10	3.0E-05	1.0	0.28	1.5E-06
Endosulfan I	0.14	*2.6E-03*	1.0	0.28	1.8E-04	1.2E-02	0.72	2.1E-03	0.10	*2.5E-05*	1.0	0.28	1.3E-06
Endosulfan II	0.14	*5.0E-03*	1.0	0.28	3.5E-04	*1.3E-02*	0.72	2.2E-03	0.10	*5.0E-05*	1.0	0.28	2.5E-06
Endosulfan Sulfate	0.14	*5.0E-03*	1.0	0.28	3.5E-04	*1.3E-02*	0.72	2.2E-03	0.10	*5.0E-05*	1.0	0.28	2.5E-06
Endrin	0.14	*5.0E-03*	1.0	0.28	3.5E-04	1.2E-02	0.72	2.2E-03	0.10	*5.0E-05*	1.0	0.28	2.5E-06
Endrin Aldehyde	0.14	*5.0E-03*	1.0	0.28	3.5E-04	1.2E-02	0.72	2.1E-03	0.10	*5.0E-05*	1.0	0.28	2.5E-06
Endrin Ketone	0.14	3.6E-03	1.0	0.28	2.5E-04	*1.3E-02*	0.72	2.2E-03	0.10	*5.0E-05*	1.0	0.28	2.5E-06
gamma-BHC (Lindane)	0.14	*2.6E-03*	1.0	0.28	1.8E-04	*1.3E-02*	0.72	2.2E-03	0.10	*2.5E-05*	1.0	0.28	1.3E-06
gamma-Chlordane	0.14	*2.6E-03*	1.0	0.28	1.8E-04	1.1E-02	0.72	2.0E-03	0.10	*2.5E-05*	1.0	0.28	1.3E-06
Heptachlor	0.14	*2.6E-03*	1.0	0.28	1.8E-04	*1.3E-02*	0.72	2.2E-03	0.10	*2.5E-05*	1.0	0.28	1.3E-06
Heptachlor Epoxide	0.14	*2.6E-03*	1.0	0.28	1.8E-04	1.1E-02	0.72	1.9E-03	0.10	*2.5E-05*	1.0	0.28	1.3E-06
Methoxychlor	0.14	*2.6E-02*	1.0	0.28	1.8E-03	*5.0E-02*	0.72	9.0E-03	0.10	*2.5E-04*	1.0	0.28	1.3E-05
Toxaphene	0.14	*2.6E-01*	1.0	0.28	1.8E-02	*4.3E-01*	0.72	7.6E-02	0.10	*2.5E-03*	1.0	0.28	1.3E-04
Herbicides													
2,4-D	0.14	*1.3E-02*	1.0	0.28	8.7E-04	*4.2E-03*	0.72	7.4E-04	0.10	*2.5E-04*	1.0	0.28	1.3E-05
2,4-DB	0.14	*1.3E-02*	1.0	0.28	8.7E-04	*4.2E-03*	0.72	7.4E-04	0.10	*2.5E-04*	1.0	0.28	1.3E-05
2,4,5-T	0.14	*1.3E-02*	1.0	0.28	8.7E-04	5.7E-03	0.72	1.0E-03	0.10	*2.5E-04*	1.0	0.28	1.3E-05
2,4,5-TP (Silvex)	0.14	*1.3E-02*	1.0	0.28	8.7E-04	4.9E-03	0.72	8.7E-04	0.10	*2.5E-04*	1.0	0.28	1.3E-05
Dalapon	0.14	*3.0E+00*	1.0	0.28	2.1E-01	*1.0E+00*	0.72	1.8E-01	0.10	*6.0E-02*	1.0	0.28	3.0E-03
Dicamba	0.14	*3.0E-02*	1.0	0.28	2.1E-03	*1.0E-02*	0.72	1.8E-03	0.10	*6.0E-04*	1.0	0.28	3.0E-05
Dichlorprop	0.14	*1.5E-01*	1.0	0.28	1.0E-02	*5.0E-02*	0.72	9.0E-03	0.10	*3.0E-03*	1.0	0.28	1.5E-04
Dinoseb	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*5.0E-02*	0.72	9.0E-03	0.10	*5.0E-03*	1.0	0.28	2.5E-04
MCPA	0.14	*3.0E+00*	1.0	0.28	2.1E-01	*1.0E+00*	0.72	1.8E-01	0.10	*6.0E-02*	1.0	0.28	3.0E-03
MCPP	0.14	*3.0E+00*	1.0	0.28	2.1E-01	2.3E+00	0.72	4.1E-01	0.10	*6.0E-02*	1.0	0.28	3.0E-03
PCBs													
Total PCBs	0.14	8.4E+00	1.0	0.28	5.9E-01	*2.5E-02*	0.72	4.5E-03	0.10	*2.5E-04*	1.0	0.28	1.3E-05
Dioxins/Furans (d)													
TEQ	0.14	9.9E-06	1.0	0.28	6.9E-07	1.5E-06	0.72	2.6E-07	0.10	1.1E-08	1.0	0.28	5.3E-10
Metals (e)													
Aluminum	0.14	1.6E+01	1.0	0.28	1.1E+00	1.2E+00	0.72	2.1E-01	0.10	3.9E+00	1.0	0.28	2.0E-01
Antimony	0.14	*9.0E-01*	1.0	0.28	6.3E-02	4.1E-01	0.72	7.4E-02	0.10	*1.0E-02*	1.0	0.28	5.0E-04
Arsenic	0.14	7.3E-01	1.0	0.28	5.1E-02	5.7E-01	0.72	1.0E-01	0.10	4.7E-03	1.0	0.28	2.3E-04
Barium	0.14	5.3E+00	1.0	0.28	3.7E-01	3.6E+01	0.72	6.5E+00	0.10	1.6E-01	1.0	0.28	7.8E-03
Beryllium	0.14	*1.8E-01*	1.0	0.28	1.3E-02	*1.2E-01*	0.72	2.2E-02	0.10	*2.0E-04*	1.0	0.28	1.0E-04
Cadmium	0.14	*2.3E-01*	1.0	0.28	1.6E-02	*2.3E+00*	0.72	4.1E-01	0.10	1.6E-03	1.0	0.28	7.9E-05
Chromium	0.14	3.3E-01	1.0	0.28	2.3E-02	*9.5E-02*	0.72	1.7E-02	0.10	7.5E-03	1.0	0.28	3.8E-04
Cobalt	0.14	*4.6E-01*	1.0	0.28	3.2E-02	8.4E+00	0.72	1.5E+00	0.10	4.3E-03	1.0	0.28	2.2E-04
Copper	0.14	9.1E-01	1.0	0.28	6.3E-02	*7.0E+00*	0.72	1.3E+00	0.10	1.2E-02	1.0	0.28	5.8E-04
Lead	0.14	*2.3E-01*	1.0	0.28	1.6E-02	2.3E-04	0.72	4.1E-05	0.10	8.3E-03	1.0	0.28	4.2E-04
Manganese	0.14	9.9E+00	1.0	0.28	6.9E-01	8.6E+01	0.72	1.5E+01	0.10	2.5E-01	1.0	0.28	1.2E-02
Mercury	0.14	6.2E-02	1.0	0.28	4.3E-03	1.1E+00	0.72	2.0E-01	0.10	*1.0E-04*	1.0	0.28	5.0E-06
Nickel	0.14	*1.8E+00*	1.0	0.28	1.3E-01	*1.6E+00*	0.72	2.8E-01	0.10	1.5E-02	1.0	0.28	7.4E-04
Selenium	0.14	*4.6E-01*	1.0	0.28	3.2E-02	*6.5E-01*	0.72	1.2E-01	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Silver	0.14	*4.6E-01*	1.0	0.28	3.2E-02	*4.4E-01*	0.72	7.9E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Thallium	0.14	*4.6E-01*	1.0	0.28	3.2E-02	*5.0E+01*	0.72	9.0E+00	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Vanadium	0.14	*4.6E-01*	1.0	0.28	3.2E-02	8.3E+00	0.72	1.5E+00	0.10	1.2E-02	1.0	0.28	6.2E-04
Zinc	0.14	4.6E+01	1.0	0.28	3.2E+00	2.0E+01	0.72	3.5E+00	0.10	3.1E-02	1.0	0.28	1.6E-03

NOTES
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - The dietary percentage of the pond and river fish/water were calculated by dividing the length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site
i.e. Small Pond = 1,375 ft; Large Pond = 2,770 ft; River = 14,956 ft so % for pond fish/water ingestion = (1,375+2,770)/14956 = 0.28
(c) - See Table III-C1
(d) - Dioxins/furans were not analyzed for the A-Line surface water samples. The B-Line sample values for dioxins/furans were used instead.
(e) - Metals were not analyzed for whole-body river fish tissue. Therefore, the surface water values were multiplied by their surface water-to-fish bioconcentration factors (BCFs) (USEPA, 1999). See Table III-B10

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
A shaded cell indicates an HI of equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-10
Hazard Quotients and Hazard Indices for Ingestion of Fish and Surface Water
Mink
Adjacent River
Sauget, IL

Analyte	Concentration of Contaminant in River Surface Water (Plots 2-5 A-Line) (mg/L)	Dietary Percentage of River Surface Water (b)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (c)		Hazard Quotient	
							(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides										
4,4'-DDD	*5.0E-05*	0.72	6.5E-06	0.55	1.0	2.4E-03	6.2E-01	3.1E+00	3.8E-03	7.7E-04
4,4'-DDE	*5.0E-05*	0.72	6.5E-06	0.55	1.0	3.7E-03	6.2E-01	3.1E+00	5.9E-03	1.2E-03
4,4'-DDT	*5.0E-05*	0.72	6.5E-06	0.55	1.0	3.7E-03	6.2E-01	3.1E+00	5.9E-03	1.2E-03
Aldrin	*2.5E-05*	0.72	3.2E-06	0.55	1.0	2.4E-03	1.5E-01	7.7E-01	1.6E-02	3.2E-03
alpha-BHC	*2.5E-05*	0.72	3.2E-06	0.55	1.0	2.2E-03	1.4E-02	1.4E-01	1.6E-01	1.6E-02
alpha-Chlordane	*2.5E-05*	0.72	3.2E-06	0.55	1.0	2.3E-03	1.9E+00	3.8E+00	1.2E-03	6.0E-04
beta-BHC	2.4E-05	0.72	3.1E-06	0.55	1.0	2.4E-03	3.1E-01	1.5E+00	7.9E-03	1.6E-03
delta-BHC	*2.5E-05*	0.72	3.2E-06	0.55	1.0	3.9E-03	1.4E-02	1.4E-01	2.8E-01	2.8E-02
Dieldrin	*5.0E-05*	0.72	6.5E-06	0.55	1.0	1.2E-02	1.5E-02	1.5E-01	8.1E-01	8.1E-02
Endosulfan I	*2.5E-05*	0.72	3.2E-06	0.55	1.0	2.3E-03	1.2E-01	1.2E+00	2.0E-02	2.0E-03
Endosulfan II	*5.0E-05*	0.72	6.5E-06	0.55	1.0	2.6E-03	1.2E-01	1.2E+00	2.3E-02	2.3E-03
Endosulfan Sulfate	*5.0E-05*	0.72	6.5E-06	0.55	1.0	2.6E-03	1.2E-01	1.2E+00	2.3E-02	2.3E-03
Endrin	*5.0E-05*	0.72	6.5E-06	0.55	1.0	2.5E-03	3.8E-02	3.8E-01	6.7E-02	6.7E-03
Endrin Aldehyde	*5.0E-05*	0.72	6.5E-06	0.55	1.0	2.4E-03	3.8E-02	3.8E-01	6.3E-02	6.3E-03
Endrin Ketone	4.8E-05	0.72	6.2E-06	0.55	1.0	2.5E-03	3.8E-02	3.8E-01	6.5E-02	6.5E-03
gamma-BHC (Lindane)	*2.5E-05*	0.72	3.2E-06	0.55	1.0	2.4E-03	6.2E+00	6.2E+01	3.9E-04	3.9E-05
gamma-Chlordane	*2.5E-05*	0.72	3.2E-06	0.55	1.0	2.2E-03	1.9E+00	3.8E+00	1.1E-03	5.6E-04
Heptachlor	*2.5E-05*	0.72	3.2E-06	0.55	1.0	2.4E-03	1.0E-01	1.0E+00	2.4E-02	2.4E-03
Heptachlor Epoxide	*2.5E-05*	0.72	3.2E-06	0.55	1.0	2.1E-03	9.6E-04	2.4E-02	2.2E+00	8.9E-02
Methoxychlor	*2.5E-04*	0.72	3.2E-05	0.55	1.0	1.1E-02	3.1E+00	6.2E+00	3.5E-03	1.8E-03
Toxaphene	*2.5E-03*	0.72	3.2E-04	0.55	1.0	9.4E-02	6.2E+00	6.2E+01	1.5E-02	1.5E-03
									3.8E+00	2.5E-01
Herbicides										
2,4-D	3.6E-03	0.72	4.6E-04	0.55	1.0	2.1E-03	7.7E-01	3.8E+00	2.7E-03	5.4E-04
2,4-DB	*2.5E-04*	0.72	3.2E-05	0.55	1.0	1.7E-03	1.5E+00	4.7E+00	1.1E-03	3.5E-04
2,4,5-T	2.5E-04	0.72	3.2E-05	0.55	1.0	1.9E-03	2.5E+00	7.7E+00	8.5E-04	2.5E-04
2,4,5-TP (Silvex)	*2.5E-04*	0.72	3.2E-05	0.55	1.0	1.8E-03	1.4E+00	4.7E+00	1.3E-03	3.8E-04
Dalapon	*6.0E-02*	0.72	7.8E-03	0.55	1.0	4.0E-01	6.5E+00	2.2E+01	6.1E-02	1.8E-02
Dicamba	*6.0E-04*	0.72	7.8E-05	0.55	1.0	4.0E-03	3.1E+00	1.0E+01	1.3E-03	3.8E-04
Dichlorprop	1.9E-03	0.72	2.5E-04	0.55	1.0	2.0E-02	8.3E-02	8.3E-01	2.4E-01	2.4E-02
Dinoseb	*5.0E-03*	0.72	6.5E-04	0.55	1.0	4.4E-02	7.7E-02	7.7E-01	5.8E-01	5.8E-02
MCPA	*6.0E-02*	0.72	7.8E-03	0.55	1.0	4.0E-01	2.8E-01	1.4E+00	1.4E+00	2.8E-01
MCPP	*6.0E-02*	0.72	7.8E-03	0.55	1.0	6.3E-01	2.3E-01	6.9E-01	2.7E+00	9.1E-01
									5.0E+00	1.3E+00
PCBs										
Total PCBs	*2.5E-04*	0.72	3.2E-05	0.55	1.0	5.9E-01	7.7E-02	7.7E-01	7.7E+00	7.7E-01
Dioxins/Furans (d)										
TEQ	*1.7E-09*	0.72	2.2E-10	0.55	1.0	9.5E-07	7.7E-07	7.7E-06	1.2E+00	1.2E-01
Metals (e)										
Aluminum	4.4E-01	0.72	5.7E-02	0.55	1.0	1.6E+00	8.0E-01	8.0E+00	2.0E+00	2.0E-01
Antimony	1.0E-02	0.72	1.3E-03	0.55	1.0	3.4E-01	5.2E-02	5.2E-01	2.7E+00	2.7E-01
Arsenic	5.0E-03	0.72	6.5E-04	0.55	1.0	1.5E-01	5.2E-02	5.2E-01	2.9E+00	2.9E-01
Barium	5.7E-02	0.72	7.4E-03	0.55	1.0	6.8E+00	3.9E+00	1.5E+01	1.7E+00	4.5E-01
Beryllium	*2.0E-03*	0.72	2.6E-04	0.55	1.0	3.5E-02	5.1E-01	5.1E+00	6.9E-02	6.9E-03
Cadmium	*2.5E-03*	0.72	3.2E-04	0.55	1.0	4.2E-01	7.7E-01	7.7E+00	5.5E-01	5.5E-02
Chromium	*5.0E-03*	0.72	6.5E-04	0.55	1.0	4.1E-02	2.5E+00	1.0E+01	1.6E-02	4.1E-03
Cobalt	4.9E-03	0.72	6.3E-04	0.55	1.0	1.5E+00	3.8E-02	3.8E-01	4.0E+01	4.0E+00
Copper	*9.8E-03*	0.72	1.3E-03	0.55	1.0	1.3E+00	1.2E+01	1.5E+01	1.1E-01	8.5E-02
Lead	2.5E-03	0.72	3.3E-04	0.55	1.0	1.6E-02	6.2E+00	6.2E+01	2.7E-03	2.7E-04
Manganese	4.9E-02	0.72	6.4E-03	0.55	1.0	1.6E+01	6.8E+01	2.2E+02	2.4E-01	7.4E-02
Mercury	1.0E-04	0.72	1.3E-05	0.55	1.0	2.1E-01	1.5E-02	2.5E-02	1.4E+01	8.3E+00
Nickel	*2.0E-02*	0.72	2.6E-03	0.55	1.0	4.1E-01	3.1E+01	6.2E+01	1.3E-02	6.6E-03
Selenium	*5.0E-03*	0.72	6.5E-04	0.55	1.0	1.5E-01	1.5E-01	2.5E-01	9.6E-01	5.8E-01
Silver	*5.0E-03*	0.72	6.5E-04	0.55	1.0	1.1E-01	7.5E-02	7.5E-01	1.5E+00	1.5E-01
Thallium	*5.0E-03*	0.72	6.5E-04	0.55	1.0	9.0E+00	5.7E-03	5.7E-02	1.6E+03	1.6E+02
Vanadium	4.8E-03	0.72	6.2E-04	0.55	1.0	1.5E+00	1.6E-01	1.6E+00	9.5E+00	9.5E-01
Zinc	9.5E-03	0.72	1.2E-03	0.55	1.0	6.7E+00	1.2E+02	2.5E+02	5.5E-02	2.7E-02
Hazard Index - Metals									1.7E+03	1.7E+02

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - The dietary percentage of the pond and river fish/water were calculated by dividing the length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site
i.e. Small Pond = 1,375 ft, Large Pond = 2,770 ft, River = 14,956 ft so: % for pond fish/water ingestion = (1,375+2,770)/14956 = 0.28
(c) - See Table III-C1
(d) - Dioxins/furans were not analyzed for the A-Line surface water samples. The B-Line sample values for dioxins/furans were used instead.
(e) - Metals were not analyzed for whole-body river fish tissue. Therefore, the surface water values were multiplied by their surface water-to-fish bioconcentration factors (BCFs) (USEPA, 1999). See Table III-B10.

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
A shaded cell indicates an HI of equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

Hazard Quotients and Hazard In ingestion of Fish and Surface Water

Downstream River
Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Pond Fish (mg/kg)	Area Use Factor (a)	Dietary Percentage of Pond Fish (b)	Dose from Pond Fish (mg/kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Dietary Percentage of River Fish (b)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in Pond Surface Water (mg/L)	Area Use Factor (a)	Dietary Percentage of Pond Surface Water (b)	Dose from Pond Surface Water (mg/kg/day)
SVOCs													
1,2,4 Trichlorobenzene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
1,2 Dichlorobenzene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
1,3 Dichlorobenzene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
1,4-Dichlorobenzene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2,2 Oxybis(1 Chloropropane)	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2,4,5 Trichlorophenol	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2,4,6 Trichlorophenol	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2,4 Dichlorophenol	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2,4-Dimethylphenol	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2,4 Dinitrophenol	0.14	*2.6E+00*	1.0	0.28	1.8E-01	*1.3E+00*	0.72	2.2E-01	0.10	*2.5E-02*	1.0	0.28	1.3E-03
2,4 Dinitrotoluene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2,6 Dinitrotoluene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2-Chloronaphthalene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2-Chlorophenol	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2 Methylnaphthalene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2-Methylphenol (o-Cresol)	0.14	*5.0E-01*	1.0	0.28	3.5E-02	3.2E-01	0.72	5.7E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
2 Nitroaniline	0.14	*2.6E+00*	1.0	0.28	1.8E-01	*1.3E+00*	0.72	2.2E-01	0.10	*2.5E-02*	1.0	0.28	1.3E-03
2-Nitrophenol	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
3,3-Dichlorobenzidine	0.14	*1.0E+00*	1.0	0.28	7.0E-02	*1.0E+00*	0.72	1.8E-01	0.10	*1.0E-02*	1.0	0.28	5.0E-04
3/4 Methylphenol (m&p-Cresol)	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
3 Nitroaniline	0.14	*2.6E+00*	1.0	0.28	1.8E-01	*1.3E+00*	0.72	2.2E-01	0.10	*2.5E-02*	1.0	0.28	1.3E-03
4,6 Dinitro 2-methylphenol	0.14	*2.6E+00*	1.0	0.28	1.8E-01	*1.3E+00*	0.72	2.2E-01	0.10	*2.5E-02*	1.0	0.28	1.3E-03
4 Bromophenyl Phenyl Ether	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
4-Chloro 3 methylphenol	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
4-Chloroaniline	0.14	*1.0E+00*	1.0	0.28	7.0E-02	*5.0E-01*	0.72	8.9E-02	0.10	*1.0E-02*	1.0	0.28	5.0E-04
4-Chlorophenyl Phenyl Ether	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
4 Nitroaniline	0.14	*2.6E+00*	1.0	0.28	1.8E-01	*1.3E+00*	0.72	2.2E-01	0.10	*2.5E-02*	1.0	0.28	1.3E-03
4-Nitrophenol	0.14	*2.6E+00*	1.0	0.28	1.8E-01	*1.3E+00*	0.72	2.2E-01	0.10	*2.5E-02*	1.0	0.28	1.3E-03
Acenaphthene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Acenaphthylene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Anthracene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Benzo(a)anthracene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Benzo(a)pyrene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Benzo(b)fluoranthene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Benzo(g,h,i)perylene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Benzo(k)fluoranthene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
bis(2 Chloroethoxy)methane	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
bis(2 Chloroethyl)ether	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
bis(2 Ethylhexyl)phthalate	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Butyl Benzyl Phthalate	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Carbazole	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Chrysene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Dibenz(a,h)anthracene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Dibenzofuran	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Diethyl Phthalate	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Dimethyl Phthalate	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Di n-butylphthalate	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	3.2E-03	1.0	0.28	1.6E-04
Di n-octylphthalate	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Fluoranthene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Fluorene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Hexachlorobenzene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Hexachlorobutadiene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Hexachlorocyclopentadiene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Hexachloroethane	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Indeno(1,2,3-cd)pyrene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Isophorone	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Naphthalene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	4.7E-03	1.0	0.28	2.3E-04
Nitrobenzene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
N Nitroso di n propylamine	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
N Nitrosodiphenylamine	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Pentachlorophenol	0.14	*2.6E-02*	1.0	0.28	1.8E-03	*1.3E+00*	0.72	2.2E-01	0.10	*5.0E-04*	1.0	0.28	2.5E-05
Phenanthrene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Phenol	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04
Pyrene	0.14	*5.0E-01*	1.0	0.28	3.5E-02	*2.6E-01*	0.72	4.6E-02	0.10	*5.0E-03*	1.0	0.28	2.5E-04

NOTES
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - The dietary percentage of the pond and river fish/water were calculated by dividing the length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site
i.e. Small Pond = 1,375 ft, Large Pond = 2,770 ft, River = 14,956 ft so % for pond fish/water ingestion = (1,375+2,770)/14956 = 0.28
(c) - See Table III-21

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non detected values
A shaded cell indicates an HI of equal to or greater than 1.0.

Table 7-11
Hazard Quotients and Hazard Indices for Ingestion of Fish and Surface Water
Mink
Downstream River
Sauget, IL

Analyte	Concentration of Contaminant In River Surface Water (Plot 6 A-Line) (mg/L)	Dietary Percentage of River Surface Water (b)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (c)		Hazard Quotient	
							(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs										
1,2,4-Trichlorobenzene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.1E+01	4.1E+01	7.1E-03	2.0E-03
1,2-Dichlorobenzene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	6.6E+01	9.2E+02	1.2E-03	8.8E-05
1,3-Dichlorobenzene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	6.6E+01	9.2E+02	1.2E-03	8.8E-05
1,4-Dichlorobenzene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	6.6E+01	1.2E+02	1.2E-03	7.0E-04
2,2'-Oxybis(1-Chloropropane)	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.5E+01	8.2E+01	5.4E-03	9.8E-04
2,4,5-Trichlorophenol	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	7.7E+00	2.3E+01	1.1E-02	3.5E-03
2,4,6-Trichlorophenol	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	3.8E+02	2.3E+01	2.1E-04	3.5E-03
2,4-Dichlorophenol	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	2.3E-01	2.3E+00	3.5E-01	3.5E-02
2,4-Dimethylphenol	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	2.1E+00	1.0E+01	3.9E-02	7.8E-03
2,4-Dinitrophenol	***2.5E-02***	0.72	3.2E-03	0.55	1.0	4.1E-01	1.3E-03	1.3E-02	3.1E+02	3.1E+01
2,4-Dinitrotoluene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	3.8E-01	2.8E+00	2.1E-01	2.9E-02
2,6-Dinitrotoluene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	5.4E-01	5.4E+00	1.5E-01	1.5E-02
2-Chloronaphthalene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.0E+01	2.5E+01	7.8E-03	3.3E-03
2-Chlorophenol	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	3.8E+01	3.8E+00	2.1E-03	2.1E-02
2-Methylnaphthalene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.2E+03	1.2E+04	6.8E-05	6.8E-06
2-Methylphenol (o-Cresol)	***5.0E-03***	0.72	6.5E-04	0.55	1.0	9.2E-02	2.2E+02	2.2E+03	4.2E-04	4.2E-05
2-Nitroaniline	***2.5E-02***	0.72	3.2E-03	0.55	1.0	4.1E-01	3.2E+00	3.2E+01	1.3E-01	1.3E-02
2-Nitrophenol	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.9E+00	5.4E+00	4.2E-02	1.5E-02
3,3-Dichlorobenzidine	***1.0E-02***	0.72	1.3E-03	0.55	1.0	2.5E-01	2.0E+01	2.1E+02	1.3E-02	1.2E-03
3/4-Methylphenol (m&p-Cresol)	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	2.2E+02	2.2E+03	3.7E-04	3.7E-05
3-Nitroaniline	***2.5E-02***	0.72	3.2E-03	0.55	1.0	4.1E-01	3.2E+00	3.2E+01	1.3E-01	1.3E-02
4,6-Dinitro-2-methylphenol	***2.5E-02***	0.72	3.2E-03	0.55	1.0	4.1E-01	1.9E-01	3.5E+00	2.1E+00	1.2E-01
4-Bromophenyl Phenyl Ether	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	7.7E-01	6.2E+00	1.1E-01	1.3E-02
4-Chloro-3-methylphenol	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	8.6E+01	8.6E+02	9.4E-04	9.4E-05
4-Chloroaniline	***1.0E-02***	0.72	1.3E-03	0.55	1.0	1.6E-01	9.6E-01	9.6E+00	1.7E-01	1.7E-02
4-Chlorophenyl Phenyl Ether	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	7.7E-01	6.2E+00	1.1E-01	1.3E-02
4-Nitroaniline	***2.5E-02***	0.72	3.2E-03	0.55	1.0	4.1E-01	3.2E+00	3.2E+01	1.3E-01	1.3E-02
4-Nitrophenol	***2.5E-02***	0.72	3.2E-03	0.55	1.0	4.1E-01	1.9E+00	5.4E+00	2.1E-01	7.6E-02
Acenaphthene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	7.3E+00	1.5E+01	1.1E-02	5.6E-03
Acenaphthylene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	7.3E+00	1.5E+01	1.1E-02	5.6E-03
Anthracene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E+01	4.2E+02	2.0E-03	2.0E-04
Benzo(a)anthracene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Benzo(a)pyrene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Benzo(b)fluoranthene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Benzo(g,h,i)perylene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Benzo(k)fluoranthene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
bis(2-Chloroethoxy)methane	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.5E+01	8.2E+01	5.4E-03	9.8E-04
bis(2-Chloroethyl)ether	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.5E+01	8.2E+01	5.4E-03	9.8E-04
bis(2-Ethylhexyl)phthalate	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	7.6E+00	7.6E+01	1.1E-02	1.1E-03
Butyl Benzyl Phthalate	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.2E+01	3.6E+01	6.6E-03	2.2E-03
Carbazole	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.2E+00	1.2E+01	6.5E-02	6.5E-03
Chrysene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Dibenzo(a,h)anthracene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Dibenzofuran	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.0E-02	1.0E-01	8.0E+00	8.0E-01
Diethyl Phthalate	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.9E+03	1.9E+04	4.3E-05	4.3E-06
Dimethyl Phthalate	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.9E+03	1.9E+04	4.3E-05	4.3E-06
Di-n-butylphthalate	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	2.3E+02	7.6E+02	3.5E-04	1.1E-04
Di-n-octylphthalate	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	2.3E+02	7.6E+02	3.5E-04	1.1E-04
Fluoranthene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	5.2E+00	1.0E+01	1.6E-02	7.8E-03
Fluorene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	5.2E+00	1.0E+01	1.6E-02	7.8E-03
Hexachlorobenzene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	6.2E-02	2.2E-01	1.3E+00	3.6E-01
Hexachlorobutadiene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.5E-01	1.5E-01	5.3E-01	5.3E-01
Hexachlorocyclopentadiene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.6E-01	8.5E-01	1.8E-01	9.6E-02
Hexachloroethane	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	7.7E-02	1.2E+00	1.1E+00	7.0E-02
Indeno(1,2,3-cd)pyrene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-01	4.2E+00	2.0E-01	2.0E-02
Isophorone	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	2.8E+01	1.4E+02	2.9E-03	5.9E-04
Naphthalene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	5.5E+00	1.1E+01	1.5E-02	7.4E-03
Nitrobenzene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.9E-02	1.9E-01	4.2E+00	4.2E-01
N-Nitroso-di-n-propylamine	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.2E-03	4.2E-02	2.0E+01	2.0E+00
N-Nitrosodiphenylamine	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	1.5E+02	3.8E+01	5.3E-04	2.1E-03
Pentachlorophenol	***5.0E-04***	0.72	6.5E-05	0.55	1.0	2.3E-01	1.8E-01	1.8E+00	1.2E+00	1.2E-01
Phenanthrene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	7.3E+00	1.5E+01	1.1E-02	5.6E-03
Phenol	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	4.6E+01	9.2E+01	1.8E-03	8.8E-04
Pyrene	***5.0E-03***	0.72	6.5E-04	0.55	1.0	8.1E-02	3.1E+00	5.2E+00	2.6E-02	1.6E-02
Hazard Index - SVOCs									3.5E+02	3.6E+01

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - The dietary percentage of the pond and river fish/water were calculated by dividing the length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site
i.e. Small Pond = 1,375 ft. Large Pond = 2,770 ft, River = 14,956 ft so % for pond fish/water ingestion = (1,375+2,770)/14956 = 0.28
(c) - See Table III.C.1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
A shaded cell indicates an HI of equal to or greater than 1.0.

Hazard Quotients and Hazard In[illegible]gestion of Fish and Surface Water

[illegible]

Downstream River

Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Pond Fish (mg/kg)	Area Use Factor (a)	Dietary Percentage of Pond Fish (b)	Dose from Pond Fish (mg/kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Dietary Percentage of River Fish (b)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in Pond Surface Water (mg/L)	Area Use Factor (a)	Dietary Percentage of Pond Surface Water (b)	Dose from Pond Surface Water (mg/kg/day)
Pesticides													
4,4'-DDD	0.14	***5.0E-03***	1.0	0.28	3.5E-04	1.7E-02	0.72	3.0E-03	0.10	***5.0E-05***	1.0	0.28	2.5E-06
4,4'-DDE	0.14	***5.0E-03***	1.0	0.28	3.5E-04	1.3E-02	0.72	2.4E-03	0.10	***5.0E-05***	1.0	0.28	2.5E-06
4,4'-DDT	0.14	***2.0E-02***	1.0	0.28	1.4E-03	***1.7E-02***	0.72	3.0E-03	0.10	3.9E-05	1.0	0.28	2.0E-06
Aldrin	0.14	***2.6E-03***	1.0	0.28	1.8E-04	***1.7E-02***	0.72	3.0E-03	0.10	1.7E-05	1.0	0.28	8.5E-07
alpha-BHC	0.14	***2.6E-03***	1.0	0.28	1.8E-04	***1.7E-02***	0.72	3.0E-03	0.10	***2.5E-05***	1.0	0.28	1.3E-06
alpha-Chlordane	0.14	***2.6E-03***	1.0	0.28	1.8E-04	1.1E-02	0.72	2.0E-03	0.10	***2.5E-05***	1.0	0.28	1.3E-06
beta-BHC	0.14	***2.6E-03***	1.0	0.28	1.8E-04	***1.7E-02***	0.72	3.0E-03	0.10	1.6E-05	1.0	0.28	8.3E-07
delta-BHC	0.14	2.4E-02	1.0	0.28	1.7E-03	***1.7E-02***	0.72	3.0E-03	0.10	***2.5E-05***	1.0	0.28	1.3E-06
Dieldrin	0.14	1.4E-01	1.0	0.28	9.8E-03	1.4E-02	0.72	2.5E-03	0.10	3.0E-05	1.0	0.28	1.5E-06
Endosulfan I	0.14	***2.6E-03***	1.0	0.28	1.8E-04	***1.7E-02***	0.72	3.0E-03	0.10	***2.5E-05***	1.0	0.28	1.3E-06
Endosulfan II	0.14	***5.0E-03***	1.0	0.28	3.5E-04	***1.7E-02***	0.72	3.0E-03	0.10	***5.0E-05***	1.0	0.28	2.5E-06
Endosulfan Sulfate	0.14	***5.0E-03***	1.0	0.28	3.5E-04	1.7E-02	0.72	3.0E-03	0.10	***5.0E-05***	1.0	0.28	2.5E-06
Endrin	0.14	***5.0E-03***	1.0	0.28	3.5E-04	***1.7E-02***	0.72	3.0E-03	0.10	***5.0E-05***	1.0	0.28	2.5E-06
Endrin Aldehyde	0.14	***5.0E-03***	1.0	0.28	3.5E-04	1.4E-02	0.72	2.5E-03	0.10	***5.0E-05***	1.0	0.28	2.5E-06
Endrin Ketone	0.14	3.6E-03	1.0	0.28	2.5E-04	***1.7E-02***	0.72	3.0E-03	0.10	***5.0E-05***	1.0	0.28	2.5E-06
gamma-BHC (Lindane)	0.14	***2.6E-03***	1.0	0.28	1.8E-04	***1.7E-02***	0.72	3.0E-03	0.10	***2.5E-05***	1.0	0.28	1.3E-06
gamma-Chlordane	0.14	***2.6E-03***	1.0	0.28	1.8E-04	1.4E-02	0.72	2.5E-03	0.10	***2.5E-05***	1.0	0.28	1.3E-06
Heptachlor	0.14	***2.6E-03***	1.0	0.28	1.8E-04	***1.7E-02***	0.72	3.0E-03	0.10	***2.5E-05***	1.0	0.28	1.3E-06
Heptachlor Epoxide	0.14	***2.6E-03***	1.0	0.28	1.8E-04	***1.7E-02***	0.72	3.0E-03	0.10	***2.5E-05***	1.0	0.28	1.3E-06
Methoxychlor	0.14	***2.6E-02***	1.0	0.28	1.8E-03	***6.7E-02***	0.72	1.2E-02	0.10	***2.5E-04***	1.0	0.28	1.3E-05
Toxaphene	0.14	***2.6E-01***	1.0	0.28	1.8E-02	***5.7E-01***	0.72	1.0E-01	0.10	***2.5E-03***	1.0	0.28	1.3E-04
Herbicides													
2,4-D	0.14	***1.3E-02***	1.0	0.28	8.7E-04	***4.2E-03***	0.72	7.4E-04	0.10	***2.5E-04***	1.0	0.28	1.3E-05
2,4-DB	0.14	***1.3E-02***	1.0	0.28	8.7E-04	***4.2E-03***	0.72	7.4E-04	0.10	***2.5E-04***	1.0	0.28	1.3E-05
2,4,5-T	0.14	***1.3E-02***	1.0	0.28	8.7E-04	***4.2E-03***	0.72	7.4E-04	0.10	***2.5E-04***	1.0	0.28	1.3E-05
2,4,5-TP (Silvex)	0.14	***1.3E-02***	1.0	0.28	8.7E-04	5.0E-03	0.72	8.9E-04	0.10	***2.5E-04***	1.0	0.28	1.3E-05
Dalapon	0.14	***3.0E+00***	1.0	0.28	2.1E-01	***1.0E+00***	0.72	1.8E-01	0.10	***6.0E-02***	1.0	0.28	3.0E-03
Dicamba	0.14	***3.0E-02***	1.0	0.28	2.1E-03	***1.0E-02***	0.72	1.8E-03	0.10	***6.0E-04***	1.0	0.28	3.0E-05
Dichloprop	0.14	***1.5E-01***	1.0	0.28	1.0E-02	***5.0E-02***	0.72	9.0E-03	0.10	***3.0E-03***	1.0	0.28	1.5E-04
Dinoseb	0.14	***5.0E-01***	1.0	0.28	3.5E-02	***5.0E-02***	0.72	9.0E-03	0.10	***5.0E-03***	1.0	0.28	2.5E-04
MCPA	0.14	***3.0E+00***	1.0	0.28	2.1E-01	***1.0E+00***	0.72	1.8E-01	0.10	***6.0E-02***	1.0	0.28	3.0E-03
MCPP	0.14	***3.0E+00***	1.0	0.28	2.1E-01	***1.0E+00***	0.72	1.8E-01	0.10	***6.0E-02***	1.0	0.28	3.0E-03
PCBs													
Total PCBs	0.14	8.4E+00	1.0	0.28	5.9E-01	***2.5E-02***	0.72	4.5E-03	0.10	***2.5E-04***	1.0	0.28	1.3E-05
Dioxins/Furans (d)													
TEQ	0.14	9.9E-06	1.0	0.28	6.9E-07	1.5E-06	0.72	2.7E-07	0.10	1.1E-08	1.0	0.28	5.3E-10
Metals (e)													
Aluminum	0.14	1.6E+01	1.0	0.28	1.1E+00	1.2E+00	0.72	2.2E-01	0.10	3.9E+00	1.0	0.28	2.0E-01
Antimony	0.14	***9.0E-01***	1.0	0.28	6.3E-02	3.8E-01	0.72	6.7E-02	0.10	***1.0E-02***	1.0	0.28	5.0E-04
Arsenic	0.14	7.3E-01	1.0	0.28	5.1E-02	5.7E-01	0.72	1.0E-01	0.10	4.7E-03	1.0	0.28	2.3E-04
Barium	0.14	5.3E+00	1.0	0.28	3.7E-01	3.6E+01	0.72	6.4E+00	0.10	1.6E-01	0	0.28	7.8E-03
Beryllium	0.14	***1.8E-01***	1.0	0.28	1.3E-02	***1.2E-01***	0.72	2.2E-02	0.10	***2.0E-03***	1.0	0.28	1.0E-04
Cadmium	0.14	***2.3E-01***	1.0	0.28	1.6E-02	***2.3E+00***	0.72	4.1E-01	0.10	1.6E-03	1.0	0.28	7.9E-05
Chromium	0.14	3.3E-01	1.0	0.28	2.3E-02	***9.5E-02***	0.72	1.7E-02	0.10	7.5E-03	1.0	0.28	3.8E-04
Cobalt	0.14	***4.6E-01***	1.0	0.28	3.2E-02	6.9E+00	0.72	1.2E+00	0.10	4.3E-03	1.0	0.28	2.2E-04
Copper	0.14	9.1E-01	1.0	0.28	6.3E-02	6.4E+00	0.72	1.2E+00	0.10	1.2E-02	1.0	0.28	5.8E-04
Lead	0.14	***2.3E-01***	1.0	0.28	1.6E-02	***2.3E-04***	0.72	4.0E-05	0.10	8.3E-03	1.0	0.28	4.2E-04
Manganese	0.14	9.9E+00	1.0	0.28	6.9E-01	7.9E+01	0.72	1.4E+01	0.10	2.5E-01	1.0	0.28	1.2E-02
Mercury	0.14	6.2E-02	1.0	0.28	4.3E-03	***1.1E+00***	0.72	2.0E-01	0.10	***1.0E-04***	1.0	0.28	5.0E-06
Nickel	0.14	***1.8E+00***	1.0	0.28	1.3E-01	***1.6E+00***	0.72	2.8E-01	0.10	1.5E-02	1.0	0.28	7.4E-04
Selenium	0.14	***4.6E-01***	1.0	0.28	3.2E-02	***6.5E-01***	0.72	1.2E-01	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Silver	0.14	***4.6E-01***	1.0	0.28	3.2E-02	***4.4E-01***	0.72	7.9E-02	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Thallium	0.14	***4.6E-01***	1.0	0.28	3.2E-02	***5.0E+01***	0.72	9.0E+00	0.10	***5.0E-03***	1.0	0.28	2.5E-04
Vanadium	0.14	***4.6E-01***	1.0	0.28	3.2E-02	7.8E+00	0.72	1.4E+00	0.10	1.2E-02	1.0	0.28	6.2E-04
Zinc	0.14	4.6E+01	1.0	0.28	3.2E+00	1.3E+01	0.72	2.3E+00	0.10	3.1E-02	1.0	0.28	1.6E-03

NOTES

(a) - Values and references for them are presented in Section 15.7.6.1 of the Risk Assessment Work plan

(b) - The dietary percentage of the pond and river fish/water were calculated by dividing the length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site

i.e. Small Pond = 1,375 ft, Large Pond = 2,770 ft, River = 14,956 ft so [illegible] for pond fish/water ingestion = (1,375+2,770)/14956 = 0.28

(c) - See Table III-C1

(d) - Dioxins/Furans were not analyzed for the A-Line surface water samples. The B-Line sample values for dioxins/furans were used instead

(e) - Metals were not analyzed for whole-body river fish tissue. Therefore, the surface water values were multiplied by their surface water-to-fish bioconcentration factors (BCFs) (USEPA, 1999). See Table III-B10

NOAEL - No Observable Adverse Effects Level

LOAEL - Lowest Observable Adverse Effects Level

HQ - Hazard Quotient

Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values

A shaded cell indicates an HI of equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-11
Hazard Quotients and Hazard Indices for Ingestion of Fish and Surface Water
Mink
Downstream River
Sauget, IL

Analyte	Concentration of Contaminant in River Surface Water (Plot 6 A-Line) (mg/L)	Dietary Percentage of River Surface Water (b)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (c)		Hazard Quotient	
							(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides										
4,4'-DDD	*5.0E-05*	0.72	6.5E-06	0.55	1.0	3.3E-03	6.2E-01	3.1E+00	5.4E-03	1.1E-03
4,4'-DDE	*5.0E-05*	0.72	6.5E-06	0.55	1.0	2.8E-03	6.2E-01	3.1E+00	4.5E-03	9.0E-04
4,4'-DDT	*5.0E-05*	0.72	6.5E-06	0.55	1.0	4.4E-03	6.2E-01	3.1E+00	7.1E-03	1.4E-03
Aldrin	*2.5E-05*	0.72	3.2E-06	0.55	1.0	3.2E-03	1.5E-01	7.7E-01	2.1E-02	4.1E-03
alpha-BHC	*2.5E-05*	0.72	3.2E-06	0.55	1.0	3.2E-03	1.4E-02	1.4E-01	2.3E-01	2.3E-02
alpha-Chlordane	*2.5E-05*	0.72	3.2E-06	0.55	1.0	2.1E-03	1.9E+00	3.8E+00	1.1E-03	5.6E-04
beta-BHC	*2.5E-05*	0.72	3.2E-06	0.55	1.0	3.2E-03	3.1E-01	1.5E+00	1.0E-02	2.1E-03
delta-BHC	*2.5E-05*	0.72	3.2E-06	0.55	1.0	4.7E-03	1.4E-02	1.4E-01	3.3E-01	3.3E-02
Dieldrin	*5.0E-05*	0.72	6.5E-06	0.55	1.0	1.2E-02	1.5E-02	1.5E-01	8.0E-01	8.0E-02
Endosulfan I	*2.5E-05*	0.72	3.2E-06	0.55	1.0	3.2E-03	1.2E-01	1.2E+00	2.7E-02	2.7E-03
Endosulfan II	*5.0E-05*	0.72	6.5E-06	0.55	1.0	3.3E-03	1.2E-01	1.2E+00	2.9E-02	2.9E-03
Endosulfan Sulfate	*5.0E-05*	0.72	6.5E-06	0.55	1.0	3.3E-03	1.2E-01	1.2E+00	2.9E-02	2.9E-03
Endrin	*5.0E-05*	0.72	6.5E-06	0.55	1.0	3.3E-03	3.8E-02	3.8E-01	8.7E-02	8.7E-03
Endrin Aldehyde	*5.0E-05*	0.72	6.5E-06	0.55	1.0	2.9E-03	3.8E-02	3.8E-01	7.5E-02	7.5E-03
Endrin Ketone	*5.0E-05*	0.72	6.5E-06	0.55	1.0	3.2E-03	3.8E-02	3.8E-01	8.5E-02	8.5E-03
gamma-BHC (Lindane)	*2.5E-05*	0.72	3.2E-06	0.55	1.0	3.2E-03	6.2E+00	6.2E+01	5.2E-04	5.2E-05
gamma-Chlordane	*2.5E-05*	0.72	3.2E-06	0.55	1.0	2.6E-03	1.9E+00	3.8E+00	1.4E-03	6.9E-04
Heptachlor	*2.5E-05*	0.72	3.2E-06	0.55	1.0	3.2E-03	1.0E-01	1.0E+00	3.2E-02	3.2E-03
Heptachlor Epoxide	*2.5E-05*	0.72	3.2E-06	0.55	1.0	3.2E-03	9.6E-04	2.4E-02	3.3E+00	1.3E-01
Methoxychlor	*2.5E-04*	0.72	3.2E-05	0.55	1.0	1.4E-02	3.1E+00	6.2E+00	4.5E-03	2.2E-03
Toxaphene	*2.5E-03*	0.72	3.2E-04	0.55	1.0	1.2E-01	6.2E+00	6.2E+01	1.9E-02	1.9E-03
									5.1E+00	3.2E-01
Herbicides										
2,4-D	9.0E-04	0.72	1.2E-04	0.55	1.0	1.7E-03	7.7E-01	3.8E+00	2.3E-03	4.5E-04
2,4-DB	*2.5E-04*	0.72	3.2E-05	0.55	1.0	1.7E-03	1.5E+00	4.7E+00	1.1E-03	3.5E-04
2,4,5-T	*2.5E-04*	0.72	3.2E-05	0.55	1.0	1.7E-03	2.3E+00	7.7E+00	7.2E-04	2.2E-04
2,4,5-TP (Silvex)	*2.5E-04*	0.72	3.2E-05	0.55	1.0	1.8E-03	1.4E+00	4.7E+00	1.3E-03	3.8E-04
Dalapon	*6.0E-02*	0.72	7.8E-03	0.55	1.0	4.0E-01	6.5E+00	2.2E+01	6.1E-02	1.8E-02
Dicamba	*6.0E-04*	0.72	7.8E-05	0.55	1.0	4.0E-03	3.1E+00	1.0E+01	1.3E-03	3.8E-04
Dichlorprop	*3.0E-03*	0.72	3.9E-04	0.55	1.0	2.0E-02	8.3E-02	8.3E-01	2.4E-01	2.4E-02
Dinoseb	*5.0E-03*	0.72	6.5E-04	0.55	1.0	4.4E-02	7.7E-02	7.7E-01	5.8E-01	5.8E-02
MCPA	*6.0E-02*	0.72	7.8E-03	0.55	1.0	4.0E-01	2.8E-01	1.4E+00	1.4E+00	2.8E-01
MCPP	*6.0E-02*	0.72	7.8E-03	0.55	1.0	4.0E-01	2.3E-01	6.9E-01	1.7E+00	5.8E-01
									4.0E+00	9.6E-01
PCBs										
Total PCBs	*2.5E-04*	0.72	3.2E-05	0.55	1.0	5.9E-01	7.7E-02	7.7E-01	7.7E+00	7.7E-01
Dioxins/Furans (d)										
TEQ	*2.0E-09*	0.72	2.6E-10	0.55	1.0	9.5E-07	7.7E-07	7.7E-06	1.2E+00	1.2E-01
Metals (e)										
Aluminum	4.4E-01	0.72	5.8E-02	0.55	1.0	1.6E+00	8.0E-01	8.0E+00	2.0E+00	2.0E-01
Antimony	9.4E-03	0.72	1.2E-03	0.55	1.0	1.3E-01	5.2E-02	5.2E-01	2.5E+00	2.5E-01
Arsenic	5.0E-03	0.72	6.5E-04	0.55	1.0	1.5E-01	5.2E-02	5.2E-01	3.0E+00	3.0E-01
Barium	5.6E-02	0.72	7.3E-03	0.55	1.0	6.8E+00	3.9E+00	1.5E+01	1.7E+00	4.4E-01
Beryllium	*2.0E-03*	0.72	2.6E-04	0.55	1.0	3.5E-02	5.1E-01	5.1E+00	6.9E-02	6.9E-03
Cadmium	*2.5E-03*	0.72	3.2E-04	0.55	1.0	4.2E-01	7.7E-01	7.7E+00	5.5E-01	5.5E-02
Chromium	*5.0E-03*	0.72	6.5E-04	0.55	1.0	4.1E-02	2.5E+00	1.0E+01	1.6E-02	4.1E-03
Cobalt	4.0E-03	0.72	5.2E-04	0.55	1.0	1.3E+00	3.8E-02	3.8E-01	3.3E+01	3.3E+00
Copper	9.1E-03	0.72	1.2E-03	0.55	1.0	1.2E+00	1.2E+01	1.5E+01	1.0E-01	7.9E-02
Lead	*2.5E-03*	0.72	3.2E-04	0.55	1.0	1.6E-02	6.2E+00	6.2E+01	2.7E-03	2.7E-04
Manganese	4.6E-02	0.72	5.9E-03	0.55	1.0	1.5E+01	6.8E+01	2.2E+02	2.2E-01	6.8E-02
Mercury	*1.0E-04*	0.72	1.3E-05	0.55	1.0	2.0E-01	1.5E-02	2.5E-02	1.4E+01	8.2E+00
Nickel	*2.0E-02*	0.72	2.6E-03	0.55	1.0	4.1E-01	3.1E+01	6.2E+01	1.3E-02	6.6E-03
Selenium	*5.0E-03*	0.72	6.5E-04	0.55	1.0	1.5E-01	1.5E-01	2.5E-01	9.6E-01	5.8E-01
Silver	*5.0E-03*	0.72	6.5E-04	0.55	1.0	1.1E-01	7.5E-02	7.5E-01	1.5E+00	1.5E-01
Thallium	*5.0E-03*	0.72	6.5E-04	0.55	1.0	9.0E+00	5.7E-03	5.7E-02	1.6E+03	1.6E+02
Vanadium	4.5E-03	0.72	5.8E-04	0.55	1.0	1.4E+00	1.6E-01	1.6E+00	8.9E+00	8.9E-01
Zinc	6.4E-03	0.72	8.2E-04	0.55	1.0	5.6E+00	1.2E+02	2.5E+02	4.5E-02	2.3E-02
Hazard Index - Metals									1.6E+03	1.7E+02

NOTES
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - The dietary percentage of the pond and river fish/water were calculated by dividing the length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site
i.e. Small Pond = 1,375 ft, Large Pond = 2,770 ft; River = 14,956 ft so % for pond fish/water ingestion = (1,375+2,770)/14956 = 0.28
(c) - See Table III-C1
(d) - Dioxins/furans were not analyzed for the A-Line surface water samples. The B-Line sample values for dioxins/furans were used instead
(e) - Metals were not analyzed for whole-body river fish tissue. Therefore, the surface water values were multiplied by their surface water-to-fish bioconcentration factors (BCFs) (USEPA, 1999). See Table III-B10

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detects
A shaded cell indicates an HI of equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Hazard Quotients and Hazard Inc ingestion of Fish and Surface Water
Osprey
Upstream River
Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Area Use Factor (a)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in River Surface Water (Plot 1) (mg/L)	Area Use Factor (a)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
1,2-Dichlorobenzene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.2E-02	3.2E-03
1,3-Dichlorobenzene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.2E-02	3.2E-03
1,4-Dichlorobenzene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.2E-02	3.2E-03
2,2'-Oxybis(1-Chloropropane)	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2,4-Dichlorophenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2,4-Dimethylphenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2,4-Dinitrophenol	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	1.0E+02	1.0E+03	6.4E-04	6.4E-05
2,4-Dinitrotoluene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2,6-Dinitrotoluene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2-Chloronaphthalene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2-Chlorophenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2-Methylnaphthalene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2-Methylphenol (o-Cresol)	0.33	2.1E-01	0.25	1.1E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.1E-02	9.6E-01	9.6E+00	1.1E-02	1.1E-03
2-Nitroaniline	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	7.5E+00	7.5E+01	8.8E-03	8.8E-04
2-Nitrophenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	6.5E-01	6.5E+00	2.1E-02	2.1E-03
3/4-Methylphenol (m&p-Cresol)	0.33	***1.0E+00***	0.25	5.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	5.3E-02	9.6E-01	9.6E+00	5.5E-02	5.5E-03
3-Nitroaniline	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	1.3E+00	1.3E+01	5.0E-02	5.0E-03
4,6-Dinitro-2-methylphenol	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	7.0E-02	7.0E-01	9.4E-01	9.4E-02
4-Chloro-3-methylphenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
4-Chloroaniline	0.33	***5.0E-01***	0.25	2.6E-02	0.080	***1.0E-02***	0.25	1.3E-04	1.6	1.0	2.6E-02	1.0E+00	1.0E+01	2.6E-02	2.6E-03
4-Nitroaniline	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	7.5E-01	7.5E+00	8.8E-02	8.8E-03
4-Nitrophenol	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	6.5E-01	6.5E+00	1.0E-01	1.0E-02
Acenaphthene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Acenaphthylene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	2.3E+01	2.3E+02	5.9E-04	5.9E-05
Anthracene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Benzo(a)anthracene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(a)pyrene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(b)fluoranthene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(g,h,i)perylene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(k)fluoranthene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
bis(2-Chloroethoxy)methane	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
bis(2-Chloroethyl)ether	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
bis(2-Ethylhexyl)phthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	6.1E-03	0.25	7.8E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Butyl Benzyl Phthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Chrysene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Dibenzo(a,h)anthracene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Dibenzofuran	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Diethyl Phthalate	0.33	2.1E-01	0.25	1.1E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.1E-02	1.0E+00	1.0E+01	1.1E-02	1.1E-03
Dimethyl Phthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Di-n-butylphthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E-01	1.1E+00	1.2E-01	1.2E-02
Di-n-octylphthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	8.8E+00	8.8E+01	1.5E-03	1.5E-04
Fluoranthene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Fluorene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Hexachlorobenzene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	5.5E+00	5.5E+01	2.5E-03	2.5E-04
Hexachlorobutadiene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	3.2E+00	3.2E+01	4.2E-03	4.2E-04
Hexachlorocyclopentadiene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	3.2E+00	3.2E+01	4.2E-03	4.2E-04
Hexachloroethane	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	3.2E+00	3.2E+01	4.2E-03	4.2E-04
Indeno(1,2,3-cd)pyrene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Naphthalene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	2.3E+01	2.3E+02	5.9E-04	5.9E-05
Nitrobenzene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.2E-02	3.2E-03
N-Nitroso-di-n-propylamine	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.5E+00	7.5E+01	1.8E-03	1.8E-04
N-Nitrosodiphenylamine	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.5E+00	7.5E+01	1.8E-03	1.8E-04
Pentachlorophenol	0.33	***1.3E+00***	0.25	6.6E-02	0.080	4.8E-04	0.25	6.1E-06	1.6	1.0	6.6E-02	8.7E+00	8.7E+01	7.5E-03	7.5E-04
Phenanthrene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	2.3E+01	2.3E+02	5.9E-04	5.9E-05
Phenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Pyrene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
														1.8E+00	1.8E-01

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1.

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
A shaded cell indicates an HI of equal to or greater than 1.0.

Table 7-12
Hazard Quotients and Hazard Indices for Ingestion of Fish and Surface Water
Osprey
Upstream River
Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Area Use Factor (a)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in River Surface Water (Plot 1) (mg/L)	Area Use Factor (a)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	8.8E-04	2.8E-03	2.8E-02	3.1E-01	3.1E-02
4,4'-DDE	0.33	2.1E-02	0.25	1.1E-03	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	1.1E-03	2.8E-03	2.8E-02	3.9E-01	3.9E-02
4,4'-DDT	0.33	1.5E-02	0.25	7.9E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	7.9E-04	2.8E-03	2.8E-02	2.8E-01	2.8E-02
Aldrin	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	6.6E-02	6.6E-01	1.3E-02	1.3E-03
alpha-BHC	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	5.6E-01	2.3E+01	1.6E-03	3.9E-05
alpha-Chlordane	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	2.1E+00	1.1E+01	4.1E-04	8.2E-05
beta-BHC	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	5.6E-01	2.3E+01	1.6E-03	3.9E-05
delta-BHC	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	5.6E-01	2.3E+01	1.6E-03	3.9E-05
Dieldrin	0.33	2.1E-02	0.25	1.1E-03	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	1.1E-03	7.7E-02	7.7E-01	1.4E-02	1.4E-03
Endosulfan I	0.33	1.4E-02	0.25	7.1E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	7.1E-04	1.0E+01	1.0E+02	7.1E-05	7.1E-06
Endosulfan II	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	8.8E-04	1.0E+01	1.0E+02	8.8E-05	8.8E-06
Endosulfan Sulfate	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	8.8E-04	1.0E+01	1.0E+02	8.8E-05	8.8E-06
Endrin	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	8.8E-04	1.0E-02	1.0E-01	8.8E-02	8.8E-03
Endrin Aldehyde	0.33	1.3E-02	0.25	6.6E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	6.6E-04	1.0E-02	1.0E-01	6.6E-02	6.6E-03
Endrin Ketone	0.33	***1.7E-02***	0.25	8.8E-04	0.080	2.6E-05	0.25	3.3E-07	1.6	1.0	8.8E-04	1.0E-02	1.0E-01	8.8E-02	8.8E-03
gamma-BHC (Lindane)	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	2.0E+00	2.0E+01	4.4E-04	4.4E-05
gamma-Chlordane	0.33	1.4E-02	0.25	7.6E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	7.6E-04	2.1E+00	1.1E+01	3.5E-04	7.1E-05
Heptachlor	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	6.5E-02	6.5E-01	1.3E-02	1.3E-03
Heptachlor Epoxide	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	6.5E-02	6.5E-01	1.3E-02	1.3E-03
Methoxychlor	0.33	***6.7E-02***	0.25	3.5E-03	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	3.5E-03	1.5E+02	1.5E+03	2.4E-05	2.4E-06
Toxaphene	0.33	***5.7E-01***	0.25	3.0E-02	0.080	***2.5E-03***	0.25	3.2E-05	1.6	1.0	3.0E-02	2.0E+00	1.0E+01	1.5E-02	3.0E-03
														1.5E+00	1.3E-01
Herbicides															
2,4-D	0.33	***4.2E-03***	0.25	2.2E-04	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	2.2E-04	6.7E+00	6.7E+01	3.3E-05	3.3E-06
2,4-DB	0.33	***4.2E-03***	0.25	2.2E-04	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	2.2E-04	6.7E+00	6.7E+01	3.3E-05	3.3E-06
2,4,5-T	0.33	5.1E-03	0.25	2.7E-04	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	2.7E-04	5.0E+00	5.0E+01	5.5E-05	5.5E-06
2,4,5-TP (Silvex)	0.33	5.3E-03	0.25	2.8E-04	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	2.8E-04	5.0E+00	5.0E+01	5.6E-05	5.6E-06
Dalapon	0.33	***1.0E+00***	0.25	5.3E-02	0.080	***6.0E-02***	0.25	7.7E-04	1.6	1.0	5.3E-02	1.0E+01	1.0E+02	5.3E-03	5.3E-04
Dicamba	0.33	7.2E-03	0.25	3.8E-04	0.080	***6.0E-04***	0.25	7.7E-06	1.6	1.0	3.9E-04	1.3E+01	1.3E+02	3.1E-05	3.1E-06
Dinoseb	0.33	***5.0E-02***	0.25	2.6E-03	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	2.7E-03	7.0E-02	7.0E-01	3.8E-02	3.8E-03
MCPA	0.33	***1.0E+00***	0.25	5.3E-02	0.080	***6.0E-02***	0.25	7.7E-04	1.6	1.0	5.3E-02	3.8E+00	3.8E+01	1.4E-02	1.4E-03
MCPP	0.33	***1.0E+00***	0.25	5.3E-02	0.080	***6.0E-02***	0.25	7.7E-04	1.6	1.0	5.3E-02	7.0E+00	7.0E+01	7.6E-03	7.6E-04
														6.6E-02	6.6E-03
PCBs															
Total PCBs	0.33	***2.5E-02***	0.25	1.3E-03	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	1.3E-03	5.0E+00	5.0E+01	2.6E-04	2.6E-05
Dioxins/Furans															
TEQ	0.33	2.9E-06	0.25	1.5E-07	0.080	***3.2E-09***	0.25	4.1E-11	1.6	1.0	1.5E-07	1.4E-06	1.4E-05	1.1E-01	1.1E-02
Metals (c)															
Aluminum	0.33	1.1E+00	0.25	5.7E-02	0.080	4.0E-01	0.25	5.1E-03	1.6	1.0	6.2E-02	1.1E+02	1.1E+03	5.7E-04	5.7E-05
Antimony	0.33	***4.0E-01***	0.25	2.1E-02	0.080	***1.0E-02***	0.25	1.3E-04	1.6	1.0	2.1E-02	1.0E+00	5.0E+00	2.1E-02	4.2E-03
Arsenic	0.33	8.9E-01	0.25	4.7E-02	0.080	7.8E-03	0.25	1.0E-04	1.6	1.0	4.7E-02	5.1E+00	1.3E+01	9.1E-03	3.7E-03
Barium	0.33	3.4E+01	0.25	1.8E+00	0.080	5.4E-02	0.25	6.9E-04	1.6	1.0	1.8E+00	2.1E+01	4.2E+01	8.6E-02	4.3E-02
Beryllium	0.33	***1.2E-01***	0.25	6.5E-03	0.080	***2.0E-03***	0.25	2.6E-05	1.6	1.0	6.5E-03	1.5E+00	2.0E+01	4.5E-03	3.3E-04
Cadmium	0.33	***2.3E+00***	0.25	1.2E-01	0.080	***2.5E-03***	0.25	3.2E-05	1.6	1.0	1.2E-01	1.5E+00	2.0E+01	8.2E-02	6.0E-03
Chromium	0.33	***9.5E-02***	0.25	5.0E-03	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	5.1E-03	1.0E+00	5.0E+00	5.1E-03	1.0E-03
Cobalt	0.33	8.2E+00	0.25	4.3E-01	0.080	4.8E-03	0.25	6.1E-05	1.6	1.0	4.3E-01	9.2E-02	4.6E-01	4.7E+00	9.4E-01
Copper	0.33	***7.1E+00***	0.25	3.7E-01	0.080	***1.0E-02***	0.25	1.3E-04	1.6	1.0	3.7E-01	4.7E+01	6.2E+01	7.9E-03	6.0E-03
Lead	0.33	***2.3E-04***	0.25	1.2E-05	0.080	***2.5E-03***	0.25	3.2E-05	1.6	1.0	4.4E-05	3.9E+00	3.9E+01	1.1E-05	1.1E-06
Manganese	0.33	7.5E+01	0.25	3.9E+00	0.080	4.3E-02	0.25	5.5E-04	1.6	1.0	3.9E+00	1.0E+03	1.0E+04	3.9E-03	3.9E-04
Mercury	0.33	***1.1E+00***	0.25	5.9E-02	0.080	***1.0E-04***	0.25	1.3E-06	1.6	1.0	5.9E-02	6.4E-03	6.4E-02	9.2E+00	9.2E-01
Nickel	0.33	***1.6E+00***	0.25	8.2E-02	0.080	***2.0E-02***	0.25	2.6E-04	1.6	1.0	8.2E-02	7.7E+01	1.1E+02	1.1E-03	7.7E-04
Selenium	0.33	***6.5E-01***	0.25	3.4E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	3.4E-02	5.0E-01	1.0E+00	6.8E-02	3.4E-02
Silver	0.33	***4.4E-01***	0.25	2.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	2.3E-02	1.8E+02	1.8E+03	1.3E-04	1.3E-05
Thallium	0.33	5.0E+01	0.25	2.6E+00	0.080	5.0E-03	0.25	6.4E-05	1.6	1.0	2.6E+00	3.5E-01	3.5E+00	7.5E+00	7.5E-01
Vanadium	0.33	6.6E+00	0.25	3.4E-01	0.080	3.8E-03	0.25	4.8E-05	1.6	1.0	3.4E-01	1.1E+01	1.1E+02	3.0E-02	3.0E-03
Zinc	0.33	2.0E+01	0.25	1.0E+00	0.080	9.7E-03	0.25	1.2E-04	1.6	1.0	1.0E+00	1.5E+01	1.3E+02	7.2E-02	8.0E-03
														2.2E+01	2.7E+00

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1.
(c) - Metals were not analyzed for whole-body river fish tissue. Therefore, the surface water values were multiplied by their surface water-to-fish bioconcentration factors (BCFs) (USEPA, 1999). See Table III-B13.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
A blacked [illegible] ates an HI of equal to or greater than 1.0.

Hazard Quotients and Hazard Indi[illegible]or Ingestion of Fish and Surface Water
Osprey
Adjacent River
Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Area Use Factor (a)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in River Surface Water (Plots 2-5) (mg/L)	Area Use Factor (a)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
1,2-Dichlorobenzene	0.33	2.3E-01	0.25	1.2E-02	0.080	6.0E-03	0.25	7.6E-05	1.6	1.0	1.2E-02	4.2E-01	4.2E+00	2.9E-02	2.9E-03
1,3-Dichlorobenzene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.2E-02	3.2E-03
1,4-Dichlorobenzene	0.33	2.4E-01	0.25	1.3E-02	0.080	5.0E-03	0.25	6.3E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.0E-02	3.0E-03
2,2'-oxybis (1-chloropropane)	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2,4-Dichlorophenol	0.33	2.3E-01	0.25	1.2E-02	0.080	6.1E-03	0.25	7.8E-05	1.6	1.0	1.2E-02	1.0E+02	1.0E+03	1.2E-04	1.2E-05
2,4-Dimethylphenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	5.1E-03	0.25	6.5E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2,4-Dinitrophenol	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	1.0E+02	1.0E+03	6.4E-04	6.4E-05
2,4-Dinitrotoluene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2,6-Dinitrotoluene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	5.4E-03	0.25	6.9E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2-Chloronaphthalene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2-Chlorophenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	5.3E-03	0.25	6.8E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2-Methylnaphthalene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2-Methylphenol	0.33	2.2E-01	0.25	1.2E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.2E-02	9.6E-01	9.6E+00	1.2E-02	1.2E-03
2-Nitroaniline	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	7.5E+00	7.5E+01	8.8E-03	8.8E-04
2-Nitrophenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	6.5E-01	6.5E+00	2.1E-02	2.1E-03
3/4-Methylphenol	0.33	***1.0E+00***	0.25	5.3E-02	0.080	5.6E-03	0.25	7.1E-05	1.6	1.0	5.3E-02	9.6E-01	9.6E+00	5.5E-02	5.5E-03
3-Nitroaniline	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	1.3E+00	1.3E+01	5.0E-02	5.0E-03
4,6-Dinitro-2-Methylphenol	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	7.0E-02	7.0E-01	9.4E-01	9.4E-02
4-Chloro-3-methylphenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
4-Chloroaniline	0.33	***5.0E-01***	0.25	2.6E-02	0.080	1.2E-02	0.25	1.6E-04	1.6	1.0	2.6E-02	1.0E+00	1.0E+01	2.6E-02	2.6E-03
4-Nitroaniline	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	7.5E-01	7.5E+00	8.8E-02	8.8E-03
4-Nitrophenol	0.33	***1.3E+00***	0.25	6.6E-02	0.080	***2.5E-02***	0.25	3.2E-04	1.6	1.0	6.6E-02	6.5E-01	6.5E+00	1.0E-01	1.0E-02
Acenaphthene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Acenaphthylene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	2.3E+01	2.3E+02	5.9E-04	5.9E-05
Anthracene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Benzo(a)anthracene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(a)pyrene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(b)fluoranthene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(ghi)perylene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(k)fluoranthene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Bis(2-chloroethoxy)methane	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Bis(2-chloroethyl)ether	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Bis(2-ethylhexyl)phthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Butylbenzylphthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Chrysene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Dibenzo(ah)anthracene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Dibenzofuran	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Diethylphthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Dimethylphthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Di-n-butylphthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E-01	1.1E+00	1.2E-01	1.2E-02
Di-n-octylphthalate	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	8.8E+00	8.8E+01	1.5E-03	1.5E-04
Fluoranthene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Fluorene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Hexachlorobenzene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	5.5E+00	5.5E+01	2.5E-03	2.5E-04
Hexachlorobutadiene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	3.2E+00	3.2E+01	4.2E-03	4.2E-04
Hexachlorocyclopentadiene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	3.2E+00	3.2E+01	4.2E-03	4.2E-04
Hexachloroethane	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	3.2E+00	3.2E+01	4.2E-03	4.2E-04
Indeno(1,2,3-cd)pyrene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Naphthalene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	5.5E-03	0.25	7.0E-05	1.6	1.0	1.3E-02	2.3E+01	2.3E+02	5.9E-04	5.9E-05
Nitrobenzene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	4.9E-03	0.25	6.3E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.2E-02	3.2E-03
N-nitroso-di-n-propylamine	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.5E+00	7.5E+01	1.8E-03	1.8E-04
N-nitrosodiphenylamine	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.5E+00	7.5E+01	1.8E-03	1.8E-04
Pentachlorophenol	0.33	***1.3E+00***	0.25	6.6E-02	0.080	5.4E-04	0.25	6.9E-06	1.6	1.0	6.6E-02	8.7E+00	8.7E+01	7.5E-03	7.5E-04
Phenanthrene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	2.3E+01	2.3E+02	5.9E-04	5.9E-05
Phenol	0.33	***2.6E-01***	0.25	1.3E-02	0.080	5.7E-03	0.25	7.2E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Pyrene	0.33	***2.6E-01***	0.25	1.3E-02	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
														1.8E+00	1.8E-01

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
A shaded cell indicates an HI of equal to or greater than 1.0.

Table 7-13
Hazard Quotients and Hazard Indices for Ingestion of Fish and Surface Water
Osprey
Adjacent River
Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Area Use Factor (a)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in River Surface Water (Plots 2-5) (mg/L)	Area Use Factor (a)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	0.33	1.1E-02	0.25	5.9E-04	0.080	5.0E-05	0.25	6.4E-07	1.6	1.0	5.9E-04	2.8E-03	2.8E-02	2.1E-01	2.1E-02
4,4'-DDE	0.33	1.8E-02	0.25	9.7E-04	0.080	5.0E-05	0.25	6.4E-07	1.6	1.0	9.7E-04	2.8E-03	2.8E-02	3.5E-01	3.5E-02
4,4'-DDT	0.33	1.3E-02	0.25	6.6E-04	0.080	5.0E-05	0.25	6.4E-07	1.6	1.0	6.6E-04	2.8E-03	2.8E-02	2.4E-01	2.4E-02
Aldrin	0.33	1.3E-02	0.25	6.6E-04	0.080	2.5E-05	0.25	3.2E-07	1.6	1.0	6.6E-04	6.6E-02	6.6E-01	1.0E-02	1.0E-03
alpha-BHC	0.33	1.1E-02	0.25	6.0E-04	0.080	2.5E-05	0.25	3.2E-07	1.6	1.0	6.0E-04	5.6E-01	2.3E+01	1.1E-03	2.7E-05
alpha-Chlordane	0.33	1.2E-02	0.25	6.1E-04	0.080	2.5E-05	0.25	3.2E-07	1.6	1.0	6.1E-04	2.1E+00	1.1E+01	2.9E-04	5.7E-05
beta-BHC	0.33	1.3E-02	0.25	6.6E-04	0.080	2.4E-05	0.25	3.1E-07	1.6	1.0	6.6E-04	5.6E-01	2.3E+01	1.2E-03	2.9E-05
delta-BHC	0.33	1.3E-02	0.25	6.6E-04	0.080	2.5E-05	0.25	3.2E-07	1.6	1.0	6.6E-04	5.6E-01	2.3E+01	1.2E-03	2.9E-05
Dieldrin	0.33	1.5E-02	0.25	7.8E-04	0.080	5.0E-05	0.25	6.4E-07	1.6	1.0	7.8E-04	7.7E-02	7.7E-01	1.0E-02	1.0E-03
Endosulfan I	0.33	1.2E-02	0.25	6.1E-04	0.080	2.5E-05	0.25	3.2E-07	1.6	1.0	6.1E-04	1.0E+01	1.0E+02	6.1E-05	6.1E-06
Endosulfan II	0.33	1.3E-02	0.25	6.6E-04	0.080	5.0E-05	0.25	6.4E-07	1.6	1.0	6.6E-04	1.0E+01	1.0E+02	6.6E-05	6.6E-06
Endosulfan Sulfate	0.33	1.3E-02	0.25	6.6E-04	0.080	5.0E-05	0.25	6.4E-07	1.6	1.0	6.6E-04	1.0E+01	1.0E+02	6.6E-05	6.6E-06
Endrin	0.33	1.2E-02	0.25	6.4E-04	0.080	5.0E-05	0.25	6.4E-07	1.6	1.0	6.4E-04	1.0E-02	1.0E-01	6.4E-02	6.4E-03
Endrin Aldehyde	0.33	1.2E-02	0.25	6.1E-04	0.080	5.0E-05	0.25	6.4E-07	1.6	1.0	6.1E-04	1.0E-02	1.0E-01	6.1E-02	6.1E-03
Endrin Ketone	0.33	1.3E-02	0.25	6.6E-04	0.080	4.8E-05	0.25	6.1E-07	1.6	1.0	6.6E-04	1.0E-02	1.0E-01	6.6E-02	6.6E-03
gamma-BHC (Lindane)	0.33	1.3E-02	0.25	6.6E-04	0.080	2.5E-05	0.25	3.2E-07	1.6	1.0	6.6E-04	2.0E+00	2.0E+01	3.3E-04	3.3E-05
gamma-Chlordane	0.33	1.1E-02	0.25	5.8E-04	0.080	2.5E-05	0.25	3.2E-07	1.6	1.0	5.8E-04	2.1E+00	1.1E+01	2.7E-04	5.4E-05
Heptachlor	0.33	1.3E-02	0.25	6.6E-04	0.080	2.5E-05	0.25	3.2E-07	1.6	1.0	6.6E-04	6.5E-02	6.5E-01	1.0E-02	1.0E-03
Heptachlor Epoxide	0.33	1.1E-02	0.25	5.6E-04	0.080	2.5E-05	0.25	3.2E-07	1.6	1.0	5.6E-04	6.5E-02	6.5E-01	8.6E-03	8.6E-04
Methoxychlor	0.33	5.0E-02	0.25	2.6E-03	0.080	2.5E-04	0.25	3.2E-06	1.6	1.0	2.6E-03	1.5E+02	1.5E+03	1.8E-05	1.8E-06
Toxaphene	0.33	4.3E-01	0.25	2.2E-02	0.080	2.5E-03	0.25	3.2E-05	1.6	1.0	2.2E-02	2.0E+00	1.0E+01	1.1E-02	2.2E-03
														[illegible]	1.0E-01
Herbicides															
2,4-D	0.33	4.2E-03	0.25	2.2E-04	0.080	2.2E-03	0.25	2.9E-05	1.6	1.0	2.5E-04	6.7E+00	6.7E+01	3.7E-05	3.7E-06
2,4-DB	0.33	4.2E-03	0.25	2.2E-04	0.080	2.5E-04	0.25	3.2E-06	1.6	1.0	2.2E-04	6.7E+00	6.7E+01	3.3E-05	3.3E-06
2,4,5-T	0.33	5.7E-03	0.25	3.0E-04	0.080	2.5E-04	0.25	3.2E-06	1.6	1.0	3.0E-04	5.0E+00	5.0E+01	6.1E-05	6.1E-06
2,4,5-TP (Silvex)	0.33	4.9E-03	0.25	2.6E-04	0.080	2.5E-04	0.25	3.2E-06	1.6	1.0	2.6E-04	5.0E+00	5.0E+01	5.2E-05	5.2E-06
Dalapon	0.33	1.0E+00	0.25	5.3E-02	0.080	6.0E-02	0.25	7.7E-04	1.6	1.0	5.3E-02	1.0E+01	1.0E+02	5.3E-03	5.3E-04
Dicamba	0.33	1.0E-02	0.25	5.3E-04	0.080	6.0E-04	0.25	7.7E-06	1.6	1.0	5.3E-04	1.3E+01	1.3E+02	4.3E-05	4.3E-06
Dinoseb	0.33	5.0E-02	0.25	2.6E-03	0.080	5.0E-03	0.25	6.4E-05	1.6	1.0	2.7E-03	7.0E-02	7.0E-01	3.8E-02	3.8E-03
MCPA	0.33	1.0E+00	0.25	5.3E-02	0.080	5.9E-02	0.25	7.5E-04	1.6	1.0	5.3E-02	3.8E+00	3.8E+01	1.4E-02	1.4E-03
MCPP	0.33	2.3E+00	0.25	1.2E-01	0.080	6.0E-02	0.25	7.6E-04	1.6	1.0	1.2E-01	7.0E+00	7.0E+01	1.7E-02	1.7E-03
														7.5E-02	7.5E-03
PCBs															
Total PCBs	0.33	2.5E-02	0.25	1.3E-03	0.080	2.5E-04	0.25	3.2E-06	1.6	1.0	1.3E-03	5.0E+00	5.0E+01	2.6E-04	2.6E-05
Dioxins/Furans															
TEQ	0.33	2.8E-06	0.25	1.5E-07	0.080	2.1E-09	0.25	2.7E-11	1.6	1.0	1.5E-07	1.4E-06	1.4E-05	1.0E-01	1.0E-02
Metals (c)															
Aluminum	0.33	1.1E+00	0.25	6.0E-02	0.080	4.2E-01	0.25	5.4E-03	1.6	1.0	6.5E-02	1.1E+02	1.1E+03	5.9E-04	5.9E-05
Antimony	0.33	4.1E-01	0.25	2.1E-02	0.080	1.0E-02	0.25	1.3E-04	1.6	1.0	2.1E-02	1.0E+00	5.0E+00	2.1E-02	4.3E-03
Arsenic	0.33	6.5E-01	0.25	3.4E-02	0.080	5.7E-03	0.25	7.2E-05	1.6	1.0	3.4E-02	5.1E+00	1.3E+01	6.6E-03	2.7E-03
Barium	0.33	3.6E+01	0.25	1.9E+00	0.080	5.6E-02	0.25	7.2E-04	1.6	1.0	1.9E+00	2.1E+01	4.2E+01	9.0E-02	4.5E-02
Beryllium	0.33	1.2E-01	0.25	6.5E-03	0.080	2.0E-03	0.25	2.6E-05	1.6	1.0	6.5E-03	1.5E+00	2.0E+01	4.5E-03	3.3E-04
Cadmium	0.33	2.3E+00	0.25	1.2E-01	0.080	2.5E-03	0.25	3.2E-05	1.6	1.0	1.2E-01	1.5E+00	2.0E+01	8.2E-02	6.0E-03
Chromium	0.33	9.5E-02	0.25	5.0E-03	0.080	5.0E-03	0.25	6.4E-05	1.6	1.0	5.1E-03	1.0E+00	5.0E+00	5.1E-03	1.0E-03
Cobalt	0.33	7.8E+00	0.25	4.1E-01	0.080	4.5E-03	0.25	5.7E-05	1.6	1.0	4.1E-01	9.2E-02	4.6E-01	4.4E+00	8.9E-01
Copper	0.33	7.3E+00	0.25	3.8E-01	0.080	1.0E-02	0.25	1.3E-04	1.6	1.0	3.8E-01	4.7E+01	6.2E+01	8.2E-03	6.2E-03
Lead	0.33	2.3E-04	0.25	1.2E-05	0.080	2.6E-03	0.25	3.3E-05	1.6	1.0	4.5E-05	3.9E+00	3.9E+01	1.2E-05	1.2E-06
Manganese	0.33	7.9E+01	0.25	4.1E+00	0.080	4.6E-02	0.25	5.8E-04	1.6	1.0	4.1E+00	1.0E+03	1.0E+04	4.2E-03	4.2E-04
Mercury	0.33	1.1E+00	0.25	6.0E-02	0.080	1.0E-04	0.25	1.3E-06	1.6	1.0	6.0E-02	6.4E-03	6.4E-02	9.4E+00	9.4E-01
Nickel	0.33	1.6E+00	0.25	8.2E-02	0.080	2.0E-02	0.25	2.6E-04	1.6	1.0	8.2E-02	7.7E+01	1.1E+02	1.1E-03	7.7E-04
Selenium	0.33	6.5E-01	0.25	3.4E-02	0.080	5.0E-03	0.25	6.4E-05	1.6	1.0	3.4E-02	5.0E-01	1.0E+00	6.8E-02	3.4E-02
Silver	0.33	4.3E-01	0.25	2.2E-02	0.080	4.9E-03	0.25	6.2E-05	1.6	1.0	2.2E-02	1.8E+02	1.8E+03	1.3E-04	1.3E-05
Thallium	0.33	5.0E+01	0.25	2.6E+00	0.080	5.0E-03	0.25	6.4E-05	1.6	1.0	2.6E+00	3.5E-01	3.5E+00	7.5E+00	7.5E-01
Vanadium	0.33	8.5E+00	0.25	4.5E-01	0.080	4.9E-03	0.25	6.3E-05	1.6	1.0	4.5E-01	1.1E+01	1.1E+02	3.9E-02	3.9E-03
Zinc	0.33	2.2E+01	0.25	1.1E+00	0.080	1.1E-02	0.25	1.3E-04	1.6	1.0	1.1E+00	1.5E+01	1.3E+02	7.9E-02	8.7E-03
														2.2E+01	2.2E+00

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1.
(c) - Metals were not analyzed for whole body river fish tissue. Therefore, the surface water values were multiplied by their surface water-to-fish bioconcentration factors (BCFs) (USEPA, 1999). See Table III-B13.

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
A shaded cell indicates an HI of equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

Hazard Quotients and Hazard Ind[illegible]ngestion of Fish and Surface Water

Osprey

Downstream River

Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Area Use Factor (a)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in River Surface Water (Plot 6) (mg/L)	Area Use Factor (a)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
1,2-Dichlorobenzene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.2E-02	3.2E-03
1,3-Dichlorobenzene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.2E-02	3.2E-03
1,4-Dichlorobenzene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.2E-02	3.2E-03
2,2'-oxybis (1-chloropropane)	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2,4-Dichlorophenol	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2,4-Dimethylphenol	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2,4-Dinitrophenol	0.33	*1.3E+00*	0.25	6.6E-02	0.080	*2.5E-02*	0.25	3.2E-04	1.6	1.0	6.6E-02	1.0E+02	1.0E+03	6.4E-04	6.4E-05
2,4-Dinitrotoluene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2,6-Dinitrotoluene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+02	1.0E+03	1.3E-04	1.3E-05
2-Chloronaphthalene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2-Chlorophenol	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2-Methylnaphthalene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
2-Methylphenol	0.33	3.2E-01	0.25	1.7E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.7E-02	9.6E-01	9.6E+00	1.7E-02	1.7E-03
2-Nitroaniline	0.33	*1.3E+00*	0.25	6.6E-02	0.080	*2.5E-02*	0.25	3.2E-04	1.6	1.0	6.6E-02	7.5E+00	7.5E+01	8.8E-03	8.8E-04
2-Nitrophenol	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	6.5E-01	6.5E+00	2.1E-02	2.1E-03
3/4-Methylphenol	0.33	*1.0E+00*	0.25	5.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	5.3E-02	9.6E-01	9.6E+00	5.5E-02	5.5E-03
3-Nitroaniline	0.33	*1.3E+00*	0.25	6.6E-02	0.080	*2.5E-02*	0.25	3.2E-04	1.6	1.0	6.6E-02	1.3E+00	1.3E+01	5.0E-02	5.0E-03
4,6-Dinitro-2-Methylphenol	0.33	*1.3E+00*	0.25	6.6E-02	0.080	*2.5E-02*	0.25	3.2E-04	1.6	1.0	6.6E-02	7.0E-02	7.0E-01	9.4E-01	9.4E-02
4-Chloro-3-methylphenol	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
4-Chloroaniline	0.33	*5.0E-01*	0.25	2.6E-02	0.080	*1.0E-02*	0.25	1.3E-04	1.6	1.0	2.6E-02	1.0E+00	1.0E+01	2.6E-02	2.6E-03
4-Nitroaniline	0.33	*1.3E+00*	0.25	6.6E-02	0.080	*2.5E-02*	0.25	3.2E-04	1.6	1.0	6.6E-02	7.5E-01	7.5E+00	8.8E-02	8.8E-03
4-Nitrophenol	0.33	*1.3E+00*	0.25	6.6E-02	0.080	*2.5E-02*	0.25	3.2E-04	1.6	1.0	6.6E-02	6.5E-01	6.5E+00	1.0E-01	1.0E-02
Acenaphthene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Acenaphthylene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	2.3E+01	2.3E+02	5.9E-04	5.9E-05
Anthracene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Benzo(a)anthracene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(a)pyrene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(b)fluoranthene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(ghi)perylene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Benzo(k)fluoranthene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Bis(2-chloroethoxy)methane	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Bis(2-chloroethyl)ether	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Bis(2-ethylhexyl)phthalate	0.33	*2.6E-01*	0.25	1.3E-02	0.080	4.5E-03	0.25	5.8E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Butylbenzylphthalate	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Chrysene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Dibenzo(ah)anthracene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Dibenzofuran	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Diethyl phthalate	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Dimethyl phthalate	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Di-n-butylphthalate	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.1E-01	1.1E+00	1.2E-01	1.2E-02
Di-n-octylphthalate	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	8.8E+00	8.8E+01	1.5E-03	1.5E-04
Fluoranthene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Fluorene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	1.0E+00	1.0E+01	1.3E-02	1.3E-03
Hexachlorobenzene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	5.5E+00	5.5E+01	2.5E-03	2.5E-04
Hexachlorobutadiene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	3.2E+00	3.2E+01	4.2E-03	4.2E-04
Hexachlorocyclopentadiene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	3.2E+00	3.2E+01	4.2E-03	4.2E-04
Hexachloroethane	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	3.2E+00	3.2E+01	4.2E-03	4.2E-04
Indeno(1,2,3-cd)pyrene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
Naphthalene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	2.3E+01	2.3E+02	5.9E-04	5.9E-05
Nitrobenzene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	4.2E-01	4.2E+00	3.2E-02	3.2E-03
N-nitroso-di-n-propylamine	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.5E+00	7.5E+01	1.8E-03	1.8E-04
N-nitrosodiphenylamine	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.5E+00	7.5E+01	1.8E-03	1.8E-04
Pentachlorophenol	0.33	*1.3E+00*	0.25	6.6E-02	0.080	*5.0E-04*	0.25	6.4E-06	1.6	1.0	6.6E-02	8.7E+00	8.7E+01	7.5E-03	7.5E-04
Phenanthrene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	2.3E+01	2.3E+02	5.9E-04	5.9E-05
Phenol	0.33	*2.6E-01*	0.25	1.3E-02	0.080	4.4E-03	0.25	5.6E-05	1.6	1.0	1.3E-02	1.1E+00	1.1E+01	1.2E-02	1.2E-03
Pyrene	0.33	*2.6E-01*	0.25	1.3E-02	0.080	*5.0E-03*	0.25	6.4E-05	1.6	1.0	1.3E-02	7.1E+00	7.1E+01	1.9E-03	1.9E-04
														1.8E+00	1.8E-01

NOTES.
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
A shaded cell indicates an HI of equal to or greater than 1.0.

Table 7-14
Hazard Quotients and Hazard Indices for Ingestion of Fish and Surface Water
Osprey
Downstream River
Sauget, IL

Analyte	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in River Fish (mg/kg)	Area Use Factor (a)	Dose from River Fish (mg/kg/day)	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in River Surface Water (Plot 6) (mg/L)	Area Use Factor (a)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	0.33	1.7E-02	0.25	8.7E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	8.7E-04	2.8E-03	2.8E-02	3.1E-01	3.1E-02
4,4'-DDE	0.33	1.3E-02	0.25	7.0E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	7.0E-04	2.8E-03	2.8E-02	2.5E-01	2.5E-02
4,4'-DDT	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	8.8E-04	2.8E-03	2.8E-02	3.1E-01	3.1E-02
Aldrin	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	6.6E-02	6.6E-01	1.3E-02	1.3E-03
alpha-BHC	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	5.6E-01	2.3E+01	1.6E-03	3.9E-05
alpha-Chlordane	0.33	1.1E-02	0.25	5.7E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	5.7E-04	2.1E+00	1.1E+01	2.7E-04	5.4E-05
beta-BHC	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	5.6E-01	2.3E+01	1.6E-03	3.9E-05
delta-BHC	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	5.6E-01	2.3E+01	1.6E-03	3.9E-05
Dieldrin	0.33	1.4E-02	0.25	7.3E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	7.3E-04	7.7E-02	7.7E-01	9.5E-03	9.5E-04
Endosulfan I	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	1.0E+01	1.0E+02	8.8E-05	8.8E-06
Endosulfan II	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	8.8E-04	1.0E+01	1.0E+02	8.8E-05	8.8E-06
Endosulfan Sulfate	0.33	1.7E-02	0.25	8.7E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	8.7E-04	1.0E+01	1.0E+02	8.7E-05	8.7E-06
Endrin	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	8.8E-04	1.0E-02	1.0E-01	8.8E-02	8.8E-03
Endrin Aldehyde	0.33	1.4E-02	0.25	7.4E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	7.4E-04	1.0E-02	1.0E-01	7.4E-02	7.4E-03
Endrin Ketone	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***5.0E-05***	0.25	6.4E-07	1.6	1.0	8.8E-04	1.0E-02	1.0E-01	8.8E-02	8.8E-03
gamma-BHC (Lindane)	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	2.0E+00	2.0E+01	4.4E-04	4.4E-05
gamma-Chlordane	0.33	1.4E-02	0.25	7.2E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	7.2E-04	2.1E+00	1.1E+01	3.4E-04	6.7E-05
Heptachlor	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	6.5E-02	6.5E-01	1.3E-02	1.3E-03
Heptachlor Epoxide	0.33	***1.7E-02***	0.25	8.8E-04	0.080	***2.5E-05***	0.25	3.2E-07	1.6	1.0	8.8E-04	6.5E-02	6.5E-01	1.3E-02	1.3E-03
Methoxychlor	0.33	***6.7E-02***	0.25	3.5E-03	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	3.5E-03	1.5E+02	1.5E+03	2.4E-05	2.4E-06
Toxaphene	0.33	***5.7E-01***	0.25	3.0E-02	0.080	***2.5E-03***	0.25	3.2E-05	1.6	1.0	3.0E-02	2.0E+00	1.0E+01	1.5E-02	3.0E-03
														1.2E+00	***1.2E-01***
Herbicides															
2,4-D	0.33	***4.2E-03***	0.25	2.2E-04	0.080	8.1E-04	0.25	1.0E-05	1.6	1.0	2.3E-04	6.7E+00	6.7E+01	3.4E-05	3.4E-06
2,4-DB	0.33	***4.2E-03***	0.25	2.2E-04	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	2.2E-04	6.7E+00	6.7E+01	3.3E-05	3.3E-06
2,4,5-T	0.33	***4.2E-03***	0.25	2.2E-04	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	2.2E-04	5.0E+00	5.0E+01	4.4E-05	4.4E-06
2,4,5-TP (Silvex)	0.33	5.0E-03	0.25	2.6E-04	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	2.6E-04	5.0E+00	5.0E+01	5.3E-05	5.3E-06
Dalapon	0.33	***1.0E+00***	0.25	5.3E-02	0.080	***6.0E-02***	0.25	7.7E-04	1.6	1.0	5.3E-02	1.0E+01	1.0E+02	5.3E-03	5.3E-04
Dicamba	0.33	***1.0E-02***	0.25	5.3E-04	0.080	***6.0E-04***	0.25	7.7E-06	1.6	1.0	5.3E-04	1.3E+01	1.3E+02	4.3E-05	4.3E-06
Dinoseb	0.33	***5.0E-02***	0.25	2.6E-03	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	2.7E-03	7.0E-02	7.0E-01	3.8E-02	3.8E-03
MCPA	0.33	***1.0E+00***	0.25	5.3E-02	0.080	***6.0E-02***	0.25	7.7E-04	1.6	1.0	5.3E-02	3.8E+00	3.8E+01	1.4E-02	1.4E-03
MCPP	0.33	***1.0E+00***	0.25	5.3E-02	0.080	***6.0E-02***	0.25	7.7E-04	1.6	1.0	5.3E-02	7.0E+00	7.0E+01	7.6E-03	7.6E-04
														6.6E-02	6.6E-03
PCBs															
Total PCBs	0.33	***2.5E-02***	0.25	1.3E-03	0.080	***2.5E-04***	0.25	3.2E-06	1.6	1.0	1.3E-03	5.0E+00	5.0E+01	2.6E-04	2.6E-05
Dioxins/Furans															
TEQ	0.33	2.1E-06	0.25	1.1E-07	0.080	***2.7E-09***	0.25	3.4E-11	1.6	1.0	1.1E-07	1.4E-06	1.4E-05	7.8E-02	7.8E-03
Metals (c)															
Aluminum	0.33	1.2E+00	0.25	6.4E-02	0.080	4.5E-01	0.25	5.7E-03	1.6	1.0	6.9E-02	1.1E+02	1.1E+03	6.3E-04	6.3E-05
Antimony	0.33	3.9E-01	0.25	2.0E-02	0.080	9.7E-03	0.25	1.2E-04	1.6	1.0	2.0E-02	1.0E+00	5.0E+00	2.0E-02	4.1E-03
Arsenic	0.33	5.4E-01	0.25	2.9E-02	0.080	4.8E-03	0.25	6.1E-05	1.6	1.0	2.9E-02	5.1E+00	1.3E+01	5.6E-03	2.2E-03
Barium	0.33	3.6E+01	0.25	1.9E+00	0.080	5.6E-02	0.25	7.2E-04	1.6	1.0	1.9E+00	2.1E+01	4.2E+01	9.0E-02	4.5E-02
Beryllium	0.33	***1.2E-01***	0.25	6.5E-03	0.080	***2.0E-03***	0.25	2.6E-05	1.6	1.0	6.5E-03	1.5E+00	2.0E+01	4.5E-03	3.3E-04
Cadmium	0.33	***2.3E+03***	0.25	1.2E-01	0.080	***2.5E-03***	0.25	3.2E-05	1.6	1.0	1.2E-01	1.5E+00	2.0E+01	8.2E-02	6.0E-03
Chromium	0.33	***9.5E-02***	0.25	5.0E-03	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	5.1E-03	1.0E+00	5.0E+00	5.1E-03	1.0E-03
Cobalt	0.33	7.2E+03	0.25	3.8E-01	0.080	4.1E-03	0.25	5.3E-05	1.6	1.0	3.8E-01	9.2E-02	4.6E-01	**4.1E+00**	8.2E-01
Copper	0.33	6.7E+00	0.25	3.5E-01	0.080	9.5E-03	0.25	1.2E-04	1.6	1.0	3.5E-01	4.7E+01	6.2E+01	7.5E-03	5.7E-03
Lead	0.33	***2.3E-04***	0.25	1.2E-05	0.080	***2.5E-03***	0.25	3.2E-05	1.6	1.0	4.4E-05	3.9E+00	3.9E+01	1.1E-05	1.1E-06
Manganese	0.33	7.8E+01	0.25	4.1E+00	0.080	4.5E-02	0.25	5.7E-04	1.6	1.0	4.1E+00	1.0E+03	1.0E+04	4.1E-03	4.1E-04
Mercury	0.33	***1.1E+00***	0.25	5.9E-02	0.080	***1.0E-04***	0.25	1.3E-06	1.6	1.0	5.9E-02	6.4E-03	6.4E-02	**9.2E+00**	9.2E-01
Nickel	0.33	***1.6E+00***	0.25	8.2E-02	0.080	***2.0E-02***	0.25	2.6E-04	1.6	1.0	8.2E-02	7.7E+01	1.1E+02	1.1E-03	7.7E-04
Selenium	0.33	6.5E-01	0.25	3.4E-02	0.080	5.0E-03	0.25	6.4E-05	1.6	1.0	3.4E-02	5.0E-01	1.0E+00	6.8E-02	3.4E-02
Silver	0.33	4.4E-01	0.25	2.3E-02	0.080	5.0E-03	0.25	6.4E-05	1.6	1.0	2.3E-02	1.8E+02	1.8E+03	1.3E-04	1.3E-05
Thallium	0.33	***5.0E+01***	0.25	2.6E+00	0.080	***5.0E-03***	0.25	6.4E-05	1.6	1.0	2.6E+00	3.5E-01	3.5E+00	**7.5E+00**	7.5E-01
Vanadium	0.33	8.2E+00	0.25	4.3E-01	0.080	4.7E-03	0.25	6.0E-05	1.6	1.0	4.3E-01	1.1E+01	1.1E+02	3.8E-02	3.8E-03
Zinc	0.33	1.4E+01	0.25	7.4E-01	0.080	6.9E-03	0.25	8.7E-05	1.6	1.0	7.4E-01	1.5E+01	1.3E+02	5.1E-02	5.7E-03
														2.1E+01	**2.6E+00**

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1.
(c) - Metals were not analyzed for whole-body river fish tissue. Therefore, the surface water values were multiplied by their surface water-to-fish bioconcentration factors (BCFs) (USEPA, 1999). See Table III-B13

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italic values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
A shaded cell indicates an HI of equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-15
Hazard Indices Comparison
Aquatic Receptors
Sauget, IL

Mink						
	Upstream		Adjacent		Downstream	
Category	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI
SVOCs	273	28	**350**	**36**	**350**	**36**
Pesticides	5.8	0.33	3.8	0.25	5.1	0.32
Herbicides	2.4	0.60	**5.0**	**1.3**	**4.0**	**0.96**
PCBs	0.082	0.0082	**7.7**	**0.77**	**7.7**	**0.77**
Dioxins/Furans	0.57	0.057	**1.2**	**0.12**	**1.2**	**0.12**
Metals	2313	242	1658	174	1650	173

Osprey						
	Upstream		Adjacent		Downstream	
Category	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI
SVOCs	1.8	0.18	1.8	0.18	**1.8**	**0.18**
Pesticides	1.3	0.13	1.0	0.10	1.2	0.12
Herbicides	0.066	0.0066	**0.075**	**0.0075**	0.066	0.0066
PCBs	0.00026	0.000026	0.00026	0.000026	0.00026	0.000026
Dioxins/Furans	0.11	0.011	0.10	0.010	0.078	0.0078
Metals	22	2.7	22	2.7	21	2.6

NOTES:
BOLD = Value greater than background (Upstream)
A shaded cell indicates a Hazard Index greater than or equal to 1.0 and a value greater than background.

Table 7-16
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Off-Site Areas (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
SVOCs												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
1,2,4-Trichlorobenzene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.7E+01	9.8E+01	1.8E-03	5.1E-04
1,2-Dichlorobenzene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,3-Dichlorobenzene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,4-Dichlorobenzene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.7E+02	3.2E-04	1.8E-04
2,2'-Oxybis(1-Chloropropane)	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
2,4,5-Trichlorophenol	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	5.5E+01	2.7E-03	9.1E-04
2,4,6-Trichlorophenol	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+02	5.5E+01	5.5E-05	9.1E-04
2,4-Dichlorophenol	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.5E-01	5.5E+00	9.1E-02	9.1E-03
2,4-Dinitrophenol	***9.9E-01***	0.00012	1.0	2.8E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	3.1E-03	3.1E-02	8.7E-01	8.2E+00
2,4-Dinitrotoluene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.0E-01	6.7E+00	5.6E-02	7.4E-03
2,6-Dinitrotoluene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+00	1.3E+01	3.9E-02	3.9E-03
2-Chloronaphthalene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.5E+01	5.9E+01	2.0E-03	8.4E-04
2-Chlorophenol	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+01	9.1E+00	5.5E-04	5.5E-03
2-Methylnaphthalene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.8E+03	2.8E+04	1.8E-05	1.8E-06
2-Methylphenol (o-Cresol)	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
2-Nitroaniline	***9.9E-01***	0.00012	1.0	2.8E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
2-Nitrophenol	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E+00	1.3E+01	1.1E-02	3.9E-03
3,3'-Dichlorobenzidine	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	4.7E+01	5.0E+02	2.2E-03	2.0E-04
3/4-Methylphenol (m&p-Cresol)	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
3-Nitroaniline	***9.9E-01***	0.00012	1.0	2.8E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4,6-Dinitro-2-methylphenol	***9.9E-01***	0.00012	1.0	2.8E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E-01	8.3E+00	5.6E-01	3.1E-02
4-Bromophenyl Phenyl Ether	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Chloro-3-methylphenol	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.0E+02	2.0E+03	2.4E-04	2.4E-05
4-Chloroaniline	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	2.3E+00	2.3E+01	4.4E-02	4.4E-03
4-Chlorophenyl Phenyl Ether	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Nitroaniline	***9.9E-01***	0.00012	1.0	2.8E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4-Nitrophenol	***9.9E-01***	0.00012	1.0	2.8E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E+00	1.3E+01	5.6E-02	2.0E-02
Acenaphthene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Acenaphthylene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Anthracene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E+01	9.9E+02	5.1E-04	5.1E-05
Benzo(a)anthracene	7.0E-02	0.00012	1.0	2.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Benzo(a)pyrene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(b)fluoranthene	1.5E-01	0.00012	1.0	4.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Benzo(g,h,i)perylene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(k)fluoranthene	7.3E-02	0.00012	1.0	2.1E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
bis(2-Chloroethoxy)methane	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	[illegible]
bis(2-Chloroethyl)ether	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	
bis(2-Ethylhexyl)phthalate	2.2E-01	0.00012	1.0	6.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	1.8E+02	2.8E-03	
Butyl Benzyl Phthalate	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.9E+01	8.6E+01	1.7E-03	[illegible]
Carbazole	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.0E+00	3.0E+01	1.7E-02	1.7E-03
Chrysene	7.7E-02	0.00012	1.0	2.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Dibenzo(a,h)anthracene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzofuran	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.4E-02	2.4E-01	2.1E+00	2.1E-01
Diethyl Phthalate	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Dimethyl Phthalate	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Di-n-butylphthalate	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Di-n-octylphthalate	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Fluoranthene	1.2E-01	0.00012	1.0	3.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Fluorene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Hexachlorobenzene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.5E-01	5.3E-01	3.4E-01	9.4E-02
Hexachlorobutadiene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E-01	3.7E-01	1.4E-01	1.4E-01
Hexachlorocyclopentadiene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+00	2.0E+00	4.6E-02	2.5E-02
Hexachloroethane	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	2.7E+00	2.7E-01	1.8E-02
Indeno(1,2,3-cd)pyrene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Isophorone	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	6.7E+01	3.3E+02	7.4E-04	1.5E-04
Naphthalene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+01	2.6E+01	3.9E-03	1.9E-03
Nitrobenzene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E-02	4.6E-01	1.1E+00	1.1E-01
N-Nitroso-di-n-propylamine	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-03	9.9E-02	5.1E+00	5.1E-01
N-Nitrosodiphenylamine	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E+02	9.1E+01	1.4E-04	5.5E-04
Pentachlorophenol	4.9E-03	0.00012	1.0	1.4E-05	0.0042	***8.7E-01***	1.0	8.7E-02	0.0416	1.0	8.7E-02	4.4E-01	4.4E+00	2.0E-01	2.0E-02
Phenanthrene	7.7E-02	0.00012	1.0	2.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Phenol	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+02	2.2E+02	4.6E-04	2.3E-04
Pyrene	1.2E-01	0.00012	1.0	3.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	7.4E+00	1.2E+01	6.7E-03	4.0E-03
Hazard Index - SVOCs														9.3E+01	9.5E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicated HQ/HIs equal to or greater than 1.0.

Table 7-16
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Off-Site Areas (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	3.2E-03	0.00012	1.0	9.2E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	1.5E+00	7.3E+00	3.4E-04	6.9E-05
4,4'-DDE	7.6E-03	0.00012	1.0	2.2E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.2E-04	1.5E+00	7.3E+00	3.5E-04	7.1E-05
4,4'-DDT	2.2E-02	0.00012	1.0	6.4E-05	0.0042	3.0E-03	1.0	3.0E-04	0.0416	1.0	3.6E-04	1.5E+00	7.3E+00	2.5E-04	4.9E-05
Aldrin	***9.9E-04***	0.00012	1.0	2.8E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	3.7E-01	1.8E+00	7.1E-04	1.4E-04
alpha-BHC	***9.9E-04***	0.00012	1.0	2.8E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.8E-05	4.4E-05
alpha-Chlordane	***9.9E-04***	0.00012	1.0	2.8E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	4.6E+00	9.1E+00	5.7E-05	2.8E-05
beta-BHC	***9.9E-04***	0.00012	1.0	2.8E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	7.3E-01	3.7E+00	3.5E-04	7.1E-05
delta-BHC	***9.9E-04***	0.00012	1.0	2.8E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.8E-05	4.4E-05
Dieldrin	4.6E-03	0.00012	1.0	1.3E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.1E-04	3.7E-02	3.7E-01	1.4E-02	1.4E-03
Endosulfan I	1.1E-03	0.00012	1.0	3.1E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.7E-01	2.7E+00	9.4E-04	9.4E-05
Endosulfan II	1.6E-03	0.00012	1.0	4.6E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	2.7E-01	2.7E+00	1.8E-03	1.8E-04
Endosulfan Sulfate	1.4E-03	0.00012	1.0	4.0E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	2.7E-01	2.7E+00	1.8E-03	1.8E-04
Endrin	***1.9E-03***	0.00012	1.0	5.5E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	9.1E-02	9.1E-01	5.5E-03	5.5E-04
Endrin Aldehyde	2.2E-03	0.00012	1.0	6.3E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	9.1E-02	9.1E-01	5.5E-03	5.5E-04
Endrin Ketone	***1.9E-03***	0.00012	1.0	5.5E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	9.1E-02	9.1E-01	5.5E-03	5.5E-04
gamma-BHC (Lindane)	***9.9E-04***	0.00012	1.0	2.8E-06	0.0042	2.2E-03	1.0	2.2E-04	0.0416	1.0	2.2E-04	1.5E+01	1.5E+02	1.5E-05	1.5E-06
gamma-Chlordane	***9.9E-04***	0.00012	1.0	2.8E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	4.6E+00	9.1E+00	5.7E-05	2.8E-05
Heptachlor	***9.9E-04***	0.00012	1.0	2.8E-06	0.0042	2.2E-03	1.0	2.2E-04	0.0416	1.0	2.3E-04	2.4E-01	2.4E+00	9.5E-04	9.5E-05
Heptachlor Epoxide	1.3E-03	0.00012	1.0	3.8E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.3E-03	5.6E-02	1.1E-01	4.6E-03
Methoxychlor	8.2E-03	0.00012	1.0	2.4E-05	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.6E-03	7.3E+00	1.5E+01	3.5E-04	1.8E-04
Toxaphene	***9.9E-02***	0.00012	1.0	2.8E-04	0.0042	***2.6E-01***	1.0	2.6E-02	0.0416	1.0	2.6E-02	1.5E+01	1.5E+02	1.8E-03	1.8E-04
Hazard Index - Pesticides														1.5E-01	9.1E-03
Herbicides															
2,4-D	5.1E-03	0.00012	1.0	1.5E-05	0.0042	4.5E-01	1.0	4.5E-02	0.0416	1.0	4.5E-02	1.8E+00	9.1E+00	2.4E-02	4.9E-03
2,4-DB	***4.8E-03***	0.00012	1.0	1.4E-05	0.0042	5.7E-01	1.0	5.7E-02	0.0416	1.0	5.7E-02	3.6E+00	1.1E+01	1.6E-02	5.1E-03
2,4,5-T	***4.8E-03***	0.00012	1.0	1.4E-05	0.0042	4.3E-01	1.0	4.3E-02	0.0416	1.0	4.3E-02	5.5E+00	1.8E+01	7.9E-03	2.4E-03
2,4,5-TP (Silvex)	***4.8E-03***	0.00012	1.0	1.4E-05	0.0042	***4.3E-01***	1.0	4.3E-02	0.0416	1.0	4.3E-02	3.4E+00	1.1E+01	1.3E-02	3.8E-03
Dalapon	***1.2E+00***	0.00012	1.0	3.3E-03	0.0042	***1.0E+02***	1.0	1.0E+01	0.0416	1.0	1.0E+01	1.5E+01	5.2E+01	6.6E-01	1.9E-01
Dicamba	***1.2E-02***	0.00012	1.0	3.3E-05	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	7.5E+00	2.5E+01	1.4E-02	4.1E-03
Dichlorprop	8.4E-02	0.00012	1.0	2.4E-04	0.0042	***5.1E+00***	1.0	5.1E-01	0.0416	1.0	5.1E-01	2.0E-01	2.0E+00	2.6E+00	2.6E-01
Dinoseb	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	1.8E+00	2.7E-01	2.7E-02
MCPA	***1.2E+00***	0.00012	1.0	3.3E-03	0.0042	***1.0E+02***	1.0	1.0E+01	0.0416	1.0	1.0E+01	6.7E-01	3.4E+00	1.5E+01	3.0E+00
MCPP	2.8E+00	0.00012	1.0	8.0E-03	0.0042	***1.0E+02***	1.0	1.0E+01	0.0416	1.0	1.0E+01	5.5E-01	1.6E+00	1.9E+01	6.2E+00
Hazard Index - Herbicides														3.7E+01	9.7E+00
PCBs															
Total PCBs	1.1E-01	0.00012	1.0	3.1E-04	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	2.8E-03	1.8E-01	1.8E+00	1.5E-02	1.5E-03
Dioxins/Furans															
TEQ	1.3E-04	0.00012	1.0	3.8E-07	0.0042	3.5E-07	1.0	3.5E-08	0.0416	1.0	4.2E-07	1.8E-06	1.8E-05	2.3E-01	2.3E-02
Metals*															
Aluminum	6.7E+03	0.00012	1.0	1.9E+01	0.0042	5.2E+01	1.0	5.2E+00	0.0416	1.0	2.4E+01	1.9E+00	1.9E+01	1.3E+01	1.3E+00
Antimony	1.3E+00	0.00012	1.0	3.9E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	1.2E-01	1.2E+00	8.4E-01	8.4E-02
Arsenic	7.4E+00	0.00012	1.0	2.1E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.1E-02	1.2E-01	1.2E+00	5.7E-01	5.7E-02
Barium	1.8E+02	0.00012	1.0	5.3E-01	0.0042	1.1E+01	1.0	1.1E+00	0.0416	1.0	1.6E+00	9.3E+00	3.6E+01	1.7E-01	4.4E-02
Beryllium	5.0E-01	0.00012	1.0	1.4E-03	0.0042	***2.0E-01***	1.0	2.0E-02	0.0416	1.0	2.1E-02	1.2E+00	1.2E+01	1.8E-02	1.8E-03
Cadmium	2.0E+00	0.00012	1.0	5.8E-03	0.0042	3.1E-01	1.0	3.1E-02	0.0416	1.0	3.6E-02	1.8E+00	1.8E+01	2.0E-02	2.0E-03
Chromium	1.2E+01	0.00012	1.0	3.3E-02	0.0042	3.3E-01	1.0	3.3E-02	0.0416	1.0	6.6E-02	6.0E+00	2.4E+01	1.1E-02	2.7E-03
Cobalt	5.4E+00	0.00012	1.0	1.6E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.6E-02	9.1E-02	9.1E+01	7.2E-01	7.2E-02
Copper	5.9E+01	0.00012	1.0	1.7E-01	0.0042	4.0E+00	1.0	4.0E-01	0.0416	1.0	5.7E-01	2.8E+01	3.7E+01	2.0E-02	1.5E-02
Lead	7.9E+01	0.00012	1.0	2.3E-01	0.0042	9.3E-01	1.0	9.3E-02	0.0416	1.0	3.2E-01	1.5E+01	1.5E+02	2.2E-02	2.2E-03
Manganese	2.8E+02	0.00012	1.0	8.2E-01	0.0042	1.2E+01	1.0	1.2E+00	0.0416	1.0	2.0E+00	1.6E+02	5.2E+02	1.3E-02	3.9E-03
Mercury	8.5E-02	0.00012	1.0	2.5E-04	0.0042	4.0E-01	1.0	4.0E-02	0.0416	1.0	4.0E-02	5.9E-02	2.9E-01	6.8E-01	1.4E-01
Nickel	1.8E+01	0.00012	1.0	5.1E-02	0.0042	***2.0E+00***	1.0	2.0E-01	0.0416	1.0	2.5E-01	7.3E+01	1.5E+02	3.4E-03	1.7E-03
Selenium	5.6E-01	0.00012	1.0	1.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	3.7E-01	6.0E-01	1.4E-01	8.6E-02
Silver	5.7E-01	0.00012	1.0	1.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.8E-01	1.8E+00	2.9E-01	2.9E-02
Thallium	***5.4E-01***	0.00012	1.0	1.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.4E-02	1.4E-01	3.8E+00	3.8E-01
Vanadium	2.2E+01	0.00012	1.0	6.2E-02	0.0042	4.9E-01	1.0	4.9E-02	0.0416	1.0	1.1E-01	3.8E-01	3.8E+00	2.9E-01	2.9E-02
Zinc	2.4E+02	0.00012	1.0	7.0E-01	0.0042	3.7E+01	1.0	3.7E+00	0.0416	1.0	4.4E+00	2.9E+02	5.9E+02	1.5E-02	7.6E-03
Hazard Index - Metals														2.0E+01	2.2E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

Table 7-17
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Off-Site Areas (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
SVOCs												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
1,2,4-Trichlorobenzene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.7E+01	9.8E+01	1.9E-03	5.1E-04
1,2-Dichlorobenzene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,3-Dichlorobenzene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,4-Dichlorobenzene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.7E+02	3.2E-04	1.8E-04
2,2'-Oxybis(1-Chloropropane)	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
2,4,5-Trichlorophenol	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	5.5E+01	2.7E-03	9.1E-04
2,4,6-Trichlorophenol	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+02	5.5E+01	5.5E-05	9.1E-04
2,4-Dichlorophenol	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.5E-01	5.5E+00	9.1E-02	9.1E-03
2,4-Dinitrophenol	***1.1E+00***	0.00012	1.0	3.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	3.1E-03	3.1E-02	8.2E+01	8.2E+00
2,4-Dinitrotoluene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.0E-01	6.7E+00	5.6E-02	7.4E-03
2,6-Dinitrotoluene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+00	1.3E+01	3.9E-02	3.9E-03
2-Chloronaphthalene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.5E+01	5.9E+01	2.0E-03	8.4E-04
2-Chlorophenol	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+01	9.1E+00	5.5E-04	5.5E-03
2-Methylnaphthalene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.8E+03	2.8E+04	1.8E-05	1.8E-06
2-Methylphenol (o-Cresol)	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
2-Nitroaniline	***1.1E+00***	0.00012	1.0	3.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
2-Nitrophenol	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E+00	1.3E+01	1.1E-02	3.9E-03
3,3'-Dichlorobenzidine	***4.0E-01***	0.00012	1.0	1.2E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	4.7E+01	5.0E+02	2.2E-03	2.0E-04
3/4-Methylphenol (m&p-Cresol)	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
3-Nitroaniline	***1.1E+00***	0.00012	1.0	3.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4,6-Dinitro-2-methylphenol	***1.1E+00***	0.00012	1.0	3.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E-01	8.3E+00	5.6E-01	3.1E-02
4-Bromophenyl Phenyl Ether	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Chloro-3-methylphenol	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.0E+02	2.0E+03	2.4E-04	2.4E-05
4-Chloroaniline	***4.0E-01***	0.00012	1.0	1.2E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	2.3E+00	2.3E+01	4.4E-02	4.4E-03
4-Chlorophenyl Phenyl Ether	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Nitroaniline	***1.1E+00***	0.00012	1.0	3.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4-Nitrophenol	***1.1E+00***	0.00012	1.0	3.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E+00	1.3E+01	5.6E-02	2.0E-02
Acenaphthene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Acenaphthylene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Anthracene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E+01	9.9E+02	5.1E-04	5.1E-05
Benzo(a)anthracene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(a)pyrene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(b)fluoranthene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(g,h,i)perylene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(k)fluoranthene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
bis(2-Chloroethoxy)methane	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
bis(2-Chloroethyl)ether	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	[illegible]
bis(2-Ethylhexyl)phthalate	3.0E-01	0.00012	1.0	8.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	1.8E+02	2.8E-03	[illegible]
Butyl Benzyl Phthalate	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.9E+01	8.6E+01	1.7E-03	[illegible]
Carbazole	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.0E+00	3.0E+01	1.7E-02	1.7E-03
Chrysene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzo(a,h)anthracene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzofuran	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.4E-02	2.4E-01	2.1E+00	2.1E-01
Diethyl Phthalate	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Dimethyl Phthalate	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Di-n-butylphthalate	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Di-n-octylphthalate	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Fluoranthene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Fluorene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Hexachlorobenzene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.5E-01	5.3E-01	3.4E-01	9.4E-02
Hexachlorobutadiene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E-01	3.7E-01	1.4E-01	1.4E-01
Hexachlorocyclopentadiene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+00	2.0E+00	4.6E-02	2.5E-02
Hexachloroethane	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	2.7E+00	2.7E-01	1.8E-02
Indeno(1,2,3-cd)pyrene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Isophorone	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	6.7E+01	3.3E+02	7.4E-04	1.5E-04
Naphthalene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+01	2.6E+01	3.9E-03	1.9E-03
Nitrobenzene	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E-02	4.6E-01	1.1E+00	1.1E-01
N-Nitroso-di-n-propylamine	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-03	9.9E-02	5.1E+00	5.1E-01
N-Nitrosodiphenylamine	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E+02	9.1E+01	1.4E-04	5.5E-04
Pentachlorophenol	***1.0E-02***	0.00012	1.0	2.9E-05	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.4E-01	4.4E+00	5.8E-01	5.8E-02
Phenanthrene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Phenol	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+02	2.2E+02	4.6E-04	2.3E-04
Pyrene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	7.4E+00	1.2E+01	6.7E-03	4.0E-03
Hazard Index - SVOCs														9.3E+01	9.6E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C 1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicate a HQ/HIs equal to or greater than 1.0

Table 7-17
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Off-Site Areas (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	6.6E-03	0.00012	1.0	1.9E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.1E-04	1.5E+00	7.3E+00	3.5E-04	7.0E-05
4,4'-DDE	1.6E-02	0.00012	1.0	4.6E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.4E-04	1.5E+00	7.3E+00	3.7E-04	7.4E-05
4,4'-DDT	4.6E-02	0.00012	1.0	1.3E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	6.3E-04	1.5E+00	7.3E+00	4.3E-04	8.6E-05
Aldrin	***1.1E-03***	0.00012	1.0	3.0E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	3.7E-01	1.8E+00	7.1E-04	1.4E-04
alpha-BHC	***1.1E-03***	0.00012	1.0	3.0E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.8E-05	4.4E-05
alpha-Chlordane	***1.1E-03***	0.00012	1.0	3.0E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	4.6E+00	9.1E+00	5.7E-05	2.8E-05
beta-BHC	***1.1E-03***	0.00012	1.0	3.0E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	7.3E-01	3.7E+00	3.5E-04	7.1E-05
delta-BHC	***1.1E-03***	0.00012	1.0	3.0E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.8E-05	4.4E-05
Dieldrin	9.6E-03	0.00012	1.0	2.8E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.2E-04	3.7E-02	3.7E-01	1.4E-02	1.4E-03
Endosulfan I	2.1E-03	0.00012	1.0	6.1E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.7E-01	2.7E+00	9.5E-04	9.5E-05
Endosulfan II	***2.0E-03***	0.00012	1.0	5.8E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	2.7E-01	2.7E+00	1.8E-03	1.8E-04
Endosulfan Sulfate	***1.9E-03***	0.00012	1.0	5.5E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	2.7E-01	2.7E+00	1.8E-03	1.8E-04
Endrin	***2.0E-03***	0.00012	1.0	5.8E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	9.1E-02	9.1E-01	5.5E-03	5.5E-04
Endrin Aldehyde	3.0E-03	0.00012	1.0	8.7E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	9.1E-02	9.1E-01	5.5E-03	5.5E-04
Endrin Ketone	***2.0E-03***	0.00012	1.0	5.8E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	9.1E-02	9.1E-01	5.5E-03	5.5E-04
gamma-BHC (Lindane)	***1.1E-03***	0.00012	1.0	3.0E-06	0.0042	3.3E-03	1.0	3.3E-04	0.0416	1.0	3.3E-04	1.5E+01	1.5E+02	2.3E-05	2.3E-06
gamma-Chlordane	***1.1E-03***	0.00012	1.0	3.0E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	4.6E+00	9.1E+00	5.7E-05	2.8E-05
Heptachlor	***1.1E-03***	0.00012	1.0	3.0E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.4E-01	2.4E+00	1.1E-03	1.1E-04
Heptachlor Epoxide	2.3E-03	0.00012	1.0	6.6E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.3E-03	5.6E-02	1.1E-01	4.7E-03
Methoxychlor	***1.1E-02***	0.00012	1.0	3.0E-05	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.6E-03	7.3E+00	1.5E+01	3.5E-04	1.8E-04
Toxaphene	***1.1E-01***	0.00012	1.0	3.0E-04	0.0042	***2.6E-01***	1.0	2.6E-02	0.0416	1.0	2.6E-02	1.5E+01	1.5E+02	1.8E-03	1.8E-04
Hazard Index - Pesticides														1.6E-01	9.3E-03
Herbicides															
2,4-D	5.8E-03	0.00012	1.0	1.7E-05	0.0042	***1.3E+00***	1.0	1.3E-01	0.0416	1.0	1.3E-01	1.8E+00	9.1E+00	6.8E-02	1.4E-02
2,4-DB	***5.0E-03***	0.00012	1.0	1.4E-05	0.0042	***1.3E+00***	1.0	1.3E-01	0.0416	1.0	1.3E-01	3.6E+00	1.1E+01	3.5E-02	1.1E-02
2,4,5-T	***5.0E-03***	0.00012	1.0	1.4E-05	0.0042	***1.3E+00***	1.0	1.3E-01	0.0416	1.0	1.3E-01	5.5E+00	1.8E+01	2.3E-02	6.8E-03
2,4,5-TP (Silvex)	***5.0E-03***	0.00012	1.0	1.4E-05	0.0042	***1.3E+00***	1.0	1.3E-01	0.0416	1.0	1.3E-01	3.4E+00	1.1E+01	3.7E-02	1.1E-02
Dalapon	***1.2E+00***	0.00012	1.0	3.5E-03	0.0042	***3.0E+02***	1.0	3.0E+01	0.0416	1.0	3.0E+01	1.5E+01	5.2E+01	1.9E+00	5.7E-01
Dicamba	***1.2E-02***	0.00012	1.0	3.5E-05	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	3.0E-01	7.5E+00	2.5E+01	4.0E-02	1.2E-02
Dichlorprop	1.6E-01	0.00012	1.0	4.6E-04	0.0042	***1.5E+01***	1.0	1.5E+00	0.0416	1.0	1.5E+00	2.0E-01	2.0E+00	7.6E+00	7.6E-01
Dinoseb	***2.0E-01***	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	1.8E+00	2.7E-01	2.7E-02
MCPA	***1.2E+00***	0.00012	1.0	3.5E-03	0.0042	***3.0E+02***	1.0	3.0E+01	0.0416	1.0	3.0E+01	6.7E-01	3.4E+00	4.5E+01	8.9E+00
MCPP	6.6E+00	0.00012	1.0	1.9E-02	0.0042	***3.0E+02***	1.0	3.0E+01	0.0416	1.0	3.0E+01	5.5E-01	1.6E+00	5.5E+01	1.8E+01
Hazard Index - Herbicides														1.1E+02	2.9E+01
PCBs															
Total PCBs	1.7E-01	0.00012	1.0	5.0E-04	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	3.0E-03	1.8E-01	1.8E+00	1.6E-02	1.6E-03
Dioxins/Furans															
TEQ	2.3E-04	0.00012	1.0	6.6E-07	0.0042	3.9E-07	1.0	3.9E-08	0.0416	1.0	7.0E-07	1.8E-06	1.8E-05	3.8E-01	3.8E-02
Metals*															
Aluminum	8.2E+03	0.00012	1.0	2.4E+01	0.0042	1.3E+02	1.0	1.3E+01	0.0416	1.0	3.7E+01	1.9E+00	1.9E+01	1.9E+01	1.9E+00
Antimony	1.9E+00	0.00012	1.0	5.5E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.1E-01	1.2E-01	1.2E+00	8.5E-01	8.5E-02
Arsenic	9.3E+00	0.00012	1.0	2.7E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.7E-02	1.2E-01	1.2E+00	6.2E-01	6.2E-02
Barium	2.0E+02	0.00012	1.0	5.8E-01	0.0042	1.5E+01	1.0	1.5E+00	0.0416	1.0	2.1E+00	9.3E+00	3.6E+01	2.2E-01	5.7E-02
Beryllium	6.0E-01	0.00012	1.0	1.7E-03	0.0042	***2.0E-01***	1.0	2.0E-02	0.0416	1.0	2.2E-02	1.2E+00	1.2E+01	1.8E-02	1.8E-03
Cadmium	4.5E+00	0.00012	1.0	1.3E-02	0.0042	5.5E-01	1.0	5.5E-02	0.0416	1.0	6.8E-02	1.8E+00	1.8E+01	3.7E-02	3.7E-03
Chromium	1.3E+01	0.00012	1.0	3.8E-02	0.0042	5.1E-01	1.0	5.1E-02	0.0416	1.0	8.9E-02	6.0E+00	2.4E+01	1.5E-02	3.7E-03
Cobalt	6.6E+00	0.00012	1.0	1.9E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.9E-02	9.1E-02	9.1E-01	7.6E-01	7.6E-02
Copper	1.5E+02	0.00012	1.0	4.3E-01	0.0042	4.6E+00	1.0	4.6E-01	0.0416	1.0	8.9E-01	2.8E+01	3.7E+01	3.2E-02	2.4E-02
Lead	1.3E+02	0.00012	1.0	3.8E-01	0.0042	1.4E+00	1.0	1.4E-01	0.0416	1.0	5.2E-01	1.5E+01	1.5E+02	3.5E-02	3.5E-03
Manganese	4.1E+02	0.00012	1.0	1.2E+00	0.0042	2.0E+01	1.0	2.0E+00	0.0416	1.0	3.2E+00	1.6E+02	5.2E+02	2.0E-02	6.1E-03
Mercury	1.1E-01	0.00012	1.0	3.2E-04	0.0042	7.6E-01	1.0	7.6E-02	0.0416	1.0	7.6E-02	5.9E-02	2.9E-01	1.3E+00	2.6E-01
Nickel	2.7E+01	0.00012	1.0	7.8E-02	0.0042	***2.0E+00***	1.0	2.0E-01	0.0416	1.0	2.8E-01	7.3E+01	1.5E+02	3.8E-03	1.9E-03
Selenium	6.2E-01	0.00012	1.0	1.8E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	3.7E-01	6.0E-01	1.4E-01	8.6E-02
Silver	6.7E-01	0.00012	1.0	1.9E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.8E-01	1.8E+00	2.9E-01	2.9E-02
Thallium	***5.5E-01***	0.00012	1.0	1.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.4E-02	1.4E-01	3.8E+00	3.8E-01
Vanadium	2.5E+01	0.00012	1.0	7.2E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.2E-01	3.8E-01	3.8E+00	3.2E-01	3.2E-02
Zinc	4.4E+02	0.00012	1.0	1.3E+00	0.0042	6.5E+01	1.0	6.5E+00	0.0416	1.0	7.8E+00	2.9E+02	5.9E+02	2.7E-02	1.3E-02
Hazard Index - Metals														2.8E+01	3.0E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-18
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site P (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	2.7E+01	9.8E+01	1.9E-03	5.2E-04
1,2-Dichlorobenzene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,3-Dichlorobenzene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,4-Dichlorobenzene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.6E+02	2.7E+02	3.2E-04	1.8E-04
2,2'-Oxybis(1-Chloropropane)	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
2,4,5-Trichlorophenol	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.8E+01	5.5E+01	2.8E-03	9.2E-04
2,4,6-Trichlorophenol	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.1E+02	5.5E+01	5.5E-05	9.2E-04
2,4-Dichlorophenol	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	5.5E-01	5.5E+00	9.2E-02	9.2E-03
2,4-Dinitrophenol	***2.0E+00***	0.00012	1.0	5.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	3.1E-03	3.1E-02	8.3E-01	8.3E+00
2,4-Dinitrotoluene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.0E-01	6.7E+00	5.6E-02	7.5E-03
2,6-Dinitrotoluene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.3E+00	1.3E+01	4.0E-02	4.0E-03
2-Chloronaphthalene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	2.5E+01	5.9E+01	2.0E-03	8.5E-04
2-Chlorophenol	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.1E+01	9.1E+00	5.5E-04	5.5E-03
2-Methylnaphthalene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	2.8E+03	2.8E+04	1.8E-05	1.8E-06
2-Methylphenol (o-Cresol)	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	5.2E+02	5.2E+03	9.7E-05	9.7E-06
2-Nitroaniline	***2.0E+00***	0.00012	1.0	5.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
2-Nitrophenol	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	4.6E+00	1.3E+01	1.1E-02	4.0E-03
3,3'-Dichlorobenzidine	***7.6E-01***	0.00012	1.0	2.2E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	4.7E+01	5.0E+02	2.2E-03	2.0E-04
3/4-Methylphenol (m&p-Cresol)	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	5.2E+02	5.2E+03	9.7E-05	9.7E-06
3-Nitroaniline	***2.0E+00***	0.00012	1.0	5.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4,6-Dinitro-2-methylphenol	***2.0E+00***	0.00012	1.0	5.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E-01	8.3E+00	5.7E-01	3.1E-02
4-Bromophenyl Phenyl Ether	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.8E+00	1.5E+01	2.8E-02	3.5E-03
4-Chloro-3-methylphenol	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	2.0E+02	2.0E+03	2.5E-04	2.5E-05
4-Chloroaniline	***7.6E-01***	0.00012	1.0	2.2E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	2.3E+00	2.3E+01	4.5E-02	4.5E-03
4-Chlorophenyl Phenyl Ether	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.8E+00	1.5E+01	2.8E-02	3.5E-03
4-Nitroaniline	***2.0E+00***	0.00012	1.0	5.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4-Nitrophenol	***2.0E+00***	0.00012	1.0	5.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E+00	1.3E+01	5.7E-02	2.0E-02
Acenaphthene	3.4E-01	0.00012	1.0	9.9E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.5E-03
Acenaphthylene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.7E+01	3.5E+01	2.9E-03	1.5E-03
Anthracene	3.8E-01	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E+01	9.9E+02	5.1E-04	5.1E-05
Benzo(a)anthracene	4.5E-01	0.00012	1.0	1.3E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(a)pyrene	4.5E-01	0.00012	1.0	1.3E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(b)fluoranthene	4.5E-01	0.00012	1.0	1.3E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(g,h,i)perylene	3.7E-01	0.00012	1.0	1.1E-03	0.0042	2.2E-01	1.0	2.2E-02	0.0416	1.0	2.3E-02	9.9E-01	9.9E+00	2.3E-02	2.3E-03
Benzo(k)fluoranthene	4.2E-01	0.00012	1.0	1.2E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
bis(2-Chloroethoxy)methane	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-
bis(2-Chloroethyl)ether	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	3.5E+01	2.0E+02	1.4E-03	2
bis(2-Ethylhexyl)phthalate	2.6E-01	0.00012	1.0	7.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	1.8E+02	2.8E-03	2
Butyl Benzyl Phthalate	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	2.9E+01	8.6E+01	1.7E-03	5.9E-
Carbazole	3.4E-01	0.00012	1.0	9.9E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.0E+00	3.0E+01	1.7E-02	1.7E-03
Chrysene	4.7E-01	0.00012	1.0	1.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzo(a,h)anthracene	3.1E-01	0.00012	1.0	9.1E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzofuran	3.3E-01	0.00012	1.0	9.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.4E-02	2.4E-01	2.1E+00	2.1E-01
Diethyl Phthalate	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Dimethyl Phthalate	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Di-n-butylphthalate	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	5.4E+02	1.8E+03	9.3E-05	2.8E-05
Di-n-octylphthalate	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	5.4E+02	1.8E+03	9.3E-05	2.8E-05
Fluoranthene	7.1E-01	0.00012	1.0	2.0E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.2E+01	2.5E+01	4.2E-03	2.1E-03
Fluorene	3.4E-01	0.00012	1.0	9.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.1E-03	2.0E-03
Hexachlorobenzene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.5E-01	5.3E-01	3.5E-01	9.5E-02
Hexachlorobutadiene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	3.7E-01	3.7E-01	1.4E-01	1.4E-01
Hexachlorocyclopentadiene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.1E+00	2.0E+00	4.6E-02	2.5E-02
Hexachloroethane	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.8E-01	2.7E+00	2.8E-01	1.8E-02
Indeno(1,2,3-cd)pyrene	3.5E-01	0.00012	1.0	1.0E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Isophorone	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	6.7E+01	3.3E+02	7.5E-04	1.5E-04
Naphthalene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.3E+01	2.6E+01	3.9E-03	1.9E-03
Nitrobenzene	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	4.6E-02	4.6E-01	1.1E-01	1.1E-01
N-Nitroso-di-n-propylamine	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E-03	9.9E-02	5.1E-01	5.1E-01
N-Nitrosodiphenylamine	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	3.7E+02	9.1E+01	1.4E-04	5.5E-04
Pentachlorophenol	1.3E-02	0.00012	1.0	3.6E-05	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.6E-03	4.4E-01	4.4E+00	5.9E-03	5.9E-04
Phenanthrene	5.5E-01	0.00012	1.0	1.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.7E+01	3.5E+01	3.0E-03	1.5E-03
Phenol	4.1E-01	0.00012	1.0	1.2E-03	0.0042	4.6E-01	1.0	4.6E-02	0.0416	1.0	4.7E-02	1.1E+02	2.2E+02	4.3E-04	2.2E-04
Pyrene	7.4E-01	0.00012	1.0	2.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	7.4E+00	1.2E+01	7.0E-03	4.2E-03
Hazard Index - SVOCs														9.4E-01	9.6E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQs equal to or greater than 1.0

Table 7-18
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site P (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	***2.5E-02***	0.00012	1.0	7.1E-05	0.0042	***6.2E-03***	1.0	6.2E-04	0.0416	1.0	6.9E-04	1.5E+00	7.3E+00	4.7E-04	9.5E-05
4,4'-DDE	2.5E-02	0.00012	1.0	7.2E-05	0.0042	5.2E-03	1.0	5.2E-04	0.0416	1.0	5.9E-04	1.5E+00	7.3E+00	4.1E-04	8.1E-05
4,4'-DDT	2.8E-01	0.00012	1.0	8.2E-04	0.0042	5.3E-03	1.0	5.3E-04	0.0416	1.0	1.4E-03	1.5E+00	7.3E+00	9.2E-04	1.8E-04
Aldrin	***1.3E-02***	0.00012	1.0	3.7E-05	0.0042	1.2E-03	1.0	1.2E-04	0.0416	1.0	1.6E-04	3.7E-01	1.8E+00	4.3E-04	8.6E-05
alpha-BHC	***1.3E-02***	0.00012	1.0	3.7E-05	0.0042	2.2E-03	1.0	2.2E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.8E-05	4.4E-05
alpha-Chlordane	1.3E-02	0.00012	1.0	3.6E-05	0.0042	2.8E-03	1.0	2.8E-04	0.0416	1.0	3.1E-04	4.6E+00	9.1E+00	6.9E-05	3.4E-05
beta-BHC	***1.3E-02***	0.00012	1.0	3.7E-05	0.0042	3.3E-03	1.0	3.3E-04	0.0416	1.0	3.7E-04	7.3E-01	3.7E+00	5.0E-04	1.0E-04
delta-BHC	***1.3E-02***	0.00012	1.0	3.7E-05	0.0042	2.2E-03	1.0	2.2E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.8E-05	4.4E-05
Dieldrin	2.1E-02	0.00012	1.0	6.0E-05	0.0042	5.8E-03	1.0	5.8E-04	0.0416	1.0	6.4E-04	3.7E-02	3.7E-01	1.8E-02	1.8E-03
Endosulfan I	***1.3E-02***	0.00012	1.0	3.7E-05	0.0042	***3.2E-03***	1.0	3.2E-04	0.0416	1.0	3.5E-04	2.7E-01	2.7E+00	1.3E-03	1.3E-04
Endosulfan II	***2.5E-02***	0.00012	1.0	7.1E-05	0.0042	4.6E-03	1.0	4.6E-04	0.0416	1.0	5.3E-04	2.7E-01	2.7E+00	1.9E-03	1.9E-04
Endosulfan Sulfate	2.4E-02	0.00012	1.0	7.0E-05	0.0042	***6.2E-03***	1.0	6.2E-04	0.0416	1.0	6.9E-04	2.7E-01	2.7E+00	2.5E-03	2.5E-04
Endrin	***2.5E-02***	0.00012	1.0	7.1E-05	0.0042	***6.2E-03***	1.0	6.2E-04	0.0416	1.0	6.9E-04	9.1E-02	9.1E-01	7.6E-03	7.6E-04
Endrin Aldehyde	5.0E-02	0.00012	1.0	1.4E-04	0.0042	***6.2E-03***	1.0	6.2E-04	0.0416	1.0	7.7E-04	9.1E-02	9.1E-01	8.4E-03	8.4E-04
Endrin Ketone	1.8E-02	0.00012	1.0	5.1E-05	0.0042	5.6E-03	1.0	5.6E-04	0.0416	1.0	6.1E-04	9.1E-02	9.1E-01	6.7E-03	6.7E-04
gamma-BHC (Lindane)	***1.3E-02***	0.00012	1.0	3.7E-05	0.0042	2.3E-03	1.0	2.3E-04	0.0416	1.0	2.7E-04	1.5E+01	1.5E+02	1.8E-05	1.8E-06
gamma-Chlordane	***1.3E-02***	0.00012	1.0	3.7E-05	0.0042	2.4E-03	1.0	2.4E-04	0.0416	1.0	2.7E-04	4.6E+00	9.1E+00	6.0E-05	3.0E-05
Heptachlor	***1.3E-02***	0.00012	1.0	3.7E-05	0.0042	3.9E-03	1.0	3.9E-04	0.0416	1.0	4.3E-04	2.4E-01	2.4E+00	1.8E-03	1.8E-04
Heptachlor Epoxide	1.2E-02	0.00012	1.0	3.4E-05	0.0042	3.8E-03	1.0	3.8E-04	0.0416	1.0	4.1E-04	2.3E-03	5.6E-02	1.8E-01	7.4E-03
Methoxychlor	***1.3E-01***	0.00012	1.0	3.7E-04	0.0042	6.7E-02	1.0	6.7E-03	0.0416	1.0	7.0E-03	7.3E+00	1.5E+01	9.6E-04	4.8E-04
Toxaphene	***1.3E+00***	0.00012	1.0	3.7E-03	0.0042	***3.2E-01***	1.0	3.2E-02	0.0416	1.0	3.5E-02	1.5E+01	1.5E+02	2.4E-03	2.4E-04
Hazard Index - Pesticides														2.4E-01	1.4E-02
Herbicides															
2,4-D	6.1E-03	0.00012	1.0	1.7E-05	0.0042	4.2E-02	1.0	4.2E-03	0.0416	1.0	4.2E-03	1.8E+00	9.1E+00	2.3E-03	4.6E-04
2,4-DB	***4.8E-03***	0.00012	1.0	1.4E-05	0.0042	4.5E-02	1.0	4.5E-03	0.0416	1.0	4.5E-03	3.6E+00	1.1E+01	1.2E-03	4.0E-04
2,4,5-T	4.0E-03	0.00012	1.0	1.2E-05	0.0042	2.0E-02	1.0	2.0E-03	0.0416	1.0	2.0E-03	5.5E+00	1.8E+01	3.7E-04	1.1E-04
2,4,5-TP (Silvex)	***4.8E-03***	0.00012	1.0	1.4E-05	0.0042	3.1E-02	1.0	3.1E-03	0.0416	1.0	3.1E-03	3.4E+00	1.1E+01	9.3E-04	2.8E-04
Dalapon	***1.2E+00***	0.00012	1.0	3.4E-03	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	3.0E-01	1.5E+01	5.2E+01	2.0E-02	5.8E-03
Dicamba	***1.2E-02***	0.00012	1.0	3.4E-05	0.0042	***3.0E-02***	1.0	3.0E-03	0.0416	1.0	3.0E-03	7.5E+00	2.5E+01	4.1E-04	1.2E-04
Dichlorprop	1.8E-02	0.00012	1.0	5.3E-05	0.0042	1.6E-01	1.0	1.6E-02	0.0416	1.0	1.6E-02	2.0E-01	2.0E+00	8.2E-02	8.2E-03
Dinoseb	***3.8E-01***	0.00012	1.0	1.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.8E-01	1.8E+00	2.8E-01	2.8E-02
MCPA	***1.2E+00***	0.00012	1.0	3.4E-03	0.0042	3.5E+00	1.0	3.5E-01	0.0416	1.0	3.5E-01	6.7E-01	3.4E+00	5.2E-01	1.0E-01
MCPP	***1.3E+00***	0.00012	1.0	3.9E-03	0.0042	4.5E+00	1.0	4.5E-01	0.0416	1.0	4.5E-01	5.5E-01	1.6E+00	8.2E-01	2.7E-01
Hazard Index - Herbicides														1.7E+00	4.2E-01
PCBs															
Total PCBs	1.8E+00	0.00012	1.0	5.1E-03	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	7.6E-03	1.8E-01	1.8E+00	4.1E-02	4.1E-03
Dioxins/Furans															
TEQ	3.5E-04	0.00012	1.0	1.0E-06	0.0042	5.4E-07	1.0	5.4E-08	0.0416	1.0	1.1E-06	1.8E-06	1.8E-05	5.8E-01	5.8E-02
Metals*															
Aluminum	4.8E+03	0.00012	1.0	1.4E+01	0.0042	2.8E+01	1.0	2.8E+00	0.0416	1.0	1.7E+01	1.9E+00	1.9E+01	8.7E+00	8.7E-01
Antimony	9.3E-01	0.00012	1.0	2.7E-03	0.0042	8.6E-01	1.0	8.6E-02	0.0416	1.0	8.8E-02	1.2E-01	1.2E+00	7.1E-01	7.1E-02
Arsenic	1.4E+01	0.00012	1.0	4.1E-02	0.0042	4.7E-01	1.0	4.7E-02	0.0416	1.0	8.7E-02	1.2E-01	1.2E+00	7.0E-01	7.0E-02
Barium	1.2E+02	0.00012	1.0	3.3E-01	0.0042	4.8E+00	1.0	4.8E-01	0.0416	1.0	8.2E-01	9.3E+00	3.6E+01	8.8E-02	2.3E-02
Beryllium	1.1E+00	0.00012	1.0	3.3E-03	0.0042	***2.0E-01***	1.0	2.0E-02	0.0416	1.0	2.3E-02	1.2E+00	1.2E+01	1.9E-02	1.9E-03
Cadmium	1.7E+00	0.00012	1.0	4.8E-03	0.0042	3.1E-01	1.0	3.1E-02	0.0416	1.0	3.6E-02	1.8E+00	1.8E+01	2.0E-02	2.0E-03
Chromium	1.6E+01	0.00012	1.0	4.5E-02	0.0042	3.1E-01	1.0	3.1E-02	0.0416	1.0	7.6E-02	6.0E+00	2.4E+01	1.3E-02	3.2E-03
Cobalt	9.1E+00	0.00012	1.0	2.6E-02	0.0042	6.1E-01	1.0	6.1E-02	0.0416	1.0	8.8E-02	9.1E-02	9.1E-01	9.6E-01	9.6E-02
Copper	4.9E+01	0.00012	1.0	1.4E-01	0.0042	5.0E+00	1.0	5.0E-01	0.0416	1.0	6.4E-01	2.8E+01	3.7E+01	2.3E-02	1.7E-02
Lead	7.9E+01	0.00012	1.0	2.3E-01	0.0042	3.3E+00	1.0	3.3E-01	0.0416	1.0	5.6E-01	1.5E+01	1.5E+02	3.8E-02	3.8E-03
Manganese	2.2E+02	0.00012	1.0	6.2E-01	0.0042	6.9E+00	1.0	6.9E-01	0.0416	1.0	1.3E+00	1.6E+02	5.2E+02	8.1E-03	2.5E-03
Mercury	1.1E-01	0.00012	1.0	3.3E-04	0.0042	5.2E-01	1.0	5.2E-02	0.0416	1.0	5.2E-02	5.9E-02	2.9E-01	8.9E-01	1.8E-01
Nickel	2.8E+01	0.00012	1.0	7.9E-02	0.0042	2.4E+00	1.0	2.4E-01	0.0416	1.0	3.2E-01	7.3E+01	1.5E+02	4.4E-03	2.2E-03
Selenium	2.4E+00	0.00012	1.0	6.9E-03	0.0042	3.4E+00	1.0	3.4E-01	0.0416	1.0	3.4E-01	3.7E-01	6.0E-01	9.4E-01	5.7E-01
Silver	2.6E-01	0.00012	1.0	7.6E-04	0.0042	***4.9E-01***	1.0	4.9E-02	0.0416	1.0	5.0E-02	1.8E-01	1.8E+00	2.8E-01	2.8E-02
Thallium	7.1E-01	0.00012	1.0	2.0E-03	0.0042	***4.9E-01***	1.0	4.9E-02	0.0416	1.0	5.1E-02	1.4E-02	1.4E-01	3.8E+00	3.8E-01
Vanadium	2.9E+01	0.00012	1.0	8.4E-02	0.0042	3.9E-01	1.0	3.9E-02	0.0416	1.0	1.2E-01	3.8E-01	3.8E+00	3.2E-01	3.2E-02
Zinc	2.2E+02	0.00012	1.0	6.2E-01	0.0042	4.9E+01	1.0	4.9E+00	0.0416	1.0	5.5E+00	2.9E+02	5.9E+02	1.9E-02	9.4E-03
Hazard Index - Metals														1.8E+01	2.4E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-19
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site P (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	2.7E+01	9.8E+01	1.9E-03	5.3E-04
1,2-Dichlorobenzene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.6E+02	2.2E+03	3.3E-04	2.4E-05
1,3-Dichlorobenzene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.6E+02	2.2E+03	3.3E-04	2.4E-05
1,4-Dichlorobenzene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.6E+02	2.7E+02	3.3E-04	1.9E-04
2,2'-Oxybis(1-Chloropropane)	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	3.5E+01	2.0E+02	1.5E-03	2.7E-04
2,4,5-Trichlorophenol	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.8E+01	5.5E+01	2.8E-03	9.5E-04
2,4,6-Trichlorophenol	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.1E+02	5.5E+01	5.7E-05	9.5E-04
2,4-Dichlorophenol	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	5.5E-01	5.5E+00	9.5E-02	9.5E-03
2,4-Dinitrophenol	***4.8E+00***	0.00012	1.0	1.4E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.7E-01	3.1E-03	3.1E-02	8.8E+01	8.8E+00
2,4-Dinitrotoluene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.0E-01	6.7E+00	5.8E-02	7.7E-03
2,6-Dinitrotoluene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.3E+00	1.3E+01	4.1E-02	4.1E-03
2-Chloronaphthalene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	2.5E+01	5.9E+01	2.1E-03	8.8E-04
2-Chlorophenol	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.1E+01	9.1E+00	5.7E-04	5.7E-03
2-Methylnaphthalene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	2.8E+03	2.8E+04	1.8E-05	1.8E-06
2-Methylphenol (o-Cresol)	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	5.2E+02	5.2E+03	1.0E-04	1.0E-05
2-Nitroaniline	***4.8E+00***	0.00012	1.0	1.4E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.7E-01	7.7E+00	7.7E+01	3.5E-02	3.5E-03
2-Nitrophenol	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	4.6E+00	1.3E+01	1.1E-02	4.1E-03
3,3'-Dichlorobenzidine	***1.9E+00***	0.00012	1.0	5.3E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.1E-01	4.7E+01	5.0E+02	2.3E-03	2.1E-04
3/4-Methylphenol (m&p-Cresol)	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	5.2E+02	5.2E+03	1.0E-04	1.0E-05
3-Nitroaniline	***4.8E+00***	0.00012	1.0	1.4E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.7E-01	7.7E+00	7.7E+01	3.5E-02	3.5E-03
4,6-Dinitro-2-methylphenol	***4.8E+00***	0.00012	1.0	1.4E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.7E-01	4.6E-01	8.3E+00	5.9E-01	3.2E-02
4-Bromophenyl Phenyl Ether	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.8E+00	1.5E+01	2.8E-02	3.6E-03
4-Chloro-3-methylphenol	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	2.0E+02	2.0E+03	2.5E-04	2.5E-05
4-Chloroaniline	***1.9E+00***	0.00012	1.0	5.3E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.1E-01	2.3E+00	2.3E+01	4.6E-02	4.6E-03
4-Chlorophenyl Phenyl Ether	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.8E+00	1.5E+01	2.8E-02	3.6E-03
4-Nitroaniline	***4.8E+00***	0.00012	1.0	1.4E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.7E-01	7.7E+00	7.7E+01	3.5E-02	3.5E-03
4-Nitrophenol	***4.8E+00***	0.00012	1.0	1.4E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.7E-01	4.6E+00	1.3E+01	5.9E-02	2.1E-02
Acenaphthene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.7E+01	3.5E+01	3.0E-03	1.5E-03
Acenaphthylene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.7E+01	3.5E+01	3.0E-03	1.5E-03
Anthracene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E+01	9.9E+02	5.3E-04	5.3E-05
Benzo(a)anthracene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.3E-02	5.3E-03
Benzo(a)pyrene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.3E-02	5.3E-03
Benzo(b)fluoranthene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.3E-02	5.3E-03
Benzo(g,h,i)perylene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.3E-02	5.3E-03
Benzo(k)fluoranthene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.3E-02	5.3E-03
bis(2-Chloroethoxy)methane	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	3.5E+01	2.0E+02	1.5E-03	2.7E-[illegible]
bis(2-Chloroethyl)ether	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	3.5E+01	2.0E+02	1.5E-03	2
bis(2-Ethylhexyl)phthalate	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.8E+01	1.8E+02	2.9E-03	[illegible]
Butyl Benzyl Phthalate	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	2.9E+01	8.6E+01	1.8E-03	6.[illegible]
Carbazole	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	3.0E+00	3.0E+01	1.8E-02	1.8E-03
Chrysene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.3E-02	5.3E-03
Dibenzo(a,h)anthracene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.3E-02	5.3E-03
Dibenzofuran	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	2.4E-02	2.4E-01	2.2E+00	2.2E-01
Diethyl Phthalate	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Dimethyl Phthalate	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Di-n-butylphthalate	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	5.4E+02	1.8E+03	9.6E-05	2.9E-05
Di-n-octylphthalate	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	5.4E+02	1.8E+03	9.6E-05	2.9E-05
Fluoranthene	1.7E+00	0.00012	1.0	4.9E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.4E-02	1.2E+01	2.5E+01	4.4E-03	2.2E-03
Fluorene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.2E+01	2.5E+01	4.2E-03	2.1E-03
Hexachlorobenzene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.5E-01	5.3E-01	3.6E-01	9.8E-02
Hexachlorobutadiene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	3.7E-01	3.7E-01	1.4E-01	1.4E-01
Hexachlorocyclopentadiene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.1E+00	2.0E+00	4.7E-02	2.6E-02
Hexachloroethane	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.8E-01	2.7E+00	2.8E-01	1.9E-02
Indeno(1,2,3-cd)pyrene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.3E-02	5.3E-03
Isophorone	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	6.7E+01	3.3E+02	7.7E-04	1.6E-04
Naphthalene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.3E+01	2.6E+01	4.0E-03	2.0E-03
Nitrobenzene	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	4.6E-02	4.6E-01	1.1E+00	1.1E-01
N-Nitroso-di-n-propylamine	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-03	9.9E-02	5.3E+00	5.3E-01
N-Nitrosodiphenylamine	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	3.7E+02	9.1E+01	1.4E-04	5.7E-04
Pentachlorophenol	2.8E-02	0.00012	1.0	8.1E-05	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.6E-03	4.4E-01	4.4E+00	6.0E-03	6.0E-04
Phenanthrene	1.1E+00	0.00012	1.0	3.2E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	1.7E+01	3.5E+01	3.0E-03	1.5E-03
Phenol	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.1E+02	2.2E+02	4.7E-04	2.4E-04
Pyrene	1.8E+00	0.00012	1.0	5.2E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	7.4E+00	1.2E+01	7.4E-03	4.4E-03
Hazard Index - SVOCs														9.7E+01	9.9E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicate HQs/HIs calculated to be greater than 1.0.

Table 7-19
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site P (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	***4.1E-02***	0.00012	1.0	1.2E-04	0.0042	***1.0E-02***	1.0	1.0E-03	0.0416	1.0	1.1E-03	1.5E+00	7.3E+00	7.6E-04	1.5E-04
4,4'-DDE	***4.1E-02***	0.00012	1.0	1.2E-04	0.0042	***1.0E-02***	1.0	1.0E-03	0.0416	1.0	1.1E-03	1.5E+00	7.3E+00	7.6E-04	1.5E-04
4,4'-DDT	1.1E+00	0.00012	1.0	3.2E-03	0.0042	***1.0E-02***	1.0	1.0E-03	0.0416	1.0	4.2E-03	1.5E+00	7.3E+00	2.9E-03	5.7E-04
Aldrin	***2.1E-02***	0.00012	1.0	6.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.2E-04	3.7E-01	1.8E+00	8.6E-04	1.7E-04
alpha-BHC	***2.1E-02***	0.00012	1.0	6.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.2E-04	2.9E+00	5.9E+00	1.1E-04	5.4E-05
alpha-Chlordane	***2.1E-02***	0.00012	1.0	6.1E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.6E-04	4.6E+00	9.1E+00	1.2E-04	6.2E-05
beta-BHC	***2.1E-02***	0.00012	1.0	6.1E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.6E-04	7.3E-01	3.7E+00	7.7E-04	1.5E-04
delta-BHC	***2.1E-02***	0.00012	1.0	6.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.2E-04	2.9E+00	5.9E+00	1.1E-04	5.4E-05
Dieldrin	***4.1E-02***	0.00012	1.0	1.2E-04	0.0042	***1.0E-02***	1.0	1.0E-03	0.0416	1.0	1.1E-03	3.7E-02	3.7E-01	3.1E-02	3.1E-03
Endosulfan I	***2.1E-02***	0.00012	1.0	6.1E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.6E-04	2.7E-01	2.7E+00	2.0E-03	2.0E-04
Endosulfan II	***4.1E-02***	0.00012	1.0	1.2E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	6.1E-04	2.7E-01	2.7E+00	2.2E-03	2.2E-04
Endosulfan Sulfate	***4.1E-02***	0.00012	1.0	1.2E-04	0.0042	***1.0E-02***	1.0	1.0E-03	0.0416	1.0	1.1E-03	2.7E-01	2.7E+00	4.1E-03	4.1E-04
Endrin	***4.1E-02***	0.00012	1.0	1.2E-04	0.0042	***1.0E-02***	1.0	1.0E-03	0.0416	1.0	1.1E-03	9.1E-02	9.1E-01	1.2E-02	1.2E-03
Endrin Aldehyde	1.4E-01	0.00012	1.0	4.0E-04	0.0042	***1.0E-02***	1.0	1.0E-03	0.0416	1.0	1.4E-03	9.1E-02	9.1E-01	1.5E-02	1.5E-03
Endrin Ketone	***4.1E-02***	0.00012	1.0	1.2E-04	0.0042	***1.0E-02***	1.0	1.0E-03	0.0416	1.0	1.1E-03	9.1E-02	9.1E-01	1.2E-02	1.2E-03
gamma-BHC (Lindane)	***2.1E-02***	0.00012	1.0	6.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.2E-04	1.5E+01	1.5E+02	2.2E-05	2.2E-06
gamma-Chlordane	***2.1E-02***	0.00012	1.0	6.1E-05	0.0042	3.4E-03	1.0	3.4E-04	0.0416	1.0	4.0E-04	4.6E+00	9.1E+00	8.8E-05	4.4E-05
Heptachlor	***2.1E-02***	0.00012	1.0	6.1E-05	0.0042	5.5E-03	1.0	5.5E-04	0.0416	1.0	6.1E-04	2.4E-01	2.4E+00	2.6E-03	2.6E-04
Heptachlor Epoxide	***2.1E-02***	0.00012	1.0	6.1E-05	0.0042	7.6E-03	1.0	7.6E-04	0.0416	1.0	8.2E-04	2.3E-03	5.6E-02	3.6E-01	1.5E-02
Methoxychlor	***2.1E-01***	0.00012	1.0	6.1E-04	0.0042	1.9E-01	1.0	1.9E-02	0.0416	1.0	2.0E-02	7.3E+00	1.5E+01	2.7E-03	1.3E-03
Toxaphene	***2.1E+00***	0.00012	1.0	6.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.6E-02	1.5E+01	1.5E+02	3.8E-03	3.8E-04
Hazard Index - Pesticides														4.5E-01	2.6E-02
Herbicides															
2,4-D	1.0E-02	0.00012	1.0	2.9E-05	0.0042	6.8E-02	1.0	6.8E-03	0.0416	1.0	6.8E-03	1.8E+00	9.1E+00	3.7E-03	7.5E-04
2,4-DB	***5.0E-03***	0.00012	1.0	1.4E-05	0.0042	9.5E-02	1.0	9.5E-03	0.0416	1.0	9.5E-03	3.6E+00	1.1E+01	2.6E-03	8.5E-04
2,4,5-T	***5.0E-03***	0.00012	1.0	1.4E-05	0.0042	3.7E-02	1.0	3.7E-03	0.0416	1.0	3.7E-03	5.5E+00	1.8E+01	6.8E-04	2.0E-04
2,4,5-TP (Silvex)	***5.0E-03***	0.00012	1.0	1.4E-05	0.0042	8.7E-02	1.0	8.7E-03	0.0416	1.0	8.7E-03	3.4E+00	1.1E+01	2.6E-03	7.8E-04
Dalapon	***1.3E+00***	0.00012	1.0	3.6E-03	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	3.0E-01	1.5E+01	5.2E+01	2.0E-02	5.8E-03
Dicamba	***1.3E-02***	0.00012	1.0	3.6E-05	0.0042	***3.0E-02***	1.0	3.0E-03	0.0416	1.0	3.0E-03	7.5E+00	2.5E+01	4.1E-04	1.2E-04
Dichlorprop	***6.0E-02***	0.00012	1.0	1.7E-04	0.0042	2.0E-01	1.0	2.0E-02	0.0416	1.0	2.0E-02	2.0E-01	2.0E+00	1.0E-01	1.0E-02
Dinoseb	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.8E-01	1.8E+00	2.8E-01	2.8E-02
MCPA	***1.3E+00***	0.00012	1.0	3.6E-03	0.0042	4.8E+00	1.0	4.8E-01	0.0416	1.0	4.8E-01	6.7E-01	3.4E+00	7.2E-01	1.4E-01
MCPP	***2.3E+00***	0.00012	1.0	6.6E-03	0.0042	8.8E+00	1.0	8.8E-01	0.0416	1.0	8.9E-01	5.5E-01	1.6E+00	1.6E+00	5.4E-01
Hazard Index - Herbicides														2.8E+00	7.3E-01
PCBs															
Total PCBs	7.0E+00	0.00012	1.0	2.0E-02	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	2.3E-02	1.8E-01	1.8E+00	1.2E-01	1.2E-02
Dioxins/Furans															
TEQ	7.2E-04	0.00012	1.0	2.1E-06	0.0042	6.7E-07	1.0	6.7E-08	0.0416	1.0	2.1E-06	1.8E-06	1.8E-05	1.2E+00	1.2E-01
Metals*															
Aluminum	6.0E+03	0.00012	1.0	1.7E+01	0.0042	5.1E+01	1.0	5.1E+00	0.0416	1.0	2.2E+01	1.9E+00	1.9E+01	1.2E+01	1.2E+00
Antimony	1.6E+00	0.00012	1.0	4.6E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	1.2E-01	1.2E+00	8.5E-01	8.5E-02
Arsenic	2.6E+01	0.00012	1.0	7.5E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.3E-01	1.2E-01	1.2E+00	1.0E+00	1.0E-01
Barium	1.8E+02	0.00012	1.0	5.2E-01	0.0042	***5.4E+00***	1.0	5.4E-01	0.0416	1.0	1.1E+00	9.3E+00	3.6E+01	1.1E-01	2.9E-02
Beryllium	1.8E+00	0.00012	1.0	5.2E-03	0.0042	***2.0E-01***	1.0	2.0E-02	0.0416	1.0	2.5E-02	1.2E+00	1.2E+01	2.1E-02	2.1E-03
Cadmium	3.0E+00	0.00012	1.0	8.7E-03	0.0042	5.5E-01	1.0	5.5E-02	0.0416	1.0	6.4E-02	1.8E+00	1.8E+01	3.5E-02	3.5E-03
Chromium	1.9E+01	0.00012	1.0	5.5E-02	0.0042	4.1E-01	1.0	4.1E-02	0.0416	1.0	9.6E-02	6.0E+00	2.4E+01	1.6E-02	4.0E-03
Cobalt	1.3E+01	0.00012	1.0	3.8E-02	0.0042	1.0E+00	1.0	1.0E-01	0.0416	1.0	1.4E-01	9.1E-02	9.1E-01	1.5E+00	1.5E-01
Copper	6.4E+01	0.00012	1.0	1.8E-01	0.0042	6.9E+00	1.0	6.9E-01	0.0416	1.0	8.7E-01	2.8E+01	3.7E+01	3.1E-02	2.4E-02
Lead	1.7E+02	0.00012	1.0	4.9E-01	0.0042	5.0E+00	1.0	5.0E-01	0.0416	1.0	9.9E-01	1.5E+01	1.5E+02	6.8E-02	6.8E-03
Manganese	3.9E+02	0.00012	1.0	1.1E+00	0.0042	7.9E+00	1.0	7.9E-01	0.0416	1.0	1.9E+00	1.6E+02	5.2E+02	1.2E-02	3.7E-03
Mercury	2.3E-01	0.00012	1.0	6.6E-04	0.0042	1.0E+00	1.0	1.0E-01	0.0416	1.0	1.0E-01	5.9E-02	2.9E-01	1.7E+00	3.4E-01
Nickel	4.7E+01	0.00012	1.0	1.4E-01	0.0042	3.9E+00	1.0	3.9E-01	0.0416	1.0	5.3E-01	7.3E+01	1.5E+02	7.2E-03	3.6E-03
Selenium	7.0E+00	0.00012	1.0	2.0E-02	0.0042	1.2E+01	1.0	1.2E+00	0.0416	1.0	1.2E+00	3.7E-01	6.0E-01	3.2E+00	2.0E+00
Silver	***4.8E-01***	0.00012	1.0	1.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.8E-01	1.8E+00	2.9E-01	2.9E-02
Thallium	1.3E+00	0.00012	1.0	3.8E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.4E-02	1.4E-02	1.4E-01	4.0E+00	4.0E-01
Vanadium	4.4E+01	0.00012	1.0	1.3E-01	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.8E-01	3.8E-01	3.8E+00	4.6E-01	4.6E-02
Zinc	3.9E+02	0.00012	1.0	1.1E+00	0.0042	7.9E+01	1.0	7.9E+00	0.0416	1.0	9.0E+00	2.9E+02	5.9E+02	3.1E-02	1.5E-02
Hazard Index - Metals														2.5E+01	4.4E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

Table 7-20
Surface Soil Hazard Quotients
Sauget, IL

Analyte	Sample ID Sample Date Sample Depth Percent Moisture	Reference for Benchmark	TEFs	OFF-SITE (Background)				SITE O			SITE P			
				SOIL-OS-2 08/14/02 0.5 Ft 16.5	SOIL-OS-2 DUP 08/14/02 0.5 Ft 14.1	SOIL-OS-3 08/14/02 0.5 Ft 13.1	SOIL-OS-4 08/15/02 0.5 Ft 12.8	SOIL-O-1 07/10/02 0.5 Ft 6.7	SOIL-O-2 07/10/02 0.5 Ft 12.3	SOIL-O-3 07/10/02 0.5 Ft 13.1	SOIL-P-1 07/16/02 0.5 Ft 3.7	SOIL-P-2 07/16/02 0.5 Ft 10	SOIL-P-3 07/17/02 0.5 Ft 3.3	SOIL-P-4 07/16/02 0.5 Ft 8.9
VOCs (ug/kg)	**Benchmark**													
1,1,1-Trichloroethane	5000	c		5.8E-04	7.5E-04	5.5E-04	9.1E-04	4.2E-02	9.8E-04	5.6E-04	9.1E-04	7.1E-04	1.4E-03	9.5E-04
1,1,2,2-Tetrachloroethane	5000	g		5.8E-04	7.5E-04	5.5E-04	9.1E-04	4.2E-02	9.8E-04	5.6E-04	9.1E-04	7.1E-04	1.4E-03	9.5E-04
1,1,2-Trichloroethane	5000	c		5.8E-04	7.5E-04	5.5E-04	9.1E-04	4.2E-02	9.8E-04	5.6E-04	9.1E-04	7.1E-04	1.4E-03	9.5E-04
1,1-Dichloroethane	5000	c		5.8E-04	7.5E-04	5.5E-04	9.1E-04	4.2E-02	9.8E-04	5.6E-04	9.1E-04	7.1E-04	1.4E-03	9.5E-04
1,1-Dichloroethylene	5000	c		5.8E-04	7.5E-04	5.5E-04	9.1E-04	4.2E-02	9.8E-04	5.6E-04	9.1E-04	7.1E-04	1.4E-03	9.5E-04
1,2-Dichloroethane	5000	c		5.8E-04	7.5E-04	5.5E-04	9.1E-04	4.2E-02	9.8E-04	5.6E-04	9.1E-04	7.1E-04	1.4E-03	9.5E-04
1,2-Dichloroethene (total)	5000	c		1.2E-03	1.5E-03	1.1E-03	1.8E-03	8.5E-02	2.0E-03	1.1E-03	1.8E-03	1.4E-03	2.8E-03	1.9E-03
1,2-Dichloropropane	700000	b		4.1E-06	5.4E-06	3.9E-06	6.5E-06	3.0E-04	7.0E-06	4.0E-06	6.5E-06	5.1E-06	1.0E-05	6.8E-06
2-Butanone (MEK)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Hexanone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Methyl-2-pentanone (MIBK)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acetone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzene	70000	c		4.1E-05	5.4E-05	3.9E-05	6.5E-05	8.4E-03	7.0E-05	4.0E-05	5.4E-05	5.1E-05	1.3E-04	6.8E-05
Bromodichloromethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Bromoform	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Bromomethane	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Carbon Disulfide	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Carbon Tetrachloride	5000	c		5.8E-04	7.5E-04	5.5E-04	9.1E-04	4.2E-02	9.8E-04	5.6E-04	9.1E-04	7.1E-04	1.4E-03	9.5E-04
Chlorobenzene	1000	c		2.9E-03	3.8E-03	2.8E-03	4.6E-03	[illegible]	4.9E-03	2.8E-03	4.0E-03	3.6E-03	7.0E-03	4.8E-03
Chloroethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chloroform	5000	c		5.8E-04	7.5E-04	5.5E-04	9.1E-04	4.2E-02	9.8E-04	5.6E-04	9.1E-04	7.1E-04	1.4E-03	9.5E-04
Chloromethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
cis-1,3-Dichloropropene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dibromochloromethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Ethylbenzene	1000	c		2.9E-03	4.5E-04	5.7E-04	4.6E-03	[illegible]	3.8E-04	2.8E-03	2.4E-03	2.6E-04	7.0E-03	4.8E-03
Methylene Chloride	5000	e		5.8E-04	7.5E-04	5.5E-04	9.1E-04	4.2E-02	9.8E-04	5.6E-04	9.1E-04	7.1E-04	1.4E-03	9.5E-04
Styrene (Monomer)	300000	a		9.7E-06	2.5E-06	4.3E-06	1.5E-05	7.0E-04	1.6E-05	9.3E-06	1.5E-05	1.1E-06	2.3E-05	1.6E-05
Tetrachloroethene	5000	c		5.8E-04	7.5E-04	5.5E-04	9.1E-04	5.8E-02	2.0E-04	5.6E-04	1.2E-03	6.2E-04	3.8E-04	9.5E-04
Toluene	200000	a		1.5E-05	1.9E-05	1.4E-05	2.3E-05	4.4E-03	2.5E-05	1.4E-05	1.6E-04	1.8E-05	3.5E-05	2.4E-05
trans-1,3-Dichloropropene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Trichloroethylene	5000	c		5.8E-04	7.5E-04	5.5E-04	9.1E-04	4.2E-02	1.2E-04	5.6E-04	3.0E-04	1.6E-04	1.4E-03	9.5E-04
Vinyl chloride	100	f		6.0E-02	7.5E-02	5.5E-02	9.0E-02	***4.3E+00***	1.0E-01	5.5E-02	9.0E-02	7.0E-02	1.4E-01	9.5E-02
Xylenes, Total	5000	c		1.2E-03	2.2E-04	1.1E-04	1.8E-03	[illegible]	2.6E-04	1.1E-03	8.6E-04	1.9E-04	2.8E-03	1.9E-03
SVOCs (ug/kg)														
1,2,4-Trichlorobenzene	2000	e		1.0E-01	9.5E-02	9.3E-02	9.5E-02	8.8E-02	9.5E-02	9.8E-02	1.0E-01	1.0E-01	4.5E-01	9.5E-02
1,2-Dichlorobenzene	1000	c		2.0E-01	1.9E-01	1.9E-01	1.9E-01	3.4E-02	1.9E-01	3.6E-02	2.1E-01	2.1E-01	9.0E-01	1.9E-01
1,3-Dichlorobenzene	1000	c		2.0E-01	1.9E-01	1.9E-01	1.9E-01	1.8E-01	1.9E-01	2.0E-01	2.1E-01	2.1E-01	9.0E-01	1.9E-01
1,4-Dichlorobenzene	1000	c		2.0E-01	1.9E-01	1.9E-01	1.9E-01	1.8E-01	1.9E-01	2.0E-01	2.1E-01	2.1E-01	9.0E-01	1.9E-01
2,2'-Oxybis(1-Chloropropane)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4,5-Trichlorophenol	4000	a		5.0E-02	4.8E-02	4.6E-02	4.8E-02	4.4E-02	4.8E-02	4.9E-02	5.1E-02	5.1E-02	2.3E-01	4.8E-02
2,4,6-Trichlorophenol	500	c		4.0E-01	3.8E-01	3.7E-01	3.8E-01	3.5E-01	3.8E-01	3.9E-01	4.1E-01	4.1E-01	***1.8E+00***	3.8E-01
2,4-Dichlorophenol	500	c		4.0E-01	3.8E-01	3.7E-01	3.8E-01	3.5E-01	3.8E-01	7.0E-02	4.1E-01	4.1E-01	***1.8E+00***	3.8E-01
2,4-Dimethylphenol	1000	c		2.0E-01	1.9E-01	1.9E-01	1.9E-01	1.8E-01	1.9E-01	2.0E-01	2.1E-01	2.1E-01	9.0E-01	1.9E-01
2,4-Dinitrophenol	20000	a		5.3E-02	4.8E-02	4.8E-02	5.0E-02	4.5E-02	4.8E-02	5.0E-02	5.3E-02	5.3E-02	2.4E-01	4.8E-02
2,4-Dinitrotoluene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,6-Dinitrotoluene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Chloronaphthalene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Chlorophenol	500	c		4.0E-01	3.8E-01	3.7E-01	3.8E-01	3.5E-01	3.8E-01	3.9E-01	4.1E-01	4.1E-01	***1.8E+00***	3.8E-01
2-Methylnaphthalene	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Methylphenol (o-Cresol)	1000	c		2.0E-01	1.9E-01	1.9E-01	1.9E-01	1.8E-01	1.9E-01	2.0E-01	2.1E-01	2.1E-01	9.0E-01	1.9E-01
2-Nitroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Nitrophenol	1000	c		2.0E-01	1.9E-01	1.9E-01	1.9E-01	1.8E-01	1.9E-01	2.0E-01	2.1E-01	2.1E-01	9.0E-01	1.9E-01
3,3'-Dichlorobenzidine	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3/4 Methylphenol (m&p-Cresol)	1000	c		2.0E-01	1.9E-01	1.9E-01	1.9E-01	1.8E-01	1.9E-01	2.0E-01	2.1E-01	2.1E-01	9.0E-01	1.9E-01
3-Nitroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4,6 Dinitro-2-methylphenol	1000	c		***1.1E+00***	9.5E-01	9.5E-01	***1.0E+00***	9.0E-01	9.5E-01	***1.0E+00***	***1.1E+00***	***1.1E+00***	***4.8E+00***	9.5E-01
4-Bromophenyl Phenyl Ether	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Chloro-3-methylphenol	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Chloroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Chlorophenyl Phenyl Ether	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Nitroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Nitrophenol	1000	c		***1.1E+00***	9.5E-01	9.5E-01	***1.0E+00***	9.0E-01	9.5E-01	***1.0E+00***	***1.1E+00***	***1.1E+00***	***4.8E+00***	9.5E-01
Acenaphthene	20000	a		1.0E-02	9.5E-03	9.3E-03	9.5E-03	8.8E-03	9.5E-03	9.8E-03	1.0E-02	3.8E-03	4.5E-02	9.5E-03
Acenaphthylene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	100	b		***2.0E+00***	***1.9E+00***	***1.9E+00***	***1.9E+00***	***1.8E+00***	***1.9E+00***	***2.0E+00***	***2.1E+00***	***2.3E+00***	***9.0E+00***	***1.9E+00***

NOTES:
a = ORNL Vegetative Benchmarks (Efromyson *et al*., 1997)
b = USEPA Reg on IV Soil Screening Benchmarks, 2001
c = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Urban Park Standards
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f = Dutch Soil Intervention Standards, 1994
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h = ORNL Soil Invertebrate Benchmark (Efromyson *et al*., 1997)
i = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Agricultural Standards
NC = No appropriate soil screening value available, therefore the hazard quotient could not be calculated
NA = Not available
NP = Not applicable
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Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations.
Bolded/shaded values indicate HQs = to or exceeding 1 for detected concentrations.

Surface So[illegible]d Quotients
Sauget, IL

Analyte	Sample ID Sample Date Sample Depth Percent Moisture	Reference for Benchmark	TEFs	OFF-SITE (Background)				SITE O			SITE P			
				SOIL-OS-2 08/14/02 0.5 Ft 16.5	SOIL-OS-2 DUP 08/14/02 0.5 Ft 14.1	SOIL-OS-3 08/14/02 0.5 Ft 13.1	SOIL-OS-4 08/15/02 0.5 Ft 12.8	SOIL-O-1 07/10/02 0.5 Ft 6.7	SOIL-O-2 07/10/02 0.5 Ft 12.3	SOIL-O-3 07/10/02 0.5 Ft 13.1	SOIL-P-1 07/16/02 0.5 Ft 3.7	SOIL-P-2 07/16/02 0.5 Ft 10	SOIL-P-3 07/17/02 0.5 Ft 3.3	SOIL-P-4 07/16/02 0.5 Ft 8.9
SVOCs (ug/kg)	Benchmark													
Benzo(a)anthracene	1000	c		2.8E-02	2.2E-02	4.0E-02	1.9E-01	4.1E-02	1.9E-01	6.3E-02	2.9E-02	6.8E-01	9.0E-01	1.9E-01
Benzo(a)pyrene	1000	c		2.0E-01	1.9E-01	1.9E-01	1.9E-01	4.6E-02	1.9E-01	2.0E-01	4.2E-02	6.7E-01	9.0E-01	1.9E-01
Benzo(b)fluoranthene	1000	c		4.0E-02	1.9E-01	1.9E-01	1.9E-01	8.9E-02	1.4E-01	9.8E-02	3.2E-02	6.8E-01	9.0E-01	1.9E-01
Benzo(g,h,i)perylene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(k)fluoranthene	1000	c		2.5E-02	1.8E-02	6.0E-02	1.9E-01	1.8E-01	1.9E-01	1.0E-01	3.0E-02	5.7E-01	9.0E-01	1.9E-01
bis(2-Chloroethoxy)methane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
bis(2-Chloroethyl)ether	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
bis(2-Ethylhexyl)phthalate	30000	i		6.7E-03	1.0E-02	6.2E-03	6.3E-03	8.3E-03	7.7E-04	2.1E-03	1.7E-03	1.2E-03	3.0E-02	1.2E-03
Butyl Benzyl Phthalate	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Carbazole	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chrysene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dibenzo(a,h)anthracene	1000	c		2.0E-01	1.9E-01	1.9E-01	1.9E-01	1.8E-01	7.8E-02	1.3E-01	5.9E-02	1.1E-01	9.0E-01	1.9E-01
Dibenzofuran	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Diethyl Phthalate	100000	a		2.0E-03	1.9E-03	1.9E-03	1.9E-03	1.8E-03	1.9E-03	2.0E-03	2.1E-03	2.1E-03	9.0E-03	1.9E-03
Dimethyl Phthalate	200000	b		1.0E-03	9.5E-04	9.3E-04	9.5E-04	8.8E-04	9.5E-04	9.8E-04	1.0E-03	1.0E-03	4.5E-03	9.5E-04
Di-n-butylphthalate	200000	a	NP	1.0E-03	9.5E-04	9.3E-04	9.5E-04	8.8E-04	9.5E-04	2.5E-04	1.0E-03	1.0E-03	4.5E-03	9.5E-04
Di-n-octylphthalate	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	100	b		5.6E-01	***1.9E+00***	4.7E-01	***1.9E+00***	8.2E-01	***1.9E+00***	***2.0E+00***	4.0E-01	**1.7E+01**	***9.0E+00***	***1.9E+00***
Fluorene	30000	b		6.7E-03	6.3E-03	6.2E-03	6.3E-03	5.8E-03	6.3E-03	6.5E-03	6.8E-03	2.2E-03	3.0E-02	6.3E-03
Hexachlorobenzene	2000	c		1.0E-01	9.5E-02	9.3E-02	9.5E-02	8.8E-02	9.5E-02	5.5E-02	1.0E-01	1.0E-01	4.5E-01	9.5E-02
Hexachlorobutadiene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Hexachlorocyclopentadiene	10000	a		2.0E-02	1.9E-02	1.9E-02	1.9E-02	1.8E-02	1.9E-02	2.0E-02	2.1E-02	2.1E-02	9.0E-02	1.9E-02
Hexachloroethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	1000	c		2.0E-01	1.9E-01	1.9E-01	1.9E-01	3.2E-02	1.9E-01	2.0E-01	6.6E-02	2.4E-01	9.0E-01	1.9E-01
Isophorone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	600	e		3.3E-01	3.2E-01	3.1E-01	3.2E-01	2.9E-01	3.2E-01	3.3E-01	3.4E-01	3.4E-01	***1.5E+00***	3.2E-01
Nitrobenzene	40000	b		5.0E-03	4.8E-03	4.6E-03	4.8E-03	4.4E-03	4.8E-03	4.9E-03	5.1E-03	5.1E-03	2.3E-02	4.8E-03
N-Nitroso-di-n-propylamine	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
N-Nitrosodiphenylamine	20000	h		1.0E-02	9.5E-03	9.3E-03	9.5E-03	8.8E-03	9.5E-03	9.8E-03	1.0E-02	1.0E-02	4.5E-02	9.5E-03
Pentachlorophenol	3000	a		1.7E-03	9.3E-04	5.7E-04	3.3E-03	2.0E-02	7.7E-03	6.7E-01	2.4E-03	1.4E-03	9.3E-03	3.7E-03
Phenanthrene	5000	c		6.8E-03	6.2E-03	1.0E-02	3.8E-02	6.4E-03	3.8E-02	8.0E-03	4.8E-03	2.2E-01	1.8E-01	3.8E-02
Phenol	70000	a		2.9E-03	2.7E-03	2.6E-03	2.7E-03	2.5E-03	2.7E-03	2.8E-03	2.9E-03	5.1E-03	1.3E-02	2.7E-03
Pyrene	10000	c		5.7E-03	1.9E-02	5.6E-03	1.9E-02	7.8E-03	1.9E-02	1.3E-02	5.1E-03	1.8E-01	9.0E-02	1.9E-02
Pesticides (ug/kg)														
4,4'-DDD	10000	d		6.6E-04	2.4E-04	1.9E-04	1.9E-04	1.8E-04	1.9E-04	8.6E-03	4.1E-03	2.1E-04	1.9E-03	3.8E-03
4,4'-DDE	10000	d		1.6E-03	8.4E-04	4.1E-04	1.9E-04	1.8E-04	1.9E-04	2.0E-03	4.1E-03	3.0E-04	1.9E-03	3.8E-03
4,4'-DDT	10000	c		4.6E-03	2.5E-03	1.6E-03	1.9E-04	1.8E-04	8.1E-05	2.3E-02	1.7E-03	8.1E-04	9.1E-04	1.1E-01
Aldrin	2.5	b		4.2E-01	3.8E-01	3.8E-01	4.0E-01	3.6E-01	3.8E-01	***4.0E+00***	***8.4E+00***	4.2E-01	***3.8E+00***	***7.8E+00***
alpha-BHC	2.5	b		4.2E-01	3.8E-01	3.8E-01	4.0E-01	3.6E-01	3.8E-01	***4.0E+00***	***8.4E+00***	4.2E-01	***3.8E+00***	***7.8E+00***
alpha-Chlordane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
beta-BHC	1.0	b		***1.1E+00***	9.5E-01	9.5E-01	***1.0E+00***	9.0E-01	9.5E-01	***1.0E+01***	***2.1E+01***	***1.1E+00***	***9.5E+00***	***2.0E+01***
delta-BHC	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dieldrin	0.50	b		**1.9E+01**	**7.6E+00**	**6.0E+00**	***3.8E+00***	**2.8E+00**	***3.8E+00***	**3.6E+02**	***8.1E+01***	**4.0E+00**	**6.0E+00**	***7.5E+01***
Endosulfan I	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Endosulfan II	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Endosulfan Sulfate	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Endrin	1.0	b		***2.0E+00***	***1.9E+00***	***1.9E+00***	***1.9E+00***	***1.8E+00***	***1.9E+00***	***2.0E+01***	***4.1E+01***	***2.1E+00***	***1.9E+01***	***3.8E+01***
Endrin Aldehyde	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Endrin Ketone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
gamma-BHC (Lindane)	0.050	b		***2.1E+01***	***1.9E+01***	***1.9E+01***	***2.0E+01***	***1.8E+01***	***1.9E+01***	**6.4E+02**	***4.2E+02***	***2.1E+01***	***1.9E+02***	***3.9E+02***
gamma-Chlordane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Heptachlor	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Heptachlor Epoxide	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Methoxychlor	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Toxaphene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Herbicides (ug/kg)														
2,4-D	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4-DB	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4,5-T	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4,5-TP (Silvex)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dalapon	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dicamba	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dichlorprop	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dinoseb	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
MCPA	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
MCPP	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

NOTES:
a = ORNL Vegetative Benchmarks (Efromyson *et al.*, 1997)
b = USEPA Region IV Soil Screening Benchmarks, 2001
c = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Urban Park Standards
d = Based on 4,4'-DDT
e = Canadian Environmental Quality Guidelines - Residential/Parkland Standards, 2002
f = Dutch Soil Intervention Standards, 1994
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h = ORNL Soil Invertebrate Benchmark (Efromyson *et al.*, 1997)
i = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Agricultural Standards
NC = No appropriate soil screening value available, therefore the hazard quotient could not be calculated
NA = Not available
NP = Not applicable
R = Data point was rejected, therefore the hazard quotient could not be calculated

Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations.
Bolded/shaded values indicate HQs = to or exceeding 1 for detected concentrations.

Table 7-20
Surface Soil Hazard Quotients
Sauget, IL

Analyte	Sample ID Sample Date Sample Depth Percent Moisture	Reference for Benchmark	TEFs	OFF-SITE (Background)				SITE O			SITE P			
				SOIL-OS-2 08/14/02 0.5 Ft 16.5	SOIL-OS-2 DUP 08/14/02 0.5 Ft 14.1	SOIL-OS-3 08/14/02 0.5 Ft 13.1	SOIL-OS-4 08/15/02 0.5 Ft 12.8	SOIL-O-1 07/10/02 0.5 Ft 6.7	SOIL-O-2 07/10/02 0.5 Ft 12.3	SOIL-O-3 07/10/02 0.5 Ft 13.1	SOIL-P-1 07/16/02 0.5 Ft 3.7	SOIL-P-2 07/16/02 0.5 Ft 10	SOIL-P-3 07/17/02 0.5 Ft 3.3	SOIL-P-4 07/16/02 0.5 Ft 8.9
PCBs (ug/kg)	**Benchmark**													
Total PCBs	40000	a	NP	4.3E-03	3.0E-03	3.3E-03	2.5E-04	[illegible]	2.0E-05	2.7E-01	2.6E-04	3.4E-04	2.8E-04	1.8E-01
Dioxins/Furans (ug/kg)														
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	1.0	c	0.010	1.5E-03	3.0E-02	4.5E-04	4.6E-04	2.7E-01	1.8E-02	2.7E+00	1.1E-02	1.9E-01	3.3E-02	1.7E-03
1,2,3,4,6,7,8-HpCDF	1.0	c	0.010	4.0E-04	2.7E-03	5.5E-04	6.5E-04	3.9E+00	2.1E-03	5.2E-01	1.3E-03	1.2E-02	2.3E-03	1.3E-03
1,2,3,4,7,8,9-HpCDF	1.0	c	0.010	1.4E-04	2.7E-04	6.5E-04	7.0E-04	2.8E-01	1.1E-04	4.3E-02	4.9E-04	5.0E-04	6.5E-04	6.5E-04
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	1.0	c	0.10	1.7E-03	2.8E-03	5.5E-03	4.9E-03	4.9E-01	2.8E-03	1.4E-02	4.0E-03	8.0E-03	1.4E-02	9.0E-03
1,2,3,4,7,8-HxCDF	1.0	c	0.10	7.5E-04	3.6E-03	6.5E-03	2.7E-03	2.9E+00	2.0E-03	3.5E-01	5.5E-03	4.6E-03	4.3E-03	6.0E-03
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	1.0	c	0.10	2.0E-03	3.0E-02	6.0E-03	5.0E-03	5.6E+00	3.2E-03	1.0E+00	5.5E-03	2.7E-02	1.3E-02	9.5E-03
1,2,3,6,7,8-HxCDF	1.0	c	0.10	7.0E-04	2.6E-03	5.5E-03	2.8E-03	2.8E-01	1.9E-03	3.3E-02	2.6E-03	4.4E-03	2.3E-03	5.5E-03
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	1.0	c	0.10	1.7E-03	4.7E-02	5.0E-03	4.6E-03	8.5E-01	2.6E-03	1.1E-01	4.2E-03	1.2E-02	1.1E-02	9.5E-03
1,2,3,7,8,9-HxCDF	1.0	c	0.10	1.2E-03	1.1E-03	5.5E-03	3.8E-03	3.3E-01	3.7E-04	5.2E-02	5.5E-03	3.8E-03	5.5E-03	6.0E-03
1,2,3,7,8-Pentachlorodibenzofuran	1.0	c	0.050	4.3E-04	6.8E-04	7.3E-04	2.1E-03	1.5E-01	1.0E-04	9.5E-03	9.8E-04	3.3E-03	2.5E-03	1.6E-03
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	1.0	c	1.0	1.7E-02	1.7E-02	3.1E-02	1.4E-01	1.9E+00	1.5E-02	5.0E-02	4.1E-02	2.4E-01	1.2E-01	1.1E-01
2,3,4,6,7,8-HxCDF	1.0	c	0.10	7.0E-04	2.3E-03	4.2E-03	4.1E-03	6.5E-01	2.0E-03	8.8E-02	3.2E-03	3.9E-03	4.7E-03	5.5E-03
2,3,4,7,8-PeCDF	1.0	c	0.50	4.5E-03	7.3E-03	7.5E-03	2.1E-02	3.4E+00	1.6E-03	3.3E-01	1.4E-02	7.3E-02	3.8E-02	3.0E-02
2,3,7,8-TCDF	1.0	c	1.0	1.2E-02	1.1E-02	1.3E-02	3.7E-02	1.9E+00	1.6E-03	1.6E-01	1.9E-02	8.0E-02	6.0E-02	4.9E-02
2,3,7,8-Tetrachlorodibenzofuran	1.0	c	0.10	1.3E-03	5.0E-03	1.7E-03	4.2E-03	8.0E-01	3.7E-04	6.9E-02	1.4E-03	5.5E-03	6.0E-03	3.5E-03
CCDD	1.0	c	0.00010	2.8E-04	3.3E-03	5.5E-05	4.5E-05	8.9E-01	4.4E-03	4.4E-01	6.5E-04	5.4E-02	4.3E-03	2.3E-04
OCDF	1.0	c	0.00010	1.4E-05	2.4E-04	2.1E-05	7.5E-06	1.4E-01	1.4E-04	4.3E-02	6.5E-05	3.3E-03	7.5E-04	4.6E-05
Total HpCDD	1.0	c	0.010	1.5E-03	5.7E-02	4.5E-04	2.1E-03	4.6E+01	3.6E-02	4.7E+00	2.0E-02	3.8E-01	5.9E-02	1.7E-03
Total HpCDF	1.0	c	0.010	7.0E-04	1.3E-02	6.5E-04	7.0E-04	2.0E+01	1.2E-02	3.2E+00	6.6E-03	6.6E-02	1.3E-02	1.3E-03
Total HxCDD	1.0	c	0.10	2.7E-03	4.7E-02	6.0E-03	4.7E-03	2.0E+01	4.2E-03	3.3E+00	5.5E-03	4.3E-02	1.5E-02	1.2E-02
Total HxCDF	1.0	c	0.10	1.5E-03	9.5E-03	6.5E-03	4.2E-03	2.6E+01	6.0E-02	5.5E+00	5.5E-03	4.0E-02	9.0E-03	8.0E-03
Total PeCDD	1.0	c	1.0	1.2E-01	1.2E-01	1.3E-01	1.4E-01	4.9E+00	8.0E-02	8.5E+00	9.0E-02	2.4E-01	1.5E-01	2.7E-01
Total PeCDF	1.0	c	0.50	6.5E-03	3.0E-02	7.5E-03	2.5E-02	4.1E+01	2.8E-03	2.8E+00	1.4E-02	7.3E-02	9.0E-02	6.3E-02
Total TCDD	1.0	c	1.0	1.2E-02	5.0E-02	1.3E-02	6.5E-02	2.4E+01	4.9E-03	2.3E+00	1.9E-02	8.0E-02	6.0E-02	4.9E-02
Total TCDF	1.0	c	0.10	1.3E-03	5.0E-03	1.7E-03	4.2E-03	7.5E+00	3.7E-04	9.8E-01	1.4E-03	7.5E-03	6.0E-03	9.5E-03
Metals (mg/kg)														
Aluminum	50	a	NP	1.4E+02	1.6E+02	1.5E+02	1.0E+02	1.8E+02	3.6E+02	1.7E+02	8.0E+01	1.2E+02	6.4E+01	1.2E+02
Antimony	5.0	a		3.8E-01	3.0E-01	1.9E-01	2.1E-01	1.6E-01	1.5E-01	2.1E-01	3.2E-01	1.2E-01	1.1E-01	1.9E-01
Arsenic	10	a		8.8E-01	9.3E-01	6.2E-01	5.4E-01	1.1E+00	5.1E-01	6.3E-01	2.8E+00	9.4E-01	1.7E+00	4.0E-01
Barium	500	a		3.8E-01	4.0E-01	3.4E-01	3.4E-01	6.8E-01	2.0E-01	2.6E-01	2.4E-01	3.6E-01	1.7E-01	1.5E-01
Beryllium	10	a		5.7E-02	6.0E-02	4.1E-02	4.0E-02	3.9E-02	4.6E-02	5.4E-02	1.8E-01	8.5E-02	1.5E-01	4.2E-02
Cadmium	4.0	a		1.1E+00	5.3E-01	2.8E-01	8.5E-02	4.3E+00	1.4E-01	4.3E-01	5.0E-01	7.5E-01	2.5E-01	1.6E-01
Calcium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chromium	1.0	a		1.3E+01	1.3E+01	1.1E+01	9.3E+00	1.6E+01	1.5E+01	1.5E+01	1.9E+01	1.4E+01	1.6E+01	3.2E+01
Cobalt	20	a		3.3E-01	3.2E-01	1.7E-01	2.7E-01	3.0E-01	3.3E-01	3.5E-01	6.5E-01	3.8E-01	4.9E-01	3.1E-01
Copper	100	a		1.5E+00	4.3E-01	3.0E-01	1.2E-01	2.7E+00	2.6E-01	4.0E-01	6.4E-01	5.9E-01	5.1E-01	2.1E-01
Iron	200	b		7.0E+01	7.3E+01	6.0E+01	5.5E+01	8.2E+01	7.3E+01	8.0E+01	4.6E+01	5.5E+01	3.7E+01	6.0E+01
Lead	50	a		2.6E+00	1.5E+00	1.6E+00	6.2E-01	2.6E+00	2.8E-01	4.0E-01	1.5E+00	3.4E+00	1.1E+00	3.0E-01
Magnesium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Manganese	500	a		8.2E-01	7.6E-01	1.7E-01	5.2E-01	8.4E-01	1.1E+00	9.8E-01	6.2E-02	7.2E-01	1.6E-01	7.8E-01
Mercury	0.30	a		3.7E-01	2.7E-01	3.1E-01	1.9E-01	1.4E+01	1.6E-01	9.7E+00	7.7E-01	2.4E-01	2.9E-01	2.3E-01
Nickel	30	a		9.0E-01	6.0E-01	4.0E-01	4.7E-01	9.3E-01	6.0E-01	6.0E-01	1.6E+00	7.0E-01	8.3E-01	5.7E-01
Potassium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Selenium	1.0	a		6.2E-01	5.0E-01	5.5E-01	5.5E-01	*1.6E+00*	5.5E-01	5.5E-01	7.0E+00	5.5E-01	1.6E+00	4.8E-01
Silver	2.0	a		3.4E-01	2.5E-01	2.8E-01	2.8E-01	1.2E+00	2.8E-01	2.8E-01	1.1E-01	1.2E-01	6.5E-02	2.4E-01
Sodium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Thallium	1.0	a		5.5E-01	5.0E-01	5.5E-01	5.5E-01	5.5E-01	5.5E-01	5.5E-01	1.3E+00	5.5E-01	5.0E-01	4.8E-01
Vanadium	2.0	a		1.1E+01	1.3E+01	1.1E+01	9.0E+00	3.5E+00	1.1E+01	1.4E+01	2.2E+01	1.1E+01	1.3E+01	1.2E+01
Zinc	50	a		3.3E+00	6.2E+00	4.2E+00	3.1E+00	1.9E+01	1.4E+00	2.6E+00	4.0E+00	7.8E+00	3.8E+00	1.7E+00

NOTES:
a = ORNL Vegetative Benchmarks (Efromyson *et al.*, 1997)
b = USEPA Region IV Soil Screening Benchmarks, 2001
c = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Urban Park Standards
d = Based on 4,4'-DDT
e = Canadian Environmental Quality Guidelines - Residential/Parkland Standards, 2002
f = Dutch Soil Intervention Standards, 1994
g = NOAA Screening Quick Reference Tables, 1999
h = ORNL Soil Invertebrate Benchmark (Efromyson *et al.*, 1997)
i = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Agricultural Standards
NC = No appropriate soil screening value available, therefore the hazard quotient could not be calculated
NA = Not available
NP = Not applicable
R = Data point was rejected, therefore the hazard quotient could not be calculated

Bolded/italicized values indicate HQs = 10 or exceeding 1 for adjusted non-detected concentrations.
Bolded/shaded values indicate HQs = 10 or exceeding 1 for detected concentrations.

Surface S[illegible] Quotients
Sa[illegible], IL

Analyte	Sample ID Sample Date Sample Depth Percent Moisture	Reference for Benchmark	TEFs	SITE Q SOIL-Q-9 07/26/02 0.5 Ft 19.8	SOIL-Q-10 07/26/02 0.5 Ft 14.9	SOIL-Q-10 DUP 07/26/02 0.5 Ft 12.3	SOIL-Q-11 07/22/02 0.5 Ft 33.6	SOIL-Q-11 DUP 07/22/02 0.5 Ft 30.6	SOIL-Q-12 07/22/02 0.5 Ft 20.8	SOIL-Q-13 10/07/02 0.5 Ft 22.6	SOIL-Q-14 10/07/02 0.5 Ft 18.6	SOIL-Q-15 10/07/02 0.5 Ft 26.1	SOIL-Q-16 10/07/02 0.5 Ft 19.1
VOCs (ug/kg)	**Benchmark**												
1,1,1-Trichloroethane	5000	c		7.6E-04	9.1E-04	8.5E-04	1.2E-03	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
1,1,2,2-Tetrachloroethane	5000	g		7.6E-04	9.1E-04	8.5E-04	1.2E-03	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
1,1,2-Trichloroethane	5000	c		7.6E-04	9.1E-04	8.5E-04	1.2E-03	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
1,1-Dichloroethane	5000	c		7.6E-04	9.1E-04	8.5E-04	1.2E-03	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
1,1-Dichloroethylene	5000	c		7.6E-04	9.1E-04	8.5E-04	1.2E-03	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
1,2-Dichloroethane	5000	c		7.6E-04	9.1E-04	8.5E-04	1.2E-03	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
1,2-Dichloroethene (total)	5000	c		1.5E-03	1.8E-03	1.7E-03	2.5E-03	2.1E-03	1.2E-03	1.4E-03	1.2E-03	1.5E-03	1.2E-03
1,2-Dichloropropane	700000	b		5.4E-06	6.5E-06	6.1E-06	8.6E-06	7.1E-06	4.4E-06	5.0E-06	4.4E-06	5.4E-06	4.4E-06
2-Butanone (MEK)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Hexanone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Methyl-2-pentanone (MIBK)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Acetone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzene	70000	c		5.4E-05	6.5E-05	6.1E-05	8.1E-05	7.1E-05	4.4E-05	5.0E-05	4.4E-05	5.4E-05	2.6E-05
Bromodichloromethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Bromoform	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Bromomethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Carbon Disulfide	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Carbon Tetrachloride	5000	c		7.6E-04	9.1E-04	8.5E-04	1.2E-03	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
Chlorobenzene	1000	c		3.8E-03	4.6E-03	4.3E-03	4.5E-02	1.0E-02	3.1E-03	3.5E-03	3.1E-03	3.8E-03	3.1E-03
Chloroethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chloroform	5000	c		7.6E-04	9.1E-04	8.5E-04	3.6E-04	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
Chloromethane	*NC*	*NA*		*NC*	*NC*	*NC*	*NC*	*NC*	*NC*	*NC*	*NC*	*NC*	*NC*
cis-1,3-Dichloropropene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dibromochloromethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Ethylbenzene	1000	c		3.8E-04	4.6E-03	4.3E-03	5.0E-03	2.1E-02	3.1E-03	3.5E-03	5.0E-04	2.3E-04	7.4E-04
Methylene Chloride	5000	e		7.6E-04	9.1E-04	8.5E-04	1.2E-03	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
Styrene (Monomer)	300000	a		1.3E-05	1.5E-05	1.4E-05	2.0E-05	1.7E-05	1.0E-05	1.2E-05	1.0E-05	1.3E-05	1.0E-05
Tetrachloroethene	5000	c		4.2E-04	1.2E-04	9.4E-05	1.9E-04	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
Toluene	200000	a		1.9E-05	2.3E-05	2.1E-05	3.0E-05	2.5E-05	1.6E-05	6.0E-06	9.0E-06	6.5E-06	2.7E-05
trans-1,3-Dichloropropene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Trichloroethylene	5000	c		3.4E-04	2.4E-04	2.6E-04	1.2E-03	1.0E-03	6.2E-04	7.0E-04	6.2E-04	7.5E-04	6.1E-04
Vinyl Chloride	100	f		7.5E-02	9.0E-02	8.5E-02	1.3E-01	1.1E-01	6.0E-02	7.0E-02	6.0E-02	7.5E-02	6.0E-02
Xylenes, Total	5000	c		2.4E-04	1.7E-04	1.9E-04	1.3E-02	5.0E-02	1.2E-03	1.5E-04	5.2E-04	1.6E-04	4.8E-04
SVOCs (ug/kg)													
1,2,4-Trichlorobenzene	2000	e		1.1E-01	1.0E-01	9.8E-01	1.2E-01	1.2E-01	1.0E-01	1.2E-01	1.0E-01	1.1E-01	1.1E-01
1,2-Dichlorobenzene	1000	c		2.1E-01	2.1E-01	***2.0E+00***	3.1E-02	3.1E-02	2.1E-01	2.3E-01	2.0E-01	2.2E-01	2.1E-01
1,3-Dichlorobenzene	1000	c		2.1E-01	2.1E-01	***2.0E+00***	2.4E-01	2.4E-01	2.1E-01	2.3E-01	2.0E-01	2.2E-01	2.1E-01
1,4-Dichlorobenzene	1000	c		2.1E-01	2.1E-01	***2.0E+00***	4.3E-01	2.7E-01	2.1E-01	2.3E-01	2.0E-01	2.2E-01	2.1E-01
2,2'-Oxybis(1-Chloropropane)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4,5-Trichlorophenol	4000	a		5.3E-02	5.1E-02	4.9E-01	5.9E-02	6.0E-02	5.1E-02	5.8E-02	5.0E-02	5.5E-02	5.3E-02
2,4,6-Trichlorophenol	500	c		4.2E-01	4.1E-01	***3.9E+00***	4.7E-01	4.8E-01	4.1E-01	4.6E-01	4.0E-01	4.4E-01	4.2E-01
2,4-Dichlorophenol	500	c		4.2E-01	4.1E-01	***3.9E+00***	4.7E-01	4.8E-01	4.1E-01	4.6E-01	4.0E-01	4.4E-01	4.2E-01
2,4-Dimethylphenol	1000	c		2.1E-01	2.1E-01	***2.0E+00***	2.4E-01	2.4E-01	2.1E-01	2.3E-01	2.0E-01	2.2E-01	2.1E-01
2,4-Dinitrophenol	20000	a		5.5E-02	5.3E-02	5.0E-01	6.0E-02	6.1E-02	5.3E-02	6.0E-02	5.3E-02	5.8E-02	5.5E-02
2,4-Dinitrotoluene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,6-Dinitrotoluene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Chloronaphthalene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Chlorophenol	500	c		4.2E-01	4.1E-01	***3.9E+00***	4.7E-01	4.8E-01	4.1E-01	4.6E-01	4.0E-01	4.4E-01	4.2E-01
2-Methylnaphthalene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Methylphenol (o-Cresol)	1000	c	NP	2.1E-01	2.1E-01	***2.0E+00***	2.4E-01	2.4E-01	2.1E-01	2.3E-01	2.0E-01	2.2E-01	2.1E-01
2-Nitroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Nitrophenol	1000	c		2.1E-01	2.1E-01	***2.0E+00***	2.4E-01	2.4E-01	2.1E-01	2.3E-01	2.0E-01	2.2E-01	2.1E-01
3,3-Dichlorobenzidine	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
3/4-Methylphenol (m&p-Cresol)	1000	c		2.1E-01	2.1E-01	***2.0E+00***	2.4E-01	2.4E-01	2.1E-01	2.3E-01	2.0E-01	2.2E-01	2.1E-01
3-Nitroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4,6-Dinitro-2-methylphenol	1000	c		***1.1E+00***	***1.1E+00***	***1.0E+01***	***1.2E+00***	***1.3E+00***	***1.1E+00***	***1.2E+00***	***1.1E+00***	***1.2E+00***	***1.1E+00***
4-Bromophenyl Phenyl Ether	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Chloro-3-methylphenol	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Chloroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Chlorophenyl Phenyl Ether	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Nitroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Nitrophenol	1000	c		***1.1E+00***	***1.1E+00***	***1.0E+01***	***1.2E+00***	***1.3E+00***	***1.1E+00***	***1.2E+00***	***1.1E+00***	***1.2E+00***	***1.1E+00***
Acenaphthene	20000	a		2.6E-03	1.9E-03	1.3E-02	3.2E-03	6.5E-03	1.0E-02	1.2E-02	1.0E-02	1.1E-02	1.1E-02
Acenaphthylene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	100	b		**3.4E+00**	**2.0E+00**	**1.4E+01**	**2.3E+00**	**8.2E+00**	***2.1E+00***	***2.3E+00***	***2.0E+00***	6.5E-01	***2.1E+00***

NOTES

a = ORNL Vegetative Benchmarks (Efroymson *et al.*, 1997)
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c = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Urban Park Standards
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h = ORNL Soil Invertebrate Benchmark (Efroymson *et al.*, 1997)
i = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Agricultural Standards
NC = No appropriate soil screening value available, therefore the hazard quotient could not be calculated
NA = Not available
NP = Not applicable
R = Data point was rejected, therefore the hazard quotient could not be calculated

Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations
Bolded/starred values indicate HQs = to or exceeding 1 for detected concentrations.

Table 7-20
Surface Soil Hazard Quotients
Sauget, IL

Analyte	Sample ID Sample Date Sample Depth Percent Moisture	Reference for Benchmark	TEFs	SITE Q SOIL-Q-9 07/26/02 0.5 Ft 19.8	SOIL-Q-10 07/26/02 0.5 Ft 14.9	SOIL-Q-10 DUP 07/26/02 0.5 Ft 12.3	SOIL-Q-11 07/22/02 0.5 Ft 33.6	SOIL-Q-11 DUP 07/22/02 0.5 Ft 30.6	SOIL-Q-12 07/22/02 0.5 Ft 20.8	SOIL-Q-13 10/07/02 0.5 Ft 22.6	SOIL-Q-14 10/07/02 0.5 Ft 18.6	SOIL-Q-15 10/07/02 0.5 Ft 26.1	SOIL-Q-16 10/07/02 0.5 Ft 19.1
SVOCs (ug/kg)	**Benchmark**												
Benzo(a)anthracene	1000	c		[illegible]	5.3E-01	[illegible]	7.4E-01	[illegible]	3.0E-02	2.3E-01	2.0E-01	8.5E-02	6.5E-02
Benzo(a)pyrene	1000	c		[illegible]	6.5E-01	[illegible]	6.8E-01	[illegible]	2.1E-01	2.3E-01	2.0E-01	9.2E-02	7.5E-02
Benzo(b)fluoranthene	1000	c		[illegible]	5.8E-01	[illegible]	7.5E-01	[illegible]	3.3E-02	2.3E-01	2.0E-01	2.2E-01	6.9E-02
Benzo(g,h,i)perylene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(k)fluoranthene	1000	c		2.1E-01	6.0E-01	[illegible]	7.0E-01	[illegible]	3.2E-02	3.9E-02	2.0E-01	7.9E-02	7.1E-02
bis(2-Chloroethoxy)methane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
bis(2-Chloroethyl)ether	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
bis(2-Ethylhexyl)phthalate	30000	i		1.8E-02	8.3E-04	1.0E-02	4.3E-01	1.4E-01	2.6E-02	1.7E-03	2.1E-03	7.3E-03	2.2E-03
Butyl Benzyl Phthalate	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Carbazole	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chrysene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dibenzo(a,h)anthracene	1000	c		2.1E-01	2.1E-01	*2.0E+00*	8.6E-02	2.8E-01	2.1E-01	2.3E-01	2.0E-01	2.2E-01	2.1E-01
Dibenzofuran	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Diethyl Phthalate	100000	a		2.1E-03	2.1E-03	2.0E-02	7.8E-04	2.4E-03	2.1E-03	2.3E-03	2.0E-03	2.2E-03	2.1E-03
Dimethyl Phthalate	200000	b		1.1E-03	1.0E-03	9.8E-03	1.2E-03	1.2E-03	1.0E-03	1.2E-03	1.0E-03	1.1E-03	1.1E-03
Di-n-butylphthalate	200000	a	NP	5.5E-04	1.0E-03	9.8E-03	8.0E-04	3.3E-04	1.0E-03	1.2E-03	2.8E-04	1.1E-03	2.6E-04
Di-n-octylphthalate	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	100	h		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5.7E-01	*2.3E+00*	*2.0E+00*	[illegible]	[illegible]
Fluorene	30000	b		2.1E-03	1.1E-03	6.5E-02	3.2E-03	8.0E-03	6.8E-03	7.7E-03	6.7E-03	7.3E-03	7.0E-03
Hexachlorobenzene	2000	c		1.1E-01	1.0E-01	9.8E-01	1.2E-01	1.2E-01	1.0E-01	1.2E-01	1.0E-01	1.1E-01	1.1E-01
Hexachlorobutadiene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Hexachlorocyclopentadiene	10000	a		2.1E-02	2.1E-02	2.0E-01	2.4E-02	2.4E-02	2.1E-02	2.3E-02	2.0E-02	2.2E-02	2.1E-02
Hexachloroethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	1000	c		2.1E-01	2.1E-01	*2.0E+00*	1.8E-01	4.4E-01	2.1E-01	2.3E-01	2.0E-01	4.9E-02	2.1E-01
Isophorone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	600	e		3.5E-01	3.4E-01	*3.3E+00*	8.2E-01	2.8E-01	3.4E-01	3.8E-01	3.3E-01	3.7E-01	3.5E-01
Nitrobenzene	40000	b		5.3E-03	5.1E-03	4.9E-02	5.9E-03	6.0E-03	5.1E-03	5.8E-03	5.0E-03	5.5E-03	5.3E-03
N-Nitroso-di-n-propylamine	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
N-Nitrosodiphenylamine	20000	h		1.1E-02	1.0E-02	9.8E-02	1.2E-02	1.2E-02	1.0E-02	1.2E-02	1.0E-02	1.1E-02	1.1E-02
Pentachlorophenol	3000	a		4.3E-03	4.2E-03	6.0E-03	7.7E-01	[illegible]	1.2E-02	1.7E-03	1.8E-03	8.0E-04	6.7E-04
Phenanthrene	5000	c		3.2E-01	1.9E-01	[illegible]	1.6E-01	5.6E-01	5.2E-03	4.6E-02	4.0E-02	1.3E-02	1.2E-02
Phenol	70000	a		3.0E-03	2.9E-03	2.8E-02	3.4E-03	3.4E-03	5.9E-03	3.3E-03	2.9E-03	3.1E-03	3.0E-03
Pyrene	10000	c		3.3E-01	1.3E-01	8.6E-01	2.0E-01	4.2E-01	5.3E-03	2.3E-02	2.0E-02	1.4E-02	2.1E-02
Pesticides (ug/kg)													
4,4' DDD	10000	d		2.1E-03	2.1E-04	3.9E-04	4.7E-03	4.8E-03	4.1E-03	2.3E-03	1.0E-03	2.2E-03	2.1E-04
4,4' DDE	10000	d		2.1E-03	2.1E-04	3.9E-04	5.7E-02	5.6E-02	R	4.3E-03	1.0E-03	2.2E-03	1.5E-04
4,4' DDT	10000	c		2.6E-01	5.3E-04	7.8E-03	1.5E-01	1.4E-01	7.9E-02	7.1E-03	3.9E-03	5.3E-02	5.1E-04
Aldrin	2.5	b		*4.4E+00*	4.2E-01	8.0E-01	*9.6E+00*	*9.8E+00*	*8.4E+00*	*4.8E+00*	*2.0E+00*	*4.6E+00*	4.4E-01
alpha-BHC	2.5	b		*4.4E+00*	4.2E-01	8.0E-01	[illegible]	[illegible]	*8.4E+00*	*4.8E+00*	*2.0E+00*	*4.6E+00*	4.4E-01
alpha-Chlordane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
beta-BHC	1.0	b		[illegible]	*1.1E+00*	*2.0E+00*	*2.4E+01*	*2.5E+01*	*2.1E+01*	*1.2E+01*	*5.0E+00*	*1.2E+01*	*1.1E+00*
delta-BHC	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dieldrin	0.50	b		*4.2E+01*	[illegible]	*3.0E+01*	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Endosulfan I	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Endosulfan II	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Endosulfan Sulfate	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Endrin	1.0	b		[illegible]	[illegible]	*3.9E+00*	*4.7E+01*	*4.8E+01*	*4.1E+01*	*2.3E+01*	*1.0E+01*	*2.2E+01*	*2.1E+00*
Endrin Aldehyde	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Endrin Ketone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
gamma-BHC (Lindane)	0.050	b		*2.2E+02*	*2.1E+01*	*4.0E+01*	*4.8E+02*	*4.9E+02*	*4.2E+02*	*2.4E+02*	*1.0E+02*	*2.3E+02*	*2.2E+01*
gamma-Chlordane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Heptachlor	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Heptachlor Epoxide	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Methoxychlor	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Toxaphene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Herbicides (ug/kg)													
2,4-D	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4-DB	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4,5-T	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4,5-TP (Silvex)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dalapon	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dicamba	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dichloprop	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dinoseb	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
MCPA	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
MCPP	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

NOTES:
a = ORNL Vegetative Benchmarks (Efroymson *et al.*, 1997)
b = USEPA Region IV Soil Screening Benchmarks, 2001
c = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Urban Park Standards
d = Based on 4,4' DDT
e = Canadian Environmental Quality Guidelines - Residential/Parkland Standards, 2002
f = Dutch Soil Intervention Standards, 1994
g = NOAA Screening Quick Reference Tables, 1999
h = ORNL Soil Invertebrate Benchmark (Efroymson *et al.*, 1997)
i = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Agricultural Standards
NC = No appropriate soil screening value available, therefore the hazard quotient could not be calculated
NA = Not available
NP = Not applicable
R = Data point was rejected, therefore the hazard quotient could not be calculated

Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations
Bolded values indicate HQs = to or exceeding 1 for detected concentrations

Surface S[illegible]d Quotients
S[illegible], IL

Analyte	Sample ID Sample Date Sample Depth Percent Moisture	Reference for Benchmark	TEFs	SITE Q SOIL-Q-9 07/26/02 0.5 Ft 19.8	SOIL-Q-10 07/26/02 0.5 Ft 14.9	SOIL-Q-10 DUP 07/26/02 0.5 Ft 12.3	SOIL-Q-11 07/22/02 0.5 Ft 33.6	SOIL-Q-11 DUP 07/22/02 0.5 Ft 30.6	SOIL-Q-12 07/22/02 0.5 Ft 20.8	SOIL-Q-13 10/07/02 0.5 Ft 22.6	SOIL-Q-14 10/07/02 0.5 Ft 18.6	SOIL-Q-15 10/07/02 0.5 Ft 26.1	SOIL-Q-16 10/07/02 0.5 Ft 19.1
PCBs (ug/kg)	**Benchmark**												
Total PCBs	40000	a	NP	2.7E-01	2.7E-02	3.9E-02	3.2E-01	3.5E-01	7.2E-02	2.8E-02	6.5E-02	8.1E-03	3.7E-04
Dioxins/Furans (ug/kg)													
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	1.0	c	0.010	7.0E-02	1.7E-01	1.6E-01	4.0E+00	1.2E+00	3.2E-02	2.6E-02	2.1E-02	9.4E-03	1.3E-03
1,2,3,4,6,7,8-HpCDF	1.0	c	0.010	1.8E-02	2.4E-02	1.6E-02	6.1E-01	2.1E-01	3.8E-03	2.2E-03	2.5E-03	1.4E-03	1.4E-03
1,2,3,4,7,8,9-HpCDF	1.0	c	0.010	3.6E-03	2.4E-03	1.4E-03	6.1E-02	1.3E-01	7.5E-04	5.5E-04	9.0E-04	7.5E-04	8.5E-04
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	1.0	c	0.10	2.0E-02	1.6E-02	2.3E-02	3.2E-02	1.1E-02	4.4E-03	2.8E-03	3.1E-03	2.2E-03	1.3E-03
1,2,3,4,7,8-HxCDF	1.0	c	0.10	9.3E-02	9.7E-02	1.9E-02	5.0E-01	1.5E+00	1.0E-02	7.5E-03	1.8E-03	8.5E-03	6.0E-03
1,2,3,5,7,8-Hexachlorodibenzo-P-Dioxin	1.0	c	0.10	3.2E-02	3.5E-02	2.4E-02	1.2E+00	2.7E-01	1.0E-02	2.8E-03	5.0E-03	5.5E-03	3.8E-03
1,2,3,5,7,8-HxCDF	1.0	c	0.10	3.3E-02	1.9E-02	3.7E-03	1.3E-01	4.0E-01	1.1E-02	2.9E-03	4.1E-03	4.3E-03	2.7E-03
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	1.0	c	0.10	3.4E-02	2.2E-02	2.1E-02	2.0E-02	1.0E-02	3.2E-03	7.0E-03	4.6E-03	3.5E-03	3.1E-03
1,2,3,7,8,9-HxCDF	1.0	c	0.10	3.6E-02	1.8E-02	7.5E-03	2.6E-02	1.7E-01	5.5E-03	3.5E-03	2.8E-03	3.1E-03	2.9E-03
1,2,3,7,8-Pentachlorodibenzofuran	1.0	c	0.050	1.1E-02	7.0E-03	2.4E-03	1.1E-02	4.7E-02	1.6E-03	1.9E-03	1.2E-03	1.5E-03	1.0E-03
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	1.0	c	1.0	2.0E-01	1.3E-01	4.8E-02	1.6E-01	2.1E-01	6.0E-02	1.8E-01	1.0E-01	1.8E-01	7.0E-02
2,3,4,6,7,8-HxCDF	1.0	c	0.10	3.6E-02	2.2E-02	7.5E-03	4.2E-02	2.5E-01	4.1E-03	4.3E-03	2.5E-03	3.0E-03	2.9E-03
2,3,4,7,8-PeCDF	1.0	c	0.50	1.4E-01	9.8E-02	3.8E-02	6.5E-01	1.7E+00	1.3E-02	4.3E-02	2.8E-02	2.4E-02	2.2E-02
2,3,7,8-TCDD	1.0	c	1.0	7.0E-02	4.4E-02	2.8E-02	1.2E-01	6.5E-02	1.5E-02	1.9E-02	1.7E-02	1.3E-02	1.3E-02
2,3,7,8-Tetrachlorodibenzofuran	1.0	c	0.10	1.5E-02	1.3E-02	3.7E-03	6.5E-03	1.4E-02	1.0E-02	9.0E-03	4.3E-03	4.0E-03	1.1E-03
OCDD	1.0	c	0.00010	8.7E-03	2.4E-02	2.5E-02	3.6E-01	1.2E-01	2.6E-03	3.7E-03	2.6E-03	1.5E-03	5.1E-04
OCDF	1.0	c	0.00010	6.6E-04	7.8E-04	7.4E-04	4.2E-02	1.2E-02	3.1E-04	1.8E-04	1.9E-04	2.2E-05	1.3E-05
Total HpCDD	1.0	c	0.010	1.3E-01	3.4E-01	3.2E-01	6.3E+00	1.8E+00	5.3E-02	4.9E-02	3.7E-02	1.8E-02	1.3E-03
Total HpCDF	1.0	c	0.010	5.0E-02	7.3E-02	6.3E-02	3.5E+00	1.1E+00	2.0E-02	1.3E-02	1.3E-02	1.6E-03	1.4E-03
Total HxCDD	1.0	c	0.10	1.9E-01	9.7E-02	9.0E-02	3.4E+00	1.1E+00	1.2E-02	1.1E-02	2.5E-02	5.5E-03	3.8E-03
Total HxCDF	1.0	c	0.10	1.8E-01	2.8E-01	1.0E-01	5.9E+00	4.7E+00	2.6E-02	7.9E-02	1.1E-02	9.5E-03	6.5E-03
Total PeCDD	1.0	c	1.0	2.0E-01	2.1E-01	6.5E-02	8.0E-01	2.7E-01	1.7E-01	2.0E-01	1.5E-01	2.1E-01	1.8E-01
Total PeCDF	1.0	c	0.50	1.6E-01	1.3E-01	6.5E-02	1.8E+00	6.5E+00	5.8E-02	6.8E-02	3.5E-02	3.0E-02	2.5E-02
Total TCDD	1.0	c	1.0	1.1E-01	5.3E-01	4.8E-01	1.7E-01	1.1E-01	2.7E-02	1.9E-02	1.7E-02	1.3E-02	1.3E-02
Total TCDF	1.0	c	0.10	1.5E-01	1.9E-01	2.9E-02	1.6E-01	3.6E-01	1.0E-02	9.0E-03	4.5E-03	4.1E-03	3.4E-03
Metals (mg/kg)													
Aluminum	50	a	NP	2.2E+02	2.0E+02	2.2E+02	2.1E+02	2.0E+02	2.4E+02	2.8E+02	1.4E+02	2.2E+02	1.5E+02
Antimony	5.0	a		9.4E+00	6.0E-01	5.0E-01	5.2E+00	4.0E+00	2.2E-01	2.6E-01	2.2E-01	2.7E-01	2.5E-01
Arsenic	10	a		3.3E+00	2.0E+00	1.4E+00	21.8E+00	1.7E+00	6.0E-01	7.9E-01	5.1E-01	5.0E-01	5.5E-01
Barium	500	a		2.0E+00	1.4E+00	1.5E+00	2.6E+00	3.0E+00	4.0E-01	5.0E-01	3.6E-01	3.6E-01	3.0E-01
Beryllium	10	a		5.4E-02	7.1E-02	7.9E-02	6.4E-02	6.2E-02	8.2E-02	9.9E-02	5.3E-02	9.7E-02	5.4E-02
Cadmium	4.0	a		6.5E+00	5.3E+00	2.8E+00	7.5E+00	7.3E+00	3.5E-01	6.0E-01	4.5E-01	4.8E-01	2.5E-01
Calcium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chromium	1.0	a		6.5E+02	8.1E+01	4.8E+01	1.7E+02	1.3E+02	2.0E+01	2.4E+01	1.7E+01	2.0E+01	1.3E+01
Cobalt	20	a		1.0E+00	6.0E-01	5.5E-01	8.0E-01	8.0E-01	4.4E-01	5.5E-01	3.4E-01	4.3E-01	3.4E-01
Copper	100	a		7.1E+00	3.0E+00	4.1E+00	2.6E+01	8.7E+00	3.3E-01	4.2E-01	8.6E-01	3.5E-01	2.1E-01
Iron	200	b		4.5E+02	3.6E+02	2.0E+02	3.0E+02	3.2E+02	9.5E+01	1.2E+02	7.0E+01	9.5E+01	7.5E+01
Lead	50	a		6.2E+01	7.8E+00	9.8E+00	5.2E+01	4.0E+01	9.4E-01	1.2E+00	1.2E+00	9.6E-01	5.4E-01
Magnesium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Manganese	500	a		4.2E+00	1.3E+00	1.0E+00	1.6E+00	1.4E+00	9.2E-01	1.3E+00	7.6E-01	6.4E-01	7.6E-01
Mercury	0.30	a		3.3E+00	8.3E+00	9.0E+00	7.7E+00	1.4E+01	2.0E-01	4.7E-01	4.3E-01	5.3E-01	2.6E-01
Nickel	30	a		1.7E+01	2.0E+00	1.6E+00	2.6E+00	2.6E+00	7.3E-01	9.0E-01	9.7E-01	7.3E-01	5.7E-01
Potassium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Selenium	1.0	a		*1.3E+00*	5.5E-01	5.0E-01	3.0E+00	2.5E+00	5.5E-01	6.5E-01	5.5E-01	7.0E-01	6.5E-01
Silver	2.0	a		6.0E+00	1.0E+00	1.3E+00	8.5E+00	4.2E+00	2.8E-01	9.0E-02	5.5E-02	3.5E-01	3.3E-01
Sodium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Thallium	1.0	a		*1.2E+00*	5.5E-01	6.0E-01	7.0E-01	*3.3E+00*	5.5E-01	1.9E+00	5.5E-01	9.7E-01	1.1E+00
Vanadium	2.0	a		1.4E+01	1.5E+01	1.6E+01	1.3E+01	1.4E+01	1.5E+01	1.8E+01	1.1E+01	1.6E+01	1.1E+01
Zinc	50	a		6.0E+01	2.4E+01	2.4E+01	6.8E+01	7.2E+01	4.2E+00	5.2E+00	4.8E+00	8.2E+00	2.8E+00

NOTES
a = ORNL Vegetative Benchmarks (Efroymson *et al.*, 1997)
b = USEPA Region IV Soil Screening Benchmarks, 2001
c = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Urban Park Standards
d = Based on 4,4'-DDT
e = Canadian Environmental Quality Guidelines - Residential/Parkland Standards, 2002
f = Dutch Soil Intervention Standards, 1994
g = NOAA Screening Quick Reference Tables, 1999
h = ORNL Soil Invertebrate Benchmark (Efroymson *et al.*, 1997)
i = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Agricultural Standards
NC = No appropriate soil screening value available, therefore the hazard quotient could not be calculated
NA = Not available
NP = Not applicable
R = Data point was rejected, therefore the hazard quotient could not be calculated

Bolded/italicized values indicate HQs = 10 or exceeding 1 for adjusted non-detected concentrations
Bolded/shaded values indicate HQs = 10 or exceeding 1 for detected concentrations.

Table 7-20
Surface Soil Hazard Quotients
Sauget, IL

Analyte	Sample ID Sample Date Sample Depth Percent Moisture	Reference for Benchmark	TEFs	SITE Q SOIL-Q-17 10/07/02 0.5 Ft 15.8	SOIL-Q-18 10/07/02 0.5 Ft 14.9	SOIL-Q-19 10/07/02 0.5 Ft 20.7	SOIL-Q-20 10/07/02 0.5 Ft 22.2	SITE R SOIL-R-1 07/11/02 0.5 Ft 7.2	SOIL-R-2 07/11/02 0.5 Ft 5.7	SOIL-R-3 07/12/02 0.5 Ft 5.3	SOIL-R-4 07/12/02 0.5 Ft 10.3	SITE S SOIL-S-1 07/10/02 0.5 Ft 6.9
VOCs (ug/kg)	Benchmark											
1,1,1-Trichloroethane	5000	e		6.4E-04	6.8E-04	5.8E-04	7.3E-04	7.1E-04	5.5E-04	6.6E-04	5.3E-04	5.4E-04
1,1,2,2-Tetrachloroethane	5000	g		6.4E-04	6.8E-04	5.8E-04	7.3E-04	7.1E-04	5.5E-04	6.6E-04	5.3E-04	5.4E-04
1,1,2-Trichloroethane	5000	e		6.4E-04	6.8E-04	5.8E-04	7.3E-04	7.1E-04	5.5E-04	6.6E-04	5.3E-04	5.4E-04
1,1-Dichloroethane	5000	e		6.4E-04	6.8E-04	5.8E-04	7.3E-04	7.1E-04	5.5E-04	6.6E-04	5.3E-04	5.4E-04
1,1-Dichloroethylene	5000	e		6.4E-04	6.8E-04	5.8E-04	7.3E-04	7.1E-04	5.5E-04	6.6E-04	5.3E-04	5.4E-04
1,2-Dichloroethane	5000	e		6.4E-04	6.8E-04	5.8E-04	7.3E-04	7.1E-04	5.5E-04	5.2E-04	3.0E-04	5.4E-04
1,2-Dichloroethene (total)	5000	e		1.3E-03	1.4E-03	1.2E-03	1.5E-03	1.4E-03	1.1E-03	1.9E-04	1.1E-03	1.1E-03
1,2-Dichloropropane	700000	h		4.6E-06	4.9E-06	4.1E-06	5.2E-06	5.1E-06	3.9E-06	4.7E-06	3.8E-06	3.9E-06
2-Butanone (MEK)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Hexanone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Methyl-2-pentanone (MIBK)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Acetone	NC	NA		NC	NC	NC	NC	R	NC	NC	NC	NC
Benzene	30000	e		2.1E-05	3.4E-05	4.1E-05	2.1E-05	9.7E-06	3.0E-05	2.0E-05	2.3E-05	3.9E-05
Bromodichloromethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Bromoform	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Bromomethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Carbon Disulfide	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC
Carbon Tetrachloride	5000	e		6.4E-04	6.8E-04	5.8E-04	7.3E-04	7.1E-04	5.5E-04	6.6E-04	5.3E-04	5.4E-04
Chlorobenzene	1000	e		6.7E-04	3.6E-04	2.9E-03	1.1E-03	3.6E-03	6.4E-02	2.6E-03	1.8E-03	2.7E-03
Chloroethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Chloroform	5000	e		6.4E-04	6.8E-04	5.8E-04	7.3E-04	7.1E-04	5.5E-04	6.6E-04	5.3E-04	5.4E-04
Chloromethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
cis-1,3-Dichloropropene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Dibromochloromethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Ethylbenzene	1000	e		7.1E-04	5.2E-04	4.5E-04	4.8E-04	2.4E-04	1.9E-03	3.8E-04	3.1E-04	2.7E-03
Methylene Chloride	5000	e		6.4E-04	6.8E-04	5.8E-04	7.2E-04	7.1E-04	5.5E-04	6.6E-04	5.3E-04	5.4E-04
Styrene (Monomer)	300000	a		1.1E-05	1.1E-05	9.7E-06	1.2E-05	1.2E-05	9.2E-06	1.1E-05	8.8E-06	9.0E-06
Tetrachloroethene	5000	e		6.4E-04	6.8E-04	5.8E-04	7.3E-04	7.1E-04	2.4E-03	5.2E-04	2.0E-03	5.4E-04
Toluene	200000	a		1.7E-05	2.1E-05	5.0E-06	9.0E-05	1.8E-05	1.4E-05	1.7E-05	9.0E-06	1.4E-05
trans-1,3-Dichloropropene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Trichloroethylene	5000	e		6.4E-04	6.8E-04	5.8E-04	7.3E-04	7.1E-04	6.0E-05	2.4E-03	3.8E-03	5.4E-04
Vinyl chloride	100	f		6.5E-02	7.0E-02	6.0E-02	7.5E-02	7.0E-02	5.5E-02	6.5E-02	5.5E-02	5.5E-02
Xylenes, Total	5000	e		3.4E-04	1.6E-04	1.1E-04	3.6E-04	1.4E-03	1.8E-03	2.6E-04	1.9E-04	1.1E-03
SVOCs (ug/kg)												
1,2,4-Trichlorobenzene	2000	e		1.0E-01	9.5E-02	1.1E-01	1.1E-01	8.8E-02	8.8E-02	9.3E-02	9.0E-02	1.3E-01
1,2-Dichlorobenzene	1000	e		2.0E-01	1.9E-01	2.1E-01	2.2E-01	1.8E-01	1.8E-01	1.9E-01	1.8E-01	3.7E-01
1,3-Dichlorobenzene	1000	e		2.0E-01	1.9E-01	2.1E-01	2.2E-01	1.8E-01	1.8E-01	1.9E-01	1.8E-01	1.0E+00
1,4-Dichlorobenzene	1000	e		2.0E-01	1.9E-01	2.1E-01	2.2E-01	1.8E-01	1.8E-01	1.9E-01	1.8E-01	7.5E+00
2,2'-Oxybis(1-Chloropropane)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4,5-Trichlorophenol	4000	a		5.0E-02	4.8E-02	5.3E-02	5.4E-02	4.4E-02	4.4E-02	4.6E-02	4.5E-02	2.8E-01
2,4,6-Trichlorophenol	500	e		4.0E-01	3.8E-01	4.2E-01	4.3E-01	3.5E-01	3.5E-01	3.7E-01	3.6E-01	1.6E+01
2,4-Dichlorophenol	500	e		4.0E-01	3.8E-01	4.2E-01	4.3E-01	3.5E-01	3.5E-01	3.7E-01	3.6E-01	4.6E+00
2,4-Dimethylphenol	1000	e		2.0E-01	1.9E-01	2.1E-01	2.2E-01	1.8E-01	1.8E-01	1.9E-01	1.8E-01	*7.0E+00*
2,4-Dinitrophenol	20000	a		5.3E-02	5.0E-02	5.5E-02	5.5E-02	4.5E-02	4.5E-02	4.8E-02	4.5E-02	*1.9E+00*
2,4-Dinitrotoluene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
2,6-Dinitrotoluene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Chloronaphthalene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Chlorophenol	500	e		4.0E-01	3.8E-01	4.2E-01	4.3E-01	3.5E-01	3.5E-01	3.7E-01	3.6E-01	*1.4E+01*
2-Methylnaphthalene	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Methylphenol (o-Cresol)	1000	e		2.0E-01	1.9E-01	2.1E-01	2.2E-01	1.8E-01	1.8E-01	1.9E-01	1.8E-01	*7.0E+00*
2-Nitroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
2-Nitrophenol	1000	e		2.0E-01	1.9E-01	2.1E-01	2.2E-01	1.8E-01	1.8E-01	1.9E-01	1.8E-01	*7.0E+00*
3,3'-Dichlorobenzidine	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
3/4-Methylphenol (m&p-Cresol)	1000	e		2.0E-01	1.9E-01	2.1E-01	2.2E-01	1.8E-01	1.8E-01	1.9E-01	1.8E-01	*7.0E+00*
3-Nitroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
4,6-Dinitro-2-methylphenol	1000	e		*1.1E+00*	*1.0E+00*	*1.1E+00*	*1.1E+00*	9.0E-01	9.0E-01	9.5E-01	9.0E-01	*3.7E+01*
4-Bromophenyl Phenyl Ether	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Chloro-3-methylphenol	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Chloroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Chlorophenyl Phenyl Ether	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Nitroaniline	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
4-Nitrophenol	1000	e		*1.1E+00*	*1.0E+00*	*1.1E+00*	*1.1E+00*	9.0E-01	9.0E-01	9.5E-01	9.0E-01	*3.7E+01*
Acenaphthene	20000	a		1.0E-02	9.5E-03	1.1E-02	1.1E-02	8.8E-03	8.8E-03	9.3E-03	9.0E-03	6.0E-02
Acenaphthylene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Anthracene	100	b		*2.0E+00*	*1.9E+00*	*2.1E+00*	*2.2E+00*	*1.8E+00*	*1.8E+00*	*1.9E+00*	*1.8E+00*	*7.0E+01*

NOTES:
a = ORNL Vegetative Benchmarks (Efroymson *et al.*, 1997)
b = USEPA Region IV Soil Screening Benchmarks, 200.
e = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Urban Park Standards
d = Based on 4,4'-DDT
e = Canadian Environmental Quality Guidelines - Residential/Parkland Standards, 2002
f = Dutch Soil Intervention Standards, 1994
g = NOAA Screening Quick Reference Tables, 1999
h = ORNL Soil Invertebrate Benchmark (Efroymson *et al.*, 1997)
i = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Agricultural Standards
NC = No appropriate soil screening value available, therefore the hazard quotient could not be calculated
NA = Not available
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R = Data point was rejected, therefore the hazard quotient could not be calculated

Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non detected concentrations.
Bolded/shaded values indicate HQs = to or exceeding 1 for detected concentrations.

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Surface . ard Quotients

Sauget, IL

Analyte	Sample ID Sample Date Sample Depth Percent Moisture	Reference for Benchmark	TEFs	SITE Q SOIL-Q-17 10/07/02 0.5 Ft 15.8	SOIL-Q-18 10/07/02 0.5 Ft 14.9	SOIL-Q-19 10/07/02 0.5 Ft 20.7	SOIL-Q-20 10/07/02 0.5 Ft 22.2	SITE R SOIL-R-1 07/11/02 0.5 Ft 7.2	SOIL-R-2 07/11/02 0.5 Ft 5.7	SOIL-R-3 07/12/02 0.5 Ft 5.3	SOIL-R-4 07/12/02 0.5 Ft 10.3	SITE S SOIL-S-1 07/10/02 0.5 Ft 6.9
SVOCs (ug/kg)	**Benchmark**											
Benzo(a)anthracene	1000	c		2.1E-01	4.5E-02	4.1E-02	4.5E-02	3.0E-02	1.8E-01	1.9E-01	3.3E-02	**8.0E+00**
Benzo(a)pyrene	1000	c		1.8E-01	4.8E-02	4.6E-02	4.0E-02	2.6E-02	1.8E-01	1.9E-01	3.3E-02	**5.4E+00**
Benzo(b)fluoranthene	1000	c		2.1E-01	1.9E-01	5.6E-02	3.6E-02	3.0E-02	1.8E-01	1.9E-01	3.2E-02	**6.6E+00**
Benzo(g,h,i)perylene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Benzo(k)fluoranthene	1000	c		2.4E-01	4.4E-02	5.5E-02	4.7E-02	2.6E-02	1.8E-01	1.9E-01	3.5E-02	**6.4E+00**
bis-2-Chloroethoxy)methane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
bis-2-Chloroethyl)ether	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
bis-2-Ethylhexyl)phthalate	30000	i		6.7E-03	1.1E-03	7.0E-03	7.2E-03	2.6E-03	5.8E-03	6.2E-03	6.0E-03	1.3E-01
Butyl Benzyl Phthalate	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Carbazole	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Chrysene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Dibenzo(a,h)anthracene	1000	c		2.0E-01	1.9E-01	2.1E-01	2.2E-01	1.8E-01	1.8E-01	1.9E-01	1.8E-01	**1.8E+00**
Dibenzofuran	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Diethyl Phthalate	100000	a		2.0E-03	1.9E-03	2.1E-03	2.2E-03	1.8E-03	1.8E-03	1.9E-03	1.8E-03	7.0E-02
Dimethyl Phthalate	200000	b		1.0E-03	9.5E-04	1.1E-03	1.1E-03	8.8E-04	8.8E-04	9.3E-04	9.0E-04	3.5E-02
Di-n-butylphthalate	200000	a	NP	1.0E-03	9.5E-04	1.1E-03	1.1E-03	8.8E-04	8.8E-04	9.3E-04	9.0E-04	3.5E-02
Di-n-octylphthalate	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Fluoranthene	100	b		**3.2E+00**	9.6E-01	6.0E-01	9.5E-01	***1.8E+00***	***1.8E+00***	***1.9E+00***	3.9E-01	**4.1E+01**
Fluorene	30000	b		6.7E-03	6.3E-03	7.0E-03	7.2E-03	5.8E-03	5.8E-03	6.2E-03	6.0E-03	4.0E-02
Hexachlorobenzene	2000	c		1.0E-01	9.5E-02	1.1E-01	1.1E-01	8.8E-02	8.8E-02	9.3E-02	9.0E-02	***3.5E+00***
Hexachlorobutadiene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Hexachlorocyclopentadiene	10000	a		2.0E-02	1.9E-02	2.1E-02	2.2E-02	1.8E-02	1.8E-02	1.9E-02	1.8E-02	7.0E-01
Hexachloroethane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Indeno(1,2,3-cd)pyrene	1000	c		1.2E-01	4.5E-02	2.1E-01	2.2E-01	4.3E-02	1.8E-01	1.9E-01	1.8E-01	**1.3E+00**
Isophorone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Naphthalene	600	e		3.3E-01	3.2E-01	3.5E-01	3.6E-01	2.9E-01	2.9E-01	3.1E-01	3.0E-01	**3.3E+00**
Nitrobenzene	40000	b		5.0E-03	4.8E-03	5.3E-03	5.4E-03	4.4E-03	4.4E-03	4.6E-03	4.5E-03	1.8E-01
N-Nitroso-di-n-propylamine	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
N-Nitrosodiphenylamine	20000	*h*		*1.0E-02*	9.5E-03	1.1E-02	1.1E-02	8.8E-03	8.8E-03	9.3E-03	9.0E-03	*3.5E-01*
Pentachlorophenol	3000	a		3.7E-04	3.3E-03	5.0E-04	6.7E-04	1.5E-02	1.5E-02	1.3E-02	4.3E-03	**1.5E+02**
Phenanthrene	5000	c		7.6E-03	8.8E-03	4.2E-02	9.0E-03	4.2E-03	3.5E-02	3.7E-02	6.0E-03	**1.8E+00**
Phenol	70000	a		2.9E-03	2.7E-03	3.0E-03	3.1E-03	2.5E-03	2.5E-03	2.6E-03	2.6E-03	1.0E-01
Pyrene	10000	c		2.8E-02	9.3E-03	2.1E-02	2.2E-02	1.8E-02	1.8E-02	1.9E-02	4.8E-03	**2.8E+00**
Pesticides (ug/kg)												
4,4'-DDD	10000	d		2.0E-04	1.9E-04	5.7E-04	1.2E-04	3.6E-04	1.8E-04	1.9E-04	1.8E-04	1.7E-01
4,4'-DDE	10000	d		2.0E-04	1.9E-04	8.1E-05	7.1E-05	3.6E-04	1.8E-04	1.9E-04	1.8E-04	3.3E-01
4,4'-DDT	10000	c		2.1E-04	1.9E-03	4.4E-03	2.2E-03	2.7E-04	1.8E-04	1.9E-04	1.8E-04	**1.6E+00**
Aldrin	2.5	b		4.2E-01	4.0E-01	4.4E-01	4.4E-01	7.2E-01	3.6E-01	3.8E-01	3.6E-01	***3.6E+02***
alpha-BHC	2.5	b		4.2E-01	4.0E-01	4.4E-01	4.4E-01	7.2E-01	3.6E-01	3.8E-01	3.6E-01	***3.6E+02***
alpha-Chlordane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
beta-BHC	0	b		***1.1E+00***	***1.0E+00***	***1.1E+00***	***1.1E+00***	***1.8E+00***	9.0E-01	9.5E-01	9.0E-01	**2.6E+04**
delta-BHC	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Dieldrin	0.50	b		**1.3E+00**	***3.8E+00***	***4.2E+00***	8.2E-01	**2.8E+00**	***3.5E+00***	7.4E-01	**2.0E+00**	3.6E+03
Endosulfan I	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC
Endosulfan II	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Endosulfan Sulfate	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Endrin	1.0	b		***2.0E+00***	***1.9E+00***	***2.1E+00***	***2.2E+00***	***3.6E+00***	***1.8E+00***	***1.9E+00***	***1.8E+00***	**1.0E+04**
Endrin Aldehyde	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Endrin Ketone	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
gamma-BHC (Lindane)	0.750	b		***2.1E+01***	***2.0E+01***	***2.2E+01***	***2.2E+01***	***3.6E+01***	***1.8E+01***	***1.9E+01***	***1.8E+01***	**1.5E+05**
gamma-Chlordane	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Heptachlor	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Heptachlor Epoxide	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Methoxychlor	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Toxaphene	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Herbicides (ug/kg)												
2,4-D	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4-DB	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4,5-T	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
2,4,5-TP (Silvex)	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Dalapon	NC	NA	NP	NC	NC	NC	NC	NC	NC	NC	NC	NC
Dicamba	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Dichlorprop	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Dinoseb	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
MCPA	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
MCPP	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC

NOTES:

a = ORNL Vegetative Benchmarks (Efroymson *et al* , 1997)
b = USEPA Region IV Soil Screening Benchmarks, 2001
c = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Urban Park Standards
d = Based on 4,4'-DDT
e = Canadian Environmental Quality Guidelines - Residential/Parkland Standards, 2002
f = Dutch Soil Intervention Standards, 1994
g = NOAA Screening Quick Reference Tables, 1999
h = ORNL Soil Invertebrate Benchmark (Efromyson *et al* , 1997)
i = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Agricultural Standards
NC = No appropriate soil screening value available, therefore the hazard quotient could not be calculated
NA = Not available
NP = Not applicable
R = Data point was rejected, therefore the hazard quotient could not be calculated

Bolded/italicized values indicate HQs = 10 or exceeding 1 for adjusted non-detected concentrations.
Bolded/shaded values indicate HQs = 10 or exceeding 1 for detected concentrations.

Table 7-20
Surface Soil Hazard Quotients
Sauget, IL

Analyte	Sample ID Sample Date Sample Depth Percent Moisture	Reference for Benchmark	TEFs	SITE Q SOIL-Q-17 10/07/02 0.5 Ft 15.8	SOIL-Q-18 10/07/02 0.5 Ft 14.9	SOIL-Q-19 10/07/02 0.5 Ft 20.7	SOIL-Q-20 10/07/02 0.5 Ft 22.2	SITE R SOIL-R-1 07/11/02 0.5 Ft 7.2	SOIL-R-2 07/11/02 0.5 Ft 5.7	SOIL-R-3 07/12/02 0.5 Ft 5.3	SOIL-R-4 07/12/02 0.5 Ft 10.3	SITE S SOIL-S-1 07/10/02 0.5 Ft 6.9
PCBs (ug/kg)	Benchmark											
Total PCBs	40000	a	NP	2.6E-04	2.5E-04	3.3E-05	2.8E-04	2.3E-04	2.3E-04	2.4E-04	1.7E-04	2.2E-05
Dioxins/Furans (ug/kg)												
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	1.0	c	0.010	1.0E-03	1.0E-03	3.1E-03	1.2E-03	8.0E-04	1.5E-03	7.5E-04	2.5E-04	2.0E-03
1,2,3,4,6,7,8-HpCDF	1.0	c	0.010	1.5E-03	1.7E-03	2.0E-03	2.0E-03	2.3E-04	1.1E-03	1.2E-03	1.8E-03	1.5E-04
1,2,3,4,7,8,9-HpCDF	1.0	c	0.010	7.5E-04	9.0E-04	1.1E-03	1.6E-03	1.2E-04	1.8E-03	1.5E-03	9.0E-04	5.5E-05
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	1.0	c	0.10	1.2E-03	9.0E-04	1.5E-03	6.5E-04	1.1E-03	1.3E-02	7.0E-03	1.4E-03	2.6E-04
1,2,3,4,7,8-HxCDF	1.0	c	0.10	2.2E-03	2.5E-03	6.0E-03	3.9E-03	1.0E-03	5.5E-03	6.0E-03	3.8E-03	1.5E-04
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	1.0	c	0.10	3.5E-03	4.4E-03	5.0E-03	5.5E-03	1.2E-03	1.4E-02	7.5E-03	3.7E-03	8.0E-04
1,2,3,6,7,8-HxCDF	1.0	c	0.10	2.0E-03	2.3E-03	3.0E-03	2.7E-03	7.5E-04	7.5E-03	6.0E-03	2.7E-03	9.0E-04
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	1.0	c	0.10	2.3E-03	4.1E-03	5.5E-03	2.9E-03	1.2E-03	1.1E-02	6.5E-03	3.9E-03	3.9E-04
1,2,3,7,8,9-HxCDF	1.0	c	0.10	2.9E-03	3.5E-03	5.5E-03	4.5E-03	9.0E-04	5.5E-03	8.5E-03	5.5E-03	2.9E-04
1,2,3,7,8-Pentachlorodibenzofuran	1.0	c	0.050	1.1E-03	1.6E-03	1.9E-03	1.6E-03	2.4E-04	2.8E-03	1.0E-03	8.0E-04	6.5E-05
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	1.0	c	1.0	8.0E-02	2.3E-01	1.5E-01	1.9E-01	1.6E-02	8.5E-02	2.7E-02	1.0E-01	3.1E-03
2,3,4,6,7,8-HxCDF	1.0	c	0.10	2.3E-03	2.5E-03	2.9E-03	3.5E-03	1.1E-03	8.0E-03	9.0E-03	3.4E-03	1.9E-04
2,3,4,7,8-PeCDF	1.0	c	0.50	2.1E-02	2.2E-02	2.3E-02	2.5E-02	2.4E-03	3.8E-02	8.0E-03	1.4E-02	9.3E-04
2,3,7,8-TCDD	1.0	c	1.0	1.4E-02	1.8E-02	1.6E-02	1.2E-02	9.0E-03	5.5E-02	1.9E-02	1.1E-02	1.6E-03
2,3,7,8-Tetrachlorodibenzofuran	1.0	c	0.10	1.1E-03	1.5E-03	1.7E-03	1.3E-03	4.9E-04	6.0E-03	1.3E-03	9.5E-04	6.0E-04
OCDD	1.0	c	0.00010	5.2E-04	7.5E-03	2.9E-03	6.9E-04	4.1E-04	4.9E-05	4.8E-05	1.5E-04	9.0E-04
OCDF	1.0	c	0.00010	1.6E-05	1.5E-05	3.1E-05	2.5E-05	6.0E-06	2.6E-05	3.3E-05	2.3E-05	7.0E-06
Total HpCDD	1.0	c	0.010	1.5E-03	1.0E-03	3.1E-03	1.5E-03	8.0E-04	1.7E-03	3.1E-03	2.5E-04	4.0E-03
Total HpCDF	1.0	c	0.010	1.5E-03	1.7E-03	2.0E-03	2.0E-03	3.5E-04	2.0E-03	2.0E-03	1.8E-03	4.8E-04
Total HxCDD	1.0	c	0.10	3.5E-03	4.4E-03	5.5E-03	5.5E-03	1.6E-03	1.6E-02	7.5E-03	3.9E-03	9.0E-04
Total HxCDF	1.0	c	0.10	3.4E-03	4.4E-03	7.0E-03	5.5E-03	1.1E-03	8.0E-03	9.0E-03	6.5E-03	9.0E-04
Total PeCDD	1.0	c	1.0	1.4E-01	2.4E-01	1.5E-01	1.9E-01	6.5E-02	2.1E-01	1.6E-01	1.0E-01	3.0E-02
Total PeCDF	1.0	c	0.50	2.5E-02	4.0E-02	3.3E-02	3.0E-02	4.8E-03	3.8E-02	1.0E-02	1.8E-02	2.3E-03
Total TCDD	1.0	c	1.0	1.4E-02	1.8E-02	1.6E-02	1.2E-02	9.0E-03	5.5E-02	1.9E-02	1.1E-02	1.6E-03
Total TCDF	1.0	c	0.10	3.5E-03	3.0E-03	3.1E-03	5.5E-03	7.5E-04	9.5E-03	2.1E-03	3.2E-03	6.0E-04
Metals (mg/kg)												
Aluminum	50	a	NP	**8.0E+01**	**7.6E+01**	**1.5E+02**	**1.8E+02**	**1.7E+02**	**1.5E+02**	**2.0E+02**	**1.7E+02**	**1.5E+02**
Antimony	5.0	a		2.2E-01	2.1E-01	2.3E-01	2.6E-01	8.8E-02	1.9E-01	2.2E-01	2.0E-01	1.2E-01
Arsenic	10	a		4.2E-01	3.3E-01	4.3E-01	7.1E-01	7.2E-01	5.5E-01	6.6E-01	6.1E-01	5.8E-01
Barium	500	a		2.0E-01	1.7E-01	3.2E-01	3.4E-01	3.0E-01	2.2E-01	2.4E-01	2.4E-01	2.4E-01
Beryllium	10	a		3.1E-02	2.8E-02	5.4E-02	7.1E-02	6.8E-02	4.8E-02	6.0E-02	4.9E-02	4.6E-02
Cadmium	4.0	a		2.3E-01	1.0E-01	2.5E-01	4.0E-01	1.2E-01	1.9E-01	7.0E-02	6.1E-02	2.1E-01
Calcium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Chromium	40	a		**8.2E+00**	**8.0E+00**	**1.3E+01**	**1.6E+01**	**1.7E+01**	**1.3E+01**	**1.7E+01**	**1.4E+01**	**2.3E+01**
Cobalt	20	a		2.6E-01	2.5E-01	3.4E-01	4.2E-01	7.5E-01	3.5E-01	4.2E-01	3.4E-01	4.7E-01
Copper	100	a		1.0E-01	7.0E-02	2.0E-01	2.1E-01	2.3E-01	2.5E-01	1.5E-01	1.5E-01	2.3E-01
Iron	200	b		**4.8E+01**	**4.6E+01**	**7.0E+01**	**8.5E+01**	**9.0E+01**	**7.5E+01**	**9.0E+01**	**8.0E+01**	**6.5E+01**
Lead	50	a		4.0E-01	3.0E-01	6.0E-01	5.8E-01	6.6E-01	3.8E-01	2.0E-01	1.7E-01	**1.3E+00**
Magnesium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Manganese	500	a		6.4E-01	5.8E-01	7.4E-01	**1.3E+00**	**2.4E+00**	**1.1E+00**	**1.4E+00**	**1.1E+00**	**1.3E+00**
Mercury	0.30	a		1.2E-01	7.0E-02	1.7E-01	2.2E-01	1.2E-01	2.5E-01	2.0E-01	2.1E-01	2.5E-01
Nickel	30	a		4.0E-01	3.7E-01	5.3E-01	6.3E-01	6.7E-01	5.7E-01	7.0E-01	6.0E-01	6.7E-01
Potassium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Selenium	1.0	a		5.5E-01	5.0E-01	6.0E-01	6.5E-01	4.9E-01	4.9E-01	5.5E-01	5.0E-01	5.0E-01
Silver	2.0	a		2.8E-01	2.5E-01	3.0E-01	3.3E-01	2.5E-01	2.4E-01	2.8E-01	2.5E-01	2.5E-01
Sodium	NC	NA		NC	NC	NC	NC	NC	NC	NC	NC	NC
Thallium	1.0	a		5.5E-01	5.0E-01	7.9E-01	6.5E-01	4.9E-01	4.9E-01	5.5E-01	5.0E-01	5.0E-01
Vanadium	2.0	a		**7.0E+00**	**6.5E+00**	**1.1E+01**	**1.3E+01**	**1.7E+01**	**1.4E+01**	**1.5E+01**	**1.5E+01**	**1.2E+01**
Zinc	50	a		**2.8E+00**	**2.0E+00**	**3.2E+00**	**5.4E+00**	**1.8E+00**	**2.4E+00**	9.4E-01	8.6E-01	**2.2E+00**

NOTES:
a = ORNL Vegetative Benchmarks (Efroymson *et al.*, 1997)
b = USEPA Region IV Soil Screening Benchmarks, 2001
c = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Urban Park Standards
d = Based on 4,4'-DDT
e = Canadian Environmental Quality Guidelines - Residential/Parkland Standards, 2002
f = Dutch Soil Intervention Standards, 1994
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h = ORNL Soil Invertebrate Benchmark (Efroymson *et al.*, 1997)
i = Canadian Soil Screening Values - British Columbia Regulation 375/96, 1997 - Agricultural Standards
NC = No appropriate soil screening value available, therefore the hazard quotient could not be calculated
NA = Not available
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R = Data point was rejected, therefore the hazard quotient could not be calculated

Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations
Bolded/shaded values indicate HQs = to or exceeding 1 for detected concentrations.

Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Off-Site Areas (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
SVOCs																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
1,2,4-Trichlorobenzene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	3.3E+01	1.2E+02	1.6E-02	4.4E-03
1,2-Dichlorobenzene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E+02	2.6E+03	2.7E-03	2.0E-04
1,3-Dichlorobenzene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E+02	2.6E+03	2.7E-03	2.0E-04
1,4-Dichlorobenzene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E+02	3.3E+02	2.7E-03	1.6E-03
2,2-Oxybis(1-Chloropropane)	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E+01	6.6E+01	2.3E-02	7.8E-03
2,4,5-Trichlorophenol	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+03	6.6E+01	4.7E-04	7.8E-03
2,4,6-Trichlorophenol	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
2,4-Dichlorophenol	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	6.6E-01	6.6E+00	7.8E-01	7.8E-02
2,4-Dinitrophenol	*9.9E-01*	0.0012	1.0	7.7E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	3.8E-03	3.8E-02	[illegible]	[illegible]
2,4-Dinitrotoluene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+00	8.1E+00	4.8E-01	6.4E-02
2,6-Dinitrotoluene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+00	1.5E+01	3.3E-01	3.3E-02
2-Chloronaphthalene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	3.0E+01	7.1E+01	1.7E-02	7.2E-03
2-Chlorophenol	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+02	1.1E+01	4.7E-03	4.7E-02
2-Methylnaphthalene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	3.4E+03	3.4E+04	1.5E-04	1.5E-05
2-Methylphenol (o-Cresol)	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
2-Nitroaniline	*9.9E-01*	0.0012	1.0	7.7E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
2-Nitrophenol	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	5.5E+00	1.5E+01	9.4E-02	3.3E-02
3,3'-Dichlorobenzidine	*3.8E-01*	0.0012	1.0	3.0E-02	0.0090	*2.0E+00*	1.0	0.67	8.0E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	1.0E+00	5.6E+01	6.1E+02	1.8E-02	1.7E-03
3/4-Methylphenol (m/p-Cresol)	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	9.2E+00	9.2E+01	5.6E-02	5.6E-03
3-Nitroaniline	*9.9E-01*	0.0012	1.0	7.7E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E-01	1.0E+01	[illegible]	2.6E-01
4,6-Dinitro-2-methylphenol	*9.9E-01*	0.0012	1.0	7.7E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	2.2E+00	1.8E+01	[illegible]	1.5E-01
4-Bromophenyl-Phenyl Ether	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.5E+02	2.5E+03	2.1E-03	2.1E-04
4-Chloro-3-methylphenol	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.7E+00	2.7E+01	1.9E-01	1.9E-02
4-Chloroaniline	*3.8E-01*	0.0012	1.0	3.0E-02	0.0090	*2.0E+00*	1.0	0.67	8.0E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	1.0E+00	2.2E+00	1.8E+01	4.7E-01	5.9E-02
4-Chlorophenyl-Phenyl Ether	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
4-Nitroaniline	*9.9E-01*	0.0012	1.0	7.7E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
4-Nitrophenol	*9.9E-01*	0.0012	1.0	7.7E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E+00	1.5E+01	4.7E-01	1.7E-01
Acenaphthene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Acenaphthylene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Anthracene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+02	1.2E+03	4.3E-03	4.3E-04
Benzo(a)anthracene	7.0E-02	0.0012	1.0	5.5E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(a)pyrene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(b)fluoranthene	1.5E-01	0.0012	1.0	1.2E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(g,h,i)perylene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(k)fluoranthene	7.3E-02	0.0012	1.0	5.7E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
bis(2-Chloroethoxy)methane	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Chloroethyl)ether	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Ethylhexyl)phthalate	2.2E-01	0.0012	1.0	1.7E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.2E-01	2.2E+01	2.2E+02	2.4E-02	2.4E-03
Butyl Benzyl Phthalate	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	3.5E+01	1.0E+02	1.5E-02	5.0E-03
Carbazole	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	3.6E+00	3.6E+01	1.4E-01	1.4E-02
Chrysene	7.7E-02	0.0012	1.0	6.0E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenz(a,h)anthracene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenzofuran	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.9E-02	2.9E-01	[illegible]	[illegible]
Diethyl Phthalate	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	5.4E+03	5.4E+04	9.5E-05	9.5E-06
Dimethyl Phthalate	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	5.4E+03	5.4E+04	9.5E-05	9.5E-06
Di-n-butylphthalate	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	7.7E-01	1.0	0.67	3.1E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	4.2E-01	6.5E+02	2.2E+03	6.4E-04	1.9E-04
Di-n-octylphthalate	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	6.5E+02	2.2E+03	7.9E-04	2.4E-04
Fluoranthene	1.2E-01	0.0012	1.0	9.4E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+01	3.0E+01	3.4E-02	1.7E-02
Fluorene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+01	3.0E+01	3.5E-02	1.7E-02
Hexachlorobenzene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.8E-01	6.4E-01	[illegible]	8.1E-01
Hexachlorobutadiene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	4.4E-01	4.4E-01	[illegible]	[illegible]
Hexachlorocyclopentadiene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.3E+00	2.4E+00	3.9E-01	2.1E-01
Hexachloroethane	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E-01	3.3E+00	[illegible]	1.6E-01
Indeno(1,2,3-cd)pyrene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Isophorone	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	8.1E+01	3.9E+02	6.4E-03	1.3E-03
Naphthalene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.6E+01	3.1E+01	3.3E-02	1.6E-02
Nitrobenzene	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	5.5E-02	5.5E-01	[illegible]	9.4E-01
N-Nitroso-di-n-propylamine	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E-02	1.2E-01	[illegible]	[illegible]
N-Nitrosodiphenylamine	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	4.4E+02	1.1E+02	1.2E-03	4.7E-03
Pentachlorophenol	4.9E-03	0.0012	1.0	3.8E-04	0.0090	4.0E-02	1.0	0.67	1.6E-02	*2.6E-02*	0.33	5.0E-03	0.015	1.0	2.1E-02	5.3E-01	5.3E+00	4.0E-02	4.0E-03
Phenanthrene	7.7E-02	0.0012	1.0	6.0E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.4E-02	1.2E-02
Phenol	*1.9E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.3E+02	2.6E+02	3.9E-03	2.0E-03
Pyrene	1.2E-01	0.0012	1.0	9.6E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	8.9E+00	1.5E+01	5.7E-02	3.4E-02
Hazard Index - SVOC																		[illegible]	[illegible]

NOTES
a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
b) - See Table III.C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

Table 7-21
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Off-Site Areas (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4-DDD	3.2E-03	0.0012	1.0	2.5E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.3E-03	1.8E+00	8.8E+00	5.3E-03	1.1E-03
4,4-DDE	7.6E-03	0.0012	1.0	5.9E-04	0.0090	1.7E-02	1.0	0.67	6.6E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	8.2E-03	1.8E+00	8.8E+00	4.7E-03	9.3E-04
4,4-DDT	2.2E-02	0.0012	1.0	1.7E-03	0.0090	3.6E-02	1.0	0.67	1.4E-02	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.7E-02	1.8E+00	8.8E+00	9.7E-03	1.9E-03
Aldrin	***9.9E-04***	0.0012	1.0	7.7E-05	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	4.5E-03	4.4E-01	2.2E+00	1.0E-02	2.0E-03
alpha-BHC	***9.9E-04***	0.0012	1.0	7.7E-05	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.6E-03	3.5E+00	7.0E+00	1.3E-03	6.5E-04
alpha-Chlordane	***9.9E-04***	0.0012	1.0	7.7E-05	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.6E-03	8.8E-01	4.4E+00	5.2E-03	1.0E-03
beta-BHC	***9.9E-04***	0.0012	1.0	7.7E-05	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.6E-03	5.5E+00	1.1E+01	8.4E-04	4.2E-04
delta-BHC	***9.9E-04***	0.0012	1.0	7.7E-05	0.0090	7.4E-03	1.0	0.67	3.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	3.4E-03	5.5E+00	1.1E+01	6.1E-04	3.1E-04
Dieldrin	4.6E-03	0.0012	1.0	3.6E-04	0.0090	1.5E-02	1.0	0.67	6.1E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	7.4E-03	3.5E+00	7.0E+00	2.1E-03	1.1E-03
Endosulfan I	1.1E-03	0.0012	1.0	8.5E-05	0.0090	7.3E-03	1.0	0.67	2.9E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	3.5E-03	4.4E-02	4.4E-01	8.0E-02	8.0E-03
Endosulfan II	1.6E-03	0.0012	1.0	1.2E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.1E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endosulfan Sulfate	1.4E-03	0.0012	1.0	1.1E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.1E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endrin	***1.9E-03***	0.0012	1.0	1.5E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.2E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endrin Aldehyde	2.2E-03	0.0012	1.0	1.7E-04	0.0090	1.5E-02	1.0	0.67	5.9E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	7.1E-03	1.1E-01	1.1E+00	6.5E-02	6.5E-03
Endrin Ketone	***1.9E-03***	0.0012	1.0	1.5E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	4.2E-03	0.33	8.3E-04	0.015	1.0	9.0E-03	1.1E-01	1.1E+00	8.2E-02	8.2E-03
gamma-BHC (Lindane)	***9.9E-04***	0.0012	1.0	7.7E-05	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	4.4E-03	1.1E-01	1.1E+00	4.0E-02	4.0E-03
gamma-Chlordane	***9.9E-04***	0.0012	1.0	7.7E-05	0.0090	4.8E-03	1.0	0.67	1.9E-03	1.6E-03	0.33	3.2E-04	0.015	1.0	2.3E-03	1.8E+01	1.8E+02	1.3E-04	1.3E-05
Heptachlor	***9.9E-04***	0.0012	1.0	7.7E-05	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	4.4E-03	2.9E-01	2.9E+00	1.6E-02	1.6E-03
Heptachlor Epoxide	1.3E-03	0.0012	1.0	1.0E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.6E-03	2.7E-03	6.7E-02	[illegible]	6.9E-02
Methoxychlor	8.2E-03	0.0012	1.0	6.4E-04	0.0090	7.2E-02	1.0	0.67	2.9E-02	***2.6E-02***	0.33	5.0E-03	0.015	1.0	3.5E-02	8.8E+00	1.8E+01	4.0E-03	2.0E-03
Toxaphene	***9.9E-02***	0.0012	1.0	7.7E-03	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***2.6E-01***	0.33	5.0E-02	0.015	1.0	4.6E-01	1.8E+01	1.8E+02	2.6E-02	2.6E-03
Hazard Index - Pesticides																		[illegible]	1.2E-01
Herbicides																			
2,4-D	5.1E-03	0.0012	1.0	4.0E-04	0.0090	***3.3E-02***	1.0	0.67	1.3E-02	1.1E-01	0.33	2.2E-02	0.015	1.0	3.5E-02	2.2E+00	1.1E+01	1.6E-02	3.2E-03
2,4-DB	***4.8E-03***	0.0012	1.0	3.7E-04	0.0090	***3.3E-02***	1.0	0.67	1.3E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	1.8E-02	4.3E+00	1.3E+01	4.1E-03	1.3E-03
2,4,5-T	***4.8E-03***	0.0012	1.0	3.7E-04	0.0090	3.4E-02	1.0	0.67	1.4E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.6E-02	4.0E+00	1.3E+01	4.0E-03	1.2E-03
2,4,5-TP (Silvex)	***4.8E-03***	0.0012	1.0	3.7E-04	0.0090	2.8E-02	1.0	0.67	1.1E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.4E-02	6.6E+00	2.2E+01	2.1E-03	6.4E-04
Dalapon	***1.2E+00***	0.0012	1.0	9.0E-02	0.0090	***8.0E+00***	1.0	0.67	3.2E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.9E+00	1.9E+01	6.3E+01	2.1E-01	6.2E-02
Dicamba	1.2E-02	0.0012	1.0	9.0E-04	0.0090	8.0E-02	1.0	0.67	3.2E-02	3.0E-02	0.33	5.9E-03	0.015	1.0	3.9E-02	9.0E+00	3.0E+01	4.3E-03	1.3E-03
Dichlorprop	8.4E-02	0.0012	1.0	6.5E-03	0.0090	***4.0E-01***	1.0	0.67	1.6E-01	***1.5E-01***	0.33	3.0E-02	0.015	1.0	2.0E-01	2.4E-01	2.4E+00	8.3E-01	8.3E-02
Dinoseb	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E-01	2.2E+00	2.3E+00	2.3E-01
MCPA	***1.2E+00***	0.0012	1.0	9.0E-02	0.0090	4.7E+01	1.0	0.67	1.9E+01	***3.0E+00***	0.33	5.9E-01	0.015	1.0	2.0E+01	8.1E-01	4.0E+00	2.4E+01	5.0E+00
MCPP	2.8E+00	0.0012	1.0	2.2E-01	0.0090	***8.0E+00***	1.0	0.67	3.2E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	4.0E+00	6.6E-01	2.0E+00	6.1E+00	2.0E+00
Hazard Index - Herbicides																		3.4E+01	7.7E+00
PCBs																			
Total PCBs	1.1E-01	0.0012	1.0	8.5E-03	0.0090	4.1E-02	1.0	0.67	1.6E-02	3.2E-02	0.33	6.2E-03	0.015	1.0	3.1E-02	2.2E-01	2.2E+00	1.4E-01	1.4E-02
Dioxins/Furans																			
TEQ	1.3E-04	0.0012	1.0	1.0E-05	0.0090	4.8E-06	1.0	0.67	1.9E-06	5.9E-07	0.33	1.2E-07	0.015	1.0	1.2E-05	2.2E-06	2.2E-05	5.7E+00	5.7E-01
Metals*																			
Aluminum	6.7E+03	0.0012	1.0	5.2E+02	0.0090	6.1E+02	1.0	0.67	2.5E+02	2.4E+01	0.33	4.8E+00	0.015	1.0	7.7E+02	2.3E+00	2.3E+01	3.4E+02	3.4E+01
Antimony	1.3E+00	0.0012	1.0	1.0E-01	0.0090	7.7E-01	1.0	0.67	3.1E-01	***9.0E-01***	0.33	1.8E-01	0.015	1.0	5.9E-01	1.5E-01	1.5E+00	4.0E+00	4.0E-01
Arsenic	7.4E+00	0.0012	1.0	5.8E-01	0.0090	5.8E+00	1.0	0.67	2.3E+00	***4.5E-01***	0.33	8.8E-02	0.015	1.0	3.0E+00	1.5E-01	1.5E+00	2.0E+01	2.0E+00
Barium	1.8E+02	0.0012	1.0	1.4E+01	0.0090	1.8E+01	1.0	0.67	7.4E+00	2.2E+00	0.33	4.3E-01	0.015	1.0	2.2E+01	1.1E+01	4.4E+01	2.0E+00	5.1E-01
Beryllium	5.0E-01	0.0012	1.0	3.9E-02	0.0090	***1.9E-01***	1.0	0.67	7.8E-02	***1.8E-01***	0.33	3.5E-02	0.015	1.0	1.5E-01	1.5E+00	1.5E+01	1.0E-01	1.0E-02
Cadmium	2.0E+00	0.0012	1.0	1.6E-01	0.0090	1.5E+00	1.0	0.67	6.0E-01	7.2E-01	0.33	1.4E-01	0.015	1.0	9.0E-01	2.2E+00	2.2E+01	4.1E-01	4.1E-02
Chromium	1.2E+01	0.0012	1.0	9.0E-01	0.0090	1.2E+00	1.0	0.67	5.0E-01	1.9E-01	0.33	3.8E-02	0.015	1.0	1.4E+00	7.2E+00	2.9E+01	2.0E-01	5.0E-02
Cobalt	5.4E+00	0.0012	1.0	4.2E-01	0.0090	1.6E+00	1.0	0.67	6.3E-01	***4.5E-01***	0.33	8.8E-02	0.015	1.0	1.1E+00	1.1E-01	1.1E+00	1.0E+01	1.0E+00
Copper	5.9E+01	0.0012	1.0	4.6E+00	0.0090	1.3E+01	1.0	0.67	5.3E+00	2.2E+01	0.33	4.4E+00	0.015	1.0	1.4E+01	3.3E+01	4.4E+01	4.3E-01	3.3E-01
Lead	7.9E+01	0.0012	1.0	6.2E+00	0.0090	1.0E+01	1.0	0.67	4.0E+00	1.0E+00	0.33	2.0E-01	0.015	1.0	1.0E+01	1.8E+01	1.8E+02	5.9E-01	5.9E-02
Manganese	2.8E+02	0.0012	1.0	2.2E+01	0.0090	3.4E+01	1.0	0.67	1.4E+01	1.1E+01	0.33	2.1E+00	0.015	1.0	3.8E+01	1.9E+02	6.2E+02	2.0E-01	6.1E-02
Mercury	8.5E-02	0.0012	1.0	6.6E-03	0.0090	5.8E-02	1.0	0.67	2.3E-02	1.5E-01	0.33	3.0E-02	0.015	1.0	6.0E-02	7.0E-02	3.5E-01	8.5E-01	1.7E-01
Nickel	1.8E+01	0.0012	1.0	1.4E+00	0.0090	2.7E+00	1.0	0.67	1.1E+00	***1.8E+00***	0.33	3.5E-01	0.015	1.0	2.8E+00	8.8E+01	1.8E+02	3.2E-02	1.6E-02
Selenium	5.6E-01	0.0012	1.0	4.3E-02	0.0090	5.1E-01	1.0	0.67	2.1E-01	***6.6E-01***	0.33	1.3E-01	0.015	1.0	3.8E-01	4.4E-01	7.3E-01	8.6E-01	5.2E-01
Silver	5.7E-01	0.0012	1.0	4.4E-02	0.0090	4.1E-01	1.0	0.67	1.6E-01	4.9E-01	0.33	9.6E-02	0.015	1.0	3.0E-01	2.2E-01	2.2E+00	1.4E+00	1.4E-01
Thallium	***5.4E-01***	0.0012	1.0	4.2E-02	0.0090	***4.9E-01***	1.0	0.67	1.9E-01	***4.5E-01***	0.33	8.8E-02	0.015	1.0	3.3E-01	1.6E-02	1.6E-01	2.0E+01	2.0E+00
Vanadium	2.2E+01	0.0012	1.0	1.7E+00	0.0090	2.1E+00	1.0	0.67	8.2E-01	***4.5E-01***	0.33	8.8E-02	0.015	1.0	2.6E+00	4.6E-01	4.6E+00	5.6E+00	5.6E-01
Zinc	2.4E+02	0.0012	1.0	1.9E+01	0.0090	5.2E+01	1.0	0.67	2.1E+01	6.2E+01	0.33	1.2E+01	0.015	1.0	5.2E+01	3.5E+02	7.0E+02	1.5E-01	7.4E-02
Hazard Index - Metals																		4.0E+02	4.2E+01

NOTES:
(a) - Values and references for these variables are presented in Section 1.2.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bold+italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Hazard Quotients and Hazard Indices for Ing[illegible]n of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Off-Site Areas (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant In Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant In Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
SVOCs																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
1,2,4-Trichlorobenzene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	3.3E+01	1.2E+02	1.6E-02	4.4E-03
1,2-Dichlorobenzene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.9E+02	2.6E+03	2.7E-03	2.0E-04
1,3-Dichlorobenzene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.9E+02	2.6E+03	2.7E-03	2.0E-04
1,4-Dichlorobenzene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.9E+02	3.3E+02	2.7E-03	1.6E-03
2,2'-Oxybis(1-Chloropropane)	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.2E+01	6.6E+01	2.3E-02	7.8E-03
2,4,5-Trichlorophenol	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.1E+03	6.6E+01	4.7E-04	7.8E-03
2,4,6-Trichlorophenol	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
2,4-Dichlorophenol	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	6.6E-01	6.6E+00	7.8E-01	7.8E-02
2,4-Dinitrophenol	***1.1E+00***	0.0012	1.0	8.2E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	3.8E-03	3.8E-02	[illegible]	[illegible]
2,4-Dinitrotoluene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.1E+00	8.1E+00	4.8E-01	6.4E-02
2,6-Dinitrotoluene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.5E+00	1.5E+01	3.4E-01	3.4E-02
2-Chloronaphthalene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	3.0E+01	7.1E+01	1.7E-02	7.2E-03
2-Chlorophenol	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.1E+02	1.1E+01	4.7E-03	4.7E-02
2-Methylnaphthalene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	3.4E+03	3.4E+04	1.5E-04	1.5E-05
2-Methylphenol (o-Cresol)	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
2-Nitroaniline	***1.1E+00***	0.0012	1.0	8.2E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
2-Nitrophenol	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	5.5E+00	1.5E+01	9.4E-02	3.4E-02
3,3'-Dichlorobenzidine	***4.0E-01***	0.0012	1.0	3.1E-02	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	1.0E+00	5.6E+01	6.1E+02	1.8E-02	1.7E-03
3/4-Methylphenol (m&p-Cresol)	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	9.2E+00	9.2E+01	5.6E-02	5.6E-03
3-Nitroaniline	***1.1E+00***	0.0012	1.0	8.2E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E-01	1.0E+01	[illegible]	2.6E-01
4,6-Dinitro-2-methylphenol	***1.1E+00***	0.0012	1.0	8.2E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	2.2E+00	1.8E+01	[illegible]	1.5E-01
4-Bromophenyl Phenyl Ether	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.5E+02	2.5E+03	2.1E-03	2.1E-04
4-Chloro-3-methylphenol	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.7E+00	2.7E+01	1.9E-01	1.9E-02
4-Chloroaniline	***4.0E-01***	0.0012	1.0	3.1E-02	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	1.0E+00	2.2E+00	1.8E+01	4.7E-01	5.9E-02
4-Chlorophenyl Phenyl Ether	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
4-Nitroaniline	***1.1E+00***	0.0012	1.0	8.2E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
4-Nitrophenol	***1.1E+00***	0.0012	1.0	8.2E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E+00	1.5E+01	4.7E-01	1.7E-01
Acenaphthene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Acenaphthylene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Anthracene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E+02	1.2E+03	4.3E-03	4.3E-04
Benzo(a)anthracene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(a)pyrene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(b)fluoranthene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(g,h,i)perylene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(k)fluoranthene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
bis(2-Chloroethoxy)methane	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Chloroethyl)ether	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Ethylhexyl)phthalate	3.0E-01	0.0012	1.0	2.3E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.2E+01	2.2E+02	2.4E-02	2.4E-03
Butyl Benzyl Phthalate	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	3.5E+01	1.0E+02	1.5E-02	5.0E-03
Carbazole	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	3.6E+00	3.6E+01	1.4E-01	1.4E-02
Chrysene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenzo(a,h)anthracene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenzofuran	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.9E-02	2.9E-01	[illegible]	[illegible]
Diethyl Phthalate	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	5.4E+03	5.4E+04	9.5E-05	9.5E-06
Dimethyl Phthalate	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	5.4E+03	5.4E+04	9.5E-05	9.5E-06
Di-n-butylphthalate	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	6.5E+02	2.2E+03	7.9E-04	2.4E-04
Di-n-octylphthalate	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	6.5E+02	2.2E+03	7.9E-04	2.4E-04
Fluoranthene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+01	3.0E+01	3.5E-02	1.7E-02
Fluorene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.5E+01	3.0E+01	3.5E-02	1.7E-02
Hexachlorobenzene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.8E-01	6.4E-01	[illegible]	8.1E-01
Hexachlorobutadiene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	4.4E-01	4.4E-01	[illegible]	[illegible]
Hexachlorocyclopentadiene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.3E+00	2.4E+00	3.9E-01	2.1E-01
Hexachloroethane	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.2E-01	3.3E+00	[illegible]	1.6E-01
Indeno(1,2,3-cd)pyrene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Isophorone	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	8.1E+01	3.9E+02	6.4E-03	1.3E-03
Naphthalene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.6E+01	3.1E+01	3.3E-02	1.7E-02
Nitrobenzene	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	5.5E-02	5.5E-01	[illegible]	9.4E-01
N-Nitroso-di-n-propylamine	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E-02	1.2E-01	[illegible]	[illegible]
N-Nitrosodiphenylamine	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	4.4E+02	1.1E+02	1.2E-03	4.7E-03
Pentachlorophenol	***1.0E-02***	0.0012	1.0	7.8E-04	0.0090	***1.0E-01***	1.0	0.67	4.0E-02	***2.6E-02***	0.33	5.0E-03	0.015	1.0	4.6E-02	5.3E-01	5.3E+00	8.7E-02	8.7E-03
Phenanthrene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Phenol	***2.0E-01***	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.3E+02	2.6E+02	3.9E-03	2.0E-03
Pyrene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	8.9E+00	1.5E+01	5.8E-02	3.5E-02
Hazard Index - SVOCs																		[illegible]	[illegible]

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQ/HIs equal to or greater than 1.0.

Table 7-22
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Off-Site Areas (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4' DDD	6.6E-03	0.0012	1.0	5.1E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	9.5E-03	1.8E+00	8.8E+00	5.4E-03	1.1E-03
4,4' DDE	1.6E-02	0.0012	1.0	1.2E-03	0.0090	2.1E-02	1.0	0.67	8.4E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	1.1E-02	1.8E+00	8.8E+00	6.1E-03	1.2E-03
4,4' DDT	4.6E-02	0.0012	1.0	3.6E-03	0.0090	5.8E-02	1.0	0.67	2.3E-02	*5.0E-03*	0.33	9.8E-04	0.015	1.0	2.8E-02	1.8E+00	8.8E+00	1.6E-02	3.2E-03
Aldrin	*1.1E-03*	0.0012	1.0	8.2E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	4.5E-03	4.4E-01	2.2E+00	1.0E-02	2.0E-03
alpha-BHC	*1.1E-03*	0.0012	1.0	8.2E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	4.6E-03	3.5E+00	7.0E+00	1.3E-03	6.6E-04
alpha-Chlordane	*1.1E-03*	0.0012	1.0	8.2E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	4.6E-03	8.8E-01	4.4E+00	5.2E-03	1.0E-03
beta BHC	*1.1E-03*	0.0012	1.0	8.2E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	4.6E-03	5.5E+00	1.1E+01	8.4E-04	4.2E-04
delta BHC	*1.1E-03*	0.0012	1.0	8.2E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	4.4E-03	5.5E+00	1.1E+01	8.0E-04	4.0E-04
Dieldrin	9.6E-03	0.0012	1.0	7.5E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	9.8E-03	3.5E+00	7.0E+00	2.8E-03	1.4E-03
Endosulfan I	2.1E-03	0.0012	1.0	1.6E-04	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	4.7E-03	4.4E-02	4.4E-01	1.1E-01	1.1E-02
Endosulfan II	*2.0E-03*	0.0012	1.0	1.6E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	9.2E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endosulfan Sulfate	*1.9E-03*	0.0012	1.0	1.5E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	9.2E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endrin	*2.0E-03*	0.0012	1.0	1.6E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	9.2E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endrin Aldehyde	3.0E-03	0.0012	1.0	2.3E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	9.3E-03	3.1E-01	3.1E+00	8.5E-02	8.5E-03
Endrin Ketone	*2.0E-03*	0.0012	1.0	1.6E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	4.2E-03	0.33	8.3E-04	0.015	1.0	9.0E-03	3.1E-01	3.1E+00	8.2E-02	8.2E-03
gamma-BHC (Lindane)	*1.1E-03*	0.0012	1.0	8.2E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	4.4E-03	3.1E-01	3.1E+00	4.0E-02	4.0E-03
gamma-Chlordane	*1.1E-03*	0.0012	1.0	8.2E-05	0.0090	5.1E-03	1.0	0.67	2.1E-03	1.6E-03	0.33	3.2E-04	0.015	1.0	2.4E-03	1.8E+01	1.8E+02	1.4E-04	1.4E-05
Heptachlor	*1.1E-03*	0.0012	1.0	8.2E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	4.4E-03	2.9E-01	2.9E+00	1.6E-02	1.6E-03
Heptachlor Epoxide	2.3E-03	0.0012	1.0	1.8E-04	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	4.7E-03	2.7E-03	6.7E-02	1.7E-02	7.0E-02
Methoxychlor	*1.1E-02*	0.0012	1.0	8.2E-04	0.0090	*1.0E-01*	1.0	0.67	4.0E-02	*2.6E-02*	0.33	5.0E-03	0.015	1.0	4.6E-02	8.8E+00	1.8E+01	5.2E-03	2.6E-03
Toxaphene	*1.1E-01*	0.0012	1.0	8.2E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*2.6E-01*	0.33	5.0E-02	0.015	1.0	4.6E-01	1.8E+01	1.8E+02	2.6E-02	2.6E-03
Hazard Index - Pesticides																		2.2E+00	1.3E-01
Herbicides																			
2,4-D	5.8E-03	0.0012	1.0	4.5E-04	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	1.1E-01	0.33	2.2E-02	0.015	1.0	4.2E-02	2.2E+00	1.1E+01	1.9E-02	3.8E-03
2,4-DB	*5.0E-03*	0.0012	1.0	3.9E-04	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	2.4E-02	4.3E+00	1.3E+01	5.7E-03	1.8E-03
2,4,5-T	*5.0E-03*	0.0012	1.0	3.9E-04	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	*1.3E-02*	0.33	2.5E-03	0.015	1.0	2.3E-02	4.0E+00	1.3E+01	5.7E-03	1.7E-03
2,4,5-TP (Silvex)	*5.0E-03*	0.0012	1.0	3.9E-04	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	*1.3E-02*	0.33	2.5E-03	0.015	1.0	2.3E-02	6.4E+00	2.2E+01	3.5E-03	1.0E-03
Dalapon	*1.2E+00*	0.0012	1.0	9.4E-02	0.0090	*1.2E+01*	1.0	0.67	4.8E+00	*3.0E+00*	0.33	5.9E-01	0.015	1.0	5.5E+00	1.9E+01	6.3E+01	3.0E-01	8.7E-02
Dicamba	*1.2E-02*	0.0012	1.0	9.4E-04	0.0090	*1.2E-01*	1.0	0.67	4.8E-02	*3.0E-02*	0.33	5.9E-03	0.015	1.0	5.5E-02	9.0E+00	3.0E+01	6.1E-03	1.8E-03
Dichloroprop	1.6E-01	0.0012	1.0	1.2E-02	0.0090	*6.0E-01*	1.0	0.67	2.4E-01	*1.5E-01*	0.33	3.0E-02	0.015	1.0	2.8E-01	2.4E-01	2.4E+00	1.2E+00	1.2E-01
Dinoseb	*2.0E-01*	0.0012	1.0	1.6E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.2E-01	2.2E-01	2.2E+00	2.3E+00	2.3E-01
MCPA	*1.2E+00*	0.0012	1.0	9.4E-02	0.0090	7.4E+01	1.0	0.67	3.0E+01	*3.0E+00*	0.33	5.9E-01	0.015	1.0	3.0E+01	8.1E-01	4.0E+00	3.8E+01	7.5E+00
MCPP	6.6E+00	0.0012	1.0	5.1E-01	0.0090	*1.2E+01*	1.0	0.67	4.8E+00	*3.0E+00*	0.33	5.9E-01	0.015	1.0	5.9E+00	6.6E-01	2.0E+00	9.0E+00	3.0E+00
Hazard Index - Herbicides																		5.0E+01	1.1E+01
PCBs																			
Total PCBs	1.7E-01	0.0012	1.0	1.4E-02	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	3.2E-02	0.33	6.2E-03	0.015	1.0	4.0E-02	2.2E-01	2.2E+00	1.8E-01	1.8E-02
Dioxins/Furans																			
TEQ	2.3E-04	0.0012	1.0	1.8E-05	0.0090	6.7E-06	1.0	0.67	2.7E-06	5.9E-07	0.33	1.2E-07	0.015	1.0	2.1E-05	2.2E-06	2.2E-05	9.4E+00	9.4E-01
Metals*																			
Aluminum	8.2E+03	0.0012	1.0	6.4E+02	0.0090	1.2E+03	1.0	0.67	4.8E+02	2.4E+01	0.33	4.8E+00	0.015	1.0	1.1E+03	2.3E+00	2.3E+01	4.9E+02	4.9E+01
Antimony	1.9E+00	0.0012	1.0	1.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*9.0E-01*	0.33	1.8E-01	0.015	1.0	7.3E-01	1.5E-01	1.5E+00	4.9E+00	4.9E-01
Arsenic	9.3E+00	0.0012	1.0	7.3E-01	0.0090	5.9E+00	1.0	0.67	2.4E+00	*4.5E-01*	0.33	8.8E-02	0.015	1.0	3.2E+00	1.5E-01	1.5E+00	2.1E+01	2.1E+00
Barium	2.0E+02	0.0012	1.0	1.6E+01	0.0090	3.3E+01	1.0	0.67	1.3E+01	2.2E+00	0.33	4.3E-01	0.015	1.0	2.9E+01	1.1E+01	4.4E+01	2.6E+00	6.7E-01
Beryllium	6.0E-01	0.0012	1.0	4.7E-02	0.0090	*2.0E-01*	1.0	0.67	8.0E-02	*1.8E-01*	0.33	3.5E-02	0.015	1.0	1.6E-01	1.5E+00	1.5E+01	1.1E-01	1.1E-02
Cadmium	4.5E+00	0.0012	1.0	3.5E-01	0.0090	2.1E+00	1.0	0.67	8.4E-01	7.2E-01	0.33	1.4E-01	0.015	1.0	1.3E+00	2.2E+00	2.2E+01	6.1E-01	6.1E-02
Chromium	1.3E+01	0.0012	1.0	1.0E+00	0.0090	2.3E+00	1.0	0.67	9.2E-01	3.9E-01	0.33	3.8E-02	0.015	1.0	2.0E+00	7.2E+00	2.9E+01	2.7E-01	6.8E-02
Cobalt	6.6E+00	0.0012	1.0	5.1E-01	0.0090	1.9E+00	1.0	0.67	7.6E-01	*4.5E-01*	0.33	8.8E-02	0.015	1.0	1.4E+00	1.1E-01	1.1E+00	1.2E+01	1.2E+00
Copper	1.5E+02	0.0012	1.0	1.2E+01	0.0090	3.0E+01	1.0	0.67	1.2E+01	2.2E+01	0.33	4.4E+00	0.015	1.0	2.8E+01	3.3E+01	4.4E+01	8.4E-01	6.4E-01
Lead	1.3E+02	0.0012	1.0	1.0E+01	0.0090	2.3E+01	1.0	0.67	9.2E+00	1.0E+00	0.33	2.0E-01	0.015	1.0	2.0E+01	1.8E+01	1.8E+02	1.1E+00	1.1E-01
Manganese	4.1E+02	0.0012	1.0	3.2E+01	0.0090	6.0E+01	1.0	0.67	2.4E+01	1.1E+01	0.33	2.1E+00	0.015	1.0	5.8E+01	1.9E+02	6.2E+02	3.0E-01	9.3E-02
Mercury	1.1E-01	0.0012	1.0	8.6E-03	0.0090	9.6E-02	1.0	0.67	3.9E-02	1.5E-01	0.33	3.0E-02	0.015	1.0	7.7E-02	7.0E-02	3.5E-01	1.1E+00	2.2E-01
Nickel	2.7E+01	0.0012	1.0	2.1E+00	0.0090	4.7E+00	1.0	0.67	1.9E+00	*1.8E+00*	0.33	3.5E-01	0.015	1.0	4.3E+00	8.8E+01	1.8E+02	4.9E-02	2.5E-02
Selenium	6.2E-01	0.0012	1.0	4.8E-02	0.0090	5.3E-01	1.0	0.67	2.1E-01	*6.6E-01*	0.33	1.3E-01	0.015	1.0	3.9E-01	4.4E-01	7.3E-01	8.9E-01	5.4E-01
Silver	6.7E-01	0.0012	1.0	5.2E-02	0.0090	*5.0E-01*	1.0	0.67	2.0E-01	4.9E-01	0.33	9.6E-02	0.015	1.0	3.5E-01	2.2E-01	2.2E+00	1.6E+00	1.6E-01
Thallium	*5.5E-01*	0.0012	1.0	4.3E-02	0.0090	*5.0E-01*	1.0	0.67	2.0E-01	*4.5E-01*	0.33	8.8E-02	0.015	1.0	3.3E-01	1.6E-02	1.6E-01	2.0E+01	2.0E+00
Vanadium	2.5E+01	0.0012	1.0	2.0E+00	0.0090	3.9E+00	1.0	0.67	1.6E+00	*4.5E-01*	0.33	8.8E-02	0.015	1.0	3.6E+00	4.6E-01	4.6E+00	7.8E+00	7.8E-01
Zinc	4.4E+02	0.0012	1.0	3.4E+01	0.0090	8.6E+01	1.0	0.67	3.5E+01	6.2E+01	0.33	1.2E+01	0.015	1.0	8.1E+01	3.5E+02	7.0E+02	2.3E-01	1.2E-01
Hazard Index - Metals																		5.7E+02	5.8E+01

NOTES
a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - *Hazard Quotient*
Bold/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQ/HI equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Hazard Quotients and Hazard Indices for 1 of Earthworms and Terrestrial Invertebrates
Short-tailed Shrew
Site P (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant In Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant In Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs																			
1,2,4-Trichlorobenzene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	3.3E+01	1.2E+02	1.3E-02	3.6E-03
1,2-Dichlorobenzene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.9E+02	2.6E+03	2.3E-03	1.6E-04
1,3-Dichlorobenzene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.9E+02	2.6E+03	2.3E-03	1.6E-04
1,4-Dichlorobenzene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.9E+02	3.3E+02	2.3E-03	1.3E-03
2,2-Oxybis(1-Chloropropane)	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	2.2E+01	6.6E+01	1.9E-02	6.5E-03
2,4,5-Trichlorophenol	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.1E+03	6.6E+01	3.9E-04	6.5E-03
2,4,6-Trichlorophenol	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	4.3E+01	2.4E+02	1.0E-02	1.8E-03
2,4-Dichlorophenol	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	6.6E-01	6.6E+00	6.5E-01	6.5E-02
2,4-Dinitrophenol	***2.0E+00***	0.0012	1.0	***1.5E-01***	***0.0090***	***3.8E+00***	1.0	0.67	1.5E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.2E+00	***3.8E-03***	***3.8E-02***	[illegible]	[illegible]
2,4-Dinitrotoluene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.1E+00	8.1E+00	4.0E-01	5.3E-02
2,6-Dinitrotoluene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.5E+00	1.5E+01	2.8E-01	2.8E-02
2-Chloronaphthalene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	3.0E+01	7.1E+01	1.4E-02	6.0E-03
2-Chlorophenol	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.1E+02	1.1E+01	3.9E-03	3.9E-02
2-Methylnaphthalene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	3.4E+03	3.4E+04	1.3E-04	1.3E-05
2-Methylphenol (o-Cresol)	3.8E-01	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	6.3E+02	6.3E+03	6.8E-04	6.8E-05
2-Nitroaniline	***2.0E+00***	0.0012	1.0	1.5E-01	0.0090	***3.8E+00***	1.0	0.67	1.5E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.2E+00	9.2E+00	9.2E+01	2.4E-01	2.4E-02
2-Nitrophenol	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	5.5E+00	1.5E+01	7.8E-02	2.8E-02
3,3'-Dichlorobenzidine	***7.6E-01***	0.0012	1.0	5.9E-02	0.0090	***1.5E+00***	1.0	0.67	6.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	8.6E-01	5.6E+01	6.1E+02	1.5E-02	1.4E-03
3/4-Methylphenol (m&p-Cresol)	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	9.2E+00	9.2E+01	4.6E-02	4.6E-03
3-Nitroaniline	***2.0E+00***	0.0012	1.0	1.5E-01	0.0090	***3.8E+00***	1.0	0.67	1.5E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.2E+00	5.5E-01	1.0E+01	[illegible]	2.2E-01
4,6-Dinitro-2-methylphenol	***2.0E+00***	0.0012	1.0	1.5E-01	0.0090	***3.8E+00***	1.0	0.67	1.5E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.2E+00	2.2E+00	1.8E+01	9.9E-01	1.2E-01
4-Bromophenyl Phenyl Ether	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	2.5E+02	2.5E+03	1.7E-03	1.7E-04
4-Chloro-3-methylphenol	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	2.7E+00	2.7E+01	1.6E-01	1.6E-02
4-Chloroaniline	***7.6E-01***	0.0012	1.0	5.9E-02	0.0090	***1.5E+00***	1.0	0.67	6.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	8.6E-01	2.2E+00	1.8E+01	3.9E-01	4.9E-02
4-Chlorophenyl Phenyl Ether	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	6.3E+02	6.3E+03	6.8E-04	6.8E-05
4-Nitroaniline	***2.0E+00***	0.0012	1.0	1.5E-01	0.0090	***3.8E+00***	1.0	0.67	1.5E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.2E+00	9.2E+00	9.2E+01	2.4E-01	2.4E-02
4-Nitrophenol	***2.0E+00***	0.0012	1.0	1.5E-01	0.0090	***3.8E+00***	1.0	0.67	1.5E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.2E+00	5.5E+00	1.5E+01	4.0E-01	1.4E-01
Acenaphthene	3.4E-01	0.0012	1.0	2.7E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	2.1E+01	4.2E+01	2.0E-02	1.0E-02
Acenaphthylene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	2.1E+01	4.2E+01	2.1E-02	1.0E-02
Anthracene	3.8E-01	0.0012	1.0	3.0E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.2E+02	1.2E+03	3.6E-03	3.6E-04
Benz(a)anthracene	4.5E-01	0.0012	1.0	3.5E-02	0.0090	7.5E-01	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.2E+00	1.2E+01	3.6E-01	3.6E-02
Benzo(a)pyrene	4.5E-01	0.0012	1.0	3.5E-02	0.0090	6.8E-01	1.0	0.67	2.7E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.1E-01	1.2E+00	1.2E+01	3.4E-01	3.4E-02
Benzo(b)fluoranthene	4.5E-01	0.0012	1.0	3.5E-02	0.0090	6.8E-01	1.0	0.67	2.7E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.1E-01	1.2E+00	1.2E+01	3.4E-01	3.4E-02
Benzo(g,h,i)perylene	3.7E-01	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.2E+00	1.2E+01	3.6E-01	3.6E-02
Benzo(k)fluoranthene	4.2E-01	0.0012	1.0	3.3E-02	0.0090	6.8E-01	1.0	0.67	2.7E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.1E-01	1.2E+00	1.2E+01	3.4E-01	3.4E-02
bis(2-Chloroethoxy)methane	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	4.3E+01	2.4E+02	1.0E-02	1.8E-03
bis(2-Chloroethyl)ether	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	4.3E+01	2.4E+02	1.0E-02	1.8E-03
bis(2-Ethylhexyl)phthalate	2.6E-01	0.0012	1.0	2.0E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.2E-01	2.2E+01	2.2E+02	1.9E-02	1.9E-03
Butyl Benzyl Phthalate	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	3.5E+01	1.0E+02	1.2E-02	4.1E-03
Carbazole	3.4E-01	0.0012	1.0	2.7E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	3.6E+00	3.6E+01	1.2E-01	1.2E-02
Chrysene	4.7E-01	0.0012	1.0	3.7E-02	0.0090	6.5E-01	1.0	0.67	2.6E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.0E-01	1.2E+00	1.2E+01	3.3E-01	3.3E-02
Dibenzo(a,h)anthracene	3.1E-01	0.0012	1.0	2.5E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.2E-01	1.2E+00	1.2E+01	3.6E-01	3.6E-02
Dibenzofuran	3.3E-01	0.0012	1.0	2.6E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.2E-01	2.9E-02	2.9E-01	[illegible]	[illegible]
Diethyl Phthalate	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	5.4E+03	5.4E+04	7.9E-05	7.9E-06
Dimethyl Phthalate	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	5.4E+03	5.4E+04	7.9E-05	7.9E-06
Di-n-butylphthalate	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	6.5E+02	2.2E+03	6.5E-04	2.0E-04
Di-n-octylphthalate	3.8E-01	0.0012	1.0	2.9E-02	0.0090	7.5E-01	1.0	0.67	3.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	4.3E-01	6.5E+02	2.2E+03	6.5E-04	2.0E-04
Fluoranthene	7.1E-01	0.0012	1.0	5.5E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.5E-01	1.5E+01	3.0E+01	3.1E-02	1.5E-02
Fluorene	3.4E-01	0.0012	1.0	2.7E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.5E+01	3.0E+01	2.9E-02	1.4E-02
Hexachlorobenzene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.8E-01	6.4E-01	[illegible]	6.7E-01
Hexachlorobutadiene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	4.4E-01	4.4E-01	9.7E-01	9.7E-01
Hexachlorocyclopentadiene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.3E+00	2.4E+00	3.2E-01	1.8E-01
Hexachloroethane	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	2.2E-01	3.3E+00	[illegible]	1.3E-01
Indeno(1,2,3-cd)pyrene	3.5E-01	0.0012	1.0	2.7E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.2E+00	1.2E+01	3.6E-01	3.6E-02
Isophorone	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	8.1E+01	3.9E+02	5.3E-03	1.1E-03
Naphthalene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.6E+01	3.1E+01	2.7E-02	1.4E-02
Nitrobenzene	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	5.5E-02	5.5E-01	[illegible]	7.8E-01
N-Nitrosodi-n-propylamine	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.2E-02	1.2E-01	[illegible]	[illegible]
N-Nitrosodiphenylamine	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	4.4E+02	1.1E+02	9.7E-04	3.9E-03
Pentachlorophenol	1.3E-02	0.0012	1.0	9.8E-04	0.0090	2.2E-02	1.0	0.67	8.9E-03	***2.6E-02***	0.33	5.0E-03	0.015	1.0	1.5E-02	5.3E-01	5.3E+00	2.8E-02	2.8E-03
Phenanthrene	5.5E-01	0.0012	1.0	4.3E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.4E-01	2.1E+01	4.2E+01	2.1E-02	1.1E-02
Phenol	4.1E-01	0.0012	1.0	3.2E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	1.3E+02	2.6E+02	3.3E-03	1.6E-03
Pyrene	7.4E-01	0.0012	1.0	5.7E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	8.9E+00	1.5E+01	5.1E-02	3.1E-02
Hazard Index - SVOCs																		[illegible]	[illegible]

NOTES
a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
b) - See Table III.C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-23
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site P (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4' DDD	***2.5E-02***	0.0012	1.0	1.9E-03	0.0090	***1.5E-02***	1.0	0.67	6.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	8.9E-03	1.8E+00	8.8E+00	5.1E-03	1.0E-03
4,4' DDE	2.5E-02	0.0012	1.0	1.9E-03	0.0090	1.1E-02	1.0	0.67	4.4E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	7.3E-03	1.8E+00	8.8E+00	4.1E-03	8.3E-04
4,4' DDT	2.8E-01	0.0012	1.0	2.2E-02	0.0090	6.2E-02	1.0	0.67	2.5E-02	***5.0E-03***	0.33	9.8E-04	0.015	1.0	4.8E-02	1.8E+00	8.8E+00	2.7E-02	5.4E-03
Aldrin	***1.3E-02***	0.0012	1.0	1.0E-03	0.0090	***7.5E-03***	1.0	0.67	3.0E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	4.4E-03	4.4E-01	2.2E+00	1.0E-02	2.0E-03
alpha BHC	***1.3E-02***	0.0012	1.0	1.0E-03	0.0090	***7.5E-03***	1.0	0.67	3.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.5E-03	3.5E+00	7.0E+00	1.3E-03	6.4E-04
alpha-Chlordane	1.3E-02	0.0012	1.0	9.8E-04	0.0090	***7.5E-03***	1.0	0.67	3.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.5E-03	8.8E-01	4.4E+00	5.1E-03	1.0E-03
beta BHC	***1.3E-02***	0.0012	1.0	1.0E-03	0.0090	***7.5E-03***	1.0	0.67	3.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.5E-03	5.5E+00	1.1E+01	8.3E-04	4.1E-04
delta BHC	***1.3E-02***	0.0012	1.0	1.0E-03	0.0090	5.8E-03	1.0	0.67	2.3E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	3.6E-03	5.5E+00	1.1E+01	6.6E-04	3.3E-04
Dieldrin	2.1E-02	0.0012	1.0	1.6E-03	0.0090	2.1E-02	1.0	0.67	8.4E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.1E-02	3.5E+00	7.0E+00	3.1E-03	1.6E-03
Endosulfan I	***1.3E-02***	0.0012	1.0	1.0E-03	0.0090	***7.5E-03***	1.0	0.67	3.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.5E-03	4.4E-02	4.4E-01	1.0E-01	1.0E-02
Endosulfan II	***2.5E-02***	0.0012	1.0	1.9E-03	0.0090	***1.5E-02***	1.0	0.67	6.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	8.9E-03	3.3E-01	3.3E+00	2.7E-02	2.7E-03
Endosulfan Sulfate	2.4E-02	0.0012	1.0	1.9E-03	0.0090	1.1E-02	1.0	0.67	4.4E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	7.3E-03	3.3E-01	3.3E+00	2.2E-02	2.2E-03
Endrin	***2.5E-02***	0.0012	1.0	1.9E-03	0.0090	1.7E-02	1.0	0.67	6.7E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.6E-03	3.3E-01	3.3E+00	2.9E-02	2.9E-03
Endrin Aldehyde	5.0E-02	0.0012	1.0	3.9E-03	0.0090	***1.5E-02***	1.0	0.67	6.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.1E-02	1.1E-01	1.1E+00	1.0E-01	1.0E-02
Endrin Ketone	1.8E-02	0.0012	1.0	1.4E-03	0.0090	1.2E-02	1.0	0.67	4.8E-03	4.2E-03	0.33	8.3E-04	0.015	1.0	7.0E-03	1.1E-01	1.1E+00	6.4E-02	6.4E-03
gamma BHC (Lindane)	***1.3E-02***	0.0012	1.0	1.0E-03	0.0090	***7.5E-03***	1.0	0.67	3.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	4.3E-03	1.1E-01	1.1E+00	3.9E-02	3.9E-03
gamma-Chlordane	***1.3E-02***	0.0012	1.0	1.0E-03	0.0090	***7.5E-03***	1.0	0.67	3.0E-03	1.6E-03	0.33	3.2E-04	0.015	1.0	4.3E-03	1.8E+01	1.8E+02	2.5E-04	2.5E-05
Heptachlor	***1.3E-02***	0.0012	1.0	1.0E-03	0.0090	6.4E-03	1.0	0.67	2.6E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	3.9E-03	2.9E-01	2.9E+00	1.4E-02	1.4E-03
Heptachlor Epoxide	1.2E-02	0.0012	1.0	9.1E-04	0.0090	7.0E-03	1.0	0.67	2.8E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.2E-03	2.7E-03	6.7E-02	1.5E+00	6.2E-02
Methoxychlor	***1.3E-01***	0.0012	1.0	1.0E-02	0.0090	2.3E-02	1.0	0.67	9.3E-03	***2.6E-02***	0.33	5.0E-03	0.015	1.0	2.4E-02	8.8E+00	1.8E+01	2.8E-03	1.4E-03
Toxaphene	***1.3E+00***	0.0012	1.0	1.0E-01	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***2.6E-01***	0.33	5.0E-02	0.015	1.0	4.5E-01	1.8E+01	1.8E+02	2.6E-02	2.6E-03
Hazard Index - Pesticides																		2.0E+00	1.2E-01
Herbicides																			
2,4-D	6.1E-03	0.0012	1.0	4.7E-04	0.0090	2.1E-01	1.0	0.67	8.3E-02	1.1E-01	0.33	2.2E-02	0.015	1.0	1.1E-01	2.2E+00	1.1E+01	4.8E-02	9.6E-03
2,4-DB	***4.8E-03***	0.0012	1.0	3.8E-04	0.0090	***2.5E-02***	1.0	0.67	1.0E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	1.4E-02	4.3E+00	1.3E+01	3.3E-03	1.1E-03
2,4,5-T	4.0E-03	0.0012	1.0	3.1E-04	0.0090	***2.5E-02***	1.0	0.67	1.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.3E-02	4.0E+00	1.3E+01	3.2E-03	9.5E-04
2,4,5-TP (Silvex)	***4.8E-03***	0.0012	1.0	3.8E-04	0.0090	***2.5E-02***	1.0	0.67	1.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.3E-02	6.6E+00	2.2E+01	2.0E-03	5.9E-04
Dalapon	***1.2E+00***	0.0012	1.0	9.3E-02	0.0090	***6.0E+00***	1.0	0.67	2.4E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.1E+00	1.9E+01	6.3E+01	1.7E-01	4.9E-02
Dicamba	***1.2E-02***	0.0012	1.0	9.3E-04	0.0090	***6.0E-02***	1.0	0.67	2.4E-02	***3.0E-02***	0.33	5.9E-03	0.015	1.0	3.1E-02	9.0E+00	3.0E+01	3.5E-03	1.0E-03
Dichloroprop	1.8E-02	0.0012	1.0	1.4E-03	0.0090	2.6E-01	1.0	0.67	1.0E-01	***1.5E-01***	0.33	3.0E-02	0.015	1.0	1.3E-01	2.4E-01	2.4E+00	5.6E-01	5.6E-02
Dinoseb	***3.8E-01***	0.0012	1.0	2.9E-02	0.0090	***7.5E-01***	1.0	0.67	3.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.3E-01	2.2E-01	2.2E+00	1.3E+00	1.9E-01
MCPA	***1.2E+00***	0.0012	1.0	9.3E-02	0.0090	5.9E+01	1.0	0.67	2.4E+01	***3.0E+00***	0.33	5.9E-01	0.015	1.0	2.5E+01	8.1E-01	4.0E+00	3.0E+01	6.1E+00
MCPP	***1.3E+00***	0.0012	1.0	1.0E-01	0.0090	***6.0E+00***	1.0	0.67	2.4E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.1E+00	6.6E-01	2.0E+00	4.7E+00	1.5E+00
Hazard Index - Herbicides																		3.8E+01	7.9E+00
PCBs																			
Total PCBs	1.8E+00	0.0012	1.0	1.4E-01	0.0090	6.4E-02	1.0	0.67	2.6E-02	***2.5E-02***	0.33	5.0E-03	0.015	1.0	1.7E-01	2.2E-01	2.2E+00	7.6E-01	7.6E-02
Dioxins/Furans																			
TEQ	3.5E-04	0.0012	1.0	2.7E-05	0.0090	1.3E-05	1.0	0.67	5.4E-06	3.4E-06	0.33	6.8E-07	0.015	1.0	3.3E-05	2.2E-06	2.2E-05	1.5E+01	1.5E+00
Metals*																			
Aluminum	4.8E+03	0.0012	1.0	3.7E+02	0.0090	8.6E+02	1.0	0.67	3.5E+02	1.6E+01	0.33	3.2E+00	0.015	1.0	7.2E+02	2.3E+00	2.3E+01	3.2E+02	3.2E+01
Antimony	9.3E-01	0.0012	1.0	7.3E-02	0.0090	7.2E-01	1.0	0.67	2.9E-01	***9.0E-01***	0.33	1.8E-01	0.015	1.0	5.4E-01	1.5E-01	1.5E+00	3.6E+00	3.6E-01
Arsenic	1.4E+01	0.0012	1.0	1.1E+00	0.0090	8.6E+00	1.0	0.67	3.4E+00	***4.6E-01***	0.33	9.0E-02	0.015	1.0	4.6E+00	1.5E-01	1.5E+00	3.1E+01	3.1E+00
Barium	1.2E+02	0.0012	1.0	9.0E+00	0.0090	1.9E+01	1.0	0.67	7.5E+00	1.8E+00	0.33	3.6E-01	0.015	1.0	1.7E+01	1.1E+01	4.4E+01	1.5E+00	3.9E-01
Beryllium	1.1E+00	0.0012	1.0	8.9E-02	0.0090	2.9E-01	1.0	0.67	1.2E-01	***1.8E-01***	0.33	3.6E-02	0.015	1.0	2.4E-01	1.5E+00	1.5E+01	1.7E-01	1.7E-02
Cadmium	1.7E+00	0.0012	1.0	1.3E-01	0.0090	1.3E+00	1.0	0.67	5.3E-01	8.1E-01	0.33	1.6E-01	0.015	1.0	8.2E-01	2.2E+00	2.2E+01	3.7E-01	3.7E-02
Chromium	1.6E+01	0.0012	1.0	1.2E+00	0.0090	4.1E+00	1.0	0.67	1.7E+00	2.1E-01	0.33	4.2E-02	0.015	1.0	2.9E+00	7.2E+00	2.9E+01	4.0E-01	1.0E-01
Cobalt	9.1E+00	0.0012	1.0	7.1E-01	0.0090	3.3E+00	1.0	0.67	1.3E+00	***4.6E-01***	0.33	9.0E-02	0.015	1.0	2.1E+00	1.1E-01	1.1E+00	1.9E+01	1.9E+00
Copper	4.9E+01	0.0012	1.0	3.8E+00	0.0090	1.0E+01	1.0	0.67	4.0E+00	1.4E+01	0.33	2.8E+00	0.015	1.0	1.1E+01	3.3E+01	4.4E+01	3.2E-01	2.4E-01
Lead	7.9E+01	0.0012	1.0	6.2E+00	0.0090	1.2E+01	1.0	0.67	5.0E+00	2.0E+00	0.33	4.0E-01	0.015	1.0	1.2E+01	1.8E+01	1.8E+02	6.6E-01	6.6E-02
Manganese	2.2E+02	0.0012	1.0	1.7E+01	0.0090	4.5E+01	1.0	0.67	1.8E+01	4.5E+00	0.33	8.9E-01	0.015	1.0	3.6E+01	1.9E+02	6.2E+02	1.9E-01	5.7E-02
Mercury	1.1E-01	0.0012	1.0	8.9E-03	0.0090	4.6E-02	1.0	0.67	1.8E-02	1.8E-01	0.33	3.6E-02	0.015	1.0	6.3E-02	7.0E-02	3.5E-01	9.0E-01	1.8E-01
Nickel	2.8E+01	0.0012	1.0	2.1E+00	0.0090	7.1E+00	1.0	0.67	2.8E+00	***1.8E+00***	0.33	3.6E-01	0.015	1.0	5.3E+00	8.8E+01	1.8E+02	6.1E-02	3.0E-02
Selenium	2.4E+00	0.0012	1.0	1.9E-01	0.0090	1.0E+00	1.0	0.67	4.2E-01	***1.3E+00***	0.33	2.6E-01	0.015	1.0	8.6E-01	4.4E-01	7.3E-01	2.0E+00	1.2E+00
Silver	2.6E-01	0.0012	1.0	2.1E-02	0.0090	***4.9E-01***	1.0	0.67	2.0E-01	***4.6E-01***	0.33	9.0E-02	0.015	1.0	3.1E-01	2.2E-01	2.2E+00	1.4E+00	1.4E-01
Thallium	7.1E-01	0.0012	1.0	5.5E-02	0.0090	***4.9E-01***	1.0	0.67	2.0E-01	***4.6E-01***	0.33	9.0E-02	0.015	1.0	3.4E-01	1.6E-02	1.6E-01	2.1E+01	2.1E+00
Vanadium	2.9E+01	0.0012	1.0	2.3E+00	0.0090	7.2E+00	1.0	0.67	2.9E+00	***4.6E-01***	0.33	9.0E-02	0.015	1.0	5.2E+00	4.6E-01	4.6E+00	1.1E+01	1.1E+00
Zinc	2.2E+02	0.0012	1.0	1.7E+01	0.0090	7.3E+01	1.0	0.67	2.9E+01	8.7E+01	0.33	1.7E+01	0.015	1.0	6.4E+01	3.5E+02	7.0E+02	1.8E-01	9.0E-02
Hazard Index - Metals																		4.1E+02	4.3E+01

NOTES:
(a) Values and references for these variables are presented in Section 2.7.6.1 of the Risk Assessment Workplan
(b) See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQ/HI equal to or greater than 1.0

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Hazard Quotients and Hazard Indices for [illegible]on of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site P (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs																			
1,2,4-Trichlorobenzene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	3.3E+01	1.2E+02	1.8E-02	4.8E-03
1,2-Dichlorobenzene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.9E+02	2.6E+03	3.0E-03	2.2E-04
1,3-Dichlorobenzene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.9E+02	2.6E+03	3.0E-03	2.2E-04
1,4-Dichlorobenzene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.9E+02	3.3E+02	3.0E-03	1.7E-03
2,2'-Oxybis(1-Chloropropane)	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	2.2E+01	6.6E+01	2.6E-02	8.6E-03
2,4,5-Trichlorophenol	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.1E+02	6.6E+01	5.2E-04	8.6E-03
2,4,6-Trichlorophenol	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	4.3E+01	2.4E+02	1.3E-02	2.4E-03
2,4-Dichlorophenol	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	6.6E-01	6.6E+00	8.6E-01	8.6E-02
2,4-Dinitrophenol	***4.8E+00***	0.0012	1.0	3.7E-01	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.9E+00	3.8E-03	3.8E-02	7.7E-02	7.7E-01
2,4-Dinitrotoluene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.1E+00	8.1E+00	5.3E-01	7.0E-02
2,6-Dinitrotoluene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.5E+00	1.5E+01	3.7E-01	3.7E-02
2-Chloronaphthalene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	3.0E+01	7.1E+01	1.9E-02	8.0E-03
2-Chlorophenol	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.1E+02	1.1E+01	5.2E-03	5.2E-02
2-Methylnaphthalene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	3.4E+03	3.4E+04	1.7E-04	1.7E-05
2-Methylphenol (o-Cresol)	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	6.3E+02	6.3E+03	9.1E-04	9.1E-05
2-Nitroaniline	***4.8E+00***	0.0012	1.0	3.7E-01	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.9E+00	9.2E+00	9.2E+01	3.1E-01	3.1E-02
2-Nitrophenol	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	5.5E+00	1.5E+01	1.0E-01	3.7E-02
3,3'-Dichlorobenzidine	***1.9E+00***	0.0012	1.0	1.4E-01	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	1.1E+00	5.6E+01	6.1E+02	2.0E-02	1.9E-03
3/4-Methylphenol (m&p-Cresol)	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	9.2E+00	9.2E+01	6.2E-02	6.2E-03
3-Nitroaniline	***4.8E+00***	0.0012	1.0	3.7E-01	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.9E+00	5.5E-01	1.0E+01	5.3E+00	2.9E-01
4,6-Dinitro-2-methylphenol	***4.8E+00***	0.0012	1.0	3.7E-01	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.9E+00	2.2E+00	1.8E+01	1.3E+00	1.6E-01
4-Bromophenyl Phenyl Ether	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	2.5E+02	2.5E+03	2.3E-03	2.3E-04
4-Chloro-3-methylphenol	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	2.7E+00	2.7E+01	2.1E-01	2.1E-02
4-Chloroaniline	***1.9E+00***	0.0012	1.0	1.4E-01	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	1.1E+00	2.2E+00	1.8E+01	5.2E-01	6.5E-02
4-Chlorophenyl Phenyl Ether	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	6.3E+02	6.3E+03	9.1E-04	9.1E-05
4-Nitroaniline	***4.8E+00***	0.0012	1.0	3.7E-01	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.9E+00	9.2E+00	9.2E+01	3.1E-01	3.1E-02
4-Nitrophenol	***4.8E+00***	0.0012	1.0	3.7E-01	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.9E+00	5.5E+00	1.5E+01	5.3E-01	1.9E-01
Acenaphthene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	2.1E+01	4.2E+01	2.7E-02	1.4E-02
Acenaphthylene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	2.1E+01	4.2E+01	2.7E-02	1.4E-02
Anthracene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.2E+02	1.2E+03	4.8E-03	4.8E-04
Benzo(a)anthracene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.2E+00	1.2E+01	4.8E-01	4.8E-02
Benzo(a)pyrene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.2E+00	1.2E+01	4.8E-01	4.8E-02
Benzo(b)fluoranthene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.2E+00	1.2E+01	4.8E-01	4.8E-02
Benzo(g,h,i)perylene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.2E+00	1.2E+01	4.8E-01	4.8E-02
Benzo(k)fluoranthene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.2E+00	1.2E+01	4.8E-01	4.8E-02
bis(2-Chloroethoxy)methane	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	4.3E+01	2.4E+02	1.3E-02	2.4E-03
bis(2-Chloroethyl)ether	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	4.3E+01	2.4E+02	1.3E-02	2.4E-03
bis(2-Ethylhexyl)phthalate	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	2.2E+01	2.2E+02	2.6E-02	2.6E-03
Butyl Benzyl Phthalate	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	3.5E+01	1.0E+02	1.6E-02	5.5E-03
Carbazole	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	3.6E+00	3.6E+01	1.6E-01	1.6E-02
Chrysene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.2E+00	1.2E+01	4.8E-01	4.8E-02
Dibenzo(a,h)anthracene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.2E+00	1.2E+01	4.8E-01	4.8E-02
Dibenzofuran	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	2.9E-02	2.9E-01	2.0E-01	2.0E-00
Diethyl Phthalate	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	5.4E+03	5.4E+04	1.0E-04	1.0E-05
Dimetyl Phthalate	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	5.4E+03	5.4E+04	1.0E-04	1.0E-05
Di-n-butylphthalate	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	6.5E+02	2.2E+03	8.7E-04	2.6E-04
Di-n-octylphthalate	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	6.5E+02	2.2E+03	8.7E-04	2.6E-04
Fluoranthene	1.7E+00	0.0012	1.0	1.3E-01	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	6.3E-01	1.5E+01	3.0E+01	4.3E-02	2.1E-02
Fluorene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.5E+01	3.0E+01	3.8E-02	1.9E-02
Hexachlorobenzene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.8E-01	6.4E-01	3.2E+00	8.9E-01
Hexachlorobutadiene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	4.4E-01	4.4E-01	2.3E+00	2.3E+00
Hexachlorocyclopentadiene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.3E+00	2.4E+00	4.3E-01	2.4E-01
Hexachloroethane	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	2.2E-01	3.3E+00	2.6E+00	1.7E-01
Indeno(1,2,3-cd)pyrene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.2E+00	1.2E+01	4.8E-01	4.8E-02
Isophorone	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	8.1E+01	3.9E+02	7.0E-03	1.4E-03
Naphthalene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.6E+01	3.1E+01	3.7E-02	1.8E-02
Nitrobenzene	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	5.5E-02	5.5E-01	1.0E+00	1.0E+00
N-Nitroso-di-n-propylamine	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.2E-02	1.2E-01	4.8E+01	4.8E+00
N-Nitrosodiphenylamine	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	4.4E+02	1.1E+02	1.3E-03	5.2E-03
Pentachlorophenol	2.8E-02	0.0012	1.0	2.2E-03	0.0090	***5.0E-02***	1.0	0.67	2.0E-02	***2.6E-02***	0.33	5.0E-03	0.015	1.0	2.7E-02	5.3E-01	5.3E+00	5.2E-02	5.2E-03
Phenanthrene	1.1E+00	0.0012	1.0	8.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.9E-01	2.1E+01	4.2E+01	2.8E-02	1.4E-02
Phenol	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	1.3E+02	2.6E+02	4.3E-03	2.2E-03
Pyrene	1.8E+00	0.0012	1.0	1.4E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.4E-01	8.9E+00	1.5E+01	7.1E-02	4.3E-02
Hazard Index - SVOCs																		8.7E+02	8.9E+01

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III.C

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shade cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-24
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site P (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4'-DDD	***4.1E-02***	0.0012	1.0	3.2E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.2E-02	1.8E+00	8.8E+00	6.9E-03	1.4E-03
4,4'-DDE	***4.1E-02***	0.0012	1.0	3.2E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.2E-02	1.8E+00	8.8E+00	6.9E-03	1.4E-03
4,4'-DDT	1.1E+00	0.0012	1.0	8.6E-02	0.0090	2.2E-01	1.0	0.67	8.8E-02	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.8E-01	1.8E+00	8.8E+00	1.0E-01	2.0E-02
Aldrin	***2.1E-02***	0.0012	1.0	1.6E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	6.0E-03	4.4E-01	2.2E+00	1.4E-02	2.7E-03
alpha-BHC	***2.1E-02***	0.0012	1.0	1.6E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	6.2E-03	3.5E+00	7.0E+00	1.8E-03	8.8E-04
alpha-Chlordane	***2.1E-02***	0.0012	1.0	1.6E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	6.2E-03	8.8E-01	4.4E+00	7.0E-03	1.4E-03
beta-BHC	***2.1E-02***	0.0012	1.0	1.6E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	6.2E-03	5.5E+00	1.1E+01	1.1E-03	5.6E-04
delta-BHC	***2.1E-02***	0.0012	1.0	1.6E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	6.0E-03	5.5E+00	1.1E+01	1.1E-03	5.4E-04
Dieldrin	***4.1E-02***	0.0012	1.0	3.2E-03	0.0090	6.5E-02	1.0	0.67	2.6E-02	***5.0E-03***	0.33	9.8E-04	0.015	1.0	3.0E-02	3.5E+00	7.0E+00	8.6E-03	4.3E-03
Endosulfan I	***2.1E-02***	0.0012	1.0	1.6E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	6.2E-03	4.4E-02	4.4E-01	1.4E-01	1.4E-02
Endosulfan II	***4.1E-02***	0.0012	1.0	3.2E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.2E-02	3.3E-01	3.3E+00	3.7E-02	3.7E-03
Endosulfan Sulfate	***4.1E-02***	0.0012	1.0	3.2E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.2E-02	3.3E-01	3.3E+00	3.7E-02	3.7E-03
Endrin	***4.1E-02***	0.0012	1.0	3.2E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.2E-02	3.3E-01	3.3E+00	3.7E-02	3.7E-03
Endrin Aldehyde	1.4E-01	0.0012	1.0	1.1E-02	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	2.0E-02	1.1E-01	1.1E+00	1.8E-01	1.8E-02
Endrin Ketone	***4.1E-02***	0.0012	1.0	3.2E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	4.2E-03	0.33	8.3E-04	0.015	1.0	1.2E-02	1.1E-01	1.1E+00	1.1E-01	1.1E-02
gamma-BHC (Lindane)	***2.1E-02***	0.0012	1.0	1.6E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	6.0E-03	1.1E-01	1.1E+00	5.4E-02	5.4E-03
gamma-Chlordane	***2.1E-02***	0.0012	1.0	1.6E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.6E-03	0.33	3.2E-04	0.015	1.0	6.0E-03	1.8E+01	1.8E+02	3.4E-04	3.4E-05
Heptachlor	***2.1E-02***	0.0012	1.0	1.6E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	6.0E-03	2.9E-01	2.9E+00	2.1E-02	2.1E-03
Heptachlor Epoxide	***2.1E-02***	0.0012	1.0	1.6E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	6.2E-03	2.7E-03	6.7E-02	2.2E-01	9.1E-02
Methoxychlor	***2.1E-01***	0.0012	1.0	1.6E-02	0.0090	5.0E-02	1.0	0.67	2.0E-02	***2.6E-02***	0.33	5.0E-03	0.015	1.0	4.2E-02	8.8E+00	1.8E+01	4.7E-03	2.4E-03
Toxaphene	***2.1E+00***	0.0012	1.0	1.6E-01	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***2.6E-01***	0.33	5.0E-02	0.015	1.0	6.2E-01	1.8E+01	1.8E+02	3.5E-02	3.5E-03
Hazard Index - Pesticides																		5.0E+00	1.9E-01
Herbicides																			
2,4-D	1.0E-02	0.0012	1.0	7.8E-04	0.0090	6.3E-01	1.0	0.67	2.5E-01	1.1E-01	0.33	2.2E-02	0.015	1.0	2.8E-01	2.2E+00	1.1E+01	1.3E-01	2.5E-02
2,4-DB	***5.0E-03***	0.0012	1.0	3.9E-04	0.0090	***2.5E-02***	1.0	0.67	1.0E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	1.4E-02	4.3E+00	1.3E+01	3.3E-03	1.1E-03
2,4,5-T	***5.0E-03***	0.0012	1.0	3.9E-04	0.0090	***2.5E-02***	1.0	0.67	1.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.3E-02	4.0E+00	1.3E+01	3.2E-03	9.6E-04
2,4,5-TP (Silvex)	***5.0E-03***	0.0012	1.0	3.9E-04	0.0090	***2.5E-02***	1.0	0.67	1.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.3E-02	6.6E+00	2.2E+01	2.0E-03	5.9E-04
Dalapon	***1.3E+00***	0.0012	1.0	9.8E-02	0.0090	***6.0E+00***	1.0	0.67	2.4E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.1E+00	1.9E+01	6.3E+01	1.7E-01	4.9E-02
Dicamba	***1.3E-02***	0.0012	1.0	9.8E-04	0.0090	***6.0E-02***	1.0	0.67	2.4E-02	***3.0E-02***	0.33	5.9E-03	0.015	1.0	3.1E-02	9.0E+00	3.0E+01	3.5E-03	1.0E-03
Dichloroprop	***6.0E-02***	0.0012	1.0	4.7E-03	0.0090	***3.0E-01***	1.0	0.67	1.2E-01	***1.5E-01***	0.33	3.0E-02	0.015	1.0	1.5E-01	2.4E-01	2.4E+00	6.5E-01	6.5E-02
Dinoseb	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.7E-01	2.2E-01	2.2E+00	2.6E+00	2.6E-01
MCPA	***1.3E+00***	0.0012	1.0	9.8E-02	0.0090	9.0E+01	1.0	0.67	3.6E+01	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.7E+01	8.1E-01	4.0E+00	4.6E+01	9.3E+00
MCPP	***2.3E+00***	0.0012	1.0	1.8E-01	0.0090	***6.0E+00***	1.0	0.67	2.4E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.2E+00	6.6E-01	2.0E+00	4.8E+00	1.6E+00
Hazard Index - Herbicides																		5.4E+01	9.7E+00
PCBs																			
Total PCBs	7.0E+00	0.0012	1.0	5.5E-01	0.0090	1.7E-01	1.0	0.67	6.8E-02	***2.5E-02***	0.33	5.0E-03	0.015	1.0	6.2E-01	2.2E-01	2.2E+00	2.8E+00	2.8E-01
Dioxins/Furans																			
TEQ	7.2E-04	0.0012	1.0	5.6E-05	0.0090	4.4E-05	1.0	0.67	1.8E-05	3.4E-06	0.33	6.8E-07	0.015	1.0	7.5E-05	2.2E-06	2.2E-05	3.4E+01	3.4E+00
Metals*																			
Aluminum	6.0E+03	0.0012	1.0	4.7E+02	0.0090	1.6E+03	1.0	0.67	6.4E+02	1.6E+01	0.33	3.2E+00	0.015	1.0	1.1E+03	2.3E+00	2.3E+01	4.9E+02	4.9E+01
Antimony	1.6E+00	0.0012	1.0	1.2E-01	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***9.0E-01***	0.33	1.8E-01	0.015	1.0	7.1E-01	1.5E-01	1.5E+00	4.7E+00	4.7E-01
Arsenic	2.6E+01	0.0012	1.0	2.0E+00	0.0090	1.2E+01	1.0	0.67	4.8E+00	***4.6E-01***	0.33	9.0E-02	0.015	1.0	6.9E+00	1.5E-01	1.5E+00	4.6E+00	4.6E+00
Barium	1.8E+02	0.0012	1.0	1.4E+01	0.0090	3.3E+01	1.0	0.67	1.3E+01	1.8E+00	0.33	3.6E-01	0.015	1.0	2.8E+01	1.1E+01	4.4E+01	2.5E+00	6.4E-01
Beryllium	1.8E+00	0.0012	1.0	1.4E-01	0.0090	4.7E-01	1.0	0.67	1.9E-01	***1.8E-01***	0.33	3.6E-02	0.015	1.0	3.6E-01	1.5E+00	1.5E+01	2.5E-01	2.5E-02
Cadmium	3.0E+00	0.0012	1.0	2.3E-01	0.0090	1.4E+00	1.0	0.67	5.6E-01	8.1E-01	0.33	1.6E-01	0.015	1.0	9.6E-01	2.2E+00	2.2E+01	4.4E-01	4.4E-02
Chromium	1.9E+01	0.0012	1.0	1.5E+00	0.0090	1.1E+01	1.0	0.67	4.4E+00	2.1E-01	0.33	4.2E-02	0.015	1.0	5.9E+00	7.2E+00	2.9E+01	8.2E-01	2.1E-01
Cobalt	1.3E+01	0.0012	1.0	1.0E+00	0.0090	5.9E+00	1.0	0.67	2.4E+00	***4.6E-01***	0.33	9.0E-02	0.015	1.0	3.5E+00	1.1E-01	1.1E+00	5.2E+01	5.2E+00
Copper	6.4E+01	0.0012	1.0	5.0E+00	0.0090	1.4E+01	1.0	0.67	5.6E+00	1.4E+01	0.33	2.8E+00	0.015	1.0	1.3E+01	3.3E+01	4.4E+01	4.0E-01	3.0E-01
Lead	1.7E+02	0.0012	1.0	1.3E+01	0.0090	1.5E+01	1.0	0.67	6.0E+00	2.0E+00	0.33	4.0E-01	0.015	1.0	2.0E+01	1.8E+01	1.8E+02	1.1E+00	1.1E-01
Manganese	3.9E+02	0.0012	1.0	3.0E+01	0.0090	9.1E+01	1.0	0.67	3.7E+01	4.5E+00	0.33	8.9E-01	0.015	1.0	6.8E+01	1.9E+02	6.2E+02	3.5E-01	1.1E-01
Mercury	2.3E-01	0.0012	1.0	1.8E-02	0.0090	7.1E-02	1.0	0.67	2.9E-02	1.8E-01	0.33	3.6E-02	0.015	1.0	8.2E-02	7.0E-02	3.5E-01	1.2E+00	2.3E-01
Nickel	4.7E+01	0.0012	1.0	3.7E+00	0.0090	1.8E+01	1.0	0.67	7.2E+00	***1.8E+00***	0.33	3.6E-01	0.015	1.0	1.1E+01	8.8E+01	1.8E+02	1.3E-01	6.4E-02
Selenium	7.0E+00	0.0012	1.0	5.5E-01	0.0090	2.2E+00	1.0	0.67	8.8E-01	***1.3E+00***	0.33	2.6E-01	0.015	1.0	1.7E+00	4.4E-01	7.3E-01	2.3E+00	2.3E+00
Silver	***4.8E-01***	0.0012	1.0	3.7E-02	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	***4.6E-01***	0.33	9.0E-02	0.015	1.0	3.3E-01	2.2E-01	2.2E+00	1.5E+00	1.5E-01
Thallium	1.3E+00	0.0012	1.0	1.0E-01	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	***4.6E-01***	0.33	9.0E-02	0.015	1.0	3.9E-01	1.6E-02	1.6E-01	2.4E+01	2.4E+00
Vanadium	4.4E+01	0.0012	1.0	3.4E+00	0.0090	1.8E+01	1.0	0.67	7.2E+00	***4.6E-01***	0.33	9.0E-02	0.015	1.0	1.1E+01	4.6E-01	4.6E+00	2.3E+01	2.3E+00
Zinc	3.9E+02	0.0012	1.0	3.0E+01	0.0090	9.8E+01	1.0	0.67	3.9E+01	8.7E+01	0.33	1.7E+01	0.015	1.0	8.7E+01	3.5E+02	7.0E+02	2.5E-01	1.2E-01
Hazard Index - Metals																		6.3E+02	6.6E+01

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQ/HI equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-25
Hazard Indices Comparison
Terrestrial Receptors
Sauget, IL

Prairie Vole - Average Concentrations

Category	Off-Site		Site P		Site R		Site O		Site S		Site Q	
	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI
SVOCs	93	9.5	**94**	**9.6**	93	9.5	93	9.5	**133**	**14**	**94**	**9.6**
Pesticides	0.15	0.0091	**0.24**	**0.014**	0.13	0.0074	**0.17**	**0.011**	**2.2**	**0.16**	**0.18**	**0.011**
Herbicides	27	9.7	1.7	0.42	1.6	0.39	3.1	0.77	1.9	0.44	2.1	0.51
PCBs	0.015	0.0015	**0.041**	**0.0041**	0.014	0.0014	**3.8**	**0.38**	**16**	**1.6**	**0.067**	**0.0067**
Dioxins/Furans	0.23	0.023	**0.58**	**0.058**	**0.25**	**0.025**	**30**	**3.0**	0.04	0.004	**13**	**13**
Metals	20	2.2	18	**2.4**	**24**	**2.8**	20	**2.4**	**21**	**2.4**	**24**	**2.6**

Prairie Vole - Maximum Concentrations

Category	Off-Site		Site P		Site R		Site O		Site S		Site Q	
	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI
SVOCs	93	9.6	**97**	**9.6**	93	9.5	93	9.5	**133**	**14**	**102**	**10**
Pesticides	0.16	0.009	**0.45**	**0.026**	0.15	0.0087	**0.22**	**0.015**	**2.1**	**0.16**	**0.30**	**0.019**
Herbicides	109	29	2.8	0.73	1.9	0.46	6.0	1.5	1.9	0.44	4.9	1.2
PCBs	0.016	0.0016	**0.12**	**0.012**	0.014	0.0014	**11**	**1.1**	**16**	**1.6**	**0.23**	**0.023**
Dioxins/Furans	0.38	0.038	**1.2**	**0.12**	**0.47**	**0.047**	**80**	**8.0**	0.04	0.004	**13**	**13**
Metals	28	3.0	25	**3.4**	**29**	**3.2**	26	**3.2**	21	2.4	**40**	**4.7**

Short-Tailed Shrew - Average Concentrations

Category	Off-Site		Site P		Site R		Site O		Site S		Site Q	
	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI
SVOCs	779	80	653	67	777	80	778	80	**1683**	**172**	705	72
Pesticides	2.1	0.12	2.0	**0.12**	**2.1**	**0.12**	**2.6**	**0.18**	**44**	**3.1**	**2.4**	**0.15**
Herbicides	34	7.3	**38**	**7.6**	32	**7.8**	29	6.5	**84**	**11**	30	6.4
PCBs	0.14	0.014	**0.76**	**0.076**	0.12	0.012	**123**	**12**	**358**	**36**	**7.2**	**0.72**
Dioxins/Furans	5.7	0.57	**15**	**1.6**	**6.3**	**0.63**	**892**	**89**	2.6	0.26	**306**	**31**
Metals	403	42	**410**	**43**	**459**	**47**	**490**	**52**	**459**	**47**	**518**	**54**

Short-Tailed Shrew - Maximum Concentrations

Category	Off-Site		Site P		Site R		Site O		Site S		Site Q	
	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI
SVOCs	780	80	**867**	**89**	778	80	**780**	**80**	**1683**	**172**	**991**	**101**
Pesticides	2.2	0.13	**3.0**	**0.19**	**2.2**	**0.13**	**3.3**	**0.26**	**44**	**3.1**	**5.0**	**0.34**
Herbicides	50	11	**54**	**11**	40	9.6	47	11	**54**	**11**	**65**	**14**
PCBs	0.18	0.018	**2.8**	**0.28**	0.12	0.012	**311**	**31**	**358**	**36**	**36**	**3.6**
Dioxins/Furans	9.4	0.94	**34**	**3.4**	**10**	**1.0**	**227**	**22**	2.6	0.26	**330**	**33**
Metals	568	58	**628**	**64**	542	55	**632**	**70**	459	47	**1002**	**109**

Red Fox

Category	Off-Site		Site-Wide	
	NOAEL HI	LOAEL HI	NOAEL HI	LOAEL HI
SVOCs	224	23	**228**	**23**
Pesticides	0.51	0.038	**1.6**	**0.12**
Herbicides	32	8.0	8.2	1.8
PCBs	0.045	0.0045	**11**	**1.1**
Dioxins/Furans	1.9	0.19	**44**	**4.4**
Metals	129	14	**155**	**18**

NOTES:
BOLD = Value greater than background (Off-Site)
A shaded cell indicates a Hazard Index greater than or equal to 1.0 and a value greater than background.

Table 7-26
COPECs for Site P
Sauget, IL

Soil HQs	Short-tailed Shrew Modeling HQs (Average Conc.)	Short-tailed Shrew Modeling HQs (Maximum Conc.)	Prairie Vole Modeling HQs (Average Conc.)	Prairie Vole Modeling HQs (Maximum Conc.)
Anthracene	MCPA	MCPA	None	Dioxins/furans (NOAEL only)
Fluoranthene	Dioxins/furans	PCBs (NOAEL only)		Aresenic (NOAEL only)
Arsenic	Arsenic	Dioxins/furans		Cobalt (NOAEL only)
Chromium	Cobalt	Arsenic		Mercury (NOAEL only)
Lead	Selenium	Cobalt		Selenium
Nickel	Thallium	Mercury (NOAEL only)		Thallium (NOAEL only)
Selenium	Vanadium	Selenium		
Thallium		Thallium		
Vanadium		Vanadium		

NOTES:
Analytes listed are only for those exceeding their benchmark/TRV, based on detected values, and were above the background values
Shaded cells are for those compounds that are COPECs for all receptors and all concentrations.

Table 7-27
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site R (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.7E+01	9.8E+01	1.8E-03	5.1E-04
1,2-Dichlorobenzene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,3-Dichlorobenzene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,4-Dichlorobenzene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.7E+02	3.2E-04	1.8E-04
2,2'-Oxybis(1-Chloropropane)	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
2,4,5-Trichlorophenol	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	5.5E+01	2.7E-03	9.1E-04
2,4,6-Trichlorophenol	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+02	5.5E+01	5.5E-05	9.1E-04
2,4-Dichlorophenol	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.5E-01	5.5E+00	9.1E-02	9.1E-03
2,4-Dinitrophenol	***9.1E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	3.1E-03	3.1E-02	8.2E+01	8.2E+00
2,4-Dinitrotoluene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.0E-01	6.7E+00	5.6E-02	7.4E-03
2,6-Dinitrotoluene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+00	1.3E+01	3.9E-02	3.9E-03
2-Chloronaphthalene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.5E+01	5.9E+01	2.0E-03	8.4E-04
2-Chlorophenol	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+01	9.1E+00	5.5E-04	5.5E-03
2-Methylnaphthalene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.8E+03	2.8E+04	1.8E-05	1.8E-06
2-Methylphenol (o-Cresol)	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
2-Nitroaniline	***9.1E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
2-Nitrophenol	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E+00	1.3E+01	1.1E-02	3.9E-03
3,3'-Dichlorobenzidine	***3.6E-01***	0.00012	1.0	1.0E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	4.7E+01	5.0E+02	2.2E-03	2.0E-04
3/4-Methylphenol (m&p-Cresol)	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
3-Nitroaniline	***9.1E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4,6-Dinitro-2-methylphenol	***9.1E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E-01	8.3E+00	5.6E-01	3.1E-02
4-Bromophenyl Phenyl Ether	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Chloro-3-methylphenol	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.0E+02	2.0E+03	2.4E-04	2.4E-05
4-Chloroaniline	***3.6E-01***	0.00012	1.0	1.0E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	2.3E+00	2.3E+01	4.4E-02	4.4E-03
4-Chlorophenyl Phenyl Ether	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Nitroaniline	***9.1E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4-Nitrophenol	***9.1E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E+00	1.3E+01	5.6E-02	2.0E-02
Acenaphthene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Acenaphthylene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Anthracene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E+01	9.9E+02	5.1E-04	5.1E-05
Benzo(a)anthracene	1.1E-01	0.00012	1.0	3.1E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Benzo(a)pyrene	1.0E-01	0.00012	1.0	3.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Benzo(b)fluoranthene	1.1E-01	0.00012	1.0	3.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Benzo(g,h,i)perylene	1.1E-01	0.00012	1.0	3.1E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Benzo(k)fluoranthene	1.1E-01	0.00012	1.0	3.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
bis(2-Chloroethoxy)methane	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
bis(2-Chloroethyl)ether	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
bis(2-Ethylhexyl)phthalate	1.5E-01	0.00012	1.0	4.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	1.8E+02	2.8E-03	2.8E-04
Butyl Benzyl Phthalate	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.9E+01	8.6E+01	1.7E-03	5.8E-04
Carbazole	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.0E+00	3.0E+01	1.7E-02	1.7E-03
Chrysene	7.0E-02	0.00012	1.0	2.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Dibenzo(a,h)anthracene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzofuran	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.4E-02	2.4E-01	2.1E+00	2.1E-01
Diethyl Phthalate	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Dimethyl Phthalate	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Di-n-butylphthalate	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	4.1E-01	1.0	4.1E-02	0.0416	1.0	4.2E-02	5.4E+02	1.8E+03	7.7E-05	2.3E-05
Di-n-octylphthalate	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Fluoranthene	1.4E-01	0.00012	1.0	4.1E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Fluorene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Hexachlorobenzene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.5E-01	5.3E-01	3.4E-01	9.4E-02
Hexachlorobutadiene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E-01	3.7E-01	1.4E-01	1.4E-01
Hexachlorocyclopentadiene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+00	2.0E+00	4.6E-02	2.5E-02
Hexachloroethane	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	2.7E+00	2.7E-01	1.8E-02
Indeno(1,2,3-cd)pyrene	1.5E-01	0.00012	1.0	4.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Isophorone	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	6.7E+01	3.3E+02	7.4E-04	1.5E-04
Naphthalene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+01	2.6E+01	3.9E-03	1.9E-03
Nitrobenzene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E-02	4.6E-01	1.1E+00	1.1E-01
N-Nitroso-di-n-propylamine	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-03	9.9E-02	5.1E+00	5.1E-01
N-Nitrosodiphenylamine	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E+02	9.1E+01	1.4E-04	5.5E-04
Pentachlorophenol	***3.6E-02***	0.00012	1.0	1.0E-04	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.7E-03	4.4E-01	4.4E+00	6.0E-03	6.0E-04
Phenanthrene	1.0E-01	0.00012	1.0	3.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Phenol	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+02	2.2E+02	4.6E-04	2.3E-04
Pyrene	1.5E-01	0.00012	1.0	4.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	7.4E+00	1.2E+01	6.7E-03	4.0E-03
Hazard Index - SVOCs														9.3E+01	9.5E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicate HQs/HIs equal to or greater than 1.0

Table 7-27
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site R (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	***2.2E-03***	0.00012	1.0	6.5E-06	0.0042	4.2E-03	1.0	4.2E-04	0.0416	1.0	4.2E-04	1.5E+00	7.3E+00	2.9E-04	5.8E-05
4,4'-DDE	***2.2E-03***	0.00012	1.0	6.5E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	1.5E+00	7.3E+00	3.4E-04	6.9E-05
4,4'-DDT	2.0E-03	0.00012	1.0	5.8E-06	0.0042	2.5E-03	1.0	2.5E-04	0.0416	1.0	2.6E-04	1.5E+00	7.3E+00	1.8E-04	3.5E-05
Aldrin	***1.1E-03***	0.00012	1.0	3.3E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	3.7E-01	1.8E+00	7.1E-04	1.4E-04
alpha-BHC	***1.1E-03***	0.00012	1.0	3.3E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.8E-05	4.4E-05
alpha-Chlordane	***1.1E-03***	0.00012	1.0	3.3E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	4.6E+00	9.1E+00	5.7E-05	2.8E-05
beta-BHC	***1.1E-03***	0.00012	1.0	3.3E-06	0.0042	3.4E-03	1.0	3.4E-04	0.0416	1.0	3.4E-04	7.3E-01	3.7E+00	4.7E-04	9.3E-05
delta-BHC	***1.1E-03***	0.00012	1.0	3.3E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.8E-05	4.4E-05
Dieldrin	1.1E-03	0.00012	1.0	3.3E-06	0.0042	2.0E-03	1.0	2.0E-04	0.0416	1.0	2.1E-04	3.7E-02	3.7E-01	5.7E-03	5.7E-04
Endosulfan I	***1.1E-03***	0.00012	1.0	3.3E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.7E-01	2.7E+00	9.4E-04	9.4E-05
Endosulfan II	***2.2E-03***	0.00012	1.0	6.5E-06	0.0042	3.0E-03	1.0	3.0E-04	0.0416	1.0	3.0E-04	2.7E-01	2.7E+00	1.1E-03	1.1E-04
Endosulfan Sulfate	***2.2E-03***	0.00012	1.0	6.5E-06	0.0042	3.7E-03	1.0	3.7E-04	0.0416	1.0	3.7E-04	2.7E-01	2.7E+00	1.4E-03	1.4E-04
Endrin	***2.2E-03***	0.00012	1.0	6.5E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	9.1E-02	9.1E-01	5.5E-03	5.5E-04
Endrin Aldehyde	***2.2E-03***	0.00012	1.0	6.5E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	9.1E-02	9.1E-01	5.5E-03	5.5E-04
Endrin Ketone	***2.2E-03***	0.00012	1.0	6.5E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	9.1E-02	9.1E-01	5.5E-03	5.5E-04
gamma-BHC (Lindane)	***1.1E-03***	0.00012	1.0	3.3E-06	0.0042	1.7E-03	1.0	1.7E-04	0.0416	1.0	1.7E-04	1.5E+01	1.5E+02	1.2E-05	1.2E-06
gamma-Chlordane	9.7E-04	0.00012	1.0	2.8E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	4.6E+00	9.1E+00	5.7E-05	2.8E-05
Heptachlor	***1.1E-03***	0.00012	1.0	3.3E-06	0.0042	2.2E-03	1.0	2.2E-04	0.0416	1.0	2.2E-04	2.4E-01	2.4E+00	9.3E-04	9.3E-05
Heptachlor Epoxide	***1.1E-03***	0.00012	1.0	3.3E-06	0.0042	2.1E-03	1.0	2.1E-04	0.0416	1.0	2.2E-04	2.3E-03	5.6E-02	9.5E-02	3.9E-03
Methoxychlor	***1.1E-02***	0.00012	1.0	3.3E-05	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.6E-03	7.3E+00	1.5E+01	3.5E-04	1.8E-04
Toxaphene	***1.1E-01***	0.00012	1.0	3.3E-04	0.0042	***2.6E-01***	1.0	2.6E-02	0.0416	1.0	2.6E-02	1.5E+01	1.5E+02	1.8E-03	1.8E-04
Hazard Index - Pesticides														1.3E-01	7.4E-03
Herbicides															
2,4-D	2.6E-02	0.00012	1.0	7.6E-05	0.0042	4.5E-02	1.0	4.5E-03	0.0416	1.0	4.6E-03	1.8E+00	9.1E+00	2.5E-03	5.0E-04
2,4-DB	3.4E-02	0.00012	1.0	9.9E-05	0.0042	4.0E-02	1.0	4.0E-03	0.0416	1.0	4.1E-03	3.6E+00	1.1E+01	1.1E-03	3.7E-04
2,4,5-T	***1.7E-02***	0.00012	1.0	4.9E-05	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	1.3E-03	5.5E+00	1.8E+01	2.4E-04	7.1E-05
2,4,5-TP (Silvex)	1.8E-02	0.00012	1.0	5.2E-05	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	1.3E-03	3.4E+00	1.1E+01	3.9E-04	1.2E-04
Dalapon	***4.2E+00***	0.00012	1.0	1.2E-02	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	3.1E-01	1.5E+01	5.2E+01	2.0E-02	5.9E-03
Dicamba	***4.2E-02***	0.00012	1.0	1.2E-04	0.0042	***3.0E-02***	1.0	3.0E-03	0.0416	1.0	3.1E-03	7.5E+00	2.5E+01	4.2E-04	1.3E-04
Dichlorprop	7.8E-02	0.00012	1.0	2.2E-04	0.0042	***1.5E-01***	1.0	1.5E-02	0.0416	1.0	1.5E-02	2.0E-01	2.0E+00	7.7E-02	7.7E-03
Dinoseb	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	1.8E+00	2.7E-01	2.7E-02
MCPA	***4.2E+00***	0.00012	1.0	1.2E-02	0.0042	3.4E+00	1.0	3.4E-01	0.0416	1.0	3.5E-01	6.7E-01	3.4E+00	5.2E-01	1.0E-01
MCPP	3.7E+01	0.00012	1.0	1.1E-01	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	4.1E-01	5.5E-01	1.6E+00	7.4E-01	2.5E-01
Hazard Index - Herbicides														1.6E+00	3.9E-0
PCBs															
Total PCBs	8.5E-03	0.00012	1.0	2.5E-05	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	2.5E-03	1.8E-01	1.8E+00	1.4E-02	1.4E-03
Dioxins/Furans															
TEQ	1.4E-04	0.00012	1.0	4.0E-07	0.0042	5.5E-07	1.0	5.5E-08	0.0416	1.0	4.5E-07	1.8E-06	1.8E-05	2.5E-01	2.5E-02
Metals*															
Aluminum	8.8E+03	0.00012	1.0	2.5E+01	0.0042	2.3E+01	1.0	2.3E+00	0.0416	1.0	2.8E+01	1.9E+00	1.9E+01	1.3E+01	1.3E+00
Antimony	8.7E-01	0.00012	1.0	2.5E-03	0.0042	***9.2E-01***	1.0	9.2E-02	0.0416	1.0	9.5E-02	1.2E-01	1.2E+00	7.6E-01	7.6E-02
Arsenic	6.4E+00	0.00012	1.0	1.8E-02	0.0042	***4.6E-01***	1.0	4.6E-02	0.0416	1.0	6.5E-02	1.2E-01	1.2E+00	5.2E-01	5.2E-02
Barium	1.3E+02	0.00012	1.0	3.6E-01	0.0042	9.4E+00	1.0	9.4E-01	0.0416	1.0	1.3E+00	9.3E+00	3.6E+01	1.4E-01	3.6E-02
Beryllium	5.6E-01	0.00012	1.0	1.6E-03	0.0042	***1.8E-01***	1.0	1.8E-02	0.0416	1.0	2.0E-02	1.2E+00	1.2E+01	1.7E-02	1.7E-03
Cadmium	4.4E-01	0.00012	1.0	1.3E-03	0.0042	2.0E-01	1.0	2.0E-02	0.0416	1.0	2.1E-02	1.8E+00	1.8E+01	1.2E-02	1.2E-03
Chromium	1.5E+01	0.00012	1.0	4.4E-02	0.0042	2.8E-01	1.0	2.8E-02	0.0416	1.0	7.2E-02	6.0E+00	2.4E+01	1.2E-02	3.0E-03
Cobalt	9.3E+00	0.00012	1.0	2.7E-02	0.0042	***4.6E-01***	1.0	4.6E-02	0.0416	1.0	7.3E-02	9.1E-02	9.1E-01	8.0E-01	8.0E-02
Copper	2.0E+01	0.00012	1.0	5.6E-02	0.0042	2.8E+00	1.0	2.8E-01	0.0416	1.0	3.4E-01	2.8E+01	3.7E+01	1.2E-02	9.2E-03
Lead	1.8E+01	0.00012	1.0	5.1E-02	0.0042	4.0E+00	1.0	4.0E-01	0.0416	1.0	4.5E-01	1.5E+01	1.5E+02	3.1E-02	3.1E-03
Manganese	7.5E+02	0.00012	1.0	2.2E+00	0.0042	8.6E+00	1.0	8.6E-01	0.0416	1.0	3.0E+00	1.6E+02	5.2E+02	1.9E-02	5.8E-03
Mercury	5.9E-02	0.00012	1.0	1.7E-04	0.0042	1.6E+00	1.0	1.6E-01	0.0416	1.0	1.6E-01	5.9E-02	2.9E-01	2.7E+00	5.4E-01
Nickel	1.9E+01	0.00012	1.0	5.5E-02	0.0042	***1.8E+00***	1.0	1.8E-01	0.0416	1.0	2.4E-01	7.3E+01	1.5E+02	3.3E-03	1.6E-03
Selenium	***5.1E-01***	0.00012	1.0	1.5E-03	0.0042	***4.6E-01***	1.0	4.6E-02	0.0416	1.0	4.8E-02	3.7E-01	6.0E-01	1.3E-01	7.9E-02
Silver	***5.1E-01***	0.00012	1.0	1.5E-03	0.0042	***4.6E-01***	1.0	4.6E-02	0.0416	1.0	4.8E-02	1.8E-01	1.8E+00	2.7E-01	2.7E-02
Thallium	***5.1E-01***	0.00012	1.0	1.5E-03	0.0042	***4.6E-01***	1.0	4.6E-02	0.0416	1.0	4.8E-02	1.4E-02	1.4E-01	3.5E+00	3.5E-01
Vanadium	3.0E+01	0.00012	1.0	8.7E-02	0.0042	***4.6E-01***	1.0	4.6E-02	0.0416	1.0	1.3E-01	3.8E-01	3.8E+00	3.5E-01	3.5E-02
Zinc	7.5E+01	0.00012	1.0	2.2E-01	0.0042	2.6E+01	1.0	2.6E+00	0.0416	1.0	2.9E+00	2.9E+02	5.9E+02	9.8E-03	4.9E-03
Hazard Index - Metals														2.4E+01	2.8E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicated HQs/HIs equal to or greater than 1.0

Table 7-28
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site R (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.7E+01	9.8E+01	1.8E-03	5.1E-04
1,2-Dichlorobenzene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,3-Dichlorobenzene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,4-Dichlorobenzene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.7E+02	3.2E-04	1.8E-04
2,2'-Oxybis(1-Chloropropane)	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
2,4,5-Trichlorophenol	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	5.5E+01	2.7E-03	9.1E-04
2,4,6-Trichlorophenol	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+02	5.5E+01	5.5E-05	9.1E-04
2,4-Dichlorophenol	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.5E-01	5.5E+00	9.1E-02	9.1E-03
2,4-Dinitrophenol	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	3.1E-03	3.1E-02	8.2E+01	8.2E+00
2,4-Dinitrotoluene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.0E-01	6.7E+00	5.6E-02	7.4E-03
2,6-Dinitrotoluene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+00	1.3E+01	3.9E-02	3.9E-03
2-Chloronaphthalene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.5E+01	5.9E+01	2.0E-03	8.4E-04
2-Chlorophenol	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+01	9.1E+00	5.5E-04	5.5E-03
2-Methylnaphthalene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.8E+03	2.8E+04	1.8E-05	1.8E-06
2-Methylphenol (o-Cresol)	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
2-Nitroaniline	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
2-Nitrophenol	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E+00	1.3E+01	1.1E-02	3.9E-03
3,3'-Dichlorobenzidine	***3.7E-01***	0.00012	1.0	1.1E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	4.7E+01	5.0E+02	2.2E-03	2.0E-04
3/4-Methylphenol (m&p-Cresol)	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
3-Nitroaniline	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4,6-Dinitro-2-methylphenol	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E-01	8.3E+00	5.6E-01	3.1E-02
4-Bromophenyl Phenyl Ether	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Chloro-3-methylphenol	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.0E+02	2.0E+03	2.4E-04	2.4E-05
4-Chloroaniline	***3.7E-01***	0.00012	1.0	1.1E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	2.3E+00	2.3E+01	4.4E-02	4.4E-03
4-Chlorophenyl Phenyl Ether	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Nitroaniline	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4-Nitrophenol	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E+00	1.3E+01	5.6E-02	2.0E-02
Acenaphthene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Acenaphthylene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Anthracene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E+01	9.9E+02	5.1E-04	5.1E-05
Benzo(a)anthracene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(a)pyrene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(b)fluoranthene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(g,h,i)perylene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(k)fluoranthene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
bis(2-Chloroethoxy)methane	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
bis(2-Chloroethyl)ether	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
bis(2-Ethylhexyl)phthalate	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	1.8E+02	2.8E-03	2.8E-04
Butyl Benzyl Phthalate	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.9E+01	8.6E+01	1.7E-03	5.8E-04
Carbazole	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.0E+00	3.0E+01	1.7E-02	1.7E-03
Chrysene	***1.8E-01***	0.00012	1.0	5.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzo(a,h)anthracene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzofuran	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.4E-02	2.4E-01	2.1E+00	2.1E-01
Diethyl Phthalate	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Dimethyl Phthalate	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Di-n-butylphthalate	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Di-n-octylphthalate	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Fluoranthene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Fluorene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Hexachlorobenzene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.5E-01	5.3E-01	3.4E-01	9.4E-02
Hexachlorobutadiene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E-01	3.7E-01	1.4E-01	1.4E-01
Hexachlorocyclopentadiene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+00	2.0E+00	4.6E-02	2.5E-02
Hexachloroethane	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	2.7E+00	2.7E-01	1.8E-02
Indeno(1,2,3-cd)pyrene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Isophorone	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	6.7E+01	3.3E+02	7.4E-04	1.5E-04
Naphthalene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+01	2.6E+01	3.9E-03	1.9E-03
Nitrobenzene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E-02	4.6E-01	1.1E+00	1.1E-01
N-Nitroso-di-n-propylamine	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-03	9.9E-02	5.1E+00	5.1E-01
N-Nitrosodiphenylamine	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E+02	9.1E+01	1.4E-04	5.5E-04
Pentachlorophenol	***4.6E-02***	0.00012	1.0	1.3E-04	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.7E-03	4.4E-01	4.4E+00	6.1E-03	6.1E-04
Phenanthrene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Phenol	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+02	2.2E+02	4.6E-04	2.3E-04
Pyrene	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	7.4E+00	1.2E+01	6.7E-03	4.0E-03
Hazard Index - SVOCs														9.3E+01	9.5E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

Table 7-28
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site R (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	***3.6E-03***	0.00012	1.0	1.0E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.1E-04	1.5E+00	7.3E+00	3.3E-04	6.9E-05
4,4'-DDE	***3.6E-03***	0.00012	1.0	1.0E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.1E-04	1.5E+00	7.3E+00	3.3E-04	6.9E-05
4,4'-DDT	2.7E-03	0.00012	1.0	7.8E-06	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.0E-04	1.5E+00	7.3E+00	3.4E-04	6.9E-05
Aldrin	***1.8E-03***	0.00012	1.0	5.2E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	3.7E-01	1.8E+00	7.1E-04	1.4E-04
alpha-BHC	***1.8E-03***	0.00012	1.0	5.2E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.9E-05	4.4E-05
alpha-Chlordane	***1.8E-03***	0.00012	1.0	5.2E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	4.6E+00	9.1E+00	5.7E-05	2.9E-05
beta-BHC	***1.8E-03***	0.00012	1.0	5.2E-06	0.0042	5.2E-03	1.0	5.2E-04	0.0416	1.0	5.3E-04	7.3E-01	3.7E+00	7.2E-04	1.4E-04
delta-BHC	***1.8E-03***	0.00012	1.0	5.2E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.9E-05	4.4E-05
Dieldrin	***1.8E-03***	0.00012	1.0	5.0E-06	0.0042	2.9E-03	1.0	2.9E-04	0.0416	1.0	3.0E-04	3.7E-02	3.7E-01	8.1E-03	8.1E-04
Endosulfan I	***1.8E-03***	0.00012	1.0	5.2E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.7E-01	2.7E+00	9.5E-04	9.5E-05
Endosulfan II	***3.6E-03***	0.00012	1.0	1.0E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.1E-04	2.7E-01	2.7E+00	1.8E-03	1.8E-04
Endosulfan Sulfate	***3.6E-03***	0.00012	1.0	1.0E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.1E-04	2.7E-01	2.7E+00	1.8E-03	1.8E-04
Endrin	***3.6E-03***	0.00012	1.0	1.0E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.1E-04	9.1E-02	9.1E-01	5.6E-03	5.6E-04
Endrin Aldehyde	***3.6E-03***	0.00012	1.0	1.0E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.1E-04	9.1E-02	9.1E-01	5.6E-03	5.6E-04
Endrin Ketone	3.6E-03	0.00012	1.0	1.0E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.1E-04	9.1E-02	9.1E-01	5.6E-03	5.6E-04
gamma-BHC (Lindane)	***1.8E-03***	0.00012	1.0	5.2E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	1.5E+01	1.5E+02	1.8E-05	1.8E-06
gamma-Chlordane	***1.8E-03***	0.00012	1.0	5.2E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	4.6E+00	9.1E+00	5.7E-05	2.9E-05
Heptachlor	***1.8E-03***	0.00012	1.0	5.2E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.4E-01	2.4E+00	1.1E-03	1.1E-04
Heptachlor Epoxide	***1.8E-03***	0.00012	1.0	5.2E-06	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.6E-04	2.3E-03	5.6E-02	1.1E-01	4.6E-03
Methoxychlor	***1.8E-02***	0.00012	1.0	5.2E-05	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.6E-03	7.3E+00	1.5E+01	3.6E-04	1.8E-04
Toxaphene	***1.8E-01***	0.00012	1.0	5.2E-04	0.0042	***2.6E-01***	1.0	2.6E-02	0.0416	1.0	2.6E-02	1.5E+01	1.5E+02	1.8E-03	1.8E-04
Hazard Index - Pesticides														1.5E-01	8.7E-03
Herbicides															
2,4-D	5.5E-02	0.00012	1.0	1.6E-04	0.0042	6.4E-02	1.0	6.4E-03	0.0416	1.0	6.6E-03	1.8E+00	9.1E+00	3.6E-03	7.2E-04
2,4-DB	6.0E-02	0.00012	1.0	1.7E-04	0.0042	8.7E-02	1.0	8.7E-03	0.0416	1.0	8.9E-03	3.6E+00	1.1E+01	2.5E-03	7.9E-04
2,4,5-T	***2.3E-02***	0.00012	1.0	6.5E-05	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	1.3E-03	5.5E+00	1.8E+01	2.4E-04	7.2E-05
2,4,5-TP (Silvex)	***2.3E-02***	0.00012	1.0	6.5E-05	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	1.3E-03	3.4E+00	1.1E+01	3.9E-04	1.2E-04
Dalapon	***5.5E+00***	0.00012	1.0	1.6E-02	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	3.2E-01	1.5E+01	5.2E+01	2.0E-02	6.0E-03
Dicamba	***5.5E-02***	0.00012	1.0	1.6E-04	0.0042	***3.0E-02***	1.0	3.0E-03	0.0416	1.0	3.2E-03	7.5E+00	2.5E+01	4.2E-04	1.3E-04
Dichlorprop	1.0E-01	0.00012	1.0	2.9E-04	0.0042	***1.5E-01***	1.0	1.5E-02	0.0416	1.0	1.5E-02	2.0E-01	2.0E+00	7.7E-02	7.7E-03
Dinoseb	***1.9E-01***	0.00012	1.0	5.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	1.8E+00	2.7E-01	2.7E-02
MCPA	***5.5E+00***	0.00012	1.0	1.6E-02	0.0042	4.8E+00	1.0	4.8E-01	0.0416	1.0	5.0E-01	6.7E-01	3.4E+00	7.4E-01	1.5E-01
MCPP	5.1E+01	0.00012	1.0	1.5E-01	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	4.5E-01	5.5E-01	1.6E+00	8.2E-01	2.7E-01
Hazard Index - Herbicides														1.9E+00	4.6E-01
PCBs															
Total PCBs	***9.5E-03***	0.00012	1.0	2.7E-05	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	2.5E-03	1.8E-01	1.8E+00	1.4E-02	1.4E-03
Dioxins/Furans															
TEQ	***2.5E-04***	0.00012	1.0	7.3E-07	0.0042	1.2E-06	1.0	1.2E-07	0.0416	1.0	8.5E-07	1.8E-06	1.8E-05	4.7E-01	4.7E-02
Metals*															
Aluminum	1.0E+04	0.00012	1.0	2.9E+01	0.0042	3.7E+01	1.0	3.7E+00	0.0416	1.0	3.3E+01	1.9E+00	1.9E+01	1.7E+01	1.7E+00
Antimony	***1.1E+00***	0.00012	1.0	3.2E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	1.2E-01	1.2E+00	8.3E-01	8.3E-02
Arsenic	7.2E+00	0.00012	1.0	2.1E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.1E-02	1.2E-01	1.2E+00	5.7E-01	5.7E-02
Barium	1.5E+02	0.00012	1.0	4.3E-01	0.0042	1.3E+01	1.0	1.3E+00	0.0416	1.0	1.7E+00	9.3E+00	3.6E+01	1.9E-01	4.8E-02
Beryllium	6.8E-01	0.00012	1.0	2.0E-03	0.0042	***2.0E-01***	1.0	2.0E-02	0.0416	1.0	2.2E-02	1.2E+00	1.2E+01	1.8E-02	1.8E-03
Cadmium	7.6E-01	0.00012	1.0	2.2E-03	0.0042	3.5E-01	1.0	3.5E-02	0.0416	1.0	3.7E-02	1.8E+00	1.8E+01	2.0E-02	2.0E-03
Chromium	1.7E+01	0.00012	1.0	4.9E-02	0.0042	5.0E-01	1.0	5.0E-02	0.0416	1.0	9.9E-02	6.0E+00	2.4E+01	1.7E-02	4.1E-03
Cobalt	1.5E+01	0.00012	1.0	4.3E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	9.3E-02	9.1E-02	9.1E-01	1.0E+00	1.0E-01
Copper	2.5E+01	0.00012	1.0	7.2E-02	0.0042	3.5E+00	1.0	3.5E-01	0.0416	1.0	4.2E-01	2.8E+01	3.7E+01	1.5E-02	1.2E-02
Lead	3.3E+01	0.00012	1.0	9.5E-02	0.0042	7.6E+00	1.0	7.6E-01	0.0416	1.0	8.6E-01	1.5E+01	1.5E+02	5.8E-02	5.8E-03
Manganese	1.2E+03	0.00012	1.0	3.5E+00	0.0042	9.7E+00	1.0	9.7E-01	0.0416	1.0	4.4E+00	1.6E+02	5.2E+02	2.8E-02	8.5E-03
Mercury	7.6E-02	0.00012	1.0	2.2E-04	0.0042	2.5E+00	1.0	2.5E-01	0.0416	1.0	2.5E-01	5.9E-02	2.9E-01	4.2E+00	8.6E-01
Nickel	2.1E+01	0.00012	1.0	6.1E-02	0.0042	***2.0E+00***	1.0	2.0E-01	0.0416	1.0	2.6E-01	7.3E+01	1.5E+02	3.6E-03	1.8E-03
Selenium	***5.5E-01***	0.00012	1.0	1.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	3.7E-01	6.0E-01	1.4E-01	8.5E-02
Silver	***5.5E-01***	0.00012	1.0	1.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.8E-01	1.8E+00	2.9E-01	2.9E-02
Thallium	***5.5E-01***	0.00012	1.0	1.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.4E-02	1.4E-01	3.8E+00	3.8E-01
Vanadium	3.4E+01	0.00012	1.0	9.8E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.5E-01	3.8E-01	3.8E+00	3.9E-01	3.9E-02
Zinc	1.2E+02	0.00012	1.0	3.5E-01	0.0042	4.4E+01	1.0	4.4E+00	0.0416	1.0	4.7E+00	2.9E+02	5.9E+02	1.6E-02	8.1E-03
Hazard Index - Metals														2.9E+01	3.4E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQ/HI total to be greater than 1.0

Hazard Quotients and Hazard Indices for [illegible] Earthworms and Terrestrial Invertebrates
Short-[illegible]ed Shrew
Site R (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs																			
1,2,4-Trichlorobenzene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	3.3E+01	1.2E+02	1.6E-02	4.4E-03
1,2-Dichlorobenzene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E+02	2.6E+03	2.7E-03	1.9E-04
1,3-Dichlorobenzene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E+02	2.6E+03	2.7E-03	1.9E-04
1,4-Dichlorobenzene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E+02	3.3E+02	2.7E-03	1.6E-03
2,2-Oxybis(1-Chloropropane)	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E+01	6.6E+01	2.3E-02	7.8E-03
2,4,5-Trichlorophenol	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+03	6.6E+01	4.7E-04	7.8E-03
2,4,6-Trichlorophenol	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
2,4-Dichlorophenol	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	6.6E-01	6.6E+00	7.8E-01	7.8E-02
2,4-Dinitrophenol	*9.1E-01*	0.0012	1.0	7.1E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	3.8E-03	3.8E-02	6.9E+02	6.9E+01
2,4-Dinitrotoluene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+00	8.1E+00	4.8E-01	6.4E-02
2,6-Dinitrotoluene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+00	1.5E+01	3.3E-01	3.3E-02
2-Chloronaphthalene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	3.0E+01	7.1E+01	1.7E-02	7.2E-03
2-Chlorophenol	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+02	1.1E+01	4.7E-03	4.7E-02
2-Methylnaphthalene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	3.4E+03	3.4E+04	1.5E-04	1.5E-05
2-Methylphenol (o-Cresol)	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
2-Nitroaniline	*9.1E-01*	0.0012	1.0	7.1E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
2-Nitrophenol	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	5.5E+00	1.5E+01	9.4E-02	3.3E-02
3,3'-Dichlorobenzidine	*3.6E-01*	0.0012	1.0	2.8E-02	0.0090	*2.0E+00*	1.0	0.67	8.0E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	1.0E+00	5.6E-01	6.1E+02	1.8E-02	1.7E-03
3/4-Methylphenol (m&p-Cresol)	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	9.2E+00	9.2E+01	5.6E-02	5.6E-03
3-Nitroaniline	*9.1E-01*	0.0012	1.0	7.1E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E-01	1.0E+01	4.7E-02	2.6E-01
4,6-Dinitro-2-methyl phenol	*9.1E-01*	0.0012	1.0	7.1E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	2.2E+00	1.8E+01	1.2E+00	1.5E-01
4-Bromophenyl Phenyl Ether	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.5E+02	2.5E+03	2.1E-03	2.1E-04
4-Chloro-3-methylphenol	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.7E+00	2.7E+01	1.9E-01	1.9E-02
4-Chloroaniline	*3.6E-01*	0.0012	1.0	2.8E-02	0.0090	*2.0E+00*	1.0	0.67	8.0E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	1.0E+00	2.2E+00	1.8E+01	4.7E-01	5.9E-02
4-Chlorophenyl Phenyl Ether	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
4-Nitroaniline	*9.1E-01*	0.0012	1.0	7.1E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
4-Nitrophenol	*9.1E-01*	0.0012	1.0	7.1E-02	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E+00	1.5E+01	4.7E-01	1.7E-01
Acenaphthene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Acenaphthylene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Anthracene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+02	1.2E+03	4.3E-03	4.3E-04
Benzo(a)anthracene	1.1E-01	0.0012	1.0	8.2E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(a)pyrene	1.0E-01	0.0012	1.0	8.2E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(b)fluoranthene	1.1E-01	0.0012	1.0	8.2E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(g,h,i)perylene	1.1E-01	0.0012	1.0	8.4E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(k)fluoranthene	1.1E-01	0.0012	1.0	8.2E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
bis(2-Chloroethoxy)methane	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Chloroethyl)ether	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Ethylhexyl)phthalate	1.5E-01	0.0012	1.0	1.2E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E+01	2.2E+02	2.4E-02	2.4E-03
Butyl Benzyl Phthalate	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	3.5E+01	1.0E+02	1.5E-02	5.0E-03
Carbazole	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	3.6E+00	3.6E+01	1.4E-01	1.4E-02
Chrysene	7.0E-02	0.0012	1.0	5.4E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenzo(a,h)anthracene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenzofuran	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.9E-02	2.9E-01	1.8E-01	1.8E-00
Diethyl Phthalate	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	5.4E+03	5.4E+04	9.4E-05	9.4E-06
Dimethyl Phthalate	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	5.4E+03	5.4E+04	9.4E-05	9.4E-06
Di-n-butylphthalate	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	6.5E+02	2.2E+03	7.9E-04	2.4E-04
Di-n-octylphthalate	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	6.5E+02	2.2E+03	7.9E-04	2.4E-04
Fluoranthene	1.4E-01	0.0012	1.0	1.1E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+01	3.0E+01	3.4E-02	1.7E-02
Fluorene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+01	3.0E+01	3.5E-02	1.7E-02
Hexachlorobenzene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.8E-01	6.4E-01	2.9E-00	8.1E-01
Hexachlorobutadiene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	4.4E-01	4.4E-01	2.2E+00	1.2E+00
Hexachlorocyclopentadiene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.3E+00	2.4E+00	3.9E-01	2.1E-01
Hexachloroethane	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E-01	3.3E+00	2.5E-00	1.6E-01
Indeno(1,2,3-cd)pyrene	1.5E-01	0.0012	1.0	1.1E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Isophorone	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	8.1E+01	3.9E+02	6.4E-03	1.3E-03
Naphthalene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.6E+01	3.1E+01	3.3E-02	1.6E-02
Nitrobenzene	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	5.5E-02	5.5E-01	9.4E+00	9.4E-01
N-Nitroso-di-n-propylamine	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E-02	1.2E-01	4.3E-01	4.3E-00
N-Nitrosodiphenylamine	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	4.4E+02	1.1E+02	1.2E-03	4.7E-03
Pentachlorophenol	*3.6E-02*	0.0012	1.0	2.8E-03	0.0090	8.2E-02	1.0	0.67	3.3E-02	*2.6E-02*	0.33	5.0E-03	0.015	1.0	4.1E-02	5.3E-01	5.3E+00	7.7E-02	7.7E-03
Phenanthrene	1.0E-01	0.0012	1.0	8.0E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.4E-02	1.2E-02
Phenol	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	1.3E+02	2.6E+02	3.9E-03	1.9E-03
Pyrene	1.5E-01	0.0012	1.0	1.1E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	8.9E+00	1.5E+01	5.7E-02	3.4E-02
Hazard Index - SVOCs																		7.8E+02	8.0E+01

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQs/HIs equal to or greater than 1.0

Table 7-29
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site R (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4'-DDD	*2.2E-03*	0.0012	1.0	1.7E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	9.2E-03	1.8E+00	8.8E+00	5.2E-03	1.0E-03
4,4'-DDE	*2.2E-03*	0.0012	1.0	1.7E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	9.2E-03	1.8E+00	8.8E+00	5.2E-03	1.0E-03
4,4'-DDT	2.0E-03	0.0012	1.0	1.6E-04	0.0090	1.4E-02	1.0	0.67	5.4E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	6.6E-03	1.8E+00	8.8E+00	3.7E-03	7.5E-04
Aldrin	*1.1E-03*	0.0012	1.0	8.9E-05	0.0090	8.5E-03	1.0	0.67	3.4E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	3.9E-03	4.4E-01	2.2E+00	8.8E-03	1.8E-03
alpha-BHC	*1.1E-03*	0.0012	1.0	8.9E-05	0.0090	1.0E-02	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	4.6E-03	3.5E+00	7.0E+00	1.3E-03	6.6E-04
alpha-Chlordane	*1.1E-03*	0.0012	1.0	8.9E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	4.6E-03	8.8E-01	4.4E+00	5.2E-03	1.0E-03
beta-BHC	*1.1E-03*	0.0012	1.0	8.9E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	4.6E-03	5.5E+00	1.1E+01	8.4E-04	4.2E-04
delta-BHC	*1.1E-03*	0.0012	1.0	8.9E-05	0.0090	1.1E-02	1.0	0.67	4.4E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	4.8E-03	5.5E+00	1.1E+01	8.7E-04	4.4E-04
Dieldrin	1.1E-03	0.0012	1.0	8.8E-05	0.0090	1.4E-02	1.0	0.67	5.5E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	6.6E-03	3.5E+00	7.0E+00	1.9E-03	9.4E-04
Endosulfan I	*1.1E-03*	0.0012	1.0	8.9E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	4.6E-03	4.4E-02	4.4E-01	1.0E-01	1.0E-02
Endosulfan II	*2.2E-03*	0.0012	1.0	1.7E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	9.2E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endosulfan Sulfate	*2.2E-03*	0.0012	1.0	1.7E-04	0.0090	1.5E-02	1.0	0.67	5.9E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	7.0E-03	3.3E-01	3.3E+00	2.1E-02	2.1E-03
Endrin	*2.2E-03*	0.0012	1.0	1.7E-04	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	9.2E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endrin Aldehyde	*2.2E-03*	0.0012	1.0	1.7E-04	0.0090	1.7E-02	1.0	0.67	6.8E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	7.9E-03	1.1E-01	1.1E+00	7.3E-02	7.3E-03
Endrin Ketone	*2.2E-03*	0.0012	1.0	1.7E-04	0.0090	2.2E-02	1.0	0.67	8.9E-03	4.2E-03	0.33	8.3E-04	0.015	1.0	9.9E-03	1.1E-01	1.1E+00	9.1E-02	9.1E-03
gamma-BHC (Lindane)	*1.1E-03*	0.0012	1.0	8.9E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	4.4E-03	1.1E-01	1.1E+00	4.0E-02	4.0E-03
gamma-Chlordane	9.7E-04	0.0012	1.0	7.6E-05	0.0090	8.8E-03	1.0	0.67	3.6E-03	1.6E-03	0.33	3.2E-04	0.015	1.0	3.9E-03	1.8E+01	1.8E+02	2.2E-04	2.2E-05
Heptachlor	*1.1E-03*	0.0012	1.0	8.9E-05	0.0090	9.7E-03	1.0	0.67	3.9E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	4.3E-03	2.9E-01	2.9E+00	1.5E-02	1.5E-03
Heptachlor Epoxide	*1.1E-03*	0.0012	1.0	8.9E-05	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	4.6E-03	2.7E-03	6.7E-02	[illegible]	6.8E-02
Methoxychlor	*1.1E-02*	0.0012	1.0	8.9E-04	0.0090	4.7E-02	1.0	0.67	1.9E-02	*2.6E-02*	0.33	5.0E-03	0.015	1.0	2.5E-02	8.8E+00	1.8E+01	2.8E-03	1.4E-03
Toxaphene	*1.1E-01*	0.0012	1.0	8.9E-03	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*2.6E-01*	0.33	5.0E-02	0.015	1.0	4.6E-01	1.8E+01	1.8E+02	2.6E-02	2.6E-03
Hazard Index - Pesticides																		[illegible]	1.2E-01
Herbicides																			
2,4-D	2.6E-02	0.0012	1.0	2.0E-03	0.0090	6.2E-02	1.0	0.67	2.5E-02	1.1E-01	0.33	2.2E-02	0.015	1.0	4.9E-02	2.2E+00	1.1E+01	2.2E-02	4.4E-03
2,4-DB	3.4E-02	0.0012	1.0	2.7E-03	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	2.7E-02	4.3E+00	1.3E+01	6.2E-03	2.0E-03
2,4,5-T	*1.7E-02*	0.0012	1.0	1.3E-03	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	*1.3E-02*	0.33	2.5E-03	0.015	1.0	2.4E-02	4.0E+00	1.3E+01	5.9E-03	1.8E-03
2,4,5-TP (Silvex)	1.8E-02	0.0012	1.0	1.4E-03	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	*1.3E-02*	0.33	2.5E-03	0.015	1.0	2.4E-02	6.6E+00	2.2E+01	3.6E-03	1.1E-03
Dalapon	*4.2E+00*	0.0012	1.0	3.2E-01	0.0090	*1.2E+01*	1.0	0.67	4.8E+00	*3.0E+00*	0.33	5.9E-01	0.015	1.0	5.7E+00	1.9E+01	6.3E+01	3.1E-01	9.1E-02
Dicamba	*4.2E-02*	0.0012	1.0	3.2E-03	0.0090	*1.2E-01*	1.0	0.67	4.8E-02	*3.0E-02*	0.33	5.9E-03	0.015	1.0	5.7E-02	9.0E+00	3.0E+01	6.4E-03	1.9E-03
Dichlorprop	7.8E-02	0.0012	1.0	6.0E-03	0.0090	*6.0E-01*	1.0	0.67	2.4E-01	*1.5E-01*	0.33	3.0E-02	0.015	1.0	2.8E-01	2.4E-01	2.4E+00	[illegible]	1.2E-01
Dinoseb	*1.8E-01*	0.0012	1.0	1.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E-01	2.2E+00	[illegible]	2.3E-01
MCPA	*4.2E+00*	0.0012	1.0	3.2E-01	0.0090	2.9E+01	1.0	0.67	1.2E+01	*3.0E+00*	0.33	5.9E-01	0.015	1.0	1.3E+01	8.1E-01	4.0E+00	[illegible]	[illegible]
MCPP	3.7E+01	0.0012	1.0	2.9E+00	0.0090	*1.2E+01*	1.0	0.67	4.8E+00	*3.0E+00*	0.33	5.9E-01	0.015	1.0	8.3E+00	6.6E-01	2.0E+00	[illegible]	[illegible]
Hazard Index - Herbicides																		[illegible]	[illegible]
PCBs																			
Total PCBs	8.5E-03	0.0012	1.0	6.7E-04	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	*2.5E-02*	0.33	5.0E-03	0.015	1.0	2.6E-02	2.2E-01	2.2E+00	1.2E-01	1.2E-02
Dioxins/Furans																			
TEQ	1.4E-04	0.0012	1.0	1.1E-05	0.0090	1.1E-06	1.0	0.67	4.5E-07	1.3E-05	0.33	2.7E-06	0.015	1.0	1.4E-05	2.2E-06	2.2E-05	6.3E+00	6.3E-01
Metals*																			
Aluminum	8.8E+03	0.0012	1.0	6.8E+02	0.0090	5.3E+02	1.0	0.67	2.1E+02	1.5E+01	0.33	3.0E+00	0.015	1.0	9.0E+02	2.3E+00	2.3E+01	3.9E+02	3.9E+01
Antimony	8.7E-01	0.0012	1.0	6.8E-02	0.0090	*9.4E-01*	1.0	0.67	3.8E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	6.4E-01	1.5E-01	1.5E+00	4.3E+00	4.3E-01
Arsenic	6.4E+00	0.0012	1.0	5.0E-01	0.0090	5.2E+00	1.0	0.67	2.1E+00	*5.0E-01*	0.33	9.9E-02	0.015	1.0	2.7E+00	1.5E-01	1.5E+00	1.8E+01	1.8E+00
Barium	1.3E+02	0.0012	1.0	9.8E+00	0.0090	6.8E+00	1.0	0.67	2.7E+00	1.9E+00	0.33	3.8E-01	0.015	1.0	1.3E+01	1.1E+01	4.4E+01	1.1E+00	3.0E-01
Beryllium	5.6E-01	0.0012	1.0	4.4E-02	0.0090	*1.9E-01*	1.0	0.67	7.6E-02	*2.0E-01*	0.33	4.0E-02	0.015	1.0	1.6E-01	1.5E+00	1.5E+01	1.1E-01	1.1E-02
Cadmium	4.4E-01	0.0012	1.0	3.5E-02	0.0090	8.8E-01	1.0	0.67	3.6E-01	3.6E-01	0.33	7.1E-02	0.015	1.0	4.6E-01	2.2E+00	2.2E+01	2.1E-01	2.1E-02
Chromium	1.5E+01	0.0012	1.0	1.2E+00	0.0090	8.5E-01	1.0	0.67	3.4E-01	2.0E-01	0.33	4.0E-02	0.015	1.0	1.6E+00	7.2E+00	2.9E+01	2.2E-01	5.4E-02
Cobalt	9.3E+00	0.0012	1.0	7.2E-01	0.0090	1.4E+00	1.0	0.67	5.7E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	1.4E+00	1.1E-01	1.1E+00	1.3E+01	1.3E+00
Copper	2.0E+01	0.0012	1.0	1.5E+00	0.0090	3.1E+00	1.0	0.67	1.3E+00	2.0E+01	0.33	4.0E+00	0.015	1.0	6.7E+00	3.3E+01	4.4E+01	2.0E-01	1.5E-01
Lead	1.8E+01	0.0012	1.0	1.4E+00	0.0090	1.4E+00	1.0	0.67	5.7E-01	1.0E+00	0.33	2.0E-01	0.015	1.0	2.1E+00	1.8E+01	1.8E+02	1.2E-01	1.2E-02
Manganese	7.5E+02	0.0012	1.0	5.9E+01	0.0090	3.2E+01	1.0	0.67	1.3E+01	5.5E+00	0.33	1.1E+00	0.015	1.0	7.2E+01	1.9E+02	6.2E+02	3.7E-01	1.2E-01
Mercury	5.9E-02	0.0012	1.0	4.6E-03	0.0090	2.6E-02	1.0	0.67	1.0E-02	1.3E-01	0.33	2.6E-02	0.015	1.0	4.1E-02	7.0E-02	3.5E-01	5.8E-01	1.2E-01
Nickel	1.9E+01	0.0012	1.0	1.5E+00	0.0090	1.7E+00	1.0	0.67	6.7E-01	*2.0E+00*	0.33	4.0E-01	0.015	1.0	2.5E+00	8.8E+01	1.8E+02	2.9E-02	1.4E-02
Selenium	*5.1E-01*	0.0012	1.0	3.9E-02	0.0090	5.1E-01	1.0	0.67	2.3E-01	5.0E-01	0.33	9.9E-02	0.015	1.0	3.5E-01	4.4E-01	7.3E-01	7.8E-01	4.8E-01
Silver	*5.1E-01*	0.0012	1.0	3.9E-02	0.0090	*4.7E-01*	1.0	0.67	1.9E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	3.3E-01	2.2E-01	2.2E+00	1.5E+00	1.5E-01
Thallium	*5.1E-01*	0.0012	1.0	3.9E-02	0.0090	*4.7E-01*	1.0	0.67	1.9E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	3.3E-01	1.6E-02	1.6E-01	2.0E+01	2.0E+00
Vanadium	3.0E+01	0.0012	1.0	2.3E+00	0.0090	1.7E+00	1.0	0.67	6.9E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	3.1E+00	4.6E-01	4.6E+00	6.8E+00	6.8E-01
Zinc	7.5E+01	0.0012	1.0	5.9E+00	0.0090	2.3E+01	1.0	0.67	9.1E+00	5.6E+01	0.33	1.1E+01	0.015	1.0	2.6E+01	3.5E+02	7.0E+02	7.4E-02	3.7E-02
Hazard Index - Metals																		4.6E+02	[illegible]

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQs equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Hazard Quotients and Hazard Indices for . Earthworms and Terrestrial Invertebrates
Shor. d Shrew
Site R (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs																			
1,2,4-Trichlorobenzene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.3E+01	1.2E+02	1.6E-02	4.4E-03
1,2-Dichlorobenzene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E-02	2.6E+03	2.7E-03	2.0E-04
1,3-Dichlorobenzene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E-02	2.6E+03	2.7E-03	2.0E-04
1,4-Dichlorobenzene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E-02	3.3E+02	2.7E-03	1.6E-03
2,2'-Oxybis(1-Chloropropane)	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E+01	6.6E+01	2.3E-02	7.8E-03
2,4,5-Trichlorophenol	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+03	6.6E+01	4.7E-04	7.8E-03
2,4,6-Trichlorophenol	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
2,4-Dichlorophenol	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.6E-01	6.6E+00	7.8E-01	7.8E-02
2,4-Dinitrophenol	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	3.8E-03	3.8E-02	[illegible]	[illegible]
2,4-Dinitrotoluene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+00	8.1E+00	4.8E-01	6.4E-02
2,6-Dinitrotoluene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+00	1.5E+01	3.3E-01	3.3E-02
2-Chloronaphthalene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.0E+01	7.1E+01	1.7E-02	7.2E-03
2-Chlorophenol	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+02	1.1E+01	4.7E-03	4.7E-02
2-Methylnaphthalene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.4E+03	3.4E+04	1.5E-04	1.5E-05
2-Methylphenol (o-Cresol)	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
2-Nitroaniline	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
2-Nitrophenol	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	5.5E+00	1.5E+01	9.4E-02	3.3E-02
3,3'-Dichlorobenzidine	***3.7E-01***	0.0012	1.0	2.9E-02	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	1.0E+00	5.6E+01	6.1E+02	1.8E-02	1.7E-03
3/4-Methylphenol (m&p-Cresol)	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	9.2E+00	9.2E+01	5.6E-02	5.6E-03
3-Nitroaniline	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E-01	1.0E+01	[illegible]	2.6E-01
4,6-Dinitro-2-methylphenol	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	2.2E+00	1.8E+01	[illegible]	1.5E-01
4-Bromophenyl Phenyl Ether	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.5E+02	2.5E+03	2.1E-03	2.1E-04
4-Chloro-3-methylphenol	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.7E+00	2.7E+01	1.9E-01	1.9E-02
4-Chloroaniline	***3.7E-01***	0.0012	1.0	2.9E-02	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	1.0E+00	2.2E+00	1.8E+01	4.7E-01	5.9E-02
4-Chlorophenyl Phenyl Ether	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
4-Nitroaniline	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
4-Nitrophenol	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E+00	1.5E+01	4.7E-01	1.7E-01
Acenaphthene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Acenaphthylene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Anthracene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+02	1.2E+03	4.3E-03	4.3E-04
Benzo(a)anthracene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(a)pyrene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(b)fluoranthene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(g,h,i)perylene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(k)fluoranthene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
bis(2-Chloroethoxy)methane	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Chloroethyl)ether	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Ethylhexyl)phthalate	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E+01	2.2E+02	2.4E-02	2.4E-03
Butyl Benzyl Phthalate	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.5E+01	1.0E+02	1.5E-02	5.0E-03
Carbazole	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.6E+00	3.6E+01	1.4E-01	1.4E-02
Chrysene	***1.8E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenz(a,h)anthracene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenzofuran	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.9E-02	2.9E-01	[illegible]	[illegible]
Diethyl Phthalate	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	5.4E+03	5.4E+04	9.4E-05	9.4E-06
Dimethyl Phthalate	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	5.4E+03	5.4E+04	9.4E-05	9.4E-06
Di-n-butylphthalate	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.5E+02	2.2E+03	7.9E-04	2.4E-04
Di-n-octylphthalate	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.5E+02	2.2E+03	7.9E-04	2.4E-04
Fluoranthene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+01	3.0E+01	3.5E-02	1.7E-02
Fluorene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+01	3.0E+01	3.5E-02	1.7E-02
Hexachlorobenzene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.8E-01	6.4E-01	[illegible]	8.1E-01
Hexachlorobutadiene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	4.4E-01	4.4E-01	[illegible]	[illegible]
Hexachlorocyclopentadiene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.3E+00	2.4E+00	3.9E-01	2.1E-01
Hexachloroethane	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E-01	3.3E+00	[illegible]	1.6E-01
Indeno(1,2,3-cd)pyrene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Isophorone	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	8.1E+01	3.9E+02	6.4E-03	1.3E-03
Naphthalene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.6E+01	3.1E+01	3.3E-02	1.6E-02
Nitrobenzene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	5.5E-02	5.5E-01	[illegible]	9.4E-01
N-Nitroso-di-n-propylamine	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E-02	1.2E-01	[illegible]	[illegible]
N-Nitrosodiphenylamine	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	4.4E+02	1.1E+02	1.2E-03	4.7E-03
Pentachlorophenol	***4.6E-02***	0.0012	1.0	3.6E-03	0.0090	***1.0E-01***	1.0	0.67	4.0E-02	***2.6E-02***	0.33	5.0E-03	0.015	1.0	4.9E-02	5.3E-01	5.3E+00	9.3E-02	9.3E-03
Phenanthrene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Phenol	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.3E+02	2.6E+02	3.9E-03	2.0E-03
Pyrene	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	8.9E+00	1.5E+01	5.8E-02	3.5E-02
Hazard Index - SVOCs																		7.8E+02	8.0E+01

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-30
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site R (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4'-DDD	***3.6E-03***	0.0012	1.0	2.8E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.3E-03	1.8E+00	8.8E+00	5.3E-03	1.1E-03
4,4'-DDE	***3.6E-03***	0.0012	1.0	2.8E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.3E-03	1.8E+00	8.8E+00	5.3E-03	1.1E-03
4,4'-DDT	2.7E-03	0.0012	1.0	2.1E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.2E-03	1.8E+00	8.8E+00	5.2E-03	1.0E-03
Aldrin	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	4.5E-03	4.4E-01	2.2E+00	1.0E-02	2.1E-03
alpha-BHC	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.7E-03	3.5E+00	7.0E+00	1.3E-03	6.6E-04
alpha Chlordane	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.7E-03	8.8E-01	4.4E+00	5.3E-03	1.1E-03
beta-BHC	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.7E-03	5.5E+00	1.1E+01	8.5E-04	4.3E-04
delta BHC	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	1.7E-02	1.0	0.67	6.8E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	7.3E-03	5.5E+00	1.1E+01	1.3E-03	6.6E-04
Dieldrin	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.2E-03	3.5E+00	7.0E+00	2.6E-03	1.3E-03
Endosulfan I	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.7E-03	4.4E-02	4.4E-01	1.1E-01	1.1E-02
Endosulfan II	***3.6E-03***	0.0012	1.0	2.8E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.3E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endosulfan Sulfate	***3.6E-03***	0.0012	1.0	2.8E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.3E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endrin	***3.6E-03***	0.0012	1.0	2.8E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.3E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endrin Aldehyde	***3.6E-03***	0.0012	1.0	2.8E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	9.3E-03	1.1E-01	1.1E+00	8.5E-02	8.5E-03
Endrin Ketone	***3.6E-03***	0.0012	1.0	2.8E-04	0.0090	3.1E-02	1.0	0.67	1.2E-02	4.2E-03	0.33	8.3E-04	0.015	1.0	1.4E-02	1.1E-01	1.1E+00	1.2E-01	1.2E-02
gamma BHC (Lindane)	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	4.5E-03	1.1E-01	1.1E+00	4.1E-02	4.1E-03
gamma-Chlordane	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.6E-03	0.33	3.2E-04	0.015	1.0	4.5E-03	1.8E+01	1.8E+02	2.5E-04	2.5E-05
Heptachlor	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	4.5E-03	2.9E-01	2.9E+00	1.6E-02	1.6E-03
Heptachlor Epoxide	***1.8E-03***	0.0012	1.0	1.4E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.7E-03	2.7E-03	6.7E-02	[illegible]	6.9E-02
Methoxychlor	***1.8E-02***	0.0012	1.0	1.4E-03	0.0090	***1.0E-01***	1.0	0.67	4.0E-02	***2.6E-02***	0.33	5.0E-03	0.015	1.0	4.7E-02	8.8E+00	1.8E+01	5.3E-03	2.7E-03
Toxaphene	***1.8E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***2.6E-01***	0.33	5.0E-02	0.015	1.0	4.7E-01	1.8E+01	1.8E+02	2.7E-02	2.7E-03
Hazard Index - Pesticides																		[illegible]	1.3E-01
Herbicides																			
2,4-D	5.5E-02	0.0012	1.0	4.3E-03	0.0090	1.1E-01	1.0	0.67	4.4E-02	1.1E-01	0.33	2.2E-02	0.015	1.0	7.0E-02	2.2E+00	1.1E+01	3.2E-02	6.4E-03
2,4-DB	6.0E-02	0.0012	1.0	4.7E-03	0.0090	***5.0E-02***	1.0	0.67	2.0E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	2.9E-02	4.3E+00	1.3E+01	6.7E-03	2.1E-03
2,4,5-T	***2.3E-02***	0.0012	1.0	1.8E-03	0.0090	***5.0E-02***	1.0	0.67	2.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	2.4E-02	4.0E+00	1.3E+01	6.0E-03	1.8E-03
2,4,5-TP (Silvex)	***2.3E-02***	0.0012	1.0	1.8E-03	0.0090	***5.0E-02***	1.0	0.67	2.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	2.4E-02	6.6E+00	2.2E+01	3.7E-03	1.1E-03
Dalapon	***5.5E+00***	0.0012	1.0	4.3E-01	0.0090	***1.2E+01***	1.0	0.67	4.8E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	5.8E+00	1.9E+01	6.3E+01	3.1E-01	9.3E-02
Dicamba	***5.5E-02***	0.0012	1.0	4.3E-03	0.0090	***1.2E-01***	1.0	0.67	4.8E-02	***3.0E-02***	0.33	5.9E-03	0.015	1.0	5.8E-02	9.0E+00	3.0E+01	6.5E-03	2.0E-03
Dichlorprop	1.0E-01	0.0012	1.0	7.8E-03	0.0090	***6.0E-01***	1.0	0.67	2.4E-01	***1.5E-01***	0.33	3.0E-02	0.015	1.0	2.8E-01	2.4E-01	2.4E+00	[illegible]	1.2E-01
Dinoseb	***1.9E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E-01	2.2E+00	[illegible]	2.3E-01
MCPA	***5.5E+00***	0.0012	1.0	4.3E-01	0.0090	4.2E+01	1.0	0.67	1.7E+01	***3.0E+00***	0.33	5.9E-01	0.015	1.0	1.8E+01	8.1E-01	4.0E+00	[illegible]	[illegible]
MCPP	5.1E+01	0.0012	1.0	4.0E+00	0.0090	***1.2E+01***	1.0	0.67	4.8E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	9.4E+00	6.6E-01	2.0E+00	[illegible]	[illegible]
Hazard Index - Herbicides																		[illegible]	[illegible]
PCBs																			
Total PCBs	***9.5E-03***	0.0012	1.0	7.4E-04	0.0090	***5.0E-02***	1.0	0.67	2.0E-02	***2.5E-02***	0.33	5.0E-03	0.015	1.0	2.6E-02	2.2E-01	2.2E+00	1.2E-01	1.2E-02
Dioxins/Furans																			
TEQ	***2.5E-04***	0.0012	1.0	2.0E-05	0.0090	1.5E-06	1.0	0.67	5.9E-07	1.3E-05	0.33	2.7E-06	0.015	1.0	2.3E-05	2.2E-06	2.2E-05	1.0E+01	1.0E+00
Metals*																			
Aluminum	1.0E+04	0.0012	1.0	7.8E+02	0.0090	7.1E+02	1.0	0.67	2.9E+02	1.5E+01	0.33	3.0E+00	0.015	1.0	1.1E+03	2.3E+00	2.3E+01	4.7E+02	4.7E+01
Antimony	***1.1E+00***	0.0012	1.0	8.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	6.9E-01	1.5E-01	1.5E+00	4.6E+00	4.6E-01
Arsenic	7.2E+00	0.0012	1.0	5.6E-01	0.0090	5.6E+00	1.0	0.67	2.3E+00	***5.0E-01***	0.33	9.9E-02	0.015	1.0	2.9E+00	1.5E-01	1.5E+00	[illegible]	[illegible]
Barium	1.5E+02	0.0012	1.0	1.2E+01	0.0090	8.3E+00	1.0	0.67	3.3E+00	1.9E+00	0.33	3.8E-01	0.015	1.0	1.5E+01	1.1E+01	4.4E+01	[illegible]	3.5E-01
Beryllium	6.8E-01	0.0012	1.0	5.3E-02	0.0090	***2.0E-01***	1.0	0.67	8.0E-02	***2.0E-01***	0.33	4.0E-02	0.015	1.0	1.7E-01	1.5E+00	1.5E+01	1.2E-01	1.2E-02
Cadmium	7.6E-01	0.0012	1.0	5.9E-02	0.0090	1.1E+00	1.0	0.67	4.4E-01	3.6E-01	0.33	7.1E-02	0.015	1.0	5.7E-01	2.2E+00	2.2E+01	2.6E-01	2.6E-02
Chromium	1.7E+01	0.0012	1.0	1.3E+00	0.0090	1.3E+00	1.0	0.67	5.2E-01	2.0E-01	0.33	4.0E-02	0.015	1.0	1.9E+00	7.2E+00	2.9E+01	2.6E-01	6.5E-02
Cobalt	1.5E+01	0.0012	1.0	1.2E+00	0.0090	1.5E+00	1.0	0.67	6.0E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	1.9E+00	1.1E-01	1.1E+00	[illegible]	[illegible]
Copper	2.5E+01	0.0012	1.0	2.0E+00	0.0090	3.7E+00	1.0	0.67	1.5E+00	2.0E+01	0.33	4.0E+00	0.015	1.0	7.4E+00	3.3E+01	4.4E+01	2.2E-01	1.7E-01
Lead	3.3E+01	0.0012	1.0	2.6E+00	0.0090	2.4E+00	1.0	0.67	9.6E-01	1.0E+00	0.33	2.0E-01	0.015	1.0	3.7E+00	1.8E+01	1.8E+02	2.1E-01	2.1E-02
Manganese	1.2E+03	0.0012	1.0	9.4E+01	0.0090	3.7E+01	1.0	0.67	1.5E+01	5.5E+00	0.33	1.1E+00	0.015	1.0	1.1E+02	1.9E+02	6.2E+02	5.7E-01	1.8E-01
Mercury	7.6E-02	0.0012	1.0	5.9E-03	0.0090	3.0E-02	1.0	0.67	1.2E-02	1.3E-01	0.33	2.6E-02	0.015	1.0	4.4E-02	7.0E-02	3.5E-01	6.2E-01	1.2E-01
Nickel	2.1E+01	0.0012	1.0	1.6E+00	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***2.0E+00***	0.33	4.0E-01	0.015	1.0	2.8E+00	8.8E+01	1.8E+02	3.2E-02	1.6E-02
Selenium	***5.5E-01***	0.0012	1.0	4.3E-02	0.0090	7.0E-01	1.0	0.67	2.8E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	4.2E-01	4.4E-01	7.3E-01	9.6E-01	5.8E-01
Silver	***5.5E-01***	0.0012	1.0	4.3E-02	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	3.4E-01	2.2E-01	2.2E+00	[illegible]	1.6E-01
Thallium	***5.5E-01***	0.0012	1.0	4.3E-02	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	3.4E-01	1.6E-01	1.6E+00	[illegible]	[illegible]
Vanadium	3.4E+01	0.0012	1.0	2.7E+00	0.0090	2.3E+00	1.0	0.67	9.2E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	3.7E+00	4.6E-01	4.6E+00	8.0E+00	8.0E-01
Zinc	1.2E+02	0.0012	1.0	9.4E+00	0.0090	2.9E+01	1.0	0.67	1.2E+01	5.6E+01	0.33	1.1E+01	0.015	1.0	3.2E+01	3.5E+02	7.0E+02	9.1E-02	4.6E-02
Hazard Index - Metals																		5.4E+02	5.5E+01

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQ/HI equal to or greater than 1.0

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-31
COPECs for Site R
Sauget, IL

Soil HQs	Short-tailed Shrew Modeling HQs (Average Conc.)	Short-tailed Shrew Modeling HQs (Maximum Conc.)	Prairie Vole Modeling HQs (Average Conc.)	Prairie Vole Modeling HQs (Maximum Conc.)
Aluminum	Dichloroprop (NOAEL only)	MCPP	Aluminum	Cobalt (NOAEL only)
Chromium	MCPP	Dioxins/furans	Mercury (NOAEL only)	Mercury (NOAEL only)
Iron	Dioxins/furans (NOAEL only)	Cobalt		
Manganese	Aluminum	Vanadium (NOAEL only)		
Vanadium	Antimony (NOAEL only)			
	Cobalt			
	Vanadium (NOAEL only)			

NOTES:
Analytes listed are only for those exceeding their benchmark/TRV, based on detected values, and were above the background values.
Shaded entries are for those compounds that are COPECs for all receptors and all concentrations.

Table 7-32
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site O (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
SVOCs												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
1,2,4-Trichlorobenzene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.7E+01	9.8E+01	1.8E-03	5.1E-04
1,2-Dichlorobenzene	8.7E-02	0.00012	1.0	2.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,3-Dichlorobenzene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,4-Dichlorobenzene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.7E+02	3.2E-04	1.8E-04
2,2'-Oxybis(1-Chloropropane)	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
2,4,5-Trichlorophenol	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	5.5E+01	2.7E-03	9.1E-04
2,4,6-Trichlorophenol	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+02	5.5E+01	5.5E-05	9.1E-04
2,4-Dichlorophenol	1.3E-01	0.00012	1.0	3.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.5E-01	5.5E+00	9.1E-02	9.1E-03
2,4-Dinitrophenol	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	3.1E-03	3.1E-02	8.2E+01	8.2E+00
2,4-Dinitrotoluene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.0E-01	6.7E+00	5.6E-02	7.4E-03
2,6-Dinitrotoluene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+00	1.3E+01	3.9E-02	3.9E-03
2-Chloronaphthalene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.5E+01	5.9E+01	2.0E-03	8.4E-04
2-Chlorophenol	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+01	9.1E+00	5.5E-04	5.5E-03
2-Methylnaphthalene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.8E+03	2.8E+04	1.8E-05	1.8E-06
2-Methylphenol (o-Cresol)	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
2-Nitroaniline	6.3E-01	0.00012	1.0	1.8E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.3E-02	3.3E-03
2-Nitrophenol	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E+00	1.3E+01	1.1E-02	3.9E-03
3,3'-Dichlorobenzidine	***3.7E-01***	0.00012	1.0	1.1E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	4.7E+01	5.0E+02	2.2E-03	2.0E-04
3/4-Methylphenol (m&p-Cresol)	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
3-Nitroaniline	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4,6-Dinitro-2-methylphenol	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E-01	8.3E+00	5.6E-01	3.1E-02
4-Bromophenyl Phenyl Ether	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Chloro-3-methylphenol	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.0E+02	2.0E+03	2.4E-04	2.4E-05
4-Chloroaniline	***3.7E-01***	0.00012	1.0	1.1E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	2.3E+00	2.3E+01	4.4E-02	4.4E-03
4-Chlorophenyl Phenyl Ether	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Nitroaniline	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4-Nitrophenol	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E+00	1.3E+01	5.6E-02	2.0E-02
Acenaphthene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Acenaphthylene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Anthracene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E+01	9.9E+02	5.1E-04	5.1E-05
Benzo(a)anthracene	9.8E-02	0.00012	1.0	2.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Benzo(a)pyrene	1.4E-01	0.00012	1.0	4.1E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Benzo(b)fluoranthene	1.1E-01	0.00012	1.0	3.1E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Benzo(g,h,i)perylene	4.8E-01	0.00012	1.0	1.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(k)fluoranthene	1.6E-01	0.00012	1.0	4.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
bis(2-Chloroethoxy)methane	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
bis(2-Chloroethyl)ether	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-0[illegible]
bis(2-Ethylhexyl)phthalate	1.1E-01	0.00012	1.0	3.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	1.8E+02	2.8E-03	2.8E-[illegible]
Butyl Benzyl Phthalate	1.3E-01	0.00012	1.0	3.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.9E+01	8.6E+01	1.7E-03	5.8E-04
Carbazole	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.0E+00	3.0E+01	1.7E-02	1.7E-03
Chrysene	1.5E-01	0.00012	1.0	4.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Dibenzo(a,h)anthracene	1.3E-01	0.00012	1.0	3.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Dibenzofuran	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.4E-02	2.4E-01	2.1E+00	2.1E-01
Diethyl Phthalate	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Dimethyl Phthalate	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Di-n-butylphthalate	1.4E-01	0.00012	1.0	4.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Di-n-octylphthalate	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Fluoranthene	1.6E-01	0.00012	1.0	4.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Fluorene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Hexachlorobenzene	1.6E-01	0.00012	1.0	4.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.5E-01	5.3E-01	3.4E-01	9.4E-02
Hexachlorobutadiene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E-01	3.7E-01	1.4E-01	1.4E-01
Hexachlorocyclopentadiene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+00	2.0E+00	4.6E-02	2.5E-02
Hexachloroethane	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	2.7E+00	2.7E-01	1.8E-02
Indeno(1,2,3-cd)pyrene	1.4E-01	0.00012	1.0	4.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Isophorone	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	6.7E+01	3.3E+02	7.4E-04	1.5E-04
Naphthalene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+01	2.6E+01	3.9E-03	1.9E-03
Nitrobenzene	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E-02	4.6E-01	1.1E+00	1.1E-01
N-Nitroso-di-n-propylamine	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-03	9.9E-02	5.1E+00	5.1E-01
N-Nitrosodiphenylamine	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E+02	9.1E+01	1.4E-04	5.5E-04
Pentachlorophenol	6.9E-01	0.00012	1.0	2.0E-03	0.0042	***6.0E-02***	1.0	6.0E-03	0.0416	1.0	8.0E-03	4.4E-01	4.4E+00	1.8E-02	1.8E-03
Phenanthrene	8.7E-02	0.00012	1.0	2.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Phenol	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+02	2.2E+02	4.6E-04	2.3E-04
Pyrene	1.3E-01	0.00012	1.0	3.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	7.4E+00	1.2E+01	6.7E-03	4.0E-03
Hazard Index - SVOCs														9.3E+01	9.5E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

Table 7-32
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site O (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	3.0E-02	0.00012	1.0	8.6E-05	0.0042	4.1E-03	1.0	4.1E-04	0.0416	1.0	5.0E-04	1.5E+00	7.3E+00	3.4E-04	6.8E-05
4,4'-DDE	1.4E-02	0.00012	1.0	4.1E-05	0.0042	6.6E-03	1.0	6.6E-04	0.0416	1.0	7.0E-04	1.5E+00	7.3E+00	4.8E-04	9.6E-05
4,4'-DDT	7.8E-02	0.00012	1.0	2.2E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	7.2E-04	1.5E+00	7.3E+00	4.8E-04	9.8E-05
Aldrin	7.3E-03	0.00012	1.0	2.1E-05	0.0042	3.4E-03	1.0	3.4E-04	0.0416	1.0	3.6E-04	3.7E-01	1.8E+00	9.5E-04	2.0E-04
alpha-BHC	7.3E-03	0.00012	1.0	2.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.8E-04	2.9E+00	5.9E+00	9.4E-05	4.7E-05
alpha-Chlordane	3.8E-03	0.00012	1.0	1.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.7E-04	4.6E+00	9.1E+00	5.8E-05	2.9E-05
beta-BHC	7.3E-03	0.00012	1.0	2.1E-05	0.0042	3.2E-03	1.0	3.2E-04	0.0416	1.0	3.4E-04	7.3E-01	3.7E+00	4.6E-04	9.2E-05
delta-BHC	7.3E-03	0.00012	1.0	2.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.8E-04	2.9E+00	5.9E+00	9.4E-05	4.7E-05
Dieldrin	6.1E-02	0.00012	1.0	1.8E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	6.7E-04	3.7E-02	3.7E-01	1.8E-02	1.8E-03
Endosulfan I	7.3E-03	0.00012	1.0	2.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.8E-04	2.7E-01	2.7E+00	1.0E-03	1.0E-04
Endosulfan II	4.9E-03	0.00012	1.0	1.4E-05	0.0042	5.1E-03	1.0	5.1E-04	0.0416	1.0	5.2E-04	2.7E-01	2.7E+00	1.9E-03	1.9E-04
Endosulfan Sulfate	5.8E-02	0.00012	1.0	1.7E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	6.6E-04	2.7E-01	2.7E+00	2.4E-03	2.4E-04
Endrin	1.4E-02	0.00012	1.0	4.1E-05	0.0042	4.0E-03	1.0	4.0E-04	0.0416	1.0	4.4E-04	9.1E-02	9.1E-01	4.8E-03	4.8E-04
Endrin Aldehyde	1.5E-02	0.00012	1.0	4.2E-05	0.0042	1.2E-02	1.0	1.2E-03	0.0416	1.0	1.2E-03	9.1E-02	9.1E-01	1.3E-02	1.3E-03
Endrin Ketone	8.6E-03	0.00012	1.0	2.5E-05	0.0042	4.0E-03	1.0	4.0E-04	0.0416	1.0	4.3E-04	9.1E-02	9.1E-01	4.7E-03	4.7E-04
gamma-BHC (Lindane)	1.1E-02	0.00012	1.0	3.3E-05	0.0042	5.1E-03	1.0	5.1E-04	0.0416	1.0	5.4E-04	1.5E+01	1.5E+02	3.7E-05	3.7E-06
gamma-Chlordane	6.0E-02	0.00012	1.0	1.7E-04	0.0042	3.6E-03	1.0	3.6E-04	0.0416	1.0	5.3E-04	4.6E+00	9.1E+00	1.2E-04	5.9E-05
Heptachlor	6.0E-03	0.00012	1.0	1.7E-05	0.0042	2.8E-03	1.0	2.8E-04	0.0416	1.0	3.0E-04	2.4E-01	2.4E+00	1.2E-03	1.3E-04
Heptachlor Epoxide	7.3E-03	0.00012	1.0	2.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.8E-04	2.3E-03	5.6E-02	1.2E-01	4.9E-03
Methoxychlor	7.0E-02	0.00012	1.0	2.0E-04	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.8E-03	7.3E+00	1.5E+01	3.8E-04	1.9E-04
Toxaphene	7.3E-01	0.00012	1.0	2.1E-03	0.0042	***2.6E-01***	1.0	2.6E-02	0.0416	1.0	2.8E-02	1.5E+01	1.5E+02	1.9E-03	1.9E-04
Hazard Index - Pesticides														1.7E-01	1.1E-02
Herbicides															
2,4-D	3.3E-02	0.00012	1.0	9.5E-05	0.0042	5.2E-02	1.0	5.2E-03	0.0416	1.0	5.2E-03	1.8E+00	9.1E+00	2.9E-03	5.7E-04
2,4-DB	1.7E-02	0.00012	1.0	4.8E-05	0.0042	4.4E-01	1.0	4.4E-02	0.0416	1.0	4.4E-02	3.6E+00	1.1E+01	1.2E-02	3.9E-03
2,4,5-T	1.3E-02	0.00012	1.0	3.8E-05	0.0042	***2.8E-02***	1.0	2.8E-03	0.0416	1.0	2.9E-03	5.5E+00	1.8E+01	5.2E-04	1.6E-04
2,4,5-TP (Silvex)	***9.0E-03***	0.00012	1.0	2.6E-05	0.0042	***2.8E-02***	1.0	2.8E-03	0.0416	1.0	2.9E-03	3.4E+00	1.1E+01	8.5E-04	2.5E-04
Dalapon	***2.2E+00***	0.00012	1.0	6.3E-03	0.0042	***7.0E+00***	1.0	7.0E-01	0.0416	1.0	7.1E-01	1.5E+01	5.2E+01	4.6E-02	1.3E-02
Dicamba	1.9E-02	0.00012	1.0	5.5E-05	0.0042	***7.0E-02***	1.0	7.0E-03	0.0416	1.0	7.1E-03	7.5E+00	2.5E+01	9.5E-04	2.8E-04
Dichlorprop	1.8E-02	0.00012	1.0	5.0E-05	0.0042	3.7E-01	1.0	3.7E-02	0.0416	1.0	3.7E-02	2.0E-01	2.0E+00	1.9E-01	1.9E-02
Dinoseb	***1.9E-01***	0.00012	1.0	5.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	1.8E+00	2.7E-01	2.7E-02
MCPA	***2.2E+00***	0.00012	1.0	6.3E-03	0.0042	7.9E+00	1.0	7.9E-01	0.0416	1.0	8.0E-01	6.7E-01	3.4E+00	1.2E+00	2.4E-01
MCPP	2.2E+01	0.00012	1.0	6.3E-02	0.0042	***7.0E+00***	1.0	7.0E-01	0.0416	1.0	7.6E-01	5.5E-01	1.6E+00	1.4E+00	4.6E-01
Hazard Index - Herbicides														3.1E+00	7.7E-01
PCBs															
Total PCBs	2.4E+02	0.00012	1.0	6.9E-01	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	6.9E-01	1.8E-01	1.8E+00	3.8E+00	3.8E-01
Dioxins/Furans															
TEQ	1.9E-02	0.00012	1.0	5.5E-05	0.0042	1.8E-06	1.0	1.8E-07	0.0416	1.0	5.5E-05	1.8E-06	1.8E-05	3.0E+01	3.0E+00
Metals*															
Aluminum	7.1E+03	0.00012	1.0	2.0E+01	0.0042	9.9E+00	1.0	9.9E-01	0.0416	1.0	2.1E+01	1.9E+00	1.9E+01	1.1E+01	1.1E+00
Antimony	1.2E+00	0.00012	1.0	3.5E-03	0.0042	***9.3E-01***	1.0	9.3E-02	0.0416	1.0	9.7E-02	1.2E-01	1.2E+00	7.8E-01	7.8E-02
Arsenic	7.5E+00	0.00012	1.0	2.2E-02	0.0042	***4.7E-01***	1.0	4.7E-02	0.0416	1.0	6.9E-02	1.2E-01	1.2E+00	5.5E-01	5.5E-02
Barium	1.9E+02	0.00012	1.0	5.5E-01	0.0042	5.1E+00	1.0	5.1E-01	0.0416	1.0	1.1E+00	9.3E+00	3.6E+01	1.1E-01	2.9E-02
Beryllium	4.6E-01	0.00012	1.0	1.3E-03	0.0042	***1.9E-01***	1.0	1.9E-02	0.0416	1.0	2.0E-02	1.2E+00	1.2E+01	1.7E-02	1.7E-03
Cadmium	6.4E+00	0.00012	1.0	1.9E-02	0.0042	1.5E-01	1.0	1.5E-02	0.0416	1.0	3.4E-02	1.8E+00	1.8E+01	1.9E-02	1.9E-03
Chromium	1.5E+01	0.00012	1.0	4.2E-02	0.0042	3.3E-01	1.0	3.3E-02	0.0416	1.0	7.5E-02	6.0E+00	2.4E+01	1.2E-02	3.1E-03
Cobalt	6.5E+00	0.00012	1.0	1.9E-02	0.0042	***4.7E-01***	1.0	4.7E-02	0.0416	1.0	6.6E-02	9.1E-02	9.1E-01	7.2E-01	7.2E-02
Copper	1.1E+02	0.00012	1.0	3.2E-01	0.0042	3.8E+00	1.0	3.8E-01	0.0416	1.0	7.1E-01	2.8E+01	3.7E+01	2.5E-02	1.9E-02
Lead	5.0E+03	0.00012	1.0	1.4E+01	0.0042	9.3E-01	1.0	9.3E-02	0.0416	1.0	1.4E+01	1.5E+01	1.5E+02	9.9E-01	9.9E-02
Manganese	4.8E+02	0.00012	1.0	1.4E+00	0.0042	1.1E+01	1.0	1.1E+00	0.0416	1.0	2.5E+00	1.6E+02	5.2E+02	1.5E-02	4.8E-03
Mercury	1.5E+01	0.00012	1.0	4.4E-02	0.0042	4.1E-01	1.0	4.1E-02	0.0416	1.0	8.6E-02	5.9E-02	2.9E-01	1.5E+00	2.9E-01
Nickel	2.1E+01	0.00012	1.0	6.2E-02	0.0042	***1.9E+00***	1.0	1.9E-01	0.0416	1.0	2.5E-01	7.3E+01	1.5E+02	3.4E-03	1.7E-03
Selenium	1.1E+00	0.00012	1.0	3.1E-03	0.0042	***4.7E-01***	1.0	4.7E-02	0.0416	1.0	5.0E-02	3.7E-01	6.0E-01	1.4E-01	8.3E-02
Silver	1.5E+00	0.00012	1.0	4.4E-03	0.0042	***4.7E-01***	1.0	4.7E-02	0.0416	1.0	5.1E-02	1.8E-01	1.8E+00	2.9E-01	2.9E-02
Thallium	7.3E-01	0.00012	1.0	2.1E-03	0.0042	***4.7E-01***	1.0	4.7E-02	0.0416	1.0	4.9E-02	1.4E-02	1.4E-01	3.6E+00	3.6E-01
Vanadium	2.5E+01	0.00012	1.0	7.2E-02	0.0042	***4.7E-01***	1.0	4.7E-02	0.0416	1.0	1.2E-01	3.8E-01	3.8E+00	3.1E-01	3.1E-02
Zinc	3.8E+02	0.00012	1.0	1.1E+00	0.0042	2.2E+01	1.0	2.2E+00	0.0416	1.0	3.3E+00	2.9E+02	5.9E+02	1.1E-02	5.6E-03
Hazard Index - Metals														2.0E+01	2.3E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-33
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site O (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
SVOCs												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
1,2,4-Trichlorobenzene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.7E+01	9.8E+01	1.8E-03	5.1E-04
1,2-Dichlorobenzene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,3-Dichlorobenzene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,4-Dichlorobenzene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.7E+02	3.2E-04	1.8E-04
2,2'-Oxybis(1-Chloropropane)	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
2,4,5-Trichlorophenol	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	5.5E+01	2.7E-03	9.1E-04
2,4,6-Trichlorophenol	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+02	5.5E+01	5.5E-05	9.1E-04
2,4-Dichlorophenol	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.5E-01	5.5E+00	9.1E-02	9.1E-03
2,4-Dinitrophenol	***1.0E+00***	0.00012	1.0	2.9E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	3.1E-03	3.1E-02	8.2E+01	8.2E+00
2,4-Dinitrotoluene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.0E-01	6.7E+00	5.6E-02	7.4E-03
2,6-Dinitrotoluene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+00	1.3E+01	3.9E-02	3.9E-03
2-Chloronaphthalene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.5E+01	5.9E+01	2.0E-03	8.4E-04
2-Chlorophenol	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+01	9.1E+00	5.5E-04	5.5E-03
2-Methylnaphthalene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.8E+03	2.8E+04	1.8E-05	1.8E-06
2-Methylphenol (o-Cresol)	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
2-Nitroaniline	***9.5E-01***	0.00012	1.0	2.7E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
2-Nitrophenol	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E+00	1.3E+01	1.1E-02	3.9E-03
3,3'-Dichlorobenzidine	***3.9E-01***	0.00012	1.0	1.1E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	4.7E+01	5.0E+02	2.2E-03	2.0E-04
3/4-Methylphenol (m&p-Cresol)	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.6E-05	9.6E-06
3-Nitroaniline	***1.0E+00***	0.00012	1.0	2.9E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4,6-Dinitro-2-methylphenol	***1.0E+00***	0.00012	1.0	2.9E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E-01	8.3E+00	5.6E-01	3.1E-02
4-Bromophenyl Phenyl Ether	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Chloro-3-methylphenol	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.0E+02	2.0E+03	2.4E-04	2.4E-05
4-Chloroaniline	***3.9E-01***	0.00012	1.0	1.1E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	2.3E+00	2.3E+01	4.4E-02	4.4E-03
4-Chlorophenyl Phenyl Ether	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.7E-02	3.4E-03
4-Nitroaniline	***1.0E+00***	0.00012	1.0	2.9E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4-Nitrophenol	***1.0E+00***	0.00012	1.0	2.9E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E+00	1.3E+01	5.6E-02	2.0E-02
Acenaphthene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Acenaphthylene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Anthracene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E+01	9.9E+02	5.1E-04	5.1E-05
Benzo(a)anthracene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(a)pyrene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(b)fluoranthene	1.4E-01	0.00012	1.0	4.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.0E-02	5.0E-03
Benzo(g,h,i)perylene	1.2E+00	0.00012	1.0	3.5E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	9.9E-01	9.9E+00	5.4E-02	5.4E-03
Benzo(k)fluoranthene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
bis(2-Chloroethoxy)methane	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	[illegible]
bis(2-Chloroethyl)ether	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	[illegible]
bis(2-Ethylhexyl)phthalate	2.5E-01	0.00012	1.0	7.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	1.8E+02	2.8E-03	[illegible]
Butyl Benzyl Phthalate	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.9E+01	8.6E+01	1.7E-03	[illegible]
Carbazole	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.0E+00	3.0E+01	1.7E-02	1.7E-03
Chrysene	2.0E-01	0.00012	1.0	5.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzo(a,h)anthracene	***1.8E-01***	0.00012	1.0	5.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzofuran	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.4E-02	2.4E-01	2.3E+00	2.1E-01
Diethyl Phthalate	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Dimethyl Phthalate	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Di-n-butylphthalate	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Di-n-octylphthalate	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.2E-05	2.8E-05
Fluoranthene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Fluorene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.0E-03	2.0E-03
Hexachlorobenzene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.5E-01	5.3E-01	3.4E-01	9.4E-02
Hexachlorobutadiene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E-01	3.7E-01	1.4E-01	1.4E-01
Hexachlorocyclopentadiene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+00	2.0E+00	4.6E-02	2.5E-02
Hexachloroethane	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	2.7E+00	2.7E-01	1.8E-02
Indeno(1,2,3-cd)pyrene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Isophorone	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	6.7E+01	3.3E+02	7.4E-04	1.5E-04
Naphthalene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+01	2.6E+01	3.9E-03	1.9E-03
Nitrobenzene	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E-02	4.6E-01	1.1E+00	1.1E-01
N-Nitroso-di-n-propylamine	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-03	9.9E-02	5.1E+00	5.1E-01
N-Nitrosodiphenylamine	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E+02	9.1E+01	1.4E-04	5.5E-04
Pentachlorophenol	2.0E+00	0.00012	1.0	5.8E-03	0.0042	***1.3E-01***	1.0	1.3E-02	0.0416	1.0	1.9E-02	4.4E-01	4.4E+00	4.3E-02	4.3E-03
Phenanthrene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Phenol	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+02	2.2E+02	4.6E-04	2.3E-04
Pyrene	***1.9E-01***	0.00012	1.0	5.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	7.4E+00	1.2E+01	6.7E-03	4.0E-03
Hazard Index - SVOCs														9.3E+01	9.3E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-33
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site O (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	8.6E-02	0.00012	1.0	2.5E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	7.4E-04	1.5E+00	7.3E+00	5.1E-04	1.0E-04
4,4'-DDE	3.9E-02	0.00012	1.0	1.1E-04	0.0042	1.0E-02	1.0	1.0E-03	0.0416	1.0	1.1E-03	1.5E+00	7.3E+00	7.6E-04	1.5E-04
4,4'-DDT	2.3E-01	0.00012	1.0	6.6E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	1.2E-03	1.5E+00	7.3E+00	7.9E-04	1.6E-04
Aldrin	2.0E-02	0.00012	1.0	5.8E-05	0.0042	5.1E-03	1.0	5.1E-04	0.0416	1.0	5.7E-04	3.7E-01	1.8E+00	1.6E-03	3.1E-04
alpha-BHC	2.0E-02	0.00012	1.0	5.8E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.1E-04	2.9E+00	5.9E+00	1.1E-04	5.3E-05
alpha-Chlordane	9.4E-03	0.00012	1.0	2.7E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.8E-04	4.6E+00	9.1E+00	6.2E-05	3.1E-05
beta-BHC	2.0E-02	0.00012	1.0	5.8E-05	0.0042	4.4E-03	1.0	4.4E-04	0.0416	1.0	5.0E-04	7.3E-01	3.7E+00	6.8E-04	1.4E-04
delta-BHC	2.0E-02	0.00012	1.0	5.8E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.1E-04	2.9E+00	5.9E+00	1.1E-04	5.3E-05
Dieldrin	1.8E-01	0.00012	1.0	5.2E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	1.0E-03	3.7E-02	3.7E-01	2.8E-02	2.8E-03
Endosulfan I	2.0E-02	0.00012	1.0	5.8E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.1E-04	2.7E-01	2.7E+00	1.1E-03	1.1E-04
Endosulfan II	1.1E-02	0.00012	1.0	3.2E-05	0.0042	5.4E-03	1.0	5.4E-04	0.0416	1.0	5.7E-04	2.7E-01	2.7E+00	2.1E-03	2.1E-04
Endosulfan Sulfate	1.7E-01	0.00012	1.0	4.9E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	9.9E-04	2.7E-01	2.7E+00	3.6E-03	3.6E-04
Endrin	3.9E-02	0.00012	1.0	1.1E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	6.1E-04	9.1E-02	9.1E-01	6.7E-03	6.7E-04
Endrin Aldehyde	3.9E-02	0.00012	1.0	1.1E-04	0.0042	2.5E-02	1.0	2.5E-03	0.0416	1.0	2.6E-03	9.1E-02	9.1E-01	2.9E-02	2.9E-03
Endrin Ketone	2.2E-02	0.00012	1.0	6.3E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.6E-04	9.1E-02	9.1E-01	6.1E-03	6.1E-04
gamma-BHC (Lindane)	3.2E-02	0.00012	1.0	9.2E-05	0.0042	9.8E-03	1.0	9.8E-04	0.0416	1.0	1.1E-03	1.5E+01	1.5E+02	7.3E-05	7.3E-06
gamma-Chlordane	1.8E-01	0.00012	1.0	5.2E-04	0.0042	5.7E-03	1.0	5.7E-04	0.0416	1.0	1.1E-03	4.6E+00	9.1E+00	2.4E-04	1.2E-04
Heptachlor	1.6E-02	0.00012	1.0	4.6E-05	0.0042	3.4E-03	1.0	3.4E-04	0.0416	1.0	3.9E-04	2.4E-01	2.4E+00	1.6E-03	1.6E-04
Heptachlor Epoxide	2.0E-02	0.00012	1.0	5.8E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.1E-04	2.3E-03	5.6E-02	1.4E-01	5.6E-03
Methoxychlor	2.0E-01	0.00012	1.0	5.8E-04	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	3.1E-03	7.3E+00	1.5E+01	4.3E-04	2.1E-04
Toxaphene	2.0E+00	0.00012	1.0	5.8E-03	0.0042	***2.6E-01***	1.0	2.6E-02	0.0416	1.0	3.1E-02	1.5E+01	1.5E+02	2.1E-03	2.1E-04
Hazard Index - Pesticides														2.2E-01	1.5E-02
Herbicides															
2,4-D	5.0E-02	0.00012	1.0	1.4E-04	0.0042	1.1E-01	1.0	1.1E-02	0.0416	1.0	1.1E-02	1.8E+00	9.1E+00	6.1E-03	1.2E-03
2,4-DB	1.9E-02	0.00012	1.0	5.5E-05	0.0042	1.3E+00	1.0	1.3E-01	0.0416	1.0	1.3E-01	3.6E+00	1.1E+01	3.6E-02	1.2E-02
2,4,5-T	***1.8E-02***	0.00012	1.0	5.0E-05	0.0042	***6.0E-02***	1.0	6.0E-03	0.0416	1.0	6.1E-03	5.5E+00	1.8E+01	1.1E-03	3.3E-04
2,4,5-TP (Silvex)	***1.8E-02***	0.00012	1.0	5.0E-05	0.0042	***6.0E-02***	1.0	6.0E-03	0.0416	1.0	6.1E-03	3.4E+00	1.1E+01	1.8E-03	5.4E-04
Dalapon	***4.3E+00***	0.00012	1.0	1.2E-02	0.0042	***1.5E+01***	1.0	1.5E+00	0.0416	1.0	1.5E+00	1.5E+01	5.2E+01	9.8E-02	2.9E-02
Dicamba	***4.3E-02***	0.00012	1.0	1.2E-04	0.0042	***1.5E-01***	1.0	1.5E-02	0.0416	1.0	1.5E-02	7.5E+00	2.5E+01	2.0E-03	6.1E-04
Dichlorprop	3.7E-02	0.00012	1.0	1.1E-04	0.0042	***7.5E-01***	1.0	7.5E-02	0.0416	1.0	7.5E-02	2.0E-01	2.0E+00	3.8E-01	3.8E-02
Dinoseb	***2.0E-01***	0.00012	1.0	5.6E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	1.8E+00	2.7E-01	2.7E-02
MCPA	***4.3E+00***	0.00012	1.0	1.2E-02	0.0042	***1.5E+01***	1.0	1.5E+00	0.0416	1.0	1.5E+00	6.7E-01	3.4E+00	2.2E+00	4.5E-01
MCPP	4.3E+01	0.00012	1.0	1.2E-01	0.0042	***1.5E+01***	1.0	1.5E+00	0.0416	1.0	1.6E+00	5.5E-01	1.6E+00	3.0E+00	9.9E-01
Hazard Index - Herbicides														6.0E+00	1.5E+00
PCBs															
Total PCBs	7.1E+02	0.00012	1.0	2.0E+00	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	2.0E+00	1.8E-01	1.8E+00	1.1E+01	1.1E+00
Dioxins/Furans															
TEQ	5.1E-02	0.00012	1.0	1.5E-04	0.0042	4.3E-06	1.0	4.3E-07	0.0416	1.0	1.5E-04	1.8E-06	1.8E-05	8.0E+01	8.0E+00
Metals*															
Aluminum	8.6E+03	0.00012	1.0	2.5E+01	0.0042	1.4E+01	1.0	1.4E+00	0.0416	1.0	2.6E+01	1.9E+00	1.9E+01	1.4E+01	1.4E+00
Antimony	2.1E+00	0.00012	1.0	6.1E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.1E-01	1.2E-01	1.2E+00	8.6E-01	8.6E-02
Arsenic	1.1E+01	0.00012	1.0	3.2E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	8.2E-02	1.2E-01	1.2E+00	6.6E-01	6.6E-02
Barium	3.4E+02	0.00012	1.0	9.8E-01	0.0042	7.6E+00	1.0	7.6E-01	0.0416	1.0	1.7E+00	9.3E+00	3.6E+01	1.9E-01	4.8E-02
Beryllium	5.4E-01	0.00012	1.0	1.6E-03	0.0042	***2.0E-01***	1.0	2.0E-02	0.0416	1.0	2.2E-02	1.2E+00	1.2E+01	1.8E-02	1.8E-03
Cadmium	1.7E+01	0.00012	1.0	4.9E-02	0.0042	2.0E-01	1.0	2.0E-02	0.0416	1.0	6.9E-02	1.8E+00	1.8E+01	3.8E-02	3.8E-03
Chromium	1.6E+01	0.00012	1.0	4.6E-02	0.0042	***4.6E-01***	1.0	4.6E-02	0.0416	1.0	9.2E-02	6.0E+00	2.4E+01	1.5E-02	3.8E-03
Cobalt	6.9E+00	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	9.1E-02	9.1E-01	7.6E-01	7.6E-02
Copper	2.7E+02	0.00012	1.0	7.8E-01	0.0042	4.0E+00	1.0	4.0E-01	0.0416	1.0	1.2E+00	2.8E+01	3.7E+01	4.2E-02	3.2E-02
Lead	8.5E+03	0.00012	1.0	2.5E+01	0.0042	1.4E+00	1.0	1.4E-01	0.0416	1.0	2.5E+01	1.5E+01	1.5E+02	1.7E+00	1.7E-01
Manganese	5.3E+02	0.00012	1.0	1.5E+00	0.0042	1.2E+01	1.0	1.2E+00	0.0416	1.0	2.7E+00	1.6E+02	5.2E+02	1.7E-02	5.3E-03
Mercury	4.3E+01	0.00012	1.0	1.2E-01	0.0042	9.1E-01	1.0	9.1E-02	0.0416	1.0	2.2E-01	5.9E-02	2.9E-01	3.7E+00	7.3E-01
Nickel	2.8E+01	0.00012	1.0	8.1E-02	0.0042	***2.0E+00***	1.0	2.0E-01	0.0416	1.0	2.8E-01	7.3E+01	1.5E+02	3.8E-03	1.9E-03
Selenium	***1.6E+00***	0.00012	1.0	4.5E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.4E-02	3.7E-01	6.0E-01	1.5E-01	9.0E-02
Silver	2.9E+00	0.00012	1.0	8.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.8E-02	1.8E-01	1.8E+00	3.3E-01	3.3E-02
Thallium	1.1E+00	0.00012	1.0	3.2E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	1.4E-02	1.4E-01	3.9E+00	3.9E-01
Vanadium	2.8E+01	0.00012	1.0	8.1E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.3E-01	3.8E-01	3.8E+00	3.4E-01	3.4E-02
Zinc	9.4E+02	0.00012	1.0	2.7E+00	0.0042	2.5E+01	1.0	2.5E+00	0.0416	1.0	5.2E+00	2.9E+02	5.9E+02	1.8E-02	8.9E-03
Hazard Index - Metals														2.6E+01	3.2E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-34
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site O (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs																			
1,2,4 Trichlorobenzene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.3E+01	1.2E+02	1.6E-02	4.4E-03
1,2-Dichlorobenzene	8.7E-02	0.0012	1.0	6.8E-03	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E+02	2.6E+03	2.7E-03	1.9E-04
1,3 Dichlorobenzene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E+02	2.6E+03	2.7E-03	2.0E-04
1,4-Dichlorobenzene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E+02	3.3E+02	2.7E-03	1.6E-03
2,2'-Oxybis(1-Chloropropane)	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E+01	6.6E+01	2.3E-02	7.8E-03
2,4,5 Trichlorophenol	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+03	6.6E+01	4.7E-04	7.8E-03
2,4,6 Trichlorophenol	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
2,4-Dichlorophenol	1.3E-01	0.0012	1.0	1.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.6E-01	6.6E+00	7.7E-01	7.7E-02
2,4-Dinitrophenol	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	3.8E-03	3.8E-02	[illegible]	[illegible]
2,4-Dinitrotoluene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+00	8.1E+00	4.8E-01	6.4E-02
2,6-Dinitrotoluene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+00	1.5E+01	3.3E-01	3.3E-02
2-Chloronaphthalene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.0E+01	7.1E+01	1.7E-02	7.2E-03
2-Chlorophenol	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.1E+02	1.1E+01	4.7E-03	4.7E-02
2-Methylnaphthalene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.4E+03	3.4E+04	1.5E-04	1.5E-05
2-Methylphenol (o-Cresol)	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
2-Nitroaniline	6.3E-01	0.0012	1.0	4.9E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
2-Nitrophenol	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	5.5E+00	1.5E+01	9.4E-02	3.3E-02
3,3'-Dichlorobenzidine	***3.7E-01***	0.0012	1.0	2.9E-02	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	1.0E+00	5.6E+01	6.1E+02	1.8E-02	1.7E-03
3/4-Methylphenol (m&p-Cresol)	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	9.2E+00	9.2E+01	5.6E-02	5.6E-03
3-Nitroaniline	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E-01	1.0E+01	[illegible]	2.6E-01
4,6-Dinitro-2-methylphenol	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	2.2E+00	1.8E+01	[illegible]	1.5E-01
4-Bromophenyl Phenyl Ether	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.5E+02	2.5E+03	2.1E-03	2.1E-04
4-Chloro-3-methylphenol	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.7E+00	2.7E+01	1.9E-01	1.9E-02
4-Chloroaniline	***3.7E-01***	0.0012	1.0	2.9E-02	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	1.0E+00	2.2E+00	1.8E+01	4.7E-01	5.9E-02
4-Chlorophenyl Phenyl Ether	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
4-Nitroaniline	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
4-Nitrophenol	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E+00	1.5E+01	4.7E-01	1.7E-01
Acenaphthene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Acenaphthylene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Anthracene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+02	1.2E+03	4.3E-03	4.3E-04
Benzo(a)anthracene	9.8E-02	0.0012	1.0	7.6E-03	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(a)pyrene	1.4E-01	0.0012	1.0	1.1E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(b)fluoranthene	1.1E-01	0.0012	1.0	8.5E-03	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(g,h,i)perylene	4.8E-01	0.0012	1.0	3.7E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.4E-01	1.2E+00	1.2E+01	4.5E-01	4.5E-02
Benzo(k)fluoranthene	1.6E-01	0.0012	1.0	1.2E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
bis(2-Chloroethoxy)methane	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Chloroethyl)ether	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Ethylhexyl)phthalate	1.1E-01	0.0012	1.0	8.7E-03	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E+01	2.2E+02	2.3E-02	2.3E-03
Butyl Benzyl Phthalate	1.3E-01	0.0012	1.0	1.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.5E+01	1.0E+02	1.5E-02	4.9E-03
Carbazole	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.6E+00	3.6E+01	1.4E-01	1.4E-02
Chrysene	1.5E-01	0.0012	1.0	1.2E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenzo(a,h)anthracene	1.3E-01	0.0012	1.0	1.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenzofuran	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.9E-02	2.9E-01	[illegible]	[illegible]
Diethyl Phthalate	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	5.4E+03	5.4E+04	9.4E-05	9.4E-06
Dimethyl Phthalate	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	5.4E+03	5.4E+04	9.4E-05	9.4E-06
Di-n-butylphthalate	1.4E-01	0.0012	1.0	1.1E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.5E+02	2.2E+03	7.8E-04	2.3E-04
Di-n-octylphthalate	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.5E+02	2.2E+03	7.9E-04	2.4E-04
Fluoranthene	1.6E-01	0.0012	1.0	1.2E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+01	3.0E+01	3.4E-02	1.7E-02
Fluorene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E+01	3.0E+01	3.5E-02	1.7E-02
Hexachlorobenzene	1.6E-01	0.0012	1.0	1.2E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.5E-01	6.4E-01	[illegible]	8.0E-01
Hexachlorobutadiene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	4.4E-01	4.4E-01	[illegible]	[illegible]
Hexachlorocyclopentadiene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.3E+00	2.4E+00	3.9E-01	2.1E-01
Hexachloroethane	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E-01	3.3E+00	[illegible]	1.6E-01
Indeno(1,2,3-cd)pyrene	1.4E-01	0.0012	1.0	1.1E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Isophorone	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	8.1E+01	3.9E+02	6.4E-03	1.3E-03
Naphthalene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.6E+01	3.1E+01	3.3E-02	1.6E-02
Nitrobenzene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	5.5E-02	5.5E-01	[illegible]	9.4E-01
N-Nitroso-di-n-propylamine	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E-02	1.2E-01	[illegible]	[illegible]
N-Nitrosodiphenylamine	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	4.4E+02	1.1E+02	1.2E-03	4.7E-03
Pentachlorophenol	6.9E-01	0.0012	1.0	5.4E-02	0.0090	5.4E-01	1.0	0.67	2.2E-01	***2.6E-02***	0.33	5.0E-03	0.015	1.0	2.8E-01	5.3E-01	5.3E+00	5.2E-01	5.2E-02
Phenanthrene	8.7E-02	0.0012	1.0	6.8E-03	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.4E-02	1.2E-02
Phenol	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.3E+02	2.6E+02	3.9E-03	2.0E-03
Pyrene	1.3E-01	0.0012	1.0	1.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	8.9E+00	1.5E+01	5.7E-02	3.4E-02
Hazard Index - SVOCs																		[illegible]	[illegible]

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQs equal to or greater than 1.0.

Hazard Quotients and Hazard Indices for I[illegible] of Earthworms and Terrestrial Invertebrates
Short-[illegible]ed Shrew
Site O (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4'-DDD	3.0E-02	0.0012	1.0	2.3E-03	0.0090	6.0E-02	1.0	0.67	2.4E-02	***5.0E-03***	0.33	9.8E-04	0.015	1.0	2.7E-02	8E+00	8.8E+00	1.6E-02	3.1E-03
4,4'-DDE	1.4E-02	0.0012	1.0	1.1E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.0E-02	.8E+00	8.8E+00	5.8E-03	1.2E-03
4,4'-DDT	7.8E-02	0.0012	1.0	6.0E-03	0.0090	6.2E-01	1.0	0.67	2.5E-01	***5.0E-03***	0.33	9.8E-04	0.015	1.0	2.5E-01	1.8E+00	8.8E+00	1.4E-01	2.9E-02
Aldrin	7.3E-03	0.0012	1.0	5.7E-04	0.0090	1.2E-02	1.0	0.67	4.9E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	5.9E-03	4.4E-01	2.2E+00	1.3E-02	2.7E-03
alpha-BHC	7.3E-03	0.0012	1.0	5.7E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	5.1E-03	5.5E+00	7.0E+00	1.4E-03	7.2E-04
alpha-Chlordane	3.8E-03	0.0012	1.0	2.9E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.8E-03	8.8E-01	4.4E+00	5.5E-03	1.1E-03
beta-BHC	7.3E-03	0.0012	1.0	5.7E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	5.1E-03	5.5E+00	1.1E+01	9.3E-04	4.7E-04
delta-BHC	7.3E-03	0.0012	1.0	5.7E-04	0.0090	2.4E-02	1.0	0.67	9.5E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	1.0E-02	5.5E+00	1.1E+01	1.9E-03	9.5E-04
Dieldrin	6.1E-02	0.0012	1.0	4.7E-03	0.0090	1.8E-01	1.0	0.67	7.2E-02	***5.0E-03***	0.33	9.8E-04	0.015	1.0	7.8E-02	3.5E+00	7.0E+00	2.2E-02	1.1E-02
Endosulfan I	7.3E-03	0.0012	1.0	5.7E-04	0.0090	7.3E-03	1.0	0.67	2.9E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	4.0E-03	4.4E-02	4.4E-01	9.1E-02	9.1E-03
Endosulfan II	4.9E-03	0.0012	1.0	3.8E-04	0.0090	2.6E-02	1.0	0.67	1.1E-02	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.2E-02	3.3E-01	3.3E+00	3.6E-02	3.6E-03
Endosulfan Sulfate	5.8E-02	0.0012	1.0	4.5E-03	0.0090	1.9E-02	1.0	0.67	7.8E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.3E-02	3.3E-01	3.3E+00	4.0E-02	4.0E-03
Endrin	1.4E-02	0.0012	1.0	1.1E-03	0.0090	3.3E-02	1.0	0.67	1.3E-02	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.5E-02	3.3E-01	3.3E+00	4.6E-02	4.6E-03
Endrin Aldehyde	1.5E-02	0.0012	1.0	1.1E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.0E-02	1.1E-01	1.1E+00	9.3E-02	9.3E-03
Endrin Ketone	8.6E-03	0.0012	1.0	6.7E-04	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	4.2E-03	0.33	8.3E-04	0.015	1.0	9.5E-03	1.1E-01	1.1E+00	8.7E-02	8.7E-03
gamma-BHC (Lindane)	1.1E-02	0.0012	1.0	8.8E-04	0.0090	1.3E-02	1.0	0.67	5.1E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	6.3E-03	1.1E-01	1.1E+00	5.7E-02	5.7E-03
gamma-Chlordane	6.0E-02	0.0012	1.0	4.7E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.6E-03	0.33	3.2E-04	0.015	1.0	9.0E-03	1.8E+01	1.8E+02	5.1E-04	5.1E-05
Heptachlor	6.0E-03	0.0012	1.0	4.6E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	4.8E-03	2.9E-01	2.9E+00	1.7E-02	1.7E-03
Heptachlor Epoxide	7.3E-03	0.0012	1.0	5.7E-04	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	5.1E-03	2.7E-03	6.7E-02	1.9E+00	7.6E-02
Methoxychlor	7.0E-02	0.0012	1.0	5.5E-03	0.0090	***1.0E-01***	1.0	0.67	4.0E-02	***2.6E-02***	0.33	5.0E-03	0.015	1.0	5.1E-02	8.8E+00	1.8E+01	5.8E-03	2.9E-03
Toxaphene	7.3E-01	0.0012	1.0	5.7E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***2.6E-01***	0.33	5.0E-02	0.015	1.0	5.1E-01	1.8E+01	1.8E+02	2.9E-02	2.9E-03
Hazard Index - Pesticides																		2.6E+00	1.8E-01
Herbicides																			
2,4-D	3.3E-02	0.0012	1.0	2.6E-03	0.0090	5.8E-02	1.0	0.67	2.3E-02	1.1E-01	0.33	2.2E-02	0.015	1.0	4.8E-02	2.2E+00	1.1E+01	2.2E-02	4.3E-03
2,4-DB	1.7E-02	0.0012	1.0	1.3E-03	0.0090	***2.9E-02***	1.0	0.67	1.2E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	1.7E-02	4.3E+00	1.3E+01	3.9E-03	1.3E-03
2,4,5-T	1.3E-02	0.0012	1.0	1.0E-03	0.0090	2.8E-02	1.0	0.67	1.1E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.5E-02	4.0E+00	1.3E+01	3.6E-03	1.1E-03
2,4,5-TP (Silvex)	***9.0E-03***	0.0012	1.0	7.0E-04	0.0090	2.7E-02	1.0	0.67	1.1E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.4E-02	6.6E+00	2.2E+01	2.1E-03	6.4E-04
Dalapon	***2.2E+00***	0.0012	1.0	1.7E-01	0.0090	***7.0E+00***	1.0	0.67	2.8E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.6E+00	1.9E+01	6.3E+01	1.9E-01	5.7E-02
Dicamba	1.9E-02	0.0012	1.0	1.5E-03	0.0090	***7.0E-02***	1.0	0.67	2.8E-02	***3.0E-02***	0.33	5.9E-03	0.015	1.0	3.6E-02	9.0E+00	3.0E+01	4.0E-03	1.2E-03
Dichlorprop	1.8E-02	0.0012	1.0	1.4E-03	0.0090	***3.5E-01***	1.0	0.67	1.4E-01	***1.5E-01***	0.33	3.0E-02	0.015	1.0	1.7E-01	2.4E-01	2.4E+00	7.2E-01	7.2E-02
Dinoseb	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.2E-01	2.2E+00	2.3E+00	2.3E-01
MCPA	***2.2E+00***	0.0012	1.0	1.7E-01	0.0090	3.4E+01	1.0	0.67	1.4E+01	***3.0E+00***	0.33	5.9E-01	0.015	1.0	1.4E+01	8.1E-01	4.0E+00	1.8E+01	3.5E+00
MCPP	2.2E+01	0.0012	1.0	1.7E+00	0.0090	***7.0E+00***	1.0	0.67	2.8E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	5.1E+00	6.6E-01	2.0E+00	7.8E+00	2.6E+00
Hazard Index - Herbicides																		2.9E+01	8.5E+00
PCBs																			
Total PCBs	2.4E+02	0.0012	1.0	1.9E+01	0.0090	2.1E+01	1.0	0.67	8.3E+00	***2.5E-02***	0.33	5.0E-03	0.015	1.0	2.7E+01	2.2E-01	2.2E+00	1.2E+02	1.2E+01
Dioxins/Furans																			
TEQ	1.9E-02	0.0012	1.0	1.5E-03	0.0090	1.2E-03	1.0	0.67	4.8E-04	1.3E-05	0.33	2.7E-06	0.015	1.0	2.0E-03	2.2E-06	2.2E-05	8.9E+02	8.9E+01
Metals*																			
Aluminum	7.1E+03	0.0012	1.0	5.5E+02	0.0090	7.8E+02	1.0	0.67	3.1E+02	1.5E+01	0.33	3.0E+00	0.015	1.0	8.7E+02	2.3E+00	2.3E+01	3.8E+02	3.8E+01
Antimony	1.2E+00	0.0012	1.0	9.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	6.9E-01	1.5E-01	1.5E+00	4.7E+00	4.7E-01
Arsenic	7.5E+00	0.0012	1.0	5.8E-01	0.0090	5.6E+00	1.0	0.67	2.2E+00	***5.0E-01***	0.33	9.9E-02	0.015	1.0	2.9E+00	1.5E-01	1.5E+00	1.9E+01	1.9E+00
Barium	1.9E+02	0.0012	1.0	1.5E+01	0.0090	1.2E+01	1.0	0.67	4.9E+00	1.9E+00	0.33	3.8E-01	0.015	1.0	2.0E+01	1.1E+01	4.4E+01	1.8E+00	4.6E-01
Beryllium	4.6E-01	0.0012	1.0	3.6E-02	0.0090	***2.0E-01***	1.0	0.67	8.0E-02	***2.0E-01***	0.33	4.0E-02	0.015	1.0	1.6E-01	1.5E+00	1.5E+01	1.1E-01	1.1E-02
Cadmium	6.4E+00	0.0012	1.0	5.0E-01	0.0090	1.8E+00	1.0	0.67	7.4E-01	3.6E-01	0.33	7.1E-02	0.015	1.0	1.3E+00	2.2E+00	2.2E+01	6.0E-01	6.0E-02
Chromium	1.5E+01	0.0012	1.0	1.1E+00	0.0090	1.3E+00	1.0	0.67	5.2E-01	2.0E-01	0.33	4.0E-02	0.015	1.0	1.7E+00	7.2E+00	2.9E+01	2.4E-01	5.9E-02
Cobalt	6.5E+00	0.0012	1.0	5.0E-01	0.0090	1.8E+00	1.0	0.67	7.2E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	1.3E+00	1.1E-01	1.1E+00	1.2E+01	1.2E+00
Copper	1.1E+02	0.0012	1.0	8.7E+00	0.0090	8.6E+00	1.0	0.67	3.4E+00	2.0E+01	0.33	4.0E+00	0.015	1.0	1.6E+01	3.3E+01	4.4E+01	4.8E-01	3.7E-01
Lead	5.0E+03	0.0012	1.0	3.9E+02	0.0090	3.1E+00	1.0	0.67	1.3E+00	1.0E+00	0.33	2.0E-01	0.015	1.0	3.9E+02	1.8E+01	1.8E+02	2.2E+01	2.2E+00
Manganese	4.8E+02	0.0012	1.0	3.7E+01	0.0090	4.8E+01	1.0	0.67	1.9E+01	5.5E+00	0.33	1.1E+00	0.015	1.0	5.8E+01	1.9E+02	6.2E+02	3.0E-01	9.3E-02
Mercury	1.5E+01	0.0012	1.0	1.2E+00	0.0090	2.7E-01	1.0	0.67	1.1E-01	1.3E-01	0.33	2.6E-02	0.015	1.0	1.3E+00	7.0E-02	3.5E-01	1.9E+01	3.8E+00
Nickel	2.1E+01	0.0012	1.0	1.7E+00	0.0090	1.9E+00	1.0	0.67	7.9E-01	***2.0E+00***	0.33	4.0E-01	0.015	1.0	2.8E+00	8.8E+01	1.8E+02	3.2E-02	1.6E-02
Selenium	1.1E+00	0.0012	1.0	8.3E-02	0.0090	5.8E-01	1.0	0.67	2.3E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	4.1E-01	4.4E-01	7.3E-01	9.4E-01	5.7E-01
Silver	1.5E+00	0.0012	1.0	1.2E-01	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	4.2E-01	2.2E-01	2.2E+00	1.9E+00	1.9E-01
Thallium	7.3E-01	0.0012	1.0	5.7E-02	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	3.6E-01	1.6E-02	1.6E-01	2.2E+01	2.2E+00
Vanadium	2.5E+01	0.0012	1.0	2.0E+00	0.0090	2.6E+00	1.0	0.67	1.1E+00	***5.0E-01***	0.33	9.9E-02	0.015	1.0	3.1E+00	4.6E-01	4.6E+00	6.7E+00	6.7E-01
Zinc	3.8E+02	0.0012	1.0	3.0E+01	0.0090	3.6E+01	1.0	0.67	1.4E+01	5.6E+01	0.33	1.1E+01	0.015	1.0	5.5E+01	3.5E+02	7.0E+02	1.6E-01	7.8E-02
Hazard Index - Metals																		4.9E+02	5.2E+01

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Work plan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicated HQs/HIs equal to or greater than 1.0

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-35
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site O (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs																			
1,2,4-Trichlorobenzene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	3.3E+01	1.2E+02	1.6E-02	4.4E-03
1,2-Dichlorobenzene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.9E+02	2.6E+03	2.7E-03	2.0E-04
1,3-Dichlorobenzene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.9E+02	2.6E+03	2.7E-03	2.0E-04
1,4-Dichlorobenzene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.9E+02	3.3E+02	2.7E-03	1.6E-03
2,2'-Oxybis(1-Chloropropane)	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.2E+01	6.6E+01	2.3E-02	7.8E-03
2,4,5-Trichlorophenol	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.1E+03	6.6E+01	4.7E-04	7.8E-03
2,4,6-Trichlorophenol	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
2,4-Dichlorophenol	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.6E-01	6.6E+00	7.8E-01	7.8E-02
2,4-Dinitrophenol	***1.0E+00***	0.0012	1.0	7.8E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	3.3E-03	3.8E-02	[illegible]	[illegible]
2,4-Dinitrotoluene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.1E+00	8.1E+00	4.8E-01	6.4E-02
2,6-Dinitrotoluene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.5E+00	1.5E+01	3.3E-01	3.3E-02
2-Chloronaphthalene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	3.0E+01	7.1E+01	1.7E-02	7.2E-03
2-Chlorophenol	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.1E+02	1.1E+01	4.7E-03	4.7E-02
2-Methylnaphthalene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	3.4E+03	3.4E+04	1.5E-04	1.5E-05
2-Methylphenol (o-Cresol)	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
2-Nitroaniline	***9.5E-01***	0.0012	1.0	7.4E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
2-Nitrophenol	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	5.5E+00	1.5E+01	9.4E-02	3.3E-02
3,3'-Dichlorobenzidine	***3.9E-01***	0.0012	1.0	3.0E-02	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	1.0E+00	5.6E+01	6.1E+02	1.8E-02	1.7E-03
3/4-Methylphenol (m&p-Cresol)	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	9.2E+00	9.2E+01	5.6E-02	5.6E-03
3-Nitroaniline	***1.0E+00***	0.0012	1.0	7.8E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E-01	1.0E+01	[illegible]	2.6E-01
4,6-Dinitro-2-methylphenol	***1.0E+00***	0.0012	1.0	7.8E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	2.2E+00	1.8E+01	[illegible]	1.5E-01
4-Bromophenyl Phenyl Ether	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.5E+02	2.5E+03	2.1E-03	2.1E-04
4-Chloro-3-methylphenol	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.7E+00	2.7E+01	1.9E-01	1.9E-02
4-Chloroaniline	***3.9E-01***	0.0012	1.0	3.0E-02	0.0090	***2.0E+00***	1.0	0.67	8.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	1.0E+00	2.2E+00	1.8E+01	4.7E-01	5.9E-02
4-Chlorophenyl Phenyl Ether	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	6.3E+02	6.3E+03	8.2E-04	8.2E-05
4-Nitroaniline	***1.0E+00***	0.0012	1.0	7.8E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	9.2E+00	9.2E+01	2.8E-01	2.8E-02
4-Nitrophenol	***1.0E+00***	0.0012	1.0	7.8E-02	0.0090	***5.0E+00***	1.0	0.67	2.0E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.6E+00	5.5E+00	1.5E+01	4.7E-01	1.7E-01
Acenaphthene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Acenaphthylene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Anthracene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E+02	1.2E+03	4.3E-03	4.3E-04
Benzo(a)anthracene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(a)pyrene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(b)fluoranthene	1.4E-01	0.0012	1.0	1.1E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Benzo(g,h,i)perylene	1.2E+00	0.0012	1.0	9.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.9E-01	1.2E+00	1.2E+01	5.0E-01	5.0E-02
Benzo(k)fluoranthene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
bis(2-Chloroethoxy)methane	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Chloroethyl)ether	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	4.3E+01	2.4E+02	1.2E-02	2.2E-03
bis(2-Ethylhexyl)phthalate	2.5E-01	0.0012	1.0	2.0E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.2E+01	2.2E+02	2.4E-02	2.4E-03
Butyl Benzyl Phthalate	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	3.5E+01	1.0E+02	1.5E-02	5.0E-03
Carbazole	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	3.6E+00	3.6E+01	1.4E-01	1.4E-02
Chrysene	2.0E-01	0.0012	1.0	1.6E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenzo(a,h)anthracene	***1.8E-01***	0.0012	1.0	1.4E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Dibenzofuran	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.9E-02	2.9E-01	[illegible]	[illegible]
Diethyl Phthalate	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	5.4E+03	5.4E+04	9.5E-05	9.5E-06
Dimethyl Phthalate	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	5.4E+03	5.4E+04	9.5E-05	9.5E-06
Di-n-butylphthalate	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	6.5E+02	2.2E+03	7.9E-04	2.4E-04
Di-n-octylphthalate	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	6.5E+02	2.2E+03	7.9E-04	2.4E-04
Fluoranthene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.5E+01	3.0E+01	3.5E-02	1.7E-02
Fluorene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.5E+01	3.0E+01	3.5E-02	1.7E-02
Hexachlorobenzene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.8E-01	6.4E-01	[illegible]	8.1E-01
Hexachlorobutadiene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	4.4E-01	4.4E-01	[illegible]	[illegible]
Hexachlorocyclopentadiene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.3E+03	2.4E+00	3.9E-01	2.1E-01
Hexachloroethane	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	2.2E-01	3.3E+00	[illegible]	1.6E-01
Indeno(1,2,3-cd)pyrene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E+00	1.2E+01	4.3E-01	4.3E-02
Isophorone	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	8.1E+01	3.9E+02	6.4E-03	1.3E-03
Naphthalene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.6E+01	3.1E+01	3.3E-02	1.7E-02
Nitrobenzene	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	5.5E-02	5.5E-01	[illegible]	9.4E-01
N-Nitroso-di-n-propylamine	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.2E-02	1.2E-01	[illegible]	[illegible]
N-Nitrosodiphenylamine	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	4.4E+02	1.1E+02	1.2E-03	4.7E-03
Pentachlorophenol	2.0E+00	0.0012	1.0	1.6E-01	0.0090	1.4E+00	1.0	0.67	5.6E-01	***2.6E-02***	0.33	5.0E-03	0.015	1.0	7.2E-01	5.3E-01	5.3E+00	[illegible]	1.4E-01
Phenanthrene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Phenol	***2.0E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.2E-01	1.3E+02	2.6E+02	3.9E-03	2.0E-03
Pyrene	***1.9E-01***	0.0012	1.0	1.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	8.9E+00	1.5E+01	5.8E-02	3.5E-02
Hazard Index - SVOCs																		[illegible]	[illegible]

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Qu
Bolded/Italicized [illegible]dicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells in [illegible] [illegible] equal to or greater than 1.0.

Hazard Quotients and Hazard Indices for I . Earthworms and Terrestrial Invertebrates
Short-tailed Shrew
Site O (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4'-DDD	8.6E-02	0.0012	1.0	6.7E-03	0.0090	1.4E-01	1.0	0.67	5.6E-02	*5.0E-03*	0.33	9.8E-04	0.015	1.0	6.4E-02	1.8E+00	8.8E+00	3.6E-02	7.3E-03
4,4'-DDE	3.9E-02	0.0012	1.0	3.0E-03	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	1.2E-02	1.8E+00	8.8E+00	6.9E-03	1.4E-03
4,4'-DDT	2.3E-01	0.0012	1.0	1.8E-02	0.0090	1.2E+00	1.0	0.67	4.8E-01	*5.0E-03*	0.33	9.8E-04	0.015	1.0	5.0E-01	1.8E+00	8.8E+00	2.9E-01	5.7E-02
Aldrin	2.0E-02	0.0012	1.0	1.6E-03	0.0090	2.1E-02	1.0	0.67	8.4E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	1.0E-02	4.4E-01	2.2E+00	2.4E-02	4.7E-03
alpha-BHC	2.0E-02	0.0012	1.0	1.6E-03	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	6.1E-03	3.5E+00	7.0E+00	1.7E-03	8.7E-04
alpha-Chlordane	9.4E-03	0.0012	1.0	7.3E-04	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	5.3E-03	8.8E-01	4.4E+00	6.0E-03	1.2E-03
beta-BHC	2.0E-02	0.0012	1.0	1.6E-03	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	6.1E-03	5.5E+00	1.1E+01	1.1E-03	5.6E-04
delta-BHC	2.0E-02	0.0012	1.0	1.6E-03	0.0090	5.1E-02	1.0	0.67	2.1E-02	1.5E-03	0.33	3.0E-04	0.015	1.0	2.2E-02	5.5E+00	1.1E+01	4.1E-03	2.0E-03
Dieldrin	1.8E-01	0.0012	1.0	1.4E-02	0.0090	4.0E-01	1.0	0.67	1.6E-01	*5.0E-03*	0.33	9.8E-04	0.015	1.0	1.8E-01	3.5E+00	7.0E+00	5.0E-02	2.5E-02
Endosulfan I	2.0E-02	0.0012	1.0	1.6E-03	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	6.1E-03	4.4E-02	4.4E-01	1.4E-01	1.4E-02
Endosulfan II	1.1E-02	0.0012	1.0	8.6E-04	0.0090	3.9E-02	1.0	0.67	1.6E-02	*5.0E-03*	0.33	9.8E-04	0.015	1.0	1.8E-02	3.3E-01	3.3E+00	5.3E-02	5.3E-03
Endosulfan Sulfate	1.7E-01	0.0012	1.0	1.3E-02	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	2.2E-02	3.3E-01	3.3E+00	6.8E-02	6.8E-03
Endrin	3.9E-02	0.0012	1.0	3.0E-03	0.0090	5.8E-02	1.0	0.67	2.3E-02	*5.0E-03*	0.33	9.8E-04	0.015	1.0	2.7E-02	3.3E-01	3.3E+00	8.3E-02	8.3E-03
Endrin Aldehyde	3.9E-02	0.0012	1.0	3.0E-03	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	1.2E-02	1.1E-01	1.1E+00	1.1E-01	1.1E-02
Endrin Ketone	2.2E-02	0.0012	1.0	1.7E-03	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	4.2E-03	0.33	8.3E-04	0.015	1.0	1.1E-02	1.1E-01	1.1E+00	9.7E-02	9.7E-03
gamma-BHC (Lindane)	3.2E-02	0.0012	1.0	2.5E-03	0.0090	1.8E-02	1.0	0.67	7.2E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	1.0E-02	1.1E-01	1.1E+00	9.2E-02	9.2E-03
gamma-Chlordane	1.8E-01	0.0012	1.0	1.4E-02	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.6E-03	0.33	3.2E-04	0.015	1.0	1.8E-02	1.8E+01	1.8E+02	1.0E-03	1.0E-04
Heptachlor	1.6E-02	0.0012	1.0	1.2E-03	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	5.6E-03	2.9E-01	2.9E+00	2.0E-02	2.0E-03
Heptachlor Epoxide	2.0E-02	0.0012	1.0	1.6E-03	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	6.1E-03	2.7E-03	6.7E-02	6.2E+00	9.0E-02
Methoxychlor	2.0E-01	0.0012	1.0	1.6E-02	0.0090	*1.0E-01*	1.0	0.67	4.0E-02	*2.6E-02*	0.33	5.0E-03	0.015	1.0	6.1E-02	8.8E+00	1.8E+01	6.9E-03	3.5E-03
Toxaphene	2.0E+00	0.0012	1.0	1.6E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*2.6E-01*	0.33	5.0E-02	0.015	1.0	6.1E-01	1.8E+01	1.8E+02	3.5E-02	3.5E-03
Hazard Index - Pesticides																		3.3E+00	2.6E-01
Herbicides																			
2,4-D	5.0E-02	0.0012	1.0	3.9E-03	0.0090	9.4E-02	1.0	0.67	3.8E-02	1.1E-01	0.33	2.2E-02	0.015	1.0	6.3E-02	2.2E+00	1.1E+01	2.9E-02	5.8E-03
2,4-DB	1.9E-02	0.0012	1.0	1.5E-03	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	2.6E-02	4.3E+00	1.3E+01	5.9E-03	1.9E-03
2,4,5-T	*1.8E-02*	0.0012	1.0	1.4E-03	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	*1.3E-02*	0.33	2.5E-03	0.015	1.0	2.4E-02	4.0E+00	1.3E+01	5.9E-03	1.8E-03
2,4,5-TP (Silvex)	*1.8E-02*	0.0012	1.0	1.4E-03	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	*1.3E-02*	0.33	2.5E-03	0.015	1.0	2.4E-02	6.6E+00	2.2E+01	3.6E-03	1.1E-03
Dalapon	*4.3E+00*	0.0012	1.0	3.3E-01	0.0090	*1.2E+01*	1.0	0.67	4.8E+00	*3.0E+00*	0.33	5.9E-01	0.015	1.0	5.7E+00	1.9E+01	6.3E+01	3.1E-01	9.1E-02
Dicamba	*4.3E-02*	0.0012	1.0	3.3E-03	0.0090	*1.2E-01*	1.0	0.67	4.8E-02	*3.0E-02*	0.33	5.9E-03	0.015	1.0	5.7E-02	9.0E+00	3.0E+01	6.4E-03	1.9E-03
Dichloroprop	3.7E-02	0.0012	1.0	2.9E-03	0.0090	*6.0E-01*	1.0	0.67	2.4E-01	*1.5E-01*	0.33	3.0E-02	0.015	1.0	2.7E-01	2.4E-01	2.4E+00	1.2E+00	1.2E-01
Dinoseb	*2.0E-01*	0.0012	1.0	1.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.2E-01	2.2E-01	2.2E+00	2.3E+00	2.3E-01
MCPA	*4.3E+00*	0.0012	1.0	3.3E-01	0.0090	5.8E+01	1.0	0.67	2.3E+01	*3.0E+00*	0.33	5.9E-01	0.015	1.0	2.4E+01	8.1E-01	4.0E+00	3.0E+01	6.0E+00
MCPP	4.3E+01	0.0012	1.0	3.4E+00	0.0090	*1.2E+01*	1.0	0.67	4.8E+00	*3.0E+00*	0.33	5.9E-01	0.015	1.0	8.8E+00	6.6E-01	2.0E+00	1.3E+01	4.4E+00
Hazard Index - Herbicides																		4.7E+01	7.1E+01
PCBs																			
Total PCBs	7.1E+02	0.0012	1.0	5.5E+01	0.0090	3.3E+01	1.0	0.67	1.3E+01	*2.5E-02*	0.33	5.0E-03	0.015	1.0	6.8E+01	2.2E-01	2.2E+00	3.1E+02	3.1E+01
Dioxins/Furans																			
TEQ	5.1E-02	0.0012	1.0	4.0E-03	0.0090	2.6E-03	1.0	0.67	1.0E-03	1.3E-05	0.33	2.7E-06	0.015	1.0	5.0E-03	2.2E-06	2.2E-05	2.3E+03	2.3E+02
Metals*																			
Aluminum	8.6E+03	0.0012	1.0	6.7E+02	0.0090	9.6E+02	1.0	0.67	3.9E+02	1.5E+01	0.33	3.0E+00	0.015	1.0	1.1E+03	2.3E+00	2.3E+01	4.6E+02	4.6E+01
Antimony	2.1E+00	0.0012	1.0	1.6E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	7.6E-01	1.5E-01	1.5E+00	5.1E+00	5.1E-01
Arsenic	1.1E+01	0.0012	1.0	8.6E-01	0.0090	6.3E+00	1.0	0.67	2.5E+00	*5.0E-01*	0.33	9.9E-02	0.015	1.0	3.5E+00	1.5E-01	1.5E+00	2.3E+01	2.3E+00
Barium	3.4E+02	0.0012	1.0	2.7E+01	0.0090	1.6E+01	1.0	0.67	6.4E+00	1.9E+00	0.33	3.8E-01	0.015	1.0	3.3E+01	1.1E+01	4.4E+01	3.0E+00	7.7E-01
Beryllium	5.4E-01	0.0012	1.0	4.2E-02	0.0090	*2.0E-01*	1.0	0.67	8.0E-02	*2.0E-01*	0.33	4.0E-02	0.015	1.0	1.6E-01	1.5E+00	1.5E+01	1.1E-01	1.1E-02
Cadmium	1.7E+01	0.0012	1.0	1.3E+00	0.0090	2.6E+00	1.0	0.67	1.0E+00	3.6E-01	0.33	7.1E-02	0.015	1.0	2.4E+00	2.2E+00	2.2E+01	1.1E+00	1.1E-01
Chromium	1.6E+01	0.0012	1.0	1.2E+00	0.0090	1.7E+00	1.0	0.67	6.8E-01	2.0E-01	0.33	4.0E-02	0.015	1.0	2.0E+00	7.2E+00	2.9E+01	2.7E-01	6.8E-02
Cobalt	6.9E+00	0.0012	1.0	5.4E-01	0.0090	1.9E+00	1.0	0.67	7.6E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	1.4E+00	1.1E-01	1.1E+00	1.3E+01	1.3E+00
Copper	2.7E+02	0.0012	1.0	2.1E+01	0.0090	9.1E+00	1.0	0.67	3.7E+00	2.0E+01	0.33	4.0E+00	0.015	1.0	2.9E+01	3.3E+01	4.4E+01	8.6E-01	6.5E-01
Lead	8.5E+03	0.0012	1.0	6.6E+02	0.0090	3.9E+00	1.0	0.67	1.6E+00	1.0E+00	0.33	2.0E-01	0.015	1.0	6.6E+02	1.8E+01	1.8E+02	3.8E+01	3.8E+00
Manganese	5.3E+02	0.0012	1.0	4.1E+01	0.0090	5.4E+01	1.0	0.67	2.2E+01	5.5E+00	0.33	1.1E+00	0.015	1.0	6.4E+01	1.9E+02	6.2E+02	3.3E-01	1.0E-01
Mercury	4.3E+01	0.0012	1.0	3.4E+00	0.0090	4.2E-01	1.0	0.67	1.7E-01	1.3E-01	0.33	2.6E-02	0.015	1.0	3.5E+00	7.0E-02	3.5E-01	5.0E+01	1.0E+01
Nickel	2.8E+01	0.0012	1.0	2.2E+00	0.0090	2.2E+00	1.0	0.67	8.8E-01	*2.0E+00*	0.33	4.0E-01	0.015	1.0	3.5E+00	8.8E+01	1.8E+02	3.9E-02	2.0E-02
Selenium	1.6E+00	0.0012	1.0	1.2E-01	0.0090	7.3E-01	1.0	0.67	2.9E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	5.1E-01	4.4E-01	7.3E-01	1.2E+00	7.1E-01
Silver	2.9E+00	0.0012	1.0	2.3E-01	0.0090	*5.0E-01*	1.0	0.67	2.0E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	5.3E-01	2.2E-01	2.2E+00	2.4E+00	2.4E-01
Thallium	1.1E+00	0.0012	1.0	8.6E-02	0.0090	*5.0E-01*	1.0	0.67	2.0E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	3.9E-01	1.6E-01	1.6E+01	2.4E+01	2.4E+00
Vanadium	2.8E+01	0.0012	1.0	2.2E+00	0.0090	3.2E+00	1.0	0.67	1.3E+00	*5.0E-01*	0.33	9.9E-02	0.015	1.0	3.6E+00	4.6E-01	4.6E+00	7.7E+00	7.7E-01
Zinc	9.4E+02	0.0012	1.0	7.3E+01	0.0090	4.2E+01	1.0	0.67	1.7E+01	5.6E+01	0.33	1.1E+01	0.015	1.0	1.0E+02	3.5E+02	7.0E+02	2.9E-01	1.4E-01
Hazard Index - Metals																		6.3E+02	7.0E+01

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-36
COPECs for Site O
Sauget, IL

Soil HQs	Short-tailed Shrew Modeling HQs (Average Conc.)	Short-tailed Shrew Modeling HQs (Maximum Conc.)	Prairie Vole Modeling HQs (Average Conc.)	Prairie Vole Modeling HQs (Maximum Conc.)
Chlorobenzene	Hepatochlor epoxide (NOAEL only)	Pentachlorophenol (NOAEL only)	PCBs (NOAEL Only)	PCBs
Ethylbenzene	MCPP	Hepatachlor epoxide (NOAEL only)	Dioxins/furans	Dioxins/furans
Xylenes (total)	PCBs	MCPP	Mercury (NOAEL only)	Lead (NOAEL only)
Dieldrin	Dioxins/furans	PCBs		Mercury (NOAEL only)
gamma-BHC (Lindane)	Aluminum	Dioxins/furans		Thallium (NOAEL only)
PCBs	Antimony (NOAEL only)	Antimony (NOAEL only)		
Dioxins/furans	Cobalt	Arsenic		
Aluminum	Lead	Barium (NOAEL only)		
Arsenic	Mercury	Cadmium (NOAEL only)		
Cadmium	Silver (NOAEL only)	Cobalt		
Chromium	Thallium	Lead		
Copper	Vanadium (NOAEL only)	Mercury		
Iron		Selenium (NOAEL only)		
Manganese		Silver (NOAEL only)		
Mercury		Thallium		
Silver				
Vanadium				
Zinc				

NOTES:
Analytes listed are only for those exceeding their benchmark/TRV, based on detected values, and were above the background values.
Shaded entries are for those compounds that are COPECs for all receptors and all concentrations.

Table 7-37
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site S (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	3.6E+01	0.00012	1.0	1.0E-01	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.5E-01	2.7E+01	9.8E+01	5.7E-03	1.6E-03
1,2-Dichlorobenzene	3.7E+01	0.00012	1.0	1.1E-01	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.6E-01	1.6E+02	2.2E+03	1.0E-03	7.1E-05
1,3-Dichlorobenzene	1.0E+00	0.00012	1.0	2.9E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.6E+02	2.2E+03	3.3E-04	2.4E-05
1,4-Dichlorobenzene	7.5E+00	0.00012	1.0	2.2E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.1E-02	1.6E+02	2.7E+02	4.5E-04	2.6E-04
2,2'-Oxybis(1-Chloropropane)	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.5E+01	2.0E+02	2.0E-03	3.6E-04
2,4,5-Trichlorophenol	1.1E+00	0.00012	1.0	3.2E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	1.8E+01	5.5E+01	2.9E-03	9.6E-04
2,4,6-Trichlorophenol	8.2E+00	0.00012	1.0	2.4E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.3E-02	9.1E+02	5.5E+01	8.0E-05	1.3E-03
2,4-Dichlorophenol	2.3E+00	0.00012	1.0	6.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.6E-02	5.5E-01	5.5E+00	1.0E-01	1.0E-02
2,4-Dinitrophenol	***3.7E+01***	0.00012	1.0	1.1E-01	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	3.6E-01	3.1E-03	3.1E-02	1.2E+02	1.2E+01
2,4-Dinitrotoluene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	9.0E-01	6.7E+00	7.8E-02	1.0E-02
2,6-Dinitrotoluene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.3E+00	1.3E+01	5.4E-02	5.4E-03
2-Chloronaphthalene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	2.5E+01	5.9E+01	2.8E-03	1.2E-03
2-Chlorophenol	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	9.1E+01	9.1E+00	7.6E-04	7.6E-03
2-Methylnaphthalene	1.1E+01	0.00012	1.0	3.2E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	8.1E-02	2.8E+03	2.8E+04	2.9E-05	2.9E-06
2-Methylphenol (o-Cresol)	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	5.2E+02	5.2E+03	1.3E-04	1.3E-05
2-Nitroaniline	4.6E+00	0.00012	1.0	1.3E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.7E-01	7.7E+00	7.7E+01	3.5E-02	3.5E-03
2-Nitrophenol	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	4.6E+00	1.3E+01	1.5E-02	5.4E-03
3,3'-Dichlorobenzidine	***1.5E+01***	0.00012	1.0	4.2E-02	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.4E-01	4.7E+01	5.0E+02	3.0E-03	2.8E-04
3/4-Methylphenol (m&p-Cresol)	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	5.2E+02	5.2E+03	1.3E-04	1.3E-05
3-Nitroaniline	***3.7E+01***	0.00012	1.0	1.1E-01	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	3.6E-01	7.7E+00	7.7E+01	4.7E-02	4.7E-03
4,6-Dinitro-2-methylphenol	***3.7E+01***	0.00012	1.0	1.1E-01	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	3.6E-01	4.6E-01	8.3E+00	7.9E-01	4.3E-02
4-Bromophenyl Phenyl Ether	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.8E+00	1.5E+01	3.8E-02	4.8E-03
4-Chloro-3-methylphenol	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	2.0E+02	2.0E+03	3.4E-04	3.4E-05
4-Chloroaniline	***1.5E+01***	0.00012	1.0	4.2E-02	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.4E-01	2.3E+00	2.3E+01	6.2E-02	6.2E-03
4-Chlorophenyl Phenyl Ether	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.8E+00	1.5E+01	3.8E-02	4.8E-03
4-Nitroaniline	5.7E+01	0.00012	1.0	1.6E-01	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	4.2E-01	7.7E+00	7.7E+01	5.5E-02	5.5E-03
4-Nitrophenol	***3.7E+01***	0.00012	1.0	1.1E-01	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	3.6E-01	4.6E+00	1.3E+01	7.9E-02	2.8E-02
Acenaphthene	1.2E+00	0.00012	1.0	3.5E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	1.7E+01	3.5E+01	3.1E-03	1.5E-03
Acenaphthylene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.7E+01	3.5E+01	4.0E-03	2.0E-03
Anthracene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	9.9E+01	9.9E+02	7.0E-04	7.0E-05
Benzo(a)anthracene	8.0E+00	0.00012	1.0	2.3E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.3E-02	9.9E-01	9.9E+00	7.3E-02	7.3E-03
Benzo(a)pyrene	5.4E+00	0.00012	1.0	1.6E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.5E-02	9.9E-01	9.9E+00	6.6E-02	6.6E-03
Benzo(b)fluoranthene	6.6E+00	0.00012	1.0	1.9E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.9E-02	9.9E-01	9.9E+00	6.9E-02	6.9E-03
Benzo(g,h,i)perylene	4.2E+00	0.00012	1.0	1.2E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.2E-02	9.9E-01	9.9E+00	6.2E-02	6.2E-03
Benzo(k)fluoranthene	6.4E+00	0.00012	1.0	1.8E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.8E-02	9.9E-01	9.9E+00	6.9E-02	6.9E-03
bis(2-Chloroethoxy)methane	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.5E+01	2.0E+02	2.0E-03	3.6E-04
bis(2-Chloroethyl)ether	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.5E+01	2.0E+02	2.0E-03	3.6E-04
bis(2-Ethylhexyl)phthalate	3.9E+00	0.00012	1.0	1.1E-02	0.0042	8.2E-02	1.0	8.2E-03	0.0416	1.0	1.9E-02	1.8E+01	1.8E+02	1.1E-03	1.1E-04
Butyl Benzyl Phthalate	1.2E+02	0.00012	1.0	3.5E-01	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	4.0E-01	2.9E+01	8.6E+01	1.4E-02	4.6E-03
Carbazole	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.0E+00	3.0E+01	2.3E-02	2.3E-03
Chrysene	2.0E+01	0.00012	1.0	5.8E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.1E-01	9.9E-01	9.9E+00	1.1E-01	1.1E-02
Dibenzo(a,h)anthracene	1.8E+00	0.00012	1.0	5.2E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	9.9E-01	9.9E+00	5.5E-02	5.5E-03
Dibenzofuran	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	2.4E-02	2.4E-01	2.9E+00	2.9E-01
Diethyl Phthalate	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	4.5E+03	4.5E+04	1.5E-05	1.5E-06
Dimethyl Phthalate	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	4.5E+03	4.5E+04	1.5E-05	1.5E-06
Di-n-butylphthalate	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	5.4E+02	1.8E+03	1.3E-04	3.8E-05
Di-n-octylphthalate	1.3E+00	0.00012	1.0	3.8E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	5.4E+02	1.8E+03	9.8E-05	2.9E-05
Fluoranthene	4.2E+00	0.00012	1.0	1.2E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.2E-02	1.2E+01	2.5E+01	5.0E-03	2.5E-03
Fluorene	1.2E+00	0.00012	1.0	3.5E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	1.2E+01	2.5E+01	4.3E-03	2.1E-03
Hexachlorobenzene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.5E-01	5.3E-01	4.8E-01	1.3E-01
Hexachlorobutadiene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.7E-01	3.7E-01	1.9E-01	1.9E-01
Hexachlorocyclopentadiene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.1E+00	2.0E+00	6.4E-02	3.5E-02
Hexachloroethane	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.8E-01	2.7E+00	3.8E-01	2.5E-02
Indeno(1,2,3-cd)pyrene	1.3E+00	0.00012	1.0	3.8E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	9.9E-01	9.9E+00	5.4E-02	5.4E-03
Isophorone	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	6.7E+01	3.3E+02	1.0E-03	2.1E-04
Naphthalene	2.1E+00	0.00012	1.0	6.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.6E-02	1.3E+01	2.6E+01	4.3E-03	2.1E-03
Nitrobenzene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	4.6E-02	4.6E-01	1.5E+00	1.5E-01
N-Nitroso-di-n-propylamine	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	9.9E-03	9.9E-02	7.0E+00	7.0E-01
N-Nitrosodiphenylamine	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.7E+02	9.1E+01	1.9E-04	7.6E-04
Pentachlorophenol	4.4E+02	0.00012	1.0	1.3E+00	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	1.3E+00	4.4E-01	4.4E+00	2.9E+00	2.9E-01
Phenanthrene	9.2E+00	0.00012	1.0	2.7E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.6E-02	1.7E+01	3.5E+01	4.4E-03	2.2E-03
Phenol	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.1E+02	2.2E+02	6.4E-04	3.2E-04
Pyrene	2.8E+01	0.00012	1.0	8.1E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.3E-01	7.4E+00	1.2E+01	1.8E-02	1.1E-02
Hazard Index - SVOCs														1.3E+02	1.4E+01

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-37
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site S (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	1.7E+00	0.00012	1.0	4.9E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.4E-03	1.5E+00	7.3E+00	3.7E-03	7.4E-04
4,4'-DDE	3.3E+00	0.00012	1.0	9.5E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	1.0E-02	1.5E+00	7.3E+00	6.8E-03	1.4E-03
4,4'-DDT	1.6E+01	0.00012	1.0	4.6E-02	0.0042	1.5E-03	1.0	1.5E-04	0.0416	1.0	4.6E-02	1.5E+00	7.3E+00	3.2E-02	6.3E-03
Aldrin	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.9E-03	3.7E-01	1.8E+00	7.8E-03	1.6E-03
alpha-BHC	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.9E-03	2.9E+00	5.9E+00	9.7E-04	4.9E-04
alpha-Chlordane	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.9E-03	4.6E+00	9.1E+00	6.3E-04	3.1E-04
beta-BHC	2.6E+01	0.00012	1.0	7.5E-02	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	7.5E-02	7.3E-01	3.7E+00	1.0E-01	2.1E-02
delta-BHC	7.4E-01	0.00012	1.0	2.1E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.4E-03	2.9E+00	5.9E+00	8.2E-04	4.1E-04
Dieldrin	***1.8E+00***	0.00012	1.0	5.2E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.7E-03	3.7E-02	3.7E-01	1.6E-01	1.6E-02
Endosulfan I	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.9E-03	2.7E-01	2.7E+00	1.0E-02	1.0E-03
Endosulfan II	5.4E+00	0.00012	1.0	1.6E-02	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	1.6E-02	2.7E-01	2.7E+00	5.9E-02	5.9E-03
Endosulfan Sulfate	***1.8E+00***	0.00012	1.0	5.2E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.7E-03	2.7E-01	2.7E+00	2.1E-02	2.1E-03
Endrin	1.0E+01	0.00012	1.0	2.9E-02	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	2.9E-02	9.1E-02	9.1E-01	3.2E-01	3.2E-02
Endrin Aldehyde	***1.8E+00***	0.00012	1.0	5.2E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.7E-03	9.1E-02	9.1E-01	6.2E-02	6.2E-03
Endrin Ketone	***1.8E+00***	0.00012	1.0	5.2E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.7E-03	9.1E-02	9.1E-01	6.2E-02	6.2E-03
gamma-BHC (Lindane)	7.5E+00	0.00012	1.0	2.2E-02	0.0042	5.8E-03	1.0	5.8E-04	0.0416	1.0	2.2E-02	1.5E+01	1.5E+02	1.5E-03	1.5E-04
gamma-Chlordane	2.7E+00	0.00012	1.0	7.8E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	8.0E-03	4.6E+00	9.1E+00	1.8E-03	8.8E-04
Heptachlor	1.5E+00	0.00012	1.0	4.3E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	4.6E-03	2.4E-01	2.4E+00	1.9E-02	1.9E-03
Heptachlor Epoxide	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.9E-03	2.3E-03	5.6E-02	1.2E+00	5.1E-02
Methoxychlor	***9.0E+00***	0.00012	1.0	2.6E-02	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.9E-02	7.3E+00	1.5E+01	3.9E-03	1.9E-03
Toxaphene	***9.0E+01***	0.00012	1.0	2.6E-01	0.0042	***2.6E-01***	1.0	2.6E-02	0.0416	1.0	2.9E-01	1.5E+01	1.5E+02	1.9E-02	1.9E-03
Hazard Index - Pesticides														2.3E+00	1.6E-01
Herbicides															
2,4-D	3.3E+00	0.00012	1.0	9.5E-03	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	1.1E-02	1.8E+00	9.1E+00	5.9E-03	1.2E-03
2,4-DB	***9.0E-02***	0.00012	1.0	2.6E-04	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	1.5E-03	3.6E+00	1.1E+01	4.2E-04	1.3E-04
2,4,5-T	***1.8E+01***	0.00012	1.0	5.2E-02	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	5.3E-02	5.5E+00	1.8E+01	9.7E-03	2.9E-03
2,4,5-TP (Silvex)	2.5E-01	0.00012	1.0	7.2E-04	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	2.0E-03	3.4E+00	1.1E+01	5.9E-04	1.8E-04
Dalapon	***2.2E+01***	0.00012	1.0	6.2E-02	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	3.6E-01	1.5E+01	5.2E+01	2.3E-02	6.9E-03
Dicamba	***2.2E-01***	0.00012	1.0	6.2E-04	0.0042	***3.0E-02***	1.0	3.0E-03	0.0416	1.0	3.6E-03	7.5E+00	2.5E+01	4.8E-04	1.5E-04
Dichlorprop	***1.1E+00***	0.00012	1.0	3.2E-03	0.0042	***1.5E-01***	1.0	1.5E-02	0.0416	1.0	1.8E-02	2.0E-01	2.0E+00	9.2E-02	9.2E-03
Dinoseb	1.7E+00	0.00012	1.0	4.9E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.4E-02	1.8E-01	1.8E+00	3.0E-01	3.0E-02
MCPA	***2.2E+01***	0.00012	1.0	6.2E-02	0.0042	5.1E+00	1.0	5.1E-01	0.0416	1.0	5.7E-01	6.7E-01	3.4E+00	8.5E-01	1.7E-01
MCPP	***2.2E+01***	0.00012	1.0	6.2E-02	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	3.6E-01	5.5E-01	1.6E+00	6.6E-01	2.2E-01
Hazard Index - Herbicides														1.0E+00	4.4E-01
PCBs															
Total PCBs	1.0E+03	0.00012	1.0	2.9E+00	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	2.9E+00	1.8E-01	1.8E+00	1.6E+01	1.6E+00
Dioxins/Furans															
TEQ	1.2E-05	0.00012	1.0	3.6E-08	0.0042	3.7E-07	1.0	3.7E-08	0.0416	1.0	7.3E-08	1.8E-06	1.8E-05	4.0E-02	4.0E-03
Metals*															
Aluminum	7.3E+03	0.00012	1.0	2.1E+01	0.0042	9.5E+00	1.0	9.5E-01	0.0416	1.0	2.2E+01	1.9E+00	1.9E+01	1.2E+01	1.2E+00
Antimony	5.8E-01	0.00012	1.0	1.7E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	1.2E-01	1.2E+00	8.2E-01	8.2E-02
Arsenic	5.8E+00	0.00012	1.0	1.7E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.7E-02	1.2E-01	1.2E+00	5.4E-01	5.4E-02
Barium	1.2E+02	0.00012	1.0	3.5E-01	0.0042	5.4E+00	1.0	5.4E-01	0.0416	1.0	8.9E-01	9.3E+00	3.6E+01	9.5E-02	2.4E-02
Beryllium	4.6E-01	0.00012	1.0	1.3E-03	0.0042	***2.0E-01***	1.0	2.0E-02	0.0416	1.0	2.1E-02	1.2E+00	1.2E+01	1.8E-02	1.8E-03
Cadmium	8.5E-01	0.00012	1.0	2.5E-03	0.0042	***2.5E-01***	1.0	2.5E-02	0.0416	1.0	2.7E-02	1.8E+00	1.8E+01	1.5E-02	1.5E-03
Chromium	2.3E+01	0.00012	1.0	6.6E-02	0.0042	2.4E-01	1.0	2.4E-02	0.0416	1.0	9.0E-02	6.0E+00	2.4E+01	1.5E-02	3.8E-03
Cobalt	9.4E+00	0.00012	1.0	2.7E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.7E-02	9.1E-02	9.1E-01	8.4E-01	8.4E-02
Copper	2.3E+01	0.00012	1.0	6.6E-02	0.0042	3.8E+00	1.0	3.8E-01	0.0416	1.0	4.5E-01	2.8E+01	3.7E+01	1.6E-02	1.2E-02
Lead	6.3E+01	0.00012	1.0	1.8E-01	0.0042	9.9E-01	1.0	9.9E-02	0.0416	1.0	2.8E-01	1.5E+01	1.5E+02	1.9E-02	1.9E-03
Manganese	6.7E+02	0.00012	1.0	1.9E+00	0.0042	6.7E+00	1.0	6.7E-01	0.0416	1.0	2.6E+00	1.6E+02	5.2E+02	1.6E-02	5.0E-03
Mercury	7.4E-02	0.00012	1.0	2.1E-04	0.0042	1.3E+00	1.0	1.3E-01	0.0416	1.0	1.3E-01	5.9E-02	2.9E-01	2.2E+00	4.5E-01
Nickel	2.0E+01	0.00012	1.0	5.8E-02	0.0042	2.6E+00	1.0	2.6E-01	0.0416	1.0	3.2E-01	7.3E+01	1.5E+02	4.3E-03	2.2E-03
Selenium	***5.0E-01***	0.00012	1.0	1.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	3.7E-01	6.0E-01	1.4E-01	8.5E-02
Silver	***5.0E-01***	0.00012	1.0	1.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.8E-01	1.8E+00	2.9E-01	2.9E-02
Thallium	***5.0E-01***	0.00012	1.0	1.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.4E-02	1.4E-01	3.8E+00	3.8E-01
Vanadium	2.4E+01	0.00012	1.0	6.9E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.2E-01	3.8E-01	3.8E+00	3.1E-01	3.1E-02
Zinc	1.1E+02	0.00012	1.0	3.2E-01	0.0042	1.7E+01	1.0	1.7E+00	0.0416	1.0	2.0E+00	2.9E+02	5.9E+02	6.9E-03	3.4E-03
Hazard Index - Metals														2.1E+01	2.4E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

Table 7-38
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site S (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	3.6E+01	0.00012	1.0	1.0E-01	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.5E-01	2.7E+01	9.8E+01	5.7E-03	1.6E-03
1,2-Dichlorobenzene	3.7E+01	0.00012	1.0	1.1E-01	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.6E-01	1.6E+02	2.2E+03	1.0E-03	7.1E-05
1,3-Dichlorobenzene	1.0E+00	0.00012	1.0	2.9E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.6E+02	2.2E+03	3.3E-04	2.4E-05
1,4-Dichlorobenzene	7.5E+00	0.00012	1.0	2.2E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.1E-02	1.6E+02	2.7E+02	4.5E-04	2.6E-04
2,2'-Oxybis(1-Chloropropane)	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.5E+01	2.0E+02	2.0E-03	3.6E-04
2,4,5-Trichlorophenol	1.1E+00	0.00012	1.0	3.2E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	1.8E+01	5.5E+01	2.9E-03	9.6E-04
2,4,6-Trichlorophenol	8.2E+00	0.00012	1.0	2.4E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.3E-02	9.1E+02	5.5E+01	8.0E-05	1.3E-03
2,4-Dichlorophenol	2.3E+00	0.00012	1.0	6.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.6E-02	5.5E-01	5.5E+00	1.0E-01	1.0E-02
2,4-Dinitrophenol	***3.7E+01***	0.00012	1.0	1.1E-01	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	3.6E-01	3.1E-03	3.1E-02	1.2E+02	1.2E+01
2,4-Dinitrotoluene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	9.0E-01	6.7E+00	7.8E-02	1.0E-02
2,6-Dinitrotoluene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.3E+00	1.3E+01	5.4E-02	5.4E-03
2-Chloronaphthalene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	2.5E+01	5.9E+01	2.8E-03	1.2E-03
2-Chlorophenol	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	9.1E+01	9.1E+00	7.6E-04	7.6E-03
2-Methylnaphthalene	1.1E+01	0.00012	1.0	3.2E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	8.1E-02	2.8E+03	2.8E+04	2.9E-05	2.9E-06
2-Methylphenol (o-Cresol)	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	5.2E+02	5.2E+03	1.3E-04	1.3E-05
2-Nitroaniline	4.6E+00	0.00012	1.0	1.3E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.7E-01	7.7E+00	7.7E+01	3.5E-02	3.5E-03
2-Nitrophenol	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	4.6E+00	1.3E+01	1.5E-02	5.4E-03
3,3'-Dichlorobenzidine	***1.5E+01***	0.00012	1.0	4.2E-02	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.4E-01	4.7E+01	5.0E+02	3.0E-03	2.8E-04
3/4-Methylphenol (m&p-Cresol)	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	5.2E+02	5.2E+03	1.3E-04	1.3E-05
3-Nitroaniline	***3.7E+01***	0.00012	1.0	1.1E-01	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	3.6E-01	7.7E+00	7.7E+01	4.7E-02	4.7E-03
4,6-Dinitro-2-methylphenol	***3.7E+01***	0.00012	1.0	1.1E-01	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	3.6E-01	4.6E-01	8.3E+00	7.9E-01	4.3E-02
4-Bromophenyl Phenyl Ether	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.8E+00	1.5E+01	3.8E-02	4.8E-03
4-Chloro-3-methylphenol	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	2.0E+02	2.0E+03	3.4E-04	3.4E-05
4-Chloroaniline	***1.5E+01***	0.00012	1.0	4.2E-02	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.4E-01	2.3E+00	2.3E+01	6.2E-02	6.2E-03
4-Chlorophenyl Phenyl Ether	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.8E+00	1.5E+01	3.8E-02	4.8E-03
4-Nitroaniline	5.7E+01	0.00012	1.0	1.6E-01	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	4.2E-01	7.7E+00	7.7E+01	5.5E-02	5.5E-03
4-Nitrophenol	***3.7E+01***	0.00012	1.0	1.1E-01	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	3.6E-01	4.6E+00	1.3E+01	7.9E-02	2.8E-02
Acenaphthene	1.2E+00	0.00012	1.0	3.5E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	1.7E+01	3.5E+01	3.1E-03	1.5E-03
Acenaphthylene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.7E+01	3.5E+01	4.0E-03	2.0E-03
Anthracene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	9.9E+01	9.9E+02	7.0E-04	7.0E-05
Benzo(a)anthracene	8.0E+00	0.00012	1.0	2.3E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.3E-02	9.9E-01	9.9E+00	7.3E-02	7.3E-03
Benzo(a)pyrene	5.4E+00	0.00012	1.0	1.6E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.5E-02	9.9E-01	9.9E+00	6.6E-02	6.6E-03
Benzo(b)fluoranthene	6.6E+00	0.00012	1.0	1.9E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.9E-02	9.9E-01	9.9E+00	6.9E-02	6.9E-03
Benzo(g,h,i)perylene	4.2E+00	0.00012	1.0	1.2E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.2E-02	9.9E-01	9.9E+00	6.2E-02	6.2E-03
Benzo(k)fluoranthene	6.4E+00	0.00012	1.0	1.8E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.8E-02	9.9E-01	9.9E+00	6.9E-02	6.9E-03
bis(2-Chloroethoxy)methane	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.5E+01	2.0E+02	2.0E-03	3.6E-04
bis(2-Chloroethyl)ether	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.5E+01	2.0E+02	2.0E-03	3.6E-04
bis(2-Ethylhexyl)phthalate	3.9E+00	0.00012	1.0	1.1E-02	0.0042	8.2E-02	1.0	8.2E-03	0.0416	1.0	1.9E-02	1.8E+01	1.8E+02	1.1E-03	1.1E-04
Butyl Benzyl Phthalate	1.2E+02	0.00012	1.0	3.5E-01	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	4.0E-01	2.9E+01	8.6E+01	1.4E-02	4.6E-03
Carbazole	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.0E+00	3.0E+01	2.3E-02	2.3E-03
Chrysene	2.0E+01	0.00012	1.0	5.8E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.1E-01	9.9E-01	9.9E+00	1.1E-01	1.1E-02
Dibenzo(a,h)anthracene	1.8E+00	0.00012	1.0	5.2E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	9.9E-01	9.9E+00	5.5E-02	5.5E-03
Dibenzofuran	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	2.4E-02	2.4E-01	2.9E+00	2.9E-01
Diethyl Phthalate	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	4.5E+03	4.5E+04	1.5E-05	1.5E-06
Dimethyl Phthalate	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	4.5E+03	4.5E+04	1.5E-05	1.5E-06
Di-n-butylphthalate	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	5.4E+02	1.8E+03	1.3E-04	3.8E-05
Di-n-octylphthalate	1.3E+00	0.00012	1.0	3.8E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	5.4E+02	1.8E+03	9.8E-05	2.9E-05
Fluoranthene	4.2E+00	0.00012	1.0	1.2E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.2E-02	1.2E+01	2.5E+01	5.0E-03	2.5E-03
Fluorene	1.2E+00	0.00012	1.0	3.5E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	1.2E+01	2.5E+01	4.3E-03	2.1E-03
Hexachlorobenzene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.5E-01	5.3E-01	4.8E-01	1.3E-01
Hexachlorobutadiene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.7E-01	3.7E-01	1.9E-01	1.9E-01
Hexachlorocyclopentadiene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.1E+00	2.0E+00	6.4E-02	3.5E-02
Hexachloroethane	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.8E-01	2.7E+00	3.8E-01	2.5E-02
Indeno(1,2,3-cd)pyrene	1.3E+00	0.00012	1.0	3.8E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.3E-02	9.9E-01	9.9E+00	5.4E-02	5.4E-03
Isophorone	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	6.7E+01	3.3E+02	1.0E-03	2.1E-04
Naphthalene	2.1E+00	0.00012	1.0	6.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.6E-02	1.3E+01	2.6E+01	4.3E-03	2.1E-03
Nitrobenzene	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	4.6E-02	4.6E-01	1.5E+00	1.5E-01
N-Nitroso-di-n-propylamine	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	9.9E-03	9.9E-02	7.0E+00	7.0E-01
N-Nitrosodiphenylamine	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	3.7E+02	9.1E+01	1.9E-04	7.6E-04
Pentachlorophenol	4.4E+02	0.00012	1.0	1.3E+00	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	1.3E+00	4.4E-01	4.4E+00	2.9E+00	2.9E-01
Phenanthrene	9.2E+00	0.00012	1.0	2.7E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.6E-02	1.7E+01	3.5E+01	4.4E-03	2.2E-03
Phenol	***7.0E+00***	0.00012	1.0	2.0E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.0E-02	1.1E+02	2.2E+02	6.4E-04	3.2E-04
Pyrene	2.8E+01	0.00012	1.0	8.1E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.3E-01	7.4E+00	1.2E+01	1.8E-02	1.1E-02
Hazard Index - SVOCs														1.3E+02	1.4E+01

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

Table 7-38
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site S (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	1.7E+00	0.00012	1.0	4.9E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.4E-03	1.5E+00	7.3E+00	3.7E-03	7.4E-04
4,4'-DDE	3.3E+00	0.00012	1.0	9.5E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	1.0E-02	1.5E+00	7.3E+00	6.8E-03	1.4E-03
4,4'-DDT	1.6E+01	0.00012	1.0	4.6E-02	0.0042	1.5E-03	1.0	1.5E-04	0.0416	1.0	4.6E-02	1.5E+00	7.3E+00	3.2E-02	6.3E-03
Aldrin	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.9E-03	3.7E-01	1.8E+00	7.8E-03	1.6E-03
alpha-BHC	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.9E-03	2.9E+00	5.9E+00	9.7E-04	4.9E-04
alpha-Chlordane	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.9E-03	4.6E+00	9.1E+00	6.3E-04	3.1E-04
beta-BHC	2.6E+01	0.00012	1.0	7.5E-02	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	7.5E-02	7.3E-01	3.7E+00	1.0E-01	2.1E-02
delta-BHC	7.4E-01	0.00012	1.0	2.1E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.4E-03	2.9E+00	5.9E+00	8.2E-04	4.1E-04
Dieldrin	***1.8E+00***	0.00012	1.0	5.2E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.7E-03	3.7E-02	3.7E-01	1.6E-01	1.6E-02
Endosulfan I	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.9E-03	2.7E-01	2.7E+00	1.0E-02	1.0E-03
Endosulfan II	5.4E+00	0.00012	1.0	1.6E-02	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	1.6E-02	2.7E-01	2.7E+00	5.9E-02	5.9E-03
Endosulfan Sulfate	***1.8E+00***	0.00012	1.0	5.2E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.7E-03	2.7E-01	2.7E+00	2.1E-02	2.1E-03
Endrin	1.0E+01	0.00012	1.0	2.9E-02	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	2.9E-02	9.1E-02	9.1E-01	3.2E-01	3.2E-02
Endrin Aldehyde	***1.8E+00***	0.00012	1.0	5.2E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.7E-03	9.1E-02	9.1E-01	6.2E-02	6.2E-03
Endrin Ketone	***1.8E+00***	0.00012	1.0	5.2E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.7E-03	9.1E-02	9.1E-01	6.2E-02	6.2E-03
gamma-BHC (Lindane)	7.5E+00	0.00012	1.0	2.2E-02	0.0042	5.8E-03	1.0	5.8E-04	0.0416	1.0	2.2E-02	1.5E+01	1.5E+02	1.5E-03	1.5E-04
gamma-Chlordane	2.7E+00	0.00012	1.0	7.8E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	8.0E-03	4.6E+00	9.1E+00	1.8E-03	8.8E-04
Heptachlor	1.5E+00	0.00012	1.0	4.3E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	4.6E-03	2.4E-01	2.4E+00	1.9E-02	1.9E-03
Heptachlor Epoxide	***9.0E-01***	0.00012	1.0	2.6E-03	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.9E-03	2.3E-03	5.6E-02	1.2E+00	5.1E-02
Methoxychlor	***9.0E+00***	0.00012	1.0	2.6E-02	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	2.9E-02	7.3E+00	1.5E+01	3.9E-03	1.9E-03
Toxaphene	***9.0E+01***	0.00012	1.0	2.6E-01	0.0042	***2.6E-01***	1.0	2.6E-02	0.0416	1.0	2.9E-01	1.5E+01	1.5E+02	1.9E-02	1.9E-03
Hazard Index - Pesticides														2.3E+00	1.6E-01
Herbicides															
2,4-D	3.3E+00	0.00012	1.0	9.5E-03	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	1.1E-02	1.8E+00	9.1E+00	5.9E-03	1.2E-03
2,4-DB	***9.0E-02***	0.00012	1.0	2.6E-04	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	1.5E-03	3.6E+00	1.1E+01	4.2E-04	1.3E-04
2,4,5-T	***1.8E+01***	0.00012	1.0	5.2E-02	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	5.3E-02	5.5E+00	1.8E+01	9.7E-03	2.9E-03
2,4,5-TP (Silvex)	2.5E-01	0.00012	1.0	7.2E-04	0.0042	***1.3E-02***	1.0	1.3E-03	0.0416	1.0	2.0E-03	3.4E+00	1.1E+01	5.9E-04	1.8E-04
Dalapon	***2.2E+01***	0.00012	1.0	6.2E-02	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	3.6E-01	1.5E+01	5.2E+01	2.3E-02	6.9E-03
Dicamba	***2.2E-01***	0.00012	1.0	6.2E-04	0.0042	***3.0E-02***	1.0	3.0E-03	0.0416	1.0	3.6E-03	7.5E+00	2.5E+01	4.8E-04	1.5E-04
Dichlorprop	***1.1E+00***	0.00012	1.0	3.2E-03	0.0042	***1.5E-01***	1.0	1.5E-02	0.0416	1.0	1.8E-02	2.0E-01	2.0E+00	9.2E-02	9.2E-03
Dinoseb	1.7E+00	0.00012	1.0	4.9E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.4E-02	1.8E-01	1.8E+00	3.0E-01	3.0E-02
MCPA	***2.2E+01***	0.00012	1.0	6.2E-02	0.0042	5.1E+00	1.0	5.1E-01	0.0416	1.0	5.7E-01	6.7E-01	3.4E+00	8.5E-01	1.7E-01
MCPP	***2.2E+01***	0.00012	1.0	6.2E-02	0.0042	***3.0E+00***	1.0	3.0E-01	0.0416	1.0	3.6E-01	5.5E-01	1.6E+00	6.6E-01	2.2E-01
Hazard Index - Herbicides														2.3E+00	4.4E-0
PCBs															
Total PCBs	1.0E+03	0.00012	1.0	2.9E+00	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	2.9E+00	1.8E-01	1.8E+00	1.6E+01	1.6E+00
Dioxins/Furans															
TEQ	1.2E-05	0.00012	1.0	3.6E-08	0.0042	3.7E-07	1.0	3.7E-08	0.0416	1.0	7.3E-08	1.8E-06	1.8E-05	4.0E-02	4.0E-03
Metals*															
Aluminum	7.3E+03	0.00012	1.0	2.1E+01	0.0042	9.5E+00	1.0	9.5E-01	0.0416	1.0	2.2E+01	1.9E+00	1.9E+01	1.2E+01	1.2E+00
Antimony	5.8E-01	0.00012	1.0	1.7E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	1.2E-01	1.2E+00	8.2E-01	8.2E-02
Arsenic	5.8E+00	0.00012	1.0	1.7E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.7E-02	1.2E-01	1.2E+00	5.4E-01	5.4E-02
Barium	1.2E+02	0.00012	1.0	3.5E-01	0.0042	5.4E+00	1.0	5.4E-01	0.0416	1.0	8.9E-01	9.3E+00	3.6E+01	9.5E-02	2.4E-02
Beryllium	4.6E-01	0.00012	1.0	1.3E-03	0.0042	***2.0E-01***	1.0	2.0E-02	0.0416	1.0	2.1E-02	1.2E+00	1.2E+01	1.8E-02	1.8E-03
Cadmium	8.5E-01	0.00012	1.0	2.5E-03	0.0042	***2.5E-01***	1.0	2.5E-02	0.0416	1.0	2.7E-02	1.8E+00	1.8E+01	1.5E-02	1.5E-03
Chromium	2.3E+01	0.00012	1.0	6.6E-02	0.0042	2.4E-01	1.0	2.4E-02	0.0416	1.0	9.0E-02	6.0E+00	2.4E+01	1.5E-02	3.8E-03
Cobalt	9.4E+00	0.00012	1.0	2.7E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.7E-02	9.1E-02	9.1E-01	8.4E-01	8.4E-02
Copper	2.3E+01	0.00012	1.0	6.6E-02	0.0042	3.8E+00	1.0	3.8E-01	0.0416	1.0	4.5E-01	2.8E+01	3.7E+01	1.6E-02	1.2E-02
Lead	6.3E+01	0.00012	1.0	1.8E-01	0.0042	9.9E-01	1.0	9.9E-02	0.0416	1.0	2.8E-01	1.5E+01	1.5E+02	1.9E-02	1.9E-03
Manganese	6.7E+02	0.00012	1.0	1.9E+00	0.0042	6.7E+00	1.0	6.7E-01	0.0416	1.0	2.6E+00	1.6E+02	5.2E+02	1.6E-02	5.0E-03
Mercury	7.4E-02	0.00012	1.0	2.1E-04	0.0042	1.3E+00	1.0	1.3E-01	0.0416	1.0	1.3E-01	5.9E-02	2.9E-01	2.3E+00	4.5E-01
Nickel	2.0E+01	0.00012	1.0	5.8E-02	0.0042	2.6E+00	1.0	2.6E-01	0.0416	1.0	3.2E-01	7.3E+01	1.5E+02	4.3E-03	2.2E-03
Selenium	***5.0E-01***	0.00012	1.0	1.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	3.7E-01	6.0E-01	1.4E-01	8.5E-02
Silver	***5.0E-01***	0.00012	1.0	1.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.8E-01	1.8E+00	2.9E-01	2.9E-02
Thallium	***5.0E-01***	0.00012	1.0	1.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.4E-02	1.4E-01	3.8E+00	3.8E-01
Vanadium	2.4E+01	0.00012	1.0	6.9E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.2E-01	3.8E-01	3.8E+00	3.1E-01	3.1E-02
Zinc	1.1E+02	0.00012	1.0	3.2E-01	0.0042	1.7E+01	1.0	1.7E+00	0.0416	1.0	2.0E+00	2.9E+02	5.9E+02	6.9E-03	3.4E-03
Hazard Index - Metals														2.1E+01	2.4E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded = Indicated HQ/HIs equal to or greater than 1.0

Hazard Quotients and Hazard Indices for I[illegible] Earthworms and Terrestrial Invertebrates
Short-[illegible]d Shrew
Site S (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs																			
1,2,4-Trichlorobenzene	3.6E+01	0.0012	1.0	2.8E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	3.3E+00	3.3E+01	1.2E+02	1.0E-01	2.8E-02
1,2-Dichlorobenzene	3.7E+01	0.0012	1.0	2.9E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	3.4E+00	1.9E+02	2.6E+03	1.8E-02	1.3E-03
1,3-Dichlorobenzene	1.0E+00	0.0012	1.0	7.8E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.8E-01	1.9E+02	2.6E+03	3.1E-03	2.2E-04
1,4-Dichlorobenzene	7.5E+00	0.0012	1.0	5.9E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.1E+00	1.9E+02	3.3E+02	5.8E-03	3.3E-03
2,2'-Oxybis(1-Chloropropane)	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.2E+01	6.6E+01	4.8E-02	1.6E-02
2,4,5-Trichlorophenol	1.1E+00	0.0012	1.0	8.6E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.9E-01	1.1E+03	6.6E+01	5.3E-04	8.9E-03
2,4,6-Trichlorophenol	8.2E+00	0.0012	1.0	6.4E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.1E+00	4.3E+01	2.4E+02	2.7E-02	4.8E-03
2,4-Dichlorophenol	2.3E+00	0.0012	1.0	1.8E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.8E-01	6.6E-01	6.6E+00	1.0E+00	1.0E-01
2,4-Dinitrophenol	*3.7E+01*	0.0012	1.0	2.9E+00	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	5.4E+00	3.8E-03	3.8E-02	1.4E+00	1.4E-01
2,4-Dinitrotoluene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.1E+00	8.1E+00	9.7E-01	1.3E-01
2,6-Dinitrotoluene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.5E+00	1.5E+01	6.8E-01	6.8E-02
2-Chloronaphthalene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	3.0E+01	7.1E+01	3.5E-02	1.5E-02
2-Chlorophenol	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.1E+02	1.1E+01	9.5E-03	9.5E-02
2-Methylnaphthalene	1.1E+01	0.0012	1.0	8.6E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.4E+00	3.4E+03	3.4E+04	4.0E-04	4.0E-05
2-Methylphenol (o-Cresol)	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	6.3E+02	6.3E+03	1.7E-03	1.7E-04
2-Nitroaniline	4.6E+00	0.0012	1.0	3.6E-01	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.9E+00	9.2E+00	9.2E+01	3.1E-01	3.1E-02
2-Nitrophenol	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	5.5E+00	1.5E+01	1.9E-01	6.8E-02
3,3'-Dichlorobenzidine	*1.5E+01*	0.0012	1.0	1.1E+00	0.0090	*2.0E+00*	1.0	0.67	8.0E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	2.1E+00	5.6E+01	6.1E+02	3.8E-02	3.5E-03
3/4-Methylphenol (m&p-Cresol)	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	9.2E+00	9.2E+01	1.1E-01	1.1E-02
3-Nitroaniline	*3.7E+01*	0.0012	1.0	2.9E+00	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	5.4E+00	5.5E-01	1.0E+01	9.8E+00	5.4E-01
4,6-Dinitro-2-methylphenol	*3.7E+01*	0.0012	1.0	2.9E+00	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	5.4E+00	2.2E+00	1.8E+01	2.5E+00	3.1E-01
4-Bromophenyl Phenyl Ether	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.5E+02	2.5E+03	4.2E-03	4.2E-04
4-Chloro-3 methylphenol	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.7E+00	2.7E+01	3.8E-01	3.8E-02
4-Chloroaniline	*1.5E+01*	0.0012	1.0	1.1E+00	0.0090	*2.0E+00*	1.0	0.67	8.0E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	2.1E+00	2.2E+00	1.8E+01	9.7E-01	1.2E-01
4-Chlorophenyl Phenyl Ether	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	6.3E+02	6.3E+03	1.7E-03	1.7E-04
4-Nitroaniline	5.7E+01	0.0012	1.0	4.4E+00	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	7.0E+00	9.2E+00	9.2E+01	7.5E-01	7.5E-02
4-Nitrophenol	*3.7E+01*	0.0012	1.0	2.9E+00	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	5.4E+00	5.5E+00	1.5E+01	9.8E-01	3.5E-01
Acenaphthene	1.2E+00	0.0012	1.0	9.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.9E-01	2.1E+01	4.2E+01	2.9E-02	1.4E-02
Acenaphthylene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.1E+01	4.2E+01	5.0E-02	2.5E-02
Anthracene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.2E+02	1.2E+03	8.8E-03	8.8E-04
Benzo(a)anthracene	8.0E+00	0.0012	1.0	6.2E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.1E+00	1.2E+00	1.2E+01	9.5E-01	9.5E-02
Benzo(a)pyrene	5.4E+00	0.0012	1.0	4.2E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	9.2E-01	1.2E+00	1.2E+01	7.7E-01	7.7E-02
Benzo(b)fluoranthene	6.6E+00	0.0012	1.0	5.1E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.2E+00	1.2E+01	8.5E-01	8.5E-02
Benzo(g,h,i)perylene	4.2E+00	0.0012	1.0	3.3E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	8.3E-01	1.2E+00	1.2E+01	7.0E-01	7.0E-02
Benzo(k)fluoranthene	6.4E+00	0.0012	1.0	5.0E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.2E+00	1.2E+01	8.4E-01	8.4E-02
bis(2-Chloroethoxy)methane	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	4.3E+01	2.4E+02	2.5E-02	4.4E-03
bis(2-Chloroethyl)ether	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	4.3E+01	2.4E+02	2.5E-02	4.4E-03
bis(2-Ethylhexyl)phthalate	3.9E+00	0.0012	1.0	3.0E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	8.0E-01	2.2E+01	2.2E+02	3.7E-02	3.7E-03
Butyl Benzyl Phthalate	1.2E+02	0.0012	1.0	9.4E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	9.9E+00	3.5E+01	1.0E+02	2.8E-01	9.5E-02
Carbazole	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	3.6E+00	3.6E+01	2.9E-01	2.9E-02
Chrysene	2.0E+01	0.0012	1.0	1.6E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	2.1E+00	1.2E+00	1.2E+01	1.7E+00	1.7E-01
Dibenz(a,h)anthracene	1.8E+00	0.0012	1.0	1.4E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.4E-01	1.2E+00	1.2E+01	5.4E-01	5.4E-02
Dibenzofuran	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.9E-02	2.9E-01	3.6E+01	3.6E+00
Diethyl Phthalate	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	5.4E+03	5.4E+04	1.9E-04	1.9E-05
Dimethyl Phthalate	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	5.4E+03	5.4E+04	1.9E-04	1.9E-05
Di-n-butylphthalate	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	6.5E+02	2.2E+03	1.6E-03	4.8E-04
Di-n-octylphthalate	1.3E+00	0.0012	1.0	1.0E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.0E-01	6.5E+02	2.2E+03	9.2E-04	2.8E-04
Fluoranthene	4.2E+00	0.0012	1.0	3.3E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	8.3E-01	1.5E+01	3.0E+01	5.6E-02	2.8E-02
Fluorene	1.2E+00	0.0012	1.0	9.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.9E-01	1.5E+01	3.0E+01	4.0E-02	2.0E-02
Hexachlorobenzene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.8E-01	6.4E-01	5.9E+00	1.6E+00
Hexachlorobutadiene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	4.4E-01	4.4E-01	2.4E+00	2.4E+00
Hexachlorocyclopentadiene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.3E+00	2.4E+00	7.9E-01	4.3E-01
Hexachloroethane	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.2E-01	3.3E+00	2.3E+00	3.2E-01
Indeno(1,2,3-cd)pyrene	1.3E+00	0.0012	1.0	1.0E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.0E-01	1.2E+00	1.2E+01	5.1E-01	5.1E-02
Isophorone	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	8.1E+01	3.9E+02	1.3E-02	2.7E-03
Naphthalene	2.1E+00	0.0012	1.0	1.6E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.6E-01	1.6E+01	3.1E+01	4.3E-02	2.1E-02
Nitrobenzene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	5.5E-02	5.5E-01	1.9E+01	1.9E+00
N-Nitroso-di-n-propylamine	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.2E-02	1.2E-01	8.8E+01	8.8E+00
N-Nitrosodiphenylamine	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	4.4E-02	1.1E+02	2.4E-03	9.5E-03
Pentachlorophenol	4.4E+02	0.0012	1.0	3.4E+01	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	*2.6E-02*	0.33	5.0E-03	0.015	1.0	3.4E+01	5.3E+01	5.3E+00	6.3E+01	6.3E+00
Phenanthrene	9.2E+00	0.0012	1.0	7.2E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.2E+00	2.1E+01	4.2E+01	5.9E-02	2.9E-02
Phenol	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.3E+02	2.6E+02	7.9E-03	4.0E-03
Pyrene	2.8E+01	0.0012	1.0	2.2E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	2.7E+00	8.9E+00	1.5E+01	3.0E-01	1.8E-01
Hazard Index - SVOCs																		1.7E+03	1.7E+02

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

Table 7-39
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site S (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4'-DDD	1.7E+00	0.0012	1.0	1.3E-01	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	1.4E-01	1.8E+00	8.8E+00	8.1E-02	1.6E-02
4,4'-DDE	3.3E+00	0.0012	1.0	2.6E-01	0.0090	4.4E-03	1.0	0.67	1.8E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	2.6E-01	1.8E+00	8.8E+00	1.5E-01	3.0E-02
4,4'-DDT	1.6E+01	0.0012	1.0	1.2E+00	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	1.3E+00	1.8E+00	8.8E+00	7.1E-01	1.4E-01
Aldrin	*9.0E-01*	0.0012	1.0	7.0E-02	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	7.5E-02	4.4E-01	2.2E+00	1.7E-01	3.4E-02
alpha-BHC	*9.0E-01*	0.0012	1.0	7.0E-02	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	7.5E-02	3.5E+00	7.0E+00	2.1E-02	1.1E-02
alpha-Chlordane	*9.0E-01*	0.0012	1.0	7.0E-02	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	7.5E-02	8.8E-01	4.4E+00	8.5E-02	1.7E-02
beta-BHC	2.6E+01	0.0012	1.0	2.0E+00	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	2.0E+00	5.5E+00	1.1E+01	3.7E-01	1.9E-01
delta-BHC	7.4E-01	0.0012	1.0	5.8E-02	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	6.2E-02	5.5E+00	1.1E+01	1.1E-02	5.7E-03
Dieldrin	*1.8E+00*	0.0012	1.0	1.4E-01	0.0090	4.5E-03	1.0	0.67	1.8E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	1.4E-01	3.5E+00	7.0E+00	4.1E-02	2.0E-02
Endosulfan I	*9.0E-01*	0.0012	1.0	7.0E-02	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	7.5E-02	4.4E-02	4.4E-01	[illegible]	1.7E-01
Endosulfan II	5.4E+00	0.0012	1.0	4.2E-01	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	4.3E-01	3.3E-01	3.3E+00	[illegible]	1.3E-01
Endosulfan Sulfate	*1.8E+00*	0.0012	1.0	1.4E-01	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	1.5E-01	3.3E-01	3.3E+00	4.5E-01	4.5E-02
Endrin	1.0E+01	0.0012	1.0	7.8E-01	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	7.9E-01	3.3E-01	3.3E+00	[illegible]	2.4E-01
Endrin Aldehyde	*1.8E+00*	0.0012	1.0	1.4E-01	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	*5.0E-03*	0.33	9.8E-04	0.015	1.0	1.5E-01	1.1E-01	1.1E+00	[illegible]	1.4E-01
Endrin Ketone	*1.8E+00*	0.0012	1.0	1.4E-01	0.0090	*2.0E-02*	1.0	0.67	8.0E-03	4.2E-03	0.33	8.3E-04	0.015	1.0	1.5E-01	1.1E-01	1.1E+00	[illegible]	1.4E-01
gamma-BHC (Lindane)	7.5E+00	0.0012	1.0	5.9E-01	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	5.9E-01	1.1E-01	1.1E+00	[illegible]	5.4E-01
gamma-Chlordane	2.7E+00	0.0012	1.0	2.1E-01	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.6E-03	0.33	3.2E-04	0.015	1.0	2.1E-01	1.8E+01	1.8E+02	1.2E-02	1.2E-03
Heptachlor	1.5E+00	0.0012	1.0	1.2E-01	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	1.2E-01	2.9E-01	2.9E+00	4.2E-01	4.2E-02
Heptach or Epoxide	*9.0E-01*	0.0012	1.0	7.0E-02	0.0090	*1.0E-02*	1.0	0.67	4.0E-03	*2.6E-03*	0.33	5.0E-04	0.015	1.0	7.5E-02	2.7E-03	6.7E-02	[illegible]	[illegible]
Methoxychlor	*9.0E+00*	0.0012	1.0	7.0E-01	0.0090	*1.0E-01*	1.0	0.67	4.0E-02	*2.6E-02*	0.33	5.0E-03	0.015	1.0	7.5E-01	8.8E+00	1.8E+01	8.5E-02	4.2E-02
Toxaphene	*9.0E+01*	0.0012	1.0	7.0E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*2.6E-01*	0.33	5.0E-02	0.015	1.0	7.5E+00	1.8E+01	1.8E+02	4.2E-01	4.2E-02
Hazard Index - Pesticides																		[illegible]	[illegible]
Herbicides																			
2,4-D	3.3E+00	0.0012	1.0	2.6E-01	0.0090	*2.5E-02*	1.0	0.67	1.0E-02	1.1E-01	0.33	2.2E-02	0.015	1.0	2.9E-01	2.2E+00	1.1E+01	1.3E-01	2.6E-02
2,4-DB	*9.0E-02*	0.0012	1.0	7.0E-03	0.0090	*2.5E-02*	1.0	0.67	1.0E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	2.1E-02	4.3E+00	1.3E+01	4.9E-03	1.6E-03
2,4,5-T	*1.8E+01*	0.0012	1.0	1.4E+00	0.0090	*2.5E-02*	1.0	0.67	1.0E-02	*1.3E-02*	0.33	2.5E-03	0.015	1.0	1.4E+00	4.0E+00	1.3E+01	3.5E-01	1.1E-01
2,4,5-TP (Silvex)	2.5E-01	0.0012	1.0	2.0E-02	0.0090	*2.5E-02*	1.0	0.67	1.0E-02	*1.3E-02*	0.33	2.5E-03	0.015	1.0	3.2E-02	6.6E+00	2.2E+01	4.9E-03	1.5E-03
Dalapon	*2.2E+01*	0.0012	1.0	1.7E+00	0.0090	*6.0E+00*	1.0	0.67	2.4E+00	*3.0E+00*	0.33	5.9E-01	0.015	1.0	4.7E+00	1.9E+01	6.3E+01	2.5E-01	7.4E-02
Dicamba	*2.2E-01*	0.0012	1.0	1.7E-02	0.0090	*6.0E-02*	1.0	0.67	2.4E-02	*3.0E-02*	0.33	5.9E-03	0.015	1.0	4.7E-02	9.0E+00	3.0E+01	5.2E-03	1.6E-03
Dichlorprop	*1.1E+00*	0.0012	1.0	8.6E-02	0.0090	*3.0E-01*	1.0	0.67	1.2E-01	*1.5E-01*	0.33	3.0E-02	0.015	1.0	2.4E-01	2.4E-01	2.4E+00	9.9E-01	9.9E-02
Dinoseb	1.7E+00	0.0012	1.0	1.3E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.3E-01	2.2E-01	2.2E+00	[illegible]	2.9E-01
MCPA	*2.2E+01*	0.0012	1.0	1.7E+00	0.0090	8.0E+01	1.0	0.67	3.2E+01	*3.0E+00*	0.33	5.9E-01	0.015	1.0	3.4E+01	8.1E-01	4.0E+00	[illegible]	[illegible]
MCPP	*2.2E+01*	0.0012	1.0	1.7E+00	0.0090	*6.0E+00*	1.0	0.67	2.4E+00	*3.0E+00*	0.33	5.9E-01	0.015	1.0	4.7E+00	6.6E-01	2.0E+00	[illegible]	[illegible]
Hazard Index - Herbicides																		[illegible]	[illegible]
PCBs																			
Total PCBs	1.0E+03	0.0012	1.0	7.9E+01	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	*2.5E-02*	0.33	5.0E-03	0.015	1.0	7.9E+01	2.2E-01	2.2E+00	[illegible]	[illegible]
Dioxins/Furans																			
TEQ	1.2E-05	0.0012	1.0	9.6E-07	0.0090	5.0E-06	1.0	0.67	2.0E-06	1.3E-05	0.33	2.7E-06	0.015	1.0	5.6E-06	2.2E-06	2.2E-05	[illegible]	2.6E-01
Metals*																			
Aluminum	7.3E+03	0.0012	1.0	5.7E+02	0.0090	7.9E+02	1.0	0.67	3.2E+02	1.5E+01	0.33	3.0E+00	0.015	1.0	8.9E+02	2.3E+00	2.3E+01	[illegible]	[illegible]
Antimony	5.8E-01	0.0012	1.0	4.5E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	6.5E-01	1.5E-01	1.5E+00	[illegible]	4.3E-01
Arsenic	5.8E+00	0.0012	1.0	4.5E-01	0.0090	5.8E+00	1.0	0.67	2.3E+00	*5.0E-01*	0.33	9.9E-02	0.015	1.0	2.9E+00	1.5E-01	1.5E+00	[illegible]	[illegible]
Barium	1.2E+02	0.0012	1.0	9.4E+00	0.0090	1.3E+01	1.0	0.67	5.2E+00	1.9E+00	0.33	3.8E-01	0.015	1.0	1.5E+01	1.1E+01	4.4E+01	[illegible]	3.4E-01
Beryllium	4.6E-01	0.0012	1.0	3.6E-02	0.0090	*2.0E-01*	1.0	0.67	8.0E-02	*2.0E-01*	0.33	4.0E-02	0.015	1.0	1.6E-01	1.5E+00	1.5E+01	1.1E-01	1.1E-02
Cadmium	8.5E-01	0.0012	1.0	6.6E-02	0.0090	1.7E+00	1.0	0.67	6.8E-01	3.6E-01	0.33	7.1E-02	0.015	1.0	8.2E-01	2.2E+00	2.2E+00	3.7E-01	3.7E-02
Chromium	2.3E+01	0.0012	1.0	1.8E+00	0.0090	1.6E+00	1.0	0.67	6.4E-01	2.0E-01	0.33	4.0E-02	0.015	1.0	2.5E+00	7.2E+00	2.9E+01	3.4E-01	8.6E-02
Cobalt	9.4E+00	0.0012	1.0	7.3E-01	0.0090	1.8E+00	1.0	0.67	7.2E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	1.6E+00	1.1E-01	1.1E+00	[illegible]	[illegible]
Copper	2.3E+01	0.0012	1.0	1.8E+00	0.0090	5.6E+00	1.0	0.67	2.3E+00	2.0E+01	0.33	4.0E+00	0.015	1.0	8.0E+00	3.3E+01	4.4E+01	2.4E-01	1.8E-01
Lead	6.3E+01	0.0012	1.0	4.9E+00	0.0090	3.8E+00	1.0	0.67	1.5E+00	1.0E+00	0.33	2.0E-01	0.015	1.0	6.6E+00	1.8E+01	1.8E+02	3.8E-01	3.8E-02
Manganese	6.7E+02	0.0012	1.0	5.2E+01	0.0090	4.8E+01	1.0	0.67	1.9E+01	5.5E+00	0.33	1.1E+00	0.015	1.0	7.3E+01	1.9E+02	6.2E+02	3.8E-01	1.2E-01
Mercury	7.4E-02	0.0012	1.0	5.8E-03	0.0090	7.8E-02	1.0	0.67	3.1E-02	1.3E-01	0.33	2.6E-02	0.015	1.0	6.3E-02	7.0E-02	3.5E-01	8.9E-01	1.8E-01
Nickel	2.0E+01	0.0012	1.0	1.6E+00	0.0090	1.4E+00	1.0	0.67	5.6E-01	*2.0E+00*	0.33	4.0E-01	0.015	1.0	2.5E+00	8.8E+01	1.8E+02	2.9E-02	1.4E-02
Selenium	*5.0E-01*	0.0012	1.0	3.9E-02	0.0090	*5.0E-01*	1.0	0.67	2.0E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	3.4E-01	4.4E-01	7.3E-01	7.7E-01	4.7E-01
Silver	*5.0E-01*	0.0012	1.0	3.9E-02	0.0090	*5.0E-01*	1.0	0.67	2.0E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	3.4E-01	2.2E-01	2.2E+00	[illegible]	1.6E-01
Thallium	*5.0E-01*	0.0012	1.0	3.9E-02	0.0090	*5.0E-01*	1.0	0.67	2.0E-01	*5.0E-01*	0.33	9.9E-02	0.015	1.0	3.4E-01	1.6E-02	1.6E-01	[illegible]	[illegible]
Vanadium	2.4E+01	0.0012	1.0	1.9E+00	0.0090	2.5E+00	1.0	0.67	1.0E+00	*5.0E-01*	0.33	9.9E-02	0.015	1.0	3.0E+00	4.6E-01	4.6E+00	6.4E+00	6.4E-01
Zinc	1.1E+02	0.0012	1.0	8.6E+00	0.0090	3.2E+01	1.0	0.67	1.3E+01	5.6E+01	0.33	1.1E+01	0.015	1.0	3.3E+01	3.5E+02	7.0E+02	9.3E-02	4.6E-02
Hazard Index - Metals																		4.6E+02	4.7E+01

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate [illegible] is equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Hazard Quotients and Hazard Indices for [illegible] Earthworms and Terrestrial Invertebrates
Shor[illegible] Shrew
Site S (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs																			
1,2,4-Trichlorobenzene	3.6E+01	0.0012	1.0	2.8E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	3.1E+00	3.3E+01	1.2E+02	1.0E-01	2.8E-02
1,2-Dichlorobenzene	3.7E+01	0.0012	1.0	2.9E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	3.4E+00	1.9E+02	2.6E+03	1.8E-02	1.3E-03
1,3-Dichlorobenzene	1.0E+00	0.0012	1.0	7.8E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.8E-01	1.9E+02	2.6E+03	3.1E-03	2.2E-04
1,4-Dichlorobenzene	7.5E+00	0.0012	1.0	5.9E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.1E+00	1.9E+02	3.3E+02	5.8E-03	3.3E-03
2,2'-Oxybis(1-Chloropropane)	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.2E+01	6.6E+01	4.8E-02	1.6E-02
2,4,5-Trichlorophenol	1.1E+00	0.0012	1.0	8.6E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.9E-01	1.1E+01	6.6E+01	5.3E-04	8.9E-03
2,4,6-Trichlorophenol	8.2E+00	0.0012	1.0	6.4E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.1E+00	4.3E+01	2.4E+02	2.7E-02	4.8E-03
2,4-Dichlorophenol	2.3E+00	0.0012	1.0	1.8E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.8E-01	6.6E-01	6.6E+00	1.0E+00	1.0E-01
2,4-Dinitrophenol	*3.7E+01*	0.0012	1.0	2.9E+00	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	5.4E+00	3.8E-03	3.8E-02	1.4E+03	1.4E+02
2,4-Dinitrotoluene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.1E+00	8.1E+00	9.7E-01	1.3E-01
2,6-Dinitrotoluene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.5E+00	1.5E+01	6.8E-01	6.8E-02
2-Chloronaphthalene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	3.0E+01	7.1E+01	3.5E-02	1.5E-02
2-Chlorophenol	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.1E+02	1.1E+01	9.5E-03	9.5E-02
2-Methylnaphthalene	1.1E+01	0.0012	1.0	8.6E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.4E+00	3.4E+03	3.4E+04	4.0E-04	4.0E-05
2-Methylphenol (o-Cresol)	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	6.3E+02	6.3E+03	1.7E-03	1.7E-04
2-Nitroaniline	4.6E+00	0.0012	1.0	3.6E-01	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	2.9E+00	9.2E+00	9.2E+01	3.1E-01	3.1E-02
2-Nitrophenol	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	5.5E+00	1.5E+01	1.9E-01	6.8E-02
3,3'-Dichlorobenzidine	*1.5E+01*	0.0012	1.0	1.1E+00	0.0090	*2.0E+00*	1.0	0.67	8.0E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	2.1E+00	5.6E+01	6.1E+02	3.8E-02	3.5E-03
3/4-Methylphenol (m&p Cresol)	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	9.2E+00	9.2E+01	1.1E-01	1.1E-02
3-Nitroaniline	*3.7E+01*	0.0012	1.0	2.9E+00	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	5.4E+00	5.5E-01	1.0E+01	9.8E+00	5.4E-01
4,6-Dinitro-2-methylphenol	*3.7E+01*	0.0012	1.0	2.9E+00	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	5.4E+00	2.2E+00	1.8E+01	2.5E+00	3.1E-01
4-Bromophenyl Phenyl Ether	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.5E+02	2.5E+03	4.2E-03	4.2E-04
4-Chloro-3-methylphenol	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.7E+00	2.7E+01	3.8E-01	3.8E-02
4-Chloroaniline	*1.5E+01*	0.0012	1.0	1.1E+00	0.0090	*2.0E+00*	1.0	0.67	8.0E-01	*1.0E+00*	0.33	2.0E-01	0.015	1.0	2.1E+00	2.2E+00	1.8E+01	9.7E-01	1.2E-01
4-Chlorophenyl Phenyl Ether	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	6.3E+02	6.3E+03	1.7E-03	1.7E-04
4-Nitroaniline	5.7E+01	0.0012	1.0	4.4E+00	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	7.0E+00	9.2E+00	9.2E+01	7.5E-01	7.5E-02
4-Nitrophenol	*3.7E+01*	0.0012	1.0	2.9E+00	0.0090	*5.0E+00*	1.0	0.67	2.0E+00	*2.6E+00*	0.33	5.0E-01	0.015	1.0	5.4E+00	5.5E+00	1.5E+01	9.8E-01	3.5E-01
Acenaphthene	1.2E+00	0.0012	1.0	9.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.9E-01	2.1E+01	4.2E+01	2.9E-02	1.4E-02
Acenaphthylene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.1E+01	4.2E+01	5.0E-02	2.5E-02
Anthracene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.2E+02	1.2E+03	8.8E-03	8.8E-04
Benzo(a)anthracene	8.0E+00	0.0012	1.0	6.2E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.1E+00	1.2E+00	1.2E+01	9.5E-01	9.5E-02
Benzo(a)pyrene	5.4E+00	0.0012	1.0	4.2E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	9.2E-01	1.2E+00	1.2E+01	7.7E-01	7.7E-02
Benzo(b)fluoranthene	6.6E+00	0.0012	1.0	5.1E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.2E+00	1.2E+01	8.5E-01	8.5E-02
Benzo(g,h,i)perylene	4.2E+00	0.0012	1.0	3.3E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	8.3E-01	1.2E+00	1.2E+01	7.0E-01	7.0E-02
Benzo(k)fluoranthene	6.4E+00	0.0012	1.0	5.0E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.2E+00	1.2E+01	8.4E-01	8.4E-02
bis(2-Chloroethoxy)methane	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	4.3E+01	2.4E+02	2.5E-02	4.4E-03
bis(2-Chloroethyl)ether	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	4.3E+01	2.4E+02	2.5E-02	4.4E-03
bis(2-Ethylhexyl)phthalate	3.9E+00	0.0012	1.0	3.0E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	8.0E-01	2.2E+01	2.2E+02	3.7E-02	3.7E-03
Butyl Benzyl Phthalate	1.2E+02	0.0012	1.0	9.4E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	9.9E+00	3.5E+01	1.0E+02	2.8E-01	9.5E-02
Carbazole	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	3.6E+00	3.6E+01	2.9E-01	2.9E-02
Chrysene	2.0E+01	0.0012	1.0	1.6E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	2.1E+00	1.2E+00	1.2E+01	1.7E+00	1.7E-01
Dibenzo(a,h)anthracene	1.8E+00	0.0012	1.0	1.4E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.4E-01	1.2E+00	1.2E+01	5.4E-01	5.4E-02
Dibenzofuran	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.9E-02	2.9E-01	3.6E+01	3.6E+00
Diethyl Phthalate	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	5.4E+03	5.4E+04	1.9E-04	1.9E-05
Dimethyl Phthalate	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	5.4E+03	5.4E+04	1.9E-04	1.9E-05
Di-n-butylphthalate	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	6.5E+02	2.2E+03	1.6E-03	4.8E-04
Di-n-octylphthalate	1.3E+00	0.0012	1.0	1.0E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.0E-01	6.5E+02	2.2E+03	9.2E-04	2.8E-04
Fluoranthene	4.2E+00	0.0012	1.0	3.3E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	8.3E-01	1.5E+01	3.0E+01	5.6E-02	2.8E-02
Fluorene	1.2E+00	0.0012	1.0	9.4E-02	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	5.9E-01	1.5E+01	3.0E+01	4.0E-02	2.0E-02
Hexachlorobenzene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.8E-01	6.4E-01	5.9E+00	1.6E+00
Hexachlorobutadiene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	4.4E-01	4.4E-01	1.4E+00	1.4E+00
Hexachlorocyclopentadiene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.3E+00	2.4E+00	7.9E-01	4.3E-01
Hexachloroethane	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	2.2E-01	3.3E+00	4.8E+00	3.2E-01
Indeno(1,2,3-cd)pyrene	1.3E+00	0.0012	1.0	1.0E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.0E-01	1.2E+00	1.2E+01	5.1E-01	5.1E-02
Isophorone	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	8.1E+01	3.9E+02	1.3E-02	2.7E-03
Naphthalene	2.1E+00	0.0012	1.0	1.6E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	6.6E-01	1.6E+01	3.1E+01	4.3E-02	2.1E-02
Nitrobenzene	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	5.5E-02	5.5E-01	1.9E+01	1.9E+00
N-Nitroso-di-n-propylamine	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.2E-02	1.2E-01	8.8E+01	8.8E+00
N-Nitrosodiphenylamine	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	4.4E+02	1.1E+02	2.4E-03	9.5E-03
Pentachlorophenol	4.4E+02	0.0012	1.0	3.4E+01	0.0090	*5.0E-02*	1.0	0.67	2.0E-02	*2.6E-02*	0.33	5.0E-03	0.015	1.0	3.4E+01	5.3E-01	5.3E+00	6.5E+01	6.5E+00
Phenanthrene	9.2E+00	0.0012	1.0	7.2E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.2E+00	2.1E+01	4.2E+01	5.9E-02	2.9E-02
Phenol	*7.0E+00*	0.0012	1.0	5.5E-01	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	1.0E+00	1.3E+02	2.6E+02	7.9E-03	4.0E-03
Pyrene	2.8E+01	0.0012	1.0	2.2E+00	0.0090	*1.0E+00*	1.0	0.67	4.0E-01	*5.0E-01*	0.33	9.8E-02	0.015	1.0	2.7E+00	8.9E+00	1.5E+01	3.0E-01	1.8E-01
Hazard Index - SVOCs																		1.7E+03	1.7E+02

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-40
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site S (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4'-DDD	1.7E+00	0.0012	1.0	1.3E-01	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.4E-01	1.8E+00	8.8E+00	8.1E-02	1.6E-02
4,4'-DDE	3.3E+00	0.0012	1.0	2.6E-01	0.0090	4.4E-03	1.0	0.67	1.8E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	2.6E-01	1.8E+00	8.8E+00	1.5E-01	3.0E-02
4,4'-DDT	1.6E+01	0.0012	1.0	1.2E+00	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.3E+00	1.8E+00	8.8E+00	7.1E-01	1.4E-01
Aldrin	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	7.5E-02	4.4E-01	2.2E+00	1.7E-01	3.4E-02
alpha-BHC	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	7.5E-02	3.5E+00	7.0E+00	2.1E-02	1.1E-02
alpha-Chlordane	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	7.5E-02	8.8E-01	4.4E+00	8.5E-02	1.7E-02
beta-BHC	2.6E+01	0.0012	1.0	2.0E+00	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	2.0E+00	5.5E+00	1.1E+01	3.7E-01	1.9E-01
delta-BHC	7.4E-01	0.0012	1.0	5.8E-02	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	6.2E-02	5.5E+00	1.1E+01	1.1E-02	5.7E-03
Dieldrin	***1.8E+00***	0.0012	1.0	1.4E-01	0.0090	4.5E-03	1.0	0.67	1.8E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.4E-01	3.5E+00	7.0E+00	4.1E-02	2.0E-02
Endosulfan I	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	7.5E-02	4.4E-02	4.4E-01	[illegible]	1.7E-01
Endosulfan II	5.4E+00	0.0012	1.0	4.2E-01	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	4.3E-01	3.3E-01	3.3E+00	[illegible]	1.3E-01
Endosulfan Sulfate	***1.8E+00***	0.0012	1.0	1.4E-01	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.5E-01	3.3E-01	3.3E+00	4.5E-01	4.5E-02
Endrin	1.0E+01	0.0012	1.0	7.8E-01	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	7.9E-01	3.3E-01	3.3E+00	[illegible]	2.4E-01
Endrin Aldehyde	***1.8E+00***	0.0012	1.0	1.4E-01	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.5E-01	1.1E-01	1.1E+00	[illegible]	1.4E-01
Endrin Ketone	***1.8E+00***	0.0012	1.0	1.4E-01	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	4.2E-03	0.33	8.3E-04	0.015	1.0	1.5E-01	1.1E-01	1.1E+00	[illegible]	1.4E-01
gamma-BHC (Lindane)	7.5E+00	0.0012	1.0	5.9E-01	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	5.9E-01	1.1E-01	1.1E+00	[illegible]	5.4E-01
gamma-Chlordane	2.7E+00	0.0012	1.0	2.1E-01	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.6E-03	0.33	3.2E-04	0.015	1.0	2.1E-01	1.8E+01	1.8E+02	1.2E-02	1.2E-03
Heptachlor	1.5E+00	0.0012	1.0	1.2E-01	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	1.2E-01	2.9E-01	2.9E+00	4.2E-01	4.2E-02
Heptachlor Epoxide	***9.0E-01***	0.0012	1.0	7.0E-02	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	7.5E-02	2.7E-03	6.7E-02	[illegible]	[illegible]
Methoxychlor	***9.0E+00***	0.0012	1.0	7.0E-01	0.0090	***1.0E-01***	1.0	0.67	4.0E-02	***2.6E-02***	0.33	5.0E-03	0.015	1.0	7.5E-01	8.8E+00	1.8E+01	8.5E-02	4.2E-02
Toxaphene	***9.0E+01***	0.0012	1.0	7.0E+00	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***2.6E-01***	0.33	5.0E-02	0.015	1.0	7.5E+00	1.8E+01	1.8E+02	4.2E-01	4.2E-02
Hazard Index - Pesticides																		[illegible]	[illegible]
Herbicides																			
2,4-D	3.3E+00	0.0012	1.0	2.6E-01	0.0090	***2.5E-02***	1.0	0.67	1.0E-02	1.1E-01	0.33	2.2E-02	0.015	1.0	2.9E-01	2.2E+00	1.1E+01	1.3E-01	2.6E-02
2,4-DB	***9.0E-02***	0.0012	1.0	7.0E-03	0.0090	***2.5E-02***	1.0	0.67	1.0E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	2.1E-02	4.3E+00	1.3E+01	4.9E-03	1.6E-03
2,4,5-T	***1.8E+01***	0.0012	1.0	1.4E+00	0.0090	***2.5E-02***	1.0	0.67	1.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.4E+00	4.0E+00	1.3E+01	3.5E-01	1.1E-01
2,4,5-TP (Silvex)	2.5E-01	0.0012	1.0	2.0E-02	0.0090	***2.5E-02***	1.0	0.67	1.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	3.2E-02	6.6E+00	2.2E+01	4.9E-03	1.5E-03
Dalapon	***2.2E+01***	0.0012	1.0	1.7E+00	0.0090	***6.0E+00***	1.0	0.67	2.4E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	4.7E+00	1.9E+01	6.3E+01	2.5E-01	7.4E-02
Dicamba	***2.2E-01***	0.0012	1.0	1.7E-02	0.0090	***6.0E-02***	1.0	0.67	2.4E-02	***3.0E-02***	0.33	5.9E-03	0.015	1.0	4.7E-02	9.0E+00	3.0E+01	5.2E-03	1.6E-03
Dichloroprop	***1.1E+00***	0.0012	1.0	8.6E-02	0.0090	***3.0E-01***	1.0	0.67	1.2E-01	***1.5E-01***	0.33	3.0E-02	0.015	1.0	2.4E-01	2.4E-01	2.4E+00	9.9E-01	9.9E-02
Dinoseb	1.7E+00	0.0012	1.0	1.3E-01	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	6.3E-01	2.2E-01	2.2E+00	[illegible]	2.9E-01
MCPA	***2.2E+01***	0.0012	1.0	1.7E+00	0.0090	8.0E+01	1.0	0.67	3.2E+01	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.4E+01	8.1E-01	4.0E+00	[illegible]	[illegible]
MCPP	***2.2E+01***	0.0012	1.0	1.7E+00	0.0090	***6.0E+00***	1.0	0.67	2.4E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	4.7E+00	6.6E-01	2.0E+00	[illegible]	[illegible]
Hazard Index - Herbicides																		[illegible]	[illegible]
PCBs																			
Total PCBs	1.0E+03	0.0012	1.0	7.9E+01	0.0090	***5.0E-02***	1.0	0.67	2.0E-02	***2.5E-02***	0.33	5.0E-03	0.015	1.0	7.9E+01	2.2E-01	2.2E+00	[illegible]	[illegible]
Dioxins/Furans																			
TEQ	1.2E-05	0.0012	1.0	9.6E-07	0.0090	5.0E-06	1.0	0.67	2.0E-06	1.3E-05	0.33	2.7E-06	0.015	1.0	5.6E-06	2.2E-06	2.2E-05	[illegible]	2.6E-01
Metals*																			
Aluminum	7.3E+03	0.0012	1.0	5.7E+02	0.0090	7.9E+02	1.0	0.67	3.2E+02	1.5E+01	0.33	3.0E+00	0.015	1.0	8.9E+02	2.3E+00	2.3E+01	[illegible]	[illegible]
Antimony	5.8E-01	0.0012	1.0	4.5E-02	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	6.5E-01	1.5E-01	1.5E+00	[illegible]	4.3E-01
Arsenic	5.8E+00	0.0012	1.0	4.5E-01	0.0090	5.8E+00	1.0	0.67	2.3E+00	***3.0E-01***	0.33	9.9E-02	0.015	1.0	2.9E+00	1.5E-01	1.5E+00	[illegible]	[illegible]
Barium	1.2E+02	0.0012	1.0	9.4E+00	0.0090	1.3E+01	1.0	0.67	5.2E+00	1.9E+00	0.33	3.8E-01	0.015	1.0	1.5E+01	1.1E+01	4.4E+01	[illegible]	3.4E-01
Beryllium	4.6E-01	0.0012	1.0	3.6E-02	0.0090	***2.0E-01***	1.0	0.67	8.0E-02	***2.0E-01***	0.33	4.0E-02	0.015	1.0	1.6E-01	1.5E+00	1.5E+01	1.1E-01	1.1E-02
Cadmium	8.5E-01	0.0012	1.0	6.6E-02	0.0090	1.7E+00	1.0	0.67	6.8E-01	3.6E-01	0.33	7.1E-02	0.015	1.0	8.2E-01	2.2E+00	2.2E+01	3.7E-01	3.7E-02
Chromium	2.3E+01	0.0012	1.0	1.8E+00	0.0090	1.6E+00	1.0	0.67	6.4E-01	2.0E-01	0.33	4.0E-02	0.015	1.0	2.5E+00	7.2E+00	2.9E+01	3.4E-01	8.6E-02
Cobalt	9.4E+00	0.0012	1.0	7.3E-01	0.0090	1.8E+00	1.0	0.67	7.2E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	1.6E+00	1.1E-01	1.1E+00	[illegible]	[illegible]
Copper	2.3E+01	0.0012	1.0	1.8E+00	0.0090	5.6E+00	1.0	0.67	2.3E+00	2.0E+01	0.33	4.0E+00	0.015	1.0	8.0E+00	3.3E+01	4.4E+01	2.4E-01	1.8E-01
Lead	6.3E+01	0.0012	1.0	4.9E+00	0.0090	3.8E+00	1.0	0.67	1.5E+00	1.0E+00	0.33	2.0E-01	0.015	1.0	6.6E+00	1.8E+01	1.8E+02	3.8E-01	3.8E-02
Manganese	6.7E+02	0.0012	1.0	5.2E+01	0.0090	4.8E+01	1.0	0.67	1.9E+01	5.5E+00	0.33	1.1E+00	0.015	1.0	7.3E+01	1.9E+02	6.2E+02	3.8E-01	1.2E-01
Mercury	7.4E-02	0.0012	1.0	5.8E-03	0.0090	7.8E-02	1.0	0.67	3.1E-02	1.3E-01	0.33	2.6E-02	0.015	1.0	6.3E-02	7.0E-02	3.5E-01	8.9E-01	1.8E-01
Nickel	2.0E+01	0.0012	1.0	1.6E+00	0.0090	1.4E+00	1.0	0.67	5.6E-01	***2.0E+00***	0.33	4.0E-01	0.015	1.0	2.5E+00	8.8E+01	1.8E+02	2.9E-02	1.4E-02
Selenium	***5.0E-01***	0.0012	1.0	3.9E-02	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	3.4E-01	4.4E-01	7.3E-01	7.7E-01	4.7E-01
Silver	***5.0E-01***	0.0012	1.0	3.9E-02	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	3.4E-01	2.2E-01	2.2E+00	[illegible]	1.6E-01
Thallium	***5.0E-01***	0.0012	1.0	3.9E-02	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	***5.0E-01***	0.33	9.9E-02	0.015	1.0	3.4E-01	1.6E-01	1.6E+01	[illegible]	[illegible]
Vanadium	2.4E+01	0.0012	1.0	1.9E+00	0.0090	2.5E+00	1.0	0.67	1.0E+00	***5.0E-01***	0.33	9.9E-02	0.015	1.0	3.0E+00	4.6E-01	4.6E+00	[illegible]	6.4E-01
Zinc	1.1E+02	0.0012	1.0	8.6E+00	0.0090	3.2E+01	1.0	0.67	1.3E+01	5.6E+01	0.33	1.1E+01	0.015	1.0	3.3E+01	3.5E+02	7.0E+02	9.3E-02	4.6E-02
Hazard Index - Metals																		[illegible]	[illegible]

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C.1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicated HQ or HI equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-41
COPECs for Site S
Sauget, IL

Soil HQs	Short-tailed Shrew Modeling HQs (Average Conc.)	Short-tailed Shrew Modeling HQs (Maximum Conc.)	Prairie Vole Modeling HQs (Average Conc.)	Prairie Vole Modeling HQs (Maximum Conc.)
1,2,4-Trichlorobenzene	2,4-Dichlorophenol (NOAEL only)	2,4-Dichlorophenol (NOAEL only)	Pentachlorophenol (NOAEL only)	Pentachlorophenol (NOAEL only)
1,2-Dichlorobenzene	Chrysene (NOAEL only)	Chrysene (NOAEL only)	PCBs	PCBs
1,3-Dichlorobenzene	Pentachlorophenol	Pentachlorophenol	Mercury (NOAEL only)	Mercury (NOAEL only)
1,4-Dichlorobenzene	Endosulfan II (NOAEL only)	Endosulfan II (NOAEL only)		
2,4,6-Trichlorophenol	Endrin (NOAEL only)	Endrin (NOAEL only)		
2,4-Dichlorophenol	Endrin ketone (NOAEL only)	Endrin ketone (NOAEL only)		
Benzo(a)anthracene	gamma-BHC (Lindane) (NOAEL only)	gamma-BHC (Lindane) (NOAEL only)		
Benzo(a)pyrene	Dinoseb (NOAEL only)	Dinoseb (NOAEL only)		
Benzo(b)fluoranthene	MCPA	MCPA		
Benzo(k)fluoranthene	PCBs	PCBs		
Dibenzo(a,h)anthracene	Aluminum	Cobalt		
Fluoranthene	Antimony (NOAEL only)			
Indeno(1,2,3-cd)pyrene	Cobalt			
Naphthalene	Vanadium (NOAEL only)			
Pentachlorophenol				
Phenenthrene				
Pyrene				
4,4'-DDT				
beta-BHC				
Endrin				
gamma-BHC (Lindane)				
PCBs				
Chromium				
Manganese				

NOTES:
Analytes listed are only for those exceeding their benchmark/TRV, based on detected values, and were above the background values.
Shaded entries are for those compounds that are COPECs for all receptors and all concentrations.

Table 7-42
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site Q (South) (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.7E+01	9.8E+01	1.9E-03	5.1E-04
1,2-Dichlorobenzene	3.1E-01	0.00012	1.0	8.9E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,3-Dichlorobenzene	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.6E+02	2.2E+03	3.2E-04	2.3E-05
1,4-Dichlorobenzene	3.5E-01	0.00012	1.0	1.0E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.6E+02	2.7E+02	3.2E-04	1.8E-04
2,2'-Oxybis(1-Chloropropane)	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2.6E-04
2,4,5-Trichlorophenol	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+01	5.5E+01	2.8E-03	9.2E-04
2,4,6-Trichlorophenol	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+02	5.5E+01	5.5E-05	9.2E-04
2,4-Dichlorophenol	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.5E-01	5.5E+00	9.2E-02	9.2E-03
2,4-Dimethylphenol	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.9E+00	2.5E+01	1.0E-02	2.0E-03
2,4-Dinitrophenol	***1.7E+00***	0.00012	1.0	5.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	3.1E-03	3.1E-02	8.5E+01	8.3E+00
2,4-Dinitrotoluene	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.0E-01	6.7E+00	5.6E-02	7.5E-03
2,6-Dinitrotoluene	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.3E+00	1.3E+01	3.9E-02	3.9E-03
2-Chloronaphthalene	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.5E+01	5.9E+01	2.0E-03	8.5E-04
2-Chlorophenol	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.1E+01	9.1E+00	5.5E-04	5.5E-03
2-Methylnaphthalene	3.1E-01	0.00012	1.0	9.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.8E+03	2.8E+04	1.8E-05	1.8E-06
2-Methylphenol (o-Cresol)	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.7E-05	9.7E-06
2-Nitroaniline	***1.7E+00***	0.00012	1.0	5.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
2-Nitrophenol	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E+00	1.3E+01	1.1E-02	3.9E-03
3,3'-Dichlorobenzidine	***6.8E-01***	0.00012	1.0	1.9E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	4.7E+01	5.0E+02	2.2E-03	2.0E-04
3/4-Methylphenol (m&p-Cresol)	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.2E+02	5.2E+03	9.7E-05	9.7E-06
3-Nitroaniline	***1.7E+00***	0.00012	1.0	5.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4,6-Dinitro-2-methylphenol	***1.7E+00***	0.00012	1.0	5.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E-01	8.3E+00	5.7E-01	3.1E-02
4-Bromophenyl Phenyl Ether	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.8E-02	3.5E-03
4-Chloro-3-methylphenol	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.0E+02	2.0E+03	2.5E-04	2.5E-05
4-Chloroaniline	***6.8E-01***	0.00012	1.0	1.9E-03	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.0E-01	2.3E+00	2.3E+01	4.5E-02	4.5E-03
4-Chlorophenyl Phenyl Ether	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E+00	1.5E+01	2.8E-02	3.5E-03
4-Nitroaniline	***1.7E+00***	0.00012	1.0	5.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	7.7E+00	7.7E+01	3.4E-02	3.4E-03
4-Nitrophenol	***1.7E+00***	0.00012	1.0	5.0E-03	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.6E-01	4.6E+00	1.3E+01	5.7E-02	2.0E-02
Acenaphthene	1.7E-01	0.00012	1.0	5.0E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.4E-03
Acenaphthylene	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.5E-03
Anthracene	3.4E-01	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E+01	9.9E+02	5.1E-04	5.1E-05
Benzo(a)anthracene	7.6E-01	0.00012	1.0	2.2E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.2E-02	5.2E-03
Benzo(a)pyrene	8.2E-01	0.00012	1.0	2.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.2E-02	5.2E-03
Benzo(b)fluoranthene	9.2E-01	0.00012	1.0	2.7E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.3E-02	5.3E-03
Benzo(g,h,i)perylene	4.6E-01	0.00012	1.0	1.3E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Benzo(k)fluoranthene	6.0E-01	0.00012	1.0	1.7E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	9.9E-01	9.9E+00	5.2E-02	5.2E-03
bis(2-Chloroethoxy)methane	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	2
bis(2-Chloroethyl)ether	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.5E+01	2.0E+02	1.4E-03	[illegible]
bis(2-Ethylhexyl)phthalate	1.4E+00	0.00012	1.0	4.1E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.4E-02	1.8E+01	1.8E+02	3.0E-03	3.
Butyl Benzyl Phthalate	4.0E-01	0.00012	1.0	1.2E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	2.9E+01	8.6E+01	1.7E-03	5.9E-04
Carbazole	2.2E-01	0.00012	1.0	6.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.0E+00	3.0E+01	1.7E-02	1.7E-03
Chrysene	8.3E-01	0.00012	1.0	2.4E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	9.9E-01	9.9E+00	5.2E-02	5.2E-03
Dibenzo(a,h)anthracene	3.3E-01	0.00012	1.0	9.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Dibenzofuran	2.9E-01	0.00012	1.0	8.3E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	2.4E-02	2.4E-01	2.1E+00	2.1E-01
Diethyl Phthalate	3.3E-01	0.00012	1.0	9.4E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Dimethyl Phthalate	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.5E+03	4.5E+04	1.1E-05	1.1E-06
Di-n-butylphthalate	2.9E-01	0.00012	1.0	8.4E-04	0.0042	3.3E-01	1.0	3.3E-02	0.0416	1.0	3.3E-02	5.4E+02	1.8E+03	6.1E-05	1.8E-05
Di-n-octylphthalate	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	5.4E+02	1.8E+03	9.3E-05	2.8E-05
Fluoranthene	1.4E+00	0.00012	1.0	4.0E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.4E-02	1.2E+01	2.5E+01	4.3E-03	2.2E-03
Fluorene	3.0E-01	0.00012	1.0	8.8E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.2E+01	2.5E+01	4.1E-03	2.0E-03
Hexachlorobenzene	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.5E-01	5.3E-01	3.5E-01	9.5E-02
Hexachlorobutadiene	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E-01	3.7E-01	1.4E-01	1.4E-01
Hexachlorocyclopentadiene	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.1E+00	2.0E+00	4.6E-02	2.5E-02
Hexachloroethane	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.8E-01	2.7E+00	2.8E-01	1.8E-02
Indeno(1,2,3-cd)pyrene	3.2E-01	0.00012	1.0	9.2E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-01	9.9E+00	5.1E-02	5.1E-03
Isophorone	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	6.7E+01	3.3E+02	7.5E-04	1.5E-04
Naphthalene	3.5E-01	0.00012	1.0	1.0E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.3E+01	2.6E+01	3.9E-03	1.9E-03
Nitrobenzene	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	4.6E-02	4.6E-01	1.1E+00	1.1E-01
N-Nitroso-di-n-propylamine	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	9.9E-03	9.9E-02	5.1E+00	5.1E-01
N-Nitrosodiphenylamine	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	3.7E+02	9.1E+01	1.4E-04	5.5E-04
Pentachlorophenol	4.3E-01	0.00012	1.0	1.2E-03	0.0042	***2.9E-02***	1.0	2.9E-03	0.0416	1.0	4.2E-03	4.4E-01	4.4E+00	9.5E-03	9.5E-04
Phenanthrene	9.5E-01	0.00012	1.0	2.7E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.2E-02	1.7E+01	3.5E+01	3.0E-03	1.5E-03
Phenol	***3.4E-01***	0.00012	1.0	9.7E-04	0.0042	4.8E-01	1.0	4.8E-02	0.0416	1.0	4.9E-02	1.1E+02	2.2E+02	4.5E-04	2.2E-04
Pyrene	1.5E+00	0.00012	1.0	4.3E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.4E-02	7.4E+00	1.2E+01	7.3E-03	4.4E-03
Hazard Index - SVOCs														9.4E+01	9.6E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded/Italicized HQs/HIs equal to or greater than 1.0.

Table 7-42
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site Q (South) (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	1.7E-02	0.00012	1.0	4.8E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.4E-04	1.5E+00	7.3E+00	3.7E-04	7.4E-05
4,4'-DDE	9.4E-02	0.00012	1.0	2.7E-04	0.0042	4.7E-03	1.0	4.7E-04	0.0416	1.0	7.4E-04	1.5E+00	7.3E+00	5.1E-04	1.0E-04
4,4'-DDT	5.1E-01	0.00012	1.0	1.5E-03	0.0042	4.7E-03	1.0	4.7E-04	0.0416	1.0	1.9E-03	1.5E+00	7.3E+00	1.3E-03	2.6E-04
Aldrin	8.5E-03	0.00012	1.0	2.4E-05	0.0042	2.4E-03	1.0	2.4E-04	0.0416	1.0	2.7E-04	3.7E-01	1.8E+00	7.3E-04	1.5E-04
alpha-BHC	3.1E-02	0.00012	1.0	9.1E-05	0.0042	2.2E-03	1.0	2.2E-04	0.0416	1.0	3.1E-04	2.9E+00	5.9E+00	1.0E-04	5.2E-05
alpha-Chlordane	1.4E-02	0.00012	1.0	4.0E-05	0.0042	2.5E-03	1.0	2.5E-04	0.0416	1.0	2.9E-04	4.6E+00	9.1E+00	6.3E-05	3.2E-05
beta-BHC	8.5E-03	0.00012	1.0	2.4E-05	0.0042	3.3E-03	1.0	3.3E-04	0.0416	1.0	3.6E-04	7.3E-01	3.7E+00	4.9E-04	9.8E-05
delta-BHC	8.5E-03	0.00012	1.0	2.4E-05	0.0042	2.3E-03	1.0	2.3E-04	0.0416	1.0	2.6E-04	2.9E+00	5.9E+00	8.7E-05	4.4E-05
Dieldrin	9.6E-02	0.00012	1.0	2.8E-04	0.0042	4.4E-03	1.0	4.4E-04	0.0416	1.0	7.2E-04	3.7E-02	3.7E-01	2.0E-02	2.0E-03
Endosulfan I	8.5E-03	0.00012	1.0	2.4E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	2.8E-04	2.7E-01	2.7E+00	1.0E-03	1.0E-04
Endosulfan II	1.6E-02	0.00012	1.0	4.7E-05	0.0042	4.7E-03	1.0	4.7E-04	0.0416	1.0	5.1E-04	2.7E-01	2.7E+00	1.9E-03	1.9E-04
Endosulfan Sulfate	1.2E-02	0.00012	1.0	3.5E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.3E-04	2.7E-01	2.7E+00	1.9E-03	1.9E-04
Endrin	2.7E-02	0.00012	1.0	7.8E-05	0.0042	4.7E-03	1.0	4.7E-04	0.0416	1.0	5.5E-04	9.1E-02	9.1E-01	6.0E-03	6.0E-04
Endrin Aldehyde	1.6E-02	0.00012	1.0	4.6E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.4E-04	9.1E-02	9.1E-01	5.9E-03	5.9E-04
Endrin Ketone	2.5E-02	0.00012	1.0	7.3E-05	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	5.7E-04	9.1E-02	9.1E-01	6.2E-03	6.2E-04
gamma-BHC (Lindane)	8.5E-03	0.00012	1.0	2.4E-05	0.0042	1.9E-03	1.0	1.9E-04	0.0416	1.0	2.1E-04	1.5E+01	1.5E+02	1.5E-05	1.5E-06
gamma-Chlordane	7.4E-02	0.00012	1.0	2.1E-04	0.0042	2.4E-03	1.0	2.4E-04	0.0416	1.0	4.5E-04	4.6E+00	9.1E+00	1.0E-04	5.0E-05
Heptachlor	8.5E-03	0.00012	1.0	2.4E-05	0.0042	2.3E-03	1.0	2.3E-04	0.0416	1.0	2.5E-04	2.4E-01	2.4E+00	1.1E-03	1.1E-04
Heptachlor Epoxide	1.4E-02	0.00012	1.0	3.9E-05	0.0042	2.5E-03	1.0	2.5E-04	0.0416	1.0	2.9E-04	2.3E-03	5.6E-02	1.3E-01	5.1E-03
Methoxychlor	1.1E-01	0.00012	1.0	3.1E-04	0.0042	2.4E-02	1.0	2.4E-03	0.0416	1.0	2.7E-03	7.3E+00	1.5E+01	3.7E-04	1.8E-04
Toxaphene	8.5E-01	0.00012	1.0	2.4E-03	0.0042	***2.6E-01***	1.0	2.6E-02	0.0416	1.0	2.8E-02	1.5E+01	1.5E+02	1.9E-03	1.9E-04
Hazard Index - Pesticides														1.8E-01	1.1E-02
Herbicides															
2,4-D	1.6E-02	0.00012	1.0	4.7E-05	0.0042	5.4E-02	1.0	5.4E-03	0.0416	1.0	5.5E-03	1.8E+00	9.1E+00	3.0E-03	6.0E-04
2,4-DB	1.5E-02	0.00012	1.0	4.5E-05	0.0042	1.0E-01	1.0	1.0E-02	0.0416	1.0	1.0E-02	3.6E+00	1.1E+01	2.9E-03	9.4E-04
2,4,5-T	1.4E-02	0.00012	1.0	3.9E-05	0.0042	5.4E-02	1.0	5.4E-03	0.0416	1.0	5.5E-03	5.5E+00	1.8E+01	1.0E-03	3.0E-04
2,4,5-TP (Silvex)	1.4E-02	0.00012	1.0	4.0E-05	0.0042	1.6E-02	1.0	1.6E-03	0.0416	1.0	1.7E-03	3.4E+00	1.1E+01	5.0E-04	1.5E-04
Dalapon	3.3E+00	0.00012	1.0	9.6E-03	0.0042	***3.5E+00***	1.0	3.5E-01	0.0416	1.0	3.6E-01	1.5E+01	5.2E+01	2.3E-02	6.8E-03
Dicamba	3.3E-02	0.00012	1.0	9.6E-05	0.0042	***3.5E-02***	1.0	3.5E-03	0.0416	1.0	3.6E-03	7.5E+00	2.5E+01	4.8E-04	1.4E-04
Dichlorprop	1.5E-01	0.00012	1.0	4.2E-04	0.0042	***1.7E-01***	1.0	1.7E-02	0.0416	1.0	1.8E-02	2.0E-01	2.0E+00	9.0E-02	9.0E-03
Dinoseb	3.5E-01	0.00012	1.0	1.0E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	1.8E-01	1.8E+00	2.8E-01	2.8E-02
MCPA	3.4E+00	0.00012	1.0	9.8E-03	0.0042	5.7E+00	1.0	5.7E-01	0.0416	1.0	5.8E-01	6.7E-01	3.4E+00	8.6E-01	1.7E-01
MCPP	3.8E+00	0.00012	1.0	1.1E-02	0.0042	4.8E+00	1.0	4.8E-01	0.0416	1.0	4.9E-01	5.5E-01	1.6E+00	8.9E-01	3.0E-01
Hazard Index - Herbicides														2.7E+00	5.1E-01
PCBs															
Total PCBs	3.4E+00	0.00012	1.0	9.7E-03	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	1.2E-02	1.8E-01	1.8E+00	6.7E-02	6.7E-03
Dioxins/Furans															
TEQ	8.0E-03	0.00012	1.0	2.3E-05	0.0042	3.2E-07	1.0	3.2E-08	0.0416	1.0	2.3E-05	1.8E-06	1.8E-05	1.3E+01	1.3E+00
Metals*															
Aluminum	9.2E+03	0.00012	1.0	2.7E+01	0.0042	2.7E+01	1.0	2.7E+00	0.0416	1.0	2.9E+01	1.9E+00	1.9E+01	1.5E+01	1.5E+00
Antimony	7.9E+00	0.00012	1.0	2.3E-02	0.0042	***9.6E-01***	1.0	9.6E-02	0.0416	1.0	1.2E-01	1.2E-01	1.2E+00	9.6E-01	9.6E-02
Arsenic	1.1E+01	0.00012	1.0	3.1E-02	0.0042	***4.8E-01***	1.0	4.8E-02	0.0416	1.0	7.9E-02	1.2E-01	1.2E+00	6.3E-01	6.3E-02
Barium	4.8E+02	0.00012	1.0	1.4E+00	0.0042	1.1E+01	1.0	1.1E+00	0.0416	1.0	2.5E+00	9.3E+00	3.6E+01	2.7E-01	6.9E-02
Beryllium	6.4E-01	0.00012	1.0	1.9E-03	0.0042	***1.9E-01***	1.0	1.9E-02	0.0416	1.0	2.1E-02	1.2E+00	1.2E+01	1.7E-02	1.7E-03
Cadmium	8.4E+00	0.00012	1.0	2.4E-02	0.0042	1.6E-01	1.0	1.6E-02	0.0416	1.0	4.0E-02	1.8E+00	1.8E+01	2.2E-02	2.2E-03
Chromium	8.7E+01	0.00012	1.0	2.5E-01	0.0042	4.2E-01	1.0	4.2E-02	0.0416	1.0	2.9E-01	6.0E+00	2.4E+01	4.9E-02	1.2E-02
Cobalt	1.0E+01	0.00012	1.0	2.9E-02	0.0042	***4.8E-01***	1.0	4.8E-02	0.0416	1.0	7.7E-02	9.1E-02	9.1E-01	8.5E-01	8.5E-02
Copper	3.7E+02	0.00012	1.0	1.1E+00	0.0042	3.8E+00	1.0	3.8E-01	0.0416	1.0	1.4E+00	2.8E+01	3.7E+01	5.2E-02	3.9E-02
Lead	6.4E+02	0.00012	1.0	1.8E+00	0.0042	7.2E-01	1.0	7.2E-02	0.0416	1.0	1.9E+00	1.5E+01	1.5E+02	1.3E-01	1.3E-02
Manganese	6.1E+02	0.00012	1.0	1.8E+00	0.0042	1.3E+01	1.0	1.3E+00	0.0416	1.0	3.0E+00	1.6E+02	5.2E+02	1.9E-02	5.8E-03
Mercury	9.5E-01	0.00012	1.0	2.7E-03	0.0042	4.4E-01	1.0	4.4E-02	0.0416	1.0	4.7E-02	5.9E-02	2.9E-01	8.0E-01	1.6E-01
Nickel	6.7E+01	0.00012	1.0	1.9E-01	0.0042	***1.9E+00***	1.0	1.9E-01	0.0416	1.0	3.8E-01	7.3E+01	1.5E+02	5.3E-03	2.6E-03
Selenium	9.9E-01	0.00012	1.0	2.9E-03	0.0042	5.2E-01	1.0	5.2E-02	0.0416	1.0	5.5E-02	3.7E-01	6.0E-01	1.5E-01	9.1E-02
Silver	3.4E+00	0.00012	1.0	9.7E-03	0.0042	***4.8E-01***	1.0	4.8E-02	0.0416	1.0	5.8E-02	1.8E-01	1.8E+00	3.2E-01	3.2E-02
Thallium	9.9E-01	0.00012	1.0	2.9E-03	0.0042	***4.8E-01***	1.0	4.8E-02	0.0416	1.0	5.1E-02	1.4E-02	1.4E-01	3.8E+00	3.8E-01
Vanadium	2.6E+01	0.00012	1.0	7.4E-02	0.0042	***4.8E-01***	1.0	4.8E-02	0.0416	1.0	1.2E-01	3.8E-01	3.8E+00	3.2E-01	3.2E-02
Zinc	1.0E+03	0.00012	1.0	2.9E+00	0.0042	2.4E+01	1.0	2.4E+00	0.0416	1.0	5.3E+00	2.9E+02	5.9E+02	1.8E-02	9.0E-03
Hazard Index - Metals														2.4E+01	2.6E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicate HQs/HIs equal to or greater than 1.0

Table 7-43
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site Q (South) (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
SVOCs												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
1,2,4-Trichlorobenzene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	2.7E+01	9.8E-01	2.0E-03	5.6E-04
1,2-Dichlorobenzene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.6E+02	2.2E-03	3.5E-04	2.5E-05
1,3-Dichlorobenzene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.6E+02	2.2E-03	3.5E-04	2.5E-05
1,4-Dichlorobenzene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.6E+02	2.7E-02	3.5E-04	2.0E-04
2,2'-Oxybis(1-Chloropropane)	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	3.5E+01	2.0E-02	1.6E-03	2.8E-04
2,4,5-Trichlorophenol	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.8E+01	5.5E-01	3.0E-03	1.0E-03
2,4,6-Trichlorophenol	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	9.1E+02	5.5E-01	6.0E-05	1.0E-03
2,4-Dichlorophenol	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	5.5E-01	5.5E-00	1.0E-01	1.0E-02
2,4-Dimethylphenol	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	4.9E+00	2.5E-01	1.1E-02	2.2E-03
2,4-Dinitrophenol	***1.0E+01***	0.00012	1.0	2.9E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.8E-01	3.1E-03	3.1E-02	9.1E+01	9.1E+00
2,4-Dinitrotoluene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	9.0E-01	6.7E-00	6.1E-02	8.2E-03
2,6-Dinitrotoluene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.3E+00	1.3E-01	4.3E-02	4.3E-03
2-Chloronaphthalene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	2.5E+01	5.9E-01	2.2E-03	9.3E-04
2-Chlorophenol	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	9.1E+01	9.1E-00	6.0E-04	6.0E-03
2-Methylnaphthalene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	2.8E+03	2.8E+04	2.0E-05	2.0E-06
2-Methylphenol (o-Cresol)	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	5.2E+02	5.2E-03	1.1E-04	1.1E-05
2-Nitroaniline	***1.0E+01***	0.00012	1.0	2.9E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.8E-01	7.7E+00	7.7E+01	3.7E-02	3.7E-03
2-Nitrophenol	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	4.6E+00	1.3E+01	1.2E-02	4.3E-03
3,3'-Dichlorobenzidine	***3.9E+00***	0.00012	1.0	1.1E-02	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.1E-01	4.7E+01	5.0E+02	2.4E-03	2.2E-04
3/4-Methylphenol (m&p-Cresol)	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	5.2E+02	5.2E+03	1.1E-04	1.1E-05
3-Nitroaniline	***1.0E+01***	0.00012	1.0	2.9E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.8E-01	7.7E+00	7.7E+01	3.7E-02	3.7E-03
4,6-Dinitro-2-methylphenol	***1.0E+01***	0.00012	1.0	2.9E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.8E-01	4.6E-01	8.3E+00	6.2E-01	3.4E-02
4-Bromophenyl Phenyl Ether	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.8E+00	1.5E+01	3.0E-02	3.8E-03
4-Chloro-3-methylphenol	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	2.0E+02	2.0E+03	2.7E-04	2.7E-05
4-Chloroaniline	***3.9E+00***	0.00012	1.0	1.1E-02	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	1.1E-01	2.3E+00	2.3E+01	4.9E-02	4.9E-03
4-Chlorophenyl Phenyl Ether	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.8E+00	1.5E+01	3.0E-02	3.8E-03
4-Nitroaniline	***1.0E+01***	0.00012	1.0	2.9E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.8E-01	7.7E+00	7.7E+01	3.7E-02	3.7E-03
4-Nitrophenol	***1.0E+01***	0.00012	1.0	2.9E-02	0.0042	***2.6E+00***	1.0	2.6E-01	0.0416	1.0	2.8E-01	4.6E+00	1.3E+01	6.2E-02	2.2E-02
Acenaphthene	2.6E-01	0.00012	1.0	7.5E-04	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.0E-02	1.7E+01	3.5E+01	2.9E-03	1.5E-03
Acenaphthylene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.7E+01	3.5E+01	3.2E-03	1.6E-03
Anthracene	1.4E+00	0.00012	1.0	4.0E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.4E-02	9.9E+01	9.9E+02	5.4E-04	5.4E-05
Benzo(a)anthracene	4.5E+00	0.00012	1.0	1.3E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.2E-02	9.9E-01	9.9E+00	6.3E-02	6.3E-03
Benzo(a)pyrene	5.3E+00	0.00012	1.0	1.5E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.5E-02	9.9E-01	9.9E+00	6.5E-02	6.5E-03
Benzo(b)fluoranthene	4.8E+00	0.00012	1.0	1.4E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.3E-02	9.9E-01	9.9E+00	6.4E-02	6.4E-03
Benzo(g,h,i)perylene	3.8E+00	0.00012	1.0	1.1E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.0E-02	9.9E-01	9.9E+00	6.1E-02	6.1E-03
Benzo(k)fluoranthene	4.4E+00	0.00012	1.0	1.3E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.2E-02	9.9E-01	9.9E+00	6.3E-02	6.[illegible]
bis(2-Chloroethoxy)methane	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	3.5E+01	2.0E+02	1.6E-03	
bis(2-Chloroethyl)ether	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	3.5E+01	2.0E+02	1.6E-03	
bis(2-Ethylhexyl)phthalate	1.3E+01	0.00012	1.0	3.8E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	8.7E-02	1.8E+01	1.8E+02	4.8E-03	4.8E-04
Butyl Benzyl Phthalate	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	2.9E+01	8.6E+01	1.9E-03	6.4E-04
Carbazole	6.7E-01	0.00012	1.0	1.9E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.1E-02	3.0E+00	3.0E+01	1.7E-02	1.7E-03
Chrysene	5.1E+00	0.00012	1.0	1.5E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.4E-02	9.9E-01	9.9E+00	6.5E-02	6.5E-03
Dibenzo(a,h)anthracene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	9.9E-01	9.9E+00	5.6E-02	5.6E-03
Dibenzofuran	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	2.4E-02	2.4E-01	2.3E+00	2.3E-01
Diethyl Phthalate	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	4.5E+03	4.5E+04	1.2E-05	1.2E-06
Dimethyl Phthalate	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	4.5E+03	4.5E+04	1.2E-05	1.2E-06
Di-n-butylphthalate	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	5.4E+02	1.8E+03	1.0E-04	3.0E-05
Di-n-octylphthalate	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	5.4E+02	1.8E+03	1.0E-04	3.0E-05
Fluoranthene	8.0E+00	0.00012	1.0	2.3E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.3E-02	1.2E+01	2.5E+01	5.9E-03	2.9E-03
Fluorene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.2E+01	2.5E+01	4.5E-03	2.2E-03
Hexachlorobenzene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.5E-01	5.3E-01	3.8E-01	1.0E-01
Hexachlorobutadiene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	3.7E-01	3.7E-01	1.5E-01	1.5E-01
Hexachlorocyclopentadiene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.1E+00	2.0E+00	5.0E-02	2.7E-02
Hexachloroethane	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.8E-01	2.7E+00	3.0E-01	2.0E-02
Indeno(1,2,3-cd)pyrene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	9.9E-01	9.9E+00	5.6E-02	5.6E-03
Isophorone	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	6.7E+01	3.3E+02	8.2E-04	1.7E-04
Naphthalene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.3E+01	2.6E+01	4.2E-03	2.1E-03
Nitrobenzene	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	4.6E-02	4.6E-01	1.2E+00	1.2E-01
N-Nitroso-di-n-propylamine	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	9.9E-03	9.9E-02	5.6E+00	5.6E-01
N-Nitrosodiphenylamine	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	3.7E+02	9.1E+01	1.5E-04	6.0E-04
Pentachlorophenol	3.6E+00	0.00012	1.0	1.0E-02	0.0042	***5.0E-02***	1.0	5.0E-03	0.0416	1.0	1.5E-02	4.4E-01	4.4E+00	3.5E-02	3.5E-03
Phenanthrene	6.3E+00	0.00012	1.0	1.8E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.8E-02	1.7E+01	3.5E+01	3.9E-03	2.0E-03
Phenol	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.1E+02	2.2E+02	5.0E-04	2.5E-04
Pyrene	8.6E+00	0.00012	1.0	2.5E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	7.4E-02	7.4E+00	1.2E+01	1.0E-02	6.0E-03
Hazard Index - SVOCs														1.0E+02	1.0E+01

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Table 7-43
Hazard Quotients and Hazard Indices for Ingestion of Plants
Prairie Vole
Site Q (South) (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Plants (mg/kg)	Area Use Factor (a)	Dose from Plants (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	***4.8E-02***	0.00012	1.0	1.4E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	6.3E-04	1.5E+00	7.3E+00	4.3E-04	8.7E-05
4,4'-DDE	5.7E-01	0.00012	1.0	1.6E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	2.1E-03	1.5E+00	7.3E+00	1.5E-03	2.9E-04
4,4'-DDT	2.6E+00	0.00012	1.0	7.5E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	8.0E-03	1.5E+00	7.3E+00	5.5E-03	1.1E-03
Aldrin	***2.5E-02***	0.00012	1.0	7.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.3E-04	3.7E-01	1.8E+00	8.9E-04	1.8E-04
alpha-BHC	2.0E-01	0.00012	1.0	5.8E-04	0.0042	3.7E-03	1.0	3.7E-04	0.0416	1.0	9.5E-04	2.9E+00	5.9E+00	3.2E-04	1.6E-04
alpha-Chlordane	6.0E-02	0.00012	1.0	1.7E-04	0.0042	2.7E-03	1.0	2.7E-04	0.0416	1.0	4.4E-04	4.6E+00	9.1E+00	9.7E-05	4.9E-05
beta-BHC	***2.5E-02***	0.00012	1.0	7.1E-05	0.0042	5.9E-03	1.0	5.9E-04	0.0416	1.0	6.6E-04	7.3E-01	3.7E+00	9.0E-04	1.8E-04
delta-BHC	***2.5E-02***	0.00012	1.0	7.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.3E-04	2.9E+00	5.9E+00	1.1E-04	5.6E-05
Dieldrin	4.0E-01	0.00012	1.0	1.2E-03	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	1.6E-03	3.7E-02	3.7E-01	4.5E-02	4.5E-03
Endosulfan I	***2.5E-02***	0.00012	1.0	7.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.3E-04	2.7E-01	2.7E+00	1.2E-03	1.2E-04
Endosulfan II	***4.8E-02***	0.00012	1.0	1.4E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	6.3E-04	2.7E-01	2.7E+00	2.3E-03	2.3E-04
Endosulfan Sulfate	4.3E-02	0.00012	1.0	1.2E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	6.2E-04	2.7E-01	2.7E+00	2.3E-03	2.3E-04
Endrin	1.7E-01	0.00012	1.0	4.9E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	9.9E-04	9.1E-02	9.1E-01	1.1E-02	1.1E-03
Endrin Aldehyde	***4.8E-02***	0.00012	1.0	1.4E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	6.3E-04	9.1E-02	9.1E-01	7.0E-03	7.0E-04
Endrin Ketone	1.1E-01	0.00012	1.0	3.2E-04	0.0042	***5.0E-03***	1.0	5.0E-04	0.0416	1.0	8.1E-04	9.1E-02	9.1E-01	8.9E-03	8.9E-04
gamma-BHC (Lindane)	***2.5E-02***	0.00012	1.0	7.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.3E-04	1.5E+01	1.5E+02	2.2E-05	2.2E-06
gamma-Chlordane	4.1E-01	0.00012	1.0	1.2E-03	0.0042	2.9E-03	1.0	2.9E-04	0.0416	1.0	1.5E-03	4.6E+00	9.1E+00	3.2E-04	1.6E-04
Heptachlor	***2.5E-02***	0.00012	1.0	7.1E-05	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	3.3E-04	2.4E-01	2.4E+00	1.4E-03	1.4E-04
Heptachlor Epoxide	7.6E-02	0.00012	1.0	2.2E-04	0.0042	***2.6E-03***	1.0	2.6E-04	0.0416	1.0	4.7E-04	2.3E-03	5.6E-02	2.1E-01	8.5E-03
Methoxychlor	***2.5E-01***	0.00012	1.0	7.1E-04	0.0042	***2.6E-02***	1.0	2.6E-03	0.0416	1.0	3.3E-03	7.3E+00	1.5E+01	4.5E-04	2.2E-04
Toxaphene	***2.5E+00***	0.00012	1.0	7.1E-03	0.0042	***2.6E-01***	1.0	2.6E-02	0.0416	1.0	3.3E-02	1.5E+01	1.5E+02	2.2E-03	2.2E-04
Hazard Index - Pesticides														3.0E-01	1.9E-02
Herbicides															
2,4-D	***1.2E-01***	0.00012	1.0	3.5E-04	0.0042	1.6E-01	1.0	1.6E-02	0.0416	1.0	1.6E-02	1.8E+00	9.1E+00	8.9E-03	1.8E-03
2,4-DB	***1.2E-01***	0.00012	1.0	3.5E-04	0.0042	5.6E-01	1.0	5.6E-02	0.0416	1.0	5.6E-02	3.6E+00	1.1E+01	1.6E-02	5.0E-03
2,4,5-T	***1.2E-01***	0.00012	1.0	3.5E-04	0.0042	4.4E-01	1.0	4.4E-02	0.0416	1.0	4.4E-02	5.5E+00	1.8E+01	8.1E-03	2.4E-03
2,4,5-TP (Silvex)	***1.2E-01***	0.00012	1.0	3.5E-04	0.0042	4.0E-02	1.0	4.0E-03	0.0416	1.0	4.3E-03	3.4E+00	1.1E+01	1.3E-03	3.9E-04
Dalapon	***2.9E+01***	0.00012	1.0	8.2E-02	0.0042	***6.0E+00***	1.0	6.0E-01	0.0416	1.0	6.8E-01	1.5E+01	5.2E+01	4.4E-02	1.3E-02
Dicamba	***2.9E-01***	0.00012	1.0	8.2E-04	0.0042	***6.0E-02***	1.0	6.0E-03	0.0416	1.0	6.8E-03	7.5E+00	2.5E+01	9.1E-04	2.7E-04
Dichlorprop	***1.4E+00***	0.00012	1.0	4.0E-03	0.0042	***3.0E-01***	1.0	3.0E-02	0.0416	1.0	3.4E-02	2.0E-01	2.0E+00	1.7E-01	1.7E-02
Dinoseb	***2.0E+00***	0.00012	1.0	5.6E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	5.5E-02	1.8E-01	1.8E+00	3.0E-01	3.0E-02
MCPA	***2.9E+01***	0.00012	1.0	8.2E-02	0.0042	1.4E+01	1.0	1.4E+00	0.0416	1.0	1.5E+00	6.7E-01	3.4E+00	2.2E+00	4.4E-01
MCPP	***2.9E+01***	0.00012	1.0	8.2E-02	0.0042	1.1E+01	1.0	1.1E+00	0.0416	1.0	1.2E+00	5.5E-01	1.6E+00	2.2E+00	7.2E-01
Hazard Index - Herbicides														4.9E+00	1.2E+00
PCBs															
Total PCBs	1.4E+01	0.00012	1.0	4.0E-02	0.0042	***2.5E-02***	1.0	2.5E-03	0.0416	1.0	4.2E-02	1.8E-01	1.8E+00	2.3E-01	2.3E-02
Dioxins/Furans															
TEQ	8.0E-03	0.00012	1.0	2.3E-05	0.0042	5.9E-07	1.0	5.9E-08	0.0416	1.0	2.3E-05	1.8E-06	1.8E-05	1.3E+01	1.3E+00
Metals*															
Aluminum	1.4E+04	0.00012	1.0	4.0E+01	0.0042	7.5E+01	1.0	7.5E+00	0.0416	1.0	4.8E+01	1.9E+00	1.9E+01	2.5E+01	2.5E+00
Antimony	4.7E+01	0.00012	1.0	1.4E-01	0.0042	***1.0E+00***	1.0	1.0E-01	0.0416	1.0	2.4E-01	1.2E-01	1.2E+00	1.9E+00	1.9E-01
Arsenic	3.3E+01	0.00012	1.0	9.5E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.5E-01	1.2E-01	1.2E+00	1.2E+00	1.2E-01
Barium	1.5E+03	0.00012	1.0	4.3E+00	0.0042	3.2E+01	1.0	3.2E+00	0.0416	1.0	7.5E+00	9.3E+00	3.6E+01	8.1E-01	2.1E-01
Beryllium	9.9E-01	0.00012	1.0	2.9E-03	0.0042	***2.0E-01***	1.0	2.0E-02	0.0416	1.0	2.3E-02	1.2E+00	1.2E+01	1.9E-02	1.9E-03
Cadmium	3.0E+01	0.00012	1.0	8.7E-02	0.0042	2.8E-01	1.0	2.8E-02	0.0416	1.0	1.1E-01	1.8E+00	1.8E+01	6.3E-02	6.3E-03
Chromium	6.6E+02	0.00012	1.0	1.9E+00	0.0042	8.3E-01	1.0	8.3E-02	0.0416	1.0	2.0E+00	6.0E+00	2.4E+01	3.3E-01	8.3E-02
Cobalt	2.0E+01	0.00012	1.0	5.8E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.1E-01	9.1E-02	9.1E-01	1.2E+00	1.2E-01
Copper	2.6E+03	0.00012	1.0	7.5E+00	0.0042	8.7E+00	1.0	8.7E-01	0.0416	1.0	8.4E+00	2.5E+01	3.7E+01	3.0E-01	2.3E-01
Lead	3.1E+03	0.00012	1.0	8.9E+00	0.0042	1.2E+00	1.0	1.2E-01	0.0416	1.0	9.1E+00	1.5E+01	1.5E+02	6.2E-01	6.2E-02
Manganese	2.1E+03	0.00012	1.0	6.1E+00	0.0042	2.9E+01	1.0	2.9E+00	0.0416	1.0	9.0E+00	1.6E+02	5.2E+02	5.6E-02	1.7E-02
Mercury	4.1E+00	0.00012	1.0	1.2E-02	0.0042	1.3E+00	1.0	1.3E-01	0.0416	1.0	1.4E-01	5.9E-02	2.9E-01	2.4E+00	4.8E-01
Nickel	5.0E+02	0.00012	1.0	1.4E+00	0.0042	***2.0E+00***	1.0	2.0E-01	0.0416	1.0	1.6E+00	7.3E+01	1.5E+02	2.2E-02	1.1E-02
Selenium	3.0E+00	0.00012	1.0	8.7E-03	0.0042	6.7E-01	1.0	6.7E-02	0.0416	1.0	7.6E-02	3.7E-01	6.0E-01	2.1E-01	1.3E-01
Silver	1.7E+01	0.00012	1.0	4.9E-02	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	9.9E-02	1.8E-01	1.8E+00	5.5E-01	5.5E-02
Thallium	***3.3E+00***	0.00012	1.0	9.5E-03	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	6.0E-02	1.4E-02	1.4E-01	4.4E+00	4.4E-01
Vanadium	3.6E+01	0.00012	1.0	1.0E-01	0.0042	***5.0E-01***	1.0	5.0E-02	0.0416	1.0	1.5E-01	3.8E-01	3.8E+00	4.0E-01	4.0E-02
Zinc	3.6E+03	0.00012	1.0	1.0E+01	0.0042	4.2E+01	1.0	4.2E+00	0.0416	1.0	1.5E+01	2.9E+02	5.9E+02	5.0E-02	2.5E-02
Hazard Index - Metals														4.0E+01	4.7E+00

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - See Table III-C1

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

Table 7-44
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site Q (South) (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs																			
1,2,4-Trichlorobenzene	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	3.3E+01	1.2E+02	1.4E-02	3.9E-03
1,2 Dichlorobenzene	3.1E-01	0.0012	1.0	2.4E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.9E+02	2.6E+03	2.5E-03	1.7E-04
1,3 Dichlorobenzene	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.9E+02	2.6E+03	2.5E-03	1.8E-04
1,4 Dichlorobenzene	3.5E-01	0.0012	1.0	2.8E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.7E-01	1.9E+02	3.3E+02	2.5E-03	1.4E-03
2,2'-Oxybis(1-Chloropropane)	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	2.2E+01	6.6E+01	2.1E-02	7.0E-03
2,4,5-Trichlorophenol	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.1E+03	6.6E+01	4.2E-04	7.0E-03
2,4,6-Trichlorophenol	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	4.3E+01	2.4E+02	1.1E-02	2.0E-03
2,4 Dichlorophenol	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	6.6E-01	6.6E+00	7.0E-01	7.0E-02
2,4-Dinitrophenol	***1.7E+00***	0.0012	1.0	1.4E-01	0.0090	***4.2E+00***	1.0	0.67	1.7E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.3E+00	3.8E-03	3.8E-02	[illegible]	[illegible]
2,4 Dinitrotoluene	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.1E+00	8.1E+00	4.3E-01	5.7E-02
2,6-Dinitrotoluene	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.5E+00	1.5E+01	3.0E-01	3.0E-02
2-Chloronaphthalene	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	3.0E+01	7.1E+01	1.6E-02	6.5E-03
2-Chlorophenol	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.1E+02	1.1E+01	4.2E-03	4.2E-02
2-Methylnaphthalene	3.1E-01	0.0012	1.0	2.4E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	3.4E+03	3.4E+04	1.4E-04	1.4E-05
2-Methylphenol (o-Cresol)	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	6.3E+02	6.3E+03	7.4E-04	7.4E-05
2-Nitroaniline	***1.7E+00***	0.0012	1.0	1.4E-01	0.0090	***4.2E+00***	1.0	0.67	1.7E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.3E+00	9.2E+00	9.2E+01	2.5E-01	2.5E-02
2-Nitrophenol	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	5.5E+00	1.5E+01	8.4E-02	3.0E-02
3,3'-Dichlorobenzidine	***6.8E-01***	0.0012	1.0	5.3E-02	0.0090	***1.7E+00***	1.0	0.67	6.8E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	9.3E-01	5.6E+01	6.1E+02	1.7E-02	1.5E-03
3/4-Methylphenol (m&p-Cresol)	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	9.2E+00	9.2E+01	5.0E-02	5.0E-03
3-Nitroaniline	***1.7E+00***	0.0012	1.0	1.4E-01	0.0090	***4.2E+00***	1.0	0.67	1.7E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.3E+00	5.5E-01	1.0E+01	[illegible]	2.3E-01
4,6-Dinitro-2-methylphenol	***1.7E+00***	0.0012	1.0	1.4E-01	0.0090	***4.2E+00***	1.0	0.67	1.7E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.3E+00	2.2E+00	1.8E+01	[illegible]	1.3E-01
4-Bromophenyl Phenyl Ether	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	2.5E+02	2.5E+03	1.9E-03	1.9E-04
4-Chloro-3-methylphenol	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	2.7E+00	2.7E+01	1.7E-01	1.7E-02
4-Chloroaniline	6.8E-01	0.0012	1.0	5.3E-02	0.0090	***1.7E+00***	1.0	0.67	6.8E-01	***1.0E+00***	0.33	2.0E-01	0.015	1.0	9.3E-01	2.2E+00	1.8E+01	4.2E-01	5.3E-02
4-Chlorophenyl Phenyl Ether	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	6.3E+02	6.3E+03	7.4E-04	7.4E-05
4-Nitroaniline	***1.7E+00***	0.0012	1.0	1.4E-01	0.0090	***4.2E+00***	1.0	0.67	1.7E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.3E+00	9.2E+00	9.2E+01	2.5E-01	2.5E-02
4-Nitrophenol	***1.7E+00***	0.0012	1.0	1.4E-01	0.0090	***4.2E+00***	1.0	0.67	1.7E+00	***2.6E+00***	0.33	5.0E-01	0.015	1.0	2.3E+00	5.5E+00	1.5E+01	4.3E-01	1.5E-01
Acenaphthene	1.7E-01	0.0012	1.0	1.3E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.5E-01	2.1E+01	4.2E+01	2.2E-02	1.1E-02
Acenaphthylene	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	2.1E+01	4.2E+01	2.2E-02	1.1E-02
Anthracene	3.4E-01	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.2E+02	1.2E+03	3.9E-03	3.9E-04
Benzo(a)anthracene	7.6E-01	0.0012	1.0	5.9E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.0E-01	1.2E+00	1.2E+01	4.2E-01	4.2E-02
Benzo(a)pyrene	8.2E-01	0.0012	1.0	6.4E-02	0.0090	8.3E-01	1.0	0.67	3.3E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.0E-01	1.2E+00	1.2E+01	4.2E-01	4.2E-02
Benzo(b)fluoranthene	9.2E-01	0.0012	1.0	7.2E-02	0.0090	8.4E-01	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	1.2E+00	1.2E+01	4.2E-01	4.2E-02
Benzo(g,h,i)perylene	4.6E-01	0.0012	1.0	3.6E-02	0.0090	8.1E-01	1.0	0.67	3.2E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.2E+00	1.2E+01	3.9E-01	3.9E-02
Benzo(k)fluoranthene	6.0E-01	0.0012	1.0	4.7E-02	0.0090	8.3E-01	1.0	0.67	3.3E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.8E-01	1.2E+00	1.2E+01	4.0E-01	4.0E-02
bis(2-Chloroethoxy)methane	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	4.3E+01	2.4E+02	1.1E-02	2.0E-03
bis(2-Chloroethyl)ether	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	4.3E+01	2.4E+02	1.1E-02	2.0E-03
bis(2-Ethylhexyl)phthalate	1.4E+00	0.0012	1.0	1.1E-01	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.5E-01	2.2E+01	2.2E+02	2.5E-02	2.5E-03
Butyl Benzyl Phthalate	4.0E-01	0.0012	1.0	3.1E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.7E-01	3.5E+01	1.0E+02	1.3E-02	4.5E-03
Carbazole	2.2E-01	0.0012	1.0	1.7E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.5E-01	3.6E+00	3.6E+01	1.3E-01	1.3E-02
Chrysene	8.3E-01	0.0012	1.0	6.4E-02	0.0090	8.3E-01	1.0	0.67	3.3E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.9E-01	1.2E+00	1.2E+01	4.2E-01	4.2E-02
Dibenzo(a,h)anthracene	3.3E-01	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.2E+00	1.2E+01	3.9E-01	3.9E-02
Dibenzofuran	2.9E-01	0.0012	1.0	2.3E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	2.9E-02	2.9E-01	[illegible]	[illegible]
Diethyl Phthalate	3.3E-01	0.0012	1.0	2.5E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	5.4E+03	5.4E+04	8.5E-05	8.5E-06
Dimethyl Phthalate	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	5.4E+03	5.4E+04	8.5E-05	8.5E-06
Di-n-butylphthalate	2.9E-01	0.0012	1.0	2.3E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	6.5E+02	2.2E+03	7.0E-04	2.1E-04
Di-n-octylphthalate	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	8.3E-01	1.0	0.67	3.3E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	6.5E+02	2.2E+03	7.0E-04	2.1E-04
Fluoranthene	1.4E+00	0.0012	1.0	1.1E-01	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.5E-01	1.5E+01	3.0E+01	3.7E-02	1.8E-02
Fluorene	3.0E-01	0.0012	1.0	2.4E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.5E+01	3.0E+01	3.1E-02	1.6E-02
Hexachlorobenzene	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.8E-01	6.4E-01	[illegible]	7.3E-01
Hexachlorobutadiene	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	4.4E-01	4.4E-01	[illegible]	[illegible]
Hexachlorocyclopentadiene	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.3E+00	2.4E+00	3.5E-01	1.9E-01
Hexachloroethane	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	2.2E-01	3.3E+00	[illegible]	1.4E-01
Indeno(1,2,3-cd)pyrene	3.2E-01	0.0012	1.0	2.5E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.2E+00	1.2E+01	3.9E-01	3.9E-02
Isophorone	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	8.1E+01	3.9E+02	5.7E-03	1.2E-03
Naphthalene	3.5E-01	0.0012	1.0	2.7E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.6E+01	3.1E+01	3.0E-02	1.5E-02
Nitrobenzene	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	5.5E-02	5.5E-01	[illegible]	8.5E-01
N-Nitroso-di-n-propylamine	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.2E-02	1.2E-01	[illegible]	[illegible]
N-Nitrosodiphenylamine	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	4.4E+02	1.1E+02	1.1E-03	4.2E-03
Pentachlorophenol	4.3E-01	0.0012	1.0	3.3E-02	0.0090	3.4E-02	1.0	0.67	1.3E-02	***2.6E-02***	0.33	5.0E-03	0.015	1.0	5.2E-02	5.3E-01	5.3E+00	9.9E-02	9.9E-03
Phenanthrene	9.5E-01	0.0012	1.0	7.4E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.1E-01	2.1E+01	4.2E+01	2.5E-02	1.2E-02
Phenol	***3.4E-01***	0.0012	1.0	2.6E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.6E-01	1.3E+02	2.6E+02	3.5E-03	1.8E-03
Pyrene	1.5E+00	0.0012	1.0	1.2E-01	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	5.5E-01	8.9E+00	1.5E+01	6.2E-02	3.7E-02
Hazard Index - SVOCs																		9.0E-02	7.2E-01

NOTES
(a) Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non detected values or a mean/95% UCL based entirely on non-detected values.
Shaded cells indicate HQs/HIs equal to or greater than 1.0.

Hazard Quotients and Hazard Indices for I[illegible] of Earthworms and Terrestrial Invertebrates
Short-[illegible]ed Shrew
Site Q (South) (Average Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant In Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant In Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant In Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4'-DDD	1.7E-02	0.0012	1.0	1.3E-03	0.0090	***1.8E-02***	1.0	0.67	7.1E-03	***5.0E-01***	0.33	9.8E-04	0.015	1.0	9.4E-03	1.8E+00	8.8E+00	5.3E-03	1.1E-03
4,4'-DDE	9.4E-02	0.0012	1.0	7.4E-03	0.0090	2.6E-02	1.0	0.67	1.0E-02	***5.0E-01***	0.33	9.8E-04	0.015	1.0	1.9E-02	1.8E+00	8.8E+00	1.1E-02	2.1E-03
4,4'-DDT	5.1E-01	0.0012	1.0	4.0E-02	0.0090	1.8E-01	1.0	0.67	7.4E-02	***5.0E-01***	0.33	9.8E-04	0.015	1.0	1.1E-01	1.8E+00	8.8E+00	6.5E-02	1.3E-02
Aldrin	8.5E-03	0.0012	1.0	6.6E-04	0.0090	***8.8E-03***	1.0	0.67	3.6E-03	1.9E-03	0.33	3.7E-04	0.015	1.0	4.6E-03	4.4E-01	2.2E+00	1.0E-02	2.1E-03
alpha-BHC	3.1E-02	0.0012	1.0	2.5E-03	0.0090	7.8E-03	1.0	0.67	3.2E-03	***2.6E-01***	0.33	5.0E-04	0.015	1.0	6.1E-03	3.5E+00	7.0E+00	1.7E-03	8.7E-04
alpha-Chlordane	1.4E-02	0.0012	1.0	1.1E-03	0.0090	1.2E-02	1.0	0.67	4.8E-03	***2.6E-01***	0.33	5.0E-04	0.015	1.0	6.4E-03	8.8E-01	4.4E+00	7.3E-03	1.5E-03
beta-BHC	8.5E-03	0.0012	1.0	6.6E-04	0.0090	1.7E-02	1.0	0.67	4.7E-03	***2.6E-01***	0.33	5.0E-04	0.015	1.0	5.9E-03	5.5E+00	1.1E+01	1.1E-03	5.4E-04
delta-BHC	8.5E-03	0.0012	1.0	6.6E-04	0.0090	8.1E-03	1.0	0.67	3.3E-03	1.5E-03	0.33	3.0E-04	0.015	1.0	4.2E-03	5.5E+00	1.1E+01	7.7E-04	3.9E-04
Dieldrin	9.6E-02	0.0012	1.0	7.5E-03	0.0090	1.1E-01	1.0	0.67	4.6E-02	***5.0E-01***	0.33	9.8E-04	0.015	1.0	5.5E-02	3.5E+00	7.0E+00	1.6E-02	7.8E-03
Endosulfan I	8.5E-03	0.0012	1.0	6.6E-04	0.0090	***8.8E-03***	1.0	0.67	3.6E-03	***2.6E-01***	0.33	5.0E-04	0.015	1.0	4.7E-03	4.4E-02	4.4E-01	1.1E-01	1.1E-02
Endosulfan II	1.6E-02	0.0012	1.0	1.3E-03	0.0090	***1.8E-02***	1.0	0.67	7.1E-03	***5.0E-01***	0.33	9.8E-04	0.015	1.0	9.4E-03	3.3E-01	3.3E+00	2.8E-02	2.8E-03
Endosulfan Sulfate	1.2E-02	0.0012	1.0	9.6E-04	0.0090	1.6E-02	1.0	0.67	6.3E-03	***5.0E-01***	0.33	9.8E-04	0.015	1.0	8.2E-03	3.3E-01	3.3E+00	2.5E-02	2.5E-03
Endrin	2.7E-02	0.0012	1.0	2.1E-03	0.0090	***1.8E-02***	1.0	0.67	7.1E-03	***5.0E-01***	0.33	9.8E-04	0.015	1.0	1.0E-02	3.3E-01	3.3E+00	3.1E-02	3.1E-03
Endrin Aldehyde	1.6E-02	0.0012	1.0	1.2E-03	0.0090	***1.8E-02***	1.0	0.67	7.1E-03	***5.0E-01***	0.33	9.8E-04	0.015	1.0	9.3E-03	1.1E-01	1.1E+00	8.5E-02	8.5E-03
Endrin Ketone	2.5E-02	0.0012	1.0	2.0E-03	0.0090	1.7E-02	1.0	0.67	6.8E-03	4.2E-04	0.33	8.3E-04	0.015	1.0	9.6E-03	1.1E-01	1.1E+00	8.8E-02	8.8E-03
gamma-BHC (Lindane)	8.5E-03	0.0012	1.0	6.6E-04	0.0090	***8.8E-03***	1.0	0.67	3.6E-03	1.5E-04	0.33	3.0E-04	0.015	1.0	4.5E-03	1.1E-01	1.1E+00	4.1E-02	4.1E-03
gamma-Chlordane	7.4E-02	0.0012	1.0	5.7E-03	0.0090	8.3E-03	1.0	0.67	3.3E-03	1.6E-04	0.33	3.2E-04	0.015	1.0	9.4E-03	1.8E+01	1.8E+02	5.3E-04	5.3E-05
Heptachlor	8.5E-03	0.0012	1.0	6.6E-04	0.0090	8.0E-03	1.0	0.67	3.2E-03	1.7E-03	0.33	3.4E-04	0.015	1.0	4.2E-03	2.9E-01	2.9E+00	1.5E-02	1.5E-03
Heptachlor Epoxide	1.4E-02	0.0012	1.0	1.1E-03	0.0090	***8.8E-03***	1.0	0.67	3.6E-03	***2.6E-01***	0.33	5.0E-04	0.015	1.0	5.1E-03	2.7E-03	6.7E-02	1.9E+00	7.6E-02
Methoxychlor	1.1E-01	0.0012	1.0	8.4E-03	0.0090	6.4E-02	1.0	0.67	2.6E-02	***2.6E-01***	0.33	5.0E-03	0.015	1.0	3.9E-02	8.8E+00	1.8E+01	4.5E-03	2.2E-03
Toxaphene	8.5E-01	0.0012	1.0	6.6E-02	0.0090	***8.8E-01***	1.0	0.67	3.6E-01	***2.6E-01***	0.33	5.0E-02	0.015	1.0	4.7E-01	1.8E+01	1.8E+02	2.7E-02	2.7E-03
Hazard Index - Pesticides																		2.4E+00	1.5E-01
Herbicides																			
2,4-D	1.6E-02	0.0012	1.0	1.3E-03	0.0090	5.9E-02	1.0	0.67	2.4E-02	1.1E-01	0.33	2.2E-02	0.015	1.0	4.7E-02	2.2E+00	1.1E+01	2.1E-02	4.2E-03
2,4-DB	1.5E-02	0.0012	1.0	1.2E-03	0.0090	***2.6E-02***	1.0	0.67	1.0E-02	2.0E-02	0.33	4.0E-03	0.015	1.0	1.6E-02	4.3E+00	1.3E+01	3.6E-03	1.2E-03
2,4,5-T	1.4E-02	0.0012	1.0	1.1E-03	0.0090	2.6E-02	1.0	0.67	1.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.4E-02	4.0E+00	1.3E+01	3.4E-03	1.0E-03
2,4,5-TP (Silvex)	1.4E-02	0.0012	1.0	1.1E-03	0.0090	2.5E-02	1.0	0.67	1.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	1.4E-02	6.6E+00	2.2E+01	2.1E-03	6.3E-04
Dalapon	3.3E+00	0.0012	1.0	2.6E-01	0.0090	***6.3E+00***	1.0	0.67	2.5E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.4E+00	1.9E+01	6.3E+01	1.8E-01	5.3E-02
Dicamba	3.3E-02	0.0012	1.0	2.6E-03	0.0090	***6.3E-02***	1.0	0.67	2.5E-02	***3.0E-02***	0.33	5.9E-03	0.015	1.0	3.4E-02	9.0E+00	3.0E+01	3.8E-03	1.1E-03
Dichloroprop	1.5E-01	0.0012	1.0	1.1E-02	0.0090	***3.1E-01***	1.0	0.67	1.3E-01	***1.5E-01***	0.33	3.0E-02	0.015	1.0	1.7E-01	2.4E-01	2.4E+00	7.0E-01	7.0E-02
Dinoseb	3.5E-01	0.0012	1.0	2.7E-02	0.0090	***8.4E-01***	1.0	0.67	3.4E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	4.2E-01	2.2E-01	2.2E+00	2.1E+00	2.1E-01
MCPA	3.4E+00	0.0012	1.0	2.6E-01	0.0090	4.1E+01	1.0	0.67	1.7E+01	***3.0E+00***	0.33	5.9E-01	0.015	1.0	1.8E+01	8.1E-01	4.0E+00	2.2E+01	4.5E+00
MCPP	3.8E+00	0.0012	1.0	3.0E-01	0.0090	***6.3E+00***	1.0	0.67	2.5E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.4E+00	6.6E-01	2.0E+00	5.2E+00	1.7E+00
Hazard Index - Herbicides																		3.0E+01	6.4E+00
PCBs																			
Total PCBs	3.4E+00	0.0012	1.0	2.6E-01	0.0090	3.3E+00	1.0	0.67	1.3E+00	3.8E-02	0.33	7.5E-03	0.015	1.0	1.6E+00	2.2E-01	2.2E+00	7.2E+00	7.2E-01
Dioxins/Furans																			
TEQ	8.0E-03	0.0012	1.0	6.2E-04	0.0090	6.3E-06	1.0	0.67	2.5E-06	2.4E-04	0.33	4.8E-05	0.015	1.0	6.7E-04	2.2E-06	2.2E-05	3.1E+02	3.1E+01
Metals*																			
Aluminum	9.2E+03	0.0012	1.0	7.2E+02	0.0090	6.7E+02	1.0	0.67	2.7E+02	3.3E+01	0.33	6.5E+00	0.015	1.0	9.9E+02	2.3E+00	2.3E+01	4.3E+02	4.3E+01
Antimony	7.9E+00	0.0012	1.0	6.2E-01	0.0090	9.3E-01	1.0	0.67	3.7E-01	***8.5E-01***	0.33	1.7E-01	0.015	1.0	1.2E+00	1.5E-01	1.5E+00	7.8E+00	7.8E-01
Arsenic	1.1E+01	0.0012	1.0	8.4E-01	0.0090	5.2E+00	1.0	0.67	2.1E+00	***4.2E-01***	0.33	8.2E-02	0.015	1.0	3.0E+00	1.5E-01	1.5E+00	2.0E+01	2.0E+00
Barium	4.8E+02	0.0012	1.0	3.7E+01	0.0090	1.4E+01	1.0	0.67	5.6E+00	2.5E+00	0.33	5.0E-01	0.015	1.0	4.3E+01	1.1E+01	4.4E+01	3.9E+00	1.0E+00
Beryllium	6.4E-01	0.0012	1.0	5.0E-02	0.0090	***2.0E-01***	1.0	0.67	7.9E-02	***1.7E-01***	0.33	3.3E-02	0.015	1.0	1.6E-01	1.5E+00	1.5E+01	1.1E-01	1.1E-02
Cadmium	8.4E+00	0.0012	1.0	6.5E-01	0.0090	1.1E+00	1.0	0.67	4.3E-01	8.6E-01	0.33	1.7E-01	0.015	1.0	1.3E+00	2.2E+00	2.2E+01	5.7E-01	5.7E-02
Chromium	8.7E+01	0.0012	1.0	6.8E+00	0.0090	1.3E+00	1.0	0.67	5.1E-01	1.8E-01	0.33	3.5E-02	0.015	1.0	7.3E+00	7.2E+00	2.9E+01	1.0E+00	2.5E-01
Cobalt	1.0E+01	0.0012	1.0	7.9E-01	0.0090	1.5E+00	1.0	0.67	6.2E-01	***4.2E-01***	0.33	8.2E-02	0.015	1.0	1.5E+00	1.1E-01	1.1E+00	1.4E+01	1.4E+00
Copper	3.7E+02	0.0012	1.0	2.9E+01	0.0090	4.6E+00	1.0	0.67	1.9E+00	2.8E+01	0.33	5.4E+00	0.015	1.0	3.6E+01	3.3E+01	4.4E+01	1.1E+00	8.2E-01
Lead	6.4E+02	0.0012	1.0	5.0E+01	0.0090	3.9E+00	1.0	0.67	1.6E+00	5.7E-01	0.33	1.1E-01	0.015	1.0	5.1E+01	1.8E+01	1.8E+02	2.9E+00	2.9E-01
Manganese	6.1E+02	0.0012	1.0	4.8E+01	0.0090	3.1E+01	1.0	0.67	1.2E+01	1.6E+01	0.33	3.2E+00	0.015	1.0	6.3E+01	1.9E+02	6.2E+02	3.3E-01	1.0E-01
Mercury	9.5E-01	0.0012	1.0	7.4E-02	0.0090	2.4E-02	1.0	0.67	9.8E-03	1.5E-01	0.33	2.9E-02	0.015	1.0	1.1E-01	7.0E-02	3.5E-01	1.6E+00	3.2E-01
Nickel	6.7E+01	0.0012	1.0	5.2E+00	0.0090	1.8E+00	1.0	0.67	7.3E-01	***1.7E+00***	0.33	3.3E-01	0.015	1.0	6.3E+00	8.8E+01	1.8E+02	7.2E-02	3.6E-02
Selenium	9.9E-01	0.0012	1.0	7.7E-02	0.0090	5.4E-01	1.0	0.67	2.2E-01	***4.2E-01***	0.33	8.2E-02	0.015	1.0	3.8E-01	4.4E-01	7.3E-01	8.6E-01	5.2E-01
Silver	3.4E+00	0.0012	1.0	2.6E-01	0.0090	***4.9E-01***	1.0	0.67	2.0E-01	4.9E-01	0.33	9.6E-02	0.015	1.0	5.6E-01	2.2E-01	2.2E+00	2.6E+00	2.6E-01
Thallium	9.9E-01	0.0012	1.0	7.7E-02	0.0090	***4.9E-01***	1.0	0.67	2.0E-01	***4.2E-01***	0.33	8.2E-02	0.015	1.0	3.6E-01	1.6E-02	1.6E-01	2.2E+01	2.2E+00
Vanadium	2.6E+01	0.0012	1.0	2.0E+00	0.0090	1.9E+00	1.0	0.67	7.5E-01	***4.2E-01***	0.33	8.2E-02	0.015	1.0	2.8E+00	4.6E-01	4.6E+01	6.1E+00	6.1E-01
Zinc	1.0E+03	0.0012	1.0	7.9E+01	0.0090	3.1E+01	1.0	0.67	1.3E+01	5.3E+01	0.33	1.0E+01	0.015	1.0	1.0E+02	3.5E+02	7.0E+02	2.9E-01	1.5E-01
Hazard Index - Metals																		5.2E+02	5.4E+01

NOTES:
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III.C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolard/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicated HQs/HIs equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-45
Hazard Quotients and Hazard Indices for Ingestion of Earthworms and Terrestrial Invertebrates
Short-Tailed Shrew
Site Q (South) (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
SVOCs																(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
1,2,4-Trichlorobenzene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	3.3E+01	1.2E+02	2.0E-02	5.5E-03
1,2 Dichlorobenzene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.9E+02	2.6E+03	3.5E-03	2.5E-04
1,3-Dichlorobenzene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.9E+02	2.6E+03	3.5E-03	2.5E-04
1,4-Dichlorobenzene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.9E+02	3.3E+02	3.5E-03	2.0E-03
2,2'-Oxybis(1-Chloropropane)	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	2.2E+01	6.6E+01	3.0E-02	9.9E-03
2,4,5-Trichlorophenol	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.1E+03	6.6E+01	5.9E-04	9.9E-03
2,4,6-Trichlorophenol	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	4.3E+01	2.4E+02	1.5E-02	2.8E-03
2,4-Dichlorophenol	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	6.6E-01	6.6E+00	9.9E-01	9.9E-02
2,4-Dinitrophenol	1.0E+01	0.0012	1.0	7.8E-01	0.0090	5.0E+00	1.0	0.67	2.0E+00	2.6E+00	0.33	5.0E-01	0.015	1.0	3.3E+00	3.8E-03	3.8E-02	[illegible]	[illegible]
2,4-Dinitrotoluene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.1E+00	8.1E+00	6.0E-01	8.1E-02
2,6-Dinitrotoluene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.5E+00	1.5E+01	4.2E-01	4.2E-02
2-Chloronaphthalene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	3.0E+01	7.1E+01	2.2E-02	9.1E-03
2-Chlorophenol	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.1E+02	1.1E+01	5.9E-03	5.9E-02
2-Methylnaphthalene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	3.4E+03	3.4E+04	1.9E-04	1.9E-05
2-Methylphenol (o-Cresol)	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	6.3E+02	6.3E+03	1.0E-03	1.0E-04
2-Nitroaniline	1.0E+01	0.0012	1.0	7.8E-01	0.0090	5.0E+00	1.0	0.67	2.0E+00	2.6E+00	0.33	5.0E-01	0.015	1.0	3.3E+00	9.2E+00	9.2E+01	3.6E-01	3.6E-02
2-Nitrophenol	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	5.5E+00	1.5E+01	1.2E-01	4.2E-02
3,3'-Dichlorobenzidine	3.9E+00	0.0012	1.0	3.0E-01	0.0090	2.0E+00	1.0	0.67	8.0E-01	1.0E+00	0.33	2.0E-01	0.015	1.0	1.3E+00	5.6E+01	6.1E+02	2.3E-02	2.2E-03
3/4 Methylphenol (m&p-Cresol)	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	9.2E+00	9.2E+01	7.1E-02	7.1E-03
3-Nitroaniline	1.0E+01	0.0012	1.0	7.8E-01	0.0090	5.0E+00	1.0	0.67	2.0E+00	2.6E+00	0.33	5.0E-01	0.015	1.0	3.3E+00	5.5E-01	1.0E+01	[illegible]	3.3E-01
4,6-Dinitro-2-methylphenol	1.0E+01	0.0012	1.0	7.8E-01	0.0090	5.0E+00	1.0	0.67	2.0E+00	2.6E+00	0.33	5.0E-01	0.015	1.0	3.3E+00	2.2E+00	1.8E+01	[illegible]	1.9E-01
4-Bromophenyl Phenyl Ether	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	2.5E+02	2.5E+03	2.6E-03	2.6E-04
4-Chloro-3-methylphenol	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	2.7E+00	2.7E+01	2.4E-01	2.4E-02
4-Chloroaniline	3.9E+00	0.0012	1.0	3.0E-01	0.0090	2.0E+00	1.0	0.67	8.0E-01	1.0E+00	0.33	2.0E-01	0.015	1.0	1.3E+00	2.2E+00	1.8E+01	5.9E-01	7.4E-02
4-Chlorophenyl Phenyl Ether	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	6.3E+02	6.3E+03	1.0E-03	1.0E-04
4-Nitroaniline	1.0E+01	0.0012	1.0	7.8E-01	0.0090	5.0E+00	1.0	0.67	2.0E+00	2.6E+00	0.33	5.0E-01	0.015	1.0	3.3E+00	9.2E+00	9.2E+01	3.6E-01	3.6E-02
4-Nitrophenol	1.0E+01	0.0012	1.0	7.8E-01	0.0090	5.0E+00	1.0	0.67	2.0E+00	2.6E+00	0.33	5.0E-01	0.015	1.0	3.3E+00	5.5E+00	1.5E+01	6.0E-01	2.1E-01
Acenaphthene	2.6E-01	0.0012	1.0	2.0E-02	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	5.2E-01	2.1E+01	4.2E+01	2.5E-02	1.3E-02
Acenaphthylene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	2.1E+01	4.2E+01	3.1E-02	1.6E-02
Anthracene	1.4E+00	0.0012	1.0	1.1E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.1E-01	1.2E+02	1.2E+03	5.1E-03	5.1E-04
Benzo(a)anthracene	4.5E+00	0.0012	1.0	3.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	8.5E-01	1.2E+00	1.2E+01	7.2E-01	7.2E-02
Benzo(a)pyrene	5.3E+00	0.0012	1.0	4.1E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	9.1E-01	1.2E+00	1.2E+01	7.7E-01	7.7E-02
Benzo(b)fluoranthene	4.8E+00	0.0012	1.0	3.7E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	8.7E-01	1.2E+00	1.2E+01	7.4E-01	7.4E-02
Benzo(g,h,i)perylene	3.8E+00	0.0012	1.0	3.0E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	8.0E-01	1.2E+00	1.2E+01	6.7E-01	6.7E-02
Benzo(k)fluoranthene	4.4E+00	0.0012	1.0	3.4E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	8.4E-01	1.2E+00	1.2E+01	7.1E-01	7.1E-02
bis(2-Chloroethoxy)methane	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	4.3E+01	2.4E+02	1.5E-02	2.8E-03
bis(2-Chloroethyl)ether	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	4.3E+01	2.4E+02	1.5E-02	2.8E-03
bis(2-Ethylhexyl)phthalate	1.3E+01	0.0012	1.0	1.0E+00	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	1.5E+00	2.2E+01	2.2E+02	7.0E-02	7.0E-03
Butyl Benzyl Phthalate	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	3.5E+01	1.0E+02	1.9E-02	6.3E-03
Carbazole	6.7E-01	0.0012	1.0	5.2E-02	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	5.5E-01	3.6E+00	3.6E+01	1.5E-01	1.5E-02
Chrysene	5.1E+00	0.0012	1.0	4.0E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	9.0E-01	1.2E+00	1.2E+01	7.5E-01	7.5E-02
Dibenzo(a,h)anthracene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.2E+00	1.2E+01	5.5E-01	5.5E-02
Dibenzofuran	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	2.9E-02	2.9E-01	[illegible]	[illegible]
Diethyl Phthalate	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	5.4E+03	5.4E+04	1.2E-04	1.2E-05
Dimethyl Phthalate	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	5.4E+03	5.4E+04	1.2E-04	1.2E-05
Di-n-butylphthalate	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	6.5E+02	2.2E+03	1.0E-03	3.0E-04
Di-n-octylphthalate	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	6.5E+02	2.2E+03	1.0E-03	3.0E-04
Fluoranthene	8.0E+00	0.0012	1.0	6.2E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	1.1E+00	1.5E+01	3.0E+01	7.6E-02	3.8E-02
Fluorene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.5E+01	3.0E+01	4.4E-02	2.2E-02
Hexachlorobenzene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.8E-01	6.4E-01	[illegible]	[illegible]
Hexachlorobutadiene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	4.4E-01	4.4E-01	[illegible]	[illegible]
Hexachlorocyclopentadiene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.3E+00	2.4E+00	4.9E-01	2.7E-01
Hexachloroethane	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	2.2E-01	3.3E+00	[illegible]	2.0E-01
Indeno(1,2,3-cd)pyrene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.2E+00	1.2E+01	5.5E-01	5.5E-02
Isophorone	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	8.1E+01	3.9E+02	8.1E-03	1.7E-03
Naphthalene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.6E+01	3.1E+01	4.2E-02	2.1E-02
Nitrobenzene	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	5.5E-02	5.5E-01	[illegible]	[illegible]
N-Nitroso-di-n-propylamine	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.2E-02	1.2E-01	[illegible]	[illegible]
N-Nitrosodiphenylamine	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	4.4E+02	1.1E+02	1.5E-03	5.9E-03
Pentachlorophenol	3.6E+00	0.0012	1.0	2.8E-01	0.0090	1.0E-01	1.0	0.67	4.0E-02	2.6E-02	0.33	5.0E-03	0.015	1.0	3.3E-01	5.3E-01	5.3E+00	6.2E-01	6.2E-02
Phenanthrene	6.3E+00	0.0012	1.0	4.9E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	9.9E-01	2.1E+01	4.2E+01	4.8E-02	2.4E-02
Phenol	2.0E+00	0.0012	1.0	1.5E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	6.5E-01	1.3E+02	2.6E+02	4.9E-03	2.5E-03
Pyrene	8.6E+00	0.0012	1.0	6.7E-01	0.0090	1.0E+00	1.0	0.67	4.0E-01	5.0E-01	0.33	9.8E-02	0.015	1.0	1.2E+00	8.9E+00	1.5E+01	1.3E-01	7.9E-02
Hazard Index - SVOCs																		[illegible]	[illegible]

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III-C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicate HQ/HI equal to or greater than 1.0

Hazard Quotients and Hazard Indices for I . Earthworms and Terrestrial Invertebrates
Shor. . Shrew
Site Q (South) (Maximum Concentrations)
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Earthworm (mg/kg)	Area Use Factor (a)	Dietary Percentage of Earthworms (a)	Dose from Earthworms (mg/kg/day)	Concentration of Contaminant in Terrestrial Invertebrates (mg/kg)	Dietary Percentage of Terrestrial Invertebrates (a)	Dose from Terrestrial Invertebrates (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (b)		Hazard Quotient	
																NOAEL	LOAEL	NOAEL HQ	LOAEL HQ
Pesticides																			
4,4'-DDD	***4.8E-02***	0.0012	1.0	3.7E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.3E-02	1.8E+00	8.8E+00	7.3E-03	1.5E-03
4,4'-DDE	5.7E-01	0.0012	1.0	4.4E-02	0.0090	1.8E-01	1.0	0.67	7.2E-02	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.2E-01	1.8E+00	8.8E+00	6.7E-02	1.3E-02
4,4'-DDT	2.6E+00	0.0012	1.0	2.0E-01	0.0090	7.5E-01	1.0	0.67	3.0E-01	***5.0E-03***	0.33	9.8E-04	0.015	1.0	5.1E-01	1.8E+00	8.8E+00	2.9E-01	5.7E-02
Aldrin	1.5E-01	0.0012	1.0	5.9E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	6.4E-03	4.4E-01	2.2E+00	1.5E-02	2.9E-03
alpha BHC	2.0E-01	0.0012	1.0	1.6E-02	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	2.0E-02	3.5E+00	7.0E+00	5.7E-03	2.9E-03
alpha Chlordane	6.0E-02	0.0012	1.0	4.7E-03	0.0090	5.1E-02	1.0	0.67	2.1E-02	***2.6E-03***	0.33	5.0E-04	0.015	1.0	2.6E-02	8.8E-01	4.4E+00	2.9E-02	5.8E-03
beta BHC	***2.5E-02***	0.0012	1.0	1.9E-03	0.0090	4.7E-02	1.0	0.67	1.9E-02	***2.6E-03***	0.33	5.0E-04	0.015	1.0	2.1E-02	5.5E+00	1.1E+01	3.9E-03	1.9E-03
delta BHC	***2.5E-02***	0.0012	1.0	1.9E-03	0.0090	1.2E-02	1.0	0.67	4.8E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	7.2E-03	5.5E+00	1.1E+01	1.3E-03	6.6E-04
Dieldrin	4.0E-01	0.0012	1.0	3.1E-02	0.0090	4.0E-01	1.0	0.67	1.6E-01	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.9E-01	3.5E+00	7.0E+00	5.5E-02	2.7E-02
Endosulfan I	***2.5E-02***	0.0012	1.0	1.9E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	6.4E-03	4.4E-02	4.4E-01	1.5E-01	1.5E-02
Endosulfan II	***4.8E-02***	0.0012	1.0	3.7E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.3E-02	3.3E-01	3.3E+00	3.9E-02	3.9E-03
Endosulfan Sulfate	4.3E-02	0.0012	1.0	3.4E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.2E-02	3.3E-01	3.3E+00	3.8E-02	3.8E-03
Endrin	1.7E-01	0.0012	1.0	1.3E-02	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	2.2E-02	3.3E-01	3.3E+00	6.8E-02	6.8E-03
Endrin Aldehyde	***4.8E-02***	0.0012	1.0	3.7E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.3E-02	1.1E-01	1.1E+00	1.2E-01	1.2E-02
Endrin Ketone	1.1E-01	0.0012	1.0	8.6E-03	0.0090	***2.0E-02***	1.0	0.67	8.0E-03	***5.0E-03***	0.33	9.8E-04	0.015	1.0	1.8E-02	1.1E-01	1.1E+00	1.6E-01	1.6E-02
gamma BHC (Lindane)	***2.5E-02***	0.0012	1.0	1.9E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	6.4E-03	1.1E-01	1.1E+00	5.9E-02	5.9E-03
gamma Chlordane	4.1E-01	0.0012	1.0	3.2E-02	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	3.7E-02	1.8E+01	1.8E+02	2.1E-03	2.1E-04
Heptachlor	***2.5E-02***	0.0012	1.0	1.9E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	6.4E-03	2.9E-01	2.9E+00	2.3E-02	2.3E-03
Heptachlor Epoxide	7.6E-02	0.0012	1.0	5.9E-03	0.0090	***1.0E-02***	1.0	0.67	4.0E-03	***2.6E-03***	0.33	5.0E-04	0.015	1.0	1.0E-02	2.7E-03	6.7E-02	3.8E-00	1.6E-01
Methoxychlor	***2.5E-01***	0.0012	1.0	1.9E-02	0.0090	***1.0E-01***	1.0	0.67	4.0E-02	***2.6E-02***	0.33	5.0E-03	0.015	1.0	6.4E-02	8.8E+00	1.8E+01	7.3E-03	3.7E-03
Toxaphene	***2.5E+00***	0.0012	1.0	1.9E-01	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***2.6E-01***	0.33	5.0E-02	0.015	1.0	6.4E-01	1.8E+01	1.8E+02	3.7E-02	3.7E-03
Hazard Index - Pesticides																		5.0E+00	3.4E-01
Herbicides																			
2,4-D	***1.2E-01***	0.0012	1.0	9.4E-03	0.0090	1.8E-01	1.0	0.67	7.2E-02	1.5E-01	0.33	3.0E-02	0.015	1.0	1.1E-01	2.2E+00	1.1E+01	5.1E-02	1.0E-02
2,4-DB	***1.2E-01***	0.0012	1.0	9.4E-03	0.0090	***5.0E-02***	1.0	0.67	2.0E-02	***2.8E-02***	0.33	5.5E-03	0.015	1.0	3.5E-02	4.3E+00	1.3E+01	8.1E-03	2.6E-03
2,4,5-T	***1.2E-01***	0.0012	1.0	9.4E-03	0.0090	***5.0E-02***	1.0	0.67	2.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	3.2E-02	4.0E+00	1.3E+01	7.9E-03	2.4E-03
2,4,5-TP (Silvex)	***1.2E-01***	0.0012	1.0	9.4E-03	0.0090	***5.0E-02***	1.0	0.67	2.0E-02	***1.3E-02***	0.33	2.5E-03	0.015	1.0	3.2E-02	6.6E+00	2.2E+01	4.8E-03	1.5E-03
Dalapon	***2.9E+01***	0.0012	1.0	2.2E+00	0.0090	***1.2E+01***	1.0	0.67	4.8E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	7.6E+00	1.9E+01	6.3E+01	4.1E-01	1.2E-01
Dicamba	***2.9E-01***	0.0012	1.0	2.2E-02	0.0090	***1.2E-01***	1.0	0.67	4.8E-02	***3.0E-02***	0.33	5.9E-03	0.015	1.0	7.6E-02	9.0E+00	3.0E+01	8.5E-03	2.6E-03
Dichlorprop	***1.4E+00***	0.0012	1.0	1.1E-01	0.0090	***6.0E-01***	1.0	0.67	2.4E-01	***1.5E-01***	0.33	3.0E-02	0.015	1.0	3.8E-01	2.4E-01	2.4E+00	1.6E-00	1.6E-01
Dinoseb	***2.0E+00***	0.0012	1.0	1.5E-01	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***5.0E-01***	0.33	9.8E-02	0.015	1.0	6.5E-01	2.2E-01	2.2E+00	3.0E+00	3.0E-01
MCPA	***2.9E+01***	0.0012	1.0	2.2E+00	0.0090	9.1E+01	1.0	0.67	3.7E+01	***3.0E+00***	0.33	5.9E-01	0.015	1.0	3.9E+01	8.1E-01	4.0E+00	4.9E+01	9.7E+00
MCPP	***2.9E+01***	0.0012	1.0	2.2E+00	0.0090	***1.2E+01***	1.0	0.67	4.8E+00	***3.0E+00***	0.33	5.9E-01	0.015	1.0	7.6E+00	6.6E-01	2.0E+00	1.2E+01	3.9E+00
Hazard Index - Herbicides																		6.3E+01	1.4E+01
PCBs																			
Total PCBs	1.4E+01	0.0012	1.0	1.1E+00	0.0090	1.7E+01	1.0	0.67	6.8E+00	5.1E-02	0.33	1.0E-02	0.015	1.0	7.9E+00	2.2E-01	2.2E+00	3.6E+01	3.6E+00
Dioxins/Furans																			
TEQ	8.0E-03	0.0012	1.0	6.2E-04	0.0090	2.2E-05	1.0	0.67	8.8E-06	4.9E-04	0.33	9.6E-05	0.015	1.0	7.3E-04	2.2E-06	2.2E-05	3.3E+02	3.3E+01
Metals*																			
Aluminum	1.4E+04	0.0012	1.0	1.1E+03	0.0090	1.9E+03	1.0	0.67	7.6E+02	3.5E+01	0.33	6.9E+00	0.015	1.0	1.9E+03	2.3E+00	2.3E+01	8.1E+02	8.1E+01
Antimony	4.7E+01	0.0012	1.0	3.7E+00	0.0090	***1.0E+00***	1.0	0.67	4.0E-01	***8.5E-01***	0.33	1.7E-01	0.015	1.0	4.2E+00	1.5E-01	1.5E+00	2.8E+01	2.8E+00
Arsenic	3.7E+00	0.0012	1.0	2.6E+00	0.0090	7.3E+00	1.0	0.67	2.9E+00	4.2E-02	0.33	8.2E-02	0.015	1.0	5.9E+00	5.5E-03	5.5E+00	3.7E+01	3.7E+00
Barium	1.5E+03	0.0012	1.0	1.2E+02	0.0090	3.6E+01	1.0	0.67	1.4E+01	3.2E+00	0.33	6.3E-01	0.015	1.0	1.3E+02	1.1E+01	4.4E+01	1.2E+01	3.0E+00
Beryllium	9.9E-01	0.0012	1.0	7.7E-02	0.0090	***2.0E-01***	1.0	0.67	8.0E-02	***1.7E-01***	0.33	3.3E-02	0.015	1.0	1.9E-01	1.5E+00	1.5E+01	1.3E-01	1.3E-02
Cadmium	3.0E+01	0.0012	1.0	2.3E+00	0.0090	1.5E+00	1.0	0.67	6.0E-01	1.6E+00	0.33	3.2E-01	0.015	1.0	3.3E+00	2.2E+00	2.2E+01	1.5E+00	1.5E-01
Chromium	6.6E+02	0.0012	1.0	5.1E+01	0.0090	3.4E+00	1.0	0.67	1.4E+00	1.9E-01	0.33	3.9E-02	0.015	1.0	5.3E+01	7.2E+00	2.9E+01	7.3E+00	1.8E+00
Cobalt	2.0E+01	0.0012	1.0	1.6E+00	0.0090	2.1E+00	1.0	0.67	8.4E-01	***4.2E-01***	0.33	8.2E-02	0.015	1.0	2.5E+00	1.1E-01	1.1E+00	2.1E+01	2.1E+00
Copper	2.6E+03	0.0012	1.0	2.0E+02	0.0090	1.0E+01	1.0	0.67	4.0E+00	3.2E+01	0.33	6.3E+00	0.015	1.0	2.1E+02	3.3E+01	4.4E+01	6.4E+00	4.8E+00
Lead	3.1E+03	0.0012	1.0	2.4E+01	0.0090	8.4E+00	1.0	0.67	3.4E+00	7.5E-01	0.33	1.5E-01	0.015	1.0	2.5E+02	1.8E+01	1.8E+02	1.4E+01	1.4E+00
Manganese	2.1E+03	0.0012	1.0	1.6E+02	0.0090	5.2E+01	1.0	0.67	2.1E+01	2.6E+01	0.33	5.1E+00	0.015	1.0	1.9E+02	1.9E+02	6.2E+02	9.8E-01	3.0E-01
Mercury	4.1E+00	0.0012	1.0	3.2E-01	0.0090	***9.5E-02***	1.0	0.67	3.8E-02	1.7E-01	0.33	3.4E-02	0.015	1.0	3.9E-01	7.0E-02	3.5E-01	5.6E+00	1.1E+00
Nickel	5.0E+02	0.0012	1.0	3.9E+01	0.0090	2.8E+00	1.0	0.67	1.1E+00	***1.7E+00***	0.33	3.3E-01	0.015	1.0	4.0E+01	8.8E+01	1.8E+02	4.6E-01	2.3E-01
Selenium	3.0E+00	0.0012	1.0	2.3E-01	0.0090	7.2E-01	1.0	0.67	2.9E-01	***4.2E-01***	0.33	8.2E-02	0.015	1.0	6.1E-01	4.4E-01	7.3E-01	1.4E+00	8.3E-01
Silver	1.7E+01	0.0012	1.0	1.3E+00	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	5.7E-01	0.33	1.1E-01	0.015	1.0	1.6E+00	2.2E-01	2.2E+00	7.6E+00	7.6E-01
Thallium	***3.3E+00***	0.0012	1.0	2.6E-01	0.0090	***5.0E-01***	1.0	0.67	2.0E-01	***4.2E-01***	0.33	8.2E-02	0.015	1.0	5.4E-01	1.6E-02	1.6E-01	3.3E+01	3.3E+00
Vanadium	3.6E+01	0.0012	1.0	2.8E+00	0.0090	4.7E+00	1.0	0.67	1.9E+00	***4.2E-01***	0.33	8.2E-02	0.015	1.0	4.9E+00	4.6E-01	4.6E+00	1.0E+01	1.0E+00
Zinc	3.6E+03	0.0012	1.0	2.8E+02	0.0090	4.7E+01	1.0	0.67	1.9E+01	5.7E+01	0.33	1.1E+01	0.015	1.0	3.1E+02	3.5E+02	7.0E+02	8.8E-01	4.4E-01
Hazard Index - Metals																		1.0E+03	1.1E+02

NOTES
(a) - Values and references for these variables are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - See Table III C1

LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values
Shaded cells indicated HQs/HIs equal to or greater than 1.0

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model
equations as they are considered to be essential nutrients

Table 7-46
COPECs for Site Q (South)
Sauget, IL

Soil HQs	Short-tailed Shrew Modeling HQs (Average Conc.)	Short-tailed Shrew Modeling HQs (Maximum Conc.)	Prairie Vole Modeling HQs (Average Conc.)	Prairie Vole Modeling HQs (Maximum Conc.)
Anthracene	Hepatachlor epoxide (NOAEL only)	Hepatachlor epoxide (NOAEL only)	Dioxins/furans	Dioxins/furans
Benzo(a)anthracene	PCBs (NOAEL only)	MCPA	Aluminum	Aluminum
Benzo(a)pyrene	Dioxins/furans	PCBs		Antimony (NOAEL only)
Benzo(b)fluoranthene	Aluminum	Dioxins/furans		Arsenic (NOAEL only)
Benzo(k)fluoranthene	Antimony (NOAEL only)	Aluminum		Cobalt (NOAEL only)
Fluoranthene	Barium (NOAEL only)	Antimony		Mercury (NOAEL only)
Pentachlorophenol	Chromium (NOAEL only)	Arsenic		
Phenanthrene	Cobalt	Barium		
alpha-BHC	Copper (NOAEL only)	Cadmium (NOAEL only)		
beta-BHC	Lead (NOAEL only)	Chromium		
Dieldrin	Mercury (NOAEL only)	Cobalt		
Endrin	Silver (NOAEL only)	Copper		
Dioxins/furans	Thallium	Lead		
Aluminum	Vanadium (NOAEL only)	Mercury		
Antimony		Selenium (NOAEL only)		
Arsenic		Silver (NOAEL only)		
Barium		Vanadium		
Cadmium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Manganese				
Mercuy				
Nickel				
Selenium				
Silver				
Thallium				
Vanadium				
Zinc				

NOTES:
Analytes listed are only for those exceeding their benchmark/TRV, based on detected values, and were above the background values.
Shaded entries are for those compounds that are COPECs for all receptors and all concentrations.

Hazard Quotients and Hazard Indices for Ingestion of Mammals, Plants and Surface Water
Red Fox
Off-Site Areas
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Shrew (b) (mg/kg)	Area Use Factor (a)	Dietary Percentage of Shrew (a)(c)	Dose from Shrew (mg/kg/day)	Concentration of Contaminant in Prairie Vole (b) (mg/kg)	Dietary Percentage of Prairie Vole (a)(c)	Dose from Prairie Vole (mg/kg/day)	Concentration of Contaminant in Plants (mg/kg)	Dietary Percentage of Plants (a)	Dose from Plants (mg/kg/day)
SVOCs															
1,2,4-Trichlorobenzene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
1,2-Dichlorobenzene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
1,3-Dichlorobenzene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
1,4-Dichlorobenzene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2,2'-Oxybis(1-Chloropropane)	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2,4,5-Trichlorophenol	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2,4,6-Trichlorophenol	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2,4-Dichlorophenol	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2,4-Dinitrophenol	***9.9E-01***	0.0126	1.0	3.0E-03	0.58	***2.6E+00***	1.0	0.344	1.2E-01	***2.6E-01***	0.344	1.2E-02	***2.6E+00***	0.104	3.7E-02
2,4-Dinitrotoluene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***7.4E-07***	0.344	3.6E-08	***5.0E-01***	0.104	7.2E-03
2,6-Dinitrotoluene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.7E-07***	0.344	2.8E-08	***5.0E-01***	0.104	7.2E-03
2-Chloronaphthalene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2-Chlorophenol	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2-Methylnaphthalene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2-Methylphenol (o-Cresol)	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2-Nitroaniline	***9.9E-01***	0.0126	1.0	3.0E-03	0.58	***2.6E+00***	1.0	0.344	1.2E-01	***2.6E-01***	0.344	1.2E-02	***2.6E+00***	0.104	3.7E-02
2-Nitrophenol	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
3,3'-Dichlorobenzidine	***3.8E-01***	0.0126	1.0	1.2E-03	0.58	***1.0E+00***	1.0	0.344	5.0E-02	***1.0E-01***	0.344	4.9E-03	***1.0E+00***	0.104	1.5E-02
3/4-Methylphenol (m&p-Cresol)	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
3-Nitroaniline	***9.9E-01***	0.0126	1.0	3.0E-03	0.58	***2.6E+00***	1.0	0.344	1.2E-01	***2.6E-01***	0.344	1.2E-02	***2.6E+00***	0.104	3.7E-02
4,6-Dinitro-2-methylphenol	***9.9E-01***	0.0126	1.0	3.0E-03	0.58	***2.6E+00***	1.0	0.344	1.2E-01	***2.6E-01***	0.344	1.2E-02	***2.6E+00***	0.104	3.7E-02
4-Bromophenyl Phenyl Ether	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
4-Chloro-3-methylphenol	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
4-Chloroaniline	***3.8E-01***	0.0126	1.0	1.2E-03	0.58	***1.0E+00***	1.0	0.344	5.0E-02	***1.0E-01***	0.344	4.9E-03	***1.0E+00***	0.104	1.5E-02
4-Chlorophenyl Phenyl Ether	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
4-Nitroaniline	***9.9E-01***	0.0126	1.0	3.0E-03	0.58	***2.6E+00***	1.0	0.344	1.2E-01	***2.6E-01***	0.344	1.2E-02	***2.6E+00***	0.104	3.7E-02
4-Nitrophenol	***9.9E-01***	0.0126	1.0	3.0E-03	0.58	***2.6E+00***	1.0	0.344	1.2E-01	***2.6E-01***	0.344	1.2E-02	***2.6E+00***	0.104	3.7E-02
Acenaphthene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Acenaphthylene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Anthracene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Benzo(a)anthracene	7.0E-02	0.0126	1.0	2.1E-04	0.58	5.1E-01	1.0	0.344	2.4E-02	***3.6E-03***	0.344	1.7E-04	***5.0E-01***	0.104	7.2E-03
Benzo(a)pyrene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***1.0E-02***	0.344	4.8E-04	***5.0E-01***	0.104	7.2E-03
Benzo(b)fluoranthene	1.5E-01	0.0126	1.0	4.6E-04	0.58	5.1E-01	1.0	0.344	2.5E-02	***1.2E-02***	0.344	5.7E-04	***5.0E-01***	0.104	7.2E-03
Benzo(g,h,i)perylene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Benzo(k)fluoranthene	7.3E-02	0.0126	1.0	2.2E-04	0.58	5.1E-01	1.0	0.344	2.4E-02	***1.2E-02***	0.344	5.7E-04	***5.0E-01***	0.104	7.2E-03
bis(2-Chloroethoxy)methane	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
bis(2-Chloroethyl)ether	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
bis(2-Ethylhexyl)phthalate	2.2E-01	0.0126	1.0	6.7E-04	0.58	5.2E-01	1.0	0.344	2.5E-02	***1.2E-03***	0.344	5.8E-05	***5.0E-01***	0.104	7.2E-03
Butyl Benzyl Phthalate	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Carbazole	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Chrysene	7.7E-02	0.0126	1.0	2.3E-04	0.58	5.1E-01	1.0	0.344	2.4E-02	***4.1E-03***	0.344	2.0E-04	***5.0E-01***	0.104	7.2E-03
Dibenzo(a,h)anthracene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***2.6E-02***	0.344	1.3E-03	***5.0E-01***	0.104	7.2E-03
Dibenzofuran	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Diethyl Phthalate	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Dimethyl Phthalate	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Di-n-butylphthalate	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	4.2E-01	1.0	0.344	2.0E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Di-n-octylphthalate	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***1.6E+01***	0.344	7.7E-01	***5.0E-01***	0.104	7.2E-03
Fluoranthene	1.2E-01	0.0126	1.0	3.7E-04	0.58	5.1E-01	1.0	0.344	2.5E-02	5.0E-02	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Fluorene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Hexachlorobenzene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***2.4E-03***	0.344	1.1E-04	***5.0E-01***	0.104	7.2E-03
Hexachlorobutadiene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***4.0E-04***	0.344	1.9E-05	***5.0E-01***	0.104	7.2E-03
Hexachlorocyclopentadiene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***6.0E-04***	0.344	2.9E-05	***5.0E-01***	0.104	7.2E-03
Hexachloroethane	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Indeno(1,2,3-cd)pyrene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***6.1E-02***	0.344	3.0E-03	***5.0E-01***	0.104	7.2E-03
Isophorone	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Naphthalene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Nitrobenzene	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.1E-07***	0.344	2.5E-08	***5.0E-01***	0.104	7.2E-03
N-Nitroso-di-n-propylamine	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
N-Nitrosodiphenylamine	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Pentachlorophenol	4.9E-03	0.0126	1.0	1.5E-05	0.58	2.1E-02	1.0	0.344	1.0E-03	***1.6E-03***	0.344	7.6E-05	***8.7E-01***	0.104	1.3E-02
Phenanthrene	7.7E-02	0.0126	1.0	2.3E-04	0.58	5.1E-01	1.0	0.344	2.4E-02	5.0E-02	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Phenol	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Pyrene	1.2E-01	0.0126	1.0	3.8E-04	0.58	5.1E-01	1.0	0.344	2.5E-02	5.0E-02	0.344	2.4E-03	5.0E-01	0.104	7.2E-03

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - Values for the shrew were obtained by multiplying the mean off-site average daily dose (ADD) concentrations for the shrew by a factor of 1.0 to account for bioaccumulation but not biomagnification.
Values for the vole were obtained by multiplying the mean off-site plant concentrations by their plant-to-herbivorous mammal (deer mouse) bioconcentration factor (BCF). If a BCF was not available for the compound, then the vole ADD was used as described for the shrew. See Table III-B1.
(c) - The dietary percentage of the shrew and vole were calculated by taking the dietary percentage of mammals for the fox (0.688) and dividing it by two. This assumes the fox will eat an equal amount of shrews and voles.
(d) - It was decided to adjust the dietary percentages of the pond water and river water to 0.0% and 100%, respectively, for the fox off-site modeling. This was done because the pond is considered an on-site hazard.
(e) - See Table III-C1.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values. (For the concentrations within the shrew and vole, the modeled values based on non-detects from all matricies are italicized.)
[illegible]

Table 7-47
Hazard Quotients and Hazard Indices for Ingestion of Mammals, Plants and Surface Water
Red Fox
Off-Site Areas
Sauget, IL

Analyte	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in Pond Surface Water (mg/L)	Area Use Factor (a)	Dietary Percentage of Pond Water (d)	Dose from Pond Surface Water (mg/kg/day)	Concentration of Contaminant in River Surface Water (Plot 1 A-Line) (mg/L)	Dietary Percentage of River Water (d)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (e)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4 Trichlorobenzene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	7.8E+00	2.8E+01	4.5E-03	1.3E-03
1,2 Dichlorobenzene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	4.5E+01	6.3E+02	7.8E-04	5.6E-05
1,3 Dichlorobenzene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	4.5E+01	6.3E+02	7.8E-04	5.6E-05
1,4 Dichlorobenzene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	4.5E+01	7.9E+01	7.8E-04	4.5E-04
2,2-Oxybis(1-Chloropropane)	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.0E+01	5.7E+01	3.5E-03	6.3E-04
2,4,5-Trichlorophenol	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	5.3E+00	1.6E+01	6.7E-03	2.2E-03
2,4,6 Trichlorophenol	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	2.6E+02	1.6E+01	1.3E-04	2.2E-03
2,4-Dichlorophenol	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.6E-01	1.6E+00	2.2E-01	2.2E-02
2,4 Dinitrophenol	0.38	2.5E-02	1.0	0.0	0.0E+00	2.5E-02	1.0	2.3E-03	4.13	1.0	1.8E-01	9.1E-04	9.1E-03	[illegible]	[illegible]
2,4 Dinitrotoluene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.3E-02	2.6E-01	1.9E+00	1.3E-01	1.7E-02
2,6 Dinitrotoluene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.3E-02	3.7E-01	3.7E+00	8.9E-02	8.9E-03
2-Chloronaphthalene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	7.1E+00	1.7E+01	5.0E-03	2.1E-03
2-Chlorophenol	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	2.6E+01	2.6E+00	1.3E-03	1.3E-02
2-Methylnaphthalene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	8.1E+02	8.1E+03	4.4E-05	4.4E-06
2-Methylphenol (o-Cresol)	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.5E+02	1.5E+03	2.4E-04	2.4E-05
2-Nitroaniline	0.38	2.5E-02	1.0	0.0	0.0E+00	2.5E-02	1.0	2.3E-03	4.13	1.0	1.8E-01	2.2E+00	2.2E+01	8.1E-02	8.1E-03
2-Nitrophenol	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.3E+00	3.7E+00	2.7E-02	9.6E-03
3,3-Dichlorobenzidine	0.38	1.0E-02	1.0	0.0	0.0E+00	1.0E-02	1.0	9.2E-04	4.13	1.0	7.1E-02	1.3E+01	1.5E+02	5.3E-03	4.9E-04
3/4 Methylphenol (m&p-Cresol)	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.5E+02	1.5E+03	2.4E-04	2.4E-05
3-Nitroaniline	0.38	2.5E-02	1.0	0.0	0.0E+00	2.5E-02	1.0	2.3E-03	4.13	1.0	1.8E-01	2.2E+00	2.2E+01	8.1E-02	8.1E-03
4,6 Dinitro-2 methylphenol	0.38	2.5E-02	1.0	0.0	0.0E+00	2.5E-02	1.0	2.3E-03	4.13	1.0	1.8E-01	1.3E-01	2.4E+00	[illegible]	7.5E-02
4-Bromophenyl Phenyl Ether	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	5.3E-01	4.2E+00	6.7E-02	8.4E-03
4-Chloro-3 methylphenol	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	5.9E+01	5.9E+02	6.0E-04	6.0E-05
4-Chloroaniline	0.38	1.0E-02	1.0	0.0	0.0E+00	1.0E-02	1.0	9.2E-04	4.13	1.0	7.1E-02	6.6E-01	6.6E+00	1.1E-01	1.1E-02
4-Chlorophenyl Phenyl Ether	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	5.3E-01	4.2E+00	6.7E-02	8.4E-03
4-Nitroaniline	0.38	2.5E-02	1.0	0.0	0.0E+00	2.5E-02	1.0	2.3E-03	4.13	1.0	1.8E-01	2.2E+00	2.2E+01	8.1E-02	8.1E-03
4-Nitrophenol	0.38	2.5E-02	1.0	0.0	0.0E+00	2.5E-02	1.0	2.3E-03	4.13	1.0	1.8E-01	1.3E+00	3.7E+00	1.4E-01	4.9E-02
Acenaphthene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	5.0E+00	1.0E+01	7.1E-03	3.5E-03
Acenaphthylene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	5.0E+00	1.0E+01	7.1E-03	3.5E-03
Anthracene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	2.9E+01	2.9E+02	1.2E-03	1.2E-04
Benzo(a)anthracene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.2E-02	2.9E-01	2.9E+00	1.1E-01	1.1E-02
Benzo(a)pyrene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.4E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
Benzo(b)fluoranthene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.3E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
Benzo(g,h,i)perylene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
Benzo(k)fluoranthene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.3E-02	2.9E-01	2.9E+00	1.1E-01	1.1E-02
bis(2-Chloroethoxy)methane	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.0E+01	5.7E+01	3.5E-03	6.3E-04
bis(2-Chloroethyl)ether	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.0E+01	5.7E+01	3.5E-03	6.3E-04
bis(2-Ethylhexyl)phthalate	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.3E-02	5.2E+00	5.2E+01	6.4E-03	6.4E-04
Butyl Benzyl Phthalate	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	8.4E+00	2.5E+01	4.2E-03	1.4E-03
Carbazole	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	8.6E-01	8.6E+00	4.1E-02	4.1E-03
Chrysene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.2E-02	2.9E-01	2.9E+00	1.1E-01	1.1E-02
Dibenzo(a,h)anthracene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.4E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
Dibenzofuran	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	6.9E-03	6.9E-02	[illegible]	5.1E-01
Diethyl Phthalate	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.3E+03	1.3E+04	2.7E-05	2.7E-06
Dimethyl Phthalate	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.3E+03	1.3E+04	2.7E-05	2.7E-06
Di-n-butylphthalate	0.38	3.2E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.1E-02	1.6E+02	5.2E+02	2.0E-04	5.9E-05
Di-n-octylphthalate	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	8.0E-01	1.6E+02	5.2E+02	5.1E-03	1.5E-03
Fluoranthene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	3.6E+00	7.1E+00	9.8E-03	4.9E-03
Fluorene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	3.6E+00	7.1E+00	9.9E-03	5.0E-03
Hexachlorobenzene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.1E-02	4.2E-02	1.5E-01	7.8E-01	2.2E-01
Hexachlorobutadiene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.3E-02	1.1E-01	1.1E-01	3.1E-01	3.1E-01
Hexachlorocyclopentadiene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.3E-02	3.2E-01	5.8E-01	1.0E-01	5.7E-02
Hexachloroethane	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	5.3E-02	7.9E-01	6.7E-01	4.5E-02
Indeno(1,2,3-cd)pyrene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.6E-02	2.9E-01	2.9E+00	1.3E-01	1.3E-02
Isophorone	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.9E+01	9.5E+01	1.8E-03	3.8E-04
Naphthalene	0.38	4.7E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	3.7E+00	7.5E+00	9.5E-03	4.7E-03
Nitrobenzene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.3E-02	1.3E-02	1.3E-01	[illegible]	2.5E-01
N-Nitroso-di-n-propylamine	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	2.9E-03	2.9E-02	[illegible]	[illegible]
N-Nitrosodiphenylamine	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	1.3E+02	2.6E+01	3.4E-04	1.3E-03
Pentachlorophenol	0.38	5.0E-04	1.0	0.0	0.0E+00	5.0E-04	1.0	4.6E-05	4.13	1.0	1.4E-02	1.3E-01	1.3E+00	1.1E-01	1.1E-02
Phenanthrene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	5.0E+00	1.0E+01	6.9E-03	3.5E-03
Phenol	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	3.2E+01	6.3E+01	1.1E-03	5.6E-04
Pyrene	0.38	5.0E-03	1.0	0.0	0.0E+00	5.0E-03	1.0	4.6E-04	4.13	1.0	3.5E-02	2.1E+00	3.6E+00	1.6E-02	9.8E-03
Hazard Index - SVOCs														[illegible]	[illegible]

NOTES
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - Values for the shrew were obtained by multiplying the mean off-site average daily dose (ADD) concentrations for the shrew by a factor of 1.0 to account for bioaccumulation but not biomagnification
Values for the vole were obtained by multiplying the mean off site plant concentrations by their plant to-herbivorous mammal (deer mouse) bioconcentration factor (BCF). If a BCF was not available for the compound, then the vole ADD was used as described for the shrew. See Table III.H1
(c) - The dietary percentage of the shrew and vole were calculated by taking the dietary percentage of mammals for the fox (0.688) and dividing it by two. This assumes the fox will eat an equal amount of shrews and voles
(d) - It was decided to adjust the dietary percentages of the pond water and river water to 0.0% and 100%, respectively, for the fox off-site modeling. This was done because the pond is considered an on site hazard
(e) - See Table III-C1

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values. (For the concentrations within the shrew and vole, the modeled values based on non-detects from all matrices are italicized.)
A shaded cell indicates an HI or HQ equal to or greater than 1.0.

Hazard Quotients and Hazard Indices for Ingestion of Mammals, Plants and Surface Water
Red Fox
Off-Site Areas
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Shrew (b) (mg/kg)	Area Use Factor (a)	Dietary Percentage of Shrew (a)(c)	Dose from Shrew (mg/kg/day)	Concentration of Contaminant in Prairie Vole (b) (mg/kg)	Dietary Percentage of Prairie Vole (a)(c)	Dose from Prairie Vole (mg/kg/day)	Concentration of Contaminant in Plants (mg/kg)	Dietary Percentage of Plants (a)	Dose from Plants (mg/kg/day)
Pesticides															
4,4'-DDD	3.2E-03	0.0126	1.0	9.7E-06	0.58	9.3E-03	1.0	0.344	4.5E-04	5.0E-04	0.344	2.4E-05	***5.0E-03***	0.104	7.2E-05
4,4'-DDE	7.6E-03	0.0126	1.0	2.3E-05	0.58	8.2E-03	1.0	0.344	4.0E-04	***1.3E-04***	0.344	6.5E-06	***5.0E-03***	0.104	7.2E-05
4,4'-DDT	2.2E-02	0.0126	1.0	6.8E-05	0.58	1.7E-02	1.0	0.344	8.2E-04	3.6E-04	0.344	1.7E-05	3.0E-03	0.104	4.3E-05
Aldrin	***9.9E-04***	0.0126	1.0	3.0E-06	0.58	4.5E-03	1.0	0.344	2.2E-04	***2.6E-04***	0.344	1.2E-05	***2.6E-03***	0.104	3.7E-05
alpha-BHC	***9.9E-04***	0.0126	1.0	3.0E-06	0.58	***4.6E-03***	1.0	0.344	2.2E-04	***2.6E-04***	0.344	1.2E-05	***2.6E-03***	0.104	3.7E-05
alpha-Chlordane	***9.9E-04***	0.0126	1.0	3.0E-06	0.58	***4.6E-03***	1.0	0.344	2.2E-04	***2.6E-04***	0.344	1.2E-05	***2.6E-03***	0.104	3.7E-05
beta-BHC	***9.9E-04***	0.0126	1.0	3.0E-06	0.58	***4.6E-03***	1.0	0.344	2.2E-04	***2.6E-04***	0.344	1.2E-05	***2.6E-03***	0.104	3.7E-05
delta-BHC	***9.9E-04***	0.0126	1.0	3.0E-06	0.58	3.4E-03	1.0	0.344	1.6E-04	***2.6E-04***	0.344	1.2E-05	***2.6E-03***	0.104	3.7E-05
Dieldrin	4.6E-03	0.0126	1.0	1.4E-05	0.58	7.4E-03	1.0	0.344	3.6E-04	5.1E-04	0.344	2.4E-05	***5.0E-03***	0.104	7.2E-05
Endosulfan I	1.1E-03	0.0126	1.0	3.3E-06	0.58	3.5E-03	1.0	0.344	1.7E-04	2.6E-04	0.344	1.2E-05	***2.6E-03***	0.104	3.7E-05
Endosulfan II	1.6E-03	0.0126	1.0	4.9E-06	0.58	9.1E-03	1.0	0.344	4.4E-04	5.0E-04	0.344	2.4E-05	5.0E-03	0.104	7.2E-05
Endosulfan Sulfate	1.4E-03	0.0126	1.0	4.3E-06	0.58	9.1E-03	1.0	0.344	4.4E-04	5.0E-04	0.344	2.4E-05	***5.0E-03***	0.104	7.2E-05
Endrin	***1.9E-03***	0.0126	1.0	5.8E-06	0.58	***9.2E-03***	1.0	0.344	4.4E-04	***5.0E-04***	0.344	2.4E-05	***5.0E-03***	0.104	7.2E-05
Endrin Aldehyde	2.2E-03	0.0126	1.0	6.7E-06	0.58	7.1E-03	1.0	0.344	3.4E-04	5.0E-04	0.344	2.4E-05	***5.0E-03***	0.104	7.2E-05
Endrin Ketone	***1.9E-03***	0.0126	1.0	5.8E-06	0.58	9.0E-03	1.0	0.344	4.3E-04	***5.0E-04***	0.344	2.4E-05	***5.0E-03***	0.104	7.2E-05
gamma-BHC (Lindane)	***9.9E-04***	0.0126	1.0	3.0E-06	0.58	4.4E-03	1.0	0.344	2.1E-04	2.2E-04	0.344	1.1E-05	2.2E-03	0.104	3.2E-05
gamma-Chlordane	***9.9E-04***	0.0126	1.0	3.0E-06	0.58	2.3E-03	1.0	0.344	1.1E-04	***2.6E-04***	0.344	1.2E-05	***2.6E-03***	0.104	3.7E-05
Heptachlor	***9.9E-04***	0.0126	1.0	3.0E-06	0.58	4.4E-03	1.0	0.344	2.1E-04	3.5E-06	0.344	1.7E-07	2.2E-03	0.104	3.3E-05
Heptachlor Epoxide	1.3E-03	0.0126	1.0	4.0E-06	0.58	4.6E-03	1.0	0.344	2.2E-04	2.6E-04	0.344	1.2E-05	***2.6E-03***	0.104	3.7E-05
Methoxychlor	8.2E-03	0.0126	1.0	2.5E-05	0.58	3.5E-02	1.0	0.344	1.7E-03	2.6E-03	0.344	1.2E-04	***2.6E-02***	0.104	3.7E-04
Toxaphene	***9.9E-02***	0.0126	1.0	3.0E-04	0.58	***4.6E-01***	1.0	0.344	2.2E-02	***2.6E-02***	0.344	1.2E-03	***2.6E-01***	0.104	3.7E-03
Herbicides															
2,4-D	5.1E-03	0.0126	1.0	1.5E-05	0.58	3.5E-02	1.0	0.344	1.7E-03	4.5E-02	0.344	2.2E-03	4.5E-01	0.104	6.5E-03
2,4-DB	***4.8E-03***	0.0126	1.0	1.5E-05	0.58	***1.8E-02***	1.0	0.344	8.6E-04	5.7E-02	0.344	2.8E-03	5.7E-01	0.104	8.4E-03
2,4,5-T	***4.8E-03***	0.0126	1.0	1.5E-05	0.58	1.6E-02	1.0	0.344	7.9E-04	4.3E-02	0.344	2.1E-03	4.3E-01	0.104	6.3E-03
2,4,5-TP (Silvex)	4.8E-03	0.0126	1.0	1.5E-05	0.58	1.4E-02	1.0	0.344	6.8E-04	***4.3E-02***	0.344	2.0E-03	***4.3E-01***	0.104	6.2E-03
Dalapon	***1.2E+00***	0.0126	1.0	3.5E-03	0.58	***3.9E+00***	1.0	0.344	1.9E-01	***1.0E+01***	0.344	4.9E-01	***1.0E+02***	0.104	1.5E+00
Dicamba	***1.2E-02***	0.0126	1.0	3.5E-05	0.58	***3.9E-02***	1.0	0.344	1.9E-03	***1.0E-01***	0.344	4.9E-03	***1.0E+00***	0.104	1.5E-02
Dichlorprop	8.4E-02	0.0126	1.0	2.5E-04	0.58	2.0E-01	1.0	0.344	9.5E-03	5.1E-01	0.344	2.5E-02	***5.1E+00***	0.104	7.4E-02
Dinoseb	***1.9E-01***	0.0126	1.0	5.8E-04	0.58	***5.1E-01***	1.0	0.344	2.5E-02	***5.0E-02***	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
MCPA	***1.2E+00***	0.0126	1.0	3.5E-03	0.58	2.0E+01	1.0	0.344	9.5E-01	***1.0E+01***	0.344	4.9E-01	***1.0E+02***	0.104	1.5E+00
MCPP	2.8E+00	0.0126	1.0	8.4E-03	0.58	4.0E+00	1.0	0.344	1.9E-01	1.0E+01	0.344	4.9E-01	***1.0E+02***	0.104	1.5E+00
PCBs															
Total PCBs	1.1E-01	0.0126	1.0	3.3E-04	0.58	3.1E-02	1.0	0.344	1.5E-03	2.8E-03	0.344	1.4E-04	***2.5E-02***	0.104	3.6E-04
Dioxins/Furans (f)															
TEQ	1.3E-04	0.0126	1.0	4.1E-07	0.58	1.2E-05	1.0	0.344	6.0E-07	1.1E-08	0.344	5.4E-10	3.5E-07	0.104	5.1E-09
Metals															
Aluminum	6.7E+03	0.0126	1.0	2.0E+01	0.58	7.7E+02	1.0	0.344	3.7E+01	2.4E+01	0.344	1.2E+00	5.2E+01	0.104	7.6E-01
Antimony	1.3E+00	0.0126	1.0	4.1E-03	0.58	5.9E-01	1.0	0.344	2.9E-02	***6.0E-04***	0.344	2.9E-05	***1.0E+00***	0.104	1.5E-02
Arsenic	7.4E+00	0.0126	1.0	2.3E-02	0.58	3.0E+00	1.0	0.344	1.4E-01	***6.0E-04***	0.344	2.9E-05	***5.0E-01***	0.104	7.3E-03
Barium	1.8E+02	0.0126	1.0	5.6E-01	0.58	2.2E+01	1.0	0.344	1.1E+00	9.7E-04	0.344	4.7E-05	1.1E+01	0.104	1.6E-01
Beryllium	5.0E-01	0.0126	1.0	1.5E-03	0.58	1.5E-01	1.0	0.344	7.3E-03	***1.2E-04***	0.344	5.8E-06	***2.0E-01***	0.104	2.9E-03
Cadmium	2.0E+00	0.0126	1.0	6.1E-03	0.58	9.0E-01	1.0	0.344	4.3E-02	2.2E-05	0.344	1.1E-06	3.1E-01	0.104	4.5E-03
Chromium	1.2E+01	0.0126	1.0	3.5E-02	0.58	1.4E+00	1.0	0.344	6.9E-02	1.1E-03	0.344	5.2E-05	3.3E-01	0.104	4.8E-03
Cobalt	5.4E+00	0.0126	1.0	1.6E-02	0.58	1.1E+00	1.0	0.344	5.5E-02	6.6E-02	0.344	3.2E-03	***5.0E-01***	0.104	7.3E-03
Copper	5.9E+01	0.0126	1.0	1.8E-01	0.58	1.4E+01	1.0	0.344	6.9E-01	5.7E-01	0.344	2.7E-02	4.0E+00	0.104	5.8E-02
Lead	7.9E+01	0.0126	1.0	2.4E-01	0.58	1.0E+01	1.0	0.344	5.0E-01	1.7E-04	0.344	8.0E-06	9.3E-01	0.104	1.3E-02
Manganese	2.8E+02	0.0126	1.0	8.7E-01	0.58	3.8E+01	1.0	0.344	1.8E+00	2.0E+00	0.344	9.7E-02	1.2E+01	0.104	1.7E-01
Mercury	8.5E-02	0.0126	1.0	2.6E-04	0.58	6.0E-02	1.0	0.344	2.9E-03	1.9E-04	0.344	8.9E-06	4.0E-01	0.104	5.8E-03
Nickel	1.8E+01	0.0126	1.0	5.4E-02	0.58	2.8E+00	1.0	0.344	1.4E-01	***7.2E-03***	0.344	3.5E-04	***2.0E+00***	0.104	2.9E-02
Selenium	5.6E-01	0.0126	1.0	1.7E-03	0.58	3.8E-01	1.0	0.344	1.8E-02	***6.8E-04***	0.344	3.3E-05	***5.0E-01***	0.104	7.3E-03
Silver	5.7E-01	0.0126	1.0	1.7E-03	0.58	3.0E-01	1.0	0.344	1.5E-02	***9.0E-04***	0.344	4.3E-05	***5.0E-01***	0.104	7.3E-03
Thallium	***5.4E-01***	0.0126	1.0	1.6E-03	0.58	***3.3E-01***	1.0	0.344	1.6E-02	***1.2E-02***	0.344	5.8E-04	***5.0E-01***	0.104	7.3E-03
Vanadium	2.2E+01	0.0126	1.0	6.6E-02	0.58	2.6E+00	1.0	0.344	1.2E-01	1.1E-01	0.344	5.3E-03	4.9E-01	0.104	7.1E-03
Zinc	2.4E+02	0.0126	1.0	7.4E-01	0.58	5.2E+01	1.0	0.344	2.5E+00	2.0E-03	0.344	9.7E-05	3.7E+01	0.104	5.4E-01

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - Values for the shrew were obtained by multiplying the mean off-site average daily dose (ADD) concentrations for the shrew by a factor of 1.0 to account for bioaccumulation but not biomagnification.
Values for the vole were obtained by multiplying the mean off-site plant concentrations by their plant-to-herbivorous mammal (deer mouse) bioconcentration factor (BCF). If a BCF was not available for the compound, then the vole ADD was used as described for the shrew. See Table III-B1.
(c) - The dietary percentage of the shrew and vole were calculated by taking the dietary percentage of mammals for the fox (0.688) and dividing it by two. This assumes the fox will eat an equal amount of shrews and voles.
(d) - It was decided to adjust the dietary percentages of the pond water and river water to 0.0% and 100%, respectively, for the fox off-site modeling. This was done because the pond is considered an on-site hazard.
(e) - See Table III-C1.
(f) - Dioxins/furans were not analyzed for the A-Line surface water samples. The B-Line sample values for dioxins/furans were used instead.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values. (For the concentrations within the shrew and vole, the modeled values based on non-detects from all matrices are italicized.)

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

Table 7-47
Hazard Quotients and Hazard Indices for Ingestion of Mammals, Plants and Surface Water
Red Fox
Off-Site Areas
Sauget, IL

Analyte	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in Pond Surface Water (mg/L)	Area Use Factor (a)	Dietary Percentage of Pond Water (d)	Dose from Pond Surface Water (mg/kg/day)	Concentration of Contaminant in River Surface Water (Plot 1 A-Line) (mg/L)	Dietary Percentage of River Water (d)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (e)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	0.38	***5.0E-05***	1.0	0.0	0.0E+00	***5.0E-05***	1.0	4.6E-06	4.13	1.0	5.6E-04	4.2E-01	2.1	1.3E-03	2.6E-04
4,4'-DDE	0.38	***5.0E-05***	1.0	0.0	0.0E+00	***5.0E-05***	1.0	4.6E-06	4.13	1.0	5.6E-04	4.2E-01	2.1	1.2E-03	2.4E-04
4,4'-DDT	0.38	3.9E-05	1.0	0.0	0.0E+00	***5.0E-05***	1.0	4.6E-06	4.13	1.0	5.5E-04	4.2E-01	2.1	2.3E-03	4.5E-04
Aldrin	0.38	1.7E-05	1.0	0.0	0.0E+00	***2.5E-05***	1.0	2.3E-06	4.13	1.0	2.7E-04	1.1E-01	0.53	2.6E-03	5.1E-04
alpha-BHC	0.38	***2.5E-05***	1.0	0.0	0.0E+00	***2.5E-05***	1.0	2.3E-06	4.13	1.0	2.8E-04	9.6E-03	0.096	2.9E-02	2.9E-03
alpha-Chlordane	0.38	***2.5E-05***	1.0	0.0	0.0E+00	***2.5E-05***	1.0	2.3E-06	4.13	1.0	2.8E-04	1.1E+00	2.6	2.1E-04	1.1E-04
beta-BHC	0.38	1.6E-05	1.0	0.0	0.0E+00	***2.5E-05***	1.0	2.3E-06	4.13	1.0	2.8E-04	2.1E-01	1.1	1.3E-03	2.6E-04
delta-BHC	0.38	***2.5E-05***	1.0	0.0	0.0E+00	***2.5E-05***	1.0	2.3E-06	4.13	1.0	2.2E-04	9.6E-03	0.096	2.3E-02	2.3E-03
Dieldrin	0.38	3.0E-05	1.0	0.0	0.0E+00	***5.0E-05***	1.0	4.6E-06	4.13	1.0	4.7E-04	1.1E-02	0.11	4.5E-02	4.5E-03
Endosulfan I	0.38	***2.5E-05***	1.0	0.0	0.0E+00	***2.5E-05***	1.0	2.3E-06	4.13	1.0	2.2E-04	7.9E-02	0.79	2.8E-03	2.8E-04
Endosulfan II	0.38	***5.0E-05***	1.0	0.0	0.0E+00	***5.0E-05***	1.0	4.6E-06	4.13	1.0	5.5E-04	7.9E-02	0.79	6.9E-03	6.9E-04
Endosulfan Sulfate	0.38	***5.0E-05***	1.0	0.0	0.0E+00	***5.0E-05***	1.0	4.6E-06	4.13	1.0	5.4E-04	7.9E-02	0.79	6.9E-03	6.9E-04
Endrin	0.38	***5.0E-05***	1.0	0.0	0.0E+00	***5.0E-05***	1.0	4.6E-06	4.13	1.0	5.5E-04	2.6E-02	0.26	2.1E-02	2.1E-03
Endrin Aldehyde	0.38	***5.0E-05***	1.0	0.0	0.0E+00	***5.0E-05***	1.0	4.6E-06	4.13	1.0	4.5E-04	2.6E-02	0.26	1.7E-02	1.7E-03
Endrin Ketone	0.38	***5.0E-05***	1.0	0.0	0.0E+00	***5.0E-05***	1.0	4.6E-06	4.13	1.0	5.4E-04	2.6E-02	0.26	2.1E-02	2.1E-03
gamma-BHC (Lindane)	0.38	***2.5E-05***	1.0	0.0	0.0E+00	***2.5E-05***	1.0	2.3E-06	4.13	1.0	2.6E-04	4.2E+00	42	6.1E-05	6.1E-06
gamma-Chlordane	0.38	***2.5E-05***	1.0	0.0	0.0E+00	***2.5E-05***	1.0	2.3E-06	4.13	1.0	1.7E-04	1.3E+00	2.6	1.3E-04	6.3E-05
Heptachlor	0.38	***2.5E-05***	1.0	0.0	0.0E+00	***2.5E-05***	1.0	2.3E-06	4.13	1.0	2.5E-04	6.9E-02	0.69	3.7E-03	3.7E-04
Heptachlor Epoxide	0.38	***2.5E-05***	1.0	0.0	0.0E+00	***2.5E-05***	1.0	2.3E-06	4.13	1.0	2.8E-04	6.6E-04	0.016	4.2E-01	1.7E-02
Methoxychlor	0.38	***2.5E-04***	1.0	0.0	0.0E+00	***2.5E-04***	1.0	2.3E-05	4.13	1.0	2.2E-03	2.1E+00	4.2	1.0E-03	5.2E-04
Toxaphene	0.38	***2.5E-03***	1.0	0.0	0.0E+00	***2.5E-03***	1.0	2.3E-04	4.13	1.0	2.8E-02	4.2E+00	42	6.5E-03	6.5E-04
														6.1E-01	3.8E-02
Herbicides															
2,4-D	0.38	***2.5E-04***	1.0	0.0	0.0E+00	***2.5E-04***	1.0	2.3E-05	4.13	1.0	1.0E-02	5.3E-01	2.6	2.0E-02	3.9E-03
2,4-DB	0.38	***2.5E-04***	1.0	0.0	0.0E+00	***2.5E-04***	1.0	2.3E-05	4.13	1.0	1.2E-02	1.0E+00	3.2	1.2E-02	3.7E-03
2,4,5-T	0.38	***2.5E-04***	1.0	0.0	0.0E+00	***2.5E-04***	1.0	2.3E-05	4.13	1.0	9.2E-03	1.6E+00	5.3	5.8E-03	1.7E-03
2,4,5-TP (Silvex)	0.38	***2.5E-04***	1.0	0.0	0.0E+00	***2.5E-04***	1.0	2.3E-05	4.13	1.0	9.0E-03	9.7E-01	3.2	9.2E-03	2.8E-03
Dalapon	0.38	***6.0E-02***	1.0	0.0	0.0E+00	***6.0E-02***	1.0	5.5E-03	4.13	1.0	2.2E+00	4.5E+00	15	4.9E-01	1.4E-01
Dicamba	0.38	***6.0E-04***	1.0	0.0	0.0E+00	***6.0E-04***	1.0	5.5E-05	4.13	1.0	2.2E-02	2.2E+00	7.2	1.0E-02	3.0E-03
Dichlorprop	0.38	***3.0E-03***	1.0	0.0	0.0E+00	***3.0E-03***	1.0	2.8E-04	4.13	1.0	1.1E-01	5.7E-02	0.57	1.9E-00	1.9E-01
Dinoseb	0.38	***5.0E-03***	1.0	0.0	0.0E+00	***5.0E-03***	1.0	4.6E-04	4.13	1.0	3.5E-02	5.3E-02	0.53	6.7E-01	6.7E-02
MCPA	0.38	***6.0E-02***	1.0	0.0	0.0E+00	***6.0E-02***	1.0	5.5E-03	4.13	1.0	2.9E+00	1.9E-01	0.97	1.5E+01	3.0E-01
MCPP	0.38	***6.0E-02***	1.0	0.0	0.0E+00	***6.0E-02***	1.0	5.5E-03	4.13	1.0	2.2E+00	1.6E-01	0.48	1.4E+01	4.6E-01
														3.2E+01	8.0E+00
PCBs															
Total PCBs	0.38	***2.5E-04***	1.0	0.0	0.0E+00	***2.5E-04***	1.0	2.3E-05	4.13	1.0	2.4E-03	5.3E-02	5.3E-01	4.5E-02	4.5E-03
Dioxins/Furans (f)															
TEQ	0.38	1.1E-08	1.0	0.0	0.0E+00	***2.1E-09***	1.0	2.0E-10	4.13	1.0	1.0E-06	5.3E-07	5.3E-06	1.9E+00	1.9E-01
Metals															
Aluminum	0.38	3.9E+00	1.0	0.0	0.0E+00	7.9E-01	1.0	7.3E-02	4.13	1.0	6.0E+00	5.5E-01	5.5	1.1E+01	1.0E+01
Antimony	0.38	***1.0E-02***	1.0	0.0	0.0E+00	***1.0E-02***	1.0	9.2E-04	4.13	1.0	4.8E-02	3.6E-02	0.36	1.3E+00	1.3E-01
Arsenic	0.38	4.7E-03	1.0	0.0	0.0E+00	***5.0E-02***	1.0	4.6E-03	4.13	1.0	1.8E-01	3.6E-02	0.36	5.0E+00	5.0E-01
Barium	0.38	1.6E-01	1.0	0.0	0.0E+00	6.0E-02	1.0	5.5E-03	4.13	1.0	1.8E+00	2.7E+00	10	6.6E-01	1.7E-01
Beryllium	0.38	***2.0E-03***	1.0	0.0	0.0E+00	***2.0E-03***	1.0	1.8E-04	4.13	1.0	1.2E-02	3.5E-01	3.5	3.4E-02	3.4E-03
Cadmium	0.38	1.6E-03	1.0	0.0	0.0E+00	***2.5E-03***	1.0	2.3E-04	4.13	1.0	5.4E-02	5.3E-01	5.3	1.0E-01	1.0E-02
Chromium	0.38	7.5E-03	1.0	0.0	0.0E+00	***5.0E-03***	1.0	4.6E-04	4.13	1.0	1.1E-01	1.7E+00	6.9	6.4E-02	1.6E-02
Cobalt	0.38	4.3E-03	1.0	0.0	0.0E+00	***5.0E-03***	1.0	4.6E-04	4.13	1.0	8.2E-02	2.6E-02	0.26	3.1E+00	3.1E-01
Copper	0.38	1.2E-02	1.0	0.0	0.0E+00	***1.0E-02***	1.0	9.2E-04	4.13	1.0	9.6E-01	8.0E+00	11	1.2E-01	9.0E-02
Lead	0.38	8.3E-03	1.0	0.0	0.0E+00	***2.5E-03***	1.0	2.3E-04	4.13	1.0	7.5E-03	4.2E+00	42	1.8E-01	1.8E-02
Manganese	0.38	2.5E-01	1.0	0.0	0.0E+00	8.4E-02	1.0	7.7E-03	4.13	1.0	3.0E+00	4.6E+00	150	6.4E-02	2.0E-02
Mercury	0.38	***1.0E-04***	1.0	0.0	0.0E+00	***1.0E-04***	1.0	9.2E-06	4.13	1.0	8.9E-03	1.0E-02	0.017	8.7E-01	5.2E-01
Nickel	0.38	1.5E-02	1.0	0.0	0.0E+00	***2.0E-02***	1.0	1.8E-03	4.13	1.0	2.2E-01	2.1E+01	42	1.1E-02	5.3E-03
Selenium	0.38	***5.0E-03***	1.0	0.0	0.0E+00	***5.0E-01***	1.0	4.6E-04	4.13	1.0	2.8E-02	1.1E-01	0.17	2.6E-01	1.6E-01
Silver	0.38	***5.0E-03***	1.0	0.0	0.0E+00	***5.0E-03***	1.0	4.6E-04	4.13	1.0	2.4E-02	5.2E-02	0.52	4.7E-01	4.7E-02
Thallium	0.38	***5.0E-03***	1.0	0.0	0.0E+00	***5.0E-03***	1.0	4.6E-04	4.13	1.0	2.6E-02	3.9E-03	0.039	6.6E+00	6.6E-01
Vanadium	0.38	1.2E-02	1.0	0.0	0.0E+00	***5.0E-03***	1.0	4.6E-04	4.13	1.0	2.0E-01	1.1E-01	1.1	1.8E+00	1.8E-01
Zinc	0.38	1.1E+02	1.0	0.0	0.0E+00	***1.0E-02***	1.0	9.2E-04	4.13	1.0	3.8E+01	8.4E+01	169	4.5E-02	2.2E-02
Hazard Index - Metals														1.3E+02	1.4E+01

NOTES

(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan

(b) - Values for the shrew were obtained by multiplying the mean off-site average daily dose (ADD) concentrations for the shrew by a factor of 1.0 to account for bioaccumulation but not biomagnification

Values for the vole were obtained by multiplying the mean off-site plant concentrations by their plant-to-herbivorous mammal (deer mouse) bioconcentration factor (BCF). If a BCF was not available for the compound, then the vole ADD was used as described for the shrew. See Table III.B1

(c) - The dietary percentage of the shrew and vole were calculated by taking the dietary percentage of mammals for the fox (0.688) and dividing it by two. This assumes the fox will eat an equal amount of shrews and voles

(d) - It was decided to adjust the dietary percentages of the pond water and river water to 0.0% and 100%, respectively, for the fox off-site modeling. This was done because the pond is considered an on-site hazard

(e) - See Table III-C1

(f) - Dioxins/furans were not analyzed for the A-Line surface water samples. The B-Line sample values for dioxins/furans were used instead

NOAEL - No Observable Adverse Effects Level

LOAEL - Lowest Observable Adverse Effects Level

HQ - Hazard Quotient

Bolded/italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values. (For the concentrations within the shrew and vole, the modeled values based on non-detects from all matrices are italicized.)

A shaded cell indicates an HI of equal to or greater than 1.0.

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Hazard Quotients and Hazard Indices for Ingestion of Mammals, Plants and Surface Water
Red Fox
Site-Wide
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Shrew (b) (mg/kg)	Area Use Factor (a)	Dietary Percentage of Shrew (a)(c)	Dose from Shrew (mg/kg/day)	Concentration of Contaminant in Prairie Vole (b) (mg/kg)	Dietary Percentage of Prairie Vole (a)(c)	Dose from Prairie Vole (mg/kg/day)	Concentration of Contaminant in Plants (mg/kg)	Dietary Percentage of Plants (a)	Dose from Plants (mg/kg/day)
SVOCs															
1,2,4-Trichlorobenzene	1.7E+00	0.0126	1.0	5.1E-03	0.58	5.8E-01	1.0	0.344	2.8E-02	5.4E-02	0.344	2.6E-03	***5.0E-01***	0.104	7.2E-03
1,2-Dichlorobenzene	1.7E+00	0.0126	1.0	5.1E-03	0.58	5.8E-01	1.0	0.344	2.8E-02	5.4E-02	0.344	2.6E-03	***5.0E-01***	0.104	7.2E-03
1,3-Dichlorobenzene	3.3E-01	0.0126	1.0	1.0E-03	0.58	4.8E-01	1.0	0.344	2.3E-02	5.0E-02	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
1,4-Dichlorobenzene	5.9E-01	0.0126	1.0	1.8E-03	0.58	5.0E-01	1.0	0.344	2.4E-02	5.1E-02	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
2,2'-Oxybis(1-Chloropropane)	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
2,4,5-Trichlorophenol	3.3E-01	0.0126	1.0	1.0E-03	0.58	4.8E-01	1.0	0.344	2.3E-02	5.0E-02	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2,4,6-Trichlorophenol	6.0E-01	0.0126	1.0	1.8E-03	0.58	5.0E-01	1.0	0.344	2.4E-02	5.1E-02	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
2,4-Dichlorophenol	3.7E-01	0.0126	1.0	1.1E-03	0.58	4.8E-01	1.0	0.344	2.3E-02	5.1E-02	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
2,4-Dinitrophenol	***2.9E+00***	0.0126	1.0	8.9E-03	0.58	***2.5E+00***	1.0	0.344	1.2E-01	***2.6E-01***	0.344	1.3E-02	***2.6E+00***	0.104	3.7E-02
2,4-Dinitrotoluene	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***7.4E-07***	0.344	3.6E-08	***5.0E-01***	0.104	7.2E-03
2,6-Dinitrotoluene	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.7E-07***	0.344	2.8E-08	***5.0E-01***	0.104	7.2E-03
2-Chloronaphthalene	5.6E-01	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
2-Chlorophenol	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
2-Methylnaphthalene	7.0E-01	0.0126	1.0	2.1E-03	0.58	5.1E-01	1.0	0.344	2.4E-02	5.2E-02	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
2-Methylphenol (o-Cresol)	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
2-Nitroaniline	1.6E+00	0.0126	1.0	5.0E-03	0.58	2.4E+00	1.0	0.344	1.2E-01	2.6E-01	0.344	1.3E-02	***2.6E+00***	0.104	3.7E-02
2-Nitrophenol	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
3,3'-Dichlorobenzidine	***1.1E+00***	0.0126	1.0	3.5E-03	0.58	***1.0E+00***	1.0	0.344	4.9E-02	***1.0E-01***	0.344	5.0E-03	***1.0E+00***	0.104	1.5E-02
3/4-Methylphenol (m&p-Cresol)	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
3-Nitroaniline	***2.9E+00***	0.0126	1.0	8.9E-03	0.58	***2.5E+00***	1.0	0.344	1.2E-01	***2.6E-01***	0.344	1.3E-02	***2.6E+00***	0.104	3.7E-02
4,6-Dinitro-2-methylphenol	***2.9E+00***	0.0126	1.0	8.9E-03	0.58	***2.5E+00***	1.0	0.344	1.2E-01	***2.6E-01***	0.344	1.3E-02	***2.6E+00***	0.104	3.7E-02
4-Bromophenyl Phenyl Ether	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
4-Chloro-3-methylphenol	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
4-Chloroaniline	***1.1E+00***	0.0126	1.0	3.5E-03	0.58	***1.0E+00***	1.0	0.344	4.8E-02	***1.0E-01***	0.344	5.0E-03	***1.0E+00***	0.104	1.5E-02
4-Chlorophenyl Phenyl Ether	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
4-Nitroaniline	3.7E+00	0.0126	1.0	1.1E-02	0.58	2.6E+00	1.0	0.344	1.2E-01	2.7E-01	0.344	1.3E-02	***2.6E+00***	0.104	3.7E-02
4-Nitrophenol	***2.9E+00***	0.0126	1.0	8.9E-03	0.58	***2.5E+00***	1.0	0.344	1.2E-01	***2.6E-01***	0.344	1.3E-02	***2.6E+00***	0.104	3.7E-02
Acenaphthene	2.4E-01	0.0126	1.0	7.4E-04	0.58	4.7E-01	1.0	0.344	2.3E-02	5.0E-02	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Acenaphthylene	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Anthracene	5.6E-01	0.0126	1.0	1.7E-03	0.58	5.0E-01	1.0	0.344	2.4E-02	5.1E-02	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Benzo(a)anthracene	8.1E-01	0.0126	1.0	2.5E-03	0.58	5.2E-01	1.0	0.344	2.5E-02	5.6E-03	0.344	1.7E-04	***5.0E-01***	0.104	7.2E-03
Benzo(a)pyrene	7.5E-01	0.0126	1.0	2.3E-03	0.58	5.0E-01	1.0	0.344	2.4E-02	***1.0E-02***	0.344	4.8E-04	***5.0E-01***	0.104	7.2E-03
Benzo(b)fluoranthene	8.5E-01	0.0126	1.0	2.6E-03	0.58	5.1E-01	1.0	0.344	2.5E-02	***1.2E-02***	0.344	5.7E-04	***5.0E-01***	0.104	7.2E-03
Benzo(g,h,i)perylene	5.4E-01	0.0126	1.0	1.6E-03	0.58	4.9E-01	1.0	0.344	2.3E-02	4.7E-02	0.344	2.3E-03	4.5E-01	0.104	6.6E-03
Benzo(k)fluoranthene	6.7E-01	0.0126	1.0	2.0E-03	0.58	5.0E-01	1.0	0.344	2.4E-02	***1.2E-02***	0.344	5.7E-04	***5.0E-01***	0.104	7.2E-03
bis(2-Chloroethoxy)methane	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
bis(2-Chloroethyl)ether	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
bis(2-Ethylhexyl)phthalate	9.9E-01	0.0126	1.0	3.0E-03	0.58	5.3E-01	1.0	0.344	2.6E-02	1.2E-03	0.344	5.6E-05	4.8E-01	0.104	7.0E-03
Butyl Benzyl Phthalate	4.9E+00	0.0126	1.0	1.5E-02	0.58	8.4E-01	1.0	0.344	4.0E-02	6.4E-02	0.344	3.1E-03	***5.0E-01***	0.104	7.2E-03
Carbazole	4.9E-01	0.0126	1.0	1.5E-03	0.58	4.9E-01	1.0	0.344	2.4E-02	5.1E-02	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Chrysene	1.3E+00	0.0126	1.0	4.0E-03	0.58	5.5E-01	1.0	0.344	2.6E-02	***4.1E-03***	0.344	2.0E-04	***5.0E-01***	0.104	7.2E-03
Dibenzo(a,h)anthracene	3.4E-01	0.0126	1.0	1.0E-03	0.58	4.8E-01	1.0	0.344	2.3E-02	***2.4E-02***	0.344	1.3E-03	***5.0E-01***	0.104	7.2E-03
Dibenzofuran	5.2E-01	0.0126	1.0	1.6E-03	0.58	4.9E-01	1.0	0.344	2.4E-02	5.1E-02	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Diethyl Phthalate	5.5E-01	0.0126	1.0	1.7E-03	0.58	5.0E-01	1.0	0.344	2.4E-02	5.1E-02	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Dimethyl Phthalate	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Di-n-butylphthalate	5.3E-01	0.0126	1.0	1.6E-03	0.58	4.9E-01	1.0	0.344	2.4E-02	4.1E-02	0.344	2.0E-03	3.9E-01	0.104	5.7E-03
Di-n-octylphthalate	3.4E-01	0.0126	1.0	1.0E-03	0.58	4.8E-01	1.0	0.344	2.3E-02	***1.4E+01***	0.344	7.7E-01	***5.0E-01***	0.104	7.2E-03
Fluoranthene	1.1E+00	0.0126	1.0	3.2E-03	0.58	5.4E-01	1.0	0.344	2.6E-02	5.3E-02	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Fluorene	3.1E-01	0.0126	1.0	9.5E-04	0.58	4.8E-01	1.0	0.344	2.3E-02	5.0E-02	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Hexachlorobenzene	5.5E-01	0.0126	1.0	1.7E-03	0.58	5.0E-01	1.0	0.344	2.4E-02	***2.4E-03***	0.344	1.1E-04	***5.0E-01***	0.104	7.2E-03
Hexachlorobutadiene	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***4.0E-04***	0.344	1.9E-05	***5.0E-01***	0.104	7.2E-03
Hexachlorocyclopentadiene	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***6.0E-04***	0.344	2.9E-05	***5.0E-01***	0.104	7.2E-03
Hexachloroethane	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Indeno(1,2,3-cd)pyrene	3.1E-01	0.0126	1.0	9.6E-04	0.58	4.8E-01	1.0	0.344	2.3E-02	***6.1E-02***	0.344	3.0E-03	***5.0E-01***	0.104	7.2E-03
Isophorone	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Naphthalene	3.8E-01	0.0126	1.0	1.1E-03	0.58	4.8E-01	1.0	0.344	2.3E-02	5.1E-02	0.344	2.4E-03	***5.0E-01***	0.104	7.2E-03
Nitrobenzene	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-07***	0.344	2.5E-08	***5.0E-01***	0.104	7.2E-03
N-Nitroso-di-n-propylamine	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
N-Nitrosodiphenylamine	***5.6E-01***	0.0126	1.0	1.7E-03	0.58	***5.0E-01***	1.0	0.344	2.4E-02	***5.1E-02***	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Pentachlorophenol	1.7E+01	0.0126	1.0	5.3E-02	0.58	1.4E+00	1.0	0.344	6.7E-02	***5.7E-05***	0.344	2.7E-06	***3.1E-02***	0.104	4.6E-04
Phenanthrene	9.8E-01	0.0126	1.0	3.0E-03	0.58	5.3E-01	1.0	0.344	2.5E-02	5.2E-02	0.344	2.5E-03	***5.0E-01***	0.104	7.2E-03
Phenol	5.6E-01	0.0126	1.0	1.7E-03	0.58	5.0E-01	1.0	0.344	2.4E-02	5.0E-02	0.344	2.4E-03	4.8E-01	0.104	7.0E-03
Pyrene	2.0E+00	0.0126	1.0	6.2E-03	0.58	6.1E-01	1.0	0.344	2.9E-02	5.5E-02	0.344	2.7E-03	***5.0E-01***	0.104	7.2E-03

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - Values for the shrew were obtained by multiplying the mean site-wide average daily dose (ADD) concentrations for the shrew by a factor of 1.0 to account for bioaccumulation but not biomagnification.
Values for the vole were obtained by multiplying the mean site-wide plant concentrations by their plant-to-herbivorous mammal (deer mouse) bioconcentration factor (BCF). If a BCF was not available for the compound, then the vole ADD was used as described for the shrew. See Table III-B1.
(c) - The dietary percentage of the shrew and vole were calculated by taking the dietary percentage of mammals for the fox (0.688) and dividing it by two. This assumes the fox will eat an equal amount of shrews and voles.
(d) - The dietary percentage of the pond water and river water were calculated by dividing the total length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site.
i.e. Small Pond = 1,375 ft; Large Pond = 2,770 ft; River = 14,956 ft so: % for pond water ingestion = (1,375+2,770)/14956 = 0.28.
(e) - See Table III-C1.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values. (For the concentrations within the shrew and vole, the modeled values based on non-detects from all matricies are italicized.)

Table 7-48
Hazard Quotients and Hazard Indices for Ingestion of Mammals, Plants and Surface Water
Red Fox
Site-Wide
Sauget, IL

Analyte	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in Pond Surface Water (mg/L)	Area Use Factor (a)	Dietary Percentage of Pond Water (d)	Dose from Pond Surface Water (mg/kg/day)	Concentration of Contaminant in River Surface Water (Plots 2-6 A-Line) (mg/L)	Dietary Percentage of River Water (d)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (e)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
SVOCs															
1,2,4-Trichlorobenzene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	4.3E-02	7.8E+00	2.8E+01	5.6E-03	1.5E-03
1,2-Dichlorobenzene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	6.9E-03	0.72	4.6E-04	4.13	1.0	4.4E-02	4.5E+01	6.3E+02	9.7E-04	6.9E-05
1,3-Dichlorobenzene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.4E-02	4.5E+01	6.3E+02	7.5E-04	5.4E-05
1,4-Dichlorobenzene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	4.9E-03	0.72	3.3E-04	4.13	1.0	3.6E-02	4.5E+01	7.9E+01	7.9E-04	4.5E-04
2,2'-Oxybis(1-Chloropropane)	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	1.0E+01	5.7E+01	3.5E-03	6.3E-04
2,4,5-Trichlorophenol	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.4E-02	5.3E+00	1.6E+01	6.5E-03	2.2E-03
2,4,6-Trichlorophenol	0.38	***5.0E-03***	1.0	0.28	1.3E-04	5.7E-03	0.72	3.8E-04	4.13	1.0	3.6E-02	2.6E+02	1.6E+01	1.4E-04	2.3E-03
2,4-Dichlorophenol	0.38	***5.0E-03***	1.0	0.28	1.3E-04	7.6E-03	0.72	5.0E-04	4.13	1.0	3.5E-02	1.6E-01	1.6E+00	2.2E-01	2.2E-02
2,4-Dinitrophenol	0.38	***2.5E-02***	1.0	0.28	6.4E-04	***2.5E-02***	0.72	1.7E-03	4.13	1.0	1.8E-01	9.1E-04	9.1E-03	2.0E-02	2.0E-01
2,4-Dinitrotoluene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.3E-02	2.6E-01	1.9E+00	1.3E-01	1.7E-02
2,6-Dinitrotoluene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.3E-02	3.7E-01	3.7E+00	9.0E-02	9.0E-03
2-Chloronaphthalene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	7.1E+00	1.7E+01	5.0E-03	2.1E-03
2-Chlorophenol	0.38	***5.0E-03***	1.0	0.28	1.3E-04	5.7E-03	0.72	3.8E-04	4.13	1.0	3.6E-02	2.6E+01	2.6E+00	1.4E-03	1.4E-02
2-Methylnaphthalene	0.38	***5.0E-01***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.7E-02	8.1E+02	8.1E+03	4.5E-05	4.5E-06
2-Methylphenol (o-Cresol)	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	1.5E+02	1.5E+03	2.4E-04	2.4E-05
2-Nitroaniline	0.38	***2.5E-02***	1.0	0.28	6.4E-04	***2.5E-02***	0.72	1.7E-03	4.13	1.0	1.7E-01	2.2E+00	2.2E+01	7.8E-02	7.8E-03
2-Nitrophenol	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.5E-02	1.3E+00	3.7E+00	2.7E-02	9.7E-03
3,3'-Dichlorobenzidine	0.38	***1.0E-02***	1.0	0.28	2.6E-04	***1.0E-02***	0.72	6.6E-04	4.13	1.0	7.2E-02	1.3E+01	1.5E+02	5.3E-03	4.9E-04
3/4-Methylphenol (m&p-Cresol)	0.38	***5.0E-03***	1.0	0.28	1.3E-04	6.2E-03	0.72	4.1E-04	4.13	1.0	3.6E-02	1.5E+02	1.5E+03	2.4E-04	2.4E-05
3-Nitroaniline	0.38	***2.5E-02***	1.0	0.28	6.4E-04	***2.5E-02***	0.72	1.7E-03	4.13	1.0	1.8E-01	2.2E+00	2.2E+01	8.2E-02	8.2E-03
4,6-Dinitro-2-methylphenol	0.38	***2.5E-02***	1.0	0.28	6.4E-04	***2.5E-02***	0.72	1.7E-03	4.13	1.0	1.8E-01	1.3E-01	2.4E+00	4.8E-02	7.6E-02
4-Bromophenyl Phenyl Ether	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.5E-02	5.3E-01	4.2E+00	6.8E-02	8.3E-03
4-Chloro-3-methylphenol	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	5.9E+01	5.9E+02	6.0E-04	6.0E-05
4-Chloroaniline	0.38	***1.0E-02***	1.0	0.28	2.6E-04	1.6E-02	0.72	1.1E-03	4.13	1.0	7.2E-02	6.6E-01	6.6E+00	1.1E-01	1.1E-02
4-Chlorophenyl Phenyl Ether	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	5.3E-01	4.2E+00	6.8E-02	8.5E-03
4-Nitroaniline	0.38	***2.5E-02***	1.0	0.28	6.4E-04	***2.5E-02***	0.72	1.7E-03	4.13	1.0	1.9E-01	2.2E+00	2.2E+01	8.5E-02	8.5E-03
4-Nitrophenol	0.38	***2.5E-02***	1.0	0.28	6.4E-04	***2.5E-02***	0.72	1.7E-03	4.13	1.0	1.8E-01	1.3E+00	3.7E+00	1.4E-01	4.9E-02
Acenaphthene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.4E-02	5.0E+00	1.0E+01	6.7E-03	3.4E-03
Acenaphthylene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	5.0E+00	1.0E+01	7.1E-03	3.6E-03
Anthracene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	2.9E+01	2.9E+02	1.3E-03	1.3E-04
Benzo(a)anthracene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.5E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
Benzo(a)pyrene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.5E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
Benzo(b)fluoranthene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
Benzo(g,h,i)perylene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.4E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
Benzo(k)fluoranthene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.4E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
bis(2-Chloroethoxy)methane	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	1.0E+01	5.7E+01	3.5E-03	6.3E-04
bis(2-Chloroethyl)ether	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	1.0E+01	5.7E+01	3.5E-03	6.3E-04
bis(2-Ethylhexyl)phthalate	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	5.2E+00	5.2E+01	6.9E-04	6.9E-04
Butyl Benzyl Phthalate	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	8.4E+00	2.5E+01	7.9E-03	2.7E-03
Carbazole	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.5E-02	8.6E-01	8.6E+00	4.1E-02	4.1E-03
Chrysene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.8E-02	2.9E-01	2.9E+00	1.3E-01	1.3E-02
Dibenzo(a,h)anthracene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.3E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
Dibenzofuran	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	6.9E-02	6.9E-02	5.1E-01	5.1E-01
Diethyl Phthalate	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	1.1E+03	1.1E+04	2.7E-05	2.7E-06
Dimethyl Phthalate	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	1.1E+03	1.1E+04	2.7E-05	2.7E-06
Di-n-butylphthalate	0.38	3.2E-03	1.0	0.28	8.1E-05	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.4E-02	1.6E+02	5.2E+02	2.1E-04	6.4E-05
Di-n-octylphthalate	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	8.0E-01	1.6E+02	5.2E+02	5.1E-03	1.5E-03
Fluoranthene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.9E-02	3.6E+00	7.1E+00	1.1E-02	5.5E-03
Fluorene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.4E-02	3.6E+00	7.1E+00	9.5E-03	4.8E-03
Hexachlorobenzene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.3E-02	4.2E-02	1.5E-01	7.9E-01	2.2E-01
Hexachlorobutadiene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.3E-02	1.1E-01	1.1E-01	3.2E-01	3.2E-01
Hexachlorocyclopentadiene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.3E-02	3.2E-01	5.8E-01	1.1E-01	5.7E-02
Hexachloroethane	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	5.3E-02	7.9E-01	6.8E-01	4.5E-02
Indeno(1,2,3-cd)pyrene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.5E-02	2.9E-01	2.9E+00	1.2E-01	1.2E-02
Isophorone	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	1.9E+01	9.5E+01	1.8E-03	3.8E-04
Naphthalene	0.38	4.7E-03	1.0	0.28	1.2E-04	5.9E-03	0.72	3.9E-04	4.13	1.0	3.5E-02	3.7E+00	7.5E+00	9.2E-03	4.6E-03
Nitrobenzene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	4.9E-03	0.72	3.2E-04	4.13	1.0	3.3E-02	1.3E-02	1.3E-01	2.5E-00	2.5E-01
N-Nitroso-di-n-propylamine	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	2.9E-03	2.9E-02	1.3E-01	1.2E-00
N-Nitrosodiphenylamine	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.6E-02	1.1E+02	2.6E+01	3.4E-04	1.4E-03
Pentachlorophenol	0.38	***5.0E-04***	1.0	0.28	1.3E-05	5.8E-04	0.72	3.8E-05	4.13	1.0	1.2E-01	1.3E-01	1.3E+00	9.5E-01	9.5E-02
Phenanthrene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	3.9E-02	5.0E+00	1.0E+01	7.7E-03	3.9E-03
Phenol	0.38	***5.0E-03***	1.0	0.28	1.3E-04	5.8E-03	0.72	3.9E-04	4.13	1.0	3.6E-02	3.2E+01	6.3E+01	1.1E-03	5.6E-04
Pyrene	0.38	***5.0E-03***	1.0	0.28	1.3E-04	***5.0E-03***	0.72	3.3E-04	4.13	1.0	4.6E-02	2.1E+00	3.6E+00	2.1E-02	1.3E-02
Hazard Index - SVOCs														2.1E-02	2.1E-01

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - Values for the shrew were obtained by multiplying the mean site-wide average daily dose (ADD) concentrations for the shrew by a factor of 1.0 to account for bioaccumulation but not biomagnification
Values for the vole were obtained by multiplying the mean site wide plant concentrations by their plant-to-herbivorous mammal (deer mouse) bioconcentration factor (BCF). If a BCF was not available for the compound, then the vole ADD was used as described for the shrew. See Table III B1
(c) - The dietary percentage of the shrew and vole were calculated by taking the dietary percentage of mammals for the fox (0.688) and dividing it by two. This assumes the fox will eat an equal amount of shrews and voles
(d) - The dietary percentage of the pond water and river water were calculated by dividing the total length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site
i.e. Small Pond = 1,375 ft, Large Pond = 2,770 ft, River = 14,956 ft so % for pond water ingestion = (1,375+2,770)/14,956 = 0.28
(e) - See Table III C1

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient.
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values. (For the concentrations within the shrew and vole, the modeled values based on non-detects from all matrices are italicized.)
A shaded cell indicates an HI of equal to or greater than 1.0.

Hazard Quotients and Hazard Indices for Ingestion of Mammals, Plants and Surface Water
Red Fox
Site-Wide
Sauget, IL

Analyte	Concentration of Contaminant in Soil (mg/kg)	Soil Ingestion Rate (a) (kg/day)	Area Use Factor (a)	Dose from Soil (mg/kg/day)	Dietary Ingestion Rate (a) (kg/day)	Concentration of Contaminant in Shrew (b) (mg/kg)	Area Use Factor (a)	Dietary Percentage of Shrew (a)(c)	Dose from Shrew (mg/kg/day)	Concentration of Contaminant in Prairie Vole (b) (mg/kg)	Dietary Percentage of Prairie Vole (a)(c)	Dose from Prairie Vole (mg/kg/day)	Concentration of Contaminant in Plants (mg/kg)	Dietary Percentage of Plants (a)	Dose from Plants (mg/kg/day)
Pesticides															
4,4'-DDD	8.2E-02	0.0126	1.0	2.5E-04	0.58	1.6E-02	1.0	0.344	7.9E-04	7.3E-04	0.344	3.5E-05	4.9E-03	0.104	7.1E-05
4,4'-DDE	1.8E-01	0.0126	1.0	5.6E-04	0.58	2.4E-02	1.0	0.344	1.1E-03	1.4E-04	0.344	6.6E-06	5.0E-03	0.104	7.3E-05
4,4'-DDT	9.4E-01	0.0126	1.0	2.9E-03	0.58	1.5E-01	1.0	0.344	7.0E-03	3.1E-03	0.344	1.5E-04	4.3E-03	0.104	6.2E-05
Aldrin	4.2E-02	0.0126	1.0	1.3E-04	0.58	7.3E-03	1.0	0.344	3.5E-04	3.6E-04	0.344	1.7E-05	2.4E-03	0.104	3.5E-05
alpha-BHC	5.5E-02	0.0126	1.0	1.7E-04	0.58	8.2E-03	1.0	0.344	3.9E-04	3.9E-04	0.344	1.9E-05	2.3E-03	0.104	3.3E-05
alpha-Chlordane	4.5E-02	0.0126	1.0	1.4E-04	0.58	8.3E-03	1.0	0.344	4.0E-04	3.8E-04	0.344	1.8E-05	2.6E-03	0.104	3.7E-05
beta-BHC	1.0E+00	0.0126	1.0	3.1E-03	0.58	8.3E-02	1.0	0.344	4.0E-03	3.2E-03	0.344	1.6E-04	3.3E-03	0.104	4.8E-05
delta-BHC	3.6E-02	0.0126	1.0	1.1E-04	0.58	7.2E-03	1.0	0.344	3.5E-04	3.4E-04	0.344	1.6E-05	2.4E-03	0.104	3.5E-05
Dieldrin	1.3E-01	0.0126	1.0	4.0E-04	0.58	4.5E-02	1.0	0.344	2.2E-03	8.1E-04	0.344	3.9E-05	4.3E-03	0.104	6.2E-05
Endosulfan I	4.2E-02	0.0126	1.0	1.3E-04	0.58	7.3E-03	1.0	0.344	3.5E-04	3.9E-04	0.344	1.9E-05	*2.6E-03*	0.104	3.9E-05
Endosulfan II	2.2E-01	0.0126	1.0	6.7E-04	0.58	2.6E-02	1.0	0.344	1.2E-03	1.1E-03	0.344	5.2E-05	4.4E-03	0.104	6.4E-05
Endosulfan Sulfate	8.7E-02	0.0126	1.0	2.6E-04	0.58	1.4E-02	1.0	0.344	6.7E-04	7.4E-04	0.344	3.6E-05	4.9E-03	0.104	7.1E-05
Endrin	4.0E-01	0.0126	1.0	1.2E-03	0.58	4.1E-02	1.0	0.344	2.0E-03	1.7E-03	0.344	8.0E-05	4.9E-03	0.104	7.1E-05
Endrin Aldehyde	8.8E-02	0.0126	1.0	2.7E-04	0.58	1.5E-02	1.0	0.344	7.1E-04	8.4E-04	0.344	4.1E-05	5.9E-03	0.104	8.6E-05
Endrin Ketone	8.7E-02	0.0126	1.0	2.7E-04	0.58	1.5E-02	1.0	0.344	7.1E-04	7.5E-04	0.344	3.6E-05	4.9E-03	0.104	7.2E-05
gamma-BHC (Lindane)	3.0E-01	0.0126	1.0	9.0E-04	0.58	2.7E-02	1.0	0.344	1.3E-03	1.1E-03	0.344	5.3E-05	2.4E-03	0.104	3.5E-05
gamma-Chlordane	1.5E-01	0.0126	1.0	4.7E-04	0.58	1.6E-02	1.0	0.344	7.5E-04	7.0E-04	0.344	3.4E-05	2.6E-03	0.104	3.7E-05
Heptachlor	6.5E-02	0.0126	1.0	2.0E-04	0.58	8.8E-03	1.0	0.344	4.2E-04	4.0E-06	0.344	1.9E-07	2.6E-03	0.104	3.8E-05
Heptachlor Epoxide	4.5E-02	0.0126	1.0	1.4E-04	0.58	7.6E-03	1.0	0.344	3.7E-04	3.9E-04	0.344	1.9E-05	2.6E-03	0.104	3.8E-05
Methoxychlor	4.3E-01	0.0126	1.0	1.3E-03	0.58	6.3E-02	1.0	0.344	3.0E-03	4.3E-03	0.344	2.1E-04	3.1E-02	0.104	4.5E-04
Toxaphene	4.2E+00	0.0126	1.0	1.3E-02	0.58	7.4E-01	1.0	0.344	3.6E-02	3.9E-02	0.344	1.9E-03	*2.6E-01*	0.104	3.9E-03
Herbicides															
2,4-D	1.4E-01	0.0126	1.0	4.4E-04	0.58	6.5E-02	1.0	0.344	3.1E-03	5.3E-03	0.344	2.5E-04	4.9E-02	0.104	7.1E-04
2,4-DB	2.0E-02	0.0126	1.0	6.0E-05	0.58	1.8E-02	1.0	0.344	8.7E-04	1.2E-02	0.344	5.7E-04	1.2E-01	0.104	1.7E-03
2,4,5-T	7.0E-01	0.0126	1.0	2.1E-03	0.58	7.0E-02	1.0	0.344	3.4E-03	5.7E-03	0.344	2.7E-04	3.6E-02	0.104	5.3E-04
2,4,5-TP (Silvex)	2.2E-02	0.0126	1.0	6.6E-05	0.58	1.6E-02	1.0	0.344	7.9E-04	2.0E-03	0.344	9.5E-05	1.9E-02	0.104	2.8E-04
Dalapon	3.7E+00	0.0126	1.0	1.1E-02	0.58	3.9E+00	1.0	0.344	1.9E-01	3.8E-01	0.344	1.8E-02	*3.7E+00*	0.104	5.4E-02
Dicamba	3.6E-02	0.0126	1.0	1.1E-04	0.58	3.9E-02	1.0	0.344	1.9E-03	3.8E-03	0.344	1.8E-04	*3.7E-02*	0.104	5.4E-04
Dichlorprop	1.4E-01	0.0126	1.0	4.2E-04	0.58	1.9E-01	1.0	0.344	9.0E-03	1.9E-02	0.344	9.3E-04	1.9E-01	0.104	2.7E-03
Dinoseb	3.6E-01	0.0126	1.0	1.1E-03	0.58	4.8E-01	1.0	0.344	2.3E-02	5.1E-02	0.344	2.4E-03	*5.0E-01*	0.104	7.2E-03
MCPA	3.7E+00	0.0126	1.0	1.1E-02	0.58	1.8E+01	1.0	0.344	8.6E-01	5.2E-01	0.344	2.5E-02	5.1E+00	0.104	7.5E-02
MCPP	1.1E+01	0.0126	1.0	3.5E-02	0.58	4.5E+00	1.0	0.344	2.2E-01	4.9E-01	0.344	2.4E-02	4.6E+00	0.104	6.7E-02
PCBs															
Total PCBs	6.9E+01	0.0126	1.0	2.1E-01	0.58	7.0E+00	1.0	0.344	3.4E-01	2.0E-01	0.344	9.6E-03	*2.5E-02*	0.104	3.6E-04
Dioxins/Furans (f)															
TEQ	3.0E-03	0.0126	1.0	9.0E-06	0.58	2.9E-04	1.0	0.344	1.4E-05	1.9E-08	0.344	8.9E-10	5.7E-07	0.104	8.3E-09
Metals															
Aluminum	8.1E+03	0.0126	1.0	2.5E+01	0.58	9.2E+02	1.0	0.344	4.4E+01	2.6E+01	0.344	1.2E+00	2.4E+01	0.104	3.4E-01
Antimony	4.7E+00	0.0126	1.0	1.4E-02	0.58	9.1E-01	1.0	0.344	4.4E-02	5.6E-04	0.344	2.7E-05	9.3E-01	0.104	1.4E-02
Arsenic	1.0E+01	0.0126	1.0	3.1E-02	0.58	3.2E+00	1.0	0.344	1.5E-01	5.7E-04	0.344	2.7E-05	4.7E-01	0.104	6.9E-03
Barium	3.2E+02	0.0126	1.0	9.8E-01	0.58	3.1E+01	1.0	0.344	1.5E+00	8.1E-04	0.344	3.9E-05	9.0E+00	0.104	1.3E-01
Beryllium	6.8E-01	0.0126	1.0	2.1E-03	0.58	1.7E-01	1.0	0.344	8.3E-03	*1.1E-04*	0.344	5.5E-06	*1.9E-01*	0.104	2.8E-03
Cadmium	5.6E+00	0.0126	1.0	1.7E-02	0.58	1.1E+00	1.0	0.344	5.1E-02	1.4E-05	0.344	6.7E-07	1.9E-01	0.104	2.8E-03
Chromium	5.4E+01	0.0126	1.0	1.7E-01	0.58	4.9E+00	1.0	0.344	2.4E-01	1.2E-03	0.344	5.7E-05	3.6E-01	0.104	5.2E-03
Cobalt	9.4E+00	0.0126	1.0	2.9E-02	0.58	1.6E+00	1.0	0.344	7.5E-02	7.7E-02	0.344	3.7E-03	5.0E-01	0.104	7.2E-03
Copper	2.2E+02	0.0126	1.0	6.8E-01	0.58	2.4E+01	1.0	0.344	1.2E+00	1.0E+00	0.344	4.9E-02	3.8E+00	0.104	5.5E-02
Lead	3.7E+02	0.0126	1.0	1.1E+00	0.58	3.1E+01	1.0	0.344	1.5E+00	3.2E-04	0.344	1.5E-05	1.8E+00	0.104	2.6E-02
Manganese	5.6E+02	0.0126	1.0	1.7E+00	0.58	6.0E+01	1.0	0.344	2.9E+00	2.7E+00	0.344	1.3E-01	1.1E+01	0.104	1.5E-01
Mercury	2.3E+00	0.0126	1.0	7.0E-03	0.58	2.3E-01	1.0	0.344	1.1E-02	3.3E-04	0.344	1.6E-05	7.0E-01	0.104	1.0E-02
Nickel	4.7E+01	0.0126	1.0	1.4E-01	0.58	5.0E+00	1.0	0.344	2.4E-01	7.2E-03	0.344	3.5E-04	2.0E+00	0.104	2.9E-02
Selenium	1.1E+00	0.0126	1.0	3.4E-03	0.58	4.7E-01	1.0	0.344	2.2E-02	1.3E-03	0.344	6.2E-05	9.4E-01	0.104	1.4E-02
Silver	2.1E+00	0.0126	1.0	6.5E-03	0.58	4.6E-01	1.0	0.344	2.2E-02	*8.6E-04*	0.344	4.1E-05	*4.8E-01*	0.104	7.0E-03
Thallium	8.2E-01	0.0126	1.0	2.5E-03	0.58	3.5E-01	1.0	0.344	1.7E-02	*1.1E-02*	0.344	5.5E-04	*4.8E-01*	0.104	7.0E-03
Vanadium	2.7E+01	0.0126	1.0	8.1E-02	0.58	3.3E+00	1.0	0.344	1.6E-01	1.2E-01	0.344	5.9E-03	4.6E-01	0.104	6.7E-03
Zinc	6.4E+02	0.0126	1.0	1.9E+00	0.58	7.7E+01	1.0	0.344	3.7E+00	1.5E-03	0.344	7.2E-05	2.8E+01	0.104	4.0E-01

NOTES:
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan.
(b) - Values for the shrew were obtained by multiplying the mean site-wide average daily dose (ADD) concentrations for the shrew by a factor of 1.0 to account for bioaccumulation but not biomagnification.
Values for the vole were obtained by multiplying the mean site-wide plant concentrations by their plant-to-herbivorous mammal (deer mouse) bioconcentration factor (BCF). If a BCF was not available for the compound, then the vole ADD was used as described for the shrew. See Table III-B1.
(c) - The dietary percentage of the shrew and vole were calculated by taking the dietary percentage of mammals for the fox (0.688) and dividing it by two. This assumes the fox will eat an equal amount of shrews and voles.
(d) - The dietary percentage of the pond water and river water were calculated by dividing the total length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site.
i.e. Small Pond = 1,375 ft; Large Pond = 2,770 ft; River = 14,956 ft so: % for pond water ingestion = (1,375+2,770)/14956 = 0.28.
(e) - See Table III-C1.
(f) - Dioxins/furans were not analyzed for the A-Line surface water samples. The B-Line sample values for dioxins/furans were used instead.

NOAEL - No Observable Adverse Effects Level.
LOAEL - Lowest Observable Adverse Effects Level.
HQ - Hazard Quotient.
Bolded/italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values. (For the concentrations within the shrew and vole, the modeled values based on non-detects from all matricies are italicized.)
[illegible]

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients.

Table 7-48
Hazard Quotients and Hazard Indices for Ingestion of Mammals, Plants and Surface Water
Red Fox
Site-Wide
Sauget, IL

Analyte	Surface Water Ingestion Rate (a) (L/day)	Concentration of Contaminant in Pond Surface Water (mg/L)	Area Use Factor (a)	Dietary Percentage of Pond Water (d)	Dose from Pond Surface Water (mg/kg/day)	Concentration of Contaminant in River Surface Water (Plots 2-6 A-Line) (mg/L)	Dietary Percentage of River Water (c)	Dose from River Surface Water (mg/kg/day)	Average Body Weight (a) (kg)	Seasonal Use Factor (a)	Average Daily Dose (mg/kg/day)	Toxicity Reference Value (TRV) (e)		Hazard Quotient	
												(NOAEL)	(LOAEL)	NOAEL HQ	LOAEL HQ
Pesticides															
4,4'-DDD	0.38	*5.0E-05*	1.0	0.28	1.3E-06	*5.0E-05*	0.72	3.3E-06	4.13	1.0	1.2E-03	4.2E-01	2.1	2.7E-03	5.5E-04
4,4'-DDE	0.38	*5.0E-05*	1.0	0.28	1.3E-06	*5.0E-05*	0.72	3.3E-06	4.13	1.0	1.8E-03	4.2E-01	2.1	4.2E-03	8.5E-04
4,4'-DDT	0.38	3.9E-05	1.0	0.28	1.0E-06	*5.0E-05*	0.72	3.3E-06	4.13	1.0	1.0E-02	4.2E-01	2.1	2.4E-02	4.8E-03
Aldrin	0.38	1.7E-05	1.0	0.28	4.4E-07	*2.5E-05*	0.72	1.7E-06	4.13	1.0	5.3E-04	1.1E-01	0.53	5.1E-03	1.0E-03
alpha-BHC	0.38	*2.5E-05*	1.0	0.28	6.4E-07	*2.5E-05*	0.72	1.7E-06	4.13	1.0	6.2E-04	9.6E-03	0.096	6.4E-02	6.4E-03
alpha-Chlordane	0.38	*2.5E-05*	1.0	0.28	6.4E-07	*2.5E-05*	0.72	1.7E-06	4.13	1.0	5.9E-04	1.3E+00	2.6	4.5E-04	2.3E-04
beta-BHC	0.38	1.6E-05	1.0	0.28	4.2E-07	2.4E-05	0.72	1.6E-06	4.13	1.0	7.3E-03	2.1E-01	1.1	3.5E-02	6.9E-03
delta-BHC	0.38	*2.5E-05*	1.0	0.28	6.4E-07	*2.5E-05*	0.72	1.7E-06	4.13	1.0	5.1E-04	9.6E-03	0.096	5.3E-02	5.3E-03
Dieldrin	0.38	3.0E-05	1.0	0.28	7.7E-07	*5.0E-05*	0.72	3.3E-06	4.13	1.0	2.7E-03	1.1E-02	0.11	2.5E-01	2.5E-02
Endosulfan I	0.38	*2.5E-05*	1.0	0.28	6.4E-07	*2.5E-05*	0.72	1.7E-06	4.13	1.0	5.4E-04	7.9E-02	0.79	6.8E-03	6.8E-04
Endosulfan II	0.38	*5.0E-05*	1.0	0.28	1.3E-06	*5.0E-05*	0.72	3.3E-06	4.13	1.0	2.0E-03	7.9E-02	0.79	2.6E-02	2.6E-03
Endosulfan Sulfate	0.38	*5.0E-05*	1.0	0.28	1.3E-06	*5.0E-05*	0.72	3.3E-06	4.13	1.0	1.0E-03	7.9E-02	0.79	1.3E-02	1.3E-03
Endrin	0.38	*5.0E-05*	1.0	0.28	1.3E-06	*5.0E-05*	0.72	3.3E-06	4.13	1.0	3.3E-03	2.6E-02	0.26	1.3E-01	1.3E-02
Endrin Aldehyde	0.38	*5.0E-05*	1.0	0.28	1.3E-06	*5.0E-05*	0.72	3.3E-06	4.13	1.0	1.1E-03	2.6E-02	0.26	4.2E-02	4.2E-03
Endrin Ketone	0.38	*5.0E-05*	1.0	0.28	1.3E-06	4.9E-05	0.72	3.2E-06	4.13	1.0	1.1E-03	2.6E-02	0.26	4.1E-02	4.1E-03
gamma-BHC (Lindane)	0.38	*2.5E-05*	1.0	0.28	6.4E-07	*2.5E-05*	0.72	1.7E-06	4.13	1.0	2.3E-03	4.2E+00	42	5.5E-04	5.5E-05
gamma-Chlordane	0.38	*2.5E-05*	1.0	0.28	6.4E-07	*2.5E-05*	0.72	1.7E-06	4.13	1.0	1.3E-03	1.3E+00	2.6	9.8E-04	4.9E-04
Heptachlor	0.38	*2.5E-05*	1.0	0.28	6.4E-07	*2.5E-05*	0.72	1.7E-06	4.13	1.0	6.6E-04	6.9E-02	0.69	9.6E-03	9.6E-04
Heptachlor Epoxide	0.38	*2.5E-05*	1.0	0.28	6.4E-07	*2.5E-05*	0.72	1.7E-06	4.13	1.0	5.6E-04	6.6E-04	0.016	8.5E-01	3.5E-02
Methoxychlor	0.38	*2.5E-04*	1.0	0.28	6.4E-06	*2.5E-04*	0.72	1.7E-05	4.13	1.0	5.0E-03	2.1E+00	4.2	2.4E-03	1.2E-03
Toxaphene	0.38	2.5E-03	1.0	0.28	6.4E-05	2.5E-03	0.72	1.7E-04	4.13	1.0	5.5E-02	4.2E+00	42	1.3E-02	1.3E-03
														4.3E+00	1.2E-01
Herbicides															
2,4-D	0.38	*2.5E-04*	1.0	0.28	6.4E-06	3.0E-03	0.72	2.0E-04	4.13	1.0	4.8E-03	5.3E-01	2.6	9.0E-03	1.8E-03
2,4-DB	0.38	*2.5E-04*	1.0	0.28	6.4E-06	*2.5E-04*	0.72	1.7E-05	4.13	1.0	3.2E-03	1.0E+00	3.2	3.1E-03	1.0E-03
2,4,5-T	0.38	*2.5E-04*	1.0	0.28	6.4E-06	2.5E-04	0.72	1.7E-05	4.13	1.0	6.3E-03	1.6E+00	5.3	4.0E-03	1.2E-03
2,4,5-TP (Silvex)	0.38	*2.5E-04*	1.0	0.28	6.4E-06	*2.5E-04*	0.72	1.7E-05	4.13	1.0	1.2E-03	9.7E-01	3.2	1.3E-03	3.9E-04
Dalapon	0.38	*6.0E-02*	1.0	0.28	1.5E-03	*6.0E-02*	0.72	4.0E-03	4.13	1.0	2.8E-01	4.5E+00	15	6.2E-02	1.8E-02
Dicamba	0.38	*6.0E-04*	1.0	0.28	1.5E-05	*6.0E-04*	0.72	4.0E-05	4.13	1.0	2.8E-03	2.2E+00	7.2	1.3E-03	3.8E-04
Dichloprop	0.38	*3.0E-03*	1.0	0.28	7.7E-05	2.2E-03	0.72	1.4E-04	4.13	1.0	1.3E-02	5.7E-02	0.57	2.3E-01	2.3E-02
Dinoseb	0.38	*5.0E-03*	1.0	0.28	1.3E-04	*5.0E-03*	0.72	3.3E-04	4.13	1.0	3.4E-02	5.3E-02	0.53	6.5E-01	6.5E-02
MCPA	0.38	*6.0E-02*	1.0	0.28	1.5E-03	*6.0E-02*	0.72	4.0E-03	4.13	1.0	9.8E-01	1.9E-01	0.97	5.0E+00	1.0E+01
MCPP	0.38	*6.0E-02*	1.0	0.28	1.5E-03	*6.0E-02*	0.72	4.0E-03	4.13	1.0	3.5E-01	1.6E-01	0.48	2.2E+00	7.3E-01
														8.2E+00	1.8E+01
PCBs															
Total PCBs	0.38	*2.5E-04*	1.0	0.28	6.4E-06	*2.5E-04*	0.72	1.7E-05	4.13	1.0	5.6E-01	5.3E-02	5.3E-01	1.1E+01	1.1E+00
Dioxins/Furans (f)															
TEQ	0.38	1.1E-08	1.0	0.28	7.7E-10	*1.7E-09*	0.72	1.2E-10	4.13	1.0	2.3E-05	5.3E-07	5.3E-06	4.4E+01	4.4E+00
Metals															
Aluminum	0.38	3.9E+03	1.0	0.28	1.0E-01	4.4E-01	0.72	2.9E-02	4.13	1.0	7.1E+01	5.5E-01	5.5	1.3E+02	1.3E-01
Antimony	0.38	*1.0E-02*	1.0	0.28	2.6E-04	1.0E-02	0.72	6.7E-04	4.13	1.0	7.3E-02	3.6E-02	0.36	2.0E+00	2.0E-01
Arsenic	0.38	4.7E-03	1.0	0.28	1.2E-04	5.0E-03	0.72	3.3E-04	4.13	1.0	1.9E-01	3.6E-02	0.36	5.3E+00	5.3E-01
Barium	0.38	1.6E-01	1.0	0.28	4.0E-03	5.7E-02	0.72	3.8E-03	4.13	1.0	2.4E+00	2.7E+00	10	9.6E-01	2.5E-01
Beryllium	0.38	*2.0E-03*	1.0	0.28	5.2E-05	*2.0E-03*	0.72	1.3E-04	4.13	1.0	1.3E-02	3.5E-01	3.5	3.8E-02	3.8E-03
Cadmium	0.38	1.6E-03	1.0	0.28	4.1E-05	*2.5E-03*	0.72	1.7E-04	4.13	1.0	7.1E-02	5.3E-01	5.3	1.3E-01	1.3E-02
Chromium	0.38	7.5E-03	1.0	0.28	1.9E-04	*5.0E-03*	0.72	3.3E-04	4.13	1.0	4.1E-01	1.2E+00	6.9	2.4E-01	5.9E-02
Cobalt	0.38	4.3E-03	1.0	0.28	1.1E-04	4.7E-03	0.72	3.1E-04	4.13	1.0	1.2E-01	2.6E-02	0.26	4.4E+00	4.4E-01
Copper	0.38	1.2E-02	1.0	0.28	3.0E-04	9.7E-03	0.72	6.4E-04	4.13	1.0	1.9E+00	8.0E+00	11	2.4E-01	1.8E-01
Lead	0.38	8.3E-03	1.0	0.28	2.1E-04	2.5E-03	0.72	1.7E-04	4.13	1.0	2.5E+00	4.2E+00	42	6.2E-01	6.2E-02
Manganese	0.38	2.5E-01	1.0	0.28	6.4E-03	4.9E-02	0.72	3.2E-03	4.13	1.0	4.9E+00	4.6E+01	150	1.1E-01	3.3E-02
Mercury	0.38	*1.0E-04*	1.0	0.28	2.6E-06	1.0E-04	0.72	6.7E-06	4.13	1.0	2.9E-02	1.0E-02	0.017	2.8E+00	1.7E+00
Nickel	0.38	1.5E-02	1.0	0.28	3.8E-04	*2.0E-02*	0.72	1.3E-03	4.13	1.0	4.1E-01	2.1E+01	42	2.0E-02	9.8E-03
Selenium	0.38	*5.0E-03*	1.0	0.28	1.3E-04	*5.0E-03*	0.72	3.3E-04	4.13	1.0	4.0E-02	1.1E-01	0.17	3.8E-01	2.3E-01
Silver	0.38	*5.0E-03*	1.0	0.28	1.3E-04	*5.0E-03*	0.72	3.3E-04	4.13	1.0	3.6E-02	5.2E-02	0.52	6.9E-01	6.9E-02
Thallium	0.38	*5.0E-03*	1.0	0.28	1.3E-04	*5.0E-03*	0.72	3.3E-04	4.13	1.0	2.7E-02	3.9E-03	0.039	7.0E+00	7.0E-01
Vanadium	0.38	1.2E-02	1.0	0.28	3.2E-04	4.7E-03	0.72	3.1E-04	4.13	1.0	2.5E-01	1.1E-01	1.1	2.3E+00	2.3E-01
Zinc	0.38	3.1E-02	1.0	0.28	8.0E-04	8.8E-03	0.72	5.8E-04	4.13	1.0	6.0E+00	8.4E+01	169	7.2E-02	3.6E-02
Hazard Index - Metals														1.6E+02	1.8E+01

NOTES
(a) - Values and references for them are presented in Section 12.7.6.1 of the Risk Assessment Workplan
(b) - Values for the shrew were obtained by multiplying the mean site wide average daily dose (ADD) concentrations for the shrew by a factor of 1.0 to account for bioaccumulation but not biomagnification
Values for the vole were obtained by multiplying the mean site-wide plant concentrations by their plant-to-herbivorous mammal (deer mouse) bioconcentration factor (BCF). If a BCF was not available for the compound, then the vole ADD was used as described for the shrew. See Table III-B1
(c) - The dietary percentage of the shrew and vole were calculated by taking the dietary percentage of mammals for the fox (0.688) and dividing it by two. This assumes the fox will eat an equal amount of shrews and voles
(d) - The dietary percentage of the pond water and river water were calculated by dividing the total length of the perimeters for Large and Small Pond by the total length of the river front adjacent to the Site
i.e. Small Pond = 1,375 ft. Large Pond = 2,770 ft. River = 14,956 ft so % for pond water ingestion = (1,375+2,770)/14956 = 0.28
(e) - See Table III-C1
(f) - Dioxin/furans were not analyzed for the A-Line surface water samples. The B-Line sample values for dioxins/furans were used instead

NOAEL - No Observable Adverse Effects Level
LOAEL - Lowest Observable Adverse Effects Level
HQ - Hazard Quotient
Bolded/Italicized values indicate either a maximum concentration based on non-detected values or a mean/95% UCL based entirely on non-detected values. (For the concentrations within the shrew and vole, the modeled values based on non detects from all matrices are calculated.)
A shaded cell indicates an HI of equal to or greater than 1.0

* Calcium, Iron, Magnesium, Potassium and Sodium were not included in the model equations as they are considered to be essential nutrients

Table 7-49
COPECs for Site Based on Red Fox
Sauget, IL

Red Fox Modeling HQs
PCBs
Dioxins/furans
Aluminum
Antimony (NOAEL only)
Arsenic (NOAEL only)
Cobalt (NOAEL only)
Mercury
Thallium (NOAEL only)
Vanadium (NOAEL only)

NOTES:
Analytes listed are only for those exceeding their benchmark/TRV, based on detected values, and were above the background values.

Table 7-50
Pond Sediment Hazard Quotients
Sauget, IL

Analyte	Benchmark	Reference for Benchmark	Sample No. P115					Sample No. P125 (Dupe of P115)				
			Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ	Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ
VOCs (mg/kg)	**Acute**											
1,1,1-Trichloroethane	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
1,1,2,2-Tetrachloroethane	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
1,1,2-Trichloroethane	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
1,1-Dichloroethane	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
1,1-Dichloroethylene	NA	NA	4.5	U		4.5	NC	3.8	U		1.9	NC
1,2-Dichloroethane	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
1,2-Dichloroethene (total)	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
1,2-Dichloropropane	NA	NA	4.5	U		4.5	NC	3.8	U		1.9	NC
2-Butanone (MEK)	NA	1	18	J		18	NC	19	U		19	NC
2-Hexanone	NA	1	9.1	U		9.1	NC	19	U		9.5	NC
4-Methyl-2-pentanone (MIBK)	NA	1	9.1	U		9.1	NC	19	U		9.5	NC
Acetone	NA	1	290	J		290	NC	38	U		38	NC
Benzene	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
Bromodichloromethane	NA	NA	4.5	U		4.5	NC	3.8	U		1.9	NC
Bromoform	NA	NA	4.5	U		4.5	NC	3.8	U		1.9	NC
Bromomethane	NA	NA	9.1	U		9.1	NC	7.6	U		3.8	NC
Carbon Disulfide	NA	1	4.5	U	NA	4.5	NC	3.8	U	NA	1.9	NC
Carbon Tetrachloride	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
Chlorobenzene	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
Chloroform	NA	NA	9.1	U		9.1	NC	7.6	U		3.8	NC
Chloromethane	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
Dibromochloromethane	NA	NA	9.1	U		9.1	NC	7.6	U		3.8	NC
trans-1,3-Dichloropropene	NA	NA	4.5	U		4.5	NC	3.8	U		1.9	NC
Dichlorodifluoromethane	NA	NA	4.5	U		4.5	NC	3.8	U		1.9	NC
Ethylbenzene	NA	1	4.5	U		4.5	NC	2.3	J		1.2	NC
Methylene Chloride	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
Styrene (Monomer)	NA	NA	4.5	U		4.5	NC	3.8	U		1.9	NC
Tetrachloroethene	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
Toluene	NA	1	4.5	U		4.5	NC	3.8	U		1.9	NC
trans-1,3-Dichloropropene	NA	NA	4.5	U		4.5	NC	3.8	U		1.9	NC
Trichloroethene	NA	NA	4.5	U		4.5	NC	3.8	U		1.9	NC
Vinyl chloride	NA	NA	9.1	U		9.1	NC	7.6	U		3.8	NC
Xylenes, Total	NA	1	6.9	J		6.9	NC	13			13	NC
SVOCs (mg/kg)												
1,2,4-Trichlorobenzene	NA	1	700	U		350	NC	700	U		350	NC
1,2-Dichlorobenzene	NA	1	700	U		350	NC	700	U		350	NC
1,3-Dichlorobenzene	NA	1	700	U		350	NC	700	U		350	NC
1,4-Dichlorobenzene	NA	1	700	U		350	NC	700	U		350	NC
2,2'-Oxybis(1-Chloropropane)	NA	NA	700	U		350	NC	700	U		350	NC
2,4,5-Trichlorophenol	NA	NA	700	U		350	NC	700	U		350	NC
2,4,6-Trichlorophenol	NA	NA	700	U		350	NC	700	U		350	NC
2,4-Dichlorophenol	NA	NA	700	U		350	NC	700	U		350	NC
2,4-Dimethylphenol	NA	NA	700	U		350	NC	700	U		350	NC
2,4-Dinitrophenol	NA	NA	3600	U		1800	NC	3600	U		1800	NC
2,4-Dinitrotoluene	NA	NA	700	U		350	NC	700	U		350	NC
2,6-Dinitrotoluene	NA	NA	700	U		350	NC	700	U		350	NC
2-Chloronaphthalene	NA	NA	700	U		350	NC	700	U		350	NC
2-Chlorophenol	NA	NA	700	U		350	NC	700	U		350	NC
2-Methylnaphthalene	201	9	700	U		350	1.7E+00	700	U		350	1.7E+00
2-Methylphenol (o-Cresol)	NA	1	700	U	NA	350	NC	700	U	NA	350	NC
2-Nitroaniline	NA	NA	3600	U		1800	NC	3600	U		1800	NC
2-Nitrophenol	NA	NA	700	U		350	NC	700	U		350	NC
3,3'-Dichlorobenzidine	NA	NA	1400	U		700	NC	1400	U		700	NC
3,4-Methylphenol (m&p-Cresol)	NA	NA	700	U		350	NC	700	U		350	NC
3-Nitroaniline	NA	NA	3600	U		1800	NC	3600	U		1800	NC
4,6-Dinitro-2-methylphenol	NA	NA	3600	U		1800	NC	3600	U		1800	NC
4-Bromophenyl Phenyl Ether	NA	1	700	U		350	NC	700	U		350	NC
4-Chloro-3-methylphenol	NA	NA	700	U		350	NC	700	U		350	NC
4-Chloroaniline	NA	NA	1400	U		700	NC	1400	U		700	NC
4-Chlorophenyl Phenyl Ether	NA	NA	700	U		350	NC	700	U		350	NC
4-Nitroaniline	NA	NA	3600	U		1800	NC	3600	U		1800	NC
4-Nitrophenol	NA	NA	3600	U		1800	NC	3600	U		1800	NC
Acenaphthene	10	9	700	U		350	3.9E+00	700	U		350	3.9E+00
Acenaphthylene	18	9	700	U		350	2.7E+00	700	U		350	2.7E+00
Anthracene	17000	9	700	U		350	9.5E-03	700	U		350	9.5E-03

NOTES:
a = LEL, SEL (Persaud et al., 1997; SELs were TOC-normalized; TOC for pond sediment was 1%; therefore the SELs were TOC-normalized to the recommended 10% minimum)
b = TEL, PEL (Smith et al., 1996)
c = EQC, SQB (USEPA, 1996)
d = Tier II SCVs (Jones et al., 1996; SCVs were TOC normalized to 10%)
e = ER-L, ER-M (Long et al., 1995)
NC = No appropriate sediment screening value available; therefore the hazard quotient could not be calculated
NA = Not applicable
NB = Not analyzed
ND = Data point was rejected; therefore the hazard quotient could not be calculated

U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Italic/Bold/underlined values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations.
[redacted]

Table 7-50
Pond Sediment Hazard Quotients
Sauget, IL

Analyte	Benchmark	Reference for Benchmark	Sample No. P11S					Sample No. P12S (Dupe of P11S)				
			Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ	Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ
SVOCs (ug/kg)	Acute											
Benzo(a)anthracene	148000	a	700	U		350	2.4E-03	700	U		350	2.4E-03
Benzo(a)pyrene	144000	a	700	U		350	2.4E-03	700	U		350	2.4E-03
Benzo(b)fluoranthene	NC	NA	700	U		350	NC	700	U		350	NC
Benzo(g,h,i)perylene	32000	a	700	U		350	1.1E-02	700	U		350	1.1E-02
Benzo(k)fluoranthene	134000	a	700	U		350	2.6E-03	700	U		350	2.6E-03
bis(2-Chloroethoxy)methane	NC	NA	700	U		350	NC	700	U		350	NC
bis(2-Chloroethyl)ether	NC	NA	700	U		350	NC	700	U		350	NC
bis(2-Ethylhexyl)phthalate	2647	b	700	U		350	1.3E-01	700	U		350	1.3E-01
Butyl Benzyl Phthalate	NC	c	700	U		350	NC	700	U		350	NC
Carbazole	NC	NA	700	U		350	NC	700	U		350	NC
Chrysene	46000	a	700	U		350	7.6E-03	700	U		350	7.6E-03
Dibenzo(a,h)anthracene	13000	a	700	U		350	2.7E-02	700	U		350	2.7E-02
Dibenzofuran	NC	c	700	U		350	NC	700	U		350	NC
Diethyl Phthalate	NC	c	700	U		350	NC	700	U		350	NC
Dimethyl Phthalate	NC	NA	700	U		350	NC	700	U		350	NC
Di-n-butylphthalate	NC	c	700	U		350	NC	700	U		350	NC
Di-n-octylphthalate	NC	NA	700	U	NA	350	NC	700	U	NA	350	NC
Fluoranthene	102000	a	700	U		350	3.4E-03	700	U		350	3.4E-03
Fluorene	16000	a	700	U		350	2.2E-02	700	U		350	2.2E-02
Hexachlorobenzene	2400	a	700	U		350	1.5E-01	700	U		350	1.5E-01
Hexachlorobutadiene	NC	NA	700	U		350	NC	700	U		350	NC
Hexachlorocyclopentadiene	NC	NA	700	UJ		350	NC	700	UJ		350	NC
Hexachloroethane	NC	d	700	U		350	NC	700	U		350	NC
Indeno(1,2,3-cd)pyrene	32000	a	700	U		350	1.1E-02	700	U		350	1.1E-02
Isophorone	NC	NA	700	U		350	NC	700	U		350	NC
Naphthalene	391	b	700	U		350	9.0E-01	700	U		350	9.0E-01
Nitrobenzene	NC	NA	700	U		350	NC	700	U		350	NC
N-Nitroso-di-n-propylamine	NC	NA	700	U		350	NC	700	U		350	NC
N-Nitrosodiphenylamine	NC	NA	700	U		350	NC	700	U		350	NC
Pentachlorophenol	NC	NA	R	R		R	NA	2.5	J		2.5	NC
Phenanthrene	95000	a	700	U		350	3.7E-03	700	U		350	3.7E-03
Phenol	NC	NA	700	U		350	NC	700	U		350	NC
Pyrene	85000	a	700	U		350	4.1E-03	700	U		350	4.1E-03
Pesticides (ug/kg)												
4,4'-DDD	600	a	7.0	UJ		3.5	5.8E-03	7.0	UJ		3.5	5.8E-03
4,4'-DDE	1900	a	7.0	U		3.5	1.8E-03	7.0	U		3.5	1.8E-03
4,4'-DDT	7100	a	R	R		RD	NA	57	J		57	8.0E-03
Aldrin	800	a	3.6	U		1.8	2.3E-03	3.6	U		1.8	2.3E-03
alpha-BHC	1000	a	3.6	U		1.8	1.8E-03	3.6	U		1.8	1.8E-03
alpha-Chlordane	NC	NA	3.6	U		1.8	NC	3.6	U		1.8	NC
beta-BHC	2100	a	3.6	U		1.8	8.6E-04	3.6	U		1.8	8.6E-04
delta-BHC	NC	NA	3.6	U		1.8	NC	3.6	U		1.8	NC
Dieldrin	9100	a	7.0	U		3.5	3.8E-04	7.0	U		3.5	3.8E-04
Endosulfan I	NC	c	3.6	U		1.8	NC	3.6	U		1.8	NC
Endosulfan II	NC	c	7.0	U	NA	3.5	NC	7.0	U	NA	3.5	NC
Endosulfan Sulfate	NC	NA	7.0	U		3.5	NC	7.0	U		3.5	NC
Endrin	13000	a	7.0	U		3.5	2.7E-04	7.0	U		3.5	2.7E-04
Endrin Aldehyde	NC	NA	7.0	U		3.5	NC	7.0	U		3.5	NC
Endrin Ketone	NC	NA	7.0	UJ		3.5	NC	7.0	UJ		3.5	NC
gamma-BHC (Lindane)	100	a	3.6	U		1.8	1.8E-02	3.6	U		1.8	1.8E-02
gamma-Chlordane	NC	NA	3.6	U		1.8	NC	3.6	U		1.8	NC
Heptachlor	NC	d	3.6	UJ		1.8	NC	3.6	UJ		1.8	NC
Heptachlor Epoxide	500	a	3.6	U		1.8	3.6E-03	3.6	U		1.8	3.6E-03
Methoxychlor	NC	c	36	UJ		18	NC	36	UJ		18	NC
Toxaphene	NC	c	360	U		180	NC	360	U		180	NC
Herbicides (ug/kg)												
2,4-D	NC	NA	R	R		RD	NA	18	R		RD	NA
2,4-DB	NC	NA	R	R		RD	NA	18	R		RD	NA
2,4,5-T	NC	NA	R	R		RD	NA	18	R		RD	NA
2,4,5-TP (Silvex)	NC	NA	R	R		RD	NA	18	R		RD	NA
Dalapon	NC	NA	R	R	NA	RD	NA	4200	R	NA	RD	NA
Dicamba	NC	NA	R	R		RD	NA	42	R		RD	NA
Dichlorprop	NC	NA	R	R		RD	NA	3.7	J		3.7	NC
Dinoseb	NC	NA	700	UJ		350	NC	700	UJ		350	NC
MCPA	NC	NA	R	R		RD	NA	4200	R		RD	NA
MCPP	NC	NA	R	R		RD	NA	630	J		630	NC

NOTES:
a = LEL, SEL (Persand *et al*., 1993) (SELs were TOC-normalized. TOC for pond sediment was 17%, therefore the SELs were TOC-normalized to the recommended 10% maximum)
b = TEL, PEL (Smith *et al*., 1996)
c = SQC, SQB (USEPA, 1998)
d = Tier II SCVs (Jones *et al*., 1996) (SCVs were TOC normalized to 10%)
e = ER-L, ER-M (Long *et al*., 1995)
NC = No appropriate sediment screening value available, therefore the hazard quotient could not be calculated
NA = Not applicable
NR = Not analyzed
RD = Data point was rejected, therefore the hazard quotient could not be calculated

U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations.

Table 7-50
Pond Sediment Hazard Quotients
Sauget, IL

Analyte	Benchmark	Reference for Benchmark	Sample No. P11S					Sample No. P12S (Dupe of P11S)				
			Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ	Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ
PCBs (ug/kg)	**Acute**											
Total PCBs	5300	a	1159		NA	1159	2.2E-01	175		NA	175	3.3E-02
Dioxins/Furans (ug/kg)												
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	0.022	b	2.2	J	0.0010	0.0022	1.0E-01	NR		0.0010	NA	NA
1,2,3,4,6,7,8-HpCDF	0.022	b	0.31	J	0.010	0.0031	1.4E-01	NR		0.010	NA	NA
1,2,3,4,7,8,9-HpCDF	0.022	b	0.023	J	0.010	0.00023	1.1E-02	NR		0.010	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	0.022	b	0.0086	J	0.50	0.0043	2.0E-01	NR		0.50	NA	NA
1,2,3,4,7,8-HxCDF	0.022	b	0.032	J	0.10	0.0032	1.5E-01	NR		0.10	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	0.022	b	0.065	J	0.010	0.00065	3.0E-02	NR		0.010	NA	NA
1,2,3,6,7,8-HxCDF	0.022	b	0.018	J	0.10	0.0018	8.4E-02	NR		0.10	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	0.022	b	0.023	J	0.010	0.00023	1.1E-02	NR		0.010	NA	NA
1,2,3,7,8,9-HxCDF	0.022	b	0.0035	UJ	0.10	0.00018	8.1E-03	NR		0.10	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	0.022	b	0.025	J	0.050	0.0013	5.8E-02	NR		0.050	NA	NA
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	0.022	b	0.0045	UJ	1.0	0.0023	1.0E-01	NR		1.0	NA	NA
2,3,4,6,7,8-HxCDF	0.022	b	0.019	J	0.10	0.0019	8.8E-02	NR		0.10	NA	NA
2,3,4,7,8-PeCDF	0.022	b	0.050	J	0.50	0.025	1.2E+00	NR		0.50	NA	NA
2,3,7,8-TCDD	0.022	b	0.0072	J	1.0	0.0072	3.3E-01	NR		1.0	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	0.022	b	0.11	J	0.050	0.0055	2.6E-01	NR		0.050	NA	NA
OCDD	0.022	b	26	J	0.00010	0.0026	1.2E-01	NR		0.00010	NA	NA
OCDF	0.022	b	1.3	J	0.00010	0.00013	6.0E-03	NR		0.00010	NA	NA
Total HpCDD	0.022	b	4.3	J	0.0010	0.0043	2.0E-01	NR		0.0010	NA	NA
Total HpCDF	0.022	b	1.4	J	0.010	0.014	6.5E-01	NR		0.010	NA	NA
Total HxCDD	0.022	b	0.39	J	0.50	0.20	9.1E+00	NR		0.50	NA	NA
Total HxCDF	0.022	b	0.75	J	0.10	0.075	3.5E+00	NR		0.10	NA	NA
Total PeCDD	0.022	b	0.10	J	1.0	0.10	4.7E+00	NR		1.0	NA	NA
Total PeCDF	0.022	b	0.46	J	0.50	0.23	1.1E+01	NR		0.50	NA	NA
Total TCDD	0.022	b	0.085	J	1.0	0.085	4.0E+00	NR		1.0	NA	NA
Total TCDF	0.022	b	0.86	J	0.050	0.043	2.0E+00	NR		0.050	NA	NA
Metals (mg/kg)												
Aluminum	NC	NA	11000			11000	NC	14000			14000	NC
Antimony	25	c	3.9	UJ		2.0	7.8E-02	4.3	U		2.15	8.6E-02
Arsenic	33	a	5.2			5.2	1.6E-01	7.3			7.3	2.2E-01
Barium	NC	NA	200			200	NC	260			260	NC
Beryllium	NC	NA	0.77	J		0.77	NC	0.93			0.93	NC
Cadmium	10	a	1.3			1.3	1.3E-01	1.7			1.7	1.7E-01
Calcium	NC	NA	13000			13000	NC	16000			16000	NC
Chromium	110	a	19			19	1.7E-01	24			24	2.2E-01
Cobalt	NC	NA	8.8			8.8	NC	11			11	NC
Copper	110	a	30			30	2.7E-01	39			39	3.5E-01
Iron	40000	a	20000			20000	5.0E-01	25000			25000	6.3E-01
Lead	250	a	43		NA	43	1.7E-01	53		NA	53	2.1E-01
Magnesium	NC	NA	4200			4200	NC	5500			5500	NC
Manganese	1100	a	610			610	5.5E-01	770			770	7.0E-01
Mercury	2.0	a	0.13			0.13	6.5E-02	0.13			0.13	6.5E-02
Nickel	75	a	21			21	2.8E-01	28			28	3.7E-01
Potassium	NC	NA	1600			1600	NC	2000			2000	NC
Selenium	NC	NA	1.9	U		0.95	NC	1.9	U		0.95	NC
Silver	1.8	b	1.9	UJ		0.95	5.3E-01	2.1	UJ		1.1	5.8E-01
Sodium	NC	NA	87	J		87	NC	110			110	NC
Thallium	NC	NA	1.9	U		0.95	NC	1.9	U		0.95	NC
Vanadium	NC	NA	29			29	NC	38			38	NC
Zinc	820	a	190	J		190	2.3E-01	240	J		240	2.9E-01

NOTES:
a = LEL, SEL (Persaud *et al.*, 1993) (SELs were TOC-normalized. TOC for pond sediment was 17%, therefore the SELs were TOC-normalized to the recommended 10% maximum)
b = TEL, PEL (Smith *et al.*, 1996)
c = SQC, SQB (USEPA, 1998)
d = Tier II SCVs (Jones *et al.*, 1996) (SCVs were TOC normalized to 10%)
e = ER-L, ER-M (Long *et al.*, 1995)
NC = No appropriate sediment screening value available, therefore the hazard quotient could not be calculated
NA = Not applicable
NR = Not analyzed
RD = Data point was rejected, therefore the hazard quotient could not be calculated

U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations
Bolded/shaded values indicate HQs = to or exceeding 1 for detected concentrations

Table 7-51
Pond Surface Water Hazard Quotients
Sauget, IL

Analyte	Benchmark	Reference for Benchmark	Sample No. P11W					Sample No. P12W				
			Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ	Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ
VOCs (ug/L)	**Acute**											
1,1,1-Trichloroethane	200	b	1.0	UJ		0.50	2.5E-03	1.0	UJ		0.50	2.5E-03
1,1,2,2-Tetrachloroethane	2100	b	1.0	U		0.50	2.4E-04	1.0	U		0.50	2.4E-04
1,1,2-Trichloroethane	5200	b	1.0	U		0.50	9.6E-05	1.0	U		0.50	9.6E-05
1,1-Dichloroethane	830	b	1.0	U		0.50	6.0E-04	1.0	U		0.50	6.0E-04
1,1-Dichloroethylene	450	b	1.0	U		0.50	1.1E-03	1.0	U		0.50	1.1E-03
1,2-Dichloroethane	8800	b	1.0	U		0.50	5.7E-05	1.0	U		0.50	5.7E-05
1,2-Dichloroethene (total)	1100	b	2.0	U		1.0	9.1E-04	2.0	U		1.0	9.1E-04
1,2-Dichloropropane	4800	d	1.0	U		0.50	1.0E-04	1.0	U		0.50	1.0E-04
2-Butanone (MEK)	240000	b	10	U		5.0	2.1E-05	10	U		5.0	2.1E-05
2-Hexanone	1800	b	10	U		5.0	2.8E-03	10	U		5.0	2.8E-03
4-Methyl-2-pentanone (MIBK)	2200	b	10	U		5.0	2.3E-03	10	U		5.0	2.3E-03
Acetone	28000	b	25	U		13	4.5E-04	25	U		13	4.5E-04
Benzene	2300	b	1.0	U		0.50	2.2E-04	1.0	U		0.50	2.2E-04
Bromodichloromethane	10	d	1.0	UJ		0.50	5.0E-02	1.0	UJ		0.50	5.0E-02
Bromoform	2300	b	1.0	U		0.50	2.2E-04	1.0	U		0.50	2.2E-04
Bromomethane	NC	NA	1.0	U		0.50	NC	1.0	U		0.50	NC
Carbon Disulfide	17	b	1.0	U	NA	0.50	2.9E-02	1.0	U	NA	0.50	2.9E-02
Carbon Tetrachloride	180	b	1.0	UJ		0.50	2.8E-03	1.0	UJ		0.50	2.8E-03
Chlorobenzene	1100	b	1.0	U		0.50	4.5E-04	1.0	U		0.50	4.5E-04
Chloroethane	13000	d	1.0	UJ		0.50	3.8E-05	1.0	UJ		0.50	3.8E-05
Chloroform	490	b	1.0	U		0.50	1.0E-03	1.0	U		0.50	1.0E-03
Chloromethane	16000	d	1.0	UJ		0.50	3.1E-05	1.0	UJ		0.50	3.1E-05
cis-1,3-Dichloropropene	606	c	1.0	U		0.50	8.3E-04	1.0	U		0.50	8.3E-04
Dibromochloromethane	NC	NA	1.0	U		0.50	NC	1.0	U		0.50	NC
Ethylbenzene	130	b	1.0	U		0.50	3.8E-03	1.0	U		0.50	3.8E-03
Methylene Chloride	26000	b	5.0	U		2.5	9.6E-05	5.0	U		2.5	9.6E-05
Styrene (Monomer)	2500	d	1.0	U		0.50	2.0E-04	1.0	U		0.50	2.0E-04
Tetrachloroethene	830	b	1.0	U		0.50	6.0E-04	1.0	U		0.50	6.0E-04
Toluene	120	b	1.0	U		0.50	4.2E-03	1.0	U		0.50	4.2E-03
trans-1,3-Dichloropropene	606	c	1.0	U		0.50	8.3E-04	1.0	U		0.50	8.3E-04
Trichloroethylene	440	b	1.0	U		0.50	1.1E-03	1.0	U		0.50	1.1E-03
Vinyl chloride	40000	d	1.0	U		0.50	1.3E-05	1.0	U		0.50	1.3E-05
Xylenes, Total	230	b	2.0	U		1.0	4.3E-03	2.0	U		1.0	4.3E-03
SVOCs (ug/L)												
1,2,4-Trichlorobenzene	700	b	10	U	NA	5.0	7.1E-03	10	U	NA	5.0	7.1E-03
1,2-Dichlorobenzene	260	b	10	U		5.0	1.9E-02	10	U		5.0	1.9E-02
1,3-Dichlorobenzene	630	b	10	U		5.0	7.9E-03	10	U		5.0	7.9E-03
1,4-Dichlorobenzene	180	b	10	U		5.0	2.8E-02	10	U		5.0	2.8E-02
2,2'-Oxybis(1-Chloropropane)	NC	NA	10	U		5.0	NC	10	U		5.0	NC
2,4,5-Trichlorophenol	NC	NA	10	U		5.0	NC	10	U		5.0	NC
2,4,6-Trichlorophenol	41	d	10	U		5.0	1.2E-01	10	U		5.0	1.2E-01
2,4-Dichlorophenol	630	d	10	U		5.0	7.9E-03	10	U		5.0	7.9E-03
2,4-Dimethylphenol	740	d	10	U		5.0	6.8E-03	10	U		5.0	6.8E-03
2,4-Dinitrophenol	85	d	50	UJ		25	2.9E-01	50	UJ		25	2.9E-01
2,4-Dinitrotoluene	5000	d	10	U		5.0	1.0E-03	10	U		5.0	1.0E-03
2,6-Dinitrotoluene	1900	d	10	U		5.0	2.6E-03	10	U		5.0	2.6E-03
2-Chloronaphthalene	370	d	10	U		5.0	1.4E-02	10	U		5.0	1.4E-02
2-Chlorophenol	510	d	10	U		5.0	9.8E-03	10	U		5.0	9.8E-03
2-Methylnaphthalene	NC	NA	10	U		5.0	NC	10	U		5.0	NC
2-Methylphenol (o-Cresol)	230	b	10	U		5.0	2.2E-02	10	U		5.0	2.2E-02
2-Nitroaniline	2000	d	50	UJ		25	1.3E-02	50	UJ		25	1.3E-02
2-Nitrophenol	6700	d	10	U		5.0	7.5E-04	10	U		5.0	7.5E-04
3,3'-Dichlorobenzidine	NC	NA	20	U		10	NC	20	U		10	NC
3/4-Methylphenol (m&p-Cresol)	670	d (based on 4 Methylphenol)	10	U		5.0	7.5E-03	10	U		5.0	7.5E-03
3-Nitroaniline	NC	NA	50	UJ		25	NC	50	UJ		25	NC
4,6-Dinitro-2-methylphenol	29	d	50	U		25	8.6E-01	50	U		25	8.6E-01
4-Bromophenyl Phenyl Ether	36	b/d (respectively)	10	U		5.0	1.4E-01	10	U		5.0	1.4E-01
4-Chloro-3-methylphenol	310	d	10	U		5.0	1.6E-02	10	U		5.0	1.6E-02
4-Chloroaniline	2.4	d	20	U		10	***4.2E+00***	20	U		10	***4.2E+00***
4-Chlorophenyl Phenyl Ether	NC	NA	10	U		5.0	NC	10	U		5.0	NC
4-Nitroaniline	1500	d	50	U		25	1.7E-02	50	U		25	1.7E-02
4-Nitrophenol	1200	b	50	U		25	2.1E-02	50	U		25	2.1E-02
Acenaphthene	80	a	10	U		5.0	6.3E-02	10	U		5.0	6.3E-02
Acenaphthylene	190	d	10	U		5.0	2.6E-02	10	U		5.0	2.6E-02
Anthracene	13	b	10	U		5.0	3.8E-01	10	U		5.0	3.8E-01

NOTES:
a = CCC,CMC - NAWQC (USEPA, 1996)
b = Tier II Secondary Chronic and Secondary Acute Screening Values (GLWQI) (40 CFR 122 *et al.*, 1995)
c = USEPA Region IV Chronic and Acute Freshwater Screening Values (USEPA, 2001)
d = Illinois EPA Chronic and Acute Water Quality Guidelines (IEPA, 2003)
* = Benchmarks for this metal were adjusted for the site specific hardness of 200 mg/L
The calculations were taken directly from the NAWQC.
NC = No appropriate sediment screening value available, therefore the hazard quotient could not be calculated
NA = Not applicable
NR = Not analyzed
Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations.

U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 7-51
Pond Surface Water Hazard Quotients
Seneca, IL

Analyte	Benchmark	Reference for Benchmark	Sample No. P11W					Sample No. P12W				
			Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ	Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ
SVOCs (ug/L)	Acute											
[illegible]	0.49	a	10	U		5.0	***1.0E+01***	10	U		5.0	***1.0E+01***
[illegible]	0.24	a	10	U		5.0	***2.1E+01***	10	U		5.0	***2.1E+01***
[illegible]	NC	NA	10	U		5.0	NC	10	U		5.0	NC
[illegible]	NC	NA	10	U		5.0	NC	10	U		5.0	NC
[illegible]	NC	NA	10	U		5.0	NC	10	U		5.0	NC
[illegible]	NC	NA	10	U		5.0	NC	10	U		5.0	NC
[illegible]	23800	c	10	U		5.0	2.1E-04	10	U		5.0	2.1E-04
[illegible]	77	a	10	U		5.0	1.9E-01	10	U		5.0	1.9E-01
Butyl Benzyl Phthalate	330	b (respectively)	10	U		5.0	1.5E-02	10	U		5.0	1.5E-02
[illegible]	93	d	10	U		5.0	5.4E-02	10	U		5.0	5.4E-02
[illegible]	NC	NA	10	U		5.0	NC	10	U		5.0	NC
[illegible]	NC	NA	10	U		5.0	NC	10	U		5.0	NC
[illegible]	66	a	10	U		5.0	7.6E-02	10	U		5.0	7.6E-02
Diethyl Phthalate	1800	a	10	U		5.0	2.8E-03	10	U		5.0	2.8E-03
Dimethyl Phthalate	3300	d	10	U		5.0	1.5E-03	10	U		5.0	1.5E-03
[illegible]	190	a	10	U		5.0	2.6E-02	1.3	J		1.3	6.8E-03
[illegible]	NC	NA	10	U	NA	5.0	NC	10	U	NA	5.0	NC
[illegible]	34	a	10	U		5.0	1.5E-01	10	U		5.0	1.5E-01
[illegible]	70	a	10	U		5.0	7.1E-02	10	U		5.0	7.1E-02
[illegible]	NC	NA	10	U		5.0	NC	10	U		5.0	NC
[illegible]	35	d	10	U		5.0	1.4E-01	10	U		5.0	1.4E-01
[illegible]	1.0	d	10	U		5.0	***5.0E+00***	10	U		5.0	***5.0E+00***
[illegible]	210	a	10	U		5.0	2.4E-02	10	U		5.0	2.4E-02
[illegible]	NC	NA	10	U		5.0	NC	10	U		5.0	NC
[illegible]	12000	d	10	U		5.0	4.2E-04	10	U		5.0	4.2E-04
[illegible]	190	a	10	U		5.0	2.6E-02	4.3	J		4.3	2.3E-02
[illegible]	15000	d	10	U		5.0	3.3E-04	10	U		5.0	3.3E-04
[illegible]	NC	NA	10	U		5.0	NC	10	U		5.0	NC
[illegible]	3800	a	10	U		5.0	1.3E-03	10	U		5.0	1.3E-03
[illegible]	19	a	1.0	U		0.50	2.6E-02	1.0	U		0.50	2.6E-02
[illegible]	30	a	10	U		5.0	1.7E-01	10	U		5.0	1.7E-01
[illegible]	3400	a	10	U		5.0	1.4E-03	10	U		5.0	1.4E-03
Pyrene	NC	NA	10	U		5.0	NC	10	U		5.0	NC
Pesticides (ug/L)												
4,4'-DDD	0.19	a	0.10	UJ	NA	0.050	2.6E-01	0.10	UJ	NA	0.050	2.6E-01
4,4'-DDE	105	c	0.10	UJ		0.050	4.8E-04	0.10	UJ		0.050	4.8E-04
4,4'-DDT	1.1	a	0.025	J		0.028	2.5E-02	0.10	UJ		0.050	4.5E-02
Aldrin	3.0	a	0.050	UJ		0.025	8.3E-03	0.0089	J		0.0089	3.0E-03
Alpha-BHC	31	d	0.050	UJ		0.025	8.1E-04	0.050	UJ		0.025	8.1E-04
Alpha-Chlordane	2.4	a (based on Chlordane)	0.050	UJ		0.025	1.0E-02	0.050	UJ		0.025	1.0E-02
Beta-BHC	NC	c	0.050	UJ		0.025	NC	0.0079	J		0.0079	NC
Delta-BHC	NC	NA	0.050	UJ		0.025	NC	0.050	UJ		0.025	NC
Dieldrin	0.24	a	0.010	J		0.010	4.2E-02	0.10	UJ		0.050	2.1E-01
Endosulfan I	0.22	a	0.050	UJ		0.025	1.1E-01	0.050	UJ		0.025	1.1E-01
Endosulfan II	0.22	a	0.10	UJ		0.050	2.3E-01	0.10	UJ		0.050	2.3E-01
Endosulfan Sulfate	31	d	0.10	UJ		0.050	1.6E-03	0.10	UJ		0.050	1.6E-03
Endrin	0.086	a	0.10	UJ		0.050	5.8E-01	0.10	UJ		0.050	5.8E-01
Endrin Aldehyde	0.16	d	0.10	UJ		0.050	3.1E-01	0.10	UJ		0.050	3.1E-01
Endrin Ketone	NC	NA	0.10	UJ		0.050	NC	0.10	UJ		0.050	NC
gamma-BHC (Lindane)	0.95	a (respectively)	0.050	UJ		0.025	2.6E-02	0.050	UJ		0.025	2.6E-02
gamma-Chlordane	2.4	a (based on Chlordane)	0.050	UJ		0.025	1.0E-02	0.050	UJ		0.025	1.0E-02
Heptachlor	0.52	a	0.050	UJ		0.025	4.8E-02	0.050	UJ		0.025	4.8E-02
Heptachlor Epoxide	0.52	a	0.050	UJ		0.025	4.8E-02	0.050	UJ		0.025	4.8E-02
Methoxychlor	0.25	a (respectively)	0.50	UJ		0.25	***1.0E+00***	0.50	UJ		0.25	***1.0E+00***
Toxaphene	0.73	a	5.0	UJ		2.5	***3.4E+00***	5.0	UJ		2.5	***3.4E+00***
Herbicides (ug/L)												
2,4-D	100	d	0.50	U		0.25	2.5E-03	0.50	U		0.25	2.5E-03
2,4-DB	NC	NA	0.50	U		0.25	NC	0.50	U		0.25	NC
2,4,5-T	NC	NA	0.50	U		0.25	NC	0.50	U		0.25	NC
2,4,5-TP Silvex	NC	NA	0.50	U		0.25	NC	0.50	U		0.25	NC
Dalapon	NC	NA	120	U	NA	60	NC	120	U	NA	60	NC
Dicamba	1500	d	1.2	U		0.60	4.0E-04	1.2	U		0.60	4.0E-04
Dichloroprop	NC	NA	6.0	U		3.0	NC	6.0	U		3.0	NC
Dinoseb	NC	NA	10	U		5.0	NC	10	U		5.0	NC
MCPA	NC	NA	120	U		60	NC	120	U		60	NC
MCPP	NC	NA	120	U		60	NC	120	U		60	NC

NOTES:
a = CCC/CMC - NAWQC (USEPA, 1996)
b = Tier II Secondary Chronic and Secondary Acute Screening Values (GLWQG, 40 CFR 122 et al., 1995)
c = USEPA Region IV Chronic and Acute Freshwater Screening Values (USEPA, 2001)
d = Illinois EPA Chronic and Acute Water Quality Guidelines (IEPA, 2003)
* = Benchmarks for this metal were adjusted for the site specific hardness of 200 mg/L.
The conversions were taken directly from the NAWQC.
NC = No appropriate sediment screening value available, therefore the hazard quotient could not be calculated
NA = Not applicable
NR = Not analyzed
Bold/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations.

U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 7-51
Pond Surface Water Hazard Quotients
Sauget, IL

Analyte	Benchmark	Reference for Benchmark	Sample No. P11W					Sample No. P12W				
			Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ	Unadjusted Concentration		TEF (where applicable)	Adjusted Concentration	Acute HQ
PCBs (ug/L)	**Acute**											
Total PCBs	0.60	a/b-value for Aroclor 1254 (respectively)	0.50	U	NA	0.25	4.2E-01	0.50	U	NA	0.25	4.2E-01
Dioxins/Furans (ug/L)												
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	0.10	c	0.00018		0.0010	0.00000018	1.8E-06	NR		0.0010	NA	NA
1,2,3,4,6,7,8-HpCDF	0.10	c	0.000026	J	0.010	0.00000026	2.6E-06	NR		0.010	NA	NA
1,2,3,4,7,8,9-HpCDF	0.10	c	0.0000024	UJ	0.010	0.000000012	1.2E-07	NR		0.010	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	0.10	c	0.0000011	U	0.50	0.000000028	2.8E-06	NR		0.50	NA	NA
1,2,3,4,7,8-HxCDF	0.10	c	0.000009	U	0.10	0.00000045	4.5E-06	NR		0.10	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	0.10	c	0.0000066	U	0.010	0.000000033	3.3E-07	NR		0.010	NA	NA
1,2,3,6,7,8-HxCDF	0.10	c	0.0000035	U	0.10	0.00000018	1.8E-06	NR		0.10	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	0.10	c	0.0000034	U	0.010	0.000000017	1.7E-07	NR		0.010	NA	NA
1,2,3,7,8,9-HxCDF	0.10	c	0.00000088	U	0.10	0.000000044	4.4E-07	NR		0.10	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	0.10	c	0.0000057	U	0.050	0.000000014	1.4E-06	NR		0.050	NA	NA
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	0.10	c	0.0000022	U	1.0	0.0000011	1.1E-05	NR		1.0	NA	NA
2,3,4,6,7,8-HxCDF	0.10	c	0.0000023	U	0.10	0.00000012	1.2E-06	NR		0.10	NA	NA
2,3,4,7,8-PeCDF	0.10	c	0.000012	U	0.50	0.0000030	3.0E-05	NR		0.50	NA	NA
2,3,7,8-TCDD	0.10	c	0.00000082	U	1.0	0.00000041	4.1E-06	NR		1.0	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	0.10	c	0.000023		0.050	0.0000012	1.2E-05	NR		0.050	NA	NA
OCDD	0.10	c	0.0023		0.00010	0.00000023	2.3E-06	NR		0.00010	NA	NA
OCDF	0.10	c	0.00011	J	0.00010	0.000000011	1.1E-07	NR		0.00010	NA	NA
Total HpCDD	0.10	c	0.00034		0.0010	0.00000034	3.4E-06	NR		0.0010	NA	NA
Total HpCDF	0.10	c	0.000085		0.010	0.00000085	8.5E-06	NR		0.010	NA	NA
Total HxCDD	0.10	c	0.000014	U	0.50	0.0000035	3.5E-05	NR		0.50	NA	NA
Total HxCDF	0.10	c	0.000013	U	0.10	0.00000065	6.5E-06	NR		0.10	NA	NA
Total PeCDD	0.10	c	0.0000022	U	1.0	0.00000 1	1.1E-05	NR		1.0	NA	NA
Total PeCDF	0.10	c	0.000025	U	0.50	0.0000063	6.3E-05	NR		0.50	NA	NA
Total TCDD	0.10	c	0.00000087	U	1.0	0.00000044	4.4E-06	NR		1.0	NA	NA
Total TCDF	0.10	c	0.00012		0.050	0.0000060	6.0E-05	NR		0.050	NA	NA
Metals (mg/L)												
Aluminum	0.75	a	7.7	J		7.7	**1.0E+01**	NR			NA	NA
Antimony	0.18	b	0.020	UJ		0.010	5.6E-02	NR			NA	NA
Arsenic	0.34	a	0.0054	J		0.0054	1.6E-02	NR			NA	NA
Barium	0.11	b	0.20			0.20	**1.8E+00**	NR			NA	NA
Beryllium	0.035	b	0.0040	U		0.0020	5.7E-02	NR			NA	NA
Cadmium*	0.0090	a	0.00065	J		0.00065	7.2E-02	NR			NA	NA
Calcium	NC	NA	57			57	NC	NR			NA	NA
Chromium	0.016	a	0.010			0.010	6.3E-01	NR			NA	NA
Cobalt	1.5	b	0.0036	J		0.0036	2.4E-03	NR			NA	NA
Copper*	0.026	a	0.013	J		0.013	5.0E-01	NR			NA	NA
Iron	NC	a	8.9			8.9	NC	NR			NA	NA
Lead*	0.14	a	0.014		NA	0.014	1.0E-01	NR		NA	NA	NA
Magnesium	NC	NA	15			15	NC	NR			NA	NA
Manganese	2.3	b	0.46			0.46	2.0E-01	NR			NA	NA
Mercury	0.0014	a	0.00020	U		0.00010	7.1E-02	NR			NA	NA
Nickel*	0.84	a	0.0093	J		0.0093	1.1E-02	NR			NA	NA
Potassium	NC	NA	5.6			5.6	NC	NR			NA	NA
Selenium	20	a/c (respectively)	0.010	U		0.0050	2.5E-04	NR			NA	NA
Silver*	0.011	b/a (respectively)	0.010	U		0.0050	4.5E-01	NR			NA	NA
Sodium	NC	NA	6.7			6.7	NC	NR			NA	NA
Thallium	0.11	b	0.010	U		0.0050	4.5E-02	NR			NA	NA
Vanadium	0.28	b	0.023			0.023	8.2E-02	NR			NA	NA
Zinc*	0.21	a	0.052			0.052	2.5E-01	NR			NA	NA

NOTES:
a = CCC,CMC - NAWQC (USEPA, 1996)
b = Tier II Secondary Chronic and Secondary Acute Screening Values (GLWQI) (40 CFR 122 *et al.*, 1995)
c = USEPA Region IV Chronic and Acute Freshwater Screening Values (USEPA, 2001)
d = Illinois EPA Chronic and Acute Water Quality Guidelines (IEPA, 2003)
* = Benchmarks for this metal were adjusted for the site specific hardness of 200 mg/L
The calculations were taken directly from the NAWQC.
NC = No appropriate sediment screening value available, therefore the hazard quotient could not be calculated
NA = Not applicable
NR = Not analyzed
Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations.
Bolded/shaded values indicate HQs = to or exceeding 1 for detected concentrations.

U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table 7-52
Pond Fish Body Burden Hazard Quotients
Ranger, II.

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue (conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
SVOC's (ug/kg)										
1,2,4 Trichlorobenzene (a)	fathead minnow	mortality	NOED	water	whole body	immature	170,000	170,000	8108	0.061
							355,000	355,000		
							140,000	140,000		
							180,000	180,000		
							170000	170000		
							180000	180000		
							170000	170000		
							180000	180000		
	rainbow trout			water			180	180		
	bluegill	behavior		absorption			520	520		
				ingestion			50	50		
				combined			890	890		
	spot			absorption			1150	1150		
		mortality		ingestion			50	50		
				combined			890	890		
				absorption			1150	1150		
1,2 Dichlorobenzene (a)	bluegill	mortality	NOED	absorption	whole body	immature	700	700	700	0.71
1,3 Dichlorobenzene (a)	rainbow trout	mortality	NOED	water	whole body	immature	640	640	8764	0.016
	fathead minnow	growth				embryo	120000	120000		
1,4 Dichlorobenzene (a)	bluegill	mortality	NOED	absorption	whole body	immature	610	610	610	0.81
2,2 Oxybis(1 Chloropropane)										NV
2,4,5 Trichlorophenol (a)	goldfish	mortality	NOED	water	whole body	adult	50000	50000	70711	0.0070
	fathead minnow	mortality, growth				immature	100000	100000		
2,4,6 Trichlorophenol (a)	goldfish	mortality	NOED	water	whole body	adult	175000	175000	9062	0.055
	guppy						675	657		
2,4 Dichlorophenol (a)	goldfish	mortality	NOED	water	whole body	adult	100000	100000	134164	0.0037
							180000	180000		
2,4 Dimethylphenol (a)	bluegill	mortality	NOED	absorption	whole body	immature	1530	1530	9027	0.16
	rainbow trout		LOED			adult	5990	5990		
2,4 Dinitrophenol (a,b)	rainbow trout	mortality	1150	water	whole body	NA	6900	69	245	10
							10100	101		
							25400	254		
							35500	355		
							12200	122		
							16700	167		
							23600	236		
							71700	717		
							13600	136		
							15700	157		
							16400	164		
							44900	449		
2,4 Dinitrotoluene (b)	guppy	mortality	LOED	absorption	whole body	adult	29300	2930	41200	0.012
			NOED	water		adult	41200	41200		
2,6 Dinitrotoluene (b)	guppy	mortality	NOED	water	whole body	adult	78400	78400	78400	0.0001
2 Chloronaphthalene										NV
2 Chlorophenol (b)	goldfish	mortality	NOED	water	whole body	adult	25000	25000	55224	0.0090
							50000	50000		
							100000	100000		
							150000	150000		
							125000	125000		
							250000	250000		
	bluegill			absorption		immature	1960	1960		

Table 7-52
Pond Fish Body Burden Hazard Quotients
Sauget, IL

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue Conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
2-Methylnaphthalene (a,c)	rainbow trout	mortality	LD50	injection	whole body	NA	292000	292000	2920	0.17
2-Methylphenol (o-Cresol) (d)	mosquitofish (d)	survival	NOED	absorption	whole body	NA	84	84	84	*5.9*
2-Nitroaniline										NV
2-Nitrophenol (e)									1430	0.35
3,3'-Dichlorobenzidine (f)	golden ide	survival	NOED	absorption	whole body	NA	30500	30500	30500	0.033
3/4-Methylphenol (m&p-Cresol) (a,g)	rainbow trout	biochemical	LOED	injection	whole body	NA	16300	1630	1630	0.30
3-Nitroaniline										NV
4,6-Dinitro-2-methylphenol										NV
4-Bromophenyl Phenyl Ether										NV
4-Chloro-3-methylphenol (a,h)	brown trout	cellular	LOED	absorption	whole body	immature	4190	419	454	*1.1*
							6390	639		
							3500	350		
4-Chloroaniline (a,f)	golden ide	survival	NOED	absorption	whole body	NA	500	500	2439	0.41
	rainbow trout	mortality	LOED			adult	119000	11900		
4-Chlorophenyl Phenyl Ether										NV
4-Nitroaniline										NV
4-Nitrophenol (a,b)	fathead minnow	mortality	NOED	water	whole body	immature	25100	25100	1430	*1.8*
	rainbow trout		LD50	injection		NA	75000	750		
						immature	47000	470		
						NA	47300	473		
Acenaphthene (j)	bluegill	survival	NOED	absorption	whole body	immature	3500	3500	3500	0.14
Acenaphthylene (i)									45500	0.011
Anthracene (f)	golden ide	survival	NOED	absorption	whole body	NA	45500	45500	45500	0.011
Benzo(a)anthracene (f)	golden ide	survival	NOED	absorption	whole body	NA	17500	17500	17500	0.028
Benzo(a)pyrene (b)	rainbow trout	mortality	NOED	sediment to water	whole body	egg	10200	10200	403	*1.2*
	gizzard shad	biochemical		absorption	carcass	adult	20	20		
							24	24		
				injection	whole body		1000	1000		
	rainbow trout			absorption	carcass	immature	73	73		
		reproduction			whole body	egg	12340	12340		
Benzo(b)fluoranthene (k)									26168	0.019
Benzo(g,h,i)perylene (a)	rainbow trout	biochemical	NOED	injection	whole body	NA	27500	27500	26168	0.019
					liver		24900	24900		
Benzo(k)fluoranthene (k)									26168	0.019
bis(2-Chloroethoxy)methane										NV
bis(2-Chloroethyl)ether (j)	bluegill	mortality	LOED	absorption	whole body	immature	110	11	11	*45*
bis(2-Ethylhexyl)phthalate (j)	bluegill	mortality	NOED	absorption	whole body	immature	660	660	660	0.75
Butyl Benzyl Phthalate (j)	bluegill	mortality	LOED	absorption	whole body	immature	6450	645	645	0.77
Carbazole										NV
Chrysene (a)	common carp	survival	NOED	combined	whole body	adult	930	930	1621	0.31
	rainbow trout	biochemical	LOED	injection	liver	NA	22700	2270		
						immature	109000	10900		
							3000	300		
Dibenzo(a,h)anthracene (f)	golden ide	survival	NOED	absorption	whole body	NA	5000	5000	5000	0.10
Dibenzofuran										NV
Diethyl Phthalate (b)	rainbow trout	mortality	NOED	absorption	whole body	immature	1100	1100	1100	0.45
Dimethyl Phthalate (a)	bluegill	mortality	NOED	absorption	whole body	immature	500	500	500	0.99
Di-n-butylphthalate (j)									500	0.99
Di-n-octylphthalate (l)									500	0.99
Fluoranthene (a)	rainbow trout	biochemical	NOED	absorption	carcass	immature	1250	1250	11295	0.044
	common carp			ingestion	whole body	NA	30000	30000		
				injection			20000	20000		
							21700	21700		

Table 7-82
Pond Fish Body Burden Hazard Quotients
Nauget, IL

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue Conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
Fluorene (i)									45500	0.011
		growth				juvenile	9300	9300		
		survival					9300	9300		
		growth		water		larval	97000	97000		
		mortality					97000	97000		
	fathead minnow					embryo	97000	97000		
							4000	4000		
		survival		absorption			6300	6300		
						adult	14800	14800		
							30500	30500		
							46500	46500		
	sheepshead minnow			combined			89000	89000		
Hexachlorobenzene (a)	pinfish	mortality	NOED		whole body		120000	120000	27763	0.018
	mosquito fish					NA	17000	17000		
							8000	8000		
		growth					15000	15000		
							27000	27000		
				absorption			46000	46000		
	fathead minnow					egg embryo	97000	97000		
							8000	8000		
							15000	15000		
		mortality					27000	27000		
							46000	46000		
							97000	97000		
		growth			carcass		1780	1780		
		mortality	LOED		whole body		3480	3480		
Hexachlorobutadiene (a)	goldfish	behavior		absorption		immature	1780	1780	3182	0.15
							1780	1780		
		biochemical	NOED		carcass		27600	27600		
		growth	LOED				27600	2760		
Hexachlorocyclopentadiene (m)	fathead minnow	survival	NOED	water	whole body	larva-juvenile	40	40	40	1.1
Hexachloroethane (a)	rainbow trout	survival	NOED	water	whole body	juvenile	7.1	7.1	7.1	70
Indeno(1,2,3-cd)pyrene (h)									26168	0.019
Isophorone (o)	bluegill	mortality	NOED	absorption	whole body	immature	650	650	650	0.76
		biochemical					12000	1200		
		mortality	LOED			adult	17000	1700		
Naphthalene (a)	minnowing	physiological		absorption	whole body		5000	500	2979	0.17
			NOED				23000	23000		
	channel catfish	biochemical	LOED	injection		immature	100000	10000		
							29000	29000		
	guppy	survival	NOED	water	whole body	juvenile	29000	29000		
Nitrobenzene (a)							362970	362970	30212	0.010
	mosquito fish	mortality		absorption		NA	362970	362970		
	guppy					adult	5000	5000		
							29000	29000		
N-Nitroso-di-n-propylamine										NV
N-Nitrosodiphenylamine (a)	bluegill	mortality	NOED	absorption	whole body	immature	2000	2000	2000	0.75
	pink salmon			water	whole body	egg	1090	1090		
		survival			carcass		110	110		
	rainbow trout			diet		adult	40	40		
	chinook salmon	survival, growth				immature	2320	2320		
	goldfish					NA	20000	20000		
Pentachlorophenol (h)		survival	NOED	water	whole body		82000	82000	6629	0.0018
							151000	151000		
							21500	21500		
	fathead minnow					larvae	17800	17800		
		growth,survival					25100	25100		
							22100	22100		
		growth					12300	12300		

Pond Fish Body Burden Hazard Quotients
Sauget, IL

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue Conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
Phenanthrene (a,f)	golden ide	survival	NOED	absorption	whole body	NA	88000	88000	51381	0.0096
	rainbow trout	biochemical		injection		immature	30000	30000		
Phenol (a)	mosquito fish	survival	NOED	absorption	whole body	NA	67	67	35664	0.014
	goldfish	mortality		water		adult	66000	66000		
							80000	80000		
							110000	110000		
							117000	117000		
							124000	124000		
							130000	130000		
Pyrene (a)	common carp	biochemical	LOED	injection	whole body	NA	20000	2000	1482	0.334
					liver		28700	2870		
	rainbow trout				whole body	immature	30000	3000		
			NOED	absorption	carcass		280	280		
Pesticides (ug/kg)										
4,4'-DDD (a)	brook trout	growth, mortality	NOED	injection	whole body	immature	500	500	63	0.078
		mortality		diet			8.0	8.0		
4,4'-DDE (a)	lake trout	growth	NOED	combined	whole body	fry	2680	2680	383	0.013
	brook trout	growth,mortality		injection		immature	500	500		
		mortality		diet			42	42		
4,4'-DDT (a)	fathead minnow	mortality	LOED	ingestion	whole body	adult	68900	6890	3896	0.0051
		reproduction		water			24000	2400		
			NOED	ingestion			12200	12200		
				combined			19000	19000		
			LOED				3800	380		
							24000	2400		
Aldrin (o)	mosquito fish	mortality	NOED	combined	whole body	NA	157	157	157	0.016
alpha-BHC (b,p)	golden ide	mortality	NOED	absorption	whole body	NA	22500	22500	23717	0.00011
	guppy	survival	NOED	water		juvenile	25000	25000		
alpha-Chlordane (b)	pinfish	mortality	LOED	combined	whole body	adult	16600	1660	1660	0.0015
beta-BHC (f)	golden ide	mortality	NOED	absorption	whole body	NA	22500	22500	22500	0.00011
delta-BHC (q)	golden ide	mortality	NOED	absorption	whole body	NA	22500	22500	22500	0.00011
Dieldrin (a)	bluegill	behavior	LOED	absorption	whole body	immature	3700	370	370	0.38
Endosulfan I (a)	pinfish	mortality	NOED	combined	whole body	adult	195	195	195	0.013
Endosulfan II (a)	pinfish	mortality	NOED	combined	whole body	adult	195	195	195	0.025
Endosulfan Sulfate (a)	pinfish	mortality	NOED	combined	whole body	adult	195	195	195	0.025
Endrin (a)	channel catfish	behavior	LOED	absorption	whole body	immature	1000	100	164	0.050
		growth	NOED	ingestion			307	307		
		mortality					307	307		
				absorption			410	410		
	golden shiner	behavior				adult	240	240		
			LOED				210	21		
Endrin Aldehyde (r)									164	0.030
Endrin Ketone (r)									164	0.022
gamma-BHC (Lindane) (a)	fathead minnow	mortality	NOED	water	carcass, eviscerated	immature - adult	9530	9530	600	0.0043
	rainbow trout				brain	immature	3000	3000		
					liver		2600	2600		
					muscle		800	800		
	brook trout					immature - adult	1200	1200		
							770	770		
	gudgeon					NA	13	13		
					liver		190	190		
					brain		150	150		
	bluegill				muscle	immature - adult	297	297		
gamma-Chlordane (r)									1660	0.0015
Heptachlor (b)	fathead minnow	mortality	NOED	water	carcass, eviscerated	fry - adult	17730	17730	6483	0.00039
	spot				whole body	immature	5300	5300		
					edible tissue		2900	2900		
Heptachlor Epoxide (a)	pinfish	mortality	NOED	combined	whole body	adult	3200	3200	3200	0.00080
Methoxychlor (a)	rainbow trout	mortality	NOED	water	whole body	immature	6070	6070	2374	0.011
							2800	2800		
							710	710		
	brook trout						2500	2500		
				diet			2500	2500		

Table 7-52
Pond Fish Body Burden Hazard Quotients
Sauget, IL

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue Conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
Toxaphene (a)	brook trout	mortality, growth	NOED	water	whole body	adult	400	400	1794	0.14
		reproduction					200	200		
		mortality				embryo	400	400		
	fathead minnow	mortality, reproduction				adult	9600	9600		
		growth					2700	2700		
		mortality				fry	2800	2800		
		growth					400	400		
		mortality				embryo	1000	1000		
	channel catfish	mortality, growth, reproduction				adult	11000	11000		
		mortality, growth				fry	3400	3400		
							1900	1900		
		mortality				embryo	4400	4400		
		growth				immature	1200	1200		
							4600	4600		
							4000	4000		
Herbicides (ug/kg)										
2,4-D (a)	spiny dogfish	mortality	NOED	injection	whole body	NA	1000	1000	1000	0.013
2,4-DB										NV
2,4,5-T (a)	bluegill, carp	mortality	LC-50	NA	NA	NA	29800	298	298	0.042
2,4,5-TP (Silvex) (a)	channel catfish, bluegill, fathead minnow	mortality	LC-50	NA	NA	NA	50700	507	507	0.025
Dalapon (x)	bluegill	mortality	LC-50	water	NA	NA	105000	1050	1050	**2.9**
Dicamba										NV
Dichlorprop (u)	Not specified	mortality	LC-50	water	NA	NA	830	8.3	8.3	**18**
Dinoseb (w)	lake trout	mortality	LC-50	water	NA	NA	44	0.44	0.44	***1125***
MCPA (v)	rainbow trout	mortality	LC-50	water	NA	NA	232000	2320	2320	***1.3***
MCPP (a)	carp, bluegill, rainbow trout	mortality	LC-50	NA	NA	NA	574100	5741	5741	0.52
PCBs (ug/kg)										
Decachlorobiphenyl (b)	rainbow trout	mortality	NOED	ingestion	whole body	adult	29	29	13	***1.9***
					muscle		6.0	6.0		
Dichlorobiphenyl (b)	rainbow trout	mortality	NOED	ingestion	whole body	adult	197	197	95	***0.053***
					muscle		52	52		
					whole body		164	164		
					muscle		48	48		
					whole body		175	175		
					muscle		51	51		
Heptachlorobiphenyl (a)	lake trout	survival	NOED	absorption	whole body	egg	0.035	0.035	0.035	**18286**
Hexachlorobiphenyl (b)	rainbow trout	mortality	NOED	ingestion	whole body	adult	86	86	226	**8.4**
					muscle		25	25		
					whole body		96	96		
					muscle		42	42		
					whole body		70	70		
					muscle		30	30		
		growth		diet	whole body	immature	18000	18000		
		mortality		ingestion	whole body	adult	89	89		
					muscle		40	40		
					whole body		92	92		
					muscle		45	45		
					whole body		79	79		
					muscle		31	31		
	channel catfish	mortality, growth		combined	whole body	immature	30	30		
	guppy	mortality		diet		adult	100000	100000		
	chinook salmon						100000	100000		
	lake trout			water		fry	840	840		
							780	780		
Monochlorobiphenyl										NV
Nonachlorobiphenyl (a)	rainbow trout	mortality	NOED	ingestion	whole body	adult	36	36	21	***1.2***
					muscle		12	12		
Octachlorobiphenyl (a)	rainbow trout	mortality	NOED	ingestion	whole body	adult	65	65	2028	0.042
					muscle		26	26		
	guppy	mortality		diet	whole body		100000	100000		
							100000	100000		

Table 7-52
Pond Fish Body Burden Hazard Quotients
Sauget, IL

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue Conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
Pentachlorobiphenyl (a)	rainbow trout	mortality	NOED	ingestion	whole body	adult	82	82	45	73
					muscle		29	29		
					whole body		61	61		
					muscle		25	25		
					whole body		86	86		
					muscle		31	31		
					whole body		43	43		
					muscle		16	16		
					whole body		104	104		
					muscle		39	39		
					whole body		88	88		
					muscle		31	31		
Tetrachlorobiphenyl (a)	rainbow trout	mortality	NOED	ingestion	whole body	adult	89	89	215	11
					muscle		27	27		
					whole body		91	91		
		growth			muscle		30	30		
							82000	82000		
		mortality			whole body		81	81		
					muscle		28	28		
					whole body		4200	4200		
					carcass		4800	4800		
					muscle		2700	2700		
					visceral fat		16900	16900		
					whole body		3720	3720		
					egg	fry	1000	1000		
					whole body	adult	90	90		
					muscle		28	28		
					whole body		92	92		
					muscle		28	28		
					whole body		91	91		
					muscle		28	28		
					whole body		87	87		
					muscle		30	30		
					whole body		87	87		
					muscle		28	28		
Trichlorobiphenyl (a)	rainbow trout	mortality	NOED	ingestion	whole body	adult	83	83	48	2.5
					muscle		23	23		
					whole body		96	96		
					muscle		30	30		
Total PCBs										NV
Dioxins/Furans (pg/g)										
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin (a)	rainbow trout	biochemical	LOED	ingestion	liver	adult	190	19	19	1.3
1,2,3,4,6,7,8-HpCDF (s)	lake trout	survival	NOED	absorption	whole body	egg	0.035	0.035	0.035	12
1,2,3,4,7,8,9-HpCDF (s)	lake trout	survival	NOED	absorption	whole body	egg	0.035	0.035	0.035	16
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin (a)	rainbow trout	biochemical	LOED	ingestion	liver	adult	0.039	0.0039	0.039	24
							0.039	0.0039		
1,2,3,4,7,8-HxCDF (a)	rainbow trout	mortality	LD50	injection	whole body	fry	0.99	0.0099	0.0099	41
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin (a)	rainbow trout	mortality, growth	NOED	water	liver	immature	10	10	10	0.11
1,2,3,6,7,8-HxCDF (s)	lake trout	survival	NOED	absorption	whole body	egg	0.035	0.035	0.035	9.4
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin (s)	lake trout	survival	NOED	absorption	whole body	egg	0.035	0.035	0.035	23
1,2,3,7,8,9-HxCDF (s)	lake trout	survival	NOED	absorption	whole body	egg	0.035	0.035	0.035	16
1,2,3,7,8-Pentachlorodibenzofuran (a)	rainbow trout	mortality	LD50	injection	whole body	fry	7.3	0.073	0.0734	16
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin (a)	rainbow trout	mortality	LD50	injection	whole body	fry	0.57	0.00057	0.00566	194
2,3,4,6,7,8-HxCDF (s)	lake trout	survival	NOED	absorption	whole body	egg	0.035	0.035	0.035	12
2,3,4,7,8-PeCDF (a)	rainbow trout	mortality	LD50	injection	whole body	fry	0.70	0.0070	0.10	20
		growth	NOED	water		juvenile	1.5	1.5		
2,3,7,8-TCDD (a)	black bullhead	mortality	NOED	injection	whole body	NA	1.0	1.0	2.7	0.52
	bluegill						1.0	1.0		
	channel catfish			combined		adult	140	140		
	common carp			injection		NA	1.0	1.0		
	largemouth bass						1.0	1.0		
2,3,7,8-Tetrachlorodibenzofuran (a)	rainbow trout	growth	NOED	combined	whole body	immature	0.090	0.090	0.47	118
				ingestion		juvenile	2.5	2.5		

Table 7-52
Pond Fish Body Burden Hazard Quotients
Sauget, IL

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue Conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
OCDD (s)	lake trout	survival	NOED	absorption	whole body	egg	0.035	0.035	0.035	[illegible]
OCDF (a)	atlantic salmon	mortality	NOED	ingestion	muscle	immature	10	10	14	0.060
					digestive tract		20	20		
Total HpCDD										NV
Total HpCDF										NV
Total HxCDD										NV
Total HxCDF										NV
Total PeCDD										NV
Total PeCDF										NV
Total TCDD										NV
Total TCDF										NV
Metals (mg/kg)										
Aluminum (a)	rainbow trout	mortality	NOED	ingestion	muscle	juvenile	1.2	1.2	4.2	[illegible]
					liver		4.4	4.4		
					kidney		5.1	5.1		
					gill		6.1	6.1		
					whole body		8.5	8.5		
Antimony (b,t)	rainbow trout	survival	NOED	water	whole body	fingerling	5000	5000	5000	0.00018
Arsenic (a)	bluegill	reproduction	NOED	combined	whole body	adult	0.53	0.53	17	0.044
					fillet		0.49	0.49		
		mortality			digestive tract		18	18		
					gill		18	18		
					liver		12	12		
					ovary		8.4	8.4		
					kidney		5.9	5.9		
					whole body		5.5	5.5		
					fillet		3.2	3.2		
		biochemical					5.0	5.0		
		growth			digestive tract		18	18		
		mortality			whole body	juvenile	1.8	1.8		
		biochemical					12	12		
		growth			gill	adult	18	18		
					liver		12	12		
		mortality		absorption	whole body	immature	0.52	0.52		
		growth		combined	ovary	adult	8.4	8.4		
					kidney		5.9	5.9		
					whole body		5.5	5.5		
					fillet		3.2	3.2		
					whole body	juvenile	1.8	1.8		
Barium										NV
Beryllium (a)	bluegill	mortality	NOED	injection	whole body	immature	5.1	5.1	5.1	0.070
Cadmium (a)	bluegill	mortality	NOED	water	gill	1-yr old	34	34	8.3	0.027
					liver		201	201		
					kidney		188	188		
					intestine		73	73		
				absorption	gill	immature	26	26		
		growth		water	whole body	juvenile	0.52	0.52		
							0.52	0.52		
		mortality					0.52	0.52		
		survival					0.52	0.52		
Calcium										NV
Cobalt										NV
Copper (a)	bluegill	survival	NOED	water	gill	juvenile	12	12	16	0.057
					liver		57	57		
		reproduction		combined	kidney	immature	12	12		
					gill		6.0	6.0		
					liver		57	57		
		mortality			kidney		12	12		
		survival		water		juvenile	6.0	6.0		
				combined	liver	immature	57	57		
		growth		water	kidney	juvenile	6.0	6.0		
				combined	gill	immature	12	12		
							6.0	6.0		
		mortality					6.0	6.0		
		reproduction		water	liver	juvenile	57	57		
					gill		12	12		
					kidney		6.0	6.0		
		growth			gill		12	12		
					liver		57	57		

Pond Fish Body Burden Hazard Quotients
Sauget, IL

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue Conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
Iron										NV
Lead (a)	brook trout	reproduction	NOED	water	kidney	start life stage	100	100	12	0.019
		survival					100	100		
					gill	yearling	80	80		
		mortality		absorption	red blood cells		4.0	4.0		
		survival		water		immature	54	54		
		mortality		absorption	kidney	yearling	36	36		
					gill	egg-embryo	20	20		
					liver		20	20		
						immature	10	10		
					kidney	egg-embryo	100	100		
					whole body	immature	4.0	4.0		
		reproduction			muscle	egg-embryo	0.60	0.60		
		mortality			gonad	immature	3.2	3.2		
					muscle		0.60	0.60		
		morphology			whole body		2.5	2.5		
		growth			kidney	egg-embryo	100	100		
		survival		water	liver	immature	16	16		
		growth		absorption	gill	yearling	36	36		
		mortality			spleen	egg-embryo	6.0	6.0		
		reproduction			kidney	immature	36	36		
		growth		water	whole body	egg-embryo	4.0	4.0		
					liver	egg	16	16		
					red blood cells	yearling	54	54		
					gill		80	80		
					kidney		100	100		
		mortality		absorption	gill	immature	70	70		
		reproduction					70	70		
		growth			kidney		36	36		
		reproduction			gill	egg-embryo	20	20		
					liver		20	20		
						immature	10	10		
					spleen	egg-embryo	6.0	6.0		
					red blood cells	immature	4.0	4.0		
					gonad		3.2	3.2		
					kidney		100	100		
		survival		water	eggs		4.0	4.0		
		reproduction			gill	egg	80	80		
					red blood cells	yearling	54	54		
					liver		16	16		
					eggs		0.40	0.40		
		growth		absorption	gill	egg	70	70		
					liver	immature	20	20		
					muscle		0.60	0.60		
					liver		10	10		
					spleen	egg-embryo	6.0	6.0		
					red blood cells	immature	4.0	4.0		
					gonad		3.2	3.2		
					whole body		2.6	2.6		
		development			eggs	egg-embryo	0.34	0.34		
	fathead minnow	biochemical			whole body	juvenile	44	44		
							26	26		
					brain		0.82	0.82		
							0.45	0.45		

Table 7-82
Pond Fish Body Burden Hazard Quotients
Sauget, IL

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue Conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
Magnesium										NV
Manganese										NV
	goldfish				whole body	adult	6.2	6.2		
	green						0.20	0.20		
		mortality					1.2	1.2		
				absorption			1.4	1.4		
					fillet	fry	1.6	1.6		
	rainbow trout						0.70	0.70		
							2.4	2.4		
		physiological					1.5	1.5		
			NOED				12	12		
						NA	12	12		
		survival					12	12		
		behavior		water			11	11		
	fathead minnow	growth			whole body	embryo	11	11		
		morphology					11	11		
		survival					11	11		
				combined			0.99	0.99		
		growth		water		juvenile	2.1	2.1		
				combined			3.0	3.0		
		behavior	LOED	absorption	carcass	immature	1.2	1.2		
		mortality					4.8	4.8		
	rainbow trout	behavior					27	27		
		biochemical					12	12		
		cellular					27	27		
		growth		ingestion	muscle	fingerling	12	12		
		morphology					27	27		
		mortality					27	27		
Mercury (a)							0.32	0.32	1.7	0.037
							0.32	0.32		
		growth					0.80	0.80		
							2.6	2.6		
	fathead minnow			combined	whole body	adult	9.4	9.4		
		morphology					2.8	2.8		
		mortality					2.8	2.8		
							7.6	7.6		
	yellow perch	growth					0.14	0.14		
			NOED		brain		0.10	0.10		
					blood		0.10	0.10		
					gill		0.10	0.10		
					liver		0.10	0.10		
					muscle		0.10	0.10		
					whole body		0.14	0.14		
					kidney		0.30	0.30		
					spleen		0.30	0.30		
					gill		0.40	0.40		
	rainbow trout	mortality		ingestion	whole body	immature	0.47	0.47		
					muscle		0.50	0.50		
					brain		0.50	0.50		
					liver		1.1	1.1		
					spleen		1.3	1.3		
					kidney		1.5	1.5		
					posterior intestine		1.5	1.5		
					blood		1.5	1.5		
					posterior intestine		5.9	5.9		

Table 7-52
Pond Fish Body Burden Hazard Quotients
Sauget, IL

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue Conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
Nickel (a)	rainbow trout	survival	NOED	water	muscle	adult	0.82	0.82	27	0.066
					kidney		4.0	4.0		
					liver		2.9	2.9		
	common carp				gill	immature	48	48		
					kidney		65	65		
					liver		51	51		
					brain		36	36		
					white muscle		47	47		
					gill		103	103		
					kidney		80	80		
					liver		97	97		
					brain		41	41		
					white muscle		58	58		
Potassium										NV
Selenium (a)	bluegill	mortality	NOED	ingestion	muscle	juvenile	1.9	1.9	2.9	0.16
		reproduction		water	whole body	adult	0.62	0.62		
					ovary		0.66	0.66		
							0.66	0.66		
							6.7	6.7		
							6.7	6.7		
							6.7	6.7		
							6.7	6.7		
							6.7	6.7		
		mortality		ingestion	whole body	juvenile	0.50	0.50		
							0.66	0.66		
							2.2	2.2		
		physiological					0.90	0.90		
		survival		water			0.80	0.80		
		growth		combined		adult	3.2	3.2		
							3.6	3.6		
		physiological					3.2	3.2		
							3.2	3.2		
							3.6	3.6		
		reproduction					3.6	3.6		
							3.6	3.6		
		survival					3.6	3.6		
		mortality			skeletal muscle		1.8	1.8		
					testis		3.0	3.0		
					ovary		4.4	4.4		
					liver		9.3	9.3		
				absorption	whole body	immature	2.4	2.4		
		cellular		combined			1.6	1.6		
		growth					1.2	1.2		
							1.6	1.6		
		mortality		absorption	brain		0.50	0.50		
					stomach		1.3	1.3		
					intestine		2.3	2.3		
					gonad		2.4	2.4		
					plasma		2.9	2.9		
					white muscle		3.0	3.0		
					whole body		4.7	4.7		
					gill		8.3	8.3		
					red blood cells		8.6	8.6		
					kdney		11	11		
					liver		12	12		
					heart		15	15		
					spleen		19	19		

Table 7-52
Pond Fish Body Burden Hazard Quotients
Sauget, IL

Analyte	Species	Effect	Endpoint	Exposure Route	Body Part	Species Start Lifestage	Residue Conc. Wet	NOEL Equivalent Conc.	Calculated TRV Benchmark	HQ
Silver (a)	bluegill	mortality	NOED	water	whole body	juvenile	0.12	0.12	0.061	*7.4*
		growth					0.044	0.044		
		mortality					0.044	0.044		
Sodium										NV
Thallium (a)	bluegill	mortality	NOED	absorption	whole body	immature	2.7	2.7	2.7	0.33
Vanadium (a)	rainbow trout	mortality	NOED	ingestion	liver	immature	9.6	0.96	2.3	0.20
					carcass		5.3	5.3		
Zinc (a)	brook trout	growth	NOED	water	kidney	juvenile	42	42	51	0.0089
					gill		64	64		
					liver		68	68		
		reproduction			kidney		42	42		
					gill		64	64		
					liver		68	68		
		survival			kidney		42	42		
					gill		64	64		
					liver		68	68		
	guppy	mortality		combined	whole body	immature	0.28	0.28		
	American flagfish	growth					190	190		
							230	230		
		mortality					220	220		
							300	300		
		growth					58	58		
		mortality					50	50		
		reproduction					58	58		
	brook trout	growth		absorption	kidney		40	40		
					gill		60	60		
					liver		60	60		
		mortality			whole body	egg-embryo	3.9	3.9		
					gill	immature	60	60		
					liver		60	60		
					kidney		60	60		
		reproduction			kidney		40	40		
					gill		60	60		
					liver		60	60		

NOTES:
NA = Not available
NV = no TRV was found for this compound
Bolded/italicized values indicate HQs = to or exceeding 1 for adjusted non-detected concentrations.
Bolded/shaded values indicate HQs = to or exceeding 1 for detected concentrations.

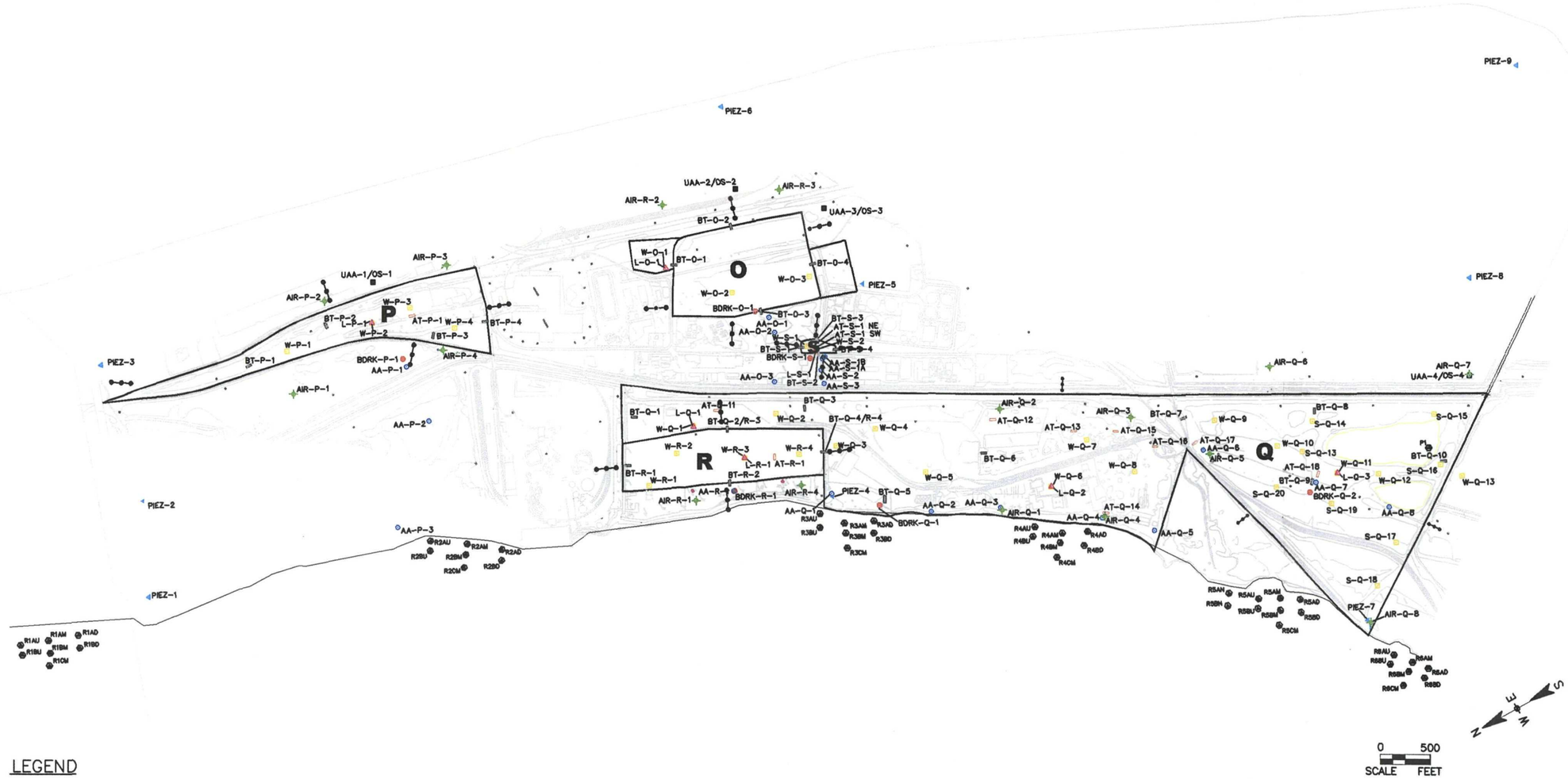
a - USACOE-ERAD, 2003
b - Jarvinen and Ankley, 1999
c - based on 1-Methylnaphthalene
d - Lu and Metcalf, 1975.
e - based on 4-nitrophenol
f - Freitag *et al*., 1985.
g - based on 4-methylphenol
h - based on 4-chloro-o-cresol
i - based on anthracene
j - Barrows *et al*., 1980
k - based on benzo(ghi)perylene
l - based on dimethylphthalate
m - Spehar *et al*., 1979
n - Oliver and Niimi, 1983
o- Metcalf, 1974
p - Canton *et al*., 1978
q - Schimmel *et al*., 1976
r - based on alpha-chlordane
s - Cook *et al*., 1991; Van den Berg *et al*., 1998
t - antimony potassium tartrate
u - USDA, 2003
v - Pesticide Information Profile, 1993c
w - Pesticide Information Profile, 1993b
x - Pesticide Information Profile, 1993a

Table 7-53
COPECs for the Pond
Sauget, IL

Sediment HQs	Surface Water HQs	Fish HQs
Dioxins/furans	Aluminum	Dalapon
	Barium	Dichloroprop
		Dinoseb
		MCPA
		PCBs
		Dioxins/furans
		Aluminum

NOTES:
Analytes listed are only for those exceeding their benchmark/TRV, based on detected values, and were above the background values.
Shaded entries are for those compounds that are COPECs for all receptors and all concentrations.

FIGURES



LEGEND

- Offsite Soil and Upgradient/Groundwater Sampling Locations
- Site-Related Groundwater Sampling Locations
- Bedrock Monitoring Well
- Piezometer Cluster
- Air Sampling Location
- Boundary Trench Location
- Anomaly Trench Location
- Waste Characterization Boring Location
- Leachate Monitoring Well Location

Note: Data from Area 1 background locations will also be considered as background for Area 2

SAUGET AREA 2
SAUGET ILLINOIS

Figure 2 – 1
Site Layout
Sauget Area 2 BERA

Date: 3/18/03	Project Number: 1-7305-0000	Scale: AS SHOWN
Source: URS	Checked by:	Sheet Number:

amec EARTH & ENVIRONMENTAL, INC.
285 Davidson Avenue, Suite 100
Somerset, NJ 08873

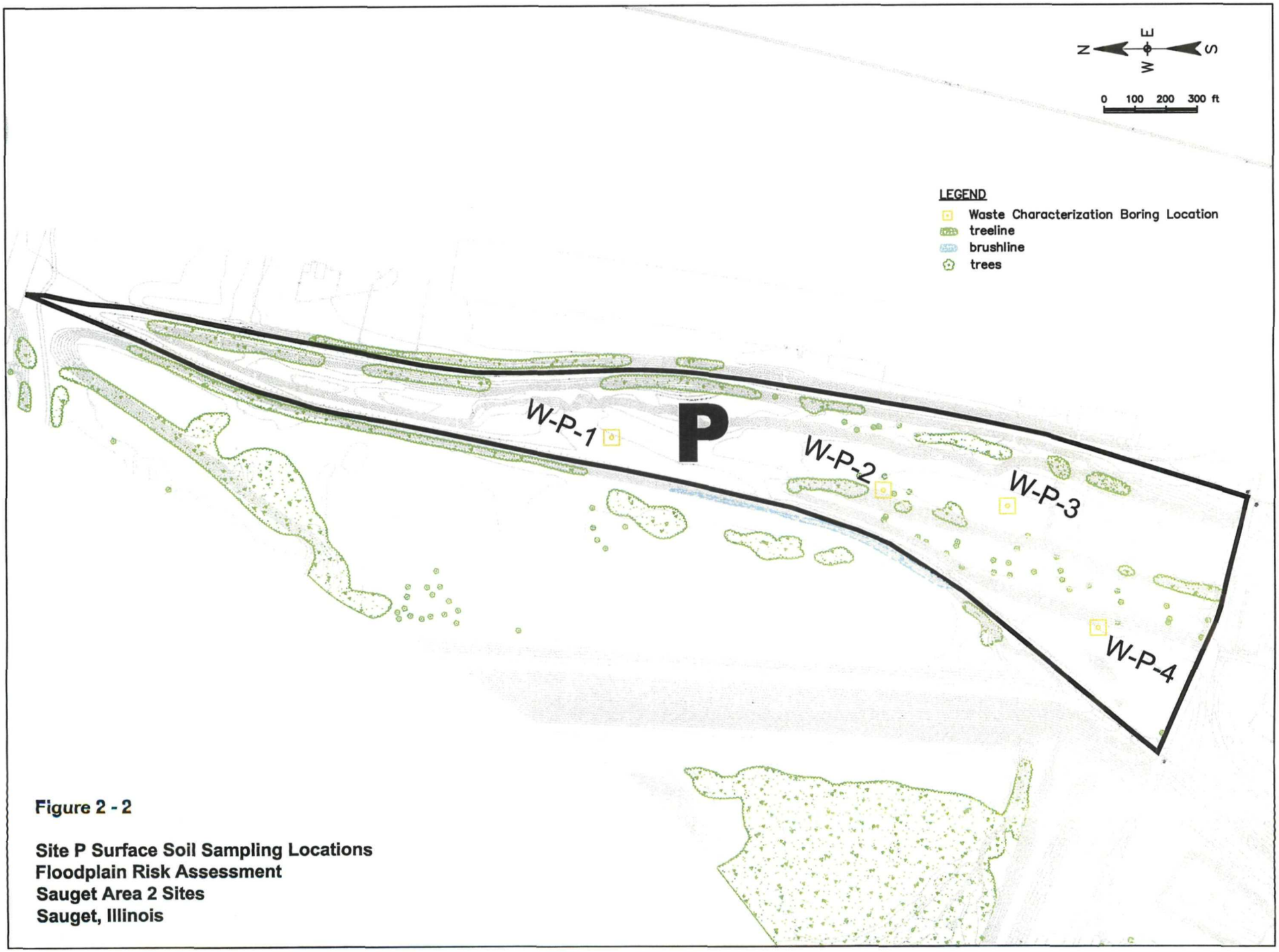


Figure 2 - 2

Site P Surface Soil Sampling Locations
Floodplain Risk Assessment
Sauget Area 2 Sites
Sauget, Illinois

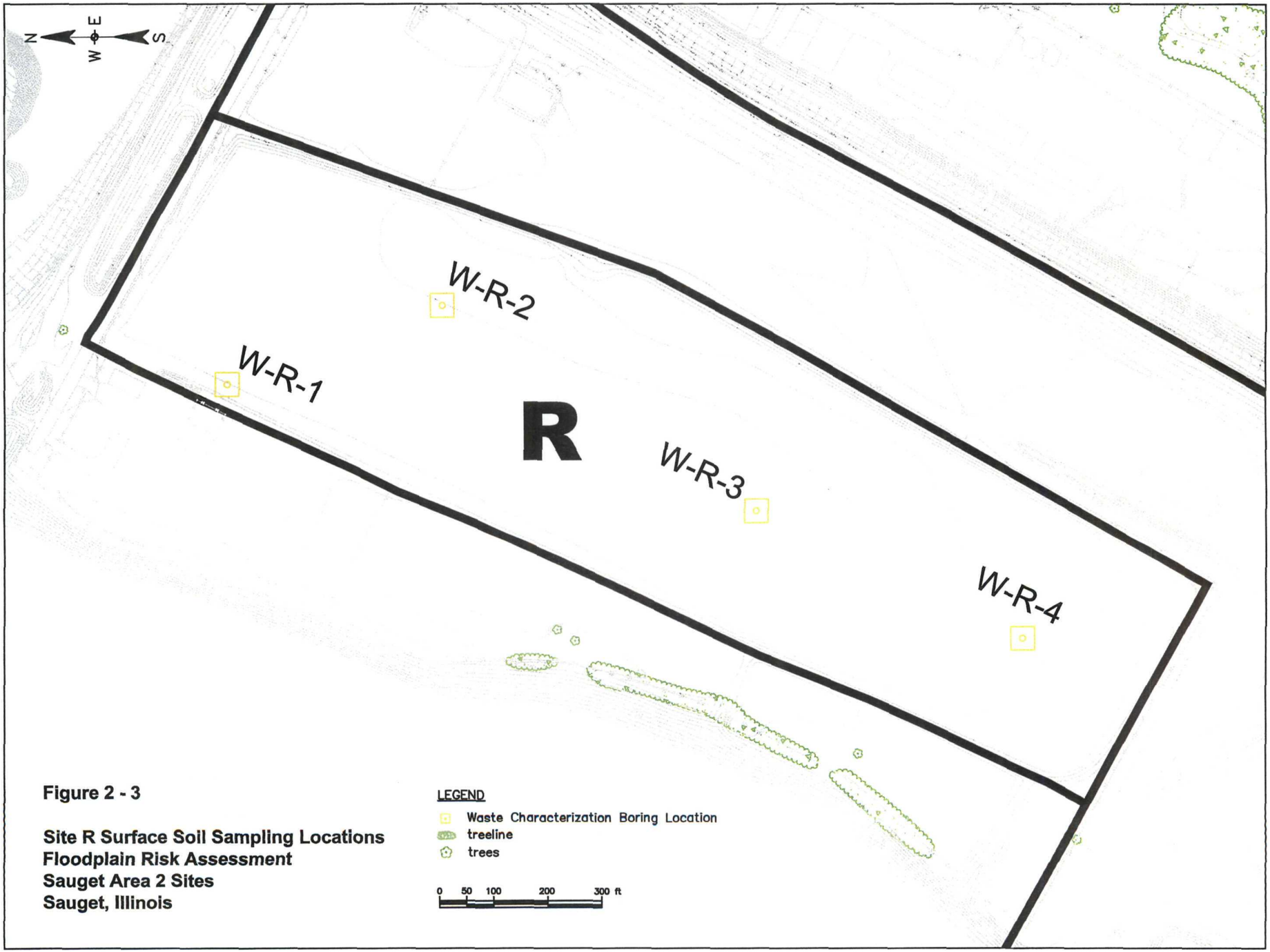


Figure 2 - 3

Site R Surface Soil Sampling Locations
Floodplain Risk Assessment
Sauget Area 2 Sites
Sauget, Illinois

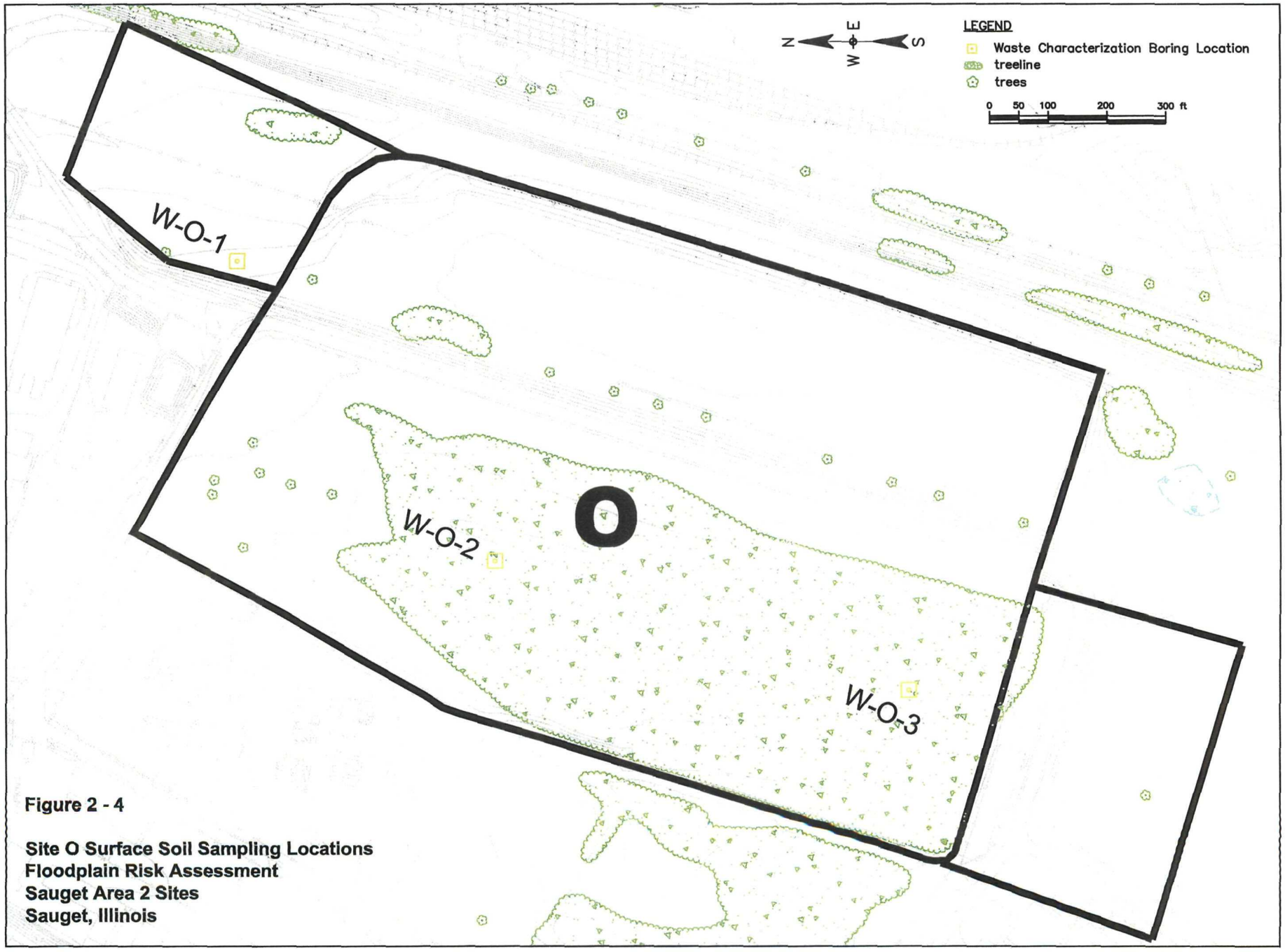


Figure 2 - 4

Site O Surface Soil Sampling Locations
Floodplain Risk Assessment
Sauget Area 2 Sites
Sauget, Illinois

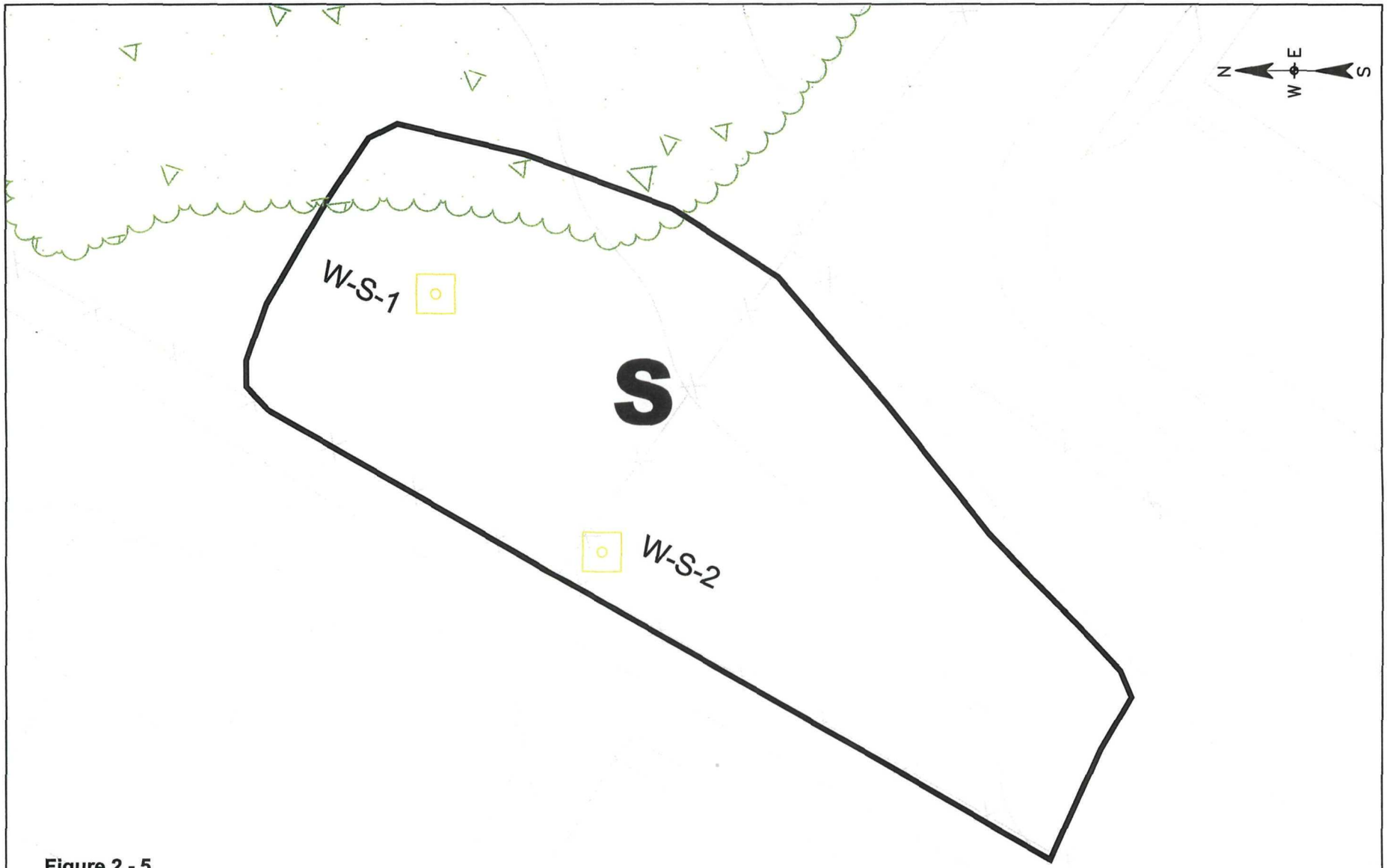


Figure 2 - 5

Site S Surface Soil Sampling Locations
Floodplain Risk Assessment
Sauget Area 2 Sites
Sauget, Illinois

LEGEND

Waste Characterization Boring Location
treeline

0 50 100 200 300 ft

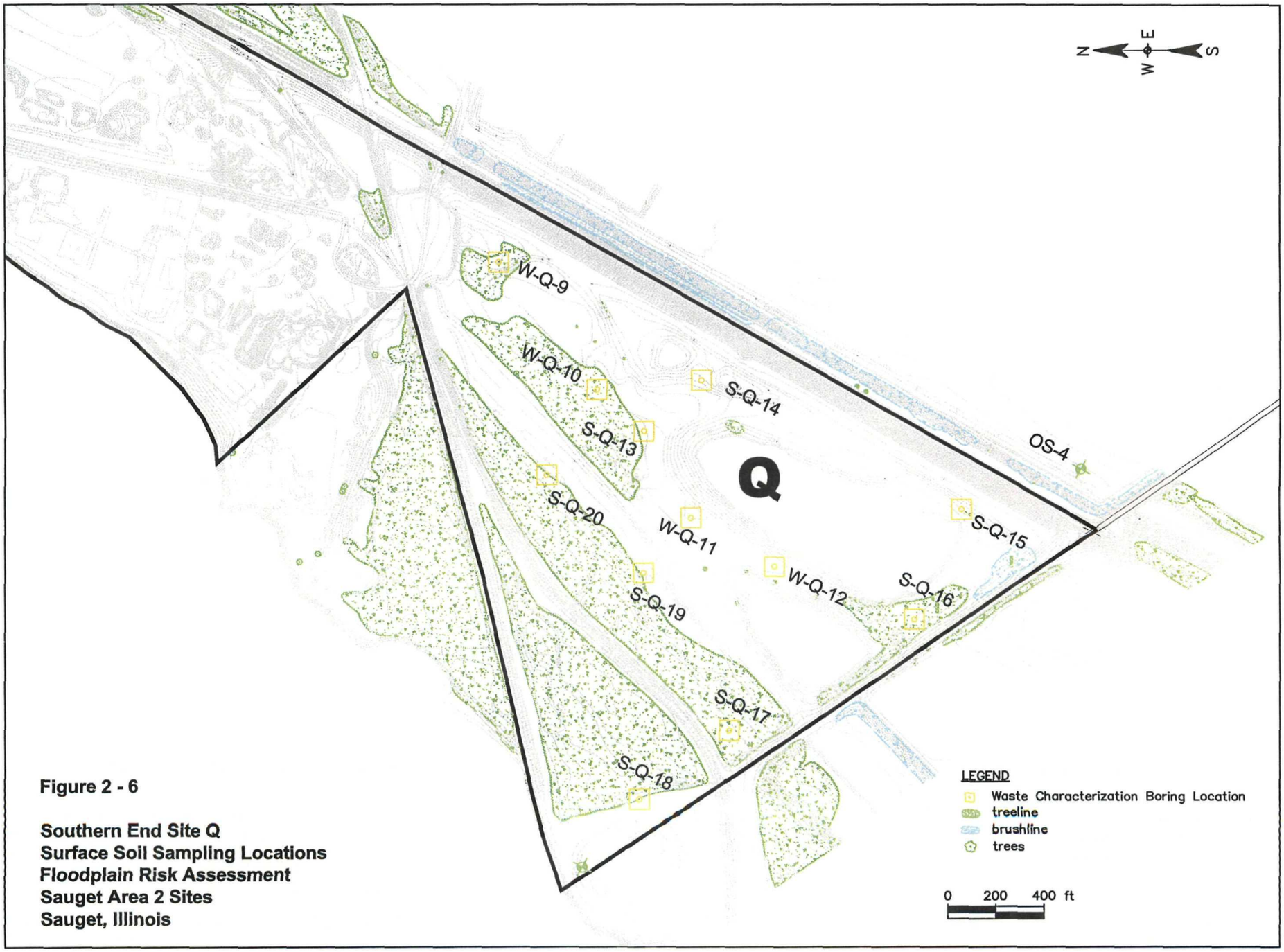


Figure 2 - 6

Southern End Site Q
Surface Soil Sampling Locations
Floodplain Risk Assessment
Sauget Area 2 Sites
Sauget, Illinois

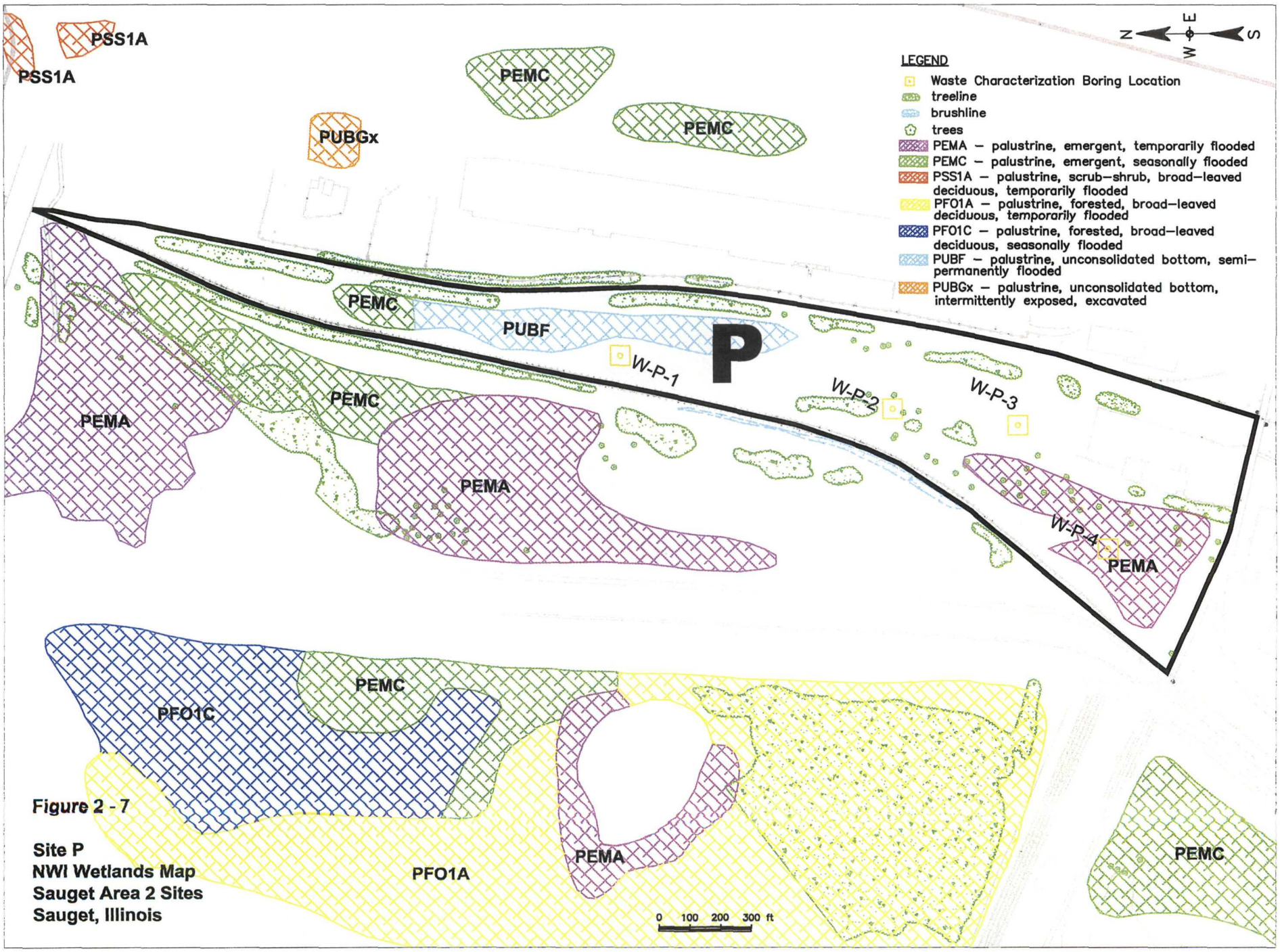


Figure 2 - 7

Site P
NWI Wetlands Map
Sauget Area 2 Sites
Sauget, Illinois

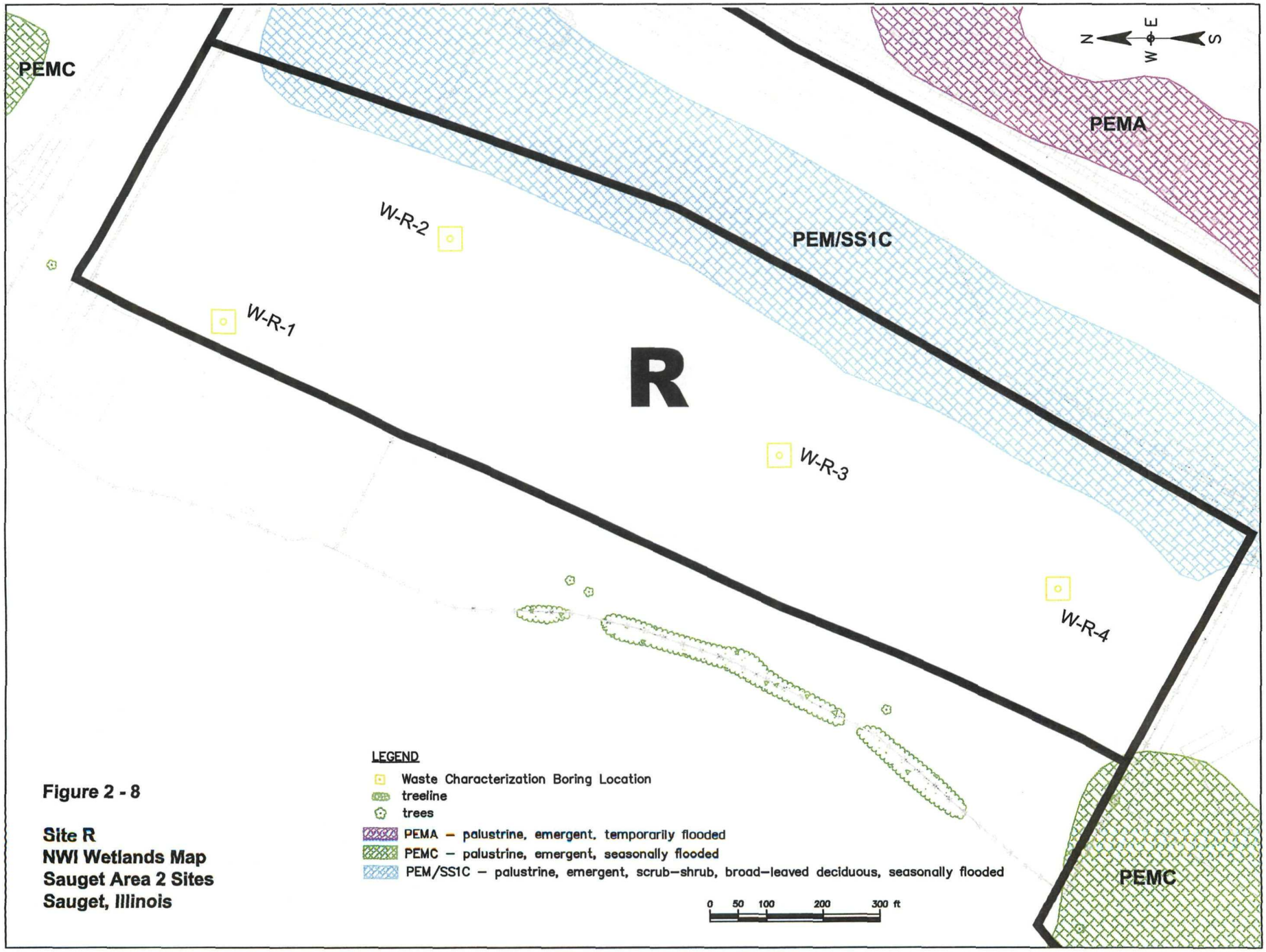


Figure 2 - 8

Site R
NWI Wetlands Map
Sauget Area 2 Sites
Sauget, Illinois

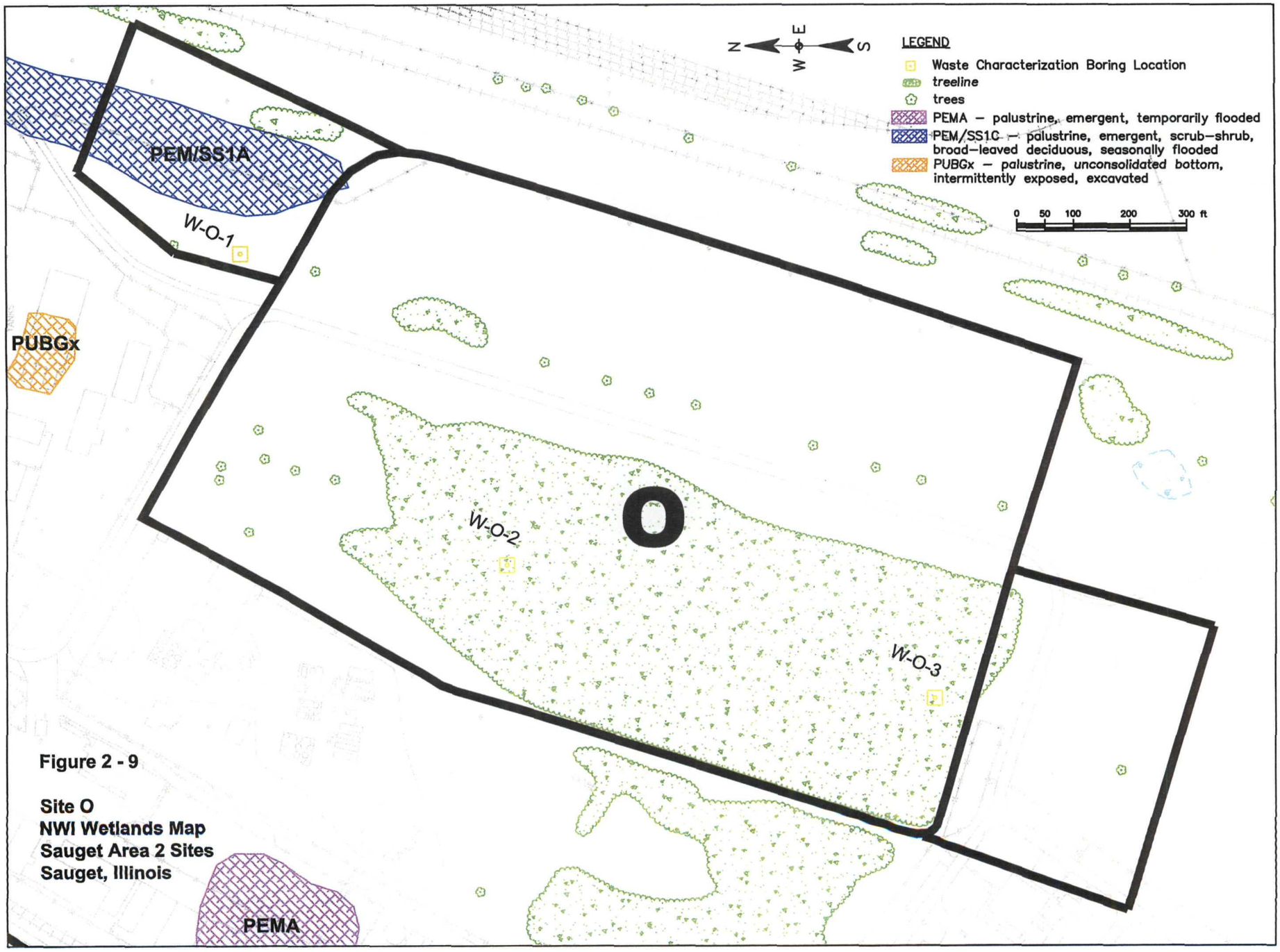


Figure 2 - 9

Site O
NWI Wetlands Map
Sauget Area 2 Sites
Sauget, Illinois

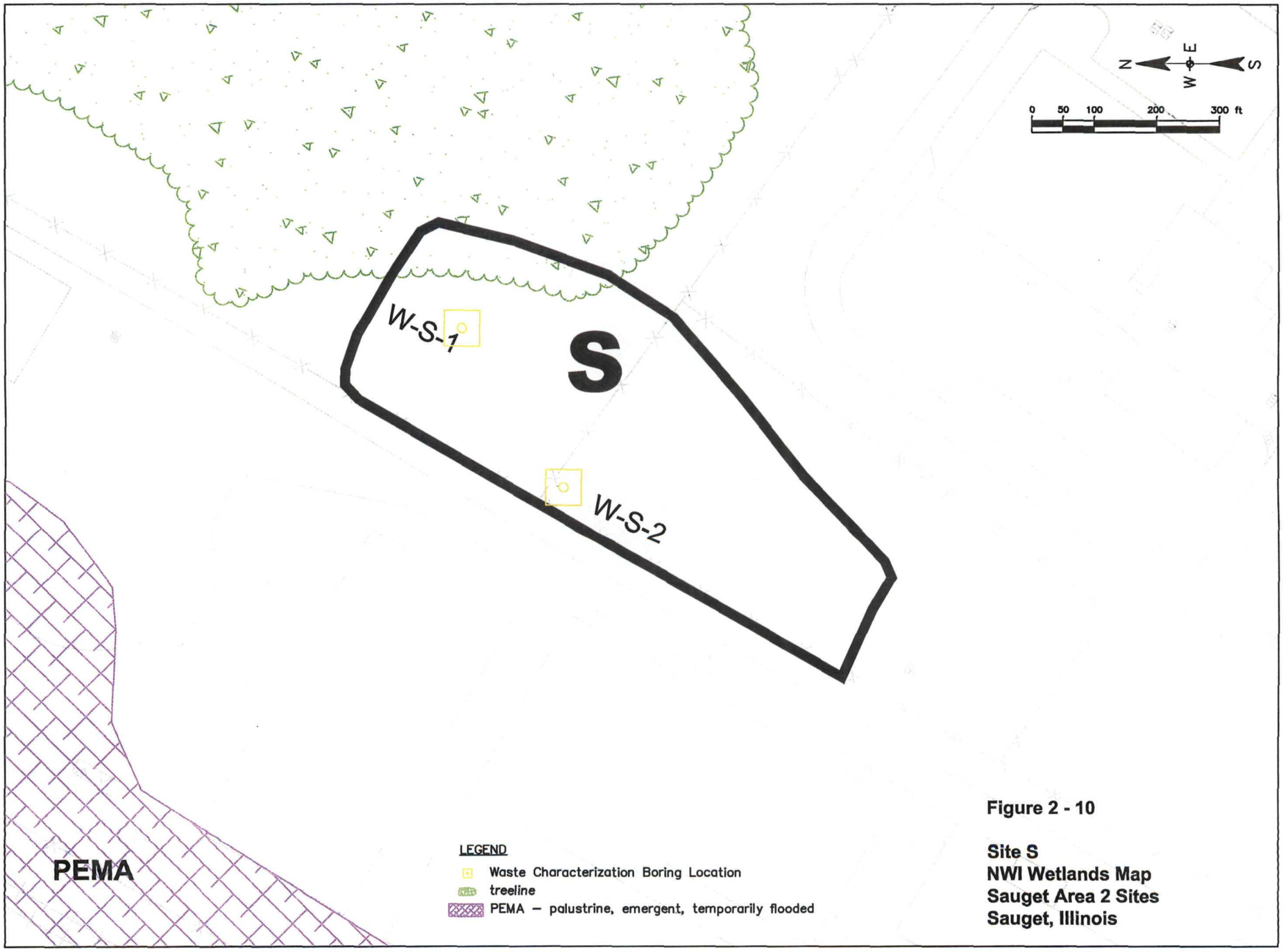


Figure 2 - 10

Site S
NWI Wetlands Map
Sauget Area 2 Sites
Sauget, Illinois

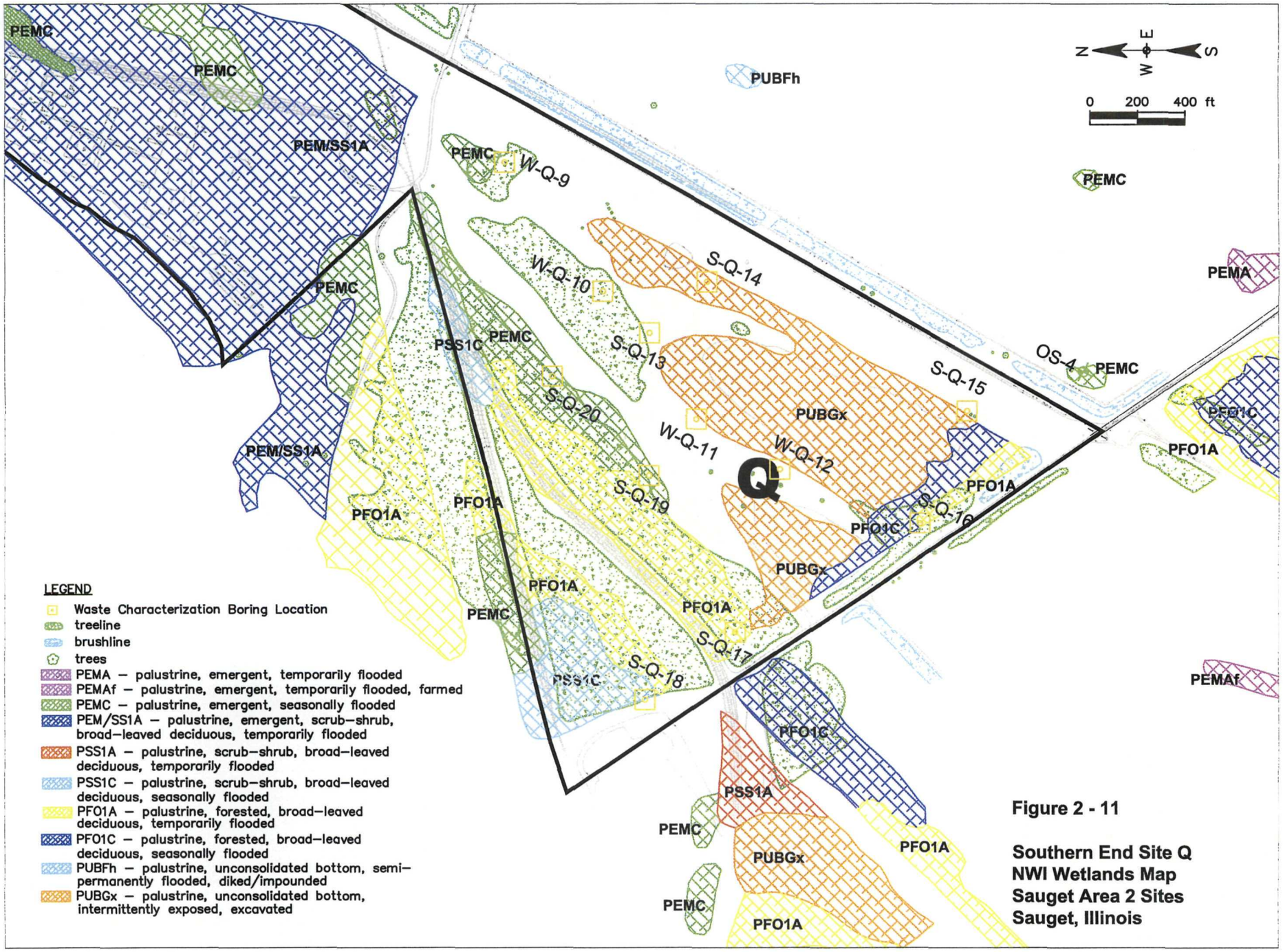
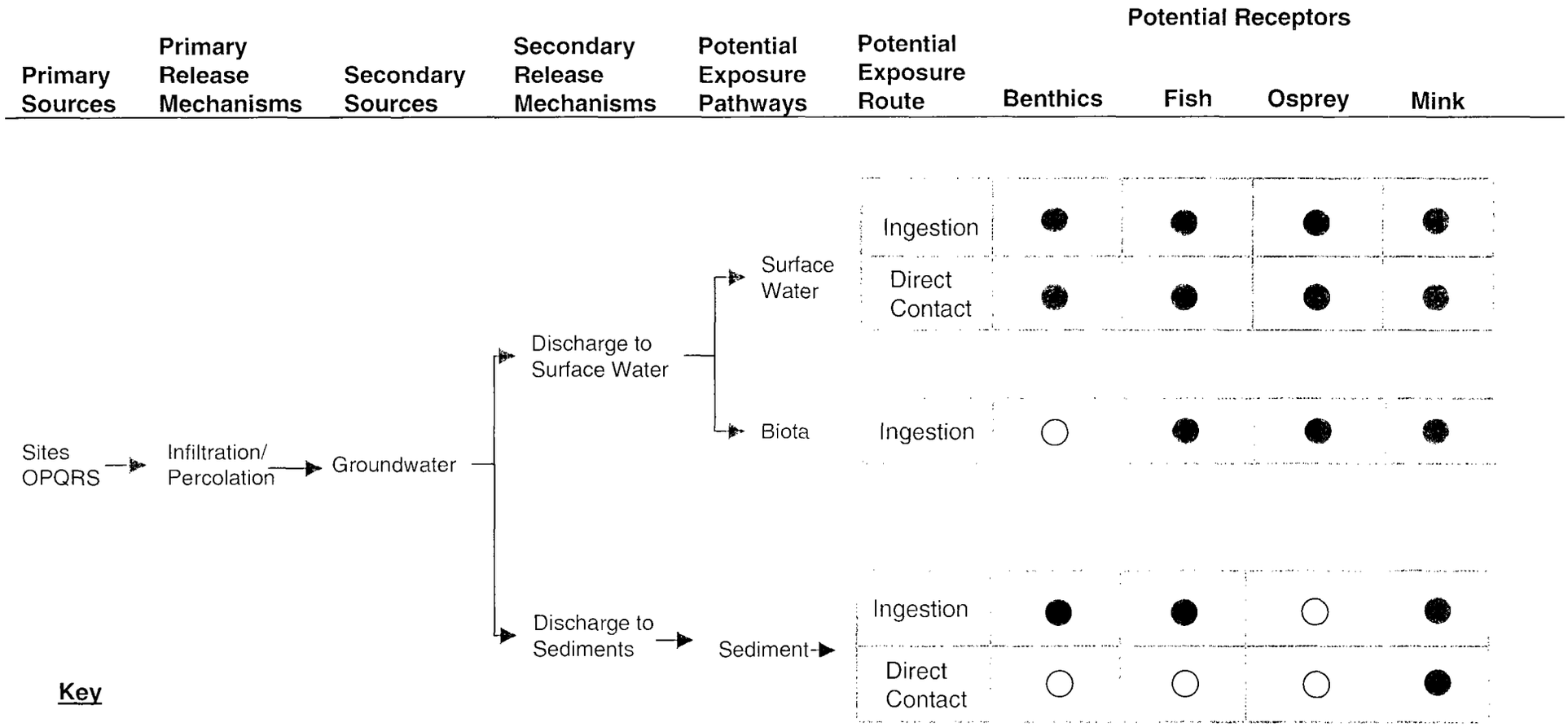


Figure 2 - 11

Southern End Site Q
NWI Wetlands Map
Sauget Area 2 Sites
Sauget, Illinois

Figure 2-12
Conceptual Site Model for the Aquatic Assessment
Sauget Area 2 RI/FS SSP
Sauget Area 2 Sites Group



Key

● pathway potentially complete; further evaluation recommended

○ pathway evaluated and determined to be incomplete; no further evaluation recommended

Figure 2-13
Conceptual Site Model for the Ponded Area
Sauget Area 2 RI/FS SSP
Sauget Area 2 Sites Group

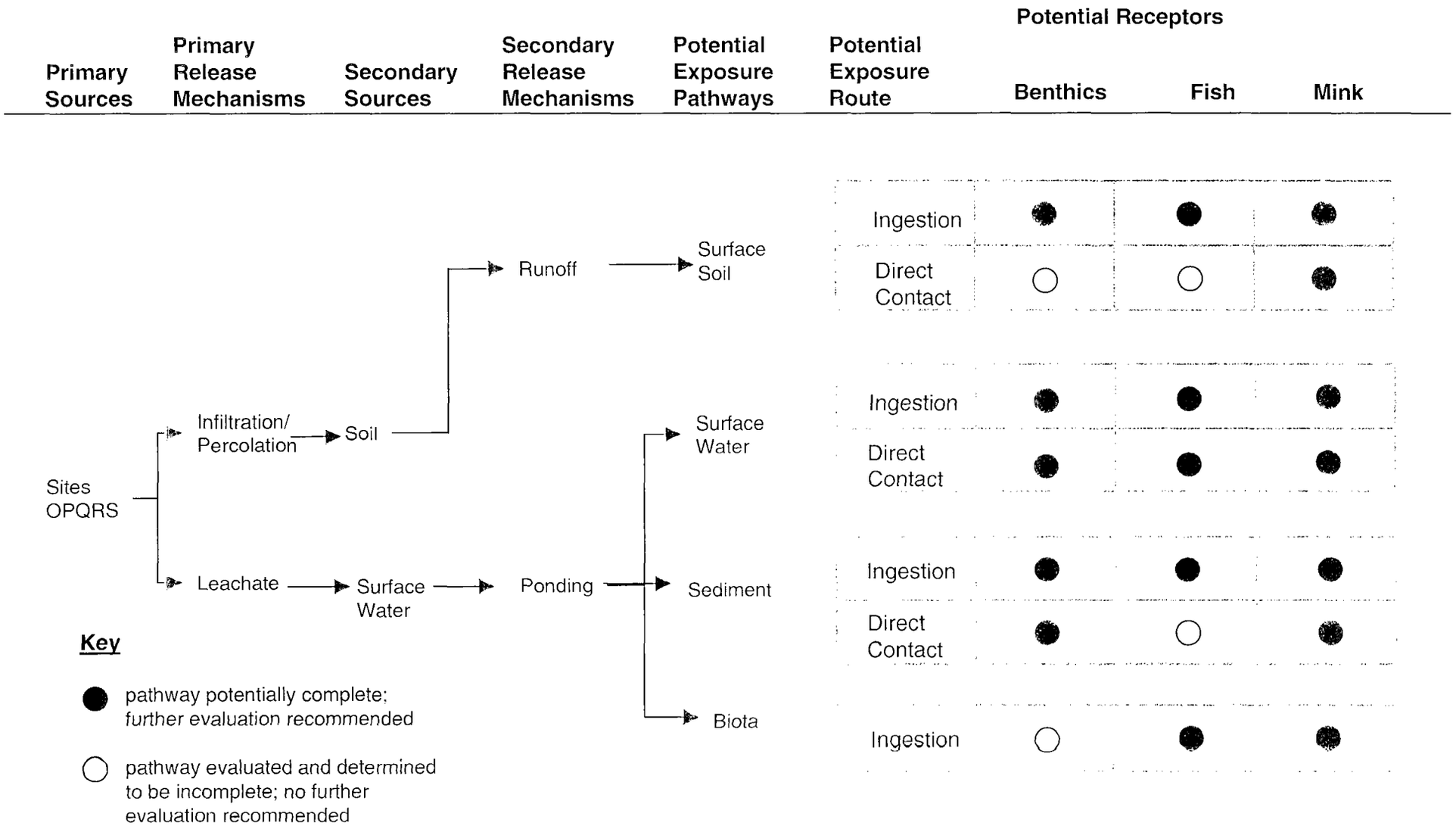
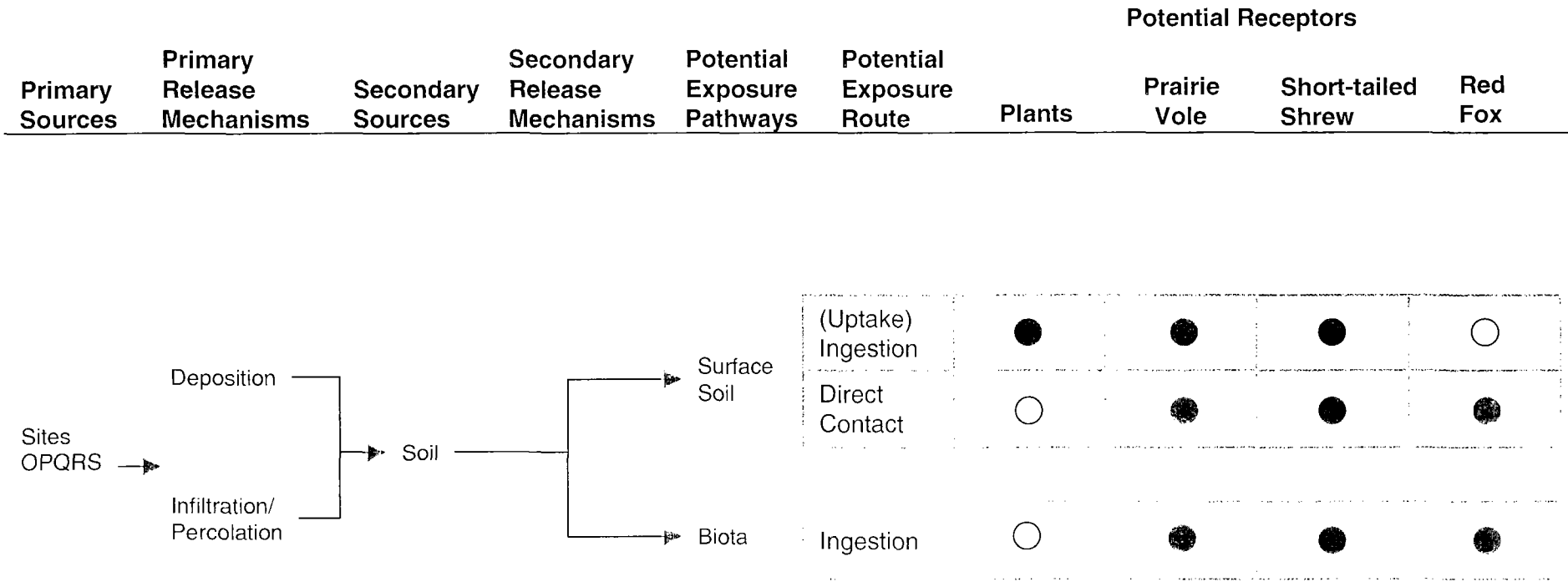


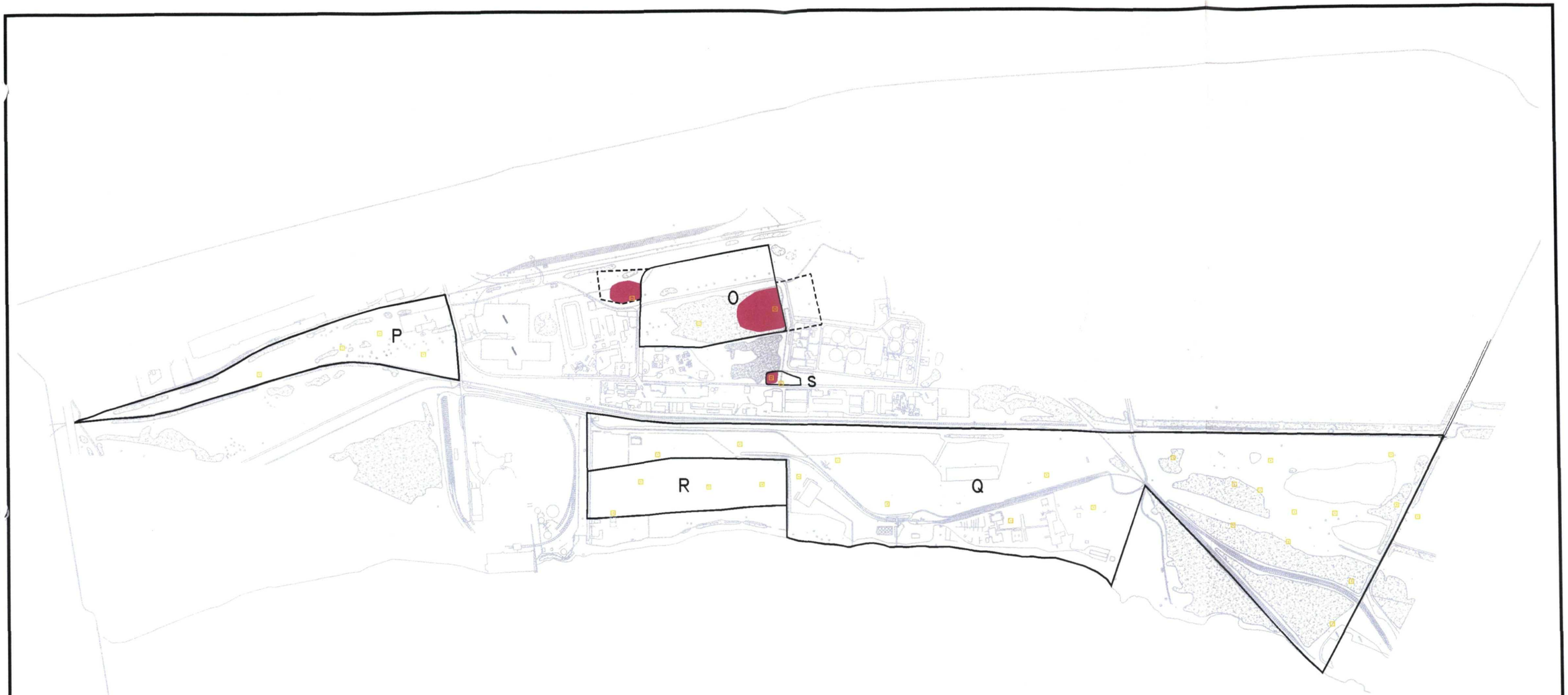
Figure 2-14
Conceptual Site Model for the Flood Plain Assessment
Sauget Area 2 RI/FS SSP
Sauget Area 2 Sites Group



Key

● pathway potentially complete; further evaluation recommended

○ pathway evaluated and determined to be incomplete; no further evaluation recommended



LEGEND

Waste Characterization Boring Location

Areas of Potential Ecological Concern

0 1000

SCALE FEET

SAUGET AREA 2
SAUGET ILLINOIS

Figure 9 – 1

Areas of Potential Ecological Concern
Sauget Area 2 Sites

Date: 3/18/03	Project Number: 1-7305-0000	Scale: AS SHOWN
Source: URS	Checked by:	Sheet Number:

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Somerset, NJ 08873

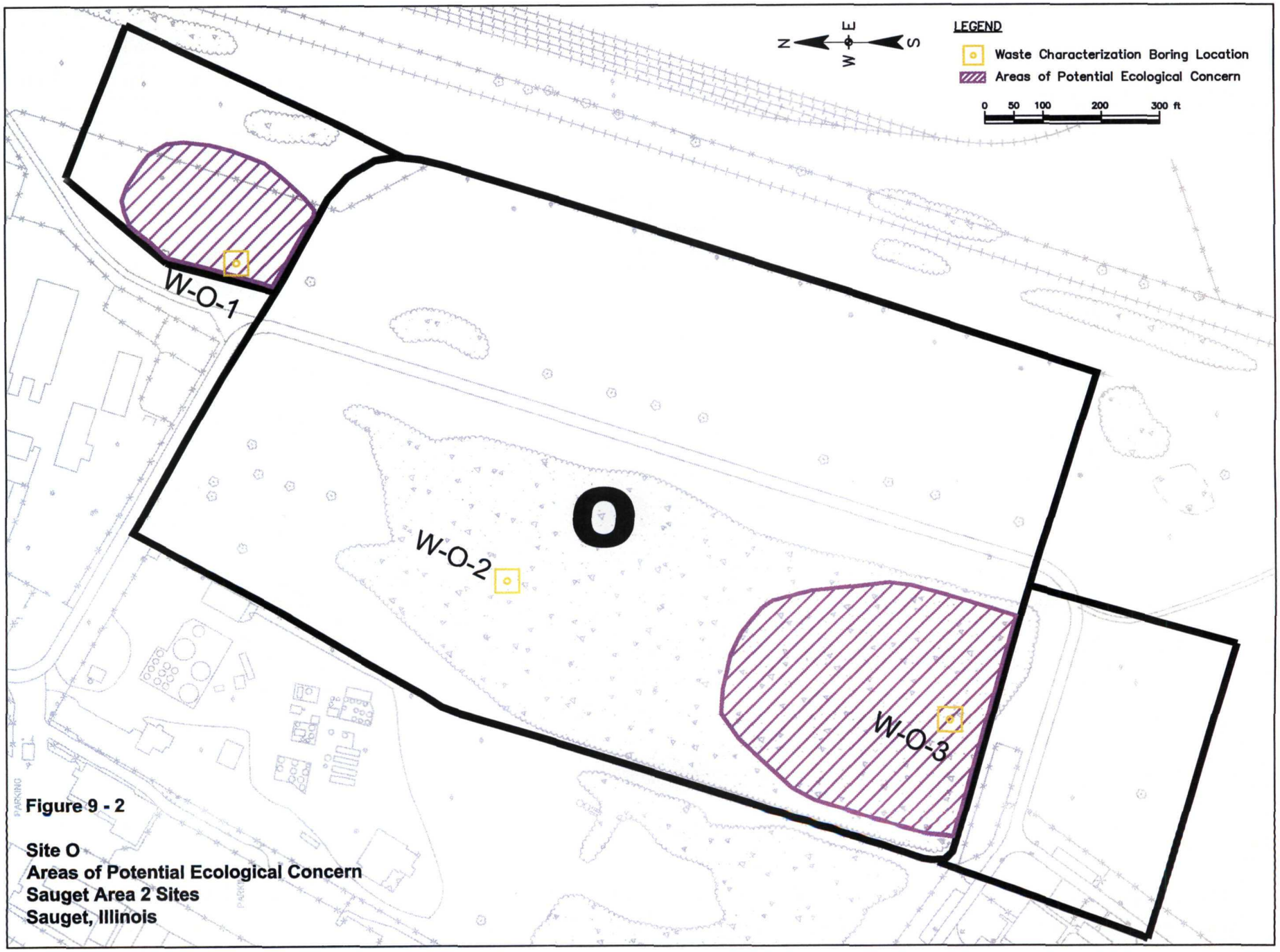

Figure 9 - 2

Site O
Areas of Potential Ecological Concern
Sauget Area 2 Sites
Sauget, Illinois

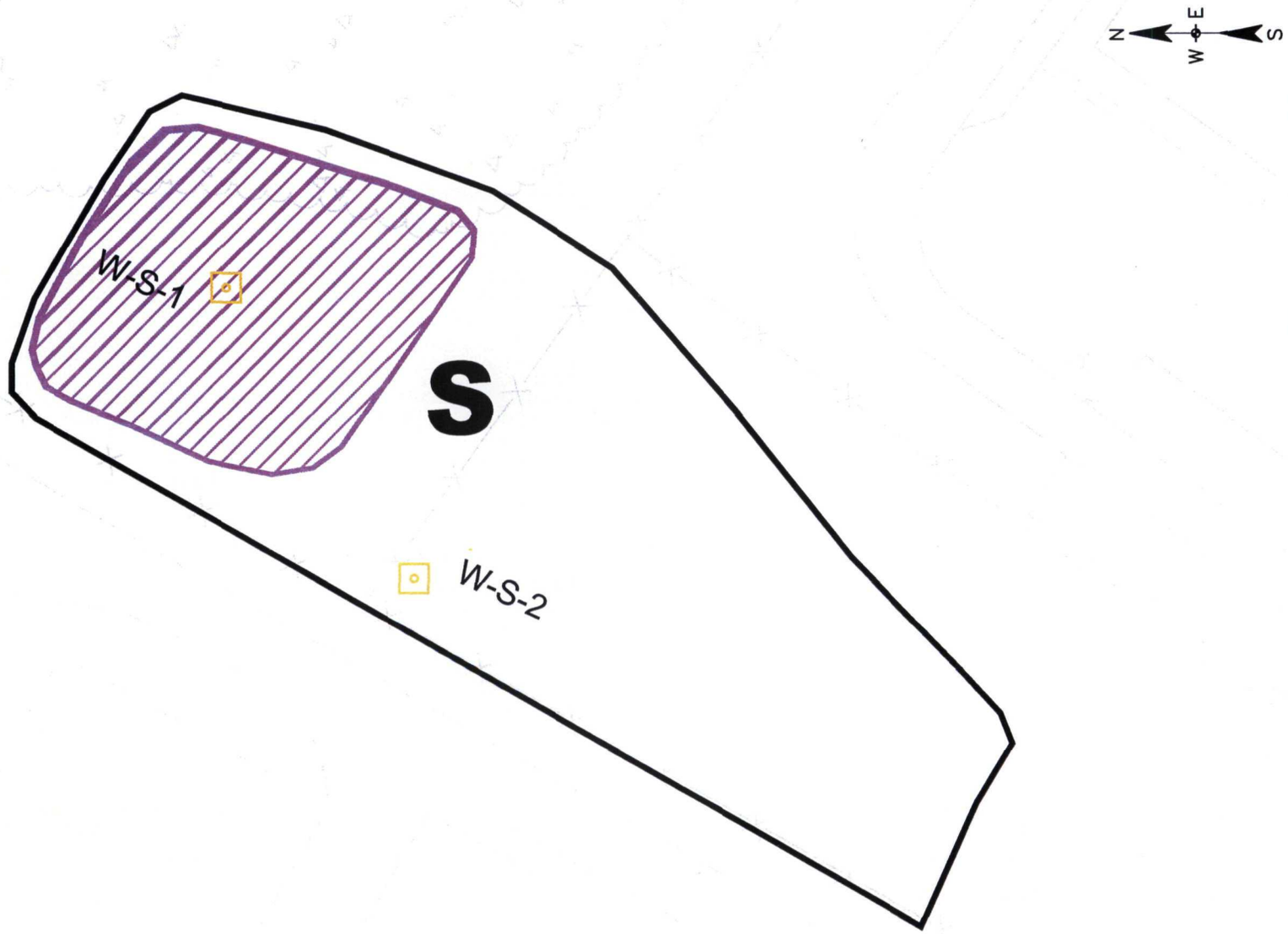

Figure 9 - 3

Site S
Areas of Potential Ecological Concern
Sauget Area 2 Sites
Sauget, Illinois

LEGEND

Waste Characterization Boring Location

Areas of Potential Ecological Concern

0 50 100 200 300 ft

APPENDICES

Appendix III-A

Summary of Concentrations by Medium Used in Floodplain Assessment

A1

Surface Soil . Concentrations

Sauget, IL

Analyte	Sample ID	OFF-SITE (Background)				SITE O			SITE P			
	Sample Date	SOIL-OS-2	SOIL-OS-2 DUP	SOIL-OS-3	SOIL-OS-4	SOIL-O-1	SOIL-O-2	SOIL-O-3	SOIL-P-1	SOIL-P-2	SOIL-P-3	SOIL-P-4
		08/14/02	08/14/02	08/14/02	08/15/02	07/10/02	07/10/02	07/10/02	07/16/02	07/16/02	07/17/02	07/16/02
	Sample Depth	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft
	Percent Moisture	16.5	14.1	13.1	12.8	6.7	12.3	13.1	3.7	10	3.3	8.9
VOCs	Units											
1,1,1-Trichloroethane	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 U	7.1 U	14 U	9.5 U
1,1,2,2-Tetrachloroethane	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 UJ	7.1 U	14 U	9.5 U
1,1,2-Trichloroethane	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 UJ	7.1 U	14 UJ	9.5 U
1,1-Dichloroethane	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 U	7.1 U	14 U	9.5 U
1,1-Dichloroethylene	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 U	7.1 U	14 U	9.5 U
1,2-Dichloroethane	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 U	7.1 U	14 U	9.5 U
1,2-Dichloroethene (total)	ug/kg	12 U	15 U	11 U	18 U	850 UJ	20 U	11 U	18 UJ	14 U	28 UJ	19 U
1,2-Dichloropropane	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 UJ	7.1 U	14 UJ	9.5 U
2-Butanone (MEK)	ug/kg	29 U	37 U	28 U	45 U	2100 UJ	49 U	17 J	7.1 J	36 U	70 U	47 U
2-Hexanone	ug/kg	29 U	37 U	28 U	45 U	2100 UJ	49 U	28 U	5.9 J	36 U	70 U	47 U
4-Methyl-2-pentanone (MIBK)	ug/kg	29 U	37 U	28 U	45 U	2100 UJ	49 U	28 U	21 J	36 U	17 J	47 U
Acetone	ug/kg	58 U	75 U	55 U	91 U	4200 R	98 U	130	91 U	71 U	140 U	95 U
Benzene	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	590 J	9.8 U	5.6 U	3.8 J	7.1 U	9.4 J	9.5 U
Bromodichloromethane	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 UJ	7.1 U	14 UJ	9.5 U
Bromoform	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 UJ	7.1 U	14 UJ	9.5 U
Bromomethane	ug/kg	12 UJ	15 UJ	11 UJ	18 UJ	850 UJ	20 U	11 U	18 U	14 U	28 U	19 U
Carbon Disulfide	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	180 J	9.8 U	5.6 U	1.4 J	7.1 U	1.4 J	9.5 UJ
Carbon Tetrachloride	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 U	7.1 U	14 U	9.5 U
Chlorobenzene	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	5800 J	9.8 U	5.6 U	4 J	7.1 U	14 UJ	9.5 U
Chloroethane	ug/kg	12 U	15 U	11 U	18 U	850 UJ	20 U	11 U	18 U	14 U	28 U	19 U
Chloroform	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 U	7.1 U	14 U	9.5 U
Chloromethane	ug/kg	12 UJ	15 UJ	0.45 J	18 UJ	850 UJ	20 U	11 U	18 U	14 U	28 U	19 U
cis-1,3-Dichloropropene	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 UJ	7.1 U	14 UJ	9.5 U
Dibromochloromethane	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 UJ	7.1 U	14 UJ	9.5 U
Ethylbenzene	ug/kg	5.8 U	0.45 J	0.57 J	9.1 U	4400 J	0.38 J	5.6 U	2.4 J	0.26 J	14 UJ	9.5 U
Methylene Chloride	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 U	7.1 U	14 U	9.5 U
Styrene (Monomer)	ug/kg	5.8 U	0.76 J	1.3 J	9.1 U	420 UJ	9.8 U	5.6 U	9.1 UJ	0.34 J	14 UJ	9.5 U
Tetrachloroethene	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	290 J	1 J	5.6 U	6 J	3.1 J	1.9 J	9.5 U
Toluene	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	870 J	9.8 U	5.6 U	32 J	7.1 U	14 UJ	9.5 U
trans-1,3-Dichloropropene	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	9.8 U	5.6 U	9.1 UJ	7.1 U	14 UJ	9.5 U
Trichloroethylene	ug/kg	5.8 U	7.5 U	5.5 U	9.1 U	420 UJ	0.58 J	5.6 U	1.5 J	0.79 J	14 UJ	9.5 U
Vinyl chloride	ug/kg	12 U	15 U	11 U	18 U	850 UJ	20 U	11 U	18 U	14 U	28 U	19 U
Xylenes, Total	ug/kg	12 U	1.1 J	0.54 J	18 U	80000 J	1.3 J	11 U	8.6 UJ	0.97 J	28 UJ	19 U
SVOCs												
1,2,4-Trichlorobenzene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
1,2-Dichlorobenzene	ug/kg	400 U	380 U	370 U	380 U	34 J	380 U	36 J	410 U	410 U	1800 UJ	380 U
1,3-Dichlorobenzene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
1,4-Dichlorobenzene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2,4,5-Trichlorophenol	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2,4,6-Trichlorophenol	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2,4-Dichlorophenol	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	35 J	410 U	410 U	1800 UJ	380 U
2,4-Dimethylphenol	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2,4-Dinitrophenol	ug/kg	2100 U	1900 U	1900 U	2000 U	1800 UJ	1900 U	2000 UJ	2100 U	2100 U	9600 UJ	1900 U
2,4-Dinitrotoluene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2,6-Dinitrotoluene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2-Chloronaphthalene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2-Chlorophenol	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2-Methylnaphthalene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2-Methylphenol (o-Cresol)	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
2-Nitroaniline	ug/kg	2100 U	1900 U	1900 U	2000 U	1800 U	1900 U	53 J	2100 U	2100 U	9600 UJ	1900 U
2-Nitrophenol	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
3,3'-Dichlorobenzidine	ug/kg	800 U	750 U	740 U	770 U	700 U	750 U	780 U	810 U	820 U	3700 UJ	750 U
3/4-Methylphenol (m&p-Cresol)	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
3-Nitroaniline	ug/kg	2100 U	1900 U	1900 U	2000 U	1800 U	1900 U	2000 U	2100 U	2100 U	9600 UJ	1900 U
4,6-Dinitro-2-methylphenol	ug/kg	2100 U	1900 U	1900 U	2000 U	1800 U	1900 U	2000 U	2100 U	2100 U	9600 UJ	1900 U
4-Bromophenyl Phenyl Ether	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
4-Chloro-3-methylphenol	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
4-Chloroaniline	ug/kg	800 U	750 U	740 U	770 U	700 U	750 U	780 U	810 U	820 U	3700 UJ	750 U
4-Chlorophenyl Phenyl Ether	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
4-Nitroaniline	ug/kg	2100 U	1900 U	1900 U	2000 U	1800 U	1900 U	2000 U	2100 U	2100 U	9600 UJ	1900 U
4-Nitrophenol	ug/kg	2100 U	1900 U	1900 U	2000 U	1800 U	1900 U	2000 U	2100 U	2100 U	9600 UJ	1900 U
Acenaphthene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	75 J	1800 UJ	380 U
Acenaphthylene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
Anthracene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	230 J	1800 UJ	380 U

NOTES:

U = Not detected at the MDL.

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UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Table III-A1
Surface Soil Analyte Concentrations
Rouget, IL

Analyte	Sample ID	OFF-SITE (Background)				SITE O			SITE P			
		SOIL-OB-1	SOIL-OB-2 DUP	SOIL-OB-3	SOIL-OB-4	SOIL-O-1	SOIL-O-2	SOIL-O-3	SOIL-P-1	SOIL-P-2	SOIL-P-3	SOIL-P-4
	Sample Date	08/14/03	08/14/03	08/14/03	08/15/03	07/10/03	07/10/03	07/10/03	07/16/03	07/16/03	07/17/03	07/16/03
	Sample Depth	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft
	Percent Moisture	16.8	14.1	12.1	12.8	6.7	12.3	12.1	3.7	10	3.3	0.9
SVOCs	Units											
Benzo(a)anthracene	ug/kg	28 J	22 J	40 J	380 U	41 J	380 U	63 J	29 J	680	1800 UJ	380 U
Benzo(a)pyrene	ug/kg	400 U	380 U	370 U	380 U	46 J	380 U	390 U	42 J	670	1800 UJ	380 U
Benzo(b)fluoranthene	ug/kg	40 J	380 U	370 U	380 U	89 J	140 J	98 J	32 J	680	1800 UJ	380 U
Benzo(g,h,i)perylene	ug/kg	400 U	380 U	370 U	380 U	42 J	380 U	1200	72 J	320 J	1800 UJ	380 U
Benzo(k)fluoranthene	ug/kg	25 J	36 U	60 J	380 U	350 U	380 U	100 J	30 J	570	1800 UJ	380 U
bis(2-Chloroethoxy)methane	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
bis(2-Chloroethyl)ether	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
bis(2-Ethylhexyl)phthalate	ug/kg	400 U	300 J	370 U	380 U	250 J	23 J	62 J	50 J	35 J	1800 UJ	36 J
Butyl Benzyl Phthalate	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	35 J	410 U	410 U	1800 UJ	380 U
Carbazole	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	73 J	1800 UJ	380 U
Chrysene	ug/kg	37 J	33 J	47 J	380 U	67 J	380 U	200 J	36 J	770	1800 UJ	380 U
Dibenzo(a,h)anthracene	ug/kg	400 U	380 U	370 U	380 U	350 U	78 J	130 J	99 J	110 J	1800 UJ	380 U
Dibenzofuran	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	29 J	1800 UJ	380 U
Diethyl Phthalate	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
Dimethyl Phthalate	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
Di-n-butylphthalate	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	49 J	410 U	410 U	1800 UJ	380 U
Di-n-octylphthalate	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
Fluoranthene	ug/kg	56 J	380 U	47 J	380 U	83 J	380 U	390 U	40 J	1700	1800 UJ	380 U
Fluorene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	65 J	1800 UJ	380 U
Hexachlorobenzene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	110 J	410 U	410 U	1800 UJ	380 U
Hexachlorobutadiene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
Hexachlorocyclopentadiene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
Hexachloroethane	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
Indeno(1,2,3-cd)pyrene	ug/kg	400 U	380 U	370 U	380 U	32 J	380 U	390 U	66 J	260 J	1800 UJ	380 U
Isophorone	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
Naphthalene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
Nitrobenzene	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
N-Nitroso-di-n-propylamine	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
N-Nitrosodiphenylamine	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
Pentachlorophenol	ug/kg	51 J	28 J	17 J	20 U	61 J	21 J	2000	71 J	41 J	28	11 J
Phenanthrene	ug/kg	34 J	31 J	51 J	380 U	32 J	380 U	40 J	24 J	1100	1800 UJ	380 U
Phenol	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	360 J	1800 UJ	380 U
Pyrene	ug/kg	57 J	380 U	56 J	380 U	78 J	380 U	130 J	51 J	1800	1800 UJ	380 U
Pesticides												
4,4'-DDD	ug/kg	6.6 J	2.4 J	3.7 UJ	3.8 UJ	3.5 U	3.8 U	86 J	8.1 U	4.1 U	3.7 U	75 U
4,4'-DDE	ug/kg	16 J	8.4 J	4.1 J	3.8 U	3.5 U	3.8 U	19 U	8.1 U	3.7	3.7 U	75 U
4,4'-DDT	ug/kg	46 J	25 J	16 J	3.8 UJ	3.5 UJ	0.81 J	210 J	17 J	8.1 J	9.1 J	1100 J
Aldrin	ug/kg	2.1 U	1.9 U	1.9 UJ	2 U	1.8 U	1.9 U	20 U	42 U	2.1 U	1.9 U	19 U
alpha-BHC	ug/kg	2.1 U	1.9 U	1.9 UJ	2 U	1.8 U	1.9 U	20 U	42 UJ	2.1 U	1.9 UJ	19 U
alpha-Chlordane	ug/kg	2.1 U	1.9 U	1.9 UJ	2 U	1.8 U	1.9 U	9.4 J	47 U	1.5 J	1.9 U	18 J
beta-BHC	ug/kg	2.1 U	1.9 U	1.9 UJ	2 U	1.8 U	1.9 U	20 U	42 U	2.1 U	1.9 U	19 U
delta-BHC	ug/kg	2.1 U	1.9 U	1.9 UJ	2 U	1.8 U	1.9 U	20 U	42 UJ	2.1 U	1.9 UJ	19 UJ
Dieldrin	ug/kg	9.6 J	3.8 J	1 J	3.8 U	1.4 J	3.8 U	180 J	8.1 U	2 J	3 J	75 U
Endosulfan I	ug/kg	2.1 U	0.19 J	2.1 J	2 U	1.8 U	1.9 U	20 U	42 U	2.1 U	1.9 U	19 U
Endosulfan II	ug/kg	4 U	3.8 U	0.58 J	3.8 U	3.5 U	3.8 U	11 J	8.1 U	4.1 U	3.7 U	75 U
Endosulfan Sulfate	ug/kg	1.1 J	3.8 U	0.71 J	3.8 U	3.5 U	3.8 U	170 J	8.1 U	4.1 U	3.7 U	36 J
Endrin	ug/kg	4 U	3.8 U	3.7 UJ	3.8 U	3.5 UJ	3.8 U	39 UJ	8.1 U	4.1 U	3.7 U	75 UJ
Endrin Aldehyde	ug/kg	4 UJ	3.8 UJ	1 J	3.8 UJ	3.5 U	3.4 J	39 U	8.1 U	4.1 U	3.7 U	140 J
Endrin Ketone	ug/kg	4 U	3.8 U	3.7 UJ	3.8 U	3.5 UJ	3.8 U	22 J	8.1 U	4.1 UJ	3.7 U	9.7 J
gamma-BHC (Lindane)	ug/kg	2.1 U	1.9 U	1.9 UJ	2 U	1.8 U	1.9 U	12 J	42 U	2.1 U	1.9 U	19 U
gamma-Chlordane	ug/kg	2.1 U	1.9 U	1.9 UJ	2 U	0.33 J	1.9 U	180	42 U	2.1 U	1.9 U	19 U
Heptachlor	ug/kg	2.1 U	1.9 U	1.9 UJ	2 U	1.8 U	1.9 U	16 J	42 UJ	2.1 U	1.9 UJ	19 UJ
Heptachlor Epoxide	ug/kg	2.3 J	0.77 J	1.2 J	2 U	1.8 U	1.9 U	20 U	42 U	2.1 U	1.9 U	15 J
Methoxychlor	ug/kg	21 UJ	2.8 J	19 UJ	20 UJ	18 UJ	0.88 J	200 UJ	420 U	21 UJ	190 U	190 U
Toxaphene	ug/kg	210 U	190 U	190 UJ	200 U	180 U	190 U	2000 U	4200 U	210 U	1900 U	1900 U
Herbicides												
2,4-D	ug/kg	10 U	9.4 U	5.8 J	9.6 U	35 U	31 J	50 J	10 U	4.6 J	9.3 U	10 J
2,4-DB	ug/kg	10 U	9.4 U	9.3 U	9.6 U	35 U	13 J	19 J	10 U	10 UJ	9.3 U	9.4 U
2,4,5-T	ug/kg	10 U	9.4 U	9.3 U	9.6 U	35 U	9.4 U	17 J	10 U	10 U	9.3 U	1.4 J
2,4,5-TP (Silvex)	ug/kg	10 U	9.4 U	9.3 U	9.6 U	35 U	9.4 U	9.8 U	10 U	10 U	9.3 U	9.4 U
Dalapon	ug/kg	2400 U	2300 U	2200 U	2300 U	8500 U	2300 U	2400 U	2500 U	2500 U	2200 U	2300 U
Dicamba	ug/kg	24 U	23 U	22 U	23 U	85 U	2.4 J	24 U	25 U	25 U	22 U	23 U
Dichloroprop	ug/kg	59 J	160 J	110 U	120 U	11 J	37 J	10 J	120 U	2.4 J	1.2 J	9.5 J
Dinoseb	ug/kg	400 U	380 U	370 U	380 U	350 U	380 U	390 U	410 U	410 U	1800 UJ	380 U
MCPA	ug/kg	2400 U	2300 U	2200 U	2300 U	8500 U	2300 U	2400 U	2500 U	2500 U	2200 U	2300 U
MCPP	ug/kg	6600 J	2200 J	2200 U	2300 U	43000 J	12000 J	11000 J	2500 U	2500 U	560 J	2300 J

NOTES:
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R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

T[illegible] 1
Surface Soil A[illegible] Concentrations
Sa[illegible]et, IL

Analyte	Sample ID	OFF-SITE (Background)				SITE O			SITE P			
	Sample Date	SOIL-OS-2	SOIL-OS-2 DUP	SOIL-OS-3	SOIL-OS-4	SOIL-O-1	SOIL-O-2	SOIL-O-3	SOIL-P-1	SOIL-P-2	SOIL-P-3	SOIL-P-4
	Sample Depth	08/14/02	08/14/02	08/14/02	08/15/02	07/10/02	07/10/02	07/10/02	07/16/02	07/16/02	07/17/02	07/16/02
	Percent Moisture	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft
		16.5	14.1	13.1	12.8	6.7	12.3	13.1	3.7	10	3.3	8.9
PCBs	Units											
Decachlorobiphenyl	ug/kg	100	73	70	20 U	9000 U	19 U	100 U	21 U	8.3 J	3 J	120
Dichlorobiphenyl	ug/kg	4 U	3.8 U	3.7 U	3.8 U	81000	3.8 U	100	4.1 U	4.1 U	3.7 U	20
Heptachlorobiphenyl	ug/kg	6.2 J	2.6 J	8.3 J	12 U	13000	11 U	490	12 U	12 U	11 U	970
Hexachlorobiphenyl	ug/kg	12	8.7	11	7.8 U	32000	7.6 U	950	8.3 U	1.4 J	3.2 J	1400 J
Monochlorobiphenyl	ug/kg	4 U	3.8 U	3.7 U	3.8 U	74000	0.78 J	14 J	4.1 U	4.1 U	3.7 U	3.8 U
Nonachlorobiphenyl	ug/kg	39	29	29	20 U	9000 U	19 U	100 U	21 U	4 J	3 J	90
Octachlorobiphenyl	ug/kg	4.2 J	1.6 J	5.6 J	12 U	2200 J	11 U	110	12 U	12 U	11 U	260
Pentachlorobiphenyl	ug/kg	12	6.6 J	6.5 J	7.8 U	110000	7.6 U	2700	8.3 U	8.4 U	2.1 J	2200 J
Tetrachlorobiphenyl	ug/kg	8.2 U	7.6 U	7.5 U	7.8 U	300000	7.6 U	5200	8.3 U	8.4 U	7.5 U	1600 J
Trichlorobiphenyl	ug/kg	4 U	3.8 U	3.7 U	3.8 U	97000	3.8 U	1200	4.1 U	4.1 U	3.7 U	360 J
Total PCBs	ug/kg	173	122	130	20 U	709200	0.78	10764	21 U	14	11	7020
Dioxins/Furans												
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	ug/kg	0.3 UJ	3 J	0.09 UJ	0.092 U	2700 J	1.8	270 J	1.1 J	19	3.3	0.33 U
1,2,3,4,6,7,8-HpCDF	ug/kg	0.079 U	0.53 U	0.11 U	0.13 U	390 J	0.21 J	52	0.26 U	1.2 J	0.46 U	0.26 U
1,2,3,4,7,8,9-HpCDF	ug/kg	0.028 U	0.054 U	0.13 U	0.14 U	28	0.021 U	4.3	0.098 U	0.1 U	0.13 U	0.13 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	ug/kg	0.034 U	0.056 U	0.11 U	0.098 U	4.9	0.055 U	0.28 U	0.08 U	0.16 U	0.27 U	0.18 U
1,2,3,4,7,8-HxCDF	ug/kg	0.015 U	0.072 U	0.13 U	0.053 U	23	0.039 U	3.5	0.11 UJ	0.092 U	0.086 U	0.12 UJ
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	ug/kg	0.04 U	0.59 U	0.12 U	0.1 U	56	0.063 U	10	0.11 U	0.53 U	0.25 U	0.19 U
1,2,3,6,7,8-HxCDF	ug/kg	0.014 U	0.052 U	0.11 U	0.055 U	2.8	0.038 U	0.33 J	0.052 U	0.087 U	0.045 U	0.11 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	ug/kg	0.033 U	0.94 U	0.1 U	0.092 U	8.5	0.052 U	1.1	0.084 U	0.24 U	0.22 U	0.19 U
1,2,3,7,8,9-HxCDF	ug/kg	0.023 U	0.022 U	0.11 U	0.076 U	3.3	0.0073 U	0.52 J	0.11 U	0.076 U	0.11 U	0.12 U
1,2,3,7,8-Pentachlorodibenzofuran	ug/kg	0.017 U	0.027 U	0.029 U	0.083 U	2.9 J	0.004 U	0.38 U	0.039 U	0.13 UJ	0.1 UJ	0.062 UJ
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	ug/kg	0.034 U	0.033 U	0.061 U	0.27 U	1.9 J	0.03 U	0.1 U	0.081 U	0.47 UJ	0.24 UJ	0.22 UJ
2,3,4,6,7,8-HxCDF	ug/kg	0.014 U	0.045 U	0.083 U	0.081 U	6.5	0.04 U	0.88	0.063 U	0.077 U	0.093 U	0.11 U
2,3,4,7,8-PeCDF	ug/kg	0.018 U	0.029 U	0.03 U	0.082 U	6.7	0.0062 U	0.65	0.055 U	0.29 U	0.15 U	0.12 U
2,3,7,8-TCDD	ug/kg	0.023 U	0.022 U	0.026 U	0.074 U	1.9 J	0.0032 U	0.16 J	0.037 U	0.16 U	0.12 U	0.098 U
2,3,7,8-Tetrachlorodibenzofuran	ug/kg	0.025 U	0.099 U	0.034 U	0.083 U	8	0.0074 U	0.69	0.027 U	0.11 U	0.12 U	0.069 U
OCDD	ug/kg	2.8 J	33 J	1.1 UJ	0.89 UJ	8900 J	44	4400 J	13 U	540 J	43 J	4.6 U
OCDF	ug/kg	0.28 UJ	2.4 J	0.42 UJ	0.15 U	1400 J	1.4	430 J	1.3 U	33	7.5	0.92 U
Total HpCDD	ug/kg	0.3 UJ	5.7 J	0.09 UJ	0.41 U	4600	3.6	470	2	38	5.9	0.33 U
Total HpCDF	ug/kg	0.14 UJ	1.3 J	0.13 UJ	0.14 U	2400	1.2	320	0.66	6.6	1.3	0.26 U
Total HxCDD	ug/kg	0.053 U	0.94 U	0.12 U	0.094 U	200	0.084 U	33	0.11 U	0.85	0.3 U	0.23 U
Total HxCDF	ug/kg	0.03 U	0.19 U	0.13 U	0.083 U	260	1.2 U	65	0.11 UJ	0.79 U	0.18 U	0.16 U
Total PeCDD	ug/kg	0.24 U	0.24 U	0.25 U	0.27 U	49	0.16 U	6.6	0.18 U	0.47 UJ	0.3 UJ	0.53 UJ
Total PeCDF	ug/kg	0.026 U	0.12 U	0.03 U	0.1 U	41	0.011 U	5.5	0.055 U	0.29 UJ	0.36 UJ	0.25 UJ
Total TCDD	ug/kg	0.023 U	0.099 U	0.026 U	0.13 U	24	0.0097 U	2.3	0.037 U	0.16 U	0.12 U	0.098 U
Total TCDF	ug/kg	0.025 U	0.099 U	0.034 U	0.083 U	79	0.0074 U	9.8	0.027 U	0.15 U	0.12 U	0.19 U
Metals												
Aluminum	mg/kg	7200	8200	6200	5100	5200 J	7400 J	8600 J	4000	6000	3200	6000
Antimony	mg/kg	1.9 J	1.5 J	0.93 J	2.1 UJ	0.81 J	0.74 J	2.1 UJ	1.6 J	0.62 J	0.56 J	1.9 UJ
Arsenic	mg/kg	8.8	9.3	6.2	5.4	11	5.1	6.3	26 J	9.4	17 J	4 J
Barium	mg/kg	190	200	170	170	340 J	100 J	130 J	120	180 J	87	77
Beryllium	mg/kg	0.57	0.6	0.41 J	0.4 J	0.39 J	0.46	0.54	1.8	0.85	1.5	0.42
Cadmium	mg/kg	4.5	2.1	1.1 J	0.34 J	17 J	0.54 J	1.7 J	2	3	1	0.62
Calcium	mg/kg	3400	3100	3100	11000	4900	26000	6600	3200	70000	6600	13000
Chromium	mg/kg	13	13	11	9.3	16	13	15	19	14	16	13
Cobalt	mg/kg	6.6	6.4	3.3	5.3	5.9 J	6.6 J	6.9 J	13 J	7.6 J	9.7 J	6.2 J
Copper	mg/kg	150 J	43 J	30	12	270	26	40	64	59 J	51	21
Iron	mg/kg	14000	15000	12000	11000	11000	15000	16000	9200	11000	7300	12000
Lead	mg/kg	130 J	77 J	78 J	31 J	130 J	14 J	20 J	74	170 J	57	15
Magnesium	mg/kg	2400	2800	1700	5500	2300 J	8500 J	4100 J	460	4300	780	7900
Manganese	mg/kg	410	380	86	260	420	530	490	31	360 J	80	390
Mercury	mg/kg	0.11	0.08	0.093	0.057	43	0.049	2.9	0.23	0.072 J	0.088	0.068
Nickel	mg/kg	27	18	12	14	28	18	18	47	21	25	17
Potassium	mg/kg	2300 J	2300 J	1900	1300 J	720 J	850 J	860 J	690 J	1400 J	550 J	990 J
Selenium	mg/kg	0.62 J	1 U	1.1 U	1.1 U	3.1 U	1.1 U	1.1 U	7	1.1 UJ	1.6	0.95 U
Silver	mg/kg	0.67 J	1 U	1.1 U	1.1 U	2.9	1.1 U	1.1 U	0.22 J	0.23 J	0.13 J	0.95 U
Sodium	mg/kg	87 U	82 U	75 U	93 U	96 J	110 J	85 J	260	180	250	47 U
Thallium	mg/kg	1.1 U	1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.3	1.1 U	1 U	0.95 U
Vanadium	mg/kg	22 J	25 J	21 J	18 J	19 J	28 J	28 J	44	21	26	25
Zinc	mg/kg	440	260	210	55	940 J	70 J	130 J	200 J	390 J	190 J	85 J

NOTES:
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J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Table III-A1
Surface Soil Analyte Concentrations
Rougat, IL

Analyte	Sample ID	SITE Q									
	Sample Date	SOIL-Q-9	SOIL-Q-10	SOIL-Q-10 DUP	SOIL-Q-11	SOIL-Q-11 DUP	SOIL-Q-12	SOIL-Q-13	SOIL-Q-14	SOIL-Q-15	SOIL-Q-16
	Sample Depth	07/26/02	07/26/02	07/26/02	07/23/02	07/23/02	07/23/02	10/07/02	10/07/02	10/07/02	10/07/02
	Percent Moisture	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft
		19.8	14.9	12.3	33.6	30.4	30.8	33.6	18.6	36.1	19.1
VOCs	**Units**										
1,1,1-Trichloroethane	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
1,1,2,2-Tetrachloroethane	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
1,1,2-Trichloroethane	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
1,1-Dichloroethane	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
1,1-Dichloroethylene	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
1,2-Dichloroethane	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
1,2-Dichloroethene (total)	ug/kg	15 U	18 U	17 U	25 U	21 U	12 U	14 U	12 U	15 U	12 U
1,2-Dichloropropane	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
2-Butanone (MEK)	ug/kg	38 U	45 U	42 U	62 U	52 U	31 U	35 U	31 U	2.3 J	11 J
2-Hexanone	ug/kg	38 U	45 U	42 U	62 U	52 U	31 U	35 U	31 U	5.7 J	150
4-Methyl-2-pentanone (MIBK)	ug/kg	38 U	45 U	42 U	4.3 J	5 J	31 U	35 U	31 U	38 U	7.5 J
Acetone	ug/kg	76 U	91 U	85 U	130 U	100 U	62 U	70 U	62 U	20 J	150 J
Benzene	ug/kg	7.6 U	9.1 U	8.5 U	5.7 J	10 U	6.2 U	7 U	6.2 U	7.5 U	1.8 J
Bromodichloromethane	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Bromoform	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Bromomethane	ug/kg	15 U	18 U	17 U	25 U	21 U	12 U	14 U	12 U	15 U	12 U
Carbon Disulfide	ug/kg	0.66 J	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	2.7 J
Carbon Tetrachloride	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Chlorobenzene	ug/kg	7.6 U	9.1 U	8.5 U	45 J	10 J	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Chloroethane	ug/kg	15 U	18 U	17 U	25 U	21 U	12 U	14 U	12 U	15 U	12 U
Chloroform	ug/kg	7.6 U	9.1 U	8.5 U	1.8 J	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Chloromethane	ug/kg	15 U	18 U	17 U	25 U	21 U	12 U	14 U	12 U	15 U	12 U
cis-1,3-Dichloropropene	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Dibromochloromethane	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Ethylbenzene	ug/kg	0.38 J	9.1 U	8.5 U	5 J	21	6.2 U	7 U	0.5 J	0.23 J	0.74 J
Methylene Chloride	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Styrene (Monomer)	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Tetrachloroethene	ug/kg	2.1 J	0.6 J	0.47 J	0.96 J	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Toluene	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	1.2 J	1.8 J	1.3 J	5.3 J
trans-1,3-Dichloropropene	ug/kg	7.6 U	9.1 U	8.5 U	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Trichloroethylene	ug/kg	1.7 J	1.2 J	1.3 J	12 U	10 U	6.2 U	7 U	6.2 U	7.5 U	6.1 U
Vinyl chloride	ug/kg	15 U	18 U	17 U	25 U	21 U	12 U	14 U	12 U	15 U	12 U
Xylenes, Total	ug/kg	1.2 J	0.85 J	0.91 J	67 J	250 J	12 U	0.74 J	2.6 J	0.8 J	2.4 J
SVOCs											
1,2,4-Trichlorobenzene	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
1,2-Dichlorobenzene	ug/kg	420 UJ	410 U	3900 U	31 J	31 J	410 U	460 U	400 U	440 U	420 U
1,3-Dichlorobenzene	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
1,4-Dichlorobenzene	ug/kg	420 UJ	410 U	3900 U	430 J	270 J	410 U	460 U	400 U	440 U	420 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
2,4,5-Trichlorophenol	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
2,4,6-Trichlorophenol	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
2,4-Dichlorophenol	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
2,4-Dimethylphenol	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
2,4-Dinitrophenol	ug/kg	2200 UJ	2100 U	20000 U	2400 UJ	2500 UJ	2100 U	2400 U	2100 U	2300 U	2200 UJ
2,4-Dinitrotoluene	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 UJ
2,6-Dinitrotoluene	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
2-Chloronaphthalene	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
2-Chlorophenol	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
2-Methylnaphthalene	ug/kg	420 UJ	410 U	3900 U	62 J	48 J	410 U	460 U	400 U	440 U	420 U
2-Methylphenol (o-Cresol)	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
2-Nitroaniline	ug/kg	2200 UJ	2100 U	20000 U	2400 U	2500 U	2100 U	2400 U	2100 U	2300 U	2200 UJ
2-Nitrophenol	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
3,3'-Dichlorobenzidine	ug/kg	850 UJ	810 U	7800 U	940 U	960 U	810 U	930 U	800 U	890 U	840 U
3/4-Methylphenol (m&p-Cresol)	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
3-Nitroaniline	ug/kg	2200 UJ	2100 U	20000 U	2400 U	2500 U	2100 U	2400 U	2100 U	2300 U	2200 U
4,6-Dinitro-2-methylphenol	ug/kg	2200 UJ	2100 U	20000 U	2400 U	2500 U	2100 U	2400 U	2100 U	2300 U	2200 UJ
4-Bromophenyl Phenyl Ether	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
4-Chloro-3-methylphenol	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
4-Chloroaniline	ug/kg	850 UJ	810 U	7800 U	940 U	960 U	810 U	930 U	800 U	890 U	840 U
4-Chlorophenyl Phenyl Ether	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
4-Nitroaniline	ug/kg	2200 UJ	2100 U	20000 U	2400 U	2500 U	2100 U	2400 U	2100 U	2300 U	2200 U
4-Nitrophenol	ug/kg	2200 UJ	2100 U	20000 U	2400 U	2500 U	2100 U	2400 U	2100 U	2300 U	2200 UJ
Acenaphthene	ug/kg	51 J	37 J	260 J	63 J	130 J	410 U	460 U	400 U	440 U	420 U
Acenaphthylene	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
Anthracene	ug/kg	340 J	200 J	1400 J	230 J	820	410 U	460 U	400 U	65 J	420 U

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T 1
Surface Soil Concentrations
Site Q, IL

Analyte	Sample ID Sample Date Sample Depth Percent Moisture	SITE Q SOIL-Q-9 07/26/02 0.5 Ft 19.8	SOIL-Q-10 07/26/02 0.5 Ft 14.9	SOIL-Q-10 DUP 07/26/02 0.5 Ft 12.3	SOIL-Q-11 07/22/02 0.5 Ft 33.6	SOIL-Q-11 DUP 07/22/02 0.5 Ft 30.6	SOIL-Q-12 07/22/02 0.5 Ft 20.8	SOIL-Q-13 10/07/02 0.5 Ft 22.6	SOIL-Q-14 10/07/02 0.5 Ft 18.6	SOIL-Q-15 10/07/02 0.5 Ft 26.1	SOIL-Q-16 10/07/02 0.5 Ft 19.1
SVOCs	Units										
Benzo(a)anthracene	ug/kg	1800 J	530	4500	740	2100	30 J	460 U	400 U	85 J	65 J
Benzo(a)pyrene	ug/kg	1800 J	650	5300	680	1900	410 U	460 U	400 U	92 J	75 J
Benzo(b)fluoranthene	ug/kg	3300 J	580	4800	750	2200	33 J	460 U	400 U	440 U	69 J
Benzo(g,h,i)perylene	ug/kg	420 UJ	370 J	3800 J	280 J	720	410 U	460 U	400 U	64 J	78 J
Benzo(k)fluoranthene	ug/kg	420 UJ	600	4400	700	1700	32 J	39 J	400 U	79 J	71 J
bis(2-Chloroethoxy)methane	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
bis(2-Chloroethyl)ether	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
bis(2-Ethylhexyl)phthalate	ug/kg	540 J	25 J	300 J	13000 J	4200 J	780 J	50 J	63 J	220 J	66 J
Butyl Benzyl Phthalate	ug/kg	870 J	410 U	3900 U	550	180 J	410 U	460 U	400 U	440 U	420 U
Carbazole	ug/kg	79 J	81 J	670 J	84 J	270 J	410 U	460 U	400 U	440 U	420 U
Chrysene	ug/kg	2400 J	590	5100	710	2100	42 J	28 J	23 J	99 J	65 J
Dibenzo(a,h)anthracene	ug/kg	420 UJ	410 U	3900 U	86 J	280 J	410 U	460 U	400 U	440 U	420 U
Dibenzofuran	ug/kg	29 J	24 J	3900 U	46 J	120 J	410 U	460 U	400 U	440 U	420 U
Diethyl Phthalate	ug/kg	420 UJ	410 U	3900 U	78 J	480 U	410 U	460 U	400 U	440 U	420 U
Dimethyl Phthalate	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
Di-n-butylphthalate	ug/kg	110 J	410 U	3900 U	160 J	66 J	410 U	460 U	55 J	440 U	51 J
Di-n-octylphthalate	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
Fluoranthene	ug/kg	3200 J	960	8000	1900	4200	57 J	460 U	400 U	120 J	120 J
Fluorene	ug/kg	62 J	34 J	3900 U	96 J	240 J	410 U	460 U	400 U	440 U	420 U
Hexachlorobenzene	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
Hexachlorobutadiene	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
Hexachlorocyclopentadiene	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
Hexachloroethane	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
Indeno(1,2,3-cd)pyrene	ug/kg	420 UJ	410 U	3900 U	180 J	440 J	410 U	460 U	400 U	49 J	420 U
Isophorone	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
Naphthalene	ug/kg	420 UJ	410 U	3900 U	490	170 J	410 U	460 U	400 U	440 U	420 U
Nitrobenzene	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
N-Nitroso-di-n-propylamine	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
N-Nitrosodiphenylamine	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
Pentachlorophenol	ug/kg	26 U	25 U	36 U	2300 J	3600 J	36 J	5.2 J	5.5 J	2.4 J	2 J
Phenanthrene	ug/kg	1600 J	940	6300	780 J	2800 J	26 J	460 U	400 U	65 J	58 J
Phenol	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 U
Pyrene	ug/kg	3300 J	1300	8600	2000	4200	53 J	460 U	400 U	140 J	420 U
Pesticides											
4,4'-DDD	ug/kg	42 U	4.1 U	7.8 UJ	94 U	96 U	81 U	46 U	20 UJ	44 U	4.2 U
4,4'-DDE	ug/kg	42 U	4.1 U	7.8 UJ	570 J	560 J	81 R	43 J	20 U	44 U	1.5 J
4,4'-DDT	ug/kg	2600 J	5.3 J	78 J	1500 J	1400 J	790 J	71 J	39 J	530 J	5.1 J
Aldrin	ug/kg	22 U	2.1 U	4 UJ	48 U	49 U	42 U	24 U	10 U	23 U	2.2 U
alpha-BHC	ug/kg	22 U	2.1 U	4 UJ	170	200 J	42 U	24 U	10 U	23 U	2.2 U
alpha-Chlordane	ug/kg	33	2.1 U	5.2 J	53 J	60 J	14 J	14 J	10 U	3.9 J	2.2 U
beta-BHC	ug/kg	11 J	2.1 U	4 UJ	48 U	49 U	42 U	24 U	10 U	23 U	2.2 U
delta-BHC	ug/kg	22 U	2.1 U	4 UJ	48 U	49 U	42 U	24 U	10 U	23 U	2.2 U
Dieldrin	ug/kg	42 UJ	2.6 J	15 J	400 J	350 J	280	100	2.2 J	160	3.3 J
Endosulfan I	ug/kg	22 U	2.1 U	4 UJ	48 U	49 U	42 U	24 U	10 U	23 U	2.2 U
Endosulfan II	ug/kg	42 U	1 J	1.5 J	94 U	96 U	81 U	46 U	20 U	44 U	4.2 U
Endosulfan Sulfate	ug/kg	42 U	4.1 U	7.8 UJ	32 J	43 J	20 J	5.5 J	20 U	44 U	4.2 U
Endrin	ug/kg	170 J	2.4 J	7.8 UJ	94 U	96 U	81 U	46 U	20 U	44 U	4.2 U
Endrin Aldehyde	ug/kg	42 UJ	1.4 J	15 J	94 UJ	96 UJ	81 UJ	12 J	20 U	17 J	4.2 U
Endrin Ketone	ug/kg	42 U	4.9 J	7.8 UJ	110 J	110 J	81 U	46 U	20 U	44 U	4.2 U
gamma-BHC (Lindane)	ug/kg	22 U	2.1 U	4 UJ	48 U	49 U	42 U	24 U	10 U	23 U	2.2 U
gamma-Chlordane	ug/kg	150 J	1.7 J	24 J	410 J	390 J	42 UJ	24 U	10 U	23 U	0.53 J
Heptachlor	ug/kg	22 U	2.1 U	4 UJ	48 UJ	49 UJ	42 UJ	24 U	10 U	23 U	2.2 U
Heptachlor Epoxide	ug/kg	76 J	0.52 J	4.8 J	48 U	49 U	42 U	24 U	12 J	23 U	2.2 U
Methoxychlor	ug/kg	92 J	21 U	40 UJ	480 U	490 U	420 U	240 UJ	210 UJ	230 UJ	22 UJ
Toxaphene	ug/kg	2200 U	210 U	400 UJ	4800 U	4900 U	4200 U	2400 U	1000 U	2300 U	220 U
Herbicides											
2,4-D	ug/kg	6.7 J	8.6 J	15	240 U	12 U	4.7 J	12 J	10 U	8.7 J	6.9 J
2,4-DB	ug/kg	11 U	28 J	9.9 U	240 U	12 UJ	10 UJ	12 U	10 U	11 U	10 U
2,4,5-T	ug/kg	11 U	10 U	1.3 J	240 U	7.4 J	10 UJ	12 U	10 U	11 U	10 U
2,4,5-TP (Silvex)	ug/kg	11 U	10 U	9.9 U	240 U	12 UJ	10 UJ	12 U	10 U	11 U	10 U
Dalapon	ug/kg	2600 U	2500 U	2400 U	57000 U	2900 U	2500 U	2800 U	2400 U	2700 U	2500 U
Dicamba	ug/kg	26 U	25 U	24 U	570 U	29 U	25 U	28 U	24 U	27 U	25 U
Dichlorprop	ug/kg	130 U	120 U	1.5 J	2800 U	140 U	3.7 J	140 U	120 U	140 U	130 U
Dinoseb	ug/kg	420 UJ	410 U	3900 U	470 U	480 U	410 U	460 U	400 U	440 U	420 UJ
MCPA	ug/kg	2600 U	2500 U	2400 U	57000 U	720 J	1100 J	600 J	3700 J	2700 U	1600 J
MCPP	ug/kg	2600 U	2500 U	2400 U	57000 U	5200 J	2000 J	750 J	1500 J	1700 J	2200 J

NOTES:
U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Table III-A1
Surface Soil Analyte Concentrations
Seuget, IL

Analyte	Sample ID	SITE Q									
	Sample Date	SOIL-Q-9	SOIL-Q-10	SOIL-Q-10 DUP	SOIL-Q-11	SOIL-Q-11 DUP	SOIL-Q-12	SOIL-Q-13	SOIL-Q-14	SOIL-Q-15	SOIL-Q-16
	Sample Depth	07/26/01	07/26/01	07/26/01	07/12/01	07/12/01	07/12/01	10/07/01	10/07/01	10/07/01	10/07/01
	Percent Moisture	0.5 ft	0.5 ft	0.5 ft	0.5 ft	0.5 ft	0.5 ft	0.5 ft	0.5 ft	0.5 ft	0.5 ft
		19.8	14.9	12.3	33.6	30.6	30.8	33.6	18.4	30.1	19.1
PCBs	Units										
Dichlorobiphenyl	ug/kg	1100 U	210 U	200 U	340 U	250 U	21 U	24 U	210 U	230 U	22 U
Trichlorobiphenyl	ug/kg	210 U	41 U	39 U	110	120	4.1 U	6.2	40 U	44 U	4.2 U
Tetrachlorobiphenyl	ug/kg	2800	65 J	110 J	520	320	350	91	97 J	26 J	2 J
Pentachlorobiphenyl	ug/kg	2600	220	250	1900	1400	340	170	220	72 J	4.5 J
Hexachlorobiphenyl	ug/kg	210 U	8.5 J	8.2 J	47 U	48 U	4.1 U	4.6 U	40 U	44 U	4.2 U
Heptachlorobiphenyl	ug/kg	1100 U	210 U	200 U	340 U	250 U	21 U	24 U	210 U	230 U	22 U
Octachlorobiphenyl	ug/kg	570 J	120 U	120 U	59 J	75 J	75	20	120 U	140 U	13 U
Nonachlorobiphenyl	ug/kg	2100	520	590	3600	5500	1300	330	1300	180	8.4 J
Decachlorobiphenyl	ug/kg	2600	330	550	3600	4700	490	430	970	45 J	8.5 U
Total PCBs	ug/kg	130 J	29 J	55	1300	1700	34	68	40 U	44 U	4.2 U
	ug/kg	10000	1073	1563	12909	13815	2883	1115	2587	323	15
Dioxins/Furans											
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	ug/kg	7 J	17 J	16 J	400 J	120 J	1.2 J	2.6	3.1	0.94 J	0.26 U
1,2,3,4,6,7,8-HpCDF	ug/kg	1.8 J	2.4 J	1.6 J	61	31	0.75 U	0.44 U	0.5 U	0.27 U	0.27 U
1,2,3,4,7,8,9-HpCDF	ug/kg	0.71 UJ	0.48 UJ	0.27 UJ	6.1	13	0.15 U	0.11 U	0.18 U	0.15 U	0.17 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	ug/kg	0.39 UJ	0.55 UJ	0.46 UJ	0.64 U	0.31 U	0.088 U	0.055 U	0.062 U	0.044 U	0.025 U
1,2,3,4,7,8-HxCDF	ug/kg	0.93 J	0.97 J	0.37 UJ	5	15	0.2 U	0.15 U	0.036 U	0.17 U	0.12 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	ug/kg	0.63 UJ	0.69 UJ	0.47 UJ	12 J	2.7 J	0.2 U	0.054 UJ	0.1 UJ	0.11 UJ	0.075 UJ
1,2,3,6,7,8-HxCDF	ug/kg	0.65 UJ	0.38 UJ	0.073 UJ	1.3 J	4 J	0.22 U	0.057 U	0.082 U	0.086 U	0.053 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	ug/kg	0.68 UJ	0.43 UJ	0.42 UJ	0.4 U	0.2 U	0.084 U	0.14 U	0.091 U	0.07 U	0.061 U
1,2,3,7,8,9-HxCDF	ug/kg	0.72 UJ	0.35 UJ	0.15 UJ	0.51 UJ	1.7 J	0.11 UJ	0.07 U	0.056 U	0.062 U	0.057 U
1,2,3,7,8-Pentachlorodibenzofuran	ug/kg	0.43 UJ	0.28 UJ	0.096 UJ	0.42 U	0.94 J	0.061 U	0.075 U	0.047 U	0.059 U	0.04 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	ug/kg	0.4 UJ	0.25 UJ	0.095 UJ	0.33 U	0.41 U	0.12 U	0.35 U	0.2 U	0.35 U	0.14 U
2,3,4,6,7,8-HxCDF	ug/kg	0.71 UJ	0.44 UJ	0.15 UJ	0.84 U	2.5	0.081 U	0.085 U	0.049 U	0.059 U	0.058 U
2,3,4,7,8-PeCDF	ug/kg	0.55 UJ	0.39 UJ	0.15 UJ	1.3 J	3.4	0.051 U	0.17 U	0.11 U	0.094 U	0.087 U
2,3,7,8-TCDD	ug/kg	0.14 UJ	0.088 UJ	0.055 UJ	0.23 U	0.13 U	0.029 U	0.018 U	0.013 U	0.025 U	0.026 U
2,3,7,8-Tetrachlorodibenzofuran	ug/kg	0.3 UJ	0.26 UJ	0.074 UJ	0.13 U	0.27 U	0.2 U	0.18 U	0.085 U	0.08 U	0.021 U
OCDD	ug/kg	87 J	240 J	250 J	3600 J	1200 J	26	17	26	15	5.1
OCDF	ug/kg	6.6 J	7.8 J	7.4 J	470 J	120 J	1.1 J	1.8 J	1.9 J	0.43 UJ	0.25 UJ
Total HpCDD	ug/kg	13 J	14 J	12 J	630 J	180 J	5.3 J	4.8	3.7	1.8	0.26 U
Total HpCDF	ug/kg	5 J	7.3 J	6.3 J	360 J	110 J	2 J	1.3	1.3	0.31 U	0.27 U
Total HxCDD	ug/kg	1.9 J	0.97 J	0.9 J	14 J	11 J	0.23 U	0.21 UJ	0.49 UJ	0.11 UJ	0.075 UJ
Total HxCDF	ug/kg	1.8 J	2.8 J	1 J	59	47	0.51 U	0.79	0.21 U	0.19 U	0.13 U
Total PeCDD	ug/kg	0.4 UJ	0.41 UJ	0.13 UJ	1.6 U	0.53 U	0.33 U	0.39 U	0.3 U	0.42 U	0.36 U
Total PeCDF	ug/kg	0.64 UJ	0.52 UJ	0.36 UJ	3.6 J	13 J	0.23 U	0.27 U	0.14 U	0.12 U	0.1 U
Total TCDD	ug/kg	0.22 UJ	0.53 J	0.48 J	0.14 U	0.21 U	0.053 U	0.018 U	0.013 U	0.025 U	0.026 U
Total TCDF	ug/kg	1.5 J	1.9 J	0.29 J	1.6	3.6	0.2 U	0.18 U	0.09 U	0.082 U	0.067 U
Metals											
Aluminum	mg/kg	11000	10000	11000	11000	9900	12000	14000	7200	11000	7600
Antimony	mg/kg	47 J	3 J	2.5 J	26 J	20 J	2.2 UJ	2.6 U	2.2 U	2.7 U	2.5 U
Arsenic	mg/kg	33	20	14	18	17	6	7.9	5.1	5	5.5
Barium	mg/kg	1000	690	730	1300	1500	200	250	180	180	150
Beryllium	mg/kg	0.54	0.71	0.79	0.64	0.62	0.82	0.99	0.53	0.97	0.54
Cadmium	mg/kg	22	13	11	30	29	1.4	2.4	1.8	1.9 J	1 J
Calcium	mg/kg	22000	12000	13000	70000	73000	9800	13000	11000	9000	11000
Chromium	mg/kg	660	51	48	170	190	20	24	17	20	13
Cobalt	mg/kg	20	12	11	16	16	8.8	11 J	6.8 J	8.6 J	6.8 J
Copper	mg/kg	710 J	300 J	410 J	2600	870	33	42	86	35	21
Iron	mg/kg	90000	71000	60000	59000	63000	19000	24000	14000	19000	13000
Lead	mg/kg	1100	390	490	2600	2000	47	60	62	48	27
Magnesium	mg/kg	3800	3100	3300	4000	5700	4300	4900	4200	4300	5000
Manganese	mg/kg	2100	670	520	790	680	460	660	380	320	380
Mercury	mg/kg	1 J	2.5 J	2.7 J	2.3	4.1	0.059	0.14	0.13	0.16	0.078
Nickel	mg/kg	500	61	49	77	77	22	27	29	22	17
Potassium	mg/kg	970	900	1000	1100 J	1100 J	1600 J	2300	1900	1600	1400
Selenium	mg/kg	2.6 U	1.1 U	1 U	3 J	2.5 J	1.1 UJ	1.3 U	1.1 U	1.4 U	1.3 U
Silver	mg/kg	12	2	2.5	17	8.3	1.1 U	0.18 J	0.11 J	1.4 U	1.3 U
Sodium	mg/kg	420	190 U	200 U	620	480	110 U	99 U	100 U	110 U	100 U
Thallium	mg/kg	2.3 U	1.1 U	1.3 U	1.4 U	6.6 U	1.1 U	1.9	1.1 U	0.97 J	1.1 J
Vanadium	mg/kg	27	30	32	26	28	30	36	21	31	22
Zinc	mg/kg	3000 J	1200 J	1200 J	3400	3600	210	260	240	260	140

NOTES:
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UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

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Surface Soil Concentrations

Sauget, IL

Analyte	Sample ID	SITE Q				SITE R				SITE S
	Sample Date	SOIL-Q-17	SOIL-Q-18	SOIL-Q-19	SOIL-Q-20	SOIL-R-1	SOIL-R-2	SOIL-R-3	SOIL-R-4	SOIL-S-1
	Sample Depth	10/07/02	10/07/02	10/07/02	10/07/02	07/11/02	07/11/02	07/12/02	07/12/02	07/10/02
	Percent Moisture	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft
		15.8	14.9	20.7	22.2	7.2	5.7	5.3	10.3	6.9
VOCs	Units									
1,1,1-Trichloroethane	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
1,1,2,2-Tetrachloroethane	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
1,1,2-Trichloroethane	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
1,1-Dichloroethane	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
1,1-Dichloroethylene	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
1,2-Dichloroethane	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	2.6 J	1.5 J	5.4 U
1,2-Dichloroethene (total)	ug/kg	13 U	14 U	12 U	15 U	14 U	11 U	0.94 J	11 U	11 U
1,2-Dichloropropane	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
2-Butanone (MEK)	ug/kg	14 J	6.4 J	4.6 J	24 J	15 J	3.1 J	16 J	15 J	27 U
2-Hexanone	ug/kg	190	26 J	25 J	120	35 U	28 U	33 U	27 U	27 U
4-Methyl-2-pentanone (MIBK)	ug/kg	5.8 J	34 U	29 U	7.3 J	35 U	28 U	10 J	27 U	27 U
Acetone	ug/kg	180 J	91	60 U	260 J	130	11 J	150	98	14 J
Benzene	ug/kg	1.5 J	2.4 J	5.8 U	1.5 J	0.68 J	2.1 J	1.4 J	1.6 J	5.4 U
Bromodichloromethane	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
Bromoform	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
Bromomethane	ug/kg	13 U	14 U	12 U	15 U	14 U	11 U	13 U	11 U	11 U
Carbon Disulfide	ug/kg	4.5 J	4.8 J	5.8 U	4 J	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
Carbon Tetrachloride	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
Chlorobenzene	ug/kg	0.67 J	0.36 J	5.8 U	1.1 J	7.1 U	64	2.6 J	1.8 J	5.4 U
Chloroethane	ug/kg	13 U	14 U	12 U	15 U	14 U	11 U	13 U	11 U	11 U
Chloroform	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
Chloromethane	ug/kg	13 U	14 U	12 U	15 U	14 U	11 U	13 U	11 U	11 U
cis-1,3-Dichloropropene	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
Dibromochloromethane	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
Ethylbenzene	ug/kg	0.71 J	0.52 J	0.45 J	0.48 J	0.24 J	1.9 J	0.38 J	0.31 J	5.4 U
Methylene Chloride	ug/kg	6.4 U	6.8 U	5.8 U	3.6 J	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
Styrene (Monomer)	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
Tetrachloroethene	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	12	2.6 J	10	5.4 U
Toluene	ug/kg	3.4 J	4.2 J	1 J	18	7.1 U	5.5 U	6.6 U	1.8 J	5.4 U
trans-1,3-Dichloropropene	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	5.5 U	6.6 U	5.3 U	5.4 U
Trichloroethylene	ug/kg	6.4 U	6.8 U	5.8 U	7.3 U	7.1 U	0.3 J	12	19	5.4 U
Vinyl chloride	ug/kg	13 U	14 U	12 U	15 U	14 U	11 U	13 U	11 U	11 U
Xylenes, Total	ug/kg	1.7 J	0.78 J	0.56 J	1.8 J	14 U	9.1 J	1.3 J	0.95 J	11 U
SVOCs										
1,2,4-Trichlorobenzene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	36000
1,2-Dichlorobenzene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	37000
1,3-Dichlorobenzene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	1000 J
1,4-Dichlorobenzene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	7500 J
2,2'-Oxybis(1-Chloropropane)	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
2,4,5-Trichlorophenol	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	1100 J
2,4,6-Trichlorophenol	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	8200 J
2,4-Dichlorophenol	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	2300 J
2,4-Dimethylphenol	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
2,4-Dinitrophenol	ug/kg	2100 UJ	2000 U	2200 UJ	2200 UJ	1800 U	1800 U	1900 U	1800 U	74000 U
2,4-Dinitrotoluene	ug/kg	400 UJ	380 U	420 UJ	430 UJ	350 U	350 U	370 U	360 U	14000 U
2,6-Dinitrotoluene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
2-Chloronaphthalene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
2-Chlorophenol	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
2-Methylnaphthalene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	11000 J
2-Methylphenol (o-Cresol)	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
2-Nitroaniline	ug/kg	2100 UJ	2000 U	2200 UJ	2200 UJ	1800 U	1800 U	1900 U	1800 U	4600 J
2-Nitrophenol	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
3,3'-Dichlorobenzidine	ug/kg	800 U	760 U	850 U	870 U	710 U	700 U	740 U	720 U	29000 U
3/4-Methylphenol (m&p-Cresol)	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
3-Nitroaniline	ug/kg	2100 U	2000 U	2200 U	2200 U	1800 U	1800 U	1900 U	1800 U	74000 U
4,6-Dinitro-2-methylphenol	ug/kg	2100 UJ	2000 U	2200 UJ	2200 UJ	1800 U	1800 U	1900 U	1800 U	74000 U
4-Bromophenyl Phenyl Ether	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
4-Chloro-3-methylphenol	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
4-Chloroaniline	ug/kg	800 U	760 U	850 U	870 U	710 U	700 U	740 U	720 U	29000 U
4-Chlorophenyl Phenyl Ether	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
4-Nitroaniline	ug/kg	2100 U	2000 U	2200 U	2200 U	1800 U	1800 U	1900 U	1800 U	57000 J
4-Nitrophenol	ug/kg	2100 UJ	2000 U	2200 UJ	2200 UJ	1800 U	1800 U	1900 U	1800 U	74000 U
Acenaphthene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	1200 J
Acenaphthylene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Anthracene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U

NOTES:

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UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Table III-A1
Surface Soil Analyte Concentrations
Rougeot, IL

Analyte	Sample ID	SOIL-Q-17	SOIL-Q-18	SOIL-Q-19	SOIL-Q-20	SOIL-R-1	SOIL-R-2	SOIL-R-3	SOIL-R-4	SOIL-S-1
		SITE Q				SITE R				SITE S
	Sample Date	10/07/03	10/07/03	10/07/03	10/07/03	07/11/03	07/11/03	07/11/03	07/11/03	07/10/03
	Sample Depth	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft
	Percent Moisture	10.8	14.9	20.7	22.2	7.2	9.7	9.2	10.2	6.9
SVOC's	Units									
Benzo(a)anthracene	ug/kg	210 J	45 J	41 J	45 J	30 J	350 U	370 U	33 J	8000 J
Benzo(a)pyrene	ug/kg	190 J	48 J	46 J	40 J	26 J	350 U	370 U	33 J	5400 J
Benzo(b)fluoranthene	ug/kg	310 J	500 U	56 J	56 J	30 J	350 U	370 U	32 J	6400 J
Benzo(g,h,i)perylene	ug/kg	130 J	52 J	43 J	37 J	45 J	350 U	370 U	25 J	4200 J
Benzo(k)fluoranthene	ug/kg	240 J	44 J	55 J	47 J	36 J	350 U	370 U	35 J	6400 J
bis(2-Chloroethoxy)methane	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
bis(2-Chloroethyl)ether	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
bis(2-Ethylhexyl)phthalate	ug/kg	400 U	32 J	420 U	430 U	78 J	350 U	370 U	360 U	3900 J
Butyl Benzyl Phthalate	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	120000
Carbazole	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Chrysene	ug/kg	240 J	68 J	59 J	45 J	32 J	350 U	20 J	51 J	30000
Dibenz(a,h)anthracene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	1800 J
Dibenzofuran	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Diethyl Phthalate	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Dimethyl Phthalate	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Di-n-butylphthalate	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Di-n-octylphthalate	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	1300 J
Fluoranthene	ug/kg	320 J	94 J	60 J	95 J	350 U	350 U	370 U	39 J	4200 J
Fluorene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	1200 J
Hexachlorobenzene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Hexachlorobutadiene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Hexachlorocyclopentadiene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Hexachloroethane	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Indeno(1,2,3-cd)pyrene	ug/kg	120 J	45 J	420 U	430 U	43 J	350 U	370 U	360 U	1300 J
Isophorone	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Naphthalene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	2100 J
Nitrobenzene	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
N-Nitroso-di-n-propylamine	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
N-Nitrosodiphenylamine	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Pentachlorophenol	ug/kg	1.1 J	20 U	1.5 J	2 J	92 U	90 U	76 U	26 U	440000
Phenanthrene	ug/kg	38 J	44 J	420 U	45 J	21 J	350 U	370 U	30 J	9200 J
Phenol	ug/kg	400 U	380 U	420 U	430 U	350 U	350 U	370 U	360 U	14000 U
Pyrene	ug/kg	280 J	93 J	420 U	430 U	350 U	350 U	370 U	48 J	28000
Pesticides										
4,4'-DDD	ug/kg	4 U	3.8 UJ	5.7 J	1.2 J	7.1 UJ	3.5 U	1.7 U	3.6 U	1700 J
4,4'-DDE	ug/kg	4 U	3.8 U	0.81 J	0.71 J	7.1 UJ	3.5 U	1.7 U	3.6 U	3300 J
4,4'-DDT	ug/kg	2.1 J	38 UJ	44 J	43 UJ	2.7 J	3.5 U	1.7 UJ	3.6 UJ	16000 J
Aldrin	ug/kg	2.1 U	2 U	2.2 U	2.2 U	3.6 UJ	1.8 U	1.9 U	1.8 U	1800 U
alpha-BHC	ug/kg	2.1 U	2 U	2.2 U	2.2 U	3.6 UJ	1.8 U	1.9 U	1.8 U	1800 U
alpha-Chlordane	ug/kg	2.1 U	0.15 J	2.2 U	2.2 U	3.6 UJ	1.8 U	1.9 U	1.8 U	1800 U
beta-BHC	ug/kg	2.1 U	2 U	2.2 U	2.2 U	3.6 UJ	1.8 U	1.9 U	1.8 U	26000 J
delta-BHC	ug/kg	2.1 U	2 U	2.2 U	2.2 U	3.6 UJ	1.8 U	1.9 U	1.8 U	740 J
Dieldrin	ug/kg	0.66 J	3.8 U	4.2 U	0.41 J	1.4 J	3.5 U	0.17 J	1 J	3600 U
Endosulfan I	ug/kg	2.1 U	2 U	2.2 U	2.2 U	3.6 UJ	1.8 U	1.9 U	1.8 U	1800 U
Endosulfan II	ug/kg	4 U	3.8 U	4.2 U	4.3 U	7.1 UJ	3.5 U	3.7 U	3.6 U	5400
Endosulfan Sulfate	ug/kg	4 U	3.8 U	4.2 U	4.3 U	7.1 UJ	3.5 U	3.7 U	3.6 U	3600 U
Endrin	ug/kg	4 U	3.8 U	4.2 U	4.3 U	7.1 UJ	3.5 U	3.7 UJ	3.6 UJ	10000
Endrin Aldehyde	ug/kg	4 U	3.8 U	0.92 J	4.3 U	7.1 UJ	3.5 U	3.7 U	3.6 U	3600 U
Endrin Ketone	ug/kg	4 U	0.69 J	1.2 J	0.52 J	7.1 UJ	3.5 U	3.7 UJ	3.6 UJ	3600 U
gamma-BHC (Lindane)	ug/kg	2.1 U	2 U	2.2 U	2.2 U	3.6 UJ	1.8 U	1.9 U	1.8 U	7500 J
gamma-Chlordane	ug/kg	0.55 J	2 U	2.2 U	2.2 U	3.6 UJ	1.8 U	1.9 U	0.23 J	2700 J
Heptachlor	ug/kg	2.1 U	2 U	2.2 U	2.2 U	3.6 UJ	1.8 U	1.9 U	1.8 U	1500 J
Heptachlor Epoxide	ug/kg	2.1 U	0.23 J	0.5 J	0.57 J	3.6 UJ	1.8 U	1.9 U	1.8 U	1800 U
Methoxychlor	ug/kg	21 UJ	200 U	220 U	220 U	36 UJ	18 U	19 UJ	18 UJ	18000 U
Toxaphene	ug/kg	210 U	200 U	220 U	220 U	360 UJ	180 U	190 U	180 U	180000 U
Herbicides										
2,4-D	ug/kg	7.8 J	7.9 J	6.4 J	14 J	45 U	55 J	37 U	18 U	3300 J
2,4-DB	ug/kg	10 U	9.5 U	11 U	11 U	45 U	29 J	26 J	60 J	180 U
2,4,5-T	ug/kg	10 U	9.5 U	11 U	11 U	45 U	44 U	37 U	9 U	16000 U
2,4,5-TP (Silvex)	ug/kg	10 U	9.5 U	11 U	11 U	45 U	44 U	37 U	9.3 J	250 J
Dalapon	ug/kg	2400 U	2300 U	2600 U	2600 U	11000 U	11000 U	9000 U	2200 U	43000 U
Dicamba	ug/kg	24 U	23 U	26 U	26 U	110 U	110 U	90 U	22 U	430 U
Dichlorprop	ug/kg	6.1 J	110 U	6.2 J	130 U	100 J	91 J	75 J	44 J	2200 U
Dinoseb	ug/kg	400 UJ	380 U	420 UJ	430 UJ	350 U	350 U	370 U	360 U	1700 J
MCPA	ug/kg	2400 U	720 J	2800 J	2600 U	11000 U	11000 U	9000 U	2200 U	43000 U
MCPP	ug/kg	2400 U	2300 U	2600 J	3100 J	49000 J	43000 J	51000 J	5200 J	43000 U

NOTES:
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J = The concentration was detected at a value below the MDL.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

T[illegible]l
Surface Soil [illegible] Concentrations
Si[illegible], IL

Analyte	Sample ID	SITE Q				SITE R				SITE S
	Sample ID	SOIL-Q-17	SOIL-Q-18	SOIL-Q-19	SOIL-Q-20	SOIL-R-1	SOIL-R-2	SOIL-R-3	SOIL-R-4	SOIL-S-1
	Sample Date	10/07/02	10/07/02	10/07/02	10/07/02	07/11/02	07/11/02	07/12/02	07/12/02	07/10/02
	Sample Depth	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft	0.5 Ft
	Percent Moisture	15.8	14.9	20.7	22.2	7.2	5.7	5.3	10.3	6.9
PCBs										
Decachlorobiphenyl	ug/kg	21 U	20 U	22 U	22 U	18 U	18 U	19 U	18 U	9200 U
Dichlorobiphenyl	ug/kg	4 U	3.8 U	4.2 U	4.3 U	3.5 U	3.5 U	3.7 U	3.6 U	100000
Heptachlorobiphenyl	ug/kg	12 U	11 U	13 U	13 U	11 U	11 U	11 U	11 U	14000
Hexachlorobiphenyl	ug/kg	8.2 U	7.7 U	8.6 U	8.8 U	7.2 U	7.1 U	7.5 U	3.2 J	34000
Monochlorobiphenyl	ug/kg	4 U	3.8 U	4.2 U	4.3 U	3.5 U	3.5 U	3.7 U	3.6 U	87000
Nonachlorobiphenyl	ug/kg	21 U	20 U	22 U	22 U	18 U	18 U	19 U	18 U	2300 J
Octachlorobiphenyl	ug/kg	12 U	11 U	13 U	13 U	11 U	11 U	11 U	11 U	1200 J
Pentachlorobiphenyl	ug/kg	8.2 U	7.7 U	1.3 J	8.8 U	7.2 U	7.1 U	7.5 U	2.5 J	130000
Tetrachlorobiphenyl	ug/kg	8.2 U	7.7 U	8.6 U	8.8 U	7.2 U	7.1 U	7.5 U	7.3 U	370000
Trichlorobiphenyl	ug/kg	4 U	3.8 U	4.2 U	4.3 U	3.5 U	3.5 U	3.7 U	0.92 J	270000
Total PCBs	ug/kg	21 U	20 U	1.3	22 U	18 U	18 U	19 U	6.6	1008500
Dioxins/Furans										
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	ug/kg	0.2 U	0.2 U	0.62 U	0.23 U	0.16 U	0.3 U	0.15 U	0.049 U	0.2 J
1,2,3,4,6,7,8-HpCDF	ug/kg	0.29 U	0.33 U	0.39 U	0.39 U	0.046 U	0.22 U	0.24 U	0.35 U	0.03 U
1,2,3,4,7,8,9-HpCDF	ug/kg	0.15 U	0.18 U	0.22 U	0.32 U	0.023 U	0.36 U	0.29 U	0.18 U	0.011 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	ug/kg	0.024 U	0.018 U	0.03 U	0.013 U	0.021 U	0.25 U	0.14 U	0.028 U	0.0052 U
1,2,3,4,7,8-HxCDF	ug/kg	0.044 U	0.049 U	0.12 U	0.077 U	0.02 U	0.11 U	0.12 U	0.075 U	0.003 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	ug/kg	0.069 UJ	0.087 UJ	0.099 UJ	0.11 UJ	0.024 U	0.27 U	0.15 U	0.073 U	0.016 U
1,2,3,6,7,8-HxCDF	ug/kg	0.039 U	0.046 U	0.06 U	0.053 U	0.015 U	0.15 U	0.12 U	0.053 U	0.018 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	ug/kg	0.045 U	0.082 U	0.11 U	0.057 U	0.024 U	0.22 U	0.13 U	0.078 U	0.0077 U
1,2,3,7,8,9-HxCDF	ug/kg	0.057 U	0.07 U	0.11 U	0.089 U	0.018 U	0.11 U	0.17 U	0.11 U	0.0058 U
1,2,3,7,8-Pentachlorodibenzofuran	ug/kg	0.043 U	0.063 U	0.075 U	0.064 U	0.0095 U	0.11 U	0.04 U	0.032 U	0.0026 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	ug/kg	0.16 U	0.45 U	0.29 U	0.37 U	0.031 U	0.17 U	0.054 U	0.2 U	0.0061 U
2,3,4,6,7,8-HxCDF	ug/kg	0.045 U	0.05 U	0.058 U	0.069 U	0.021 U	0.16 U	0.18 U	0.067 U	0.0037 U
2,3,4,7,8-PeCDF	ug/kg	0.082 U	0.086 U	0.09 U	0.1 U	0.0096 U	0.15 U	0.032 U	0.054 U	0.0037 U
2,3,7,8-TCDD	ug/kg	0.028 U	0.035 U	0.032 U	0.024 U	0.018 U	0.11 U	0.037 U	0.021 U	0.0032 U
2,3,7,8-Tetrachlorodibenzofuran	ug/kg	0.022 U	0.03 U	0.033 U	0.025 U	0.0098 U	0.12 U	0.026 U	0.019 U	0.012 U
OCDD	ug/kg	5.2	75	29	6.9	8.1 U	0.97 U	0.96 UJ	2.9 U	9
OCDF	ug/kg	0.32 UJ	0.3 UJ	0.61 UJ	0.5 UJ	0.12 U	0.51 U	0.65 UJ	0.46 U	0.14 U
Total HpCDD	ug/kg	0.3 U	0.2 U	0.62 U	0.29 U	0.16 U	0.34 U	0.61 U	0.049 U	0.4
Total HpCDF	ug/kg	0.29 U	0.33 U	0.39 U	0.39 U	0.069 U	0.39 U	0.4 U	0.35 U	0.096 U
Total HxCDD	ug/kg	0.069 UJ	0.087 UJ	0.11 UJ	0.11 UJ	0.032 U	0.32 U	0.15 U	0.078 U	0.018 U
Total HxCDF	ug/kg	0.068 U	0.087 U	0.14 U	0.11 U	0.021 U	0.16 U	0.18 U	0.13 U	0.018 U
Total PeCDD	ug/kg	0.27 U	0.47 U	0.29 U	0.37 U	0.13 U	0.41 U	0.31 U	0.2 U	0.059 U
Total PeCDF	ug/kg	0.099 U	0.16 U	0.13 U	0.12 U	0.019 U	0.15 U	0.04 U	0.071 U	0.0091 U
Total TCDD	ug/kg	0.028 U	0.035 U	0.032 U	0.024 U	0.018 U	0.11 U	0.037 U	0.021 U	0.0032 U
Total TCDF	ug/kg	0.07 U	0.06 U	0.062 U	0.11 U	0.015 U	0.19 U	0.042 U	0.063 U	0.012 U
Metals										
Aluminum	mg/kg	4000	3800	7400	9000	8700 J	7600 J	10000 J	8700 J	7300 J
Antimony	mg/kg	2.2 U	2.1 U	2.3 U	2.6 U	0.44 J	1.9 UJ	2.2 UJ	2 UJ	0.58 J
Arsenic	mg/kg	4.2	3.3	4.3	7.1	7.2	5.5	6.6	6.1	5.8
Barium	mg/kg	100	86	160	170	150 J	110 J	120 J	120 J	120 J
Beryllium	mg/kg	0.31 J	0.28 J	0.54	0.71	0.68	0.48	0.6	0.49	0.46
Cadmium	mg/kg	0.92	0.41 J	1 J	1.6 J	0.49 J	0.76 J	0.56 U	0.49 U	0.85 J
Calcium	mg/kg	8400	7400	9300	8900	4400	6400	6100	5500	4900
Chromium	mg/kg	8.2	8	13	16	17	13	17	14	23
Cobalt	mg/kg	5.2 J	5 J	6.8 J	8.4 J	15 J	6.9 J	8.3	6.8	9.4 J
Copper	mg/kg	10	7	20	21	23	25	15	15	23
Iron	mg/kg	9600	9200	14000	17000	18000	15000	18000	16000	13000
Lead	mg/kg	20	15	30	29	33 J	19 J	10 J	8.6 J	63 J
Magnesium	mg/kg	3000	2700	4200	4100	3400 J	4600 J	4800 J	4500 J	2600 J
Manganese	mg/kg	320	290	370	630	1200	560	690	550	670
Mercury	mg/kg	0.036	0.021 J	0.052	0.065	0.037	0.076	0.06	0.063	0.074
Nickel	mg/kg	12	11	16	19	20	17	21	18	20
Potassium	mg/kg	810	710	1200	1500	880 J	820 J	1000 J	790 J	870 J
Selenium	mg/kg	1.1 U	1 U	1.2 U	1.3 U	0.98 U	0.97 U	1.1 U	0.99 U	0.99 U
Silver	mg/kg	1.1 U	1 U	1.2 U	1.3 U	0.98 U	0.97 U	1.1 U	0.99 U	0.99 U
Sodium	mg/kg	78 U	78 U	110 U	100 U	90 J	87 J	120 J	110 J	79 J
Thallium	mg/kg	1.1 U	1 U	0.79 J	1.3 U	0.98 U	0.97 U	1.1 UJ	0.99 UJ	0.99 U
Vanadium	mg/kg	14	13	22	26	34 J	27 J	30 J	29 J	24 J
Zinc	mg/kg	140	100	160	270	91 J	120 J	47 J	43 J	110 J

NOTES:
U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Table III-A2
Pond Surface Water Analyte Concentrations
Sauget, IL

Analyte	Sample ID Sample Date Sample Depth	Pond Surface Water P11W 11/18/02 Surface	P11W-Filtered 11/18/02 Surface	P12W[a] 11/18/02 Surface
VOCs	Units			
1,1,1-Trichloroethane	ug/L	1 UJ	NR	1 UJ
1,1,2,2-Tetrachloroethane	ug/L	1 U	NR	1 U
1,1,2-Trichloroethane	ug/L	1 U	NR	1 U
1,1-Dichloroethane	ug/L	1 U	NR	1 U
1,1-Dichloroethylene	ug/L	1 U	NR	1 U
1,2-Dichloroethane	ug/L	1 U	NR	1 U
1,2-Dichloroethene (total)	ug/L	2 U	NR	2 U
1,2-Dichloropropane	ug/L	1 U	NR	1 U
2-Butanone (MEK)	ug/L	10 U	NR	10 U
2-Hexanone	ug/L	10 U	NR	10 U
4-Methyl-2-pentanone (MIBK)	ug/L	10 U	NR	10 U
Acetone	ug/L	25 U	NR	25 U
Benzene	ug/L	1 U	NR	1 U
Bromodichloromethane	ug/L	1 UJ	NR	1 UJ
Bromoform	ug/L	1 U	NR	1 U
Bromomethane	ug/L	1 U	NR	1 U
Carbon Disulfide	ug/L	1 U	NR	1 U
Carbon Tetrachloride	ug/L	1 UJ	NR	1 UJ
Chlorobenzene	ug/L	1 U	NR	1 U
Chloroethane	ug/L	1 UJ	NR	1 UJ
Chloroform	ug/L	1 U	NR	1 U
Chloromethane	ug/L	1 UJ	NR	1 UJ
cis-1,3-Dichloropropene	ug/L	1 U	NR	1 U
Dibromochloromethane	ug/L	1 U	NR	1 U
Ethylbenzene	ug/L	1 U	NR	1 U
Methylene Chloride	ug/L	5 U	NR	5 U
Styrene (Monomer)	ug/L	1 U	NR	1 U
Tetrachloroethene	ug/L	1 U	NR	1 U
Toluene	ug/L	1 U	NR	1 U
trans-1,3-Dichloropropene	ug/L	1 U	NR	1 U
Trichloroethylene	ug/L	1 U	NR	1 U
Vinyl chloride	ug/L	1 U	NR	1 U
Xylenes, Total	ug/L	2 U	NR	2 U
SVOCs				
1,2,4-Trichlorobenzene	ug/L	10 U	NR	10 U
1,2-Dichlorobenzene	ug/L	10 U	NR	10 U
1,3-Dichlorobenzene	ug/L	10 U	NR	10 U
1,4-Dichlorobenzene	ug/L	10 U	NR	10 U
2,2'-Oxybis(1-Chloropropane)	ug/L	10 U	NR	10 U
2,4,5-Trichlorophenol	ug/L	10 U	NR	10 U
2,4,6-Trichlorophenol	ug/L	10 U	NR	10 U
2,4-Dichlorophenol	ug/L	10 U	NR	10 U
2,4-Dimethylphenol	ug/L	10 U	NR	10 U
2,4-Dinitrophenol	ug/L	50 UJ	NR	50 UJ
2,4-Dinitrotoluene	ug/L	10 U	NR	10 U
2,6-Dinitrotoluene	ug/L	10 U	NR	10 U
2-Chloronaphthalene	ug/L	10 U	NR	10 U
2-Chlorophenol	ug/L	10 U	NR	10 U
2-Methylnaphthalene	ug/L	10 U	NR	10 U
2-Methylphenol (o-Cresol)	ug/L	10 U	NR	10 U
2-Nitroaniline	ug/L	50 UJ	NR	50 UJ
2-Nitrophenol	ug/L	10 U	NR	10 U
3,3'-Dichlorobenzidine	ug/L	20 U	NR	20 U
3/4-Methylphenol (m&p-Cresol)	ug/L	10 U	NR	10 U
3-Nitroaniline	ug/L	50 UJ	NR	50 UJ
4,6-Dinitro-2-methylphenol	ug/L	50 U	NR	50 U
4-Bromophenyl Phenyl Ether	ug/L	10 U	NR	10 U
4-Chloro-3-methylphenol	ug/L	10 U	NR	10 U
4-Chloroaniline	ug/L	20 U	NR	20 U
4-Chlorophenyl Phenyl Ether	ug/L	10 U	NR	10 U
4-Nitroaniline	ug/L	50 U	NR	50 U
4-Nitrophenol	ug/L	50 U	NR	50 U
Acenaphthene	ug/L	10 U	NR	10 U
Acenaphthylene	ug/L	10 U	NR	10 U
Anthracene	ug/L	10 U	NR	10 U

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NR = Not analyzed
a - P12W was originally intended as a field duplicate of P11W. It was actually run as a field sample after filtration due to high suspended sediment. It was filtered for Hardness,SVOCs, PCBs, Pesticides and Herbicides

Table III-A2
Pond Surface Water Analyte Concentrations
Sauget, IL

Analyte	Sample ID Sample Date Sample Depth	Pond Surface Water		
		P11W 11/18/02 Surface	P11W-Filtered 11/18/02 Surface	P12W[a] 11/18/02 Surface
SVOCs	**Units**			
Benzo(a)anthracene	ug/L	10 U	NR	10 U
Benzo(a)pyrene	ug/L	10 U	NR	10 U
Benzo(b)fluoranthene	ug/L	10 U	NR	10 U
Benzo(g,h,i)perylene	ug/L	10 U	NR	10 U
Benzo(k)fluoranthene	ug/L	10 U	NR	10 U
bis(2-Chloroethoxy)methane	ug/L	10 U	NR	10 U
bis(2-Chloroethyl)ether	ug/L	10 U	NR	10 U
bis(2-Ethylhexyl)phthalate	ug/L	10 U	NR	10 U
Butyl Benzyl Phthalate	ug/L	10 U	NR	10 U
Carbazole	ug/L	10 U	NR	10 U
Chrysene	ug/L	10 U	NR	10 U
Dibenzo(a,h)anthracene	ug/L	10 U	NR	10 U
Dibenzofuran	ug/L	10 U	NR	10 U
Diethyl Phthalate	ug/L	10 U	NR	10 U
Dimethyl Phthalate	ug/L	10 U	NR	10 U
Di-n-butylphthalate	ug/L	10 U	NR	1.3 J
Di-n-octylphthalate	ug/L	10 U	NR	10 U
Fluoranthene	ug/L	10 U	NR	10 U
Fluorene	ug/L	10 U	NR	10 U
Hexachlorobenzene	ug/L	10 U	NR	10 U
Hexachlorobutadiene	ug/L	10 U	NR	10 U
Hexachlorocyclopentadiene	ug/L	10 U	NR	10 U
Hexachloroethane	ug/L	10 U	NR	10 U
Indeno(1,2,3-cd)pyrene	ug/L	10 U	NR	10 U
Isophorone	ug/L	10 U	NR	10 U
Naphthalene	ug/L	10 U	NR	4.3 J
Nitrobenzene	ug/L	10 U	NR	10 U
N-Nitroso-di-n-propylamine	ug/L	10 U	NR	10 U
N-Nitrosodiphenylamine	ug/L	10 U	NR	10 U
Pentachlorophenol	ug/L	1 U	NR	1 U
Phenanthrene	ug/L	10 U	NR	10 U
Phenol	ug/L	10 U	NR	10 U
Pyrene	ug/L	10 U	NR	10 U
Pesticides				
4,4'-DDD	ug/L	0.1 UJ	NR	0.1 UJ
4,4'-DDE	ug/L	0.1 UJ	NR	0.1 UJ
4,4'-DDT	ug/L	0.028 J	NR	0.1 UJ
Aldrin	ug/L	0.05 UJ	NR	0.0089 J
alpha-BHC	ug/L	0.05 UJ	NR	0.05 UJ
alpha-Chlordane	ug/L	0.05 UJ	NR	0.05 UJ
beta-BHC	ug/L	0.05 UJ	NR	0.0079 J
delta-BHC	ug/L	0.05 UJ	NR	0.05 UJ
Dieldrin	ug/L	0.01 J	NR	0.1 UJ
Endosulfan I	ug/L	0.05 UJ	NR	0.05 UJ
Endosulfan II	ug/L	0.1 UJ	NR	0.1 UJ
Endosulfan Sulfate	ug/L	0.1 UJ	NR	0.1 UJ
Endrin	ug/L	0.1 UJ	NR	0.1 UJ
Endrin Aldehyde	ug/L	0.1 UJ	NR	0.1 UJ
Endrin Ketone	ug/L	0.1 UJ	NR	0.1 UJ
gamma-BHC (Lindane)	ug/L	0.05 UJ	NR	0.05 UJ
gamma-Chlordane	ug/L	0.05 UJ	NR	0.05 UJ
Heptachlor	ug/L	0.05 UJ	NR	0.05 UJ
Heptachlor Epoxide	ug/L	0.05 UJ	NR	0.05 UJ
Methoxychlor	ug/L	0.5 UJ	NR	0.5 UJ
Toxaphene	ug/L	5 UJ	NR	5 UJ
Herbicides				
2,4-D	ug/L	0.5 U	NR	0.5 U
2,4-DB	ug/L	0.5 U	NR	0.5 U
2,4,5-T	ug/L	0.5 U	NR	0.5 U
2,4,5-TP (Silvex)	ug/L	0.5 U	NR	0.5 U
Dalapon	ug/L	120 U	NR	120 U
Dicamba	ug/L	1.2 U	NR	1.2 U
Dichlorprop	ug/L	6 U	NR	6 U
Dinoseb	ug/L	10 U	NR	10 U
MCPA	ug/L	120 U	NR	120 U
MCPP	ug/L	120 U	NR	120 U

NOTES:
U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
NR = Not analyzed
a - P12W was originally intended as a field duplicate of P11W. It was actually run as a field sample after filtration due to high suspended sediment. It was filtered for Hardness,SVOCs, PCBs, Pesticides and Herbicides

Table III-A2
Pond Surface Water Analyte Concentrations
Sauget, IL

Analyte	Sample ID Sample Date Sample Depth	Pond Surface Water P11W 11/18/02 Surface	P11W-Filtered 11/18/02 Surface	P12W[a] 11/18/02 Surface
PCBs	**Units**			
Decachlorobiphenyl	ug/L	0.5 U	NR	0.5 U
Dichlorobiphenyl	ug/L	0.1 U	NR	0.1 U
Heptachlorobiphenyl	ug/L	0.3 U	NR	0.3 U
Hexachlorobiphenyl	ug/L	0.2 U	NR	0.2 U
Monochlorobiphenyl	ug/L	0.1 U	NR	0.1 U
Nonachlorobiphenyl	ug/L	0.5 U	NR	0.5 U
Octachlorobiphenyl	ug/L	0.3 U	NR	0.3 U
Pentachlorobiphenyl	ug/L	0.2 U	NR	0.2 U
Tetrachlorobiphenyl	ug/L	0.2 U	NR	0.2 U
Trichlorobiphenyl	ug/L	0.1 U	NR	0.1 U
Total PCBs	ug/L	0.5 U	NA	0.5 U
Dioxins/Furans				
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	ug/L	0.00018	NR	NR
1,2,3,4,6,7,8-HpCDF	ug/L	0.000026 J	NR	NR
1,2,3,4,7,8,9-HpCDF	ug/L	0.0000024 UJ	NR	NR
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	ug/L	0.0000011 U	NR	NR
1,2,3,4,7,8-HxCDF	ug/L	0.000009 U	NR	NR
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	ug/L	0.0000066 U	NR	NR
1,2,3,6,7,8-HxCDF	ug/L	0.0000035 U	NR	NR
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	ug/L	0.0000034 U	NR	NR
1,2,3,7,8,9-HxCDF	ug/L	0.00000088 U	NR	NR
1,2,3,7,8-Pentachlorodibenzofuran	ug/L	0.0000057 U	NR	NR
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	ug/L	0.0000022 U	NR	NR
2,3,4,6,7,8-HxCDF	ug/L	0.0000023 U	NR	NR
2,3,4,7,8-PeCDF	ug/L	0.000012 U	NR	NR
2,3,7,8-TCDD	ug/L	0.00000082 U	NR	NR
2,3,7,8-Tetrachlorodibenzofuran	ug/L	0.000023	NR	NR
OCDD	ug/L	0.0023	NR	NR
OCDF	ug/L	0.00011 J	NR	NR
Total HpCDD	ug/L	0.00034	NR	NR
Total HpCDF	ug/L	0.000085	NR	NR
Total HxCDD	ug/L	0.000014 U	NR	NR
Total HxCDF	ug/L	0.000013 U	NR	NR
Total PeCDD	ug/L	0.0000022 U	NR	NR
Total PeCDF	ug/L	0.000025 U	NR	NR
Total TCDD	ug/L	0.00000087 U	NR	NR
Total TCDF	ug/L	0.00012	NR	NR
Metals				
Aluminum	mg/L	7.7 J	0.2 UJ	NR
Antimony	mg/L	0.02 UJ	0.02 UJ	NR
Arsenic	mg/L	0.0054 J	0.0039 J	NR
Barium	mg/L	0.2	0.11	NR
Beryllium	mg/L	0.004 U	0.004 U	NR
Cadmium	mg/L	0.00065 J	0.005 U	NR
Calcium	mg/L	57	56	NR
Chromium	mg/L	0.01	0.01 U	NR
Cobalt	mg/L	0.0036 J	0.01 U	NR
Copper	mg/L	0.013 J	0.02 U	NR
Iron	mg/L	8.9	0.05 U	NR
Lead	mg/L	0.014	0.005 U	NR
Magnesium	mg/L	15	13	NR
Manganese	mg/L	0.46	0.035	NR
Mercury	mg/L	0.0002 U	0.0002 U	NR
Nickel	mg/L	0.0093 J	0.04 U	NR
Potassium	mg/L	5.6	4.2	NR
Selenium	mg/L	0.01 U	0.01 U	NR
Silver	mg/L	0.01 U	0.01 U	NR
Sodium	mg/L	6.7	6.2	NR
Thallium	mg/L	0.01 U	0.01 U	NR
Vanadium	mg/L	0.023	0.0016 J	NR
Zinc	mg/L	0.052	0.02 UJ	NR
Other Chemistry				
Hardness, Carbonate	mg/L as Ca	200	NR	220

NOTES:

U = Not detected at the MDL.

J = The concentration was detected at a value below the MDL.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NR = Not analyzed

a - P12W was originally intended as a field duplicate of P11W. It was actually run as a field sample after filtration due to high suspended sediment. It was filtered for Hardness,SVOCs, PCBs, Pesticides and Herbicides

Pond Sediment Concentrations

Analyte	Sample ID Sample Date Percent Moisture	Pond Sediment P11S 11/18/02 47.5	Pond Sediment P12S (Dup of P11S) 11/18/02 NR
VOCs	**Units**		
1,1,1-Trichloroethane	ug/kg	4.5 U	3.8 U
1,1,2,2-Tetrachloroethane	ug/kg	4.5 UJ	3.8 U
1,1,2-Trichloroethane	ug/kg	4.5 U	3.8 U
1,1-Dichloroethane	ug/kg	4.5 U	3.8 U
1,1-Dichloroethylene	ug/kg	4.5 U	3.8 U
1,2-Dichloroethane	ug/kg	4.5 U	3.8 U
1,2-Dichloroethene (total)	ug/kg	4.5 U	3.8 U
1,2-Dichloropropane	ug/kg	4.5 U	3.8 U
2-Butanone (MEK)	ug/kg	20 J	19 U
2-Hexanone	ug/kg	22 U	19 U
4-Methyl-2-pentanone (MIBK)	ug/kg	22 U	19 U
Acetone	ug/kg	2900 J	38 U
Benzene	ug/kg	4.5 U	3.8 U
Bromodichloromethane	ug/kg	4.5 U	3.8 U
Bromoform	ug/kg	4.5 UJ	3.8 U
Bromomethane	ug/kg	9 UJ	7.6 UJ
Carbon Disulfide	ug/kg	4.5 U	3.8 U
Carbon Tetrachloride	ug/kg	4.5 U	3.8 U
Chlorobenzene	ug/kg	4.5 UJ	3.8 U
Chloroethane	ug/kg	9 U	7.6 U
Chloroform	ug/kg	4.5 U	3.8 U
Chloromethane	ug/kg	9 UJ	7.6 UJ
cis-1,3-Dichloropropene	ug/kg	4.5 U	3.8 U
Dibromochloromethane	ug/kg	4.5 U	3.8 U
Ethylbenzene	ug/kg	4.5 UJ	2.3 J
Methylene Chloride	ug/kg	4.5 U	3.8 U
Styrene (Monomer)	ug/kg	4.5 UJ	3.8 U
Tetrachloroethene	ug/kg	4.5 U	3.8 U
Toluene	ug/kg	4.5 U	3.8 U
trans-1,3-Dichloropropene	ug/kg	4.5 U	3.8 U
Trichloroethylene	ug/kg	4.5 U	3.8 U
Vinyl chloride	ug/kg	9 U	7.6 U
Xylenes, Total	ug/kg	6.8 J	13
SVOCs			
1,2,4-Trichlorobenzene	ug/kg	700 U	700 U
1,2-Dichlorobenzene	ug/kg	700 U	700 U
1,3-Dichlorobenzene	ug/kg	700 U	700 U
1,4-Dichlorobenzene	ug/kg	700 U	700 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	700 U	700 U
2,4,5-Trichlorophenol	ug/kg	700 U	700 U
2,4,6-Trichlorophenol	ug/kg	700 U	700 U
2,4-Dichlorophenol	ug/kg	700 U	700 U
2,4-Dimethylphenol	ug/kg	700 U	700 U
2,4-Dinitrophenol	ug/kg	3600 UJ	3600 UJ
2,4-Dinitrotoluene	ug/kg	700 U	700 U
2,6-Dinitrotoluene	ug/kg	700 U	700 U
2-Chloronaphthalene	ug/kg	700 U	700 U
2-Chlorophenol	ug/kg	700 U	700 U
2-Methylnaphthalene	ug/kg	700 U	700 U
2-Methylphenol (o-Cresol)	ug/kg	700 U	700 U
2-Nitroaniline	ug/kg	3600 UJ	3600 UJ
2-Nitrophenol	ug/kg	700 U	700 U
3,3'-Dichlorobenzidine	ug/kg	1400 U	1400 U
3/4-Methylphenol (m&p-Cresol)	ug/kg	700 U	700 U
3-Nitroaniline	ug/kg	3600 UJ	3600 UJ
4,6-Dinitro-2-methylphenol	ug/kg	3600 U	3600 U
4-Bromophenyl Phenyl Ether	ug/kg	700 U	700 U
4-Chloro-3-methylphenol	ug/kg	700 U	700 U
4-Chloroaniline	ug/kg	1400 U	1400 U
4-Chlorophenyl Phenyl Ether	ug/kg	700 U	700 U
4-Nitroaniline	ug/kg	3600 U	3600 U
4-Nitrophenol	ug/kg	3600 U	3600 U
Acenaphthene	ug/kg	700 U	700 U
Acenaphthylene	ug/kg	700 U	700 U
Anthracene	ug/kg	700 U	700 U

Analyte	Sample ID Sample Date Percent Moisture	Pond Sediment P11S 11/18/02 47.5	Pond Sediment P12S (Dup of P11S) 11/18/02 NR
SVOCs	**Units**		
Benzo(a)anthracene	ug/kg	700 U	700 U
Benzo(a)pyrene	ug/kg	700 U	700 U
Benzo(b)fluoranthene	ug/kg	700 U	700 U
Benzo(g,h,i)perylene	ug/kg	700 U	700 U
Benzo(k)fluoranthene	ug/kg	700 U	700 U
bis(2-Chloroethoxy)methane	ug/kg	700 U	700 U
bis(2-Chloroethyl)ether	ug/kg	700 U	700 U
bis(2-Ethylhexyl)phthalate	ug/kg	700 U	700 U
Butyl Benzyl Phthalate	ug/kg	700 U	700 U
Carbazole	ug/kg	700 U	700 U
Chrysene	ug/kg	700 U	700 U
Dibenzo(a,h)anthracene	ug/kg	700 U	700 U
Dibenzofuran	ug/kg	700 U	700 U
Diethyl Phthalate	ug/kg	700 U	700 U
Dimethyl Phthalate	ug/kg	700 U	700 U
Di-n-butylphthalate	ug/kg	700 U	700 U
Di-n-octylphthalate	ug/kg	700 U	700 U
Fluoranthene	ug/kg	700 U	700 U
Fluorene	ug/kg	700 U	700 U
Hexachlorobenzene	ug/kg	700 U	700 U
Hexachlorobutadiene	ug/kg	700 U	700 U
Hexachlorocyclopentadiene	ug/kg	700 UJ	700 UJ
Hexachloroethane	ug/kg	700 U	700 U
Indeno(1,2,3-cd)pyrene	ug/kg	700 U	700 U
Isophorone	ug/kg	700 U	700 U
Naphthalene	ug/kg	700 U	700 U
Nitrobenzene	ug/kg	700 U	700 U
N-Nitroso-di-n-propylamine	ug/kg	700 U	700 U
N-Nitrosodiphenylamine	ug/kg	700 U	700 U
Pentachlorophenol	ug/kg	36 R	2.5 J
Phenanthrene	ug/kg	700 U	700 U
Phenol	ug/kg	700 U	700 U
Pyrene	ug/kg	700 U	700 U
Pesticides			
4,4'-DDD	ug/kg	7 UJ	7 UJ
4,4'-DDE	ug/kg	7 U	7 U
4,4'-DDT	ug/kg	7 R	57 J
Aldrin	ug/kg	3.6 U	3.6 U
alpha-BHC	ug/kg	3.6 U	3.6 U
alpha-Chlordane	ug/kg	3.6 U	3.6 U
beta-BHC	ug/kg	3.6 U	3.6 U
delta-BHC	ug/kg	3.6 U	3.6 U
Dieldrin	ug/kg	7 U	7 U
Endosulfan I	ug/kg	3.6 U	3.6 U
Endosulfan II	ug/kg	7 U	7 U
Endosulfan Sulfate	ug/kg	7 U	7 U
Endrin	ug/kg	7 U	7 U
Endrin Aldehyde	ug/kg	7 U	7 U
Endrin Ketone	ug/kg	7 UJ	7 UJ
gamma-BHC (Lindane)	ug/kg	3.6 U	3.6 U
gamma-Chlordane	ug/kg	3.6 U	3.6 U
Heptachlor	ug/kg	3.6 UJ	3.6 UJ
Heptachlor Epoxide	ug/kg	3.6 U	3.6 U
Methoxychlor	ug/kg	36 UJ	36 UJ
Toxaphene	ug/kg	360 U	360 U
Herbicides			
2,4-D	ug/kg	18 R	18 R
2,4-DB	ug/kg	18 R	18 R
2,4,5-T	ug/kg	18 R	18 R
2,4,5-TP (Silvex)	ug/kg	18 R	18 R
Dalapon	ug/kg	4200 R	4200 R
Dicamba	ug/kg	42 R	42 R
Dichlorprop	ug/kg	210 R	3.7 J
Dinoseb	ug/kg	700 UJ	700 UJ
MCPA	ug/kg	4200 R	4200 R
MCPP	ug/kg	4200 R	630 J

Analyte	Sample ID Sample Date Percent Moisture	Pond Sediment P11S 11/18/02 47.5	Pond Sediment P12S (Dup of P11S) 11/18/02 NR
PCBs	**Units**		
Decachlorobiphenyl	ug/kg	36 U	36 U
Dichlorobiphenyl	ug/kg	7 U	7 U
Heptachlorobiphenyl	ug/kg	130	4.3 J
Hexachlorobiphenyl	ug/kg	200	16
Monochlorobiphenyl	ug/kg	7 U	7 U
Nonachlorobiphenyl	ug/kg	5.8 J	36 U
Octachlorobiphenyl	ug/kg	24	21 U
Pentachlorobiphenyl	ug/kg	400	48
Tetrachlorobiphenyl	ug/kg	330	93
Trichlorobiphenyl	ug/kg	69	14
Total PCBs	ug/kg	1159	175
Dioxins/Furans			
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	ug/kg	2.2 J	NR
1,2,3,4,6,7,8-HpCDF	ug/kg	0.31 J	NR
1,2,3,4,7,8,9-HpCDF	ug/kg	0.023 J	NR
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	ug/kg	0.0086 J	NR
1,2,3,4,7,8-HxCDF	ug/kg	0.032 J	NR
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	ug/kg	0.065 J	NR
1,2,3,6,7,8-HxCDF	ug/kg	0.018 J	NR
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	ug/kg	0.023 J	NR
1,2,3,7,8,9-HxCDF	ug/kg	0.0035 UJ	NR
1,2,3,7,8-Pentachlorodibenzofuran	ug/kg	0.025 J	NR
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	ug/kg	0.0045 UJ	NR
2,3,4,6,7,8-HxCDF	ug/kg	0.019 J	NR
2,3,4,7,8-PeCDF	ug/kg	0.05 J	NR
2,3,7,8-TCDD	ug/kg	0.0072 J	NR
2,3,7,8-Tetrachlorodibenzofuran	ug/kg	0.11 J	NR
OCDD	ug/kg	26 J	NR
OCDF	ug/kg	1.3 J	NR
Total HpCDD	ug/kg	4.3 J	NR
Total HpCDF	ug/kg	1.4 J	NR
Total HxCDD	ug/kg	0.39 J	NR
Total HxCDF	ug/kg	0.75 J	NR
Total PeCDD	ug/kg	0.1 J	NR
Total PeCDF	ug/kg	0.46 J	NR
Total TCDD	ug/kg	0.085 J	NR
Total TCDF	ug/kg	0.86 J	NR
Metals			
Aluminum	mg/kg	11000	14000
Antimony	mg/kg	3.9 UJ	4.3 U
Arsenic	mg/kg	5.2	7.3
Barium	mg/kg	200	260
Beryllium	mg/kg	0.77 J	0.93
Cadmium	mg/kg	1.3	1.7
Calcium	mg/kg	13000	16000
Chromium	mg/kg	19	24
Cobalt	mg/kg	8.8	11
Copper	mg/kg	30	39
Iron	mg/kg	20000	25000
Lead	mg/kg	43	53
Magnesium	mg/kg	4200	5500
Manganese	mg/kg	610	770
Mercury	mg/kg	0.13	0.13
Nickel	mg/kg	21	28
Potassium	mg/kg	1600	2000
Selenium	mg/kg	1.9 U	1.9 U
Silver	mg/kg	1.9 UJ	2.1 UJ
Sodium	mg/kg	87 J	110
Thallium	mg/kg	1.9 U	1.9 U
Vanadium	mg/kg	29	38
Zinc	mg/kg	190 J	240 J
Other Chemistry			
Total Organic Carbon	mg/kg	17000	17000
pH	units	7.0	7.1

NOTES:
U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.
NR = Not analyzed

Table III-A4
Plant Tissue Analyte Concentrations
Naugat, IL

Analyte	Sample ID / Sample Date	OFF SITE (Background) PL-OH-2 10/08/93	PL-OH-3 10/08/93	PL-OH-4 10/08/93	SITE O PL-O-1 10/08/93	PL-O-2 10/08/93	PL-O-3 10/08/93	SITE P PL-P-1 10/08/93	PL-P-2 10/08/93	PL-P-3 10/08/93	PL-P-4 10/08/93
SVOC's	Units										
1,2,4-Trichlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
1,2-Dichlorobenzene	ug/kg	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ
1,3-Dichlorobenzene	ug/kg	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ
1,4-Dichlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4,5-Trichlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4,6-Trichlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4-Dichlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4-Dimethylphenol	ug/kg	990 R	990 R	990 R	990 R	990 R	990 R	990 R	990 R	990 R	990 R
2,4-Dinitrophenol	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
2,4-Dinitrotoluene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,6-Dinitrotoluene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Chloronaphthalene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Chlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Methylnaphthalene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Methylphenol (o-Cresol)	ug/kg	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ
2-Nitroaniline	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
2-Nitrophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
3,3'-Dichlorobenzidine	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3/4-Methylphenol (mix p Cresol)	ug/kg	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ
3-Nitroaniline	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
4,6-Dinitro-2-methylphenol	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
4-Bromophenyl Phenyl Ether	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
4-Chloro-3-methylphenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
4-Chloroaniline	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-Chlorophenyl Phenyl Ether	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
4-Nitroaniline	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
4-Nitrophenol	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
Acenaphthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Acenaphthylene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Anthracene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(a)anthracene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(a)pyrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(b)fluoranthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(g,h,i)perylene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	80 J	95 J	990 U	210 J
Benzo(k)fluoranthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
bis(2-Chloroethoxy)methane	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
bis(2-Chloroethyl)ether	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
bis(2-Ethylhexyl)phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Butyl Benzyl Phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Carbazole	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Chrysene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Dibenzo(a,h)anthracene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Dibenzofuran	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Diethyl Phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Dimethyl Phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Di-n-butylphthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Di-n-octylphthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U

NOTES:
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J = The concentration was detected at a value below the MDL.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Ta[illegible] 4
Plant Tissue A[illegible] Concentrations
Sauget, IL

Analyte	Sample ID Sample Date	OFF SITE (Background)			SITE O			SITE P			
		PL-OS-2 10/08/02	PL-OS-3 10/08/02	PL-OS-4 10/08/02	PL-O-1 10/08/02	PL-O-2 10/08/02	PL-O-3 10/08/02	PL-P-1 10/08/02	PL-P-2 10/08/02	PL-P-3 10/08/02	PL-P-4 10/08/02
SVOCs	Units										
Fluoranthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Fluorene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachlorobutadiene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachlorocyclopentadiene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachloroethane	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Indeno(1,2,3-cd)pyrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Isophorone	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Naphthalene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Nitrobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
N-Nitroso-di-n-propylamine	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
N-Nitrosodiphenylamine	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Pentachlorophenol	ug/kg	5100 U	51 U	51 U	51 U	51 U	260 U	51 U	51 U	51 U	51 U
Phenanthrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Phenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	360 J	990 U
Pyrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Pesticides											
4,4'-DDD	ug/kg	9.9 U	9.9 U	9.9 U	9.9 U	2.4 J	9.9 U	20 U	9.9 U	9.9 U	9.9 U
4,4'-DDE	ug/kg	9.9 U	9.9 U	9.9 U	9.9 U	10 J	9.9 U	20 U	9.9 U	0.97 J	9.9 U
4,4'-DDT	ug/kg	2.6 J	1.3 J	9.9 U	9.9 U	9.9 U	9.9 U	20 U	9.9 U	1.4 J	9.9 U
Aldrin	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 J	5.1 U	1.1 J	5.1 U	0.5 J	0.67 J
alpha-BHC	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	1.2 J	5.1 U	5.1 U	5.1 U
alpha-Chlordane	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	10 U	5.1 U	0.93 J	5.1 U
beta-BHC	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	4.4 J	5.1 U	10 U	5.1 U	3.1 J	5.1 U
delta-BHC	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	1.2 J	5.1 U	5.1 U	5.1 U
Dieldrin	ug/kg	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	20 U	9.9 U	9.9 U	3.4 J
Endosulfan I	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	10 U	5.1 U	5.1 U	5.1 U
Endosulfan II	ug/kg	9.9 U	9.9 U	9.9 U	9.9 U	5.4 J	9.9 U	3.6 J	9.9 U	9.9 U	9.9 U
Endosulfan Sulfate	ug/kg	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	20 U	9.9 U	9.9 U	9.9 U
Endrin	ug/kg	9.9 U	9.9 U	9.9 U	9.9 U	2 J	9.9 U	20 U	9.9 U	9.9 U	9.9 U
Endrin Aldehyde	ug/kg	9.9 U	9.9 U	9.9 U	9.9 U	25 J	9.9 U	20 U	9.9 U	9.9 U	9.9 U
Endrin Ketone	ug/kg	9.9 U	9.9 UJ	9.9 UJ	9.9 UJ	2.2 J	9.9 UJ	20 UJ	9.9 UJ	9.9 UJ	2.6 J
gamma-BHC (Lindane)	ug/kg	5.1 U	0.77 J	3.3 J	2.9 J	9.8	5.1 U	2 J	2.1 J	5.1 U	5.1 U
gamma-Chlordane	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.7 J	5.1 U	3.4 J	5.1 U	5.1 U	1 J
Heptachlor	ug/kg	5.1 U	5.1 U	1.6 J	5.1 U	3.4 J	5.1 U	10 U	5.1 U	5.1 U	5.5
Heptachlor Epoxide	ug/kg	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	7.6 J	5.1 U	5.1 U	5.1 U
Methoxychlor	ug/kg	51 UJ	51 U	51 U	51 U	51 UJ	51 U	190 J	51 U	51 U	51 U
Toxaphene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	1000 U	510 U	510 U	510 U
Herbicides											
2,4-D	ug/kg	2500 U	34 J	58 J	25 U	32 J	110 J	44 J	25 U	42 J	68 J
2,4-DB	ug/kg	2500 U	25 U	460 J	25 U	25 U	1300 J	58 J	25 U	95 J	25 U
2,4,5-T	ug/kg	2500 U	25 U	33 J	25 U	25 U	120 U	25 U	25 U	18 J	37 J
2,4,5-TP (Silvex)	ug/kg	2500 U	25 U	25 U	25 U	25 U	120 U	25 U	25 U	25 U	87 J
Dalapon	ug/kg	600000 UJ	6000 U	6000 U	6000 U	6000 U	30000 U	6000 U	6000 U	6000 U	6000 U
Dicamba	ug/kg	6000 U	60 U	60 U	60 U	60 U	300 U	60 U	60 U	60 U	60 U
Dichlorprop	ug/kg	30000 U	300 U	300 U	170 J	180 J	1500 U	300 U	300 U	200 J	300 U
Dinoseb	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
MCPA	ug/kg	600000 U	6000 U	6000 U	6000 U	5700 J	30000 U	6000 U	6000 U	4800 J	6000 U
MCPP	ug/kg	600000 U	6000 U	6000 U	6000 U	6000 U	30000 U	6000 U	6000 U	8800 J	6000 U

NOTES:
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UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
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Table III-A4
Plant Three Analyte Concentrations
Nauget, IL

Analyte	Sample ID / Sample Date	OFF SITE (Background) PL-OS-1 10/08/93	PL-OS-3 10/08/93	PL-OS-4 10/08/93	SITE O PL-O-1 10/08/93	PL-O-3 10/08/93	PL-O-5 10/08/93	SITE P PL-P-1 10/08/93	PL-P-2 10/08/93	PL-P-3 10/08/93	PL-P-4 10/08/93
PCBs	Units										
Decachlorobiphenyl	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Dichlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Heptachlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Hexachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Monochlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nonachlorobiphenyl	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Octachlorobiphenyl	ug/kg	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U
Pentachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Tetrachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Trichlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PCBs	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Dioxins/Furans											
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	pg/g	1.2 U	1.9 U	1.5 U	190	17	1.6 U	12	3 J	9.6	2.1 U
1,2,3,4,6,7,8-HpCDF	pg/g	0.34 U	0.68 U	0.24 U	20	1.9 U	0.35 U	2.3 U	0.55 U	1.7 U	0.67 U
1,2,3,4,7,8,9-HpCDF	pg/g	0.12 U	0.11 U	0.09 U	0.65 U	0.11 U	0.11 U	0.14 U	0.13 U	0.14 U	0.09 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	0.18 UJ	0.15 UJ	0.15 UJ	2 U	0.22 U	0.16 UJ	0.25 U	0.19 U	0.2 U	0.19 U
1,2,3,4,7,8-HxCDF	pg/g	0.2 U	0.11 U	0.11 U	0.99 U	0.18 U	0.18 U	0.24 U	0.18 U	0.19 U	0.16 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	0.17 U	0.31 U	0.14 U	4.4 J	0.45 U	0.15 U	0.4 U	0.18 U	0.41 U	0.18 U
1,2,3,6,7,8-HxCDF	pg/g	0.11 U	0.1 U	0.1 U	0.43 U	0.14 U	0.12 U	0.22 U	0.16 U	0.17 U	0.15 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	pg/g	0.19 U	0.15 U	0.13 U	5.6 J	0.34 U	0.17 U	0.45 U	0.16 U	0.18 U	0.17 U
1,2,3,7,8,9-HxCDF	pg/g	0.13 U	0.13 U	0.12 U	0.35 U	0.17 U	0.15 U	0.27 U	0.23 U	0.21 U	0.18 U
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	0.16 U	0.12 U	0.14 U	0.22 U	0.16 U	0.17 U	0.2 U	0.18 U	0.17 U	0.16 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	pg/g	0.37 U	0.31 U	0.31 U	0.82 U	0.36 U	0.36 U	0.4 U	0.35 U	0.34 U	0.45 U
2,3,4,6,7,8-HxCDF	pg/g	0.12 U	0.12 U	0.11 U	0.72 U	0.16 U	0.14 U	0.25 U	0.18 U	0.2 U	0.17 U
2,3,4,7,8-PeCDF	pg/g	0.16 U	0.12 U	0.13 U	0.28 U	0.16 U	0.16 U	0.2 U	0.17 U	0.16 U	0.15 U
2,3,7,8-TCDD	pg/g	0.17 UJ	0.13 UJ	0.12 UJ	0.32 U	0.19 U	0.16 UJ	0.26 U	0.21 U	0.25 U	0.21 U
2,3,7,8-Tetrachlorodibenzofuran	pg/g	0.33 U	0.25 U	0.22 U	1.7	0.39 U	0.34 U	0.71 U	0.56 U	0.56 U	0.51 U
OCDD	pg/g	7.9 J	15	13	3800	270	13	120	38	120	31
OCDF	pg/g	0.56 U	1.4 U	0.27 U	85	7.4 J	0.58 U	9.7 J	2.7 U	8 J	2.3 U
Total HpCDD	pg/g	2 U	1.9 U	1.9 U	450	37	2.3 U	25	6	20	2.2 U
Total HpCDF	pg/g	0.34 U	0.76 U	0.24 U	54	3.6	0.65 U	3.9	0.96 U	1.4	0.93 U
Total HxCDD	pg/g	1.7 U	0.57 U	0.85 U	66	3.3	1.6 U	2 U	0.65 U	1.4	0.57 U
Total HxCDF	pg/g	0.25 U	0.14 U	0.15 U	8.9	0.66 U	0.34 U	0.93 U	0.2 U	0.74 U	0.18 U
Total PeCDD	pg/g	0.37 U	0.84 U	0.39 U	10	1 U	1 U	1.2 U	0.41 U	1.6 U	0.43 U
Total PeCDF	pg/g	0.29 U	0.21 U	0.17 U	1.7 U	0.37 U	0.24 U	0.7 U	0.3 U	0.69 U	0.3 U
Total TCDD	pg/g	0.32 UJ	2.8 J	0.29 UJ	3.3	0.23 U	0.16 UJ	0.58	0.21 U	0.96	0.31 U
Total TCDF	pg/g	0.33 U	0.25 U	0.22 U	0.59 J	0.39 U	0.34 U	0.71 U	0.56 U	0.56 U	0.51 U
Metals											
Aluminum	mg/kg	13 J	13 J	130	7.5 J	14 J	8.1 J	41	8.2 J	13 J	51
Antimony	mg/kg	2 U	2 U	2 U	1.8 U	1.8 U	2 U	0.52 J	2 U	1.8 U	2 U
Arsenic	mg/kg	1 U	1 U	1 U	0.91 U	0.91 U	1 U	1 U	0.41 J	0.91 U	1 U
Barium	mg/kg	8.5	8.9	15	2.5	7.6	5.1	4.7	3.9	5.3	5.4
Beryllium	mg/kg	0.4 U	0.4 U	0.4 U	0.36 U	0.36 U	0.4 U	0.4 U	0.4 U	0.36 U	0.4 U
Cadmium	mg/kg	0.55	0.12 J	0.5 U	0.2 J	0.13 J	0.13 J	0.55	0.25 J	0.28 J	0.17 J
Calcium	mg/kg	1900 J	1300 J	3200 J	1200 J	1600 J	1600 J	3000 J	1200 J	1800 J	1400 J
Chromium	mg/kg	0.29 J	0.18 J	0.51 J	0.21 J	0.91 U	0.31 J	0.41 J	0.35 J	0.19 J	0.3 J
Cobalt	mg/kg	1 U	1 U	1 U	0.91 U	0.91 U	1 U	1	1 U	0.91 U	1 U
Copper	mg/kg	4.6	4.6	2.7	3.5	4	4	6.9	3.7	4.4	4.8
Iron	mg/kg	38	32	260	24	42	28	100	35	39	110
Lead	mg/kg	1.4 J	0.46 J	0.92 J	0.75 J	1.4 J	0.65 J	4.7 J	1.3 J	2.2 J	5 J
Magnesium	mg/kg	480	560	1100	560	780	810	740	480	500	630
Manganese	mg/kg	20	3.9	12	12	11	10	6.1	7.9	6	7.5
Mercury	mg/kg	0.76	0.22	0.21	0.19	0.91	0.14	1	0.27	0.5	0.29
Nickel	mg/kg	4 U	4 U	4 U	3.6 U	3.6 U	4 U	3.9 J	4 U	3.6 U	4 U
Potassium	mg/kg	9600 J	5300 J	4900 J	3500 J	5800 J	1200 J	4600 J	4000 J	4500 J	1200 J
Selenium	mg/kg	1 U	1 U	1 U	0.91 U	0.91 U	1 U	12	1 U	0.43 J	1 U
Silver	mg/kg	1 U	1 U	1 U	0.91 U	0.91 U	1 U	1 U	1 U	0.91 U	1 U
Sodium	mg/kg	50 U	50 U	50 U	45 U	45 U	50 U	53 U	50 U	340	50 U
Thallium	mg/kg	1 U	1 U	1 U	0.91 U	0.91 U	1 U	1 U	1 U	0.91 U	1 U
Vanadium	mg/kg	1 U	1 U	0.47 J	0.91 U	0.91 U	1 U	0.36 J	1 U	0.91 U	0.25 J
Zinc	mg/kg	65 J	36 J	11 J	22 J	25 J	18 J	79 J	31 J	50 J	35 J

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Plant Tissue [illegible] 4 [illegible] Concentrations
Sauget, IL

Analyte	Sample ID Sample Date	SITE Q									
		PL-Q-9 10/09/02	PL-Q-10 10/09/02	PL-Q-11 10/09/02	PL-Q-12 10/09/02	PL-Q-21 (Dup of PL-Q-12) 10/09/02	PL-Q-13 10/09/02	PL-Q-14 10/09/02	PL-Q-15 10/09/02	PL-Q-16 10/09/02	PL-Q-17 10/09/02
SVOCs	**Units**										
1,2,4-Trichlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
1,2-Dichlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
1,3-Dichlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
1,4-Dichlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4,5-Trichlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4,6-Trichlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4-Dichlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4-Dimethylphenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4-Dinitrophenol	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
2,4-Dinitrotoluene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,6-Dinitrotoluene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Chloronaphthalene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Chlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Methylnaphthalene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Methylphenol (o-Cresol)	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Nitroaniline	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
2-Nitrophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
3,3'-Dichlorobenzidine	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3/4-Methylphenol (m&p-Cresol)	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
3-Nitroaniline	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
4,6-Dinitro-2-methylphenol	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
4-Bromophenyl Phenyl Ether	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
4-Chloro-3-methylphenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
4-Chloroaniline	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-Chlorophenyl Phenyl Ether	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
4-Nitroaniline	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
4-Nitrophenol	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
Acenaphthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Acenaphthylene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Anthracene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(a)anthracene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(a)pyrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(b)fluoranthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(g,h,i)perylene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(k)fluoranthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
bis(2-Chloroethoxy)methane	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
bis(2-Chloroethyl)ether	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
bis(2-Ethylhexyl)phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Butyl Benzyl Phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Carbazole	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Chrysene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Dibenzo(a,h)anthracene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Dibenzofuran	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Diethyl Phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Dimethyl Phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Di-n-butylphthalate	ug/kg	88 J	990 U	170 J	100 J	990 U	990 U	990 U	140 J	94 J	990 U
Di-n-octylphthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U

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Table III-A4
Plant Tissue Analyte Concentrations
Sauget, IL

Analyte	Sample ID / Sample Date	SITE Q									
		PL-Q-9 10/09/03	PL-Q-10 10/09/03	PL-Q-11 10/09/03	PL-Q-12 10/09/03	PL-Q-21 (Dup of PL-Q-12) 10/09/03	PL-Q-13 10/09/03	PL-Q-14 10/09/03	PL-Q-15 10/09/03	PL-Q-16 10/09/03	PL-Q-17 10/09/03
SVOCs	Units										
Phenanthrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Pyrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachlorobutadiene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachlorocyclopentadiene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachloroethane	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Indeno(1,2,3-cd)pyrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Isophorone	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Naphthalene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Nitrobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
N-Nitroso-di-n-propylamine	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
N-Nitrosodiphenylamine	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Pentachlorophenol	ug/kg	51 U	100 U	51 UJ	51 U	51 U	51 U	51 U	51 U	51 U	51 U
Phenanthrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Phenol	ug/kg	990 U	320 J	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Pyrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Pesticides											
4,4'-DDD	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ
4,4'-DDE	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 UJ	1.1 J	9.9 UJ	9.9 UJ
4,4'-DDT	ug/kg	4.1 J	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ	2 J	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ
Aldrin	ug/kg	5.1 UJ	5.1 UJ	5.1 UJ	5.1 U	5.1 U	5.1 U	1 J	5.1 UJ	5.1 UJ	5.1 UJ
alpha-BHC	ug/kg	5.1 UJ	0.62 J	5.1 UJ	0.87 J	5.1 U	0.83 J	5.1 UJ	5.1 UJ	1.5 J	1.7 J
alpha-Chlordane	ug/kg	5.1 UJ	5.1 UJ	5.1 UJ	5.1 U	5.1 U	5.1 U	5.1 UJ	5.1 UJ	5.1 UJ	5.1 UJ
beta-BHC	ug/kg	5.1 UJ	5.5 J	5.1 UJ	5.1 U	4.8 J	5.1 U	5.1 UJ	5.1 UJ	5.9 J	4.7 J
delta-BHC	ug/kg	5.1 UJ	1.7 J	5.1 UJ	5.1 U	5.1 U	0.29 J	5.1 UJ	5.1 UJ	5.1 UJ	5.1 UJ
Dieldrin	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 UJ	1.2 J	2.1 J	9.9 UJ
Endosulfan I	ug/kg	5.1 UJ	5.1 UJ	5.1 UJ	5.1 U	5.1 U	5.1 U	5.1 UJ	5.1 UJ	5.1 UJ	5.1 UJ
Endosulfan II	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ
Endosulfan Sulfate	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ
Endrin	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 UJ	1.3 J	9.9 UJ	9.9 UJ
Endrin Aldehyde	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ
Endrin Ketone	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ
gamma-BHC (Lindane)	ug/kg	5.1 UJ	1.6 J	0.74 J	5.1 U	5.1 U	5.1 U	0.25 J	5.1 UJ	5.1 UJ	5.1 UJ
gamma-Chlordane	ug/kg	2.2 J	5.1 UJ	5.1 UJ	5.1 U	5.1 U	5.1 U	5.1 UJ	0.71 J	5.1 UJ	5.1 UJ
Heptachlor	ug/kg	5.1 U	5.1 UJ	5.1 UJ	0.81 J	5.1 U	0.73 J	5.1 UJ	5.1 UJ	5.1 UJ	5.1 UJ
Heptachlor Epoxide	ug/kg	1.7 J	5.1 UJ	5.1 UJ	5.1 U	5.1 U	5.1 U	5.1 UJ	5.1 UJ	5.1 UJ	5.1 UJ
Methoxychlor	ug/kg	51 UJ	51 UJ	51 UJ	51 U	51 U	51 U	51 UJ	2.8 J	51 UJ	51 UJ
Toxaphene	ug/kg	510 UJ	510 UJ	510 UJ	510 U	510 U	510 U	510 UJ	510 UJ	510 UJ	510 UJ
Herbicides											
2,4-D	ug/kg	37 J	160 J	20 J	25 U	58 J	68 J	25 U	49	25 U	42 J
2,4-DB	ug/kg	68	150 J	76 J	25 U	25 U	25 U	25 U	25 U	110	25 U
2,4,5-T	ug/kg	25 U	440 J	77 J	25 U	25 U	25 U	30	25 U	18 J	25 U
2,4,5-TP (Silvex)	ug/kg	25 U	40 J	25 UJ	25 U	25 U	25 U	24 J	25 U	25 U	25 U
Dalapon	ug/kg	6000 U	12000 UJ	6000 UJ	6000 U	6000 U	6000 U	6000 UJ	6000 U	6000 U	6000 U
Dicamba	ug/kg	60 U	120 U	60 UJ	60 U	60 U	60 U	60 U	60 U	60 U	60 U
Dichlorprop	ug/kg	300 U	600 U	300 UJ	300 U	300 U	300 U	300 U	300 U	300 U	300 U
Dinoseb	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
MCPA	ug/kg	6000 U	12000 U	3200 J	6000 U	3000 J	6000 U	3300 J	6300 J	6800 J	6700
MCPP	ug/kg	6000 U	11000 J	6000 UJ	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	11000 J

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T 4
Plant Tissue A . Concentrations
Sauget, IL

Analyte	Sample ID Sample Date	SITE Q									
		PL-Q-9 10/09/02	PL-Q-10 10/09/02	PL-Q-11 10/09/02	PL-Q-12 10/09/02	PL-Q-21 (Dup of PL-Q-12) 10/09/02	PL-Q-13 10/09/02	PL-Q-14 10/09/02	PL-Q-15 10/09/02	PL-Q-16 10/09/02	PL-Q-17 10/09/02
PCBs	**Units**										
Decachlorobiphenyl	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Dichlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Heptachlorobiphenyl	ug/kg	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U
Hexachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Monochlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nonachlorobiphenyl	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Octachlorobiphenyl	ug/kg	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U
Pentachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Tetrachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Trichlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PCBs	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Dioxins/Furans											
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	pg/g	2.7 J	1.1 U	0.74 U	2.2 U	2.9 J	1.3 U	1 U	0.45 U	2.6 J	1.3 U
1,2,3,4,6,7,8-HpCDF	pg/g	0.37 U	0.22 U	0.15 U	0.44 U	0.58 U	0.17 U	0.22 U	0.1 U	0.53 U	0.24 U
1,2,3,4,7,8,9-HpCDF	pg/g	0.087 U	0.082 U	0.066 U	0.087 U	0.16 U	0.13 U	0.088 U	0.088 U	0.083 U	0.093 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	0.095 U	0.17 U	0.1 U	0.091 U	0.17 U	0.19 U	0.12 U	0.11 U	0.12 UJ	0.12 U
1,2,3,4,7,8-HxCDF	pg/g	0.15 U	0.2 U	0.094 U	0.17 U	0.29 U	0.14 U	0.085 U	0.093 U	0.16 U	0.1 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	0.13 U	0.17 U	0.1 U	0.16 U	0.33 U	0.18 U	0.11 U	0.1 U	0.16 U	0.11 U
1,2,3,6,7,8-HxCDF	pg/g	0.072 U	0.17 U	0.076 U	0.058 U	0.14 U	0.13 U	0.077 U	0.085 U	0.086 U	0.091 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	pg/g	0.1 U	0.27 U	0.09 U	0.079 U	0.24 U	0.17 U	0.12 U	0.093 U	0.21 U	0.11 U
1,2,3,7,8,9-HxCDF	pg/g	0.088 U	0.12 U	0.094 U	0.072 U	0.18 U	0.16 U	0.1 U	0.1 U	0.11 U	0.11 U
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	0.1 U	0.24 U	0.13 U	0.13 U	0.28 UJ	0.22 U	0.11 U	0.14 U	0.16 U	0.16 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	pg/g	0.2 U	0.29 U	0.18 U	0.17 U	0.48 U	0.36 U	0.17 U	0.22 U	0.26 U	0.27 U
2,3,4,6,7,8-HxCDF	pg/g	0.081 U	0.13 U	0.086 U	0.066 U	0.18 U	0.15 U	0.087 U	0.1 U	0.1 U	0.1 U
2,3,4,7,8-PeCDF	pg/g	0.1 U	0.23 U	0.12 U	0.12 U	0.27 UJ	0.21 U	0.1 U	0.14 U	0.16 U	0.16 U
2,3,7,8-TCDD	pg/g	0.1 U	0.12 U	0.1 U	0.1 U	0.27 UJ	0.19 U	0.11 U	0.17 U	0.14 UJ	0.14 U
2,3,7,8-Tetrachlorodibenzofuran	pg/g	0.2 U	0.25 UJ	0.19 U	0.22 U	0.47 UJ	0.35 UJ	0.21 U	0.32 U	0.29 U	0.24 UJ
OCDD	pg/g	28	8.9 J	13	24	30	13	9.1 J	3.3 U	26	11
OCDF	pg/g	1.1 U	0.41 U	0.33 U	0.89 U	1.3 U	0.62 U	0.29 U	0.15 U	0.86 U	0.52 U
Total HpCDD	pg/g	5.8	1.8 U	0.83 U	2.3 U	6.2	1.6 U	1.3 U	0.55 U	6.4	1.9 U
Total HpCDF	pg/g	0.37 U	0.22 U	0.15 U	0.6 U	0.64 U	0.23 U	0.22 U	0.1 U	0.56 U	0.32 U
Total HxCDD	pg/g	0.34 U	0.17 U	0.26 U	0.48 U	0.72 U	0.44 U	0.57 U	0.24 U	1 U	0.59 U
Total HxCDF	pg/g	0.15 U	0.11 U	0.094 U	0.17 U	0.29 U	0.16 U	0.1 U	0.1 U	0.28 U	0.11 U
Total PeCDD	pg/g	0.2 U	0.29 U	0.18 U	0.2 U	0.48 U	0.36 U	0.17 U	0.23 U	0.47 U	0.27 U
Total PeCDF	pg/g	0.18 U	0.24 U	0.17 U	0.19 U	0.39 UJ	0.28 U	0.18 U	0.25 U	0.35 U	0.2 U
Total TCDD	pg/g	0.1 U	0.12 U	0.1 U	0.1 U	0.27 UJ	0.19 U	0.11 U	0.17 U	0.17 UJ	0.14 U
Total TCDF	pg/g	0.2 U	0.25 UJ	0.19 U	0.24 U	0.47 UJ	0.35 UJ	0.21 U	0.32 U	0.29 U	0.24 UJ
Metals											
Aluminum	mg/kg	55	7.3 J	31	19 J	75	29	13 J	9.6 J	32	11 J
Antimony	mg/kg	2 U	2 U	2 U	2 U	1.8 U	1.8 U	1.7 U	2 U	2 U	1.8 U
Arsenic	mg/kg	1 U	1 U	1 U	1 U	0.91 U	0.91 U	0.83 U	1 U	1 U	0.91 U
Barium	mg/kg	12	8.7	2.6	3.9	6.6	4.6	4.8	2.5	22	13
Beryllium	mg/kg	0.4 U	0.4 U	0.4 U	0.4 U	0.36 U	0.36 U	0.33 U	0.4 U	0.4 U	0.36 U
Cadmium	mg/kg	0.23 J	0.28 J	0.071 J	0.11 J	0.15 J	0.25 J	0.098 J	0.14 J	0.13 J	0.45 U
Calcium	mg/kg	2500 J	2000 J	1500 J	1400 J	1500 J	1600 J	2100 J	2400 J	3700 J	5600 J
Chromium	mg/kg	0.24 J	1 U	0.83 J	1 U	0.46 J	0.91 U	0.17 J	1 U	1 U	0.91 U
Cobalt	mg/kg	1 U	1 U	1 U	1 U	0.91 U	0.91 U	0.83 U	1 U	1 U	0.91 U
Copper	mg/kg	6.8	3.7	3.3	2.5	2.7	2.5	2.9	8.7	6.7	1.2 J
Iron	mg/kg	100	33	66	43	130	61	39	30	69	26
Lead	mg/kg	0.77	0.39 J	1.1	0.52	0.76	0.55	0.89	0.39 J	1.2	0.52
Magnesium	mg/kg	1600	920	550	820	820	770	790	830	840	650
Manganese	mg/kg	8.9	4.6	23	6.6	12	11	7	5.7	29	6.6
Mercury	mg/kg	0.63 J	0.28 J	0.22 J	0.26 J	0.41 J	0.27 J	1.3 J	0.53 J	0.79 J	0.097 J
Nickel	mg/kg	4 U	4 U	4 U	4 U	3.6 U	3.6 U	3.3 U	4 U	4 U	3.6 U
Potassium	mg/kg	7300	4300	3800	10000	7200	6900	2800	8100	7300	6400
Selenium	mg/kg	1 U	1 U	1 U	0.59 J	0.65 J	0.47 J	0.83 U	1 U	0.59 J	0.91 U
Silver	mg/kg	1 U	1 U	1 U	1 U	0.91 U	0.91 U	0.83 U	1 U	1 U	0.91 U
Sodium	mg/kg	50 U	50 U	50 U	50 U	45 U	45 U	41 U	50 U	50 U	45 U
Thallium	mg/kg	1 U	1 U	1 U	1 U	0.91 U	0.91 U	0.83 U	1 U	1 U	0.91 U
Vanadium	mg/kg	1 U	1 U	1 U	1 U	0.91 U	0.91 U	0.83 U	1 U	1 U	0.91 U
Zinc	mg/kg	24	42	20	13	17	30	28	35	34	7

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Table III-A4
Plant Tissue Analyte Concentrations
Sauget, IL

Analyte	Sample ID Sample Date	SITE Q PL-Q-18 [illegible]	PL-Q-19 [illegible]	PL-Q-20 [illegible]	SITE R PL-R-1 [illegible]	PL-R-2 [illegible]	PL-R-3 [illegible]	PL-R-4 [illegible]	PL-R-5 [illegible]	SITE S PL-S-1 [illegible]
SVOC's	Units									
1,2,4-Trichlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
1,2-Dichlorobenzene	ug/kg	990 U	990 U	990 U	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ
1,3-Dichlorobenzene	ug/kg	990 U	990 U	990 U	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ
1,4-Dichlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4,5-Trichlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4,6-Trichlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4-Dichlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,4-Dimethylphenol	ug/kg	990 U	990 U	990 U	990 R	990 R	990 R	990 R	990 R	990 R
2,4-Dinitrophenol	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 UJ	5100 U	5100 UJ	5100 U
2,4-Dinitrotoluene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2,6-Dinitrotoluene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Chloronaphthalene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Chlorophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Methylnaphthalene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
2-Methylphenol (o-Cresol)	ug/kg	990 U	990 U	990 U	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ
2-Nitroaniline	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
2-Nitrophenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
3,3'-Dichlorobenzidine	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3/4-Methylphenol (m/p-Cresol)	ug/kg	990 U	990 U	990 U	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ	990 UJ
3-Nitroaniline	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
4,6-Dinitro-2-methylphenol	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
4-Bromophenyl Phenyl Ether	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
4-Chloro-3-methylphenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
4-Chloroaniline	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-Chlorophenyl Phenyl Ether	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
4-Nitroaniline	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
4-Nitrophenol	ug/kg	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U	5100 U
Acenaphthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Acenaphthylene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Anthracene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(a)anthracene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(a)pyrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(b)fluoranthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(g,h,i)perylene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Benzo(k)fluoranthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
bis(2-Chloroethoxy)methane	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
bis(2-Chloroethyl)ether	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
bis(2-Ethylhexyl)phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	82 J
Butyl Benzyl Phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Carbazole	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Chrysene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Dibenz(a,h)anthracene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Dibenzofuran	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Diethyl Phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Dimethyl Phthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Di-n-butylphthalate	ug/kg	990 U	990 U	170 J	990 U	990 U	990 U	990 U	89 J	990 U
Di-n-octylphthalate	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U

NOTES:
U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Ta 4
Plant Tissue A Concentrations
Sauget, IL

Analyte	Sample ID Sample Date	SITE Q			SITE R					SITE S
		PL-Q-18 10/09/02	PL-Q-19 10/09/02	PL-Q-20 10/09/02	PL-R-1 10/08/02	PL-R-2 10/08/02	PL-R-3 10/08/02	PL-R-4 10/08/02	PL-R-5 10/08/02	PL-S-1 10/08/02
SVOCs	**Units**									
Fluoranthene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Fluorene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachlorobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachlorobutadiene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachlorocyclopentadiene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Hexachloroethane	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Indeno(1,2,3-cd)pyrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Isophorone	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Naphthalene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Nitrobenzene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
N-Nitroso-di-n-propylamine	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
N-Nitrosodiphenylamine	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Pentachlorophenol	ug/kg	100 U	51 U	51 U	51 U	51 U	51 U	51 U	51 U	51 U
Phenanthrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Phenol	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Pyrene	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
Pesticides										
4,4'-DDD	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	1.1 J	9.9 U	9.9 U	9.9 U
4,4'-DDE	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
4,4'-DDT	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	1.6 J	1.5 J	9.9 U	2.3 J	2.2 J	1.5 J
Aldrin	ug/kg	5.1 UJ	5.1 UJ	5.1 UJ	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
alpha-BHC	ug/kg	2.7 J	1.3 J	1.7 J	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
alpha-Chlordane	ug/kg	2.7 J	1.6 J	5.1 UJ	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
beta-BHC	ug/kg	2.2 J	5.1 UJ	5.1 UJ	2.8 J	5.2 J	5.1 U	4.4 J	1.9 J	5.1 U
delta-BHC	ug/kg	5.1 UJ	5.1 UJ	5.1 UJ	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Dieldrin	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	0.92 J	2.1 J	2.9 J	1.6 J	2.7 J	9.9 U
Endosulfan I	ug/kg	5.1 UJ	5.1 UJ	5.1 UJ	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Endosulfan II	ug/kg	9.9 UJ	1.4 J	9.9 UJ	2.6 J	2.5 J	9.9 U	2 J	2.7 J	9.9 U
Endosulfan Sulfate	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	1.4 J	9.9 U	2 J	9.9 U
Endrin	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
Endrin Aldehyde	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
Endrin Ketone	ug/kg	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ	9.9 UJ
gamma-BHC (Lindane)	ug/kg	0.29 J	1.2 J	5.1 UJ	0.79 J	5.1 U	0.99 J	5.1 U	1.7 J	5.8 J
gamma-Chlordane	ug/kg	5.1 UJ	2.9 J	5.1 UJ	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Heptachlor	ug/kg	5.1 UJ	5.1 U	5.1 U	5.1 U	2.3 J	2.3 J	2.4 J	1.4 J	5.1 U
Heptachlor Epoxide	ug/kg	5.1 UJ	5.1 UJ	5.1 UJ	5.1 U	0.52 J	5.1 U	5.1 U	5.1 U	5.1 U
Methoxychlor	ug/kg	51 UJ	51 UJ	51 UJ	51 U	51 U	51 U	51 U	51 U	51 U
Toxaphene	ug/kg	510 UJ	510 UJ	510 UJ	510 U	510 U	510 U	510 U	510 U	510 U
Herbicides										
2,4-D	ug/kg	50 U	76 J	130	34 J	26 J	59	64	44	25 U
2,4-DB	ug/kg	560 J	110	210	25 U	53 J	35 J	87 J	25 U	25 U
2,4,5-T	ug/kg	36 J	19 J	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2,4,5-TP (Silvex)	ug/kg	25 J	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Dalapon	ug/kg	12000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U
Dicamba	ug/kg	120 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U
Dichlorprop	ug/kg	600 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U	300 U
Dinoseb	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
MCPA	ug/kg	14000 J	7700	8100	4800 J	6000 U	6000 U	6000 U	6000 U	5100 J
MCPP	ug/kg	10000 J	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U	6000 U

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Table III-A4
Plant Tissue Analyte Concentrations
Sauget, IL

Analyte	Sample ID / Sample Date	SITE Q			SITE R					SITE S
		PL-Q-18 10/09/03	PL-Q-19 10/09/03	PL-Q-20 10/09/03	PL-R-1 10/08/03	PL-R-2 10/08/03	PL-R-3 10/08/03	PL-R-4 10/08/03	PL-R-5 10/08/03	PL-S-1 10/08/03
PCBs	Units									
Decachlorobiphenyl	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Dichlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Heptachlorobiphenyl	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Hexachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Monochlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nonachlorobiphenyl	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Octachlorobiphenyl	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Pentachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Tetrachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Trichlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PCBs	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Dioxins/Furans										
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	pg/g	1.5 U	3 J	2.5 J	2 U	1.5 U	9.3	1.7 U	29	1.9 U
1,2,3,4,6,7,8-HpCDF	pg/g	0.31 U	0.71 U	0.43 U	0.41 U	0.29 U	1.1 U	0.39 U	2.8 J	0.31 U
1,2,3,4,7,8,9-HpCDF	pg/g	0.1 U	0.092 U	0.1 U	0.1 U	0.08 U	0.19 U	0.1 U	0.14 U	0.12 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	0.12 U	0.13 U	0.15 U	0.15 UJ	0.15 UJ	0.39 UJ	0.17 UJ	0.95 UJ	0.14 UJ
1,2,3,4,7,8-HxCDF	pg/g	0.14 U	0.11 U	0.11 U	0.13 U	0.12 U	0.43 U	0.15 U	0.32 U	0.11 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	0.15 U	0.23 U	0.2 U	0.18 U	0.14 U	0.66 U	0.16 U	1.6 U	0.13 U
1,2,3,6,7,8-HxCDF	pg/g	0.12 U	0.1 U	0.1 U	0.1 U	0.11 U	0.21 U	0.14 U	0.19 U	0.1 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	pg/g	0.17 U	0.18 U	0.27 U	0.15 U	0.13 U	0.68 U	0.15 U	1.5 U	0.15 U
1,2,3,7,8,9-HxCDF	pg/g	0.15 U	0.12 U	0.12 U	0.12 U	0.13 U	0.15 U	0.17 U	0.21 U	0.13 U
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	0.19 U	0.16 U	0.11 U	0.15 U	0.12 U	0.16 U	0.16 U	0.16 U	0.14 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	pg/g	0.35 U	0.25 U	0.19 U	0.28 U	0.27 U	0.29 U	0.36 U	0.79 U	0.35 U
2,3,4,6,7,8-HxCDF	pg/g	0.14 U	0.11 U	0.11 U	0.11 U	0.12 U	0.21 U	0.16 U	0.19 U	0.12 U
2,3,4,7,8-PeCDF	pg/g	0.18 U	0.15 U	0.1 U	0.14 U	0.12 U	0.21 U	0.15 U	0.16 U	0.13 U
2,3,7,8-TCDD	pg/g	0.21 UJ	0.16 UJ	0.1 U	0.12 UJ	0.16 UJ	0.13 UJ	0.17 UJ	0.25 UJ	0.18 UJ
2,3,7,8-Tetrachlorodibenzofuran	pg/g	0.37 UJ	0.23 UJ	0.31 U	0.29 U	0.31 U	0.36 U	0.32 U	0.32 U	0.3 U
OCDD	pg/g	11	31	19	18	12	99	13	140	20
OCDF	pg/g	0.49 U	1.4 U	0.87 U	0.59 U	0.56 U	2.9 U	0.6 U	10	0.92 U
Total HpCDD	pg/g	1.9 U	6.7	5.4	2.9	1.8 U	20	2.5 U	68	1.9 U
Total HpCDF	pg/g	0.31 U	0.98 U	0.73 U	0.41 U	0.38 U	1.2 U	0.39 U	7.8	0.51 U
Total HxCDD	pg/g	0.77 U	0.8 U	1.1 U	1 U	0.77 U	5.3	1.3 U	17	0.66 U
Total HxCDF	pg/g	0.17 U	0.26 U	0.15 U	0.28 U	0.15 U	0.41 U	0.17 U	2.1 U	0.13 U
Total PeCDD	pg/g	0.35 U	0.25 U	0.19 U	0.39 U	0.37 U	1.1 U	0.64 U	2.4 U	0.35 U
Total PeCDF	pg/g	0.3 U	0.22 U	0.29 U	0.26 U	0.3 U	0.66 U	0.29 U	0.52 U	0.26 U
Total TCDD	pg/g	0.21 UJ	0.16 UJ	0.1 U	0.13 UJ	0.42 UJ	0.32 UJ	0.35 UJ	0.47 UJ	0.22 UJ
Total TCDF	pg/g	0.37 UJ	0.23 UJ	0.31 U	0.29 U	0.31 U	0.36 U	0.32 U	0.32 U	0.3 U
Metals										
Aluminum	mg/kg	14 J	32	20	25	14 J	37	12 J	27	9.5 J
Antimony	mg/kg	2 U	2 U	1.8 U	1.8 U	1.8 U	1.8 U	2 U	1.8 U	2 U
Arsenic	mg/kg	1 U	1 U	0.91 U	0.91 U	0.91 U	0.91 U	1 U	0.91 U	1 U
Barium	mg/kg	8.7	32	25	7.8	13	7.1	8.2	11	5.4
Beryllium	mg/kg	0.4 U	0.4 U	0.36 U	0.36 U	0.36 U	0.36 U	0.4 U	0.36 U	0.4 U
Cadmium	mg/kg	0.22 J	0.12 J	0.059 J	0.35 J	0.2 J	0.12 J	0.089 J	0.23 J	0.5 U
Calcium	mg/kg	2200 J	4300 J	4400 J	2100 J	1700 J	1600 J	1800 J	1400 J	1800 J
Chromium	mg/kg	0.19 J	1 U	0.17 J	0.26 J	0.5 J	0.21 J	0.18 J	0.24 J	0.24 J
Cobalt	mg/kg	1 U	1 U	0.91 U	0.91 U	0.91 U	0.91 U	1 U	0.91 U	1 U
Copper	mg/kg	2.2	4.5	1.8 J	2.5	3.5	2.5	2.8	2.8	3.8
Iron	mg/kg	41	67	52	48	38	72	38	60	37
Lead	mg/kg	0.55	0.77	1	7.6 J	4.2 J	2.5 J	2.1 J	3.4 J	0.99 J
Magnesium	mg/kg	920	1300	940	1200	930	1000	930	740	770
Manganese	mg/kg	8.8	22	20	8.7	8.4	9.7	6.7	9.3	6.7
Mercury	mg/kg	0.3 J	0.2 J	0.44 J	1.1	0.91	1.3	2.5	2.1	1.3
Nickel	mg/kg	4 U	4 U	3.6 U	3.6 U	3.6 U	3.6 U	4 U	3.6 U	2.6 J
Potassium	mg/kg	3800	5500	6800	6400 J	6200 J	5300 J	7100 J	6400 J	4000 J
Selenium	mg/kg	1 U	0.67 J	0.91 U	0.91 U	0.91 U	0.91 U	1 U	0.91 U	1 U
Silver	mg/kg	1 U	1 U	0.91 U	0.91 U	0.91 U	0.91 U	1 U	0.91 U	1 U
Sodium	mg/kg	50 U	50 U	50 U	45 U	45 U	45 U	50 U	45 U	50 U
Thallium	mg/kg	1 U	1 U	0.91 U	0.91 U	0.91 U	0.91 U	1 U	0.91 U	1 U
Vanadium	mg/kg	1 U	1 U	0.91 U	0.91 U	0.91 U	0.91 U	1 U	0.91 U	1 U
Zinc	mg/kg	20	24	14	26 J	44 J	20 J	17 J	25 J	17 J

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Ta[illegible] 5
Earthworm Tissu[illegible]e Concentrations
Sa[illegible], IL

Analyte	Site	CONTROL	OFF SITE (Background)			SITE O			SITE P			
	Site	NA	OS-2	OS-3	OS-4	O-1	O-2	O-3	P-1	P-2	P-3	P-4
	Sample ID	#30	#22	#14	#15	#8	#10	#18	#2	#6	#7	#24
	Sample Date	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02
	Percent Lipids	3.3	11	3.6	3.2	5.4	9.2	8.0	1.6	3.4	3.0	5.8
SVOCs	Units											
1,2,4-Trichlorobenzene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
1,2-Dichlorobenzene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
1,3-Dichlorobenzene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
1,4-Dichlorobenzene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2,4,5-Trichlorophenol	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2,4,6-Trichlorophenol	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2,4-Dichlorophenol	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2,4-Dimethylphenol	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2,4-Dinitrophenol	ug/kg	5100 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	5100 U	10000 U	5100 U	10000 U
2,4-Dinitrotoluene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2,6-Dinitrotoluene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2-Chloronaphthalene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2-Chlorophenol	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2-Methylnaphthalene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2-Methylphenol (o-Cresol)	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
2-Nitroaniline	ug/kg	5100 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	5100 U	10000 U	5100 U	10000 U
2-Nitrophenol	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
3,3'-Dichlorobenzidine	ug/kg	2000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	2000 U	4000 U	2000 U	4000 U
3/4-Methylphenol (m&p-Cresol)	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
3-Nitroaniline	ug/kg	5100 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	5100 U	10000 U	5100 U	10000 U
4,6-Dinitro-2-methylphenol	ug/kg	5100 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	5100 U	10000 U	5100 U	10000 U
4-Bromophenyl Phenyl Ether	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
4-Chloro-3-methylphenol	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
4-Chloroaniline	ug/kg	2000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	2000 U	4000 U	2000 U	4000 U
4-Chlorophenyl Phenyl Ether	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
4-Nitroaniline	ug/kg	5100 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	5100 U	10000 U	5100 U	10000 U
4-Nitrophenol	ug/kg	5100 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	5100 U	10000 U	5100 U	10000 U
Acenaphthene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Acenaphthylene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Anthracene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Benzo(a)anthracene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Benzo(a)pyrene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	230 J	2000 U	990 U	2000 U
Benzo(b)fluoranthene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	230 J	2000 U	990 U	2000 U
Benzo(g,h,i)perylene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Benzo(k)fluoranthene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	240 J	2000 U	990 U	2000 U
bis(2-Chloroethoxy)methane	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
bis(2-Chloroethyl)ether	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
bis(2-Ethylhexyl)phthalate	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Butyl Benzyl Phthalate	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Carbazole	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Chrysene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	120 J	2000 U	990 U	2000 U
Dibenzo(a,h)anthracene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Dibenzofuran	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Diethyl Phthalate	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Dimethyl Phthalate	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Di-n-butylphthalate	ug/kg	990 U	300 J	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Di-n-octylphthalate	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U

NOTES:
U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.
NA - Not applicable

Table III-A8
Earthworm Tissue Analyte Concentrations
Newport, IL

Analyte	Site	CONTROL	OFF SITE (Background)			SITE O			SITE P			
	Sample ID	NA	OS-1	OS-3	OS-4	O-1	O-3	O-5	P-1	P-3	P-5	P-4
	Sample Date	030	023	014	010	008	010	018	021	006	007	024
	Percent Lipids	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93
		3.3	11	3.6	3.3	8.4	9.3	8.0	1.6	3.4	3.9	8.8
SVOC's	Units											
Phenanthrene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Pyrene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Hexachlorobenzene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Hexachlorobutadiene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Hexachlorocyclopentadiene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Hexachloroethane	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Isophorone	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Naphthalene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Nitrobenzene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
N-Nitroso-di-n-propylamine	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
N-Nitrosodiphenylamine	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Pentachlorophenol	ug/kg	6.5 J	11 J	7.6 J	200 U	1400 J	48 J	170 J	11 J	17 J	100 U	11 J
Phenanthrene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Phenol	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Pyrene	ug/kg	990 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	990 U	2000 U	990 U	2000 U
Pesticides												
4,4' DDD	ug/kg	20 U	40 U	40 U	40 U	140 J	40 U	40 U	20 U	40 U	20 U	40 U
4,4' DDE	ug/kg	20 U	21 J	8.6 J	40 U	40 U	40 U	40 U	20 U	1.5 J	20 U	40 U
4,4' DDT	ug/kg	20 U	58 J	29 J	40 U	1200 J	26 J	620 J	20 U	1.2 J	4.2 J	220 J
Aldrin	ug/kg	10 U	20 U	20 U	20 U	21 J	20 U	5.9 J	10 U	20 U	10 U	20 U
alpha BHC	ug/kg	10 U	20 U	20 U	20 U	20 U	20 U	20 U	10 U	20 U	10 U	20 U
alpha-Chlordane	ug/kg	10 U	20 U	20 U	20 U	20 U	20 U	20 U	10 U	20 U	10 U	20 U
beta-BHC	ug/kg	10 U	20 U	20 U	20 U	20 U	20 U	20 U	10 U	20 U	10 U	20 U
delta-BHC	ug/kg	10 U	20 U	20 U	2.3 J	51 J	20 U	20 U	4.5 J	4.1 J	4.5 J	20 U
Dieldrin	ug/kg	20 U	5.2 J	40 U	40 U	110 J	36 J	400	2.1 J	6.9 J	20 U	65 J
Endosulfan I	ug/kg	10 U	20 U	1.9 J	20 U	20 U	20 U	1.9 J	10 U	20 U	10 U	20 U
Endosulfan II	ug/kg	20 U	40 U	40 U	40 U	39 J	40 U	40 U	20 U	40 U	20 U	40 U
Endosulfan Sulfate	ug/kg	20 U	40 U	40 U	40 U	40 U	18 J	40 U	20 U	10 J	4.2 J	40 U
Endrin	ug/kg	20 U	40 U	40 U	40 U	40 U	58 J	40 U	20 U	40 U	17 J	40 U
Endrin Aldehyde	ug/kg	20 U	40 U	40 U	4.2 J	40 U	40 U	40 U	20 U	40 U	20 U	40 U
Endrin Ketone	ug/kg	20 U	40 U	40 U	40 U	40 U	40 U	40 U	20 U	40 U	20 U	8 J
gamma-BHC (Lindane)	ug/kg	10 U	20 U	20 U	20 U	18 J	20 U	20 U	10 U	20 U	10 U	20 U
gamma-Chlordane	ug/kg	10 U	4.4 J	5.1 J	4.8 J	20 U	20 U	20 U	10 U	20 U	10 U	20 U
Heptachlor	ug/kg	1.3 J	20 U	20 U	20 U	20 U	20 U	20 U	10 U	20 U	10 U	5.4 J
Heptachlor Epoxide	ug/kg	10 U	20 U	20 U	20 U	20 U	20 U	20 U	10 U	7.8 J	10 U	20 U
Methoxychlor	ug/kg	100 U	17 J	200 U	200 U	200 U	200 U	200 U	10 J	50 J	15 J	18 J
Toxaphene	ug/kg	1000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	1000 U	2000 U	1000 U	2000 U
Herbicides												
2,4 D	ug/kg	25 U	90 U	50 U	100 U	94 J	50 U	56 J	50 U	630	50 U	150 J
2,4 DB	ug/kg	25 U	90 U	50 U	100 U	100 U	50 U	25 U	50 U	50 U	50 U	50 U
2,4,5-T	ug/kg	25 U	26 J	50 U	100 U	100 U	50 U	7.6 J	50 U	50 U	50 U	50 U
2,4,5-TP (Silvex)	ug/kg	25 U	9.4 J	50 U	100 U	100 U	50 U	6.1 J	50 U	50 U	50 U	50 U
Dalapon	ug/kg	6000 U	12000 U	12000 U	24000 U	24000 U	12000 U	6000 U	12000 U	12000 U	12000 U	12000 U
Dicamba	ug/kg	60 U	120 U	120 U	240 U	240 U	120 U	60 U	120 U	120 U	120 U	120 U
Dichlorprop	ug/kg	300 U	600 U	600 U	1200 U	1200 U	600 U	300 U	600 U	600 U	600 U	120 J
Dinoseb	ug/kg	990 U	2000 U	2000 UJ	2000 U	2000 UJ	2000 UJ	2000 U	990 UJ	2000 UJ	990 UJ	2000 U
MCPA	ug/kg	28000 J	41000 J	74000 J	27000 J	40000 J	58000 J	6000 U	29000 J	90000 J	49000 J	79000
MCPP	ug/kg	6000 U	12000 U	12000 U	24000 U	24000 U	12000 U	6000 U	12000 U	12000 U	12000 U	12000 U

NOTES:
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UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined
NA = Not applicable

T[illegible] .5
Earthworm Tiss[illegible] te Concentrations
Sauget, IL

Analyte	Site	CONTROL	OFF SITE (Background)			SITE O			SITE P			
	Sample ID	NA	OS-2	OS-3	OS-4	O-1	O-2	O-3	P-1	P-2	P-3	P-4
		#30	#22	#14	#15	#8	#10	#18	#2	#6	#7	#24
	Sample Date	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02
	Percent Lipids	3.3	11	3.6	3.2	5.4	9.2	8.0	1.6	3.4	3.0	5.8
PCBs	Units											
Decachlorobiphenyl	ug/kg	50 U	100 U	100 U	100 U	100 U	100 U	100 U	50 U	100 U	50 U	100 U
Dichlorobiphenyl	ug/kg	10 U	20 U	20 U	20 U	1500	20 U	220	10 U	20 U	10 U	20 U
Heptachlorobiphenyl	ug/kg	30 U	60 U	60 U	60 U	390	60 U	1300	30 U	60 U	30 U	60 U
Hexachlorobiphenyl	ug/kg	20 U	40 U	22 J	40 U	1300	20 J	3700	20 U	40 U	20 U	60
Monochlorobiphenyl	ug/kg	10 U	20 U	20 U	20 U	20 U	20 U	20 U	10 U	20 U	10 U	20 U
Nonachlorobiphenyl	ug/kg	50 U	100 U	100 U	100 U	100 U	100 U	100 U	50 U	100 U	50 U	100 U
Octachlorobiphenyl	ug/kg	30 U	60 U	60 U	60 U	24 J	60 U	200	30 U	60 U	30 U	60 U
Pentachlorobiphenyl	ug/kg	20 U	40 U	40 U	40 U	6300	160	8200	20 U	40 U	20 U	110
Tetrachlorobiphenyl	ug/kg	20 U	40 U	40 U	40 U	14000	320	13000	20 U	40 U	9 J	40 U
Trichlorobiphenyl	ug/kg	10 U	20 U	20 U	20 U	9100	62	2400	10 U	20 U	10 U	20 U
Total PCBs	ug/kg	50 U	100 U	22	100 U	32614	562	29020	50 U	100 U	9.0	170
Dioxins/Furans												
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	pg/g	54	170	110	51	74000	1600	36000	17	2200	190	50
1,2,3,4,6,7,8-HpCDF	pg/g	0.94 U	33	24	25	7100	250	4900	2.5 U	230	40	13
1,2,3,4,7,8,9-HpCDF	pg/g	1.3 U	2.5 U	1.1 U	1.4 U	400 J	19	300 J	0.86 U	14	1.4 U	1.4 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	2.3 U	2.2 U	0.98 U	1.2 U	140 J	7 J	110 J	0.85 U	7.1 J	0.98 U	1.9 U
1,2,3,4,7,8-HxCDF	pg/g	0.74 U	5.3 J	1.9 U	0.75 UJ	300	14	240	0.43 U	5 J	4.2 U	2.8 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	3.9 U	5.3 J	14	19	1200	59	1500	0.77 U	45	3.4 U	2.1 U
1,2,3,6,7,8-HxCDF	pg/g	0.63 U	2.5 U	0.91 UJ	0.64 UJ	49 J	3.4 U	48 J	0.36 UJ	2.1 UJ	0.86 UJ	0.67 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	pg/g	11	3.5 U	3.2 U	2.7 U	230	15	210	0.77 U	19	1.5 U	1.7 U
1,2,3,7,8,9-HxCDF	pg/g	0.87 U	1 U	0.52 U	0.88 UJ	1.9 U	1.4 U	2 U	0.5 U	0.97 U	0.44 U	0.93 U
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	1.2 U	1.8 U	0.44 U	0.42 U	60	2.2 U	100	0.64 U	0.79 U	0.67 U	1.4 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	pg/g	3.1 U	2.3 U	1 U	0.76 U	31	1.9 U	56	1.1 U	5.3 J	1.1 U	2.3 U
2,3,4,6,7,8-HxCDF	pg/g	0.74 U	1.4 U	0.44 U	0.75 UJ	51	9.7 J	36	0.43 U	1.7 U	0.38 U	0.79 U
2,3,4,7,8-PeCDF	pg/g	1.2 U	1.6 U	0.44 U	0.42 U	170	3.5 U	220	0.63 U	0.78 U	0.66 U	1.4 U
2,3,7,8-TCDD	pg/g	0.82 U	1 J	0.37 U	0.31 U	31	2.5	84	0.53 U	1.3 J	0.55 U	0.87 U
2,3,7,8-Tetrachlorodibenzofuran	pg/g	0.65 U	2.5	0.91 U	0.26 U	180 J	7.6	450 J	0.38 U	0.73 U	0.42 U	1.6 J
OCDD	pg/g	1700	2500	1000	240	1300000 J	23000	450000 J	250	51000	2400	600
OCDF	pg/g	1.4 U	130	62	27	100000	1100	21000	16 J	1800	300	60
Total HpCDD	pg/g	130	340	220	89	150000	3300	71000	34	4500	350	94
Total HpCDF	pg/g	1.3 U	100	65	61	39000	1300	24000	6.6	1200	140	44
Total HxCDD	pg/g	60	38	73	71	5300	130	4600	0.85 U	190	6	6.1
Total HxCDF	pg/g	0.87 U	27	16	5.7 J	5500	210	5100	0.67 U	150	8.5	12
Total PeCDD	pg/g	12	7.1	31	4.9 U	2300	14	840	1.1 U	5.3	1.1 U	2.3 U
Total PeCDF	pg/g	1.2 U	8	2 U	0.48 U	1600	5.6	1900	0.66 U	7.7	0.67 U	3.5
Total TCDD	pg/g	8	19	110	9	760	7.8	580	0.53 U	28	0.96 U	3.8
Total TCDF	pg/g	0.65 U	34	3.3	0.26 U	3200 J	38	4200 J	0.38 U	3.8	0.42 U	10
Metals												
Aluminum	mg/kg	230	1200	420 J	220 J	520 J	850 J	960 J	1600 J	660 J	510 J	680
Antimony	mg/kg	2 U	0.42 J	1.8 U	2 U	2 U	2 U	2 U	0.47 J	1.8 U	0.52 J	2 UJ
Arsenic	mg/kg	2.8	5.9	5.5	5.9	5.4	5	6.3	11	6.4	12	4.9
Barium	mg/kg	3.5	33	14	8.3	8.3	12	16	33	16	16	10
Beryllium	mg/kg	0.4 U	0.4 U	0.36 U	0.4 U	0.4 U	0.4 U	0.4 U	0.47	0.36 U	0.31 J	0.4 U
Cadmium	mg/kg	0.19 J	2.1	1.5	0.89	1.6	1.3	2.6	1.2	1.4	1.4	1.3
Calcium	mg/kg	980	940	960	910	1100	1900	1200	2800	2200	1100	1900
Chromium	mg/kg	0.37 J	2.3	0.94	1 U	1 U	1.7	1.7	11	1.6	2.3	1.6
Cobalt	mg/kg	0.69 J	1.9	1.5	1.3	1.7	1.8	1.9	5.9	1.9	3.7	1.8
Copper	mg/kg	1.4 J	30	7.9	2	8.9	7.7	9.1	14	7.4	13	5.6
Iron	mg/kg	210	2300	1100	490	890	1700	1900	6800	1400	830	1300
Lead	mg/kg	0.73 U	23	4.4	2.5	2.6	2.9	3.9	15	14	12	8.5
Magnesium	mg/kg	440	480	360	300	380	910	560	300	480	170	940
Manganese	mg/kg	5.2	60	29	13	38	54	52	91	41	7.8	41
Mercury	mg/kg	0.016 J	0.096	0.047 J	0.03 J	0.32 J	0.076 J	0.42 J	0.017 J	0.055 J	0.04 J	0.071
Nickel	mg/kg	4 U	4.7	1.5 J	4 U	1.5 J	2.1 J	2.2 J	18	2.2 J	6.4	1.6 J
Potassium	mg/kg	870	1400	1200	1200	1400	1300	1400	1100	1200	1200	1300
Selenium	mg/kg	1 UJ	1 UJ	0.53 J	1 UJ	1 UJ	1 UJ	0.73 J	2.2 J	0.55 J	0.91 J	1 UJ
Silver	mg/kg	1 U	0.27 J	0.91 U	1 U	1 U	1 U	1 U	1 U	0.91 U	1 U	1 U
Sodium	mg/kg	490	570	610	620	690	640	650	530	600	590	590
Thallium	mg/kg	1 U	1 U	0.91 U	1 U	1 U	1 U	1 U	1 U	0.91 U	1 U	1 U
Vanadium	mg/kg	0.59 J	3.9	1.5	0.75 J	1.6	3.1	3.2	18	2.7	4.9	3
Zinc	mg/kg	11 J	86 J	52 J	18 J	35 J	31 J	42 J	92 J	63 J	98 J	40 J

NOTES:
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UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.
NA - Not applicable

Table III-A8
Earthworm Tissue Analyte Concentrations
Rouget, IL

Analyte	Site Sample ID Sample Date Percent Lipids	SITE Q Q-9 020 11/18/03 8.2	Q-10 021 11/18/03 6.2	Q-11 03 11/18/03 2.6	Q-12 020 11/18/03 9.4	Q-21 (Dup of Q-12) 09 11/18/03 1.4	Q-13 023 11/18/03 6.6	Q-14 026 11/18/03 19	Q-15 01 11/18/03 3.3	Q-16 013 11/18/03 4.2	Q-17 05 11/18/03 2.4
SVOCs	**Units**										
1,2,4-Trichlorobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
1,2-Dichlorobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
1,3-Dichlorobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
1,4-Dichlorobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2,4,5-Trichlorophenol	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2,4,6-Trichlorophenol	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2,4-Dichlorophenol	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2,4-Dimethylphenol	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2,4-Dinitrophenol	ug/kg	10000 U	10000 U	10000 U	10000 U	5100 U	5100 U	10000 U	5100 U	10000 U	5100 U
2,4-Dinitrotoluene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2,6-Dinitrotoluene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2-Chloronaphthalene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2-Chlorophenol	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2-Methylnaphthalene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2-Methylphenol (o-Cresol)	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
2-Nitroaniline	ug/kg	10000 U	10000 U	10000 U	10000 U	5100 U	5100 U	10000 U	5100 U	10000 U	5100 U
2-Nitrophenol	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
3,3'-Dichlorobenzidine	ug/kg	4000 U	4000 U	4000 U	4000 U	2000 U	2000 U	4000 U	2000 U	4000 U	2000 U
3/4-Methylphenol (m/p-Cresol)	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
3-Nitroaniline	ug/kg	10000 U	10000 U	10000 U	10000 U	5100 U	5100 U	10000 U	5100 U	10000 U	5100 U
4,6-Dinitro-2-methylphenol	ug/kg	10000 U	10000 U	10000 U	10000 U	5100 U	5100 U	10000 U	5100 U	10000 U	5100 U
4-Bromophenyl Phenyl Ether	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
4-Chloro-3-methylphenol	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
4-Chloroaniline	ug/kg	4000 U	4000 U	4000 U	4000 U	2000 U	2000 U	4000 U	2000 U	4000 U	2000 U
4-Chlorophenyl Phenyl Ether	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
4-Nitroaniline	ug/kg	10000 U	10000 U	10000 U	10000 U	5100 U	5100 U	10000 U	5100 U	10000 U	5100 U
4-Nitrophenol	ug/kg	10000 U	10000 U	10000 U	10000 U	5100 U	5100 U	10000 U	5100 U	10000 U	5100 U
Acenaphthene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Acenaphthylene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Anthracene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Benzo(a)anthracene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Benzo(a)pyrene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	120 J	2000 U	990 U
Benzo(b)fluoranthene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	170 J	2000 U	990 U
Benzo(g,h,i)perylene	ug/kg	2000 U	120 J	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Benzo(k)fluoranthene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	120 J	2000 U	990 U
bis(2-Chloroethoxy)methane	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
bis(2-Chloroethyl)ether	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
bis(2-Ethylhexyl)phthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Butyl Benzyl Phthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Carbazole	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Chrysene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	240 J	2000 U	990 U
Dibenzo(a,h)anthracene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Dibenzofuran	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Diethyl Phthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Dimethyl Phthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Di-n-butylphthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Di-n-octylphthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	250 J	2000 U	990 U

NOTES:
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NA - Not applicable

T 5
Earthworm Tiss ..yte Concentrations
Sauget, IL

Analyte	Site Sample ID Sample Date Percent Lipids	SITE Q									
		Q-9 #25 11/18/02 5.2	Q-10 #21 11/18/02 6.2	Q-11 #3 11/18/02 2.6	Q-12 #20 11/18/02 9.4	Q-21 (Dup of Q-12) #9 11/18/02 1.6	Q-13 #23 11/18/02 6.6	Q-14 #26 11/18/02 19	Q-15 #1 11/18/02 3.2	Q-16 #13 11/18/02 4.2	Q-17 #5 11/18/02 3.4
SVOCs	**Units**										
Fluoranthene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Fluorene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Hexachlorobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Hexachlorobutadiene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Hexachlorocyclopentadiene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Hexachloroethane	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Indeno(1,2,3-cd)pyrene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Isophorone	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Naphthalene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Nitrobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
N-Nitroso-di-n-propylamine	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
N-Nitrosodiphenylamine	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Pentachlorophenol	ug/kg	14 J	15 J	32 J	200 U	100 U	10 J	11 J	14 J	16 J	12 J
Phenanthrene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Phenol	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Pyrene	ug/kg	2000 U	2000 U	2000 U	2000 U	990 U	990 U	2000 U	990 U	2000 U	990 U
Pesticides											
4,4'-DDD	ug/kg	40 U	40 U	40 U	40 U	20 U	40 U	40 U	20 U	40 U	20 U
4,4'-DDE	ug/kg	40 U	4.8 J	40 U	40 U	20 U	40 U	180 J	20 U	40 U	2.4 J
4,4'-DDT	ug/kg	40 U	29 J	40 U	750 J	370 J	720 J	400 J	20 U	40 U	2.5 J
Aldrin	ug/kg	20 U	20 U	20 U	20 U	10 U	20 U	20 U	10 U	20 U	10 U
alpha-BHC	ug/kg	20 U	20 U	20 U	20 U	10 U	1.8 J	20 U	10 U	5.1 J	10 U
alpha-Chlordane	ug/kg	20 U	20 U	20 U	20 U	10 U	51 J	20 U	10 U	20 U	10 U
beta-BHC	ug/kg	20 U	20 U	20 U	20 U	10 U	47 J	20 U	10 U	20 U	10 U
delta-BHC	ug/kg	20 U	20 U	7 J	12 J	3.3 J	20 U	20 U	6.3 J	20 U	1.1 J
Dieldrin	ug/kg	12 J	5.4 J	100 J	400	210	260	300	170	5.4 J	2.1 J
Endosulfan I	ug/kg	20 U	20 U	20 U	20 U	10 U	20 U	20 U	10 U	20 U	10 U
Endosulfan II	ug/kg	40 U	40 U	40 U	40 U	20 U	40 U	40 U	20 U	40 U	20 U
Endosulfan Sulfate	ug/kg	40 U	40 U	40 U	40 U	20 U	40 U	40 U	20 U	14 J	2.7 J
Endrin	ug/kg	40 U	40 U	40 U	40 U	20 U	40 U	40 U	20 U	40 U	20 U
Endrin Aldehyde	ug/kg	40 U	40 U	40 U	40 U	20 U	40 U	40 U	20 U	40 U	20 U
Endrin Ketone	ug/kg	14 J	16 J	40 U	40 U	20 U	40 U	40 U	20 U	40 U	20 U
gamma-BHC (Lindane)	ug/kg	20 U	20 U	20 U	20 U	10 U	20 U	20 U	10 U	20 U	10 U
gamma-Chlordane	ug/kg	20 U	20 U	20 U	20 U	10 U	20 U	20 U	10 U	20 U	10 U
Heptachlor	ug/kg	2.8 J	20 U	20 U	20 U	10 U	20 U	20 U	10 U	20 U	10 U
Heptachlor Epoxide	ug/kg	20 U	20 U	20 U	20 U	10 U	20 U	20 U	10 U	20 U	10 U
Methoxychlor	ug/kg	12 J	68 J	200 U	200 U	100 U	200 U	200 U	100 U	200 U	5.2 J
Toxaphene	ug/kg	2000 U	2000 U	2000 U	2000 U	1000 U	2000 U	2000 U	1000 U	2000 U	1000 U
Herbicides											
2,4-D	ug/kg	140 J	50 U	50 U	100 U	50 U	25 U	50 U	180 J	82 J	100 J
2,4-DB	ug/kg	50 U	50 U	50 U	100 U	50 U	25 U	50 U	25 U	25 R	25 U
2,4,5-T	ug/kg	50 U	50 U	50 U	100 U	50 U	25 U	50 U	25 U	25 R	25 U
2,4,5-TP (Silvex)	ug/kg	50 U	50 U	50 U	100 U	50 U	25 U	50 U	25 U	18 J	25 U
Dalapon	ug/kg	12000 U	12000 U	12000 U	24000 U	12000 U	6000 U	12000 U	6000 U	6000 R	6000 U
Dicamba	ug/kg	120 U	120 U	120 U	240 U	120 U	60 U	120 U	60 U	60 R	60 U
Dichlorprop	ug/kg	600 U	600 U	600 U	1200 U	600 U	300 U	600 U	300 U	300 R	300 U
Dinoseb	ug/kg	2000 U	2000 U	2000 UJ	2000 UJ	990 UJ	990 U	2000 U	990 UJ	2000 UJ	990 UJ
MCPA	ug/kg	85000 J	91000 J	67000 J	32000 J	54000	41000 J	12000 U	9200 J	6000 R	9200 J
MCPP	ug/kg	12000 U	12000 U	12000 U	24000 U	12000 U	6000 U	12000 U	6000 U	6000 R	6000 U

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NA - Not applicable

Table III-A8
Earthworm Tissue Analyte Concentrations
Nauget, IL

Analyte	Site Sample ID Sample Date Percent Lipids	SITE Q Q-9 020 11/18/03 8.3	Q-10 021 11/18/03 6.3	Q-11 03 11/18/03 3.6	Q-12 020 11/18/03 9.4	Q-21 (Dup of Q-12) 09 11/18/03 1.6	Q-13 023 11/18/03 6.6	Q-14 024 11/18/03 19	Q-15 01 11/18/03 3.3	Q-16 013 11/18/03 4.3	Q-17 09 11/18/03 3.4
PCBs	**Units**										
Dichlorobiphenyl	ug/kg	100 U	100 U	100 U	100 U	50 U	50 U	100 U	50 U	100 U	50 U
Trichlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	10 U	10 U	20 U	10 U	20 U	10 U
Tetrachlorobiphenyl	ug/kg	60 U	60 U	110	1300	560	75	60 U	1100	60 U	30 U
Pentachlorobiphenyl	ug/kg	75	40 U	670	4400	1800	250	120	2700	66	20 U
Hexachlorobiphenyl	ug/kg	20 U	20 U	30 U	20 U	10 U	10 U	20 U	10 U	20 U	10 U
Heptachlorobiphenyl	ug/kg	100 U	100 U	100 U	100 U	50 U	50 U	100 U	50 U	100 U	50 U
Octachlorobiphenyl	ug/kg	60 U	60 U	60 U	140	33	30 U	60 U	160	60 U	30 U
Nonachlorobiphenyl	ug/kg	40 U	40 U	3300	7400	2700	630	790	3100	40 U	20 U
Decachlorobiphenyl	ug/kg	40 U	40 U	3400	3500	1200	500	450	1000	40 U	20 U
Total PCBs	ug/kg	75	100 U	7940	16870	6343	1585	1360	8074	66	50 U
Dioxins/Furans											
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	pg/g	39	17	190	190	54	130	170	37	21	28
1,2,3,4,6,7,8-HpCDF	pg/g	6.2 J	5.8 U	30	37	13	22	38	6.5 J	5.1 J	5.4 J
1,2,3,4,7,8,9-HpCDF	pg/g	1.2 U	1.3 U	1.9 U	5.9 J	1.3 U	2 U	2.7 U	0.68 U	0.73 U	0.88 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	1.4 U	1.2 U	0.99 U	2.9 U	0.82 UJ	1.2 U	1.9 U	0.62 U	0.58 U	0.88 U
1,2,3,4,7,8-HxCDF	pg/g	0.99 U	0.74 U	4.1 U	16	5 J	5.3 J	4.7 U	2.6 U	1.3 U	0.8 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	1.3 U	1.1 U	21	13	4.7 U	6.7 J	15	1.4 U	1.1 U	0.9 U
1,2,3,6,7,8-HxCDF	pg/g	0.61 U	0.63 U	1.7 UJ	6.8 J	2.8 UJ	1.5 U	2.7 U	0.82 UJ	0.49 UJ	0.3 UJ
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	pg/g	1.3 U	1.1 U	6 J	6.5 J	2.5 UJ	1.7 U	6.5 J	0.56 U	1.1 U	0.79 U
1,2,3,7,8,9-HxCDF	pg/g	0.84 U	0.87 U	0.73 U	1 U	0.73 U	0.96 U	1 U	0.53 U	0.52 U	0.41 U
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	1 U	0.92 U	2.3 U	14	6 J	3.4 U	2.5 U	0.93 U	0.6 U	0.73 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	pg/g	1.8 U	1.6 U	2.6 U	3 U	1.7 U	2.3 U	2.5 U	1.1 U	0.87 U	1.1 U
2,3,4,6,7,8-HxCDF	pg/g	0.71 U	0.74 U	1 U	4.1 U	2 U	1.4 U	1.9 U	0.45 U	0.44 U	0.35 U
2,3,4,7,8-PeCDF	pg/g	0.99 U	0.91 U	5.1 J	14	5.4 J	5.1 J	5.6 J	1.9 U	0.54 U	0.72 U
2,3,7,8-TCDD	pg/g	0.63 U	0.54 U	0.79 U	1.4 J	0.83 U	2	0.98 U	0.43 U	0.34 U	0.47 U
2,3,7,8-Tetrachlorodibenzofuran	pg/g	0.55 U	0.48 U	12	41	17 J	25	12	7.6	1.6 J	0.9 U
OCDD	pg/g	750	430	3400	2100	630	1700	1900	530	110	490
OCDF	pg/g	28	17	93	110	44	94	120	24	20	27
Total HpCDD	pg/g	86	38	410	380	110	270	310	73	44	65
Total HpCDF	pg/g	22	15	110	120	36	81	120	22	18	25
Total HxCDD	pg/g	3 U	1.6 U	76	87	23	36	75	2.4 U	2.7	3.1
Total HxCDF	pg/g	3.2 U	4.4	46	120	21	61	37	5.9	5.3	8.1
Total PeCDD	pg/g	1.8 U	1.6 U	4.9 U	12	6.7	6.5	4.5 U	1.1 U	0.97 U	1.2 U
Total PeCDF	pg/g	1.1 U	0.96 U	29	150	27	44	30	1.9 U	1.6 U	1.6 U
Total TCDD	pg/g	1.6	8.3	41	70	22	20	27	1.4	3.6	37
Total TCDF	pg/g	1	1.4	87	280	75 J	150	83	32	2.2	1.4
Metals											
Aluminum	mg/kg	830	370	290 J	880 J	350 J	1900	800	520 J	870 J	310 J
Antimony	mg/kg	2 UJ	2 UJ	2 U	2 U	1.8 U	2 UJ	0.42 J	2 U	2 U	1.8 U
Arsenic	mg/kg	4.2	7.3	5.6	5.8	3.4	5.2	5.1	4.1	6.1	5.4
Barium	mg/kg	14	8.7	10	16	8.2	36	17	9.9	17	7
Beryllium	mg/kg	0.4 U	0.4 U	0.4 U	0.4 U	0.36 U	0.4 U	0.4 U	0.4 U	0.4 U	0.36 U
Cadmium	mg/kg	1.2	1.5	0.9	1.5	0.86	1.3	1	1.2	1.1	0.75
Calcium	mg/kg	810	1000	860	1300	690	1500	1400	730	1600	1300
Chromium	mg/kg	1.4	0.8 J	0.7 J	1.9	0.93 U	3.4	1.6	1	1.5	0.77 J
Cobalt	mg/kg	1.5	1.6	1.3	2.1	1.1	1.9	1.7	1.4	1.8	1.4
Copper	mg/kg	4.9	4.5	9.5	5	2.6	6.4	10	3.1	3.6	2
Iron	mg/kg	1400	750	510	1600	620	3200	1400	900	1700	920
Lead	mg/kg	4.1	2	4.4	6.5	3.4	8.4	7.3	2.8	2.8	1.6
Magnesium	mg/kg	340	340	220	500	230	660	480	300	630	460
Manganese	mg/kg	45	26	14	33	18	52	39	14	41	25
Mercury	mg/kg	0.019 J	0.19 UJ	0.018 J	0.022 J	0.01 J	0.014 J	0.017 J	0.026 J	0.027 J	0.018 J
Nickel	mg/kg	1.4 J	4 U	1.2 J	2.5 J	1.2 J	2.8 J	2.1 J	4 U	1.9 J	1.2 J
Potassium	mg/kg	1100	1400	1300	1400	840	1300	1400	1100	1400	1100
Selenium	mg/kg	1 UJ	0.62 J	0.55 J	0.72 J	0.91 UJ	1 UJ	1 UJ	0.67 J	0.53 J	0.45 J
Silver	mg/kg	1 U	1 U	1 U	1 U	0.91 U	1 U	1 U	1 U	1 U	0.91 U
Sodium	mg/kg	570	730	630	700	470	520	670	600	680	570
Thallium	mg/kg	1 U	1 U	1 U	1 U	0.91 U	1 U	1 U	1 U	1 U	0.91 U
Vanadium	mg/kg	2.2	1.2	0.72 J	2.4	0.98	4.7	2.1	1.5	2.4	1.2
Zinc	mg/kg	34 J	34 J	29 J	39 J	22 J	47 J	36 J	26 J	30 J	25 J

NOTES:
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J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.
NA - Not applicable

Earthworm Tiss[illegible] .5 [illegible]yte Concentrations
Sauget, IL

Analyte	Area	SITE Q			SITE R					SITE S
	Sample ID	Q-18	Q-19	Q-20	R-1	R-2	R-3	R-4	R-5	S-1
	Sample Date	#11	#28	#27	#19	#16	#4	#12	#17	#29
	Percent Lipids	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02
		5.2	6.6	6.0	5.4	3.0	2.4	6.6	13	5.4
SVOCs	**Units**									
1,2,4-Trichlorobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
1,2-Dichlorobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
1,3-Dichlorobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
1,4-Dichlorobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2,4,5-Trichlorophenol	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2,4,6-Trichlorophenol	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2,4-Dichlorophenol	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2,4-Dimethylphenol	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2,4-Dinitrophenol	ug/kg	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U
2,4-Dinitrotoluene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2,6-Dinitrotoluene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2-Chloronaphthalene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2-Chlorophenol	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2-Methylnaphthalene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2-Methylphenol (o-Cresol)	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
2-Nitroaniline	ug/kg	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U
2-Nitrophenol	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3,3'-Dichlorobenzidine	ug/kg	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U
3/4-Methylphenol (m&p-Cresol)	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3-Nitroaniline	ug/kg	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U
4,6-Dinitro-2-methylphenol	ug/kg	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U
4-Bromophenyl Phenyl Ether	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-Chloro-3-methylphenol	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-Chloroaniline	ug/kg	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U	4000 U
4-Chlorophenyl Phenyl Ether	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
4-Nitroaniline	ug/kg	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U
4-Nitrophenol	ug/kg	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U	10000 U
Acenaphthene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Acenaphthylene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Anthracene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Benzo(a)anthracene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Benzo(a)pyrene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Benzo(b)fluoranthene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Benzo(g,h,i)perylene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Benzo(k)fluoranthene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
bis(2-Chloroethoxy)methane	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
bis(2-Chloroethyl)ether	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
bis(2-Ethylhexyl)phthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Butyl Benzyl Phthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Carbazole	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Chrysene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Dibenzo(a,h)anthracene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Dibenzofuran	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Diethyl Phthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Dimethyl Phthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Di-n-butylphthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Di-n-octylphthalate	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U

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NA - Not applicable

Table III-A8
Earthworm Tissue Analyte Concentrations
Kouget, IL

Analyte	Area	SITE Q			SITE R					SITE E
	Sample ID	Q-18	Q-19	Q-20	R-1	R-2	R-3	R-4	R-5	E-1
	Sample Date	011	020	027	019	016	04	013	017	029
	Percent Lipids	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93	11/18/93
		5.3	6.6	6.0	5.4	3.0	3.4	6.6	13	1.4
SVOCs	Units									
Fluoranthene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Fluorene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Hexachlorobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Hexachlorobutadiene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Hexachlorocyclopentadiene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Hexachloroethane	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Indeno(1,2,3-cd)pyrene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Isophorone	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Naphthalene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Nitrobenzene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
N-Nitroso-di-n-propylamine	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
N-Nitrosodiphenylamine	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Pentachlorophenol	ug/kg	200 U	100 U	12 J	200 U	200 U	200 U	8.8 J	200 U	100 U
Phenanthrene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Phenol	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Pyrene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Pesticides										
4,4' DDD	ug/kg	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U
4,4'-DDE	ug/kg	40 U	5.1 J	3.6 J	40 U	40 U	40 U	40 U	40 U	4.4 J
4,4'-DDT	ug/kg	14 J	40 U	40 U	40 U	5.7 J	13 J	40 U	6.8 J	40 U
Aldrin	ug/kg	20 U	20 U	20 U	20 U	20 U	2.6 J	20 U	20 U	20 U
alpha-BHC	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	10 J	20 U
alpha-Chlordane	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
beta-BHC	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
delta-BHC	ug/kg	6 J	20 U	20 U	6.5 J	17 J	20 U	20 U	11 J	20 U
Dieldrin	ug/kg	40 U	5.7 J	3.4 J	6 J	40 U	2.9 J	40 U	40 U	4.5 J
Endosulfan I	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Endosulfan II	ug/kg	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U
Endosulfan Sulfate	ug/kg	40 U	5.9 J	40 U	6.1 J	40 U	40 U	40 U	6.7 J	40 U
Endrin	ug/kg	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U
Endrin Aldehyde	ug/kg	40 U	40 U	40 U	40 U	4.4 J	40 U	40 U	40 U	40 U
Endrin Ketone	ug/kg	40 U	40 U	40 U	40 U	40 U	3.1 J	40 U	40 U	40 U
gamma-BHC (Lindane)	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
gamma-Chlordane	ug/kg	20 U	2.4 J	20 U	20 U	20 U	4.2 J	20 U	20 U	20 U
Heptachlor	ug/kg	20 U	20 U	6.3 J	20 U	8.3 J	20 U	20 U	20 U	20 U
Heptachlor Epoxide	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Methoxychlor	ug/kg	23 J	24 J	200 U	7.8 J	200 U	14 J	200 U	15 J	200 U
Toxaphene	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Herbicides										
2,4-D	ug/kg	100 U	50 U	50 U	110 J	100 U	100 U	100 U	100 U	50 U
2,4-DB	ug/kg	100 U	50 U	50 U	100 U	100 U	100 U	100 U	100 U	50 U
2,4,5-T	ug/kg	100 U	20 J	50 U	100 U	100 U	100 U	100 U	100 U	50 U
2,4,5-TP (Silvex)	ug/kg	100 U	50 U	50 U	100 U	100 U	100 U	100 U	100 U	50 U
Dalapon	ug/kg	24000 U	12000 U	12000 U	24000 U	24000 U	24000 U	24000 U	24000 U	12000 U
Dicamba	ug/kg	240 U	120 U	120 U	240 U	240 U	240 U	240 U	240 U	120 U
Dichlorprop	ug/kg	1200 U	600 U	600 U	1200 U	1200 U	1200 U	1200 U	1200 U	600 U
Dinoseb	ug/kg	2000 UJ	2000 U	2000 U	2000 U	2000 U	2000 UJ	2000 UJ	2000 U	2000 U
MCPA	ug/kg	43000 J	12000 U	54000	20000 J	32000 J	22000 J	42000 J	29000 J	80000 J
MCPP	ug/kg	24000 U	12000 U	12000 U	24000 U	24000 U	24000 U	24000 U	24000 U	12000 U

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NA - Not applicable

Ta[illegible] 3
Earthworm Tissu[illegible]te Concentrations
Sauget, IL

Analyte	Area	SITE Q			SITE R					SITE S
	Sample ID	Q-18 #11	Q-19 #28	Q-20 #27	R-1 #19	R-2 #16	R-3 #4	R-4 #12	R-5 #17	S-1 #29
	Sample Date	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02	11/18/02
	Percent Lipids	5.2	6.6	6.0	5.4	3.0	2.4	6.6	13	5.4
PCBs	Units									
Decachlorobiphenyl	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Dichlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Heptachlorobiphenyl	ug/kg	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U
Hexachlorobiphenyl	ug/kg	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U
Monochlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Nonachlorobiphenyl	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Octachlorobiphenyl	ug/kg	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U	60 U
Pentachlorobiphenyl	ug/kg	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U
Tetrachlorobiphenyl	ug/kg	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U
Trichlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Total PCBs	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Dioxins/Furans										
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	pg/g	38	32	21	8.8 J	8.2 J	8.5 J	4.7 U	4.8 U	78
1,2,3,4,6,7,8-HpCDF	pg/g	6.5 J	6 J	6 J	1.4 U	1.1 U	1.1 U	1.6 U	0.82 U	9.9 J
1,2,3,4,7,8,9-HpCDF	pg/g	1.5 U	1.2 U	1.4 U	0.69 U	0.64 U	0.81 U	2.1 U	0.52 U	1.8 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	1.2 U	1.3 U	1.8 U	1 UJ	0.61 U	0.8 U	1.4 U	0.48 U	2.1 U
1,2,3,4,7,8-HxCDF	pg/g	0.94 U	0.82 U	1.1 U	0.47 U	0.33 U	0.46 U	0.83 U	0.24 U	1.1 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	1.6 U	1.2 U	1.6 U	0.94 U	0.56 U	0.72 U	1.3 U	0.43 U	1.9 U
1,2,3,6,7,8-HxCDF	pg/g	0.8 U	0.69 U	0.9 U	0.4 UJ	0.28 UJ	0.39 UJ	0.7 U	0.2 UJ	0.94 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	pg/g	1.1 U	1.2 U	1.6 U	0.94 UJ	0.55 U	0.72 U	1.3 U	0.43 U	1.9 U
1,2,3,7,8,9-HxCDF	pg/g	1.1 U	0.96 U	1.2 U	0.55 U	0.39 U	0.54 U	0.97 U	0.28 U	1.3 U
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	0.69 U	1.6 U	1.7 UJ	0.64 U	0.4 U	0.61 U	0.53 U	0.33 U	1.4 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	pg/g	1.3 U	2.5 U	3 U	1.4 U	0.63 U	1 U	0.98 U	0.57 U	2.6 U
2,3,4,6,7,8-HxCDF	pg/g	0.94 U	0.81 U	1.1 U	0.47 U	0.33 U	0.46 U	0.82 U	0.24 U	1.1 U
2,3,4,7,8-PeCDF	pg/g	0.68 U	1.6 U	1.7 UJ	0.63 U	0.39 U	0.6 U	0.52 U	0.33 U	1.4 U
2,3,7,8-TCDD	pg/g	0.48 U	0.77 UJ	0.75 UJ	0.38 U	0.37 U	0.55 U	0.41 U	0.26 U	1.6 J
2,3,7,8-Tetrachlorodibenzofuran	pg/g	0.88 U	0.87 UJ	0.89 UJ	0.47 UJ	0.71 U	0.45 U	0.29 U	0.24 U	0.55 U
OCDD	pg/g	840	470	330	420	280	310	140	210	2400
OCDF	pg/g	35	25	25	5.4 U	3.8 U	3.9 U	2.1 U	2.2 U	41
Total HpCDD	pg/g	82	76	51	18	19	18	5.5	6.2	160
Total HpCDF	pg/g	29	22	26	2.5 U	2.6 U	3.6 U	2.1 U	1.5 U	34
Total HxCDD	pg/g	3.2 U	2.9 U	2.3 U	1.2 U	2 U	1.3 U	1.4 U	1.6 U	4.8 U
Total HxCDF	pg/g	9	4.3 U	5.5	0.99 U	0.8 U	1.5 U	0.97 U	1.3 U	5.2
Total PeCDD	pg/g	1.7 U	2.5 U	3 U	1.4 U	0.9 U	1.2 U	0.98 U	1.4 U	2.6 U
Total PeCDF	pg/g	1.9 U	2.1 U	2.1 UJ	0.64 U	0.58 U	0.61 U	0.57 U	0.41 U	1.5 U
Total TCDD	pg/g	31	4.5 J	13 J	2.5	3.2	0.55 U	0.69 U	0.41 U	3.1
Total TCDF	pg/g	3.1	1.8 J	0.89 UJ	0.47 UJ	0.71 U	0.45 U	0.29 U	0.38 U	0.84 U
Metals										
Aluminum	mg/kg	490 J	470	670	410 J	420 J	430 J	710 J	690 J	790
Antimony	mg/kg	1.8 U	2 U	2 U	1.8 U	2 U	1.8 U	2 U	1.8 U	2 U
Arsenic	mg/kg	5.6	4.7	5.7	4.3	5.6	5.6	5.4	5.1	5.8
Barium	mg/kg	15	10	13	6.5	6.1	5.3	7.8	8.3	13
Beryllium	mg/kg	0.36 U	0.4 U	0.4 U	0.36 U	0.4 U	0.36 U	0.4 U	0.36 U	0.4 U
Cadmium	mg/kg	0.88	0.92	0.88	0.91	0.94	0.67	1.1	0.8	1.7
Calcium	mg/kg	1100	870	920	680	710	670	790	760	930
Chromium	mg/kg	1	0.85 J	1.2	0.91 U	1 U	0.78 J	1.3	1.2	1.6
Cobalt	mg/kg	1.5	1.2	1.6	1.2	1.5	1.4	1.5	1.5	1.8
Copper	mg/kg	2.6	3.2	2.8	2.7	3.1	2.8	3.7	3.3	5.6
Iron	mg/kg	1100	850	1200	780	780	740	1300	1200	1400
Lead	mg/kg	1.9	3.1	2.1	2.4	0.87	0.76	1.6	1.4	3.8
Magnesium	mg/kg	360	300	360	350	320	280	410	380	370
Manganese	mg/kg	39	24	32	34	26	29	33	37	48
Mercury	mg/kg	0.02 J	0.014 J	0.017 J	0.027 J	0.026 J	0.024 J	0.03 J	0.023 J	0.078
Nickel	mg/kg	1.3 J	4 U	4 U	3.6 U	4 U	3.6 U	1.3 J	1.4 J	1.4 J
Potassium	mg/kg	1200	1000	1400	1000	1400	1300	1300	1200	1200
Selenium	mg/kg	0.53 J	1 UJ	1 UJ	0.91 UJ	0.48 J	0.48 J	0.7 J	0.91 UJ	1 UJ
Silver	mg/kg	0.91 U	1 U	1 U	0.91 U	1 U	0.91 U	1 U	0.91 U	1 U
Sodium	mg/kg	620	540	660	550	700	640	660	620	650
Thallium	mg/kg	0.91 U	1 U	1 U	0.91 U	1 U	0.91 U	1 U	0.91 U	1 U
Vanadium	mg/kg	1.6	1.4	1.7	1.3	1.4	1.4	2.3	2.2	2.5
Zinc	mg/kg	30 J	19 J	36 J	21 J	22 J	20 J	29 J	21 J	32 J

NOTES:
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NA - Not applicable

Table III-A6
Insect Tissue Analyte Concentrations
Seaget, IL

Analyte	Sample ID / Sample Date	Raw Data: OFF SITE (Background) IN OB1 10/1993	Raw Data: ON SITE IN P1 10/1993	Raw Data: ON SITE IN Q1 10/1993	Raw Data: ON SITE IN Q3 10/1993	Raw Data: ON SITE IN ROS1 10/1993	Adjusted Data: OFF SITE (Background) IN OB1 10/1993	Adjusted Data: ON SITE IN P1 10/1993	Adjusted Data: ON SITE IN Q1 10/1993	Adjusted Data: ON SITE IN Q3 10/1993	Adjusted Data: ON SITE IN ROS1 10/1993
SVOC's	Units										
1,2,4-Trichlorobenzene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
1,2-Dichlorobenzene	ug/kg	NR	NR	990 UJ	990 UJ	NR	990 U	990 U	990 UJ	990 UJ	990 U
1,3-Dichlorobenzene	ug/kg	NR	NR	990 UJ	990 UJ	NR	990 U	990 U	990 UJ	990 UJ	990 U
1,4-Dichlorobenzene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
2,4,5-Trichlorophenol	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
2,4,6-Trichlorophenol	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
2,4-Dichlorophenol	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
2,4-Dimethylphenol	ug/kg	NR	NR	990 R	990 R	NR	990 R	990 R	990 R	990 R	990 R
2,4-Dinitrophenol	ug/kg	NR	NR	5100 U	5100 U	NR	5100 U	5100 U	5100 U	5100 U	5100 U
2,4-Dinitrotoluene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
2,6-Dinitrotoluene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
2-Chloronaphthalene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
2-Chlorophenol	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
2-Methylnaphthalene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
2-Methylphenol (o-Cresol)	ug/kg	NR	NR	990 UJ	990 UJ	NR	990 U	990 U	990 UJ	990 UJ	990 U
2-Nitroaniline	ug/kg	NR	NR	5100 U	5100 U	NR	5100 U	5100 U	5100 U	5100 U	5100 U
2-Nitrophenol	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
3,3'-Dichlorobenzidine	ug/kg	NR	NR	2000 U	2000 U	NR	2000 U	2000 U	2000 U	2000 U	2000 U
3/4-Methylphenol (m&p-Cresol)	ug/kg	NR	NR	990 UJ	990 UJ	NR	990 U	990 U	990 UJ	990 UJ	990 U
3-Nitroaniline	ug/kg	NR	NR	5100 U	5100 U	NR	5100 U	5100 U	5100 U	5100 U	5100 U
4,6-Dinitro-2-methylphenol	ug/kg	NR	NR	5100 U	5100 U	NR	5100 U	5100 U	5100 U	5100 U	5100 U
4-Bromophenyl Phenyl Ether	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
4-Chloro-3-methylphenol	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
4-Chloroaniline	ug/kg	NR	NR	2000 U	2000 U	NR	2000 U	2000 U	2000 U	2000 U	2000 U
4-Chlorophenyl Phenyl Ether	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
4-Nitroaniline	ug/kg	NR	NR	5100 U	5100 U	NR	5100 U	5100 U	5100 U	5100 U	5100 U
4-Nitrophenol	ug/kg	NR	NR	5100 U	5100 U	NR	5100 U	5100 U	5100 U	5100 U	5100 U
Acenaphthene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Acenaphthylene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Anthracene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Benzo(a)anthracene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Benzo(a)pyrene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Benzo(b)fluoranthene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Benzo(g,h,i)perylene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Benzo(k)fluoranthene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
bis(2-Chloroethoxy)methane	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
bis(2-Chloroethyl)ether	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
bis(2-Ethylhexyl)phthalate	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Butyl Benzyl Phthalate	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Carbazole	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Chrysene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Dibenzo(a,h)anthracene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Dibenzofuran	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Diethyl Phthalate	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Dimethyl Phthalate	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Di-n-butylphthalate	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Di-n-octylphthalate	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U

NOTES:
U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
NR = Not analyzed
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Adjusted data = Chemical analysis was not completed for all fractions of all samples (e.g., PCB homologs for IN OB1). In such cases, an average for each component was calculated from samples where analysis did occur for that fraction (e.g., PCB homologs for IN P1, IN Q1, IN Q2, IN ROS1), using ½ the detection limit for non detected compounds (unless all samples were undetected, in that case the average value was calculated as the average of the detection limits listed and was given a laboratory indicator of "U"). This averaged value was then used in the foodchain modeling equations.

T[illegible] .6
Insect Tissue A[illegible] Concentrations
Sauget, IL

Analyte	Sample ID / Sample Date	Raw Data: OFF SITE (Background) IN OS1 10/10/02	Raw Data: ON SITE IN P1 10/10/02	Raw Data: ON SITE IN Q1 10/10/02	Raw Data: ON SITE IN Q2 10/10/02	Raw Data: ON SITE IN ROS1 10/10/02	Adjusted Data: OFF SITE (Background) IN OS1 10/10/02	Adjusted Data: ON SITE IN P1 10/10/02	Adjusted Data: ON SITE IN Q1 10/10/02	Adjusted Data: ON SITE IN Q2 10/10/02	Adjusted Data: ON SITE IN ROS1 10/10/02
SVOCs	Units										
Fluoranthene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Fluorene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Hexachlorobenzene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Hexachlorobutadiene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Hexachlorocyclopentadiene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Hexachloroethane	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Indeno(1,2,3-cd)pyrene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Isophorone	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Naphthalene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Nitrobenzene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
N-Nitroso-di-n-propylamine	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
N-Nitrosodiphenylamine	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Pentachlorophenol	ug/kg	NR	NR	51 U	51 U	NR	51 U	51 U	51 U	51 U	51 U
Phenanthrene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Phenol	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Pyrene	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
Pesticides											
4,4'-DDD	ug/kg	NR	NR	9.9 U	9.9 U	NR	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
4,4'-DDE	ug/kg	NR	NR	9.9 U	9.9 U	NR	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
4,4'-DDT	ug/kg	NR	NR	9.9 U	9.9 U	NR	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
Aldrin	ug/kg	NR	NR	5.1 U	1.2 J	NR	1.9	1.875	5.1 U	1.2 J	1.9
alpha-BHC	ug/kg	NR	NR	5.1 U	5.1 U	NR	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
alpha-Chlordane	ug/kg	NR	NR	5.1 U	5.1 U	NR	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
beta-BHC	ug/kg	NR	NR	5.1 U	5.1 U	NR	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
delta-BHC	ug/kg	NR	NR	0.44 J	5.1 U	NR	1.5	1.495	0.44 J	5.1 U	1.5
Dieldrin	ug/kg	NR	NR	9.9 U	9.9 U	NR	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
Endosulfan I	ug/kg	NR	NR	5.1 U	5.1 U	NR	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Endosulfan II	ug/kg	NR	NR	9.9 U	9.9 U	NR	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
Endosulfan Sulfate	ug/kg	NR	NR	9.9 U	9.9 U	NR	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
Endrin	ug/kg	NR	NR	9.9 U	9.9 U	NR	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
Endrin Aldehyde	ug/kg	NR	NR	9.9 U	9.9 U	NR	9.9 U	9.9 U	9.9 U	9.9 U	9.9 U
Endrin Ketone	ug/kg	NR	NR	9.9 U	3.4 J	NR	4.2	4.175	9.9 U	3.4 J	4.2
gamma-BHC (Lindane)	ug/kg	NR	NR	5.1 U	0.43 J	NR	1.5	1.49	5.1 U	0.43 J	1.5
gamma-Chlordane	ug/kg	NR	NR	5.1 U	0.64 J	NR	1.6	1.595	5.1 U	0.64 J	1.6
Heptachlor	ug/kg	NR	NR	0.93 J	5.1 U	NR	1.7	1.74	0.93 J	5.1 U	1.7
Heptachlor Epoxide	ug/kg	NR	NR	5.1 U	5.1 U	NR	5.1 U	5.1 U	5.1 U	5.1 U	5.1 U
Methoxychlor	ug/kg	NR	NR	51 U	51 U	NR	51 U	51 U	51 U	51 U	51 U
Toxaphene	ug/kg	NR	NR	510 U	510 U	NR	510 U	510 U	510 U	510 U	510 U
Herbicides											
2,4-D	ug/kg	NR	NR	150	68 J	NR	109	109	150	68 J	109
2,4-DB	ug/kg	NR	NR	28 J	25 U	NR	20	20.25	28 J	25 U	20
2,4,5-T	ug/kg	NR	NR	25 U	25 U	NR	25 U	25 U	25 U	25 U	25 U
2,4,5-TP (Silvex)	ug/kg	NR	NR	25 U	25 U	NR	25 U	25 U	25 U	25 U	25 U
Dalapon	ug/kg	NR	NR	6000 U	6000 U	NR	6000 U	6000 U	6000 U	6000 U	6000 U
Dicamba	ug/kg	NR	NR	60 U	60 U	NR	60 U	60 U	60 U	60 U	60 U
Dichlorprop	ug/kg	NR	NR	300 U	300 U	NR	300 U	300 U	300 U	300 U	300 U
Dinoseb	ug/kg	NR	NR	990 U	990 U	NR	990 U	990 U	990 U	990 U	990 U
MCPA	ug/kg	NR	NR	6000 U	6000 U	NR	6000 U	6000 U	6000 U	6000 U	6000 U
MCPP	ug/kg	NR	NR	6000 U	6000 U	NR	6000 U	6000 U	6000 U	6000 U	6000 U

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Table III-A6
Insect Tissue Analyte Concentrations
Sauget, IL

Analyte	Sample ID / Sample Date	Raw Data: OFF NTK (Background) IN OS1 10/10/93	Raw Data: ON NTK IN P1 10/10/93	Raw Data: ON NTK IN Q1 10/10/93	Raw Data: ON NTK IN Q3 10/10/93	Raw Data: ON NTK IN ROS1 10/10/93	Adjusted Data: OFF NTK (Background) IN OS1 10/10/93	Adjusted Data: ON NTK IN P1 10/10/93	Adjusted Data: ON NTK IN Q1 10/10/93	Adjusted Data: ON NTK IN Q3 10/10/93	Adjusted Data: ON NTK IN ROS1 10/10/93
PCBs	Units										
Decachlorobiphenyl	ug/kg	NR	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Nonachlorobiphenyl	ug/kg	NR	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Heptachlorobiphenyl	ug/kg	NR	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U
Hexachlorobiphenyl	ug/kg	NR	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Monochlorobiphenyl	ug/kg	NR	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Monochlorobiphenyl	ug/kg	NR	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Octachlorobiphenyl	ug/kg	NR	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U
Pentachlorobiphenyl	ug/kg	NR	20 U	20 U	10 J	20 U	10	20 U	20 U	10 J	20 U
Tetrachlorobiphenyl	ug/kg	NR	20 U	20 U	17 J	20 U	12	20 U	20 U	17 J	20 U
Trichlorobiphenyl	ug/kg	NR	10 U	10 U	24	10 U	9.8	10 U	10 U	24	10 U
Total PCBs	ug/kg	NA	50 U	50 U	51	50 U	32	50 U	50 U	51	50 U
Dioxins/Furans											
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	pg/g	6.1 J	8.2 J	6.7 J	39000	600	6.1 J	8.2 J	6.7 J	39000	600
1,2,3,4,6,7,8-HpCDF	pg/g	0.65 U	1.9 U	0.62 U	2000	62	0.65 U	1.9 U	0.62 U	2000	62
1,2,3,4,7,8,9-HpCDF	pg/g	0.32 U	1 U	0.27 U	110	2.2 U	0.32 U	1 U	0.27 U	110	2.2 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	0.21 U	1.8 UJ	0.5 U	55	5.5 J	0.21 U	1.8 UJ	0.5 U	55	5.5 J
1,2,3,4,7,8-HxCDF	pg/g	0.18 U	1.5 U	0.5 U	22	1 U	0.18 U	1.5 U	0.5 U	22	1 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	0.49 U	1.8 U	0.28 U	500	15	0.49 U	1.8 U	0.28 U	500	15
1,2,3,6,7,8-HxCDF	pg/g	0.17 U	1.4 U	0.22 U	19	1.3 U	0.17 U	1.4 U	0.22 U	19	1.3 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	pg/g	0.38 U	1.7 UJ	0.26 U	100	5.9 J	0.38 U	1.7 UJ	0.26 U	100	5.9 J
1,2,3,7,8,9-HxCDF	pg/g	0.2 U	2.1 U	0.28 U	4 U	2 U	0.2 U	2.1 U	0.28 U	4 U	2 U
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	0.28 U	1.6 U	0.4 U	2.7 U	1.3 U	0.28 U	1.6 U	0.4 U	2.7 U	1.3 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	pg/g	0.41 U	2.8 U	0.73 U	14	2.6 U	0.41 U	2.8 U	0.73 U	14	2.6 U
2,3,4,6,7,8-HxCDF	pg/g	0.19 U	1.6 U	0.25 U	14	1.5 U	0.19 U	1.6 U	0.25 U	14	1.5 U
2,3,4,7,8-PeCDF	pg/g	0.27 U	1.6 U	0.38 U	9.8	1.4 U	0.27 U	1.6 U	0.38 U	9.8	1.4 U
2,3,7,8-TCDD	pg/g	0.29 UJ	1.6 UJ	0.39 UJ	1.4 J	1.2 J	0.29 UJ	1.6 UJ	0.39 UJ	1.4 J	1.2 J
2,3,7,8-Tetrachlorodibenzofuran	pg/g	0.65 UJ	1.4 UJ	0.78 UJ	5.3	2.3	0.65 UJ	1.4 UJ	0.78 UJ	5.3	2.3
OCDD	pg/g	77	88	99	230000	7900	77	88	99	230000	7900
OCDF	pg/g	2 U	6.7 U	3.1 U	6500	230	2 U	6.7 U	3.1 U	6500	230
Total HpCDD	pg/g	12	17	13	56000	1300	12	17	13	56000	1300
Total HpCDF	pg/g	1 U	1.9 U	2.4 U	11000	200	1 U	1.9 U	2.4 U	11000	200
Total HxCDD	pg/g	0.99 U	1.8 U	0.46 U	2900	140	0.99 U	1.8 U	0.46 U	2900	140
Total HxCDF	pg/g	0.2 U	2.1 U	0.44 U	1700	56	0.2 U	2.1 U	0.44 U	1700	56
Total PeCDD	pg/g	0.59 U	2.8 U	0.73 U	120	51	0.59 U	2.8 U	0.73 U	120	51
Total PeCDF	pg/g	0.39 U	1.6 U	0.61 U	85	20	0.39 U	1.6 U	0.61 U	85	20
Total TCDD	pg/g	1.2 UJ	1.6 U	0.39 UJ	7.7	25	1.2 UJ	1.6 U	0.39 UJ	7.7	25
Total TCDF	pg/g	0.65 UJ	1.4 UJ	0.78 UJ	58	34	0.65 UJ	1.4 UJ	0.78 UJ	58	34
Metals											
Aluminum	mg/kg	NR	16 J	35	31	15 J	24	16 J	35	31	15 J
Antimony	mg/kg	NR	1.8 U	1.7 U	1.7 U	2 U	1.8 U	1.8 U	1.7 U	1.7 U	2 U
Arsenic	mg/kg	NR	0.91 U	0.83 U	0.83 U	1 U	0.89 U	0.91 U	0.83 U	0.83 U	1 U
Barium	mg/kg	NR	1.8	3.2	1.8	1.9	2.2	1.8	3.2	1.8	1.9
Beryllium	mg/kg	NR	0.36 U	0.33 U	0.33 U	0.4 U	0.36 U	0.36 U	0.33 U	0.33 U	0.4 U
Cadmium	mg/kg	NR	0.81	1.6	0.12 J	0.36 J	0.72	0.81	1.6	0.12 J	0.36 J
Calcium	mg/kg	NR	740 J	750 J	450 J	450 J	598	740 J	750 J	450 J	450 J
Chromium	mg/kg	NR	0.21 J	0.16 J	0.19 J	0.2 J	0.19	0.21 J	0.16 J	0.19 J	0.2 J
Cobalt	mg/kg	NR	0.91 U	0.83 U	0.83 U	1 U	0.89 U	0.91 U	0.83 U	0.83 U	1 U
Copper	mg/kg	NR	14	32	23	20	22	14	32	23	20
Iron	mg/kg	NR	43	74	83	39	60	43	74	83	39
Lead	mg/kg	NR	2	0.39 J	0.75	1	1.0	2	0.39 J	0.75	1
Magnesium	mg/kg	NR	380	450	390	360	395	380	450	390	360
Manganese	mg/kg	NR	4.5	26	6.1	5.5	11	4.5	26	6.1	5.5
Mercury	mg/kg	NR	0.18 J	0.12 J	0.17 J	0.13 J	0.15	0.18 J	0.12 J	0.17 J	0.13 J
Nickel	mg/kg	NR	3.6 U	3.3 U	3.3 U	4 U	3.6 U	3.6 U	3.3 U	3.3 U	4 U
Potassium	mg/kg	NR	3400	3300	3900	3800	3500	3400	3300	3900	3800
Selenium	mg/kg	NR	2.6 U	0.83 U	0.83 U	1 U	1.3 U	2.6 U	0.83 U	0.83 U	1 U
Silver	mg/kg	NR	0.91 U	0.57 J	0.83 U	1 U	0.49	0.91 U	0.57 J	0.83 U	1 U
Sodium	mg/kg	NR	360	290	280	330	315	360	290	280	330
Thallium	mg/kg	NR	0.91 U	0.83 U	0.83 U	1 U	0.89 U	0.91 U	0.83 U	0.83 U	1 U
Vanadium	mg/kg	NR	0.91 U	0.83 U	0.83 U	1 U	0.89 U	0.91 U	0.83 U	0.83 U	1 U
Zinc	mg/kg	NR	87 J	48 J	57 J	56 J	62	87 J	48 J	57 J	56 J

NOTES:
U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
NA - Not applicable
NR - Not analyzed
R = The sample results were rejected due to serious deficiencies in the ability to analyze the sample and to meet quality control criteria. The presence or absence of the analyte could not be determined.

Adjusted data - Chemical analysis was not completed for all fractions of all samples (e.g., PCB homologs for IN OS1). In such cases, an average for each compound was calculated from samples where analysis did occur for that fraction (e.g., PCB homologs for IN P1, IN Q1, IN Q2, IN ROS1), using ½ the detection limit for non-detected compounds (unless all samples were undetected, in that case the average value was calculated as the average of the detection limits listed and was given a laboratory indicator of "U"). This averaged value was then used in the foodchain modeling equations.

River Whole-Body Fi[illegible] Analyte Concentrations
[illegible] IL

Analyte	Sample ID	Whole-Body Fish Tissue - Mississippi River															
		Upstream			Adjacent										Downstream		
		UDA Channel Catfish-Comp#1	UDA Drum Comp	UDA-UE Comp Shad	PDA Channel Catfish-Comp#1	PDA Channel Catfish-Comp#2	PDA Channel Catfish-Comp#3	PDA Comp#1 Shad	PDA Comp#2 Shad	PDA Comp#3 Shad	PDA Drum Comp#1	PDA Drum Comp#2	PDA Drum-Comp#4	DDA Channel Catfish-Comp#1	DDA Comp Shad	DDA Drum-Comp#1
	Sample Date	10/26/00	11/02/00	10/27/00	11/02/00	10/27/00	11/03/00	10/27/00	10/27/00	10/27/00	11/02/00	11/02/00	11/03/00	11/02/00	10/25/00	10/27/00
	Percent Lipids	9.0	10	6.0	6.0	10	7.0	17	15	13	3.0	3.0	13	14	3.0	3.0
SVOCs																	
1,2,4-Trichlorobenzene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
1,2-Dichlorobenzene	ug/kg	510 U	510 U	510 U	510 U	210 J	510 U	190 J	240 J	140 J	510 U	510 U	510 U	510 U	510 U	510 U
1,3-Dichlorobenzene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
1,4-Dichlorobenzene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	130 J	510 U	510 U	510 U	510 U	510 U	510 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
2,4,5-Trichlorophenol	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
2,4,6-Trichlorophenol	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
2,4-Dichlorophenol	ug/kg	510 U	510 U	510 U	510 U	190 J	510 U	180 J	140 J	510 U	510 U	510 U	510 U	510 U	510 U	510 U
2,4-Dimethylphenol	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
2,4-Dinitrophenol	ug/kg	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
2,4-Dinitrotoluene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
2,6-Dinitrotoluene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
2-Chloronaphthalene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
2-Chlorophenol	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
2-Methylnaphthalene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
2-Methylphenol (o-Cresol)	ug/kg	510 U	510 U	110 J	510 U	180 J	510 U	510 U	510 U	140 J	180 J	220 J	510 U	340 J	320 J	290 J
2-Nitroaniline	ug/kg	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
2-Nitrophenol	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
3,3'-Dichlorobenzidine	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
3/4-Methylphenol (m&p-Cresol)	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
3-Nitroaniline	ug/kg	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
4,6-Dinitro-2-methylphenol	ug/kg	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
4-Bromophenyl Phenyl Ether	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
4-Chloro-3-methylphenol	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
4-Chloroaniline	ug/kg	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U	990 U
4-Chlorophenyl Phenyl Ether	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
4-Nitroaniline	ug/kg	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
4-Nitrophenol	ug/kg	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
Acenaphthene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Acenaphthylene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Anthracene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Benzo(a)anthracene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Benzo(a)pyrene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Benzo(b)fluoranthene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Benzo(g,h,i)perylene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Benzo(k)fluoranthene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
bis(2-Chloroethoxy)methane	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
bis(2-Chloroethyl)ether	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
bis(2-Ethylhexyl)phthalate	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Butyl Benzyl Phthalate	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Carbazole	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Chrysene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Dibenzo(a,h)anthracene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Dibenzofuran	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Diethyl Phthalate	ug/kg	510 U	110 J	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Dimethyl Phthalate	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Di-n-butylphthalate	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Di-n-octylphthalate	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Fluoranthene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Fluorene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Hexachlorobenzene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Hexachlorobutadiene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Hexachlorocyclopentadiene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Hexachloroethane	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Indeno(1,2,3-cd)pyrene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Isophorone	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Naphthalene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Nitrobenzene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
N-Nitroso-di-n-propylamine	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
N-Nitrosodiphenylamine	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Pentachlorophenol	ug/kg	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U	2500 U
Phenanthrene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Phenol	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U
Pyrene	ug/kg	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U	510 U

NOTES:
U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Table III-A7
River Whole-Body Fish Tissue Analyte Concentrations
Sauget, IL

Analyte	Sample ID / Sample Date / Percent Lipids	Upstream			Adjacent										Downstream		
		UDA Channel Catfish-Composite 10/20/00 9.0	UDA Drum Comp 11/03/00 10	UDA-UR Comp Bluegill 10/27/00 6.0	PDA Channel Catfish-Composite 11/03/00 6.0	PDA Channel Catfish-Composite 10/27/00 10	PDA Channel Catfish-Composite 11/03/00 7.0	PDA Composite Bluegill 10/27/00 17	PDA Composite Bluegill 10/27/00 19	PDA Composite Bluegill 10/27/00 13	PDA Drum Composite 11/03/00 3.0	PDA Drum Composite 11/03/00 3.0	PDA Drum Composite 11/03/00 13	PDA Channel Catfish-Composite 11/03/00 14	PDA Comp Bluegill 10/27/00 3.0	PDA Drum Composite 10/27/00 3.0
Pesticides																	
4,4'-DDD	ug/kg	50 U	35 U	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	6.6 J	35 U	6.7 J	50 U	35 UJ	12 J
4,4'-DDE	ug/kg	50 U	26 J	13 J	15 J	20 J	34	35 UJ	6.4 J	5.8 J	13 J	8 J	60	16 J	5.2 J	10 J
4,4-DDT	ug/kg	50 U	7.6 J	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	35 U	35 U	15 J	50 U	35 UJ	35 U
Aldrin	ug/kg	50 U	35 U	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	35 U	35 U	35 U	50 U	35 UJ	35 U
alpha-BHC	ug/kg	50 U	35 U	35 U	35 U	35 U	35 U	3.6 J	35 U	35 U	35 U	35 U	35 U	50 U	35 UJ	35 U
alpha-Chlordane	ug/kg	50 U	35 U	35 U	35 U	3.8 J	35 U	35 UJ	35 U	35 U	35 U	35 U	14 J	7.7 J	35 UJ	35 U
beta-BHC	ug/kg	50 U	35 U	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	35 U	35 U	35 U	50 U	35 UJ	35 U
delta-BHC	ug/kg	50 U	35 U	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	35 U	35 U	35 U	50 U	35 UJ	35 U
Dieldrin	ug/kg	50 U	33 J	6.7 J	7.2 J	6.6 J	11 J	35 UJ	4.3 J	35 U	6.7 J	6.2 J	64 J	19 J	14 J	8.8 J
Endosulfan I	ug/kg	50 U	3 J	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	35 U	35 U	4.3 J	50 U	35 UJ	35 U
Endosulfan II	ug/kg	50 U	35 U	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	35 U	35 U	35 U	50 U	35 UJ	35 U
Endosulfan Sulfate	ug/kg	50 U	35 U	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	35 U	35 U	35 U	50 U	12 J	35 U
Endrin	ug/kg	50 U	35 U	35 U	35 U	15 J	35 U	35 UJ	35 U	35 U	35 U	35 U	7.5 J	50 U	35 UJ	35 U
Endrin Aldehyde	ug/kg	50 U	7.4 J	5.1 J	35 U	6.4 J	35 U	35 UJ	35 U	35 U	35 U	35 U	10 J	50 U	35 UJ	6.9 J
Endrin Ketone	ug/kg	50 U	35 U	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	35 U	35 U	35 U	50 U	35 UJ	35 U
gamma-BHC (Lindane)	ug/kg	50 U	35 U	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	35 U	35 U	35 U	50 U	35 UJ	35 U
gamma-Chlordane	ug/kg	50 U	5.8 J	35 U	35 U	35 U	5.4 J	35 UJ	35 U	35 U	35 U	35 U	8.1 J	50 U	35 UJ	3.5 J
Heptachlor	ug/kg	50 U	35 U	35 U	35 U	35 U	35 U	35 UJ	35 U	35 U	35 U	35 U	35 U	50 U	35 UJ	35 U
Heptachlor Epoxide	ug/kg	50 U	35 U	35 U	35 U	5.4 J	35 U	35 UJ	35 U	35 U	35 U	35 U	5.1 J	50 U	35 UJ	35 U
Methoxychlor	ug/kg	200 U	100 U	100 U	100 U	100 U	100 U	100 UJ	100 U	100 U	100 U	100 U	100 U	200 U	100 UJ	100 U
Toxaphene	ug/kg	1700 U	850 U	850 U	850 U	850 U	850 U	850 UJ	850 U	850 U	850 U	850 U	850 U	1700 U	850 UJ	850 U
Herbicides																	
2,4-D	ug/kg	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U
2,4-DB	ug/kg	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U
2,4,5-T	ug/kg	8.3 U	7.1 J	8.3 U	6.1 J	8.3 U	8.3 U	8.3 U	8.3 U	8.3 U	15 J	7.5 J	6.5 U	8.3 U	8.3 U	8.3 U
2,4,5-TP (Silvex)	ug/kg	8.3 U	7.5 J	8.3 U	3.9 J	8.3 U	8.3 U	4.9 J	6.7	8.3 U	6.4 J	5.5 J	8.3 U	8.3 U	3.9 J	4.9 J
Dalapon	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
Dicamba	ug/kg	6.5 J	5.2 J	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Dichloroprop	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Dinoseb	ug/kg	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
MCPA	ug/kg	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
MCPP	ug/kg	2000 U	2000 U	2000 U	2700 J	8600 J	2000 U	3400 J	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U	2000 U
PCBs	Units																
Decachlorobiphenyl	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Dichlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Heptachlorobiphenyl	ug/kg	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U
Hexachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Monochlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Nonachlorobiphenyl	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Octachlorobiphenyl	ug/kg	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U
Pentachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Tetrachlorobiphenyl	ug/kg	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Trichlorobiphenyl	ug/kg	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Total PCBs	ug/kg	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Dioxins/Furans																	
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	pg/g	2.8	0.76 J	8.8	1 J	4.1	4	1.3 J	2 J	7.1	2.5 J	0.99 J	1.2 J	4.3	4.3	0.62 J
1,2,3,4,6,7,8-HpCDF	pg/g	0.06 UJ	0.06 UJ	0.59 J	0.04 UJ	0.08 UJ	0.03 UJ	0.05 UJ	0.07 UJ	1 J	0.08 UJ	0.06 UJ	0.05 UJ	0.04 UJ	0.1 UJ	0.05 UJ
1,2,3,4,7,8,9-HpCDF	pg/g	0.08 UJ	0.08 UJ	0.2 UJ	0.05 UJ	0.1 UJ	0.04 UJ	0.07 UJ	0.09 UJ	0.03 UJ	0.1 UJ	0.07 UJ	0.07 UJ	0.07 UJ	0.2 UJ	0.07 UJ
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	0.33 J	0.07 UJ	0.3 J	0.29 J	0.3 J	0.3 J	0.1 U	0.08 UJ	0.18 J	0.1 UJ	0.08 UJ	0.06 UJ	0.58 J	0.1 UJ	0.06 UJ
1,2,3,4,7,8-HxCDF	pg/g	0.42 J	0.91 J	0.85 J	0.29 UJ	0.43 J	0.28 U	0.25 U	0.84 J	0.46 J	0.45 J	0.2 U	0.47 J	0.71 J	0.37 U	0.14 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	1.3 J	0.16 J	1.8 J	1.1 J	1.2 J	1.1 J	0.45 J	0.82 J	1.1 J	0.84 J	0.43 J	0.18 J	2 J	0.37 J	0.34 J
1,2,3,6,7,8-HxCDF	pg/g	0.19 J	0.26 J	0.08 UJ	0.11 UJ	0.17 J	0.1 UJ	0.07 U	0.05 UJ	0.19 J	0.22 J	0.11 U	0.18 J	0.14 J	0.08 UJ	0.04 UJ
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	pg/g	0.51 J	0.2 J	1.1 J	0.37 J	0.58 J	0.56 J	0.24 J	0.39 J	0.54 J	0.18 J	0.24 J	0.29 J	0.78 J	0.26 J	0.2 J
1,2,3,7,8,9-HxCDF	pg/g	0.07 UJ	0.06 UJ	0.1 UJ	0.04 UJ	0.08 UJ	0.03 UJ	0.06 UJ	0.07 UJ	0.02 UJ	0.08 UJ	0.05 UJ	0.05 UJ	0.05 UJ	0.1 UJ	0.05 UJ
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	0.06 UJ	0.05 UJ	0.09 UJ	0.03 UJ	0.07 UJ	0.03 UJ	0.13 UJ	0.06 UJ	0.43 J	0.07 UJ	0.04 UJ	0.04 UJ	0.04 UJ	0.09 UJ	0.04 UJ
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	pg/g	0.61 J	0.06 UJ	1 J	0.47 J	0.64 J	0.42 J	0.32 J	0.46 J	0.51 J	0.09 UJ	0.06 UJ	0.1 J	1.2 J	0.24 J	0.05 UJ
2,3,4,6,7,8-HxCDF	pg/g	0.27 J	0.15 U	0.3 J	0.13 UJ	0.22 J	0.16 J	0.12 U	0.48 J	0.3 J	0.24 J	0.11 U	0.16 J	0.86 J	0.18 J	0.2 J
2,3,4,7,8-PeCDF	pg/g	0.59 J	0.05 UJ	0.25 J	0.52 J	0.64 J	0.35 J	0.19 J	0.41 J	0.55 J	0.07 UJ	0.04 UJ	0.13 J	1 J	0.21 J	0.04 UJ
2,3,7,8-TCDD	pg/g	0.53	0.17 J	1.1	0.6	0.83	0.37 J	0.28 J	2.4	0.47	0.14 UJ	0.05 UJ	0.14 U	0.96	0.34 J	0.05 UJ
2,3,7,8-Tetrachlorodibenzofuran	pg/g	0.35 J	1 J	2.6	0.35 J	1.2	0.54	0.92	1.9	5.7	0.44 J	0.29 J	1.1 J	0.51	1	0.11 J
HCDD	pg/g	8.1 J	4.8 J	79.7	7.7 J	9	10.6	6.8	15.1	180 J	16.5	5.1	6.8	11.1	119	4.5 J
HCDF	pg/g	0.32 UJ	0.28 U	1.2 U	0.21 UJ	0.23 U	0.23 U	0.72 U	0.35 U	4.3 J	1.5 U	0.1 UJ	0.43 U	0.14 UJ	2.7 J	0.1 U
Total HpCDD	pg/g	3.1	1	13.4	3.2 J	4.3	4.3	1.6	2.6	13.5	3.6	1.2	1.9	4.6	8.5	0.75
Total HpCDF	pg/g	2.2 J	2.9 J	4.5 J	0.83 J	0.09 UJ	2.1 J	0.5 J	13.6 J	6.1 J	6.1 J	2.3 J	1.4 J	5.3 J	3.1 J	8.5 J
Total HxCDD	pg/g	2.6 J	1.3 U	4.9 J	2.2 J	2.6 J	2.4 J	1.3 UJ	1.7 J	3.3 J	2.3 J	1.2 UJ	2.9 J	3.9 J	1.3 UJ	0.96 UJ
Total HxCDF	pg/g	10.9 J	18.4 J	21.2 J	8.3 J	7.7 J	15.3 J	5 J	81.6 J	16 J	27 J	10.6 J	13 J	42 10000 J	12.1 J	38.5 J
Total PeCDD	pg/g	1.9 J	2.2 J	3 J	1.8 J	3.3 J	1.9 J	2.5 J	3.4 J	3.1 J	1.9 J	1.5 J	7.5 J	3.2 J	2.6 J	1.1 J
Total PeCDF	pg/g	47.8 J	49.4 J	125 J	21.5 J	31.4 J	41.8 J	29.9 J	124 J	33.1 J	40.6 J	22.1 J	41.2 J	93.9 J	24.7 J	62 J
Total TCDD	pg/g	0.62 J	0.75 J	1.5	0.87 J	1.1 J	0.68 J	2.8 J	3.3 J	5.9 J	0.38 UJ	0.17 UJ	7.2 J	1.4 J	0.61 J	0.13 UJ
Total TCDF	pg/g	121 J	84.2 J	67 J	45.9 J	60.6 J	105 J	35.1 J	187 J	72.7 J	64.6 J	46 J	79.3 J	216 J	30 J	128 J

NOTES:
U = Not detected at the MDL
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

T[illegible] .8
Pond Whole-Body Fish[illegible] .e Analyte Concentrations
Sauget, IL

Analyte	Sample ID Sample Date Percent Lipids	Whole-Body Fish Tissue - Pond Blue Gill 11/18/02 6.8
SVOCs	**Units**	
1,2,4-Trichlorobenzene	ug/kg	990 U
1,2-Dichlorobenzene	ug/kg	990 U
1,3-Dichlorobenzene	ug/kg	990 U
1,4-Dichlorobenzene	ug/kg	990 U
2,2'-Oxybis(1-Chloropropane)	ug/kg	990 U
2,4,5-Trichlorophenol	ug/kg	990 U
2,4,6-Trichlorophenol	ug/kg	990 U
2,4-Dichlorophenol	ug/kg	990 U
2,4-Dimethylphenol	ug/kg	990 U
2,4-Dinitrophenol	ug/kg	5100 UJ
2,4-Dinitrotoluene	ug/kg	990 U
2,6-Dinitrotoluene	ug/kg	990 U
2-Chloronaphthalene	ug/kg	990 U
2-Chlorophenol	ug/kg	990 U
2-Methylnaphthalene	ug/kg	990 U
2-Methylphenol (o-Cresol)	ug/kg	990 U
2-Nitroaniline	ug/kg	5100 UJ
2-Nitrophenol	ug/kg	990 U
3,3'-Dichlorobenzidine	ug/kg	2000 U
3/4-Methylphenol (m&p-Cresol)	ug/kg	990 U
3-Nitroaniline	ug/kg	5100 UJ
4,6-Dinitro-2-methylphenol	ug/kg	5100 U
4-Bromophenyl Phenyl Ether	ug/kg	990 U
4-Chloro-3-methylphenol	ug/kg	990 U
4-Chloroaniline	ug/kg	2000 U
4-Chlorophenyl Phenyl Ether	ug/kg	990 U
4-Nitroaniline	ug/kg	5100 U
4-Nitrophenol	ug/kg	5100 U
Acenaphthene	ug/kg	990 U
Acenaphthylene	ug/kg	990 U
Anthracene	ug/kg	990 U
Benzo(a)anthracene	ug/kg	990 U
Benzo(a)pyrene	ug/kg	990 U
Benzo(b)fluoranthene	ug/kg	990 U
Benzo(g,h,i)perylene	ug/kg	990 U
Benzo(k)fluoranthene	ug/kg	990 U
bis(2-Chloroethoxy)methane	ug/kg	990 U
bis(2-Chloroethyl)ether	ug/kg	990 U
bis(2-Ethylhexyl)phthalate	ug/kg	990 U
Butyl Benzyl Phthalate	ug/kg	990 U
Carbazole	ug/kg	990 U
Chrysene	ug/kg	990 U
Dibenzo(a,h)anthracene	ug/kg	990 U
Dibenzofuran	ug/kg	990 U
Diethyl Phthalate	ug/kg	990 U
Dimethyl Phthalate	ug/kg	990 U
Di-n-butylphthalate	ug/kg	990 U
Di-n-octylphthalate	ug/kg	990 U

Analyte	Sample ID Sample Date Percent Lipids	Whole-Body Fish Tissue - Pond Blue Gill 11/18/02 6.8
SVOCs	**Units**	
Fluoranthene	ug/kg	990 U
Fluorene	ug/kg	990 U
Hexachlorobenzene	ug/kg	990 U
Hexachlorobutadiene	ug/kg	990 U
Hexachlorocyclopentadiene	ug/kg	990 U
Hexachloroethane	ug/kg	990 U
Indeno(1,2,3-cd)pyrene	ug/kg	990 U
Isophorone	ug/kg	990 U
Naphthalene	ug/kg	990 U
Nitrobenzene	ug/kg	990 U
N-Nitroso-di-n-propylamine	ug/kg	990 U
N-Nitrosodiphenylamine	ug/kg	990 U
Pentachlorophenol	ug/kg	51 U
Phenanthrene	ug/kg	990 U
Phenol	ug/kg	990 U
Pyrene	ug/kg	990 U
Pesticides		
4,4'-DDD	ug/kg	9.9 U
4,4'-DDE	ug/kg	9.9 U
4,4'-DDT	ug/kg	40 UJ
Aldrin	ug/kg	5.1 U
alpha-BHC	ug/kg	5.1 U
alpha-Chlordane	ug/kg	5.1 U
beta-BHC	ug/kg	5.1 U
delta-BHC	ug/kg	24
Dieldrin	ug/kg	140
Endosulfan I	ug/kg	5.1 U
Endosulfan II	ug/kg	9.9 U
Endosulfan Sulfate	ug/kg	9.9 U
Endrin	ug/kg	9.9 U
Endrin Aldehyde	ug/kg	9.9 U
Endrin Ketone	ug/kg	3.6 J
gamma-BHC (Lindane)	ug/kg	5.1 U
gamma-Chlordane	ug/kg	5.1 U
Heptachlor	ug/kg	5.1 U
Heptachlor Epoxide	ug/kg	5.1 U
Methoxychlor	ug/kg	51 U
Toxaphene	ug/kg	510 U
Herbicides		
2,4-D	ug/kg	25 U
2,4-DB	ug/kg	25 U
2,4,5-T	ug/kg	25 U
2,4,5-TP (Silvex)	ug/kg	25 U
Dalapon	ug/kg	6000 U
Dicamba	ug/kg	60 U
Dichlorprop	ug/kg	300 U
Dinoseb	ug/kg	990 UJ
MCPA	ug/kg	6000 U
MCPP	ug/kg	6000 U

Analyte	Sample ID Sample Date Percent Lipids	Whole-Body Fish Tissue - Pond Blue Gill 11/18/02 6.8
PCBs	**Units**	
Decachlorobiphenyl	ug/kg	50 U
Dichlorobiphenyl	ug/kg	10 U
Heptachlorobiphenyl	ug/kg	640
Hexachlorobiphenyl	ug/kg	1900
Monochlorobiphenyl	ug/kg	10 U
Nonachlorobiphenyl	ug/kg	50 U
Octachlorobiphenyl	ug/kg	85
Pentachlorobiphenyl	ug/kg	3300
Tetrachlorobiphenyl	ug/kg	2400
Trichlorobiphenyl	ug/kg	120
Total PCBs	ug/kg	8445
Dioxins/Furans		
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	pg/g	24
1,2,3,4,6,7,8-HpCDF	pg/g	0.83 U
1,2,3,4,7,8,9-HpCDF	pg/g	1.1 U
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	1.9 U
1,2,3,4,7,8-HxCDF	pg/g	0.82 U
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	pg/g	2.1 U
1,2,3,6,7,8-HxCDF	pg/g	0.66 U
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	pg/g	1.6 U
1,2,3,7,8,9-HxCDF	pg/g	1.1 U
1,2,3,7,8-Pentachlorodibenzofuran	pg/g	2.4 U
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	pg/g	2.2 U
2,3,4,6,7,8-HxCDF	pg/g	0.85 U
2,3,4,7,8-PeCDF	pg/g	4 U
2,3,7,8-TCDD	pg/g	1.4 J
2,3,7,8-Tetrachlorodibenzofuran	pg/g	56
OCDD	pg/g	50
OCDF	pg/g	1.7 U
Total HpCDD	pg/g	35
Total HpCDF	pg/g	1.1 U
Total HxCDD	pg/g	3.2 U
Total HxCDF	pg/g	1.7 U
Total PeCDD	pg/g	2.2 U
Total PeCDF	pg/g	14
Total TCDD	pg/g	1.4 J
Total TCDF	pg/g	98
Metals		
Aluminum	mg/kg	16 J
Antimony	mg/kg	1.8 U
Arsenic	mg/kg	0.73 J
Barium	mg/kg	5.3
Beryllium	mg/kg	0.36 U
Cadmium	mg/kg	0.45 UJ
Calcium	mg/kg	12000 J
Chromium	mg/kg	0.33 J
Cobalt	mg/kg	0.91 U
Copper	mg/kg	0.91 J
Iron	mg/kg	57
Lead	mg/kg	0.45 U
Magnesium	mg/kg	430
Manganese	mg/kg	9.9
Mercury	mg/kg	0.062
Nickel	mg/kg	3.6 U
Potassium	mg/kg	2800
Selenium	mg/kg	0.91 UJ
Silver	mg/kg	0.91 U
Sodium	mg/kg	920
Thallium	mg/kg	0.91 UJ
Vanadium	mg/kg	0.91 U
Zinc	mg/kg	46

NOTES:
U = Not detected at the MDL.
J = The concentration was detected at a value below the MDL.
UJ = The analyte was not deemed above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Appendix III-B

Food Chain Modeling Calculations

Table III-B1
Estimated Concentrations Within the Vole Calculations
Off-Site
Sauget, IL

Analyte	Plant Average Value (mg/kg)	BCF_{P-M}	Calculated Concentration (mg/kg)	Vole ADD (mg/kg-day)	Estimated Concentration Within the Vole (mg/kg)
SVOCs					
1,2,4-Trichlorobenzene				5.0E-02	5.0E-02
1,2-Dichlorobenzene				5.0E-02	5.0E-02
1,3-Dichlorobenzene				5.0E-02	5.0E-02
1,4-Dichlorobenzene				5.0E-02	5.0E-02
2,2'-Oxybis(1-Chloropropane)				5.0E-02	5.0E-02
2,4,5-Trichlorophenol				5.0E-02	5.0E-02
2,4,6-Trichlorophenol				5.0E-02	5.0E-02
2,4-Dichlorophenol				5.0E-02	5.0E-02
2,4-Dinitrophenol				2.6E-01	2.6E-01
2,4-Dinitrotoluene	5.0E-01	1.5E-06	7.4E-07	5.0E-02	7.4E-07
2,6-Dinitrotoluene	5.0E-01	1.2E-06	5.7E-07	5.0E-02	5.7E-07
2-Chloronaphthalene				5.0E-02	5.0E-02
2-Chlorophenol				5.0E-02	5.0E-02
2-Methylnaphthalene				5.0E-02	5.0E-02
2-Methylphenol (o-Cresol)				5.0E-02	5.0E-02
2-Nitroaniline				2.6E-01	2.6E-01
2-Nitrophenol				5.0E-02	5.0E-02
3,3'-Dichlorobenzidine				1.0E-01	1.0E-01
3/4-Methylphenol (m&p-Cresol)				5.0E-02	5.0E-02
3-Nitroaniline				2.6E-01	2.6E-01
4,6-Dinitro-2-methylphenol				2.6E-01	2.6E-01
4-Bromophenyl Phenyl Ether				5.0E-02	5.0E-02
4-Chloro-3-methylphenol				5.0E-02	5.0E-02
4-Chloroaniline				1.0E-01	1.0E-01
4-Chlorophenyl Phenyl Ether				5.0E-02	5.0E-02
4-Nitroaniline				2.6E-01	2.6E-01
4-Nitrophenol				2.6E-01	2.6E-01
Acenaphthene				5.0E-02	5.0E-02
Acenaphthylene				5.0E-02	5.0E-02
Anthracene				5.0E-02	5.0E-02
Benzo(a)anthracene	5.0E-01	7.2E-03	3.6E-03	5.0E-02	3.6E-03
Benzo(a)pyrene	5.0E-01	2.0E-02	1.0E-02	5.0E-02	1.0E-02
Benzo(b)fluoranthene	5.0E-01	2.4E-02	1.2E-02	5.0E-02	1.2E-02
Benzo(g,h,i)perylene				5.0E-02	5.0E-02
Benzo(k)fluoranthene	5.0E-01	2.4E-02	1.2E-02	5.0E-02	1.2E-02
bis(2-Chloroethoxy)methane				5.0E-02	5.0E-02
bis(2-Chloroethyl)ether				5.0E-02	5.0E-02
bis(2-Ethylhexyl)phthalate	5.0E-01	2.4E-03	1.2E-03	5.0E-02	1.2E-03
Butyl Benzyl Phthalate				5.0E-02	5.0E-02
Carbazole				5.0E-02	5.0E-02
Chrysene	5.0E-01	8.3E-03	4.1E-03	5.0E-02	4.1E-03
Dibenzo(a,h)anthracene	5.0E-01	5.3E-02	2.6E-02	5.0E-02	2.6E-02
Dibenzofuran				5.0E-02	5.0E-02
Diethyl Phthalate				5.0E-02	5.0E-02
Dimethyl Phthalate				5.0E-02	5.0E-02
Di-n-butylphthalate				5.0E-02	5.0E-02
Di-n-octylphthalate	5.0E-01	3.2E+01	1.6E+01	5.0E-02	1.6E+01
Fluoranthene				5.0E-02	5.0E-02
Fluorene				5.0E-02	5.0E-02
Hexachlorobenzene	5.0E-01	4.8E-03	2.4E-03	5.0E-02	2.4E-03
Hexachlorobutadiene	5.0E-01	8.1E-04	4.0E-04	5.0E-02	4.0E-04
Hexachlorocyclopentadiene	5.0E-01	1.2E-03	6.0E-04	5.0E-02	6.0E-04
Hexachloroethane				5.0E-02	5.0E-02
Indeno(1,2,3-cd)pyrene	5.0E-01	1.2E-01	6.1E-02	5.0E-02	6.1E-02
Isophorone				5.0E-02	5.0E-02
Naphthalene				5.0E-02	5.0E-02
Nitrobenzene	5.0E-01	1.0E-06	5.1E-07	5.0E-02	5.1E-07
N-Nitroso-di-n-propylamine				5.0E-02	5.0E-02
N-Nitrosodiphenylamine				5.0E-02	5.0E-02
Pentachlorophenol	8.7E-01	1.8E-03	1.6E-03	8.7E-02	1.6E-03
Phenanthrene				5.0E-02	5.0E-02
Phenol				5.0E-02	5.0E-02
Pyrene				5.0E-02	5.0E-02

Table III-B1
Estimated Concentrations Within the Vole Calculations
Off-Site
Sauget, IL

Analyte	Plant Average Value (mg/kg)	BCF_{P-M}	Calculated Concentration (mg/kg)	Vole ADD (mg/kg-day)	Estimated Concentration Within the Vole (mg/kg)
Pesticides					
4,4'-DDD				5.0E-04	5.0E-04
4,4'-DDE	***5.0E-03***	2.7E-02	*1.3E-04*	5.2E-04	***1.3E-04***
4,4'-DDT				3.6E-04	3.5E-04
Aldrin				***2.6E-04***	***2.6E-04***
alpha-BHC				***2.6E-04***	***2.6E-04***
alpha-Chlordane				***2.6E-04***	***2.6E-04***
beta-BHC				***2.6E-04***	***2.6E-04***
delta-BHC				***2.6E-04***	***2.6E-04***
Dieldrin				5.1E-04	5.1E-04
Endosulfan I				2.6E-04	2.6E-04
Endosulfan II				5.0E-04	5.0E-04
Endosulfan Sulfate				5.0E-04	5.0E-04
Endrin				***5.0E-04***	***5.0E-04***
Endrin Aldehyde				5.0E-04	5.0E-04
Endrin Ketone				***5.0E-04***	***5.0E-04***
gamma-BHC (Lindane				2.2E-04	2.2E-04
gamma-Chlordane				***2.6E-04***	***2.6E-04***
Heptachlor	2.2E-03	1.6E-03	3.5E-06	2.3E-04	3.5E-06
Heptachlor Epoxide				2.6E-04	2.6E-04
Methoxychlor				2.6E-03	2.6E-03
Toxaphene				***2.6E-02***	***2.6E-02***
Herbicides					
2,4-D				4.5E-02	4.5E-02
2,4-DB				5.7E-02	5.7E-02
2,4,5-T				4.3E-02	4.3E-02
2,4,5-TP (Silvex)				***4.3E-02***	***4.3E-02***
Dalapon				***1.0E+01***	***1.0E+01***
Dicamba				***1.0E-01***	***1.0E-01***
Dichlorprop				5.1E-01	5.1E-01
Dinoseb				***5.0E-02***	***5.0E-02***
MCPA				***1.0E+01***	***1.0E+01***
MCPP				1.0E+01	1.0E+01
PCBs					
Total PCBs				2.8E-03	2.8E-03
Dioxins/Furans					
TEQ	3.5E-07	3.3E-02	1.1E-08	4.2E-07	1.1E-08
Metals					
Aluminum				2.4E+01	2.4E+01
Antimony	***1.0E+00***	6.0E-04	***6.0E-04***	1.0E-01	***6.0E-04***
Arsenic	***5.0E-01***	1.2E-03	***6.0E-04***	7.1E-02	***6.0E-04***
Barium	1.1E+01	9.0E-05	9.7E-04	1.6E+00	9.7E-04
Beryllium	***2.0E-01***	6.0E-04	***1.2E-04***	2.1E-02	***1.2E-04***
Cadmium	3.1E-01	7.2E-05	2.2E-05	3.6E-02	2.2E-05
Chromium	3.3E-01	3.3E-03	1.1E-03	6.6E-02	1.1E-03
Cobalt				6.6E-02	6.6E-02
Copper				5.7E-01	5.7E-01
Lead	9.3E-01	1.8E-04	1.7E-04	3.2E-01	1.7E-04
Manganese				2.0E+00	2.0E+00
Mercury	4.0E-01	4.7E-04	1.9E-04	4.0E-02	1.9E-04
Nickel	***2.0E+00***	3.6E-03	***7.2E-03***	2.5E-01	***7.2E-03***
Selenium	***5.0E-01***	1.4E-03	***6.8E-04***	5.2E-02	***6.8E-04***
Silver	***5.0E-01***	1.8E-03	***9.0E-04***	5.2E-02	***9.0E-04***
Thallium	***5.0E-01***	2.4E-02	***1.2E-02***	***5.2E-02***	***1.2E-02***
Vanadium				1.1E-01	1.1E-01
Zinc	3.7E+01	5.4E-05	2.0E-03	4.4E+00	2.0E-03

NOTES
Bolded/Italicized values indicate a concentration ADD based entirely on non-detected values.

Table III-B1
Estimated Concentrations Within the Vole Calculations
Site-Wide
Sauget, IL

Analyte	Plant Average Value (mg/kg)	BCF_{P-M}	Calculated Concentration (mg/kg)	Vole ADD (mg/kg-day)	Estimated Concentration Within the Vole (mg/kg)
SVOCs					
1,2,4-Trichlorobenzene				5.4E-02	5.4E-02
1,2-Dichlorobenzene				5.4E-02	5.4E-02
1,3-Dichlorobenzene				5.0E-02	5.0E-02
1,4-Dichlorobenzene				5.1E-02	5.1E-02
2,2'-Oxybis(1-Chloropropane)				*5.1E-02*	*5.1E-02*
2,4,5-Trichlorophenol				5.0E-02	5.0E-02
2,4,6-Trichlorophenol				5.1E-02	5.1E-02
2,4-Dichlorophenol				5.1E-02	5.1E-02
2,4-Dinitrophenol				*2.6E-01*	*2.6E-01*
2,4-Dinitrotoluene	*5.0E-01*	1.5E-06	*7.4E-07*	*5.1E-02*	*7.4E-07*
2,6-Dinitrotoluene	*5.0E-01*	1.2E-06	*5.7E-07*	*5.1E-02*	*5.7E-07*
2-Chloronaphthalene				*5.1E-02*	*5.1E-02*
2-Chlorophenol				*5.1E-02*	*5.1E-02*
2-Methylnaphthalene				5.2E-02	5.2E-02
2-Methylphenol (o-Cresol)				*5.1E-02*	*5.1E-02*
2-Nitroaniline				2.6E-01	2.6E-01
2-Nitrophenol				*5.1E-02*	*5.1E-02*
3,3'-Dichlorobenzidine				*1.0E-01*	*1.0E-01*
3/4-Methylphenol (m&p-Cresol)				*5.1E-02*	*5.1E-02*
3-Nitroaniline				*2.6E-01*	*2.6E-01*
4,6-Dinitro-2-methylphenol				*2.6E-01*	*2.6E-01*
4-Bromophenyl Phenyl Ether				*5.1E-02*	*5.1E-02*
4-Chloro-3-methylphenol				*5.1E-02*	*5.1E-02*
4-Chloroaniline				*1.0E-01*	*1.0E-01*
4-Chlorophenyl Phenyl Ether				*5.1E-02*	*5.1E-02*
4-Nitroaniline				2.7E-01	2.7E-01
4-Nitrophenol				*2.6E-01*	*2.6E-01*
Acenaphthene				5.0E-02	5.0E-02
Acenaphthylene				*5.1E-02*	*5.1E-02*
Anthracene				5.1E-02	5.1E-02
Benzo(a)anthracene	*5.0E-01*	7.2E-03	*3.6E-03*	5.2E-02	*3.6E-03*
Benzo(a)pyrene	*5.0E-01*	2.0E-02	*1.0E-02*	5.2E-02	*1.0E-02*
Benzo(b)fluoranthene	*5.0E-01*	2.4E-02	*1.2E-02*	5.2E-02	*1.2E-02*
Benzo(g,h,i)perylene				4.7E-02	4.7E-02
Benzo(k)fluoranthene	*5.0E-01*	2.4E-02	*1.2E-02*	5.1E-02	*1.2E-02*
bis(2-Chloroethoxy)methane				*5.1E-02*	*5.1E-02*
bis(2-Chloroethyl)ether				*5.1E-02*	*5.1E-02*
bis(2-Ethylhexyl)phthalate	4.8E-01	2.4E-03	1.2E-03	5.1E-02	1.2E-03
Butyl Benzyl Phthalate				6.4E-02	6.4E-02
Carbazole				5.1E-02	5.1E-02
Chrysene	*5.0E-01*	8.3E-03	*4.1E-03*	5.3E-02	*4.1E-03*
Dibenzo(a,h)anthracene	*5.0E-01*	5.3E-02	*2.6E-02*	5.0E-02	*2.6E-02*
Dibenzofuran				5.1E-02	5.1E-02
Diethyl Phthalate				5.1E-02	5.1E-02
Dimethyl Phthalate				*5.1E-02*	*5.1E-02*
Di-n-butylphthalate				4.1E-02	4.1E-02
Di-n-octylphthalate	*5.0E-01*	3.2E+01	*1.6E+01*	5.0E-02	*1.6E+01*
Fluoranthene				5.3E-02	5.3E-02
Fluorene				5.0E-02	5.0E-02
Hexachlorobenzene	*5.0E-01*	4.8E-03	*2.4E-03*	5.1E-02	*2.4E-03*
Hexachlorobutadiene	*5.0E-01*	8.1E-04	*4.0E-04*	*5.1E-02*	*4.0E-04*
Hexachlorocyclopentadiene	*5.0E-01*	1.2E-03	*6.0E-04*	*5.1E-02*	*6.0E-04*
Hexachloroethane				*5.1E-02*	*5.1E-02*
Indeno(1,2,3-cd)pyrene	*5.0E-01*	1.2E-01	*6.1E-02*	5.0E-02	*6.1E-02*
Isophorone				*5.1E-02*	*5.1E-02*
Naphthalene				5.1E-02	5.1E-02
Nitrobenzene	*5.0E-01*	1.0E-06	*5.1E-07*	*5.1E-02*	*5.1E-07*
N-Nitroso-di-n-propylamine				*5.1E-02*	*5.1E-02*
N-Nitrosodiphenylamine				*5.1E-02*	*5.1E-02*
Pentachlorophenol	*3.1E-02*	1.8E-03	*5.7E-05*	5.3E-02	*5.7E-05*
Phenanthrene				5.2E-02	5.2E-02
Phenol				5.0E-02	5.0E-02
Pyrene				5.5E-02	5.5E-02

Table III-B1
Estimated Concentrations Within the Vole Calculations
Site-Wide
Sauget, IL

Analyte	Plant Average Value (mg/kg)	BCF_{P-M}	Calculated Concentration (mg/kg)	Vole ADD (mg/kg-day)	Estimated Concentration Within the Vole (mg/kg)
Pesticides					
4,4'-DDD				7.3E-04	7.3E-04
4,4'-DDE	5.0E-03	2.7E-02	1.4E-04	1.0E-03	1.4E-04
4,4'-DDT				3.1E-03	3.1E-03
Aldrin				3.6E-04	3.6E-04
alpha-BHC				3.9E-04	3.9E-04
alpha-Chlordane				3.8E-04	3.8E-04
beta-BHC				3.2E-03	3.2E-03
delta-BHC				3.4E-04	3.4E-04
Dieldrin				8.1E-04	8.1E-04
Endosulfan I				3.9E-04	3.9E-04
Endosulfan II				1.1E-03	1.1E-03
Endosulfan Sulfate				7.4E-04	7.4E-04
Endrin				1.7E-03	1.7E-03
Endrin Aldehyde				8.4E-04	8.4E-04
Endrin Ketone				7.5E-04	7.5E-04
gamma-BHC (Lindane)				1.1E-03	1.1E-03
gamma-Chlordane				7.0E-04	7.0E-04
Heptachlor	2.6E-03	1.6E-03	4.0E-06	4.5E-04	4.0E-06
Heptachlor Epoxide				3.9E-04	3.9E-04
Methoxychlor				4.3E-03	4.3E-03
Toxaphene				3.9E-02	3.9E-02
Herbicides					
2,4-D				5.3E-03	5.3E-03
2,4-DB				1.2E-02	1.2E-02
2,4,5-T				5.7E-03	5.7E-03
2,4,5-TP (Silvex)				2.0E-03	2.0E-03
Dalapon				3.8E-01	3.8E-01
Dicamba				3.8E-03	3.8E-03
Dichlorprop				1.9E-02	1.9E-02
Dinoseb				5.1E-02	5.1E-02
MCPA				5.2E-01	5.2E-01
MCPP				4.9E-01	4.9E-01
PCBs					
Total PCBs				2.0E-01	2.0E-01
Dioxins/Furans					
TEQ	5.7E-07	3.3E-02	1.9E-08	8.6E-06	1.9E-08
Metals					
Aluminum				2.6E+01	2.6E+01
Antimony	9.3E-01	6.0E-04	5.6E-04	1.1E-01	5.6E-04
Arsenic	4.7E-01	1.2E-03	5.7E-04	7.6E-02	5.7E-04
Barium	9.0E+00	9.0E-05	8.1E-04	1.8E+00	8.1E-04
Beryllium	***1.9E-01***	6.0E-04	***1.1E-04***	2.1E-02	***1.1E-04***
Cadmium	1.9E-01	7.2E-05	1.4E-05	3.6E-02	1.4E-05
Chromium	3.6E-01	3.3E-03	1.2E-03	1.9E-01	1.2E-03
Cobalt				7.7E-02	7.7E-02
Copper				1.0E+00	1.0E+00
Lead	1.8E+00	1.8E-04	3.2E-04	1.2E+00	3.2E-04
Manganese				2.7E+00	2.7E+00
Mercury	7.0E-01	4.7E-04	3.3E-04	7.7E-02	3.3E-04
Nickel	2.0E+00	3.6E-03	7.2E-03	3.3E-01	7.2E-03
Selenium	9.4E-01	1.4E-03	1.3E-03	9.7E-02	1.3E-03
Silver	***4.8E-01***	1.8E-03	***8.6E-04***	5.4E-02	***8.6E-04***
Thallium	***4.8E-01***	2.4E-02	***1.1E-02***	5.0E-02	***1.1E-02***
Vanadium				1.2E-01	1.2E-01
Zinc	2.8E+01	5.4E-05	1.5E-03	4.6E+00	1.5E-03

NOTES
Bolded/Italicized values indicate a concentration/ADD based entirely on non-detected values

Table III-B2
Calculations for Risk Assessment Modeling
Off-Site Areas - Soil
Sauget, IL

Analyte	Units	Off-Site Areas						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
1,1,2,2-Tetrachloroethane	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
1,1,2-Trichloroethane	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
1,1-Dichloroethane	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
1,1-Dichloroethylene	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
1,2-Dichloroethane	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
1,2-Dichloroethene (total)	ug/kg	4	0	5.5	9.0	Soil-OS-4	7.0	NA
1,2-Dichloropropane	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
2-Butanone (MEK)	ug/kg	4	0	14	23	Soil-OS-4	17	NA
2-Hexanone	ug/kg	4	0	14	23	Soil-OS-4	17	NA
4-Methyl-2-pentanone (MIBK)	ug/kg	4	0	14	23	Soil-OS-4	17	NA
Acetone	ug/kg	4	0	28	46	Soil-OS-4	35	NA
Benzene	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Bromodichloromethane	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Bromoform	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Bromomethane	ug/kg	4	0	5.5	9.0	Soil-OS-4	7.0	NA
Carbon Disulfide	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Carbon Tetrachloride	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Chlorobenzene	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Chloroethane	ug/kg	4	0	5.5	9.0	Soil-OS-4	7.0	NA
Chloroform	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Chloromethane	ug/kg	4	1	0.45	9.0	Soil-OS-4	5.7	NA
cis-1,3-Dichloropropene	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Dibromochloromethane	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Ethylbenzene	ug/kg	4	2	0.45	4.6	Soil-OS-4	2.1	NA
Methylene Chloride	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Styrene (Monomer)	ug/kg	4	2	0.76	4.6	Soil-OS-4	2.4	NA
Tetrachloroethene	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Toluene	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
trans-1,3-Dichloropropene	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Trichloroethylene	ug/kg	4	0	2.8	4.6	Soil-OS-4	3.5	NA
Vinyl chloride	ug/kg	4	0	5.5	9.0	Soil-OS-4	7.0	NA
Xylenes, Total	ug/kg	4	2	0.5	9.0	Soil-OS-4	4.2	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
1,2-Dichlorobenzene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
1,3-Dichlorobenzene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
1,4-Dichlorobenzene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2,4,5-Trichlorophenol	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2,4,6-Trichlorophenol	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2,4-Dichlorophenol	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2,4-Dimethylphenol	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2,4-Dinitrophenol	ug/kg	4	0	950	1050	Soil-OS-2	988	NA
2,4-Dinitrotoluene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2,6-Dinitrotoluene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2-Chloronaphthalene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2-Chlorophenol	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2-Methylnaphthalene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2-Methylphenol (o-Cresol)	ug/kg	4	0	185	200	Soil-OS-2	191	NA
2-Nitroaniline	ug/kg	4	0	950	1050	Soil-OS-2	988	NA
2-Nitrophenol	ug/kg	4	0	185	200	Soil-OS-2	191	NA
3,3'-Dichlorobenzidine	ug/kg	4	0	370	400	Soil-OS-2	383	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	4	0	185	200	Soil-OS-2	191	NA
3-Nitroaniline	ug/kg	4	0	950	1050	Soil-OS-2	988	NA
4,6-Dinitro-2-methylphenol	ug/kg	4	0	950	1050	Soil-OS-2	988	NA
4-Bromophenyl Phenyl Ether	ug/kg	4	0	185	200	Soil-OS-2	191	NA
4-Chloro-3-methylphenol	ug/kg	4	0	185	200	Soil-OS-2	191	NA
4-Chloroaniline	ug/kg	4	0	370	400	Soil-OS-2	383	NA
4-Chlorophenyl Phenyl Ether	ug/kg	4	0	185	200	Soil-OS-2	191	NA
4-Nitroaniline	ug/kg	4	0	950	1050	Soil-OS-2	988	NA
4-Nitrophenol	ug/kg	4	0	950	1050	Soil-OS-2	988	NA
Acenaphthene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Acenaphthylene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Anthracene	ug/kg	4	0	185	200	Soil-OS-2	191	NA

Table III-B2
Calculations for Risk Assessment Modeling
Off-Site Areas - Soil
Sauget, IL

Analyte	Units	Off-Site Areas						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/kg	4	3	22	190	Soil-OS-4	70	NA
Benzo(a)pyrene	ug/kg	4	2	185	200	Soil-OS-2	191	NA
Benzo(b)fluoranthene	ug/kg	4	2	42	190	Soil-OS-2 Dup, Soil-OS-4	151	NA
Benzo(g,h,i)perylene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Benzo(k)fluoranthene	ug/kg	4	2	19	190	Soil-OS-4	73	NA
bis(2-Chloroethoxy)methane	ug/kg	4	0	185	200	Soil-OS-2	191	NA
bis(2-Chloroethyl)ether	ug/kg	4	0	185	200	Soil-OS-2	191	NA
bis(2-Ethylhexyl)phthalate	ug/kg	4	2	185	300	Soil-OS-2 Dup	219	NA
Butyl Benzyl Phthalate	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Carbazole	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Chrysene	ug/kg	4	3	33	190	Soil-OS-4	—	NA
Dibenzo(a,h)anthracene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Dibenzofuran	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Diethyl Phthalate	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Dimethyl Phthalate	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Di-n-butylphthalate	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Di-n-octylphthalate	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Fluoranthene	ug/kg	4	2	47	190	Soil-OS-2 Dup, Soil-OS-4	121	NA
Fluorene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Hexachlorobenzene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Hexachlorobutadiene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Hexachlorocyclopentadiene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Hexachloroethane	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Indeno(1,2,3-cd)pyrene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Isophorone	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Naphthalene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Nitrobenzene	ug/kg	4	0	185	200	Soil-OS-2	191	NA
N-Nitroso-di-n-propylamine	ug/kg	4	0	185	200	Soil-OS-2	191	NA
N-Nitrosodiphenylamine	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Pentachlorophenol	ug/kg	4	3	17	10	Soil-OS-4	45	NA
Phenanthrene	ug/kg	4	3	31	190	Soil-OS-4	—	NA
Phenol	ug/kg	4	0	185	200	Soil-OS-2	191	NA
Pyrene	ug/kg	4	2	56	190	Soil-OS-2 Dup, Soil-OS-4	123	NA
Pesticides								
4,4'-DDD	ug/kg	4	2	1.9	3.6	Soil-OS-2	3.2	NA
4,4'-DDE	ug/kg	4	3	1.9	7.6	Soil-OS-2	7.6	NA
4,4'-DDT	ug/kg	4	3	1.9	46	Soil-OS-2	22	NA
Aldrin	ug/kg	4	0	1.0	1.1	Soil-OS-2	1.0	NA
alpha-BHC	ug/kg	4	0	1.0	1.1	Soil-OS-2	1.0	NA
alpha-Chlordane	ug/kg	4	0	1.0	1.1	Soil-OS-2	1.0	NA
beta-BHC	ug/kg	4	0	1.0	1.1	Soil-OS-2	1.0	NA
delta-BHC	ug/kg	4	0	1.0	1.1	Soil-OS-2	1.0	NA
Dieldrin	ug/kg	4	3	1.9	9.6	Soil-OS-2	4.6	NA
Endosulfan I	ug/kg	4	2	0.19	2.1	Soil-OS-3	1.1	NA
Endosulfan II	ug/kg	4	1	0.58	2.0	Soil-OS-2	1.6	NA
Endosulfan Sulfate	ug/kg	4	2	0.71	3.9	Soil-OS-2 Dup, Soil-OS-4	1.4	NA
Endrin	ug/kg	4	0	1.9	2.0	Soil-OS-2	1.9	NA
Endrin Aldehyde	ug/kg	4	1	1.9	3.0	Soil-OS-3	2.2	NA
Endrin Ketone	ug/kg	4	0	1.9	2.0	Soil-OS-2	1.9	NA
gamma-BHC (Lindane)	ug/kg	4	0	1.0	1.1	Soil-OS-2	1.0	NA
gamma-Chlordane	ug/kg	4	0	1.0	1.1	Soil-OS-2	1.0	NA
Heptachlor	ug/kg	4	0	1.0	1.1	Soil-OS-2	1.0	NA
Heptachlor Epoxide	ug/kg	4	3	0.77	2.3	Soil-OS-2	1.3	NA
Methoxychlor	ug/kg	4	1	2.8	11	Soil-OS-2	3.2	NA
Toxaphene	ug/kg	4	0	95	105	Soil-OS-2	99	NA
Herbicides								
2,4-D	ug/kg	4	1	4.7	5.8	Soil-OS-3	5.1	NA
2,4-DB	ug/kg	4	0	4.7	5.0	Soil-OS-2	5.0	NA
2,4,5-T	ug/kg	4	0	4.7	5.0	Soil-OS-2	5.0	NA
2,4,5-TP (Silvex)	ug/kg	4	0	4.7	5.0	Soil-OS-2	5.0	NA
Dalapon	ug/kg	4	2	1100	1200	Soil-OS-2	1150	NA
Dicamba	ug/kg	4	0	11	12	Soil-OS-2	12	NA
Dichloroprop	ug/kg	4	2	55	160	Soil-OS-2 Dup	84	NA
Dinoseb	ug/kg	4	0	185	200	Soil-OS-2	191	NA
MCPA	ug/kg	4	0	1100	1200	Soil-OS-2	1150	NA
MCPP	ug/kg	4	2	1100	6600	Soil-OS-2	2763	NA

Table III-B2
Calculations for Risk Assessment Modeling
Off-Site Areas - Soil
Sauget, IL

Analyte	Units	Off-Site Areas						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/kg	4	3	10	173	Soil-OS-2	109	NA
Dioxins/Furans								
TEQ	ug/kg	4	2	0.046	0.23	Soil-OS-4	0.13	NA
Metals								
Aluminum	mg/kg	4	4	5100	8200	Soil-OS-2 Dup	6675	NA
Antimony	mg/kg	4	3	0.93	1.9	Soil-OS-2	1.3	NA
Arsenic	mg/kg	4	4	5.4	9.3	Soil-OS-2 Dup	7.4	NA
Barium	mg/kg	4	4	170	200	Soil-OS-2 Dup	183	NA
Beryllium	mg/kg	4	4	0.40	0.60	Soil-OS-2 Dup	0.50	NA
Cadmium	mg/kg	4	4	0.34	4.5	Soil-OS-2	2.0	NA
Calcium	mg/kg	4	4	3100	11000	Soil-OS-4	5150	NA
Chromium	mg/kg	4	4	9.3	13	Soil-OS-2, Soil-OS-2 Dup	12	NA
Cobalt	mg/kg	4	4	3.3	6.6	Soil-OS-2	5.4	NA
Copper	mg/kg	4	4	12	150	Soil-OS-2	59	NA
Iron	mg/kg	4	4	11000	15000	Soil-OS-2 Dup	13000	NA
Lead	mg/kg	4	4	31	130	Soil-OS-2	79	NA
Magnesium	mg/kg	4	4	1700	5500	Soil-OS-4	3100	NA
Manganese	mg/kg	4	4	86	410	Soil-OS-2	284	NA
Mercury	mg/kg	4	4	0.057	0.11	Soil-OS-2	0.085	NA
Nickel	mg/kg	4	4	12	27	Soil-OS-2	18	NA
Potassium	mg/kg	4	4	1300	2300	Soil-OS-2, Soil-OS-2 Dup	1950	NA
Selenium	mg/kg	4	1	0.50	0.62	Soil-OS-2	0.56	NA
Silver	mg/kg	4	1	0.50	0.67	Soil-OS-2	0.57	NA
Sodium	mg/kg	4	0	38	47	Soil-OS-4	42	NA
Thallium	mg/kg	4	0	0.50	0.55	Soil-OS-2, Soil-OS-3, Soil-OS-4	0.54	NA
Vanadium	mg/kg	4	4	18	25	Soil-OS-2 Dup	22	NA
Zinc	mg/kg	4	4	55	440	Soil-OS-2	241	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B2
Calculations for Risk Assessment Modeling
Site P - Soil
Sauget, IL

Analyte	Units	Site P						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
1,1,2,2-Tetrachloroethane	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
1,1,2-Trichloroethane	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
1,1-Dichloroethane	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
1,1-Dichloroethylene	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
1,2-Dichloroethane	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
1,2-Dichloroethane, total	ug/kg	4	0	7.0	14	Soil-P-3	9.9	NA
1,2-Dichloropropane	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
2-Butanone (MEK)	ug/kg	4	1	7.1	35	Soil-P-3	21	NA
2-Hexanone	ug/kg	4	1	5.9	35	Soil-P-3	21	NA
4-Methyl-2-pentanone (MIBK)	ug/kg	4	2	17	24	Soil-P-4	20	NA
Acetone	ug/kg	4	0	36	70	Soil-P-3	50	NA
Benzene	ug/kg	4	2	3.6	9.4	Soil-P-3	5.4	NA
Bromodichloromethane	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
Bromoform	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
Bromomethane	ug/kg	4	0	7.0	14	Soil-P-3	9.9	NA
Carbon Disulfide	ug/kg	4	2	1.4	4.8	Soil-P-4	2.8	NA
Carbon Tetrachloride	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
Chlorobenzene	ug/kg	4	1	3.6	7.0	Soil-P-3	4.8	NA
Chloroethane	ug/kg	4	0	7.0	14	Soil-P-3	9.9	NA
Chloroform	ug/kg	4	1	3.6	7.0	Soil-P-3	5.0	NA
Chloromethane	ug/kg	4	2	7.0	14	Soil-P-3	9.9	NA
cis-1,3-Dichloropropene	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
Dibromochloromethane	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
Ethylbenzene	ug/kg	4	2	0.26	7.0	Soil-P-3	3.6	NA
Methylene Chloride	ug/kg	4	1	3.6	7.0	Soil-P-3	5.0	NA
Styrene (Monomer)	ug/kg	4	1	0.34	7.0	Soil-P-3	4.2	NA
Tetrachloroethene	ug/kg	4	3	1.9	[illegible]	Soil-P-1	3.9	NA
Toluene	ug/kg	4	1	3.6	31	Soil-P-1	12	NA
trans-1,3-Dichloropropene	ug/kg	4	0	3.6	7.0	Soil-P-3	5.0	NA
Trichloroethylene	ug/kg	4	2	0.79	7.0	Soil-P-3	3.5	NA
Vinyl chloride	ug/kg	4	0	7.0	14	Soil-P-3	9.9	NA
Xylenes, Total	ug/kg	4	1	1.0	18	Soil-P-3	7.2	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	4	0	190	900	Soil-P-3	375	NA
1,2-Dichlorobenzene	ug/kg	4	0	190	900	Soil-P-3	375	NA
1,3-Dichlorobenzene	ug/kg	4	0	190	900	Soil-P-3	375	NA
1,4-Dichlorobenzene	ug/kg	4	0	190	900	Soil-P-3	375	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	4	0	190	900	Soil-P-3	375	NA
2,4,5-Trichlorophenol	ug/kg	4	0	190	900	Soil-P-3	375	NA
2,4,6-Trichlorophenol	ug/kg	4	0	190	900	Soil-P-3	375	NA
2,4-Dichlorophenol	ug/kg	4	0	190	900	Soil-P-3	375	NA
2,4-Dimethylphenol	ug/kg	4	0	190	900	Soil-P-3	375	NA
2,4-Dinitrophenol	ug/kg	4	0	950	4600	Soil-P-3	1863	NA
2,4-Dinitrotoluene	ug/kg	4	0	190	900	Soil-P-3	375	NA
2,6-Dinitrotoluene	ug/kg	4	0	190	900	Soil-P-3	375	NA
2-Chloronaphthalene	ug/kg	4	0	190	900	Soil-P-3	375	NA
2-Chlorophenol	ug/kg	4	0	190	900	Soil-P-3	375	NA
2-Methylnaphthalene	ug/kg	4	0	190	900	Soil-P-3	375	NA
2-Methylphenol (o-Cresol)	ug/kg	4	0	190	900	Soil-P-3	375	NA
2-Nitroaniline	ug/kg	4	0	950	4600	Soil-P-3	1863	NA
2-Nitrophenol	ug/kg	4	0	190	900	Soil-P-3	375	NA
3,3'-Dichlorobenzidine	ug/kg	4	0	375	1850	Soil-P-3	740	NA
3/4-Methylphenol (m/p-Cresol)	ug/kg	4	0	190	900	Soil-P-3	375	NA
3-Nitroaniline	ug/kg	4	0	950	4600	Soil-P-3	1863	NA
4,6-Dinitro-2-methylphenol	ug/kg	4	0	950	4600	Soil-P-3	1863	NA
4-Bromophenyl Phenyl Ether	ug/kg	4	0	190	900	Soil-P-3	375	NA
4-Chloro-3-methylphenol	ug/kg	4	0	190	900	Soil-P-3	375	NA
4-Chloroaniline	ug/kg	4	0	375	1850	Soil-P-3	740	NA
4-Chlorophenyl Phenyl Ether	ug/kg	4	0	190	900	Soil-P-3	375	NA
4-Nitroaniline	ug/kg	4	0	950	4600	Soil-P-3	1863	NA
4-Nitrophenol	ug/kg	4	0	950	4600	Soil-P-3	1863	NA
Acenaphthene	ug/kg	4	0	75	900	Soil-P-3	343	NA
Acenaphthylene	ug/kg	4	0	190	900	Soil-P-3	375	NA
Anthracene	ug/kg	4	0	190	900	Soil-P-3	381	NA

Table III-B2
Calculations for Risk Assessment Modeling
Site P - Soil
Sauget, IL

Analyte	Units	Site P						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/kg	4	2	29	900	Soil-P-3	450	NA
Benzo(a)pyrene	ug/kg	4	2	42	900	Soil-P-3	451	NA
Benzo(b)fluoranthene	ug/kg	4	2	32	900	Soil-P-3	451	NA
Benzo(g,h,i)perylene	ug/kg	4	2	72	900	Soil-P-3	371	NA
Benzo(k)fluoranthene	ug/kg	4	2	30	900	Soil-P-3	423	NA
bis(2-Chloroethoxy)methane	ug/kg	4	0	190	900	Soil-P-3	375	NA
bis(2-Chloroethyl)ether	ug/kg	4	0	190	900	Soil-P-3	375	NA
bis(2-Ethylhexyl)phthalate	ug/kg	4	3	35	900	Soil-P-3	255	NA
Butyl Benzyl Phthalate	ug/kg	4	0	190	900	Soil-P-3	375	NA
Carbazole	ug/kg	4	1	73	900	Soil-P-3	342	NA
Chrysene	ug/kg	4	2	34	900	Soil-P-3	474	NA
Dibenzo(a,h)anthracene	ug/kg	4	2	59	900	Soil-P-3	315	NA
Dibenzofuran	ug/kg	4	1	29	900	Soil-P-3	331	NA
Diethyl Phthalate	ug/kg	4	0	190	900	Soil-P-3	375	NA
Dimethyl Phthalate	ug/kg	4	0	190	900	Soil-P-3	375	NA
Di-n-butylphthalate	ug/kg	4	0	190	900	Soil-P-3	375	NA
Di-n-octylphthalate	ug/kg	4	0	190	900	Soil-P-3	375	NA
Fluoranthene	ug/kg	4	2	40	1700	Soil-P-2	708	NA
Fluorene	ug/kg	4	1	65	900	Soil-P-3	340	NA
Hexachlorobenzene	ug/kg	4	0	190	900	Soil-P-3	375	NA
Hexachlorobutadiene	ug/kg	4	0	190	900	Soil-P-3	375	NA
Hexachlorocyclopentadiene	ug/kg	4	0	190	900	Soil-P-3	375	NA
Hexachloroethane	ug/kg	4	0	190	900	Soil-P-3	375	NA
Indeno(1,2,3-cd)pyrene	ug/kg	4	2	66	900	Soil-P-3	349	NA
Isophorone	ug/kg	4	0	190	900	Soil-P-3	375	NA
Naphthalene	ug/kg	4	0	190	900	Soil-P-3	375	NA
Nitrobenzene	ug/kg	4	0	190	900	Soil-P-3	375	NA
N-Nitroso-di-n-propylamine	ug/kg	4	0	190	900	Soil-P-3	375	NA
N-Nitrosodiphenylamine	ug/kg	4	0	190	900	Soil-P-3	375	NA
Pentachlorophenol	ug/kg	4	4	4.3	28	Soil-P-3	13	NA
Phenanthrene	ug/kg	4	2	24	1100	Soil-P-2	554	NA
Phenol	ug/kg	4	1	190	900	Soil-P-3	414	NA
Pyrene	ug/kg	4	2	51	1800	Soil-P-2	735	NA
Pesticides								
4,4'-DDD	ug/kg	4	0	2.1	41	Soil-P-1	25	NA
4,4'-DDE	ug/kg	4	1	3.0	41	Soil-P-1	25	NA
4,4'-DDT	ug/kg	4	4	8.1	1100	Soil-P-4	284	NA
Aldrin	ug/kg	4	0	1.1	21	Soil-P-1	13	NA
alpha-BHC	ug/kg	4	0	1.1	21	Soil-P-1	13	NA
alpha-Chlordane	ug/kg	4	2	1.5	21	Soil-P-1	13	NA
beta-BHC	ug/kg	4	0	1.1	21	Soil-P-1	13	NA
delta-BHC	ug/kg	4	0	1.1	21	Soil-P-1	13	NA
Dieldrin	ug/kg	4	2	2.0	41	Soil-P-1	21	NA
Endosulfan I	ug/kg	4	0	1.1	21	Soil-P-1	13	NA
Endosulfan II	ug/kg	4	0	2.1	41	Soil-P-1	25	NA
Endosulfan Sulfate	ug/kg	4	1	2.1	41	Soil-P-1	24	NA
Endrin	ug/kg	4	0	2.1	41	Soil-P-1	25	NA
Endrin Aldehyde	ug/kg	4	1	2.1	140	Soil-P-4	50	NA
Endrin Ketone	ug/kg	4	1	2.1	41	Soil-P-1	18	NA
gamma-BHC (Lindane)	ug/kg	4	0	1.1	21	Soil-P-1	13	NA
gamma-Chlordane	ug/kg	4	0	1.1	21	Soil-P-1	13	NA
Heptachlor	ug/kg	4	0	1.1	21	Soil-P-1	13	NA
Heptachlor Epoxide	ug/kg	4	1	1.1	21	Soil-P-1	12	NA
Methoxychlor	ug/kg	4	0	11	210	Soil-P-1	128	NA
Toxaphene	ug/kg	4	0	105	2100	Soil-P-1	1276	NA
Herbicides								
2,4-D	ug/kg	4	2	4.6	10	Soil-P-4	6.1	NA
2,4-DB	ug/kg	4	0	4.7	5.0	Soil-P-1, P-2	4.8	NA
2,4,5-T	ug/kg	4	1	1.4	5.0	Soil-P-1, P-2	4.0	NA
2,4,5-TP (Silvex)	ug/kg	4	0	4.7	5.0	Soil-P-1, P-2	4.8	NA
Dalapon	ug/kg	4	0	1100	1250	Soil-P-1, P-2	1188	NA
Dicamba	ug/kg	4	0	11	13	Soil-P-1, P-2	12	NA
Dichlorprop	ug/kg	4	3	1.2	60	Soil-P-1	18	NA
Dinoseb	ug/kg	4	0	190	900	Soil-P-3	375	NA
MCPA	ug/kg	4	0	1100	1250	Soil-P-1, P-2	1188	NA
MCPP	ug/kg	4	2	560	2300	Soil-P-4	1340	NA

Table III-B2
Calculations for Risk Assessment Modeling
Site P - Soil
Sauget, IL

Analyte	Units	Site P						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/kg	4	3	[illegible]	7020	Soil-P-4	1764	NA
Dioxins/Furans								
TEQ	ug/kg	4	3	0.12	0.72	Soil-P-2	0.35	NA
Metals								
Aluminum	mg/kg	4	4	3200	6000	Soil-P-2, P-4	4800	NA
Antimony	mg/kg	4	3	0.56	1.6	Soil-P-1	0.93	NA
Arsenic	mg/kg	4	4	4.0	26	Soil-P-1	14	NA
Barium	mg/kg	4	4	—	180	Soil-P-2	116	NA
Beryllium	mg/kg	4	4	1.42	1.6	Soil-P-1	1.1	NA
Cadmium	mg/kg	4	4	0.62	3.1	Soil-P-2	1.7	NA
Calcium	mg/kg	4	4	3200	70000	Soil-P-2	25200	NA
Chromium	mg/kg	4	4	13	19	Soil-P-1	16	NA
Cobalt	mg/kg	4	4	6.2	13	Soil-P-1	9.1	NA
Copper	mg/kg	4	4	21	64	Soil-P-1	49	NA
Iron	mg/kg	4	4	7300	12000	Soil-P-4	9875	NA
Lead	mg/kg	4	4	15	170	Soil-P-2	79	NA
Magnesium	mg/kg	4	4	460	7900	Soil-P-4	3360	NA
Manganese	mg/kg	4	4	31	390	Soil-P-4	215	NA
Mercury	mg/kg	4	4	0.068	0.22	Soil-P-1	0.11	NA
Nickel	mg/kg	4	4	17	47	Soil-P-1	28	NA
Potassium	mg/kg	4	4	550	1400	Soil-P-2	908	NA
Selenium	mg/kg	4	2	0.48	7.0	Soil-P-1	2.4	NA
Silver	mg/kg	4	3	0.13	0.48	Soil-P-4	0.26	NA
Sodium	mg/kg	4	3	24	260	Soil-P-1	175	NA
Thallium	mg/kg	4	1	0.48	1.3	Soil-P-1	0.71	NA
Vanadium	mg/kg	4	4	21	44	Soil-P-1	29	NA
Zinc	mg/kg	4	4	85	390	Soil-P-2	216	NA

NOTES
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value, e.g., one-half of the detection limit, or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B2
Calculations for Risk Assessment Modeling
Site R - Soil
Sauget, IL

Analyte	Units	Site R						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
1,1,2,2-Tetrachloroethane	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
1,1,2-Trichloroethane	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
1,1-Dichloroethane	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
1,1-Dichloroethylene	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
1,2-Dichloroethane	ug/kg	4	2	1.5	3.6	Soil-R-1	2.6	NA
1,2-Dichloroethene (total)	ug/kg	4	1	0.94	7.0	Soil-R-1	4.7	NA
1,2-Dichloropropane	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
2-Butanone (MEK)	ug/kg	4	4	3.1	16	Soil-R-3	12	NA
2-Hexanone	ug/kg	4	0	14	18	Soil-R-1	15	NA
4-Methyl-2-pentanone (MIBK)	ug/kg	4	1	10	18	Soil-R-1	14	NA
Acetone	ug/kg	4	4	11	150	Soil-R-3	97	NA
Benzene	ug/kg	4	4	0.68	2.1	Soil-R-2	1.4	NA
Bromodichloromethane	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
Bromoform	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
Bromomethane	ug/kg	4	0	5.5	7.0	Soil-R-1	6.1	NA
Carbon Disulfide	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
Carbon Tetrachloride	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
Chlorobenzene	ug/kg	4	3	1.8	64	Soil-R-2	18	NA
Chloroethane	ug/kg	4	0	5.5	7.0	Soil-R-1	6.1	NA
Chloroform	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
Chloromethane	ug/kg	4	0	5.5	7.0	Soil-R-1	6.1	NA
cis-1,3-Dichloropropene	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
Dibromochloromethane	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
Ethylbenzene	ug/kg	4	4	0.24	1.9	Soil-R-2	0.71	NA
Methylene Chloride	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
Styrene (Monomer)	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
Tetrachloroethene	ug/kg	4	3	2.6	12	Soil-R-2	7.0	NA
Toluene	ug/kg	4	1	1.8	3.6	Soil-R-1	2.9	NA
trans-1,3-Dichloropropene	ug/kg	4	0	2.7	3.6	Soil-R-1	3.1	NA
Trichloroethylene	ug/kg	4	3	0.30	19	Soil-R-4	8.7	NA
Vinyl chloride	ug/kg	4	0	5.5	7.0	Soil-R-1	6.1	NA
Xylenes, Total	ug/kg	4	3	1.0	9.1	Soil-R-2	4.6	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	4	0	175	185	Soil-R-3	179	NA
1,2-Dichlorobenzene	ug/kg	4	0	175	185	Soil-R-3	179	NA
1,3-Dichlorobenzene	ug/kg	4	0	175	185	Soil-R-3	179	NA
1,4-Dichlorobenzene	ug/kg	4	0	175	185	Soil-R-3	179	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	4	0	175	185	Soil-R-3	179	NA
2,4,5-Trichlorophenol	ug/kg	4	0	175	185	Soil-R-3	179	NA
2,4,6-Trichlorophenol	ug/kg	4	0	175	185	Soil-R-3	179	NA
2,4-Dichlorophenol	ug/kg	4	0	175	185	Soil-R-3	179	NA
2,4-Dimethylphenol	ug/kg	4	0	175	185	Soil-R-3	179	NA
2,4-Dinitrophenol	ug/kg	4	0	900	950	Soil-R-3	913	NA
2,4-Dinitrotoluene	ug/kg	4	0	175	185	Soil-R-3	179	NA
2,6-Dinitrotoluene	ug/kg	4	0	175	185	Soil-R-3	179	NA
2-Chloronaphthalene	ug/kg	4	0	175	185	Soil-R-3	179	NA
2-Chlorophenol	ug/kg	4	0	175	185	Soil-R-3	179	NA
2-Methylnaphthalene	ug/kg	4	0	175	185	Soil-R-3	179	NA
2-Methylphenol (o-Cresol)	ug/kg	4	0	175	185	Soil-R-3	179	NA
2-Nitroaniline	ug/kg	4	0	900	950	Soil-R-3	913	NA
2-Nitrophenol	ug/kg	4	0	175	185	Soil-R-3	179	NA
3,3'-Dichlorobenzidine	ug/kg	4	0	350	370	Soil-R-3	359	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	4	0	175	185	Soil-R-3	179	NA
3-Nitroaniline	ug/kg	4	0	900	950	Soil-R-3	913	NA
4,6-Dinitro-2-methylphenol	ug/kg	4	0	900	950	Soil-R-3	913	NA
4-Bromophenyl Phenyl Ether	ug/kg	4	0	175	185	Soil-R-3	179	NA
4-Chloro-3-methylphenol	ug/kg	4	0	175	185	Soil-R-3	179	NA
4-Chloroaniline	ug/kg	4	0	350	370	Soil-R-3	359	NA
4-Chlorophenyl Phenyl Ether	ug/kg	4	0	175	185	Soil-R-3	179	NA
4-Nitroaniline	ug/kg	4	0	900	950	Soil-R-3	913	NA
4-Nitrophenol	ug/kg	4	0	900	950	Soil-R-3	913	NA
Acenaphthene	ug/kg	4	0	175	185	Soil-R-3	179	NA
Acenaphthylene	ug/kg	4	0	175	185	Soil-R-3	179	NA
Anthracene	ug/kg	4	0	175	185	Soil-R-3	179	NA

Table III-B2
Calculations for Risk Assessment Modeling
Site R - Soil
Sauget, IL

Analyte	Units	Site R						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/kg	4	2	30	185	Soil-R-3	106	NA
Benzo(a)pyrene	ug/kg	4	2	26	185	Soil-R-3	105	NA
Benzo(b)fluoranthene	ug/kg	4	2	30	185	Soil-R-3	106	NA
Benzo(g,h,i)perylene	ug/kg	4	2	25	185	Soil-R-3	108	NA
Benzo(k)fluoranthene	ug/kg	4	2	26	185	Soil-R-3	105	NA
bis(2-Chloroethoxy)methane	ug/kg	4	0	175	185	Soil-R-3	179	NA
bis(2-Chloroethyl)ether	ug/kg	4	0	175	185	Soil-R-3	179	NA
bis(2-Ethylhexyl)phthalate	ug/kg	4	1	78	185	Soil-R-3	155	NA
Butyl Benzyl Phthalate	ug/kg	4	0	175	185	Soil-R-3	179	NA
Carbazole	ug/kg	4	0	175	185	Soil-R-3	179	NA
Chrysene	ug/kg	4	2	26	175	Soil-R-2	70	NA
Dibenzo(a,h)anthracene	ug/kg	4	0	175	185	Soil-R-3	179	NA
Dibenzofuran	ug/kg	4	0	175	185	Soil-R-3	179	NA
Diethyl Phthalate	ug/kg	4	0	175	185	Soil-R-3	179	NA
Dimethyl Phthalate	ug/kg	4	0	175	185	Soil-R-3	179	NA
Di-n-butylphthalate	ug/kg	4	0	175	185	Soil-R-3	179	NA
Di-n-octylphthalate	ug/kg	4	0	175	185	Soil-R-3	179	NA
Fluoranthene	ug/kg	4	2	39	185	Soil-R-3	144	NA
Fluorene	ug/kg	4	0	175	185	Soil-R-3	179	NA
Hexachlorobenzene	ug/kg	4	0	175	185	Soil-R-3	179	NA
Hexachlorobutadiene	ug/kg	4	0	175	185	Soil-R-3	179	NA
Hexachlorocyclopentadiene	ug/kg	4	0	175	185	Soil-R-3	179	NA
Hexachloroethane	ug/kg	4	0	175	185	Soil-R-3	179	NA
Indeno(1,2,3-cd)pyrene	ug/kg	4	1	43	185	Soil-R-3	146	NA
Isophorone	ug/kg	4	0	175	185	Soil-R-3	179	NA
Naphthalene	ug/kg	4	0	175	185	Soil-R-3	179	NA
Nitrobenzene	ug/kg	4	0	175	185	Soil-R-3	179	NA
N-Nitroso-di-n-propylamine	ug/kg	4	0	175	185	Soil-R-3	179	NA
N-Nitrosodiphenylamine	ug/kg	4	0	175	185	Soil-R-3	179	NA
Pentachlorophenol	ug/kg	4	2	13	46	Soil-R-1	36	NA
Phenanthrene	ug/kg	4	2	21	185	Soil-R-3	103	NA
Phenol	ug/kg	4	0	175	185	Soil-R-3	179	NA
Pyrene	ug/kg	4	2	48	185	Soil-R-3	146	NA
Pesticides								
4,4'-DDD	ug/kg	4	2	1.8	3.6	Soil-R-1	2.2	NA
4,4'-DDE	ug/kg	4	2	1.8	3.6	Soil-R-1	2.2	NA
4,4'-DDT	ug/kg	4	2	1.8	2.7	Soil-R-1	2.0	NA
Aldrin	ug/kg	4	2	0.90	1.8	Soil-R-1	1.1	NA
alpha-BHC	ug/kg	4	2	0.90	1.8	Soil-R-1	1.1	NA
alpha-Chlordane	ug/kg	4	2	0.90	1.8	Soil-R-1	1.1	NA
beta-BHC	ug/kg	4	2	0.90	1.8	Soil-R-1	1.1	NA
delta-BHC	ug/kg	4	0	0.90	1.8	Soil-R-1	1.1	NA
Dieldrin	ug/kg	4	3	0.37	1.8	Soil-R-2	1.1	NA
Endosulfan I	ug/kg	4	2	0.90	1.8	Soil-R-1	1.1	NA
Endosulfan II	ug/kg	4	2	1.8	3.6	Soil-R-1	2.2	NA
Endosulfan Sulfate	ug/kg	4	2	1.8	3.6	Soil-R-1	2.2	NA
Endrin	ug/kg	4	2	1.8	3.6	Soil-R-1	2.2	NA
Endrin Aldehyde	ug/kg	4	2	1.8	3.6	Soil-R-1	2.2	NA
Endrin Ketone	ug/kg	4	2	1.8	3.6	Soil-R-1	2.2	NA
gamma-BHC (Lindane)	ug/kg	4	2	0.90	1.8	Soil-R-1	1.1	NA
gamma-Chlordane	ug/kg	4	1	0.23	1.8	Soil-R-1	1.0	NA
Heptachlor	ug/kg	4	2	0.90	1.8	Soil-R-1	1.1	NA
Heptachlor Epoxide	ug/kg	4	2	0.90	1.8	Soil-R-1	1.1	NA
Methoxychlor	ug/kg	4	2	9.0	18	Soil-R-1	11	NA
Toxaphene	ug/kg	4	2	90	180	Soil-R-1	114	NA
Herbicides								
2,4-D	ug/kg	4	1	9.0	55	Soil-R-2	26	NA
2,4-DB	ug/kg	4	3	23	60	Soil-R-4	34	NA
2,4,5-T	ug/kg	4	2	4.5	23	Soil-R-1	17	NA
2,4,5-TP (Silvex)	ug/kg	4	1	9.3	23	Soil-R-1	18	NA
Dalapon	ug/kg	4	2	1100	5500	Soil-R-1	4150	NA
Dicamba	ug/kg	4	2	11	55	Soil-R-1	42	NA
Dichloroprop	ug/kg	4	4	44	100	Soil-R-1	78	NA
Dinoseb	ug/kg	4	2	175	185	Soil-R-3	179	NA
MCPA	ug/kg	4	2	1100	5500	Soil-R-1	4150	NA
MCPP	ug/kg	4	4	5200	51000	Soil-R-3	37050	NA

Table III-B2
Calculations for Risk Assessment Modeling
Site R - Soil
Sauget, IL

Analyte	Units	Site R						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/kg	4	1	6.6	9.5	Soil-R-3	8.5	NA
Dioxins/Furans								
TEQ	ug/kg	4	0	0.036	0.25	Soil-R-2	0.14	NA
Metals								
Aluminum	mg/kg	4	4	7600	10000	Soil-R-3	8750	NA
Antimony	mg/kg	4	1	0.44	1.1	Soil-R-3	0.87	NA
Arsenic	mg/kg	4	4	5.5	7.2	Soil-R-1	6.4	NA
Barium	mg/kg	4	4	110	150	Soil-R-1	125	NA
Beryllium	mg/kg	4	4	0.48	0.68	Soil-R-1	0.56	NA
Cadmium	mg/kg	4	2	0.25	0.76	Soil-R-2	0.44	NA
Calcium	mg/kg	4	4	4400	6400	Soil-R-2	5600	NA
Chromium	mg/kg	4	4	13	17	Soil-R-3	15	NA
Cobalt	mg/kg	4	4	6.8	15	Soil-R-1	9.3	NA
Copper	mg/kg	4	4	15	25	Soil-R-2	20	NA
Iron	mg/kg	4	4	15000	18000	Soil-R-1	16750	NA
Lead	mg/kg	4	4	8.6	33	Soil-R-1	18	NA
Magnesium	mg/kg	4	4	3400	4800	Soil-R-3	4325	NA
Manganese	mg/kg	4	4	550	1200	Soil-R-1	750	NA
Mercury	mg/kg	4	4	0.037	0.076	Soil-R-2	0.059	NA
Nickel	mg/kg	4	4	17	21	Soil-R-3	19	NA
Potassium	mg/kg	4	4	790	1000	Soil-R-3	873	NA
Selenium	mg/kg	4	0	0.49	0.55	Soil-R-3	0.51	NA
Silver	mg/kg	4	0	0.49	0.55	Soil-R-3	0.51	NA
Sodium	mg/kg	4	4	87	120	Soil-R-3	102	NA
Thallium	mg/kg	4	0	0.49	0.55	Soil-R-3	0.51	NA
Vanadium	mg/kg	4	4	27	34	Soil-R-1	30	NA
Zinc	mg/kg	4	4	43	120	Soil-R-2	75	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B2
Calculations for Risk Assessment Modeling
Site O - Soil
Sauget, IL

Analyte	Units	Site O						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
1,1,2,2-Tetrachloroethane	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
1,1,2-Trichloroethane	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
1,1-Dichloroethane	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
1,1-Dichloroethylene	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
1,2-Dichloroethane	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
1,2-Dichloroethene (total)	ug/kg	3	0	5.5	425	Soil-O-1	147	NA
1,2-Dichloropropane	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
2-Butanone (MEK)	ug/kg	3	1	17	1050	Soil-O-1	364	NA
2-Hexanone	ug/kg	3	1	14	1050	Soil-O-1	363	NA
4-Methyl-2-pentanone (MIBK)	ug/kg	3	0	14	1050	Soil-O-1	363	NA
Acetone	ug/kg	2	1	49	57	Soil-O-3	90	NA
Benzene	ug/kg	3	1	2.8	590	Soil-O-1	199	NA
Bromodichloromethane	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
Bromoform	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
Bromomethane	ug/kg	3	0	5.5	425	Soil-O-1	147	NA
Carbon Disulfide	ug/kg	3	1	2.8	181	Soil-O-1	63	NA
Carbon Tetrachloride	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
Chlorobenzene	ug/kg	3	1	2.8	5800	Soil-O-1	1956	NA
Chloroethane	ug/kg	3	0	5.5	425	Soil-O-1	147	NA
Chloroform	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
Chloromethane	ug/kg	3	0	5.5	425	Soil-O-1	147	NA
cis-1,3-Dichloropropene	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
Dibromochloromethane	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
Ethylbenzene	ug/kg	3	2	0.58	4400	Soil-O-1	1468	NA
Methylene Chloride	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
Styrene (Monomer)	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
Tetrachloroethene	ug/kg	3	2	1.0	290	Soil-O-1	98	NA
Toluene	ug/kg	3	1	2.8	871	Soil-O-1	293	NA
trans-1,3-Dichloropropene	ug/kg	3	0	2.8	210	Soil-O-1	73	NA
Trichloroethylene	ug/kg	3	1	0.59	210	Soil-O-1	71	NA
Vinyl chloride	ug/kg	3	0	5.5	425	Soil-O-1	147	NA
Xylenes, Total	ug/kg	3	2	1.3	80000	Soil-O-1	26669	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	3	0	175	195	Soil-O-3	187	NA
1,2-Dichlorobenzene	ug/kg	3	2	54	190	Soil-O-2	87	NA
1,3-Dichlorobenzene	ug/kg	3	0	175	195	Soil-O-3	187	NA
1,4-Dichlorobenzene	ug/kg	3	0	175	195	Soil-O-3	187	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	3	0	175	195	Soil-O-3	187	NA
2,4,5-Trichlorophenol	ug/kg	3	0	175	195	Soil-O-3	187	NA
2,4,6-Trichlorophenol	ug/kg	3	0	175	195	Soil-O-3	187	NA
2,4-Dichlorophenol	ug/kg	3	1	35	190	Soil-O-2	133	NA
2,4-Dimethylphenol	ug/kg	3	0	175	195	Soil-O-3	187	NA
2,4-Dinitrophenol	ug/kg	3	0	900	1000	Soil-O-3	950	NA
2,4-Dinitrotoluene	ug/kg	3	0	175	195	Soil-O-3	187	NA
2,6-Dinitrotoluene	ug/kg	3	0	175	195	Soil-O-3	187	NA
2-Chloronaphthalene	ug/kg	3	0	175	195	Soil-O-3	187	NA
2-Chlorophenol	ug/kg	3	0	175	195	Soil-O-3	187	NA
2-Methylnaphthalene	ug/kg	3	0	175	195	Soil-O-3	187	NA
2-Methylphenol (o-Cresol)	ug/kg	3	0	175	195	Soil-O-3	187	NA
2-Nitroaniline	ug/kg	3	1	53	950	Soil-O-2	634	NA
2-Nitrophenol	ug/kg	3	0	175	195	Soil-O-3	187	NA
3,3'-Dichlorobenzidine	ug/kg	3	0	350	390	Soil-O-3	372	NA
3/4-Methylphenol (m/p-Cresol)	ug/kg	3	0	175	195	Soil-O-3	187	NA
3-Nitroaniline	ug/kg	3	0	900	1000	Soil-O-3	950	NA
4,6-Dinitro-2-methylphenol	ug/kg	3	0	900	1000	Soil-O-3	950	NA
4-Bromophenyl Phenyl Ether	ug/kg	3	0	175	195	Soil-O-3	187	NA
4-Chloro-3-methylphenol	ug/kg	3	0	175	195	Soil-O-3	187	NA
4-Chloroaniline	ug/kg	3	0	350	390	Soil-O-3	372	NA
4-Chlorophenyl Phenyl Ether	ug/kg	3	0	175	195	Soil-O-3	187	NA
4-Nitroaniline	ug/kg	3	0	900	1000	Soil-O-3	950	NA
4-Nitrophenol	ug/kg	3	0	900	1000	Soil-O-3	950	NA
Acenaphthene	ug/kg	3	0	175	195	Soil-O-3	187	NA
Acenaphthylene	ug/kg	3	0	175	195	Soil-O-3	187	NA
Anthracene	ug/kg	3	0	175	195	Soil-O-3	187	NA

Table III-B2
Calculations for Rsk Assessment Modeling
Site O - Soil
Sauget, IL

Analyte	Units	Site O						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/kg	3	2	41	190	Soil-O-2	98	NA
Benzo(a)pyrene	ug/kg	3	1	46	195	Soil-O-3	144	NA
Benzo(b)fluoranthene	ug/kg	3	3	89	140	Soil-O-2	109	NA
Benzo(g,h,i)perylene	ug/kg	3	2	42	1200	Soil-O-3	477	NA
Benzo(k)fluoranthene	ug/kg	3	1	100	190	Soil-O-2	155	NA
bis(2-Chloroethoxy)methane	ug/kg	3	0	175	195	Soil-O-3	187	NA
bis(2-Chloroethyl)ether	ug/kg	3	0	175	195	Soil-O-3	187	NA
bis(2-Ethylhexyl)phthalate	ug/kg	3	3	23	250	Soil-O-1	112	NA
Butyl Benzyl Phthalate	ug/kg	3	1	35	190	Soil-O-2	133	NA
Carbazole	ug/kg	3	0	175	195	Soil-O-3	187	NA
Chrysene	ug/kg	3	2	67	200	Soil-O-3	152	NA
Dibenzo(a,h)anthracene	ug/kg	3	2	78	175	Soil-O-1	128	NA
Dibenzofuran	ug/kg	3	0	175	195	Soil-O-3	187	NA
Diethyl Phthalate	ug/kg	3	0	175	195	Soil-O-3	187	NA
Dimethyl Phthalate	ug/kg	3	0	175	195	Soil-O-3	187	NA
Di-n-butylphthalate	ug/kg	3	1	49	190	Soil-O-2	138	NA
Di-n-octylphthalate	ug/kg	3	0	175	195	Soil-O-3	187	NA
Fluoranthene	ug/kg	3	1	82	195	Soil-O-3	156	NA
Fluorene	ug/kg	3	0	175	195	Soil-O-3	187	NA
Hexachlorobenzene	ug/kg	3	1	110	190	Soil-O-2	158	NA
Hexachlorobutadiene	ug/kg	3	0	175	195	Soil-O-3	187	NA
Hexachlorocyclopentadiene	ug/kg	3	0	175	195	Soil-O-3	187	NA
Hexachloroethane	ug/kg	3	0	175	195	Soil-O-3	187	NA
Indeno(1,2,3-cd)pyrene	ug/kg	3	1	32	195	Soil-O-3	139	NA
Isophorone	ug/kg	3	0	175	195	Soil-O-3	187	NA
Naphthalene	ug/kg	3	0	175	195	Soil-O-3	187	NA
Nitrobenzene	ug/kg	3	0	175	195	Soil-O-3	187	NA
N-Nitroso-di-n-propylamine	ug/kg	3	0	175	195	Soil-O-3	187	NA
N-Nitrosodiphenylamine	ug/kg	3	0	175	195	Soil-O-3	187	NA
Pentachlorophenol	ug/kg	3	3	23	2000	Soil-O-3	695	NA
Phenanthrene	ug/kg	3	2	32	190	Soil-O-2	87	NA
Phenol	ug/kg	3	0	175	195	Soil-O-3	187	NA
Pyrene	ug/kg	3	2	78	190	Soil-O-2	133	NA
Pesticides								
4,4'-DDD	ug/kg	3	1	1.8	86	Soil-O-3	30	NA
4,4'-DDE	ug/kg	3	1	1.8	39	Soil-O-3	14	NA
4,4'-DDT	ug/kg	3	2	0.81	230	Soil-O-3	78	NA
Aldrin	ug/kg	3	1	0.90	20	Soil-O-3	7.3	NA
alpha-BHC	ug/kg	3	1	0.90	20	Soil-O-3	7.3	NA
alpha-Chlordane	ug/kg	3	1	0.90	9.4	Soil-O-3	3.8	NA
beta-BHC	ug/kg	3	1	0.90	20	Soil-O-3	7.3	NA
delta-BHC	ug/kg	3	1	0.90	20	Soil-O-3	7.3	NA
Dieldrin	ug/kg	3	1	0.70	180	Soil-O-3	61	NA
Endosulfan I	ug/kg	3	1	0.90	20	Soil-O-3	7.3	NA
Endosulfan II	ug/kg	3	1	1.8	11	Soil-O-3	4.9	NA
Endosulfan Sulfate	ug/kg	3	1	1.8	170	Soil-O-3	58	NA
Endrin	ug/kg	3	1	1.8	39	Soil-O-3	14	NA
Endrin Aldehyde	ug/kg	3	2	1.8	39	Soil-O-3	15	NA
Endrin Ketone	ug/kg	3	1	1.8	22	Soil-O-3	8.6	NA
gamma-BHC (Lindane)	ug/kg	3	1	0.90	32	Soil-O-3	11	NA
gamma-Chlordane	ug/kg	3	2	0.33	180	Soil-O-3	60	NA
Heptachlor	ug/kg	3	1	0.90	16	Soil-O-3	6.0	NA
Heptachlor Epoxide	ug/kg	3	1	0.90	20	Soil-O-3	7.3	NA
Methoxychlor	ug/kg	3	2	0.88	200	Soil-O-3	70	NA
Toxaphene	ug/kg	3	1	90	2000	Soil-O-3	728	NA
Herbicides								
2,4-D	ug/kg	3	2	18	50	Soil-O-3	33	NA
2,4-DB	ug/kg	3	2	13	19	Soil-O-3	17	NA
2,4,5-T	ug/kg	3	1	4.7	18	Soil-O-1	13	NA
2,4,5-TP (Silvex)	ug/kg	3	0	4.7	18	Soil-O-1	9.0	NA
Dalapon	ug/kg	3	0	1150	4250	Soil-O-1	2200	NA
Dicamba	ug/kg	3	1	2.4	43	Soil-O-1	19	NA
Dichlorprop	ug/kg	3	2	5.5	37	Soil-O-2	18	NA
Dinoseb	ug/kg	3	0	175	195	Soil-O-3	187	NA
MCPA	ug/kg	3	0	1150	4250	Soil-O-1	2200	NA
MCPP	ug/kg	3	3	11000	43000	Soil-O-1	22000	NA

Table III-B2
Calculations for Risk Assessment Modeling
Site O - Soil
Sauget, IL

Analyte	Units	Site O						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/kg	3	3	0.78	709200	Soil-O-3	239988	NA
Dioxins/Furans								
TEQ	ug/kg	3	3	0.056	51	Soil-O-1	19	NA
Metals								
Aluminum	mg/kg	3	3	5200	8600	Soil-O-3	7067	NA
Antimony	mg/kg	3	3	1.74	2.1	Soil-O-3	1.2	NA
Arsenic	mg/kg	3	3	5.1	11	Soil-O-1	7.5	NA
Barium	mg/kg	3	3	100	340	Soil-O-1	190	NA
Beryllium	mg/kg	3	3	0.36	0.54	Soil-O-3	0.46	NA
Cadmium	mg/kg	3	3	0.54	17	Soil-O-1	6.4	NA
Calcium	mg/kg	3	3	4900	26000	Soil-O-2	12500	NA
Chromium	mg/kg	3	3	13	16	Soil-O-1	15	NA
Cobalt	mg/kg	3	3	5.4	6.4	Soil-O-3	5.5	NA
Copper	mg/kg	3	3	26	270	Soil-O-1	112	NA
Iron	mg/kg	3	3	11000	16000	Soil-O-3	14000	NA
Lead	mg/kg	3	3	14	130	Soil-O-1	55	NA
Magnesium	mg/kg	3	3	2300	8500	Soil-O-2	4967	NA
Manganese	mg/kg	3	3	420	530	Soil-O-2	480	NA
Mercury	mg/kg	3	3	0.049	43	Soil-O-1	15	NA
Nickel	mg/kg	3	3	18	28	Soil-O-1	21	NA
Potassium	mg/kg	3	3	722	860	Soil-O-3	810	NA
Selenium	mg/kg	3	1	0.55	1.6	Soil-O-1	1.1	NA
Silver	mg/kg	3	2	0.55	2.3	Soil-O-1	1.5	NA
Sodium	mg/kg	3	3	85	110	Soil-O-2	97	NA
Thallium	mg/kg	3	1	0.55	1.1	Soil-O-3	0.73	NA
Vanadium	mg/kg	3	3	19	28	Soil-O-2, O-3	25	NA
Zinc	mg/kg	3	3	70	940	Soil-O-1	380	NA

NOTES
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B2
Calculations for Risk Assessment Modeling
Site S - Soil
Sauget, IL

Analyte	Units	Site S						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
1,1,2,2-Tetrachloroethane	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
1,1,2-Trichloroethane	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
1,1-Dichloroethane	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
1,1-Dichloroethylene	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
1,2-Dichloroethane	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
1,2-Dichloroethene (total)	ug/kg	1	0	5.5	5.5	Soil-S-1	5.5	NA
1,2-Dichloropropane	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
2-Butanone (MEK)	ug/kg	1	0	14	14	Soil-S-1	14	NA
2-Hexanone	ug/kg	1	0	14	14	Soil-S-1	14	NA
4-Methyl-2-pentanone (MIBK)	ug/kg	1	0	14	14	Soil-S-1	14	NA
Acetone	ug/kg	1	1	14	14	Soil-S-1	14	NA
Benzene	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Bromodichloromethane	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Bromoform	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Bromomethane	ug/kg	1	0	5.5	5.5	Soil-S-1	5.5	NA
Carbon Disulfide	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Carbon Tetrachloride	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Chlorobenzene	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Chloroethane	ug/kg	1	0	5.5	5.5	Soil-S-1	5.5	NA
Chloroform	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Chloromethane	ug/kg	1	0	5.5	5.5	Soil-S-1	5.5	NA
cis-1,3-Dichloropropene	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Dibromochloromethane	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Ethylbenzene	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Methylene Chloride	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Styrene (Monomer)	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Tetrachloroethene	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Toluene	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
trans-1,3-Dichloropropene	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Trichloroethylene	ug/kg	1	0	2.7	2.7	Soil-S-1	2.7	NA
Vinyl chloride	ug/kg	1	0	5.5	5.5	Soil-S-1	5.5	NA
Xylenes, Total	ug/kg	1	0	5.5	5.5	Soil-S-1	5.5	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	1	1	36000	36000	Soil-S-1	36000	NA
1,2-Dichlorobenzene	ug/kg	1	1	37000	37000	Soil-S-1	37000	NA
1,3-Dichlorobenzene	ug/kg	1	1	1000	1000	Soil-S-1	1000	NA
1,4-Dichlorobenzene	ug/kg	1	1	7500	7500	Soil-S-1	7500	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
2,4,5-Trichlorophenol	ug/kg	1	1	1100	1100	Soil-S-1	1100	NA
2,4,6-Trichlorophenol	ug/kg	1	1	8200	8200	Soil-S-1	8200	NA
2,4-Dichlorophenol	ug/kg	1	1	2300	2300	Soil-S-1	2300	NA
2,4-Dimethylphenol	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
2,4-Dinitrophenol	ug/kg	1	0	37000	37000	Soil-S-1	37000	NA
2,4-Dinitrotoluene	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
2,6-Dinitrotoluene	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
2-Chloronaphthalene	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
2-Chlorophenol	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
2-Methylnaphthalene	ug/kg	1	1	11000	11000	Soil-S-1	11000	NA
2-Methylphenol (o-Cresol)	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
2-Nitroaniline	ug/kg	1	1	4600	4600	Soil-S-1	4600	NA
2-Nitrophenol	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
3,3'-Dichlorobenzidine	ug/kg	1	0	14500	14500	Soil-S-1	14500	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
3-Nitroaniline	ug/kg	1	0	37000	37000	Soil-S-1	37000	NA
4,6-Dinitro-2-methylphenol	ug/kg	1	0	37000	37000	Soil-S-1	37000	NA
4-Bromophenyl Phenyl Ether	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
4-Chloro-3-methylphenol	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
4-Chloroaniline	ug/kg	1	0	14500	14500	Soil-S-1	14500	NA
4-Chlorophenyl Phenyl Ether	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
4-Nitroaniline	ug/kg	1	1	57000	57000	Soil-S-1	57000	NA
4-Nitrophenol	ug/kg	1	0	37000	37000	Soil-S-1	37000	NA
Acenaphthene	ug/kg	1	1	1200	1200	Soil-S-1	1200	NA
Acenaphthylene	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA
Anthracene	ug/kg	1	0	7000	7000	Soil-S-1	7000	NA

Table III-B2
Calculations for Risk Assessment Modeling
Site S - Soil
Sauget, IL

Analyte	Units	Site S						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo[a]anthracene	ug/kg		1	8000	8000	Soil-S-1	8000	NA
Benzo[a]pyrene	ug/kg		1	5400	5400	Soil-S-1	5400	NA
Benzo[b]fluoranthene	ug/kg		1	6600	6600	Soil-S-1	6600	NA
Benzo[g,h,i]perylene	ug/kg		1	4200	4200	Soil-S-1	4200	NA
Benzo[k]fluoranthene	ug/kg		1	6400	6400	Soil-S-1	6400	NA
bis(2-Chloroethoxy)methane	ug/kg		0	7000	7000	Soil-S-1	7000	NA
bis(2-Chloroethyl)ether	ug/kg		0	7000	7000	Soil-S-1	7000	NA
bis(2-Ethylhexyl)phthalate	ug/kg		1	3900	3900	Soil-S-1	3900	NA
Butyl Benzyl Phthalate	ug/kg		1	120000	120000	Soil-S-1	120000	NA
Carbazole	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Chrysene	ug/kg		1	20000	20000	Soil-S-1	20000	NA
Dibenzo[a,h]anthracene	ug/kg		1	1800	1800	Soil-S-1	1800	NA
Dibenzofuran	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Diethyl Phthalate	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Dimethyl Phthalate	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Di-n-butylphthalate	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Di-n-octylphthalate	ug/kg		1	1300	1300	Soil-S-1	1300	NA
Fluoranthene	ug/kg		1	4200	4200	Soil-S-1	4200	NA
Fluorene	ug/kg		1	1200	1200	Soil-S-1	1200	NA
Hexachlorobenzene	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Hexachlorobutadiene	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Hexachlorocyclopentadiene	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Hexachloroethane	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Indeno[1,2,3-cd]pyrene	ug/kg		1	1300	1300	Soil-S-1	1300	NA
Isophorone	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Naphthalene	ug/kg		1	2100	2100	Soil-S-1	2100	NA
Nitrobenzene	ug/kg		0	7000	7000	Soil-S-1	7000	NA
N-Nitroso-di-n-propylamine	ug/kg		0	7000	7000	Soil-S-1	7000	NA
N-Nitrosodiphenylamine	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Pentachlorophenol	ug/kg		1	440000	440000	Soil-S-1	440000	NA
Phenanthrene	ug/kg		1	9200	9200	Soil-S-1	9200	NA
Phenol	ug/kg		0	7000	7000	Soil-S-1	7000	NA
Pyrene	ug/kg		1	28000	28000	Soil-S-1	28000	NA
Pesticides								
4,4'-DDD	ug/kg		1	1700	1700	Soil-S-1	1700	NA
4,4'-DDE	ug/kg		1	3300	3300	Soil-S-1	3300	NA
4,4'-DDT	ug/kg		1	16000	16000	Soil-S-1	16000	NA
Aldrin	ug/kg		0	900	900	Soil-S-1	900	NA
alpha-BHC	ug/kg		0	900	900	Soil-S-1	900	NA
alpha-Chlordane	ug/kg		0	900	900	Soil-S-1	900	NA
beta-BHC	ug/kg		1	26000	26000	Soil-S-1	26000	NA
delta-BHC	ug/kg		1	740	740	Soil-S-1	740	NA
Dieldrin	ug/kg		0	1800	1800	Soil-S-1	1800	NA
Endosulfan I	ug/kg		0	900	900	Soil-S-1	900	NA
Endosulfan II	ug/kg		1	5400	5400	Soil-S-1	5400	NA
Endosulfan Sulfate	ug/kg		0	1800	1800	Soil-S-1	1800	NA
Endrin	ug/kg		1	10000	10000	Soil-S-1	10000	NA
Endrin Aldehyde	ug/kg		0	1800	1800	Soil-S-1	1800	NA
Endrin Ketone	ug/kg		0	1800	1800	Soil-S-1	1800	NA
gamma-BHC (Lindane)	ug/kg		1	7500	7500	Soil-S-1	7500	NA
gamma-Chlordane	ug/kg		1	2700	2700	Soil-S-1	2700	NA
Heptachlor	ug/kg		1	1500	1500	Soil-S-1	1500	NA
Heptachlor Epoxide	ug/kg		0	900	900	Soil-S-1	900	NA
Methoxychlor	ug/kg		0	9000	9000	Soil-S-1	9000	NA
Toxaphene	ug/kg		0	90000	90000	Soil-S-1	90000	NA
Herbicides								
2,4-D	ug/kg		1	3300	3300	Soil-S-1	3300	NA
2,4-DB	ug/kg		0	90	90	Soil-S-1	90	NA
2,4,5-T	ug/kg		0	18000	18000	Soil-S-1	18000	NA
2,4,5-TP (Silvex)	ug/kg		1	250	250	Soil-S-1	250	NA
Dalapon	ug/kg		0	21500	21500	Soil-S-1	21500	NA
Dicamba	ug/kg		0	215	215	Soil-S-1	215	NA
Dichloroprop	ug/kg		0	1100	1100	Soil-S-1	1100	NA
Dinoseb	ug/kg		1	1700	1700	Soil-S-1	1700	NA
MCPA	ug/kg		0	21500	21500	Soil-S-1	21500	NA
MCPP	ug/kg		0	21500	21500	Soil-S-1	21500	NA

Table III-B2
Calculations for Risk Assessment Modeling
Site S - Soil
Sauget, IL

Analyte	Units	Site S						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/kg	1	1	1008500	1008500	Soil-S-1	1008500	NA
Dioxins/Furans								
TEQ	ug/kg	1	1	0.012	0.012	Soil-S-1	0.012	NA
Metals								
Aluminum	mg/kg	1	1	7300	7300	Soil-S-1	7300	NA
Antimony	mg/kg	1	1	0.58	0.58	Soil-S-1	0.58	NA
Arsenic	mg/kg	1	1	5.8	5.8	Soil-S-1	5.8	NA
Barium	mg/kg	1	1	120	120	Soil-S-1	120	NA
Beryllium	mg/kg	1	1	0.46	0.46	Soil-S-1	0.46	NA
Cadmium	mg/kg	1	1	0.85	0.85	Soil-S-1	0.85	NA
Calcium	mg/kg	1	1	4900	4900	Soil-S-1	4900	NA
Chromium	mg/kg	1	1	23	23	Soil-S-1	23	NA
Cobalt	mg/kg	1	1	9.4	9.4	Soil-S-1	9.4	NA
Copper	mg/kg	1	1	23	23	Soil-S-1	23	NA
Iron	mg/kg	1	1	13000	13000	Soil-S-1	13000	NA
Lead	mg/kg	1	1	63	63	Soil-S-1	63	NA
Magnesium	mg/kg	1	1	2600	2600	Soil-S-1	2600	NA
Manganese	mg/kg	1	1	670	670	Soil-S-1	670	NA
Mercury	mg/kg	1	1	0.074	0.074	Soil-S-1	0.074	NA
Nickel	mg/kg	1	1	20	20	Soil-S-1	20	NA
Potassium	mg/kg	1	1	870	870	Soil-S-1	870	NA
Selenium	mg/kg	1	0	0.50	0.50	Soil-S-1	0.50	NA
Silver	mg/kg	1	0	0.50	0.50	Soil-S-1	0.50	NA
Sodium	mg/kg	1	1	79	79	Soil-S-1	79	NA
Thallium	mg/kg	1	0	0.50	0.50	Soil-S-1	0.50	NA
Vanadium	mg/kg	1	1	24	24	Soil-S-1	24	NA
Zinc	mg/kg	1	1	110	110	Soil-S-1	110	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B2
Calculations for Risk Assessment Modeling
Site Q - Soil
Sauget, IL

Analyte	Units	Site Q						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
1,1,2,2-Tetrachloroethane	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
1,1,2-Trichloroethane	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
1,1-Dichloroethane	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
1,1-Dichloroethylene	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
1,2-Dichloroethane	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
1,2-Dichloroethene, total	ug/kg	14	1	6.0	33	SOIL-Q-11	7.7	NA
1,2-Dichloropropane	ug/kg	14	1	2.9	6.2	SOIL-Q-17	4.0	NA
2-Butanone (MEK)	ug/kg	14	6	2.3	31	SOIL-Q-11	16	NA
2-Hexanone	ug/kg	14	6	5.7	190	SOIL-Q-17	49	NA
4-Methyl-2-pentanone (MIBK)	ug/kg	14	5	3.0	25	SOIL-Q-10	14	NA
Acetone	ug/kg	14	5	20	260	SOIL-Q-20	76	NA
Benzene	ug/kg	14	5	2.5	5.7	SOIL-Q-11	3.3	NA
Bromodichloromethane	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
Bromoform	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
Bromomethane	ug/kg	14	0	6.0	13	SOIL-Q-11	7.7	NA
Carbon Disulfide	ug/kg	14	5	0.44	6.0	SOIL-Q-11	3.8	NA
Carbon Tetrachloride	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
Chlorobenzene	ug/kg	14	5	0.36	45	SOIL-Q-11	6.4	NA
Chloroethane	ug/kg	14	0	6.0	33	SOIL-Q-11	7.7	NA
Chloroform	ug/kg	14	1	1.8	5.0	SOIL-Q-11 Dup	3.5	NA
Chloromethane	ug/kg	14	0	6.0	33	SOIL-Q-11	7.7	NA
cis-1,3-Dichloropropene	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
Dibromochloromethane	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
Ethylbenzene	ug/kg	14	10	0.23	21	SOIL-Q-11 Dup	3.2	NA
Methylene Chloride	ug/kg	14	1	2.9	6.0	SOIL-Q-11	3.8	NA
Styrene (Monomer)	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
Tetrachloroethene	ug/kg	14	4	0.47	5.0	SOIL-Q-11 Dup	2.8	NA
Toluene	ug/kg	14	9	1.0	18	SOIL-Q-20	4.5	NA
trans-1,3-Dichloropropene	ug/kg	14	0	2.9	6.0	SOIL-Q-11	3.8	NA
Trichloroethylene	ug/kg	14	3	1.2	6.0	SOIL-Q-11	3.2	NA
Vinyl chloride	ug/kg	14	0	6.0	13	SOIL-Q-11	7.7	NA
Xylenes, Total	ug/kg	14	13	0.56	250	SOIL-Q-11 Dup	24	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
1,2-Dichlorobenzene	ug/kg	14	2	31	1950	SOIL-Q-10 Dup	308	NA
1,3-Dichlorobenzene	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
1,4-Dichlorobenzene	ug/kg	14	2	190	1950	SOIL-Q-10 Dup	353	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
2,4,5-Trichlorophenol	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
2,4,6-Trichlorophenol	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
2,4-Dichlorophenol	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
2,4-Dimethylphenol	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
2,4-Dinitrophenol	ug/kg	14	0	1000	10000	SOIL-Q-10 Dup	1743	NA
2,4-Dinitrotoluene	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
2,6-Dinitrotoluene	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
2-Chloronaphthalene	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
2-Chlorophenol	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
2-Methylnaphthalene	ug/kg	14	2	48	1950	SOIL-Q-10 Dup	311	NA
2-Methylphenol (o-Cresol)	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
2-Nitroaniline	ug/kg	14	0	1000	10000	SOIL-Q-10 Dup	1743	NA
2-Nitrophenol	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
3,3'-Dichlorobenzidine	ug/kg	14	0	380	3900	SOIL-Q-10 Dup	675	NA
3/4-Methylphenol (m/p-Cresol)	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
3-Nitroaniline	ug/kg	14	0	1000	10000	SOIL-Q-10 Dup	1743	NA
4,6-Dinitro-2-methylphenol	ug/kg	14	0	1000	10000	SOIL-Q-10 Dup	1743	NA
4-Bromophenyl Phenyl Ether	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
4-Chloro-3-methylphenol	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
4-Chloroaniline	ug/kg	14	0	380	3900	SOIL-Q-10 Dup	675	NA
4-Chlorophenyl Phenyl Ether	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
4-Nitroaniline	ug/kg	14	0	1000	10000	SOIL-Q-10 Dup	1743	NA
4-Nitrophenol	ug/kg	14	0	1000	10000	SOIL-Q-10 Dup	1743	NA
Acenaphthene	ug/kg	14	5	37	260	SOIL-Q-10 Dup	173	NA
Acenaphthylene	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
Anthracene	ug/kg	14	6	65	1400	SOIL-Q-10 Dup	337	NA

Table III-B2
Calculations for Risk Assessment Modeling
Site Q - Soil
Sauget, IL

Analyte	Units	Site Q						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/kg	14	12	30	4500	SOIL-Q-10 Dup	759	NA
Benzo(a)pyrene	ug/kg	14	11	40	5300	SOIL-Q-10 Dup	818	NA
Benzo(b)fluoranthene	ug/kg	14	10	33	4800	SOIL-Q-10 Dup	920	NA
Benzo(g,h,i)perylene	ug/kg	14	10	37	3800	SOIL-Q-10 Dup	459	NA
Benzo(k)fluoranthene	ug/kg	14	12	32	4400	SOIL-Q-10 Dup	601	NA
bis(2-Chloroethoxy)methane	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
bis(2-Chloroethyl)ether	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
bis(2-Ethylhexyl)phthalate	ug/kg	14	11	25	13000	SOIL-Q-11	1422	NA
Butyl Benzyl Phthalate	ug/kg	14	3	180	1950	SOIL-Q-10 Dup	403	NA
Carbazole	ug/kg	14	5	79	670	SOIL-Q-10 Dup	219	NA
Chrysene	ug/kg	14	14	23	5100	SOIL-Q-10 Dup	826	NA
Dibenzo(a,h)anthracene	ug/kg	14	2	86	1950	SOIL-Q-10 Dup	329	NA
Dibenzofuran	ug/kg	14	4	24	1950	SOIL-Q-10 Dup	289	NA
Diethyl Phthalate	ug/kg	14	1	78	1950	SOIL-Q-10 Dup	326	NA
Dimethyl Phthalate	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
Di-n-butylphthalate	ug/kg	14	5	51	1950	SOIL-Q-10 Dup	291	NA
Di-n-octylphthalate	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
Fluoranthene	ug/kg	14	12	57	8000	SOIL-Q-10 Dup	1397	NA
Fluorene	ug/kg	14	4	34	1950	SOIL-Q-10 Dup	304	NA
Hexachlorobenzene	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
Hexachlorobutadiene	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
Hexachlorocyclopentadiene	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
Hexachloroethane	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
Indeno(1,2,3-cd)pyrene	ug/kg	14	5	45	1950	SOIL-Q-10 Dup	319	NA
Isophorone	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
Naphthalene	ug/kg	14	2	170	1950	SOIL-Q-10 Dup	350	NA
Nitrobenzene	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
N-Nitroso-di-n-propylamine	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
N-Nitrosodiphenylamine	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
Pentachlorophenol	ug/kg	14	10	1.1	3600	SOIL-Q-11 Dup	429	NA
Phenanthrene	ug/kg	14	11	26	6300	SOIL-Q-10 Dup	953	NA
Phenol	ug/kg	14	0	190	1950	SOIL-Q-10 Dup	337	NA
Pyrene	ug/kg	14	9	53	8600	SOIL-Q-10 Dup	1502	NA
Pesticides								
4,4'-DDD	ug/kg	14	3	1.2	48	SOIL-Q-11 Dup	17	NA
4,4'-DDE	ug/kg	14	7	0.71	570	SOIL-Q-11	94	NA
4,4'-DDT	ug/kg	14	12	2.1	2600	SOIL-Q-9	508	NA
Aldrin	ug/kg	14	1	1.0	25	SOIL-Q-11 Dup	8.5	NA
alpha-BHC	ug/kg	14	3	1.0	200	SOIL-Q-11 Dup	31	NA
alpha-Chlordane	ug/kg	14	9	0.15	60	SOIL-Q-11 Dup	14	NA
beta-BHC	ug/kg	14	2	1.0	25	SOIL-Q-11 Dup	8.5	NA
delta-BHC	ug/kg	14	1	1.0	25	SOIL-Q-11 Dup	8.5	NA
Dieldrin	ug/kg	14	11	0.41	400	SOIL-Q-11	96	NA
Endosulfan I	ug/kg	14	1	1.0	25	SOIL-Q-11 Dup	8.5	NA
Endosulfan II	ug/kg	14	3	1.0	48	SOIL-Q-11 Dup	16	NA
Endosulfan Sulfate	ug/kg	14	5	1.9	43	SOIL-Q-11 Dup	12	NA
Endrin	ug/kg	14	3	1.9	170	SOIL-Q-9	27	NA
Endrin Aldehyde	ug/kg	14	6	0.92	48	SOIL-Q-11 Dup	16	NA
Endrin Ketone	ug/kg	14	7	0.52	110	SOIL-Q-11, Q-11 Dup	25	NA
gamma-BHC (Lindane)	ug/kg	14	1	1.0	25	SOIL-Q-11 Dup	8.5	NA
gamma-Chlordane	ug/kg	14	7	0.53	410	SOIL-Q-11	74	NA
Heptachlor	ug/kg	14	1	1.0	25	SOIL-Q-11 Dup	8.5	NA
Heptachlor Epoxide	ug/kg	14	8	0.23	76	SOIL-Q-9	14	NA
Methoxychlor	ug/kg	14	2	11	245	SOIL-Q-11 Dup	108	NA
Toxaphene	ug/kg	14	1	100	2450	SOIL-Q-11 Dup	846	NA
Herbicides								
2,4-D	ug/kg	14	11	4.7	120	SOIL-Q-11	16	NA
2,4-DB	ug/kg	14	2	4.8	120	SOIL-Q-11	15	NA
2,4,5-T	ug/kg	14	3	1.3	120	SOIL-Q-11	14	NA
2,4,5-TP (Silvex)	ug/kg	14	1	4.8	120	SOIL-Q-11	14	NA
Dalapon	ug/kg	14	1	1150	28500	SOIL-Q-11	3311	NA
Dicamba	ug/kg	14	1	12	285	SOIL-Q-11	33	NA
Dichlorprop	ug/kg	14	5	1.5	1400	SOIL-Q-11	147	NA
Dinoseb	ug/kg	14	1	190	1950	SOIL-Q-10 Dup	352	NA
MCPA	ug/kg	14	7	600	28500	SOIL-Q-11	3381	NA
MCPP	ug/kg	14	8	750	28500	SOIL-Q-11	3832	NA

Table III-B2
Calculations for Risk Assessment Modeling
Site Q - Soil
Sauget, IL

Analyte	Units	Site Q						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/kg	14	[illegible]	[illegible]	13815	SOIL-Q-11 Dup	3571	NA
Dioxins/Furans								
TEQ	ug/kg	14	14	[illegible]	8.0	SOIL-Q-13	8.0	NA
Metals								
Aluminum	mg/kg	14	14	5900	14000	SOIL-Q-13	9207	NA
Antimony	mg/kg	14	9	[illegible]	47	SOIL-Q-9	7.9	NA
Arsenic	mg/kg	14	14	3.3	33	SOIL-Q-9	11	NA
Barium	mg/kg	14	14	86	1500	SOIL-Q-11 Dup	479	NA
Beryllium	mg/kg	14	14	0.28	0.95	SOIL-Q-13	0.64	NA
Cadmium	mg/kg	14	14	0.41	37	SOIL-Q-11	8.4	NA
Calcium	mg/kg	14	14	7400	75000	SOIL-Q-11 Dup	19843	NA
Chromium	mg/kg	14	14	8.3	66	SOIL-Q-9	37	NA
Cobalt	mg/kg	14	14	5.1	20	SOIL-Q-9	10	NA
Copper	mg/kg	14	14	7.1	2600	SOIL-Q-11	369	NA
Iron	mg/kg	14	14	9200	90000	SOIL-Q-9	33129	NA
Lead	mg/kg	14	14	15	3100	SOIL-Q-9	637	NA
Magnesium	mg/kg	14	14	2700	5700	SOIL-Q-11 Dup	4043	NA
Manganese	mg/kg	14	14	290	2100	SOIL-Q-9	612	NA
Mercury	mg/kg	14	14	0.021	4.1	SOIL-Q-11 Dup	0.95	NA
Nickel	mg/kg	14	14	11	500	SOIL-Q-9	67	NA
Potassium	mg/kg	14	14	710	2300	SOIL-Q-13	1249	NA
Selenium	mg/kg	14	3	0.50	3.7	SOIL-Q-11	0.99	NA
Silver	mg/kg	14	8	0.11	17	SOIL-Q-11	3.4	NA
Sodium	mg/kg	14	4	39	620	SOIL-Q-11	158	NA
Thallium	mg/kg	14	4	0.50	3.3	SOIL-Q-11 Dup	0.99	NA
Vanadium	mg/kg	14	14	13	36	SOIL-Q-13	26	NA
Zinc	mg/kg	14	14	100	3600	SOIL-Q-11 Dup	1013	NA

NOTES
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B2
Calculations for Risk Assessment Modeling
Site-Wide - Soil
Sauget, IL

Analyte	Units	Site-Wide						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/kg	26	0	2.7	210	Soil-O-1	12	27
1,1,2,2-Tetrachloroethane	ug/kg	26	0	2.7	210	Soil-O-1	12	27
1,1,2-Trichloroethane	ug/kg	26	0	2.7	210	Soil-O-1	12	27
1,1-Dichloroethane	ug/kg	26	0	2.7	210	Soil-O-1	12	27
1,1-Dichloroethylene	ug/kg	26	0	2.7	210	Soil-O-1	12	27
1,2-Dichloroethane	ug/kg	26	2	1.5	210	Soil-O-1	12	27
1,2-Dichloroethene (total)	ug/kg	26	1	0.94	425	Soil-O-1	24	55
1,2-Dichloropropane	ug/kg	26	1	2.7	210	Soil-O-1	12	27
2-Butanone (MEK)	ug/kg	26	12	2.3	1050	Soil-O-1	56	134
2-Hexanone	ug/kg	26	7	5.7	1050	Soil-O-1	74	153
4-Methyl-2-pentanone (MIBK)	ug/kg	26	8	3.0	1050	Soil-O-1	55	133
Acetone	ug/kg	25	11	11	260	Soil-Q-20	74	98
Benzene	ug/kg	26	12	0.68	590	Soil-O-1	26	70
Bromodichloromethane	ug/kg	26	0	2.7	210	Soil-O-1	12	27
Bromoform	ug/kg	26	0	2.7	210	Soil-O-1	12	27
Bromomethane	ug/kg	26	0	5.5	425	Soil-O-1	24	55
Carbon Disulfide	ug/kg	26	8	0.66	180	Soil-O-1	10	24
Carbon Tetrachloride	ug/kg	26	0	2.7	210	Soil-O-1	12	27
Chlorobenzene	ug/kg	26	10	0.36	5800	Soil-O-1	230	667
Chloroethane	ug/kg	26	0	5.5	425	Soil-O-1	24	55
Chloroform	ug/kg	26	1	1.8	210	Soil-O-1	12	27
Chloromethane	ug/kg	26	0	5.5	425	Soil-O-1	24	55
cis-1,3-Dichloropropene	ug/kg	26	0	2.7	210	Soil-O-1	12	27
Dibromochloromethane	ug/kg	26	0	2.7	210	Soil-O-1	12	27
Ethylbenzene	ug/kg	26	18	0.23	4400	Soil-O-1	172	503
Methylene Chloride	ug/kg	26	1	2.7	210	Soil-O-1	12	27
Styrene (Monomer)	ug/kg	26	1	0.34	210	Soil-O-1	12	27
Tetrachloroethene	ug/kg	26	12	0.47	290	Soil-O-1	15	36
Toluene	ug/kg	26	11	1.0	870	Soil-O-1	39	104
trans-1,3-Dichloropropene	ug/kg	26	0	2.7	210	Soil-O-1	12	27
Trichloroethylene	ug/kg	26	9	0.30	210	Soil-O-1	12	28
Vinyl chloride	ug/kg	26	0	5.5	425	Soil-O-1	24	55
Xylenes, Total	ug/kg	26	19	0.56	80000	Soil-O-1	3092	9122
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	26	1	175	36000	Soil-S-1	1673	4368
1,2-Dichlorobenzene	ug/kg	26	5	31	37000	Soil-S-1	1684	4456
1,3-Dichlorobenzene	ug/kg	26	1	175	1950	Soil-Q-10 DUP	327	476
1,4-Dichlorobenzene	ug/kg	26	3	175	7500	Soil-S-1	585	1145
2,2'-Oxybis(1-Chloropropane)	ug/kg	26	0	175	7000	Soil-S-1	558	1082
2,4,5-Trichlorophenol	ug/kg	26	1	175	1950	Soil-Q-10 DUP	331	483
2,4,6-Trichlorophenol	ug/kg	26	1	175	8200	Soil-S-1	604	1215
2,4-Dichlorophenol	ug/kg	26	2	35	2300	Soil-S-1	371	577
2,4-Dimethylphenol	ug/kg	26	0	175	7000	Soil-S-1	558	1082
2,4-Dinitrophenol	ug/kg	26	0	900	37000	Soil-S-1	2913	5682
2,4-Dinitrotoluene	ug/kg	26	0	175	7000	Soil-S-1	558	1082
2,6-Dinitrotoluene	ug/kg	26	0	175	7000	Soil-S-1	558	1082
2-Chloronaphthalene	ug/kg	26	0	175	7000	Soil-S-1	558	1082
2-Chlorophenol	ug/kg	26	0	175	7000	Soil-S-1	558	1082
2-Methylnaphthalene	ug/kg	26	3	48	11000	Soil-S-1	697	1517
2-Methylphenol (o-Cresol)	ug/kg	26	0	175	7000	Soil-S-1	558	1082
2-Nitroaniline	ug/kg	26	2	53	10000	Soil-Q-10 DUP	1631	2397
2-Nitrophenol	ug/kg	26	0	175	7000	Soil-S-1	558	1082
3,3'-Dichlorobenzidine	ug/kg	26	0	350	14500	Soil-S-1	1136	2221
3/4-Methylphenol (m&p-Cresol)	ug/kg	26	0	175	7000	Soil-S-1	558	1082
3-Nitroaniline	ug/kg	26	0	900	37000	Soil-S-1	2913	5682
4,6-Dinitro-2-methylphenol	ug/kg	26	0	900	37000	Soil-S-1	2913	5682
4-Bromophenyl Phenyl Ether	ug/kg	26	0	175	7000	Soil-S-1	558	1082
4-Chloro-3-methylphenol	ug/kg	26	0	175	7000	Soil-S-1	558	1082
4-Chloroaniline	ug/kg	26	0	350	14500	Soil-S-1	1136	2221
4-Chlorophenyl Phenyl Ether	ug/kg	26	0	175	7000	Soil-S-1	558	1082
4-Nitroaniline	ug/kg	26	1	900	57000	Soil-S-1	3683	7925
4-Nitrophenol	ug/kg	26	0	900	37000	Soil-S-1	2913	5682
Acenaphthene	ug/kg	26	7	37	1200	Soil-S-1	241	336
Acenaphthylene	ug/kg	26	0	175	7000	Soil-S-1	558	1082
Anthracene	ug/kg	26	7	65	7000	Soil-S-1	558	1075

Table III-B2
Calculations for Risk Assessment Modeling
Site-Wide - Soil
Sauget, IL

Analyte	Units	Site-Wide						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/kg	26	19	29	8000	Soil-S-1	813	1488
Benzo(a)pyrene	ug/kg	26	17	26	5400	Soil-S-1	750	1304
Benzo(b)fluoranthene	ug/kg	26	19	30	6600	Soil-S-1	847	1473
Benzo(g,h,i)perylene	ug/kg	26	17	25	4200	Soil-S-1	537	944
Benzo(k)fluoranthene	ug/kg	26	19	28	6400	Soil-S-1	669	1233
bis(2-Chloroethoxy)methane	ug/kg	26	1	175	7000	Soil-S-1	558	1082
bis(2-Chloroethyl)ether	ug/kg	26	1	175	7000	Soil-S-1	558	1082
bis(2-Ethylhexyl)phthalate	ug/kg	26	19	23	15000	Soil-Q-11	991	2018
Butyl Benzyl Phthalate	ug/kg	26	5	35	20000	Soil-S-1	4933	13955
Carbazole	ug/kg	26	6	79	7000	Soil-S-1	489	1004
Chrysene	ug/kg	26	22	27	20000	Soil-S-1	1315	2841
Dibenzo(a,h)anthracene	ug/kg	26	7	59	1950	Soil-Q-10 DUP	337	521
Dibenzofuran	ug/kg	26	5	24	7000	Soil-S-1	525	1053
Diethyl Phthalate	ug/kg	26	1	79	7000	Soil-S-1	551	1076
Dimethyl Phthalate	ug/kg	26	1	175	7000	Soil-S-1	558	1082
Di-n-butylphthalate	ug/kg	26	6	49	7000	Soil-S-1	537	1054
Di-n-octylphthalate	ug/kg	26	1	175	1950	Soil-Q-10 DUP	338	497
Fluoranthene	ug/kg	26	17	39	800	Soil-Q-10 DUP	1063	1787
Fluorene	ug/kg	26	6	34	1950	Soil-Q-10 DUP	311	471
Hexachlorobenzene	ug/kg	26	1	110	7000	Soil-S-1	554	1079
Hexachlorobutadiene	ug/kg	26	0	175	7000	Soil-S-1	558	1082
Hexachlorocyclopentadiene	ug/kg	26	0	175	7000	Soil-S-1	558	1082
Hexachloroethane	ug/kg	26	0	175	7000	Soil-S-1	558	1082
Indeno(1,2,3-cd)pyrene	ug/kg	26	10	32	1950	Soil-Q-10 DUP	314	479
Isophorone	ug/kg	26	0	175	7000	Soil-S-1	558	1082
Naphthalene	ug/kg	26	3	170	1100	Soil-S-1	376	571
Nitrobenzene	ug/kg	26	0	175	7000	Soil-S-1	558	1082
N-Nitroso-di-n-propylamine	ug/kg	26	0	175	7000	Soil-S-1	558	1082
N-Nitrosodiphenylamine	ug/kg	26	0	175	7000	Soil-S-1	558	1082
Pentachlorophenol	ug/kg	26	18	11	44000	Soil-S-1	1724	5038?
Phenanthrene	ug/kg	26	18	21	9200	Soil-S-1	979	1797
Phenol	ug/kg	26	1	175	7000	Soil-S-1	563	1087
Pyrene	ug/kg	26	15	48	28000	Soil-S-1	2057	4196
Pesticides								
4,4'-DDD	ug/kg	26	5	1.2	1700	Soil-S-1	82	209
4,4'-DDE	ug/kg	26	10	0.71	3300	Soil-S-1	183	435
4,4'-DDT	ug/kg	26	20	0.81	16000	Soil-S-1	942	2148
Aldrin	ug/kg	26	2	0.99	900	Soil-S-1	42	109
alpha-BHC	ug/kg	26	4	0.99	900	Soil-S-1	55	123
alpha-Chlordane	ug/kg	26	12	0.15	900	Soil-S-1	45	112
beta-BHC	ug/kg	26	4	0.99	26000	Soil-S-1	1008	2967
delta-BHC	ug/kg	26	3	0.99	740	Soil-S-1	36	91
Dieldrin	ug/kg	26	17	0.37	1800	Soil-S-1	131	269
Endosulfan I	ug/kg	26	2	0.99	900	Soil-S-1	42	109
Endosulfan II	ug/kg	26	5	1.0	5400	Soil-S-1	221	627
Endosulfan Sulfate	ug/kg	26	7	1.8	1800	Soil-S-1	57	222
Endrin	ug/kg	26	5	1.8	10000	Soil-S-1	405	1157
Endrin Aldehyde	ug/kg	26	9	0.92	1800	Soil-S-1	88	222
Endrin Ketone	ug/kg	26	4	0.52	1800	Soil-S-1	57	222
gamma-BHC (Lindane)	ug/kg	26	3	0.99	7500	Soil-S-1	296	861
gamma-Chlordane	ug/kg	26	11	0.23	2700	Soil-S-1	153	357
Heptachlor	ug/kg	26	3	0.90	1500	Soil-S-1	65	178
Heptachlor Epoxide	ug/kg	26	10	0.23	900	Soil-S-1	45	112
Methoxychlor	ug/kg	26	4	0.88	9800	Soil-S-1	434	1106
Toxaphene	ug/kg	26	2	90	90000	Soil-S-1	4215	10949
Herbicides								
2,4-D	ug/kg	26	17	4.6	3300	Soil-S-1	145	392
2,4-DB	ug/kg	26	7	4.7	320	Soil-Q-11	20	31
2,4,5-T	ug/kg	26	5	1.3	18000	Soil-S-1	704	2060
2,4,5-TP (Silvex)	ug/kg	26	3	4.7	250	Soil-S-1	22	42
Dalapon	ug/kg	26	1	1100	28500	Soil-Q-11	3685	6183
Dicamba	ug/kg	26	2	2.4	285	Soil-Q-11	36	62
Dichloroprop	ug/kg	26	14	1.2	1400	Soil-Q-11	138	266
Dinoseb	ug/kg	26	2	175	1950	Soil-Q-10 DUP	362	537
MCPA	ug/kg	26	7	600	28500	Soil-Q-11	3723	6224
MCPP	ug/kg	26	17	560	51000	Soil-R-3	11335	17767

Table III-B2
Calculations for Risk Assessment Modeling
Site-Wide - Soil
Sauget, IL

Analyte	Units	Site-Wide						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/kg	26	19	0.78	1008500	Soil-S-1	68567	159478
Dioxins/Furans								
TEQ	ug/kg	26	21	0.012	51	Soil-O-1	3.0	6.8
Metals								
Aluminum	mg/kg	26	26	3200	14000	Soil-Q-13	8138	9204
Antimony	mg/kg	26	14	0.44	47	Soil-Q-9	4.7	8.7
Arsenic	mg/kg	26	26	3.3	33	Soil-Q-9	10	13
Barium	mg/kg	26	26	77	1500	Soil-Q-11 Dup	321	471
Beryllium	mg/kg	26	26	0.28	1.8	Soil-P-1	0.68	0.81
Cadmium	mg/kg	26	24	0.25	30	Soil-Q-11	5.6	9.1
Calcium	mg/kg	26	26	3200	73000	Soil-Q-11 Dup	16746	24673
Chromium	mg/kg	26	26	8.0	660	Soil-Q-9	54	104
Cobalt	mg/kg	26	26	5.0	20	Soil-Q-9	9.4	11
Copper	mg/kg	26	26	7.0	2600	Soil-Q-11	223	428
Iron	mg/kg	26	26	7300	90000	Soil-Q-9	24050	32414
Lead	mg/kg	26	26	8.6	3100	Soil-Q-9	367	687
Magnesium	mg/kg	26	26	460	8500	Soil-O-2	4032	4693
Manganese	mg/kg	26	26	31	2100	Soil-Q-9	559	709
Mercury	mg/kg	26	26	0.021	43	Soil-O-1	2.3	5.5
Nickel	mg/kg	26	26	11	500	Soil-Q-9	47	83
Potassium	mg/kg	26	26	550	2300	Soil-Q-13	1073	1220
Selenium	mg/kg	26	6	0.48	7.0	Soil-P-1	1.1	1.6
Silver	mg/kg	26	13	0.11	17	Soil-Q-11	2.1	3.7
Sodium	mg/kg	26	15	24	620	Soil-Q-11	142	199
Thallium	mg/kg	26	6	0.48	3.3	Soil-Q-11 Dup	0.82	1.1
Vanadium	mg/kg	26	26	13	44	Soil-P-1	27	29
Zinc	mg/kg	26	26	43	3600	Soil-Q-11 Dup	638	1041

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B3
Calculations for Risk Assessment Modeling
Off-Site Areas - Plant Tissue
Sauget, IL

Analyte	Units	Off-Site Areas						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	3	0	495	495	All	495	NA
1,2-Dichlorobenzene	ug/kg	3	0	495	495	All	495	NA
1,3-Dichlorobenzene	ug/kg	3	0	495	495	All	495	NA
1,4-Dichlorobenzene	ug/kg	3	0	495	495	All	495	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	3	0	495	495	All	495	NA
2,4,5-Trichlorophenol	ug/kg	3	0	495	495	All	495	NA
2,4,6-Trichlorophenol	ug/kg	3	0	495	495	All	495	NA
2,4-Dichlorophenol	ug/kg	3	0	495	495	All	495	NA
2,4-Dinitrophenol	ug/kg	3	1	2550	2550	All	2550	NA
2,4-Dinitrotoluene	ug/kg	3	0	495	495	All	495	NA
2,6-Dinitrotoluene	ug/kg	3	0	495	495	All	495	NA
2-Chloronaphthalene	ug/kg	3	0	495	495	All	495	NA
2-Chlorophenol	ug/kg	3	0	495	495	All	495	NA
2-Methylnaphthalene	ug/kg	3	0	495	495	All	495	NA
2-Methylphenol (o-Cresol)	ug/kg	3	0	495	495	All	495	NA
2-Nitroaniline	ug/kg	3	1	2550	2550	All	2550	NA
2-Nitrophenol	ug/kg	3	0	495	495	All	495	NA
3,3'-Dichlorobenzidine	ug/kg	3	1	1000	1000	All	1000	NA
3/4-Methylphenol (m/p-Cresol)	ug/kg	3	0	495	495	All	495	NA
3-Nitroaniline	ug/kg	3	1	2550	2550	All	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg	3	1	2550	2550	All	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg	3	0	495	495	All	495	NA
4-Chloro-3-methylphenol	ug/kg	3	0	495	495	All	495	NA
4-Chloroaniline	ug/kg	3	1	1000	1000	All	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg	3	0	495	495	All	495	NA
4-Nitroaniline	ug/kg	3	1	2550	2550	All	2550	NA
4-Nitrophenol	ug/kg	3	1	2550	2550	All	2550	NA
Acenaphthene	ug/kg	3	0	495	495	All	495	NA
Acenaphthylene	ug/kg	3	0	495	495	All	495	NA
Anthracene	ug/kg	3	0	495	495	All	495	NA
Benzo(a)anthracene	ug/kg	3	0	495	495	All	495	NA
Benzo(a)pyrene	ug/kg	3	0	495	495	All	495	NA
Benzo(b)fluoranthene	ug/kg	3	0	495	495	All	495	NA
Benzo(g,h,i)perylene	ug/kg	3	0	495	495	All	495	NA
Benzo(k)fluoranthene	ug/kg	3	0	495	495	All	495	NA
bis(2-Chloroethoxy)methane	ug/kg	3	0	495	495	All	495	NA
bis(2-Chloroethyl)ether	ug/kg	3	0	495	495	All	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg	3	0	495	495	All	495	NA
Butyl Benzyl Phthalate	ug/kg	3	0	495	495	All	495	NA
Carbazole	ug/kg	3	0	495	495	All	495	NA
Chrysene	ug/kg	3	0	495	495	All	495	NA
Dibenzo(a,h)anthracene	ug/kg	3	0	495	495	All	495	NA
Dibenzofuran	ug/kg	3	0	495	495	All	495	NA
Diethyl Phthalate	ug/kg	3	0	495	495	All	495	NA
Dimethyl Phthalate	ug/kg	3	0	495	495	All	495	NA
Di-n-butylphthalate	ug/kg	3	0	495	495	All	495	NA
Di-n-octylphthalate	ug/kg	3	0	495	495	All	495	NA
Fluoranthene	ug/kg	3	0	495	495	All	495	NA
Fluorene	ug/kg	3	0	495	495	All	495	NA
Hexachlorobenzene	ug/kg	3	0	495	495	All	495	NA
Hexachlorobutadiene	ug/kg	3	0	495	495	All	495	NA
Hexachlorocyclopentadiene	ug/kg	3	0	495	495	All	495	NA
Hexachloroethane	ug/kg	3	0	495	495	All	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg	3	0	495	495	All	495	NA
Isophorone	ug/kg	3	0	495	495	All	495	NA
Naphthalene	ug/kg	3	0	495	495	All	495	NA
Nitrobenzene	ug/kg	3	0	495	495	All	495	NA
N-Nitroso-di-n-propylamine	ug/kg	3	0	495	495	All	495	NA
N-Nitrosodiphenylamine	ug/kg	3	0	495	495	All	495	NA
Pentachlorophenol	ug/kg	3	2	26	2550	PL-OS-2	587	NA
Phenanthrene	ug/kg	3	0	495	495	All	495	NA
Phenol	ug/kg	3	0	495	495	All	495	NA
Pyrene	ug/kg	3	0	495	495	All	495	NA

Table III-B3
Calculations for Risk Assessment Modeling
Off-Site Areas - Plant Tissue
Sauget, IL

Analyte	Units	Off-Site Areas						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	3	0	5.0	5.0	All	5.0	NA
4,4'-DDE	ug/kg	3	0	5.0	5.0	All	5.0	NA
4,4'-DDT	ug/kg	3	2	1.3	5.0	PL-OS-4	3.0	NA
Aldrin	ug/kg	3	0	2.6	2.6	All	2.6	NA
alpha-BHC	ug/kg	3	0	2.6	2.6	All	2.6	NA
alpha-Chlordane	ug/kg	3	0	2.6	2.6	All	2.6	NA
beta-BHC	ug/kg	3	0	2.6	2.6	All	2.6	NA
delta-BHC	ug/kg	3	0	2.6	2.6	All	2.6	NA
Dieldrin	ug/kg	3	0	5.0	5.0	All	5.0	NA
Endosulfan I	ug/kg	3	0	2.6	2.6	All	2.6	NA
Endosulfan II	ug/kg	3	0	5.0	5.0	All	5.0	NA
Endosulfan Sulfate	ug/kg	3	0	5.0	5.0	All	5.0	NA
Endrin	ug/kg	3	0	5.0	5.0	All	5.0	NA
Endrin Aldehyde	ug/kg	3	0	5.0	5.0	All	5.0	NA
Endrin Ketone	ug/kg	3	0	5.0	5.0	All	5.0	NA
gamma-BHC (Lindane)	ug/kg	3	2	0.77	3.3	PL-OS-4	2.2	NA
gamma-Chlordane	ug/kg	3	0	2.6	2.6	All	2.6	NA
Heptachlor	ug/kg	3	1	1.6	2.6	PL-OS-2, OS-3	2.2	NA
Heptachlor Epoxide	ug/kg	3	0	2.6	2.6	All	2.6	NA
Methoxychlor	ug/kg	3	0	26	26	All	26	NA
Toxaphene	ug/kg	3	0	255	255	All	255	NA
Herbicides								
2,4-D	ug/kg	3	2	34	1250	PL-OS-2	447	NA
2,4-DB	ug/kg	3	1	13	1250	PL-OS-2	574	NA
2,4,5-T	ug/kg	3	1	13	1250	PL-OS-2	432	NA
2,4,5-TP (Silvex)	ug/kg	3	0	13	1250	PL-OS-2	425	NA
Dalapon	ug/kg	3	0	3000	300000	PL-OS-2	102000	NA
Dicamba	ug/kg	3	0	30	3000	PL-OS-2	1020	NA
Dichlorprop	ug/kg	3	0	150	15000	PL-OS-2	5100	NA
Dinoseb	ug/kg	3	0	495	495	All	495	NA
MCPA	ug/kg	3	0	3000	300000	PL-OS-2	102000	NA
MCPP	ug/kg	3	0	3000	300000	PL-OS-3	102000	NA
PCBs								
Total PCBs	ug/kg	3	0	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	3	3	0.32	0.39	PL-OS-2	0.35	NA
Metals								
Aluminum	mg/kg	3	3	13	130	PL-OS-4	52	NA
Antimony	mg/kg	3	0	1.0	1.0	All	1.0	NA
Arsenic	mg/kg	3	0	0.50	0.50	All	0.50	NA
Barium	mg/kg	3	3	8.5	15	PL-OS-4	11	NA
Beryllium	mg/kg	3	0	0.20	0.20	All	0.20	NA
Cadmium	mg/kg	3	2	0.12	0.55	PL-OS-2	0.31	NA
Calcium	mg/kg	3	3	1300	3200	PL-OS-4	2133	NA
Chromium	mg/kg	3	3	0.18	0.51	PL-OS-4	0.33	NA
Cobalt	mg/kg	3	0	0.50	0.50	All	0.50	NA
Copper	mg/kg	3	3	2.7	4.6	PL-OS-2, OS-3	4.0	NA
Iron	mg/kg	3	3	32	260	PL-OS-4	110	NA
Lead	mg/kg	3	3	0.46	1.4	PL-OS-2	0.93	NA
Magnesium	mg/kg	3	3	480	1100	PL-OS-4	713	NA
Manganese	mg/kg	3	3	3.9	20	PL-OS-2	12	NA
Mercury	mg/kg	3	3	0.21	0.76	PL-OS-2	0.40	NA
Nickel	mg/kg	3	0	2.0	2.0	All	2.0	NA
Potassium	mg/kg	3	3	4900	9600	PL-OS-2	6600	NA
Selenium	mg/kg	3	0	0.50	0.50	All	0.50	NA
Silver	mg/kg	3	0	0.50	0.50	All	0.50	NA
Sodium	mg/kg	3	0	25	25	All	25	NA
Thallium	mg/kg	3	0	0.50	0.50	All	0.50	NA
Vanadium	mg/kg	3	1	0.47	0.50	PL-OS-2, OS-3	0.49	NA
Zinc	mg/kg	3	3	11	65	PL-OS-2	37	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B3
Calculations for Risk Assessment Modeling
Site P - Plant Tissue
Sauget, IL

Analyte	Units	Site P						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	4	0	495	495	All	495	NA
1,2-Dichlorobenzene	ug/kg	4	0	495	495	All	495	NA
1,3-Dichlorobenzene	ug/kg	4	0	495	495	All	495	NA
1,4-Dichlorobenzene	ug/kg	4	0	495	495	All	495	NA
2,2'-oxybis(1-Chloropropane)	ug/kg	4	0	495	495	All	495	NA
2,4,5-Trichlorophenol	ug/kg	4	0	495	495	All	495	NA
2,4,6-Trichlorophenol	ug/kg	4	0	495	495	All	495	NA
2,4-Dichlorophenol	ug/kg	4	0	495	495	All	495	NA
2,4-Dimethylphenol	ug/kg	4	4	990	990	All	990	NA
2,4-Dinitrophenol	ug/kg	4	0	2550	2550	All	2550	NA
2,4-Dinitrotoluene	ug/kg	4	0	495	495	All	495	NA
2,6-Dinitrotoluene	ug/kg	4	0	495	495	All	495	NA
2-Chloronaphthalene	ug/kg	4	0	495	495	All	495	NA
2-Chlorophenol	ug/kg	4	0	495	495	All	495	NA
2-Methylnaphthalene	ug/kg	4	0	495	495	All	495	NA
2-Methylphenol (o-Cresol)	ug/kg	4	0	495	495	All	495	NA
2-Nitroaniline	ug/kg	4	0	2550	2550	All	2550	NA
2-Nitrophenol	ug/kg	4	0	495	495	All	495	NA
3,3'-Dichlorobenzidine	ug/kg	4	0	1000	1000	All	1000	NA
3&4-Methylphenol (m&p-Cresol)	ug/kg	4	0	495	495	All	495	NA
3-Nitroaniline	ug/kg	4	0	2550	2550	All	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg	4	0	2550	2550	All	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg	4	0	495	495	All	495	NA
4-Chloro-3-methylphenol	ug/kg	4	0	495	495	All	495	NA
4-Chloroaniline	ug/kg	4	0	1000	1000	All	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg	4	0	495	495	All	495	NA
4-Nitroaniline	ug/kg	4	0	2550	2550	All	2550	NA
4-Nitrophenol	ug/kg	4	0	2550	2550	All	2550	NA
Acenaphthene	ug/kg	4	0	495	495	All	495	NA
Acenaphthylene	ug/kg	4	0	495	495	All	495	NA
Anthracene	ug/kg	4	0	495	495	All	495	NA
Benzo(a)anthracene	ug/kg	4	0	495	495	All	495	NA
Benzo(a)pyrene	ug/kg	4	0	495	495	All	495	NA
Benzo(b)fluoranthene	ug/kg	4	0	495	495	All	495	NA
Benzo(g,h,i)perylene	ug/kg	4	1	30	495	PL-P-3	232	NA
Benzo(k)fluoranthene	ug/kg	4	0	495	495	All	495	NA
bis(2-Chloroethoxy)methane	ug/kg	4	0	495	495	All	495	NA
bis(2-Chloroethyl)ether	ug/kg	4	0	495	495	All	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg	4	0	495	495	All	495	NA
Butyl Benzyl Phthalate	ug/kg	4	0	495	495	All	495	NA
Carbazole	ug/kg	4	0	495	495	All	495	NA
Chrysene	ug/kg	4	0	495	495	All	495	NA
Dibenzo(a,h)anthracene	ug/kg	4	0	495	495	All	495	NA
Dibenzofuran	ug/kg	4	0	495	495	All	495	NA
Diethyl Phthalate	ug/kg	4	0	495	495	All	495	NA
Dimethyl Phthalate	ug/kg	4	0	495	495	All	495	NA
Di-n-butylphthalate	ug/kg	4	0	495	495	All	495	NA
Di-n-octylphthalate	ug/kg	4	0	495	495	All	495	NA
Fluoranthene	ug/kg	4	0	495	495	All	495	NA
Fluorene	ug/kg	4	0	495	495	All	495	NA
Hexachlorobenzene	ug/kg	4	0	495	495	All	495	NA
Hexachlorobutadiene	ug/kg	4	0	495	495	All	495	NA
Hexachlorocyclopentadiene	ug/kg	4	0	495	495	All	495	NA
Hexachloroethane	ug/kg	4	0	495	495	All	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg	4	0	495	495	All	495	NA
Isophorone	ug/kg	4	0	495	495	All	495	NA
Naphthalene	ug/kg	4	0	495	495	All	495	NA
Nitrobenzene	ug/kg	4	0	495	495	All	495	NA
N-Nitroso-di-n-propylamine	ug/kg	4	0	495	495	All	495	NA
N-Nitrosodiphenylamine	ug/kg	4	0	495	495	All	495	NA
Pentachlorophenol	ug/kg	4	1	25.5	25.5	All	26	NA
Phenanthrene	ug/kg	4	1	495	495	All	495	NA
Phenol	ug/kg	4	0	362	495	PL-P-1, P-2, P-4	461	NA
Pyrene	ug/kg	4	1	495	495	All	495	NA

Table III-B3
Calculations for Risk Assessment Modeling
Site P - Plant Tissue
Sauget, IL

Analyte	Units	Site P						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	4	0	5.0	10	PL-P-1	6.2	NA
4,4'-DDE	ug/kg	4	1	0.97	10	PL-P-1	5.2	NA
4,4'-DDT	ug/kg	4	1	1.4	10	PL-P-1	5.3	NA
Aldrin	ug/kg	4	3	0.5	2.6	PL-P-2	1.2	NA
alpha-BHC	ug/kg	4	1	1.2	2.6	PL-P-2, P-3, P-4	2.2	NA
alpha-Chlordane	ug/kg	4	1	0.93	5.0	PL-P-1	2.8	NA
beta-BHC	ug/kg	4	1	2.6	5.0	PL-P-1	3.3	NA
delta-BHC	ug/kg	4	1	1.2	2.6	PL-P-2, P-3, P-4	2.2	NA
Dieldrin	ug/kg	4	1	3.4	10	PL-P-1	5.8	NA
Endosulfan I	ug/kg	4	0	2.6	5.0	PL-P-1	3.2	NA
Endosulfan II	ug/kg	4	1	3.6	5.0	PL-P-2, P-3, P-4	4.6	NA
Endosulfan Sulfate	ug/kg	4	0	5.0	10	PL-P-1	6.2	NA
Endrin	ug/kg	4	0	5.0	10	PL-P-1	6.2	NA
Endrin Aldehyde	ug/kg	4	0	5.0	10	PL-P-1	6.2	NA
Endrin Ketone	ug/kg	4	1	2.6	10	PL-P-1	5.6	NA
gamma-BHC (Lindane)	ug/kg	4	2	2.0	2.6	PL-P-3, P-4	2.3	NA
gamma-Chlordane	ug/kg	4	2	1.0	3.4	PL-P-1	2.4	NA
Heptachlor	ug/kg	4	1	2.6	5.5	PL-P-4	3.9	NA
Heptachlor Epoxide	ug/kg	4	1	2.6	7.6	PL-P-1	3.8	NA
Methoxychlor	ug/kg	4	1	26	190	PL-P-1	67	NA
Toxaphene	ug/kg	4	0	255	500	PL-P-1	316	NA
Herbicides								
2,4-D	ug/kg	4	3	13	68	PL-P-4	42	NA
2,4-DB	ug/kg	4	2	13	95	PL-P-3	45	NA
2,4,5-T	ug/kg	4	2	13	37	PL-P-4	20	NA
2,4,5-TP (Silvex)	ug/kg	4	1	13	87	PL-P-4	31	NA
Dalapon	ug/kg	4	0	3000	3000	All	3000	NA
Dicamba	ug/kg	4	0	30	30	All	30	NA
Dichlorprop	ug/kg	4	1	150	200	PL-P-3	163	NA
Dinoseb	ug/kg	4	0	495	495	All	495	NA
MCPA	ug/kg	4	1	3000	4800	PL-P-3	3450	NA
MCPP	ug/kg	4	1	3000	8800	PL-P-3	4450	NA
PCBs								
Total PCBs	ug/kg	4	0	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	4	4	0.45	0.67	PL-P-1	0.54	NA
Metals								
Aluminum	mg/kg	4	4	8.2	51	PL-P-4	28	NA
Antimony	mg/kg	4	1	0.52	1.0	PL-P-2, P-4	0.86	NA
Arsenic	mg/kg	4	1	0.41	0.50	PL-P-1, P-4	0.47	NA
Barium	mg/kg	4	4	3.9	5.4	PL-P-4	4.8	NA
Beryllium	mg/kg	4	0	0.18	0.20	PL-P-1, P-2, P-4	0.20	NA
Cadmium	mg/kg	4	4	0.17	0.55	PL-P-1	0.31	NA
Calcium	mg/kg	4	4	1200	3000	PL-P-1	1850	NA
Chromium	mg/kg	4	4	0.19	0.41	PL-P-1	0.31	NA
Cobalt	mg/kg	4	1	0.46	1.0	PL-P-1	0.61	NA
Copper	mg/kg	4	4	3.7	6.9	PL-P-1	5.0	NA
Iron	mg/kg	4	4	35	110	PL-P-4	71	NA
Lead	mg/kg	4	4	1.2	5.0	PL-P-4	3.3	NA
Magnesium	mg/kg	4	4	480	740	PL-P-1	588	NA
Manganese	mg/kg	4	4	6.0	7.9	PL-P-2	6.9	NA
Mercury	mg/kg	4	4	0.27	1.0	PL-P-1	0.52	NA
Nickel	mg/kg	4	1	1.8	3.9	PL-P-1	2.4	NA
Potassium	mg/kg	4	4	3200	4600	PL-P-1	4075	NA
Selenium	mg/kg	4	2	0.43	12	PL-P-1	3.4	NA
Silver	mg/kg	4	0	0.46	0.50	PL-P-1, P-2, P-4	0.49	NA
Sodium	mg/kg	4	1	25	340	PL-P-3	104	NA
Thallium	mg/kg	4	0	0.46	0.50	PL-P-1, P-2, P-4	0.49	NA
Vanadium	mg/kg	4	2	0.25	0.50	PL-P-2	0.39	NA
Zinc	mg/kg	4	4	31	79	PL-P-1	49	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B3
Calculations for Risk Assessment Modeling
Site R - Plant Tissue
Sauget, IL

Analyte	Units	Site R						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	1	0	495	495	AJ	495	NA
1,2-Dichlorobenzene	ug/kg	1	0	495	495	AJ	495	NA
1,3-Dichlorobenzene	ug/kg	1	0	495	495	AJ	495	NA
1,4-Dichlorobenzene	ug/kg	1	0	495	495	AJ	495	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	1	0	495	495	AJ	495	NA
2,4,5-Trichlorophenol	ug/kg	1	0	495	495	AJ	495	NA
2,4,6-Trichlorophenol	ug/kg	1	0	495	495	AJ	495	NA
2,4-Dichlorophenol	ug/kg	1	0	495	495	AJ	495	NA
2,4-Dinitrophenol	ug/kg	1	0	2550	2550	AJ	2550	NA
2,4-Dinitrotoluene	ug/kg	1	0	495	495	AJ	495	NA
2,6-Dinitrotoluene	ug/kg	1	0	495	495	AJ	495	NA
2-Chloronaphthalene	ug/kg	1	0	495	495	AJ	495	NA
2-Chlorophenol	ug/kg	1	0	495	495	AJ	495	NA
2-Methylnaphthalene	ug/kg	1	0	495	495	AJ	495	NA
2-Methylphenol (o-Cresol)	ug/kg	1	0	495	495	AJ	495	NA
2-Nitroaniline	ug/kg	1	0	2550	2550	AJ	2550	NA
2-Nitrophenol	ug/kg	1	0	495	495	AJ	495	NA
3,3'-Dichlorobenzidine	ug/kg	1	0	1000	1000	AJ	1000	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	1	0	495	495	AJ	495	NA
3-Nitroaniline	ug/kg	1	0	2550	2550	AJ	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg	1	0	2550	2550	AJ	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg	1	0	495	495	AJ	495	NA
4-Chloro-3-methylphenol	ug/kg	1	0	495	495	AJ	495	NA
4-Chloroaniline	ug/kg	1	0	1000	1000	AJ	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg	1	0	495	495	AJ	495	NA
4-Nitroaniline	ug/kg	1	0	2550	2550	AJ	2550	NA
4-Nitrophenol	ug/kg	1	0	2550	2550	AJ	2550	NA
Acenaphthene	ug/kg	1	0	495	495	AJ	495	NA
Acenaphthylene	ug/kg	1	0	495	495	AJ	495	NA
Anthracene	ug/kg	1	0	495	495	AJ	495	NA
Benzo(a)anthracene	ug/kg	1	0	495	495	AJ	495	NA
Benzo(a)pyrene	ug/kg	1	0	495	495	AJ	495	NA
Benzo(b)fluoranthene	ug/kg	1	0	495	495	AJ	495	NA
Benzo(g,h,i)perylene	ug/kg	1	0	495	495	AJ	495	NA
Benzo(k)fluoranthene	ug/kg	1	0	495	495	AJ	495	NA
bis(2-Chloroethoxy)methane	ug/kg	1	0	495	495	AJ	495	NA
bis(2-Chloroethyl)ether	ug/kg	1	0	495	495	AJ	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg	1	0	495	495	AJ	495	NA
Butyl benzyl Phthalate	ug/kg	1	0	495	495	AJ	495	NA
Carbazole	ug/kg	1	0	495	495	AJ	495	NA
Chrysene	ug/kg	1	0	495	495	AJ	495	NA
Dibenz(a,h)anthracene	ug/kg	1	0	495	495	AJ	495	NA
Dibenzofuran	ug/kg	1	0	495	495	AJ	495	NA
Diethyl Phthalate	ug/kg	1	0	495	495	AJ	495	NA
Dimethyl Phthalate	ug/kg	1	0	495	495	AJ	495	NA
Di-n-butylphthalate	ug/kg	1	0	95	495	AJ	[illegible]	NA
Di-n-octylphthalate	ug/kg	1	0	495	495	AJ	495	NA
Fluoranthene	ug/kg	1	0	495	495	AJ	495	NA
Fluorene	ug/kg	1	0	495	495	AJ	495	NA
Hexachlorobenzene	ug/kg	1	0	495	495	AJ	495	NA
Hexachlorobutadiene	ug/kg	1	0	495	495	AJ	495	NA
Hexachlorocyclopentadiene	ug/kg	1	0	495	495	AJ	495	NA
Hexachloroethane	ug/kg	1	0	495	495	AJ	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg	1	0	495	495	AJ	495	NA
Isophorone	ug/kg	1	0	495	495	AJ	495	NA
Naphthalene	ug/kg	1	0	495	495	AJ	495	NA
Nitrobenzene	ug/kg	1	0	495	495	AJ	495	NA
N-Nitroso-di-n-propylamine	ug/kg	1	0	495	495	AJ	495	NA
N-Nitrosodiphenylamine	ug/kg	1	0	495	495	AJ	495	NA
Pentachlorophenol	ug/kg	1	0	[illegible]	[illegible]	AJ	[illegible]	NA
Phenanthrene	ug/kg	1	0	495	495	AJ	495	NA
Phenol	ug/kg	1	0	495	495	AJ	495	NA
Pyrene	ug/kg	1	0	495	495	AJ	495	NA

Table III-B3
Calculations for Risk Assessment Modeling
Site R - Plant Tissue
Sauget, IL

Analyte	Units	Site R						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	5	1	1.1	5.0	PL-R-1, R-2, R-4, R-5	4.2	NA
4,4'-DDE	ug/kg	5	0	5.0	5.0	All	5.0	NA
4,4'-DDT	ug/kg	5	4	1.5	5.0	PL-R-3	2.5	NA
Aldrin	ug/kg	5	0	2.6	2.6	All	2.6	NA
alpha-BHC	ug/kg	5	0	2.6	2.6	All	2.6	NA
alpha-Chlordane	ug/kg	5	0	2.6	2.6	All	2.6	NA
beta-BHC	ug/kg	5	4	1.9	5.2	PL-R-2	3.4	NA
delta-BHC	ug/kg	5	0	2.6	2.6	All	2.6	NA
Dieldrin	ug/kg	5	5	0.92	2.9	PL-R-3	2.0	NA
Endosulfan I	ug/kg	5	0	2.6	2.6	All	2.6	NA
Endosulfan II	ug/kg	5	4	2.0	5.0	PL-R-3	3.0	NA
Endosulfan Sulfate	ug/kg	5	2	1.4	5.0	PL-R-1, R-2, R-4	3.7	NA
Endrin	ug/kg	5	0	5.0	5.0	All	5.0	NA
Endrin Aldehyde	ug/kg	5	0	5.0	5.0	All	5.0	NA
Endrin Ketone	ug/kg	5	0	5.0	5.0	All	5.0	NA
gamma-BHC (Lindane)	ug/kg	5	3	0.79	2.6	PL-R-2, R-4	1.7	NA
gamma-Chlordane	ug/kg	5	0	2.6	2.6	All	2.6	NA
Heptachlor	ug/kg	5	4	1.4	2.6	PL-R-1	2.2	NA
Heptachlor Epoxide	ug/kg	5	1	0.52	2.6	PL-R-1, R-3, R-4, R-5	2.1	NA
Methoxychlor	ug/kg	5	0	26	26	All	26	NA
Toxaphene	ug/kg	5	0	255	255	All	255	NA
Herbicides								
2,4-D	ug/kg	5	5	26	64	PL-R-4	45	NA
2,4-DB	ug/kg	5	3	13	87	PL-R-4	40	NA
2,4,5-T	ug/kg	5	0	13	13	All	13	NA
2,4,5-TP (Silvex)	ug/kg	5	0	13	13	All	13	NA
Dalapon	ug/kg	5	0	3000	3000	All	3000	NA
Dicamba	ug/kg	5	0	30	30	All	30	NA
Dichlorprop	ug/kg	5	0	150	150	All	150	NA
Dinoseb	ug/kg	5	0	495	495	All	495	NA
MCPA	ug/kg	5	1	3000	4800	PL-R-1	3360	NA
MCPP	ug/kg	5	0	3000	3000	All	3000	NA
PCBs								
Total PCBs	ug/kg	5	0	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	5	5	0.31	1.2	PL-R-5	0.55	NA
Metals								
Aluminum	mg/kg	5	5	12	37	PL-R-3	23	NA
Antimony	mg/kg	5	0	0.90	1.0	PL-R-4	0.92	NA
Arsenic	mg/kg	5	0	0.46	0.50	PL-R-4	0.46	NA
Barium	mg/kg	5	5	7.1	13	PL-R-2	9.4	NA
Beryllium	mg/kg	5	0	0.18	0.20	PL-R-4	0.18	NA
Cadmium	mg/kg	5	5	0.089	0.35	PL-R-1	0.20	NA
Calcium	mg/kg	5	5	1400	2100	PL-R-1	1720	NA
Chromium	mg/kg	5	5	0.18	0.50	PL-R-2	0.28	NA
Cobalt	mg/kg	5	0	0.46	0.50	PL-R-4	0.46	NA
Copper	mg/kg	5	5	2.5	3.5	PL-R-2	2.8	NA
Iron	mg/kg	5	5	38	72	PL-R-3	51	NA
Lead	mg/kg	5	5	2.1	7.6	PL-R-1	4.0	NA
Magnesium	mg/kg	5	5	740	1200	PL-R-1	960	NA
Manganese	mg/kg	5	5	6.7	9.7	PL-R-3	8.6	NA
Mercury	mg/kg	5	5	0.91	2.5	PL-R-4	1.6	NA
Nickel	mg/kg	5	0	1.8	2.0	PL-R-4	1.8	NA
Potassium	mg/kg	5	5	5300	7100	PL-R-4	6280	NA
Selenium	mg/kg	5	0	0.46	0.50	PL-R-4	0.46	NA
Silver	mg/kg	5	0	0.46	0.50	PL-R-4	0.46	NA
Sodium	mg/kg	5	0	23	25	PL-R-4	23	NA
Thallium	mg/kg	5	0	0.46	0.50	PL-R-4	0.46	NA
Vanadium	mg/kg	5	0	0.46	0.50	PL-R-4	0.46	NA
Zinc	mg/kg	5	5	17	44	PL-R-2	26	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B3
Calculations for Risk Assessment Modeling
Site O - Plant Tissue
Sauget, IL

Analyte	Units	Site O						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
2,4-Trichlorobenzene	ug/kg	1	1	495	495	All	495	NA
1,2-Dichlorobenzene	ug/kg	1	1	495	495	All	495	NA
1,3-Dichlorobenzene	ug/kg	1	1	495	495	All	495	NA
1,4-Dichlorobenzene	ug/kg	1	1	495	495	All	495	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	1	1	495	495	All	495	NA
2,4,5-Trichlorophenol	ug/kg	1	1	495	495	All	495	NA
2,4,6-Trichlorophenol	ug/kg	1	1	495	495	All	495	NA
2,4-Dichlorophenol	ug/kg	1	1	495	495	All	495	NA
2,4-Dimethylphenol	ug/kg	1	1	2550	2550	All	2550	NA
2,4-Dinitrophenol	ug/kg	1	1	495	495	All	495	NA
2,4-Dinitrotoluene	ug/kg	1	1	495	495	All	495	NA
2-Chloronaphthalene	ug/kg	1	1	495	495	All	495	NA
2-Chlorophenol	ug/kg	1	1	495	495	All	495	NA
2-Methylnaphthalene	ug/kg	1	1	495	495	All	495	NA
2-Methylphenol (o-Cresol)	ug/kg	1	1	495	495	All	495	NA
2-Nitroaniline	ug/kg	1	1	2550	2550	All	2550	NA
2-Nitrophenol	ug/kg	1	1	495	495	All	495	NA
3,3'-Dichlorobenzidine	ug/kg	1	1	1000	1000	All	1000	NA
3/4-Methylphenol (m/p-Cresol)	ug/kg	1	1	495	495	All	495	NA
3-Nitroaniline	ug/kg	1	1	2550	2550	All	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg	1	1	2550	2550	All	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg	1	1	495	495	All	495	NA
4-Chloro-3-methylphenol	ug/kg	1	1	495	495	All	495	NA
4-Chloroaniline	ug/kg	1	1	1000	1000	All	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg	1	1	495	495	All	495	NA
4-Nitroaniline	ug/kg	1	1	2550	2550	All	2550	NA
4-Nitrophenol	ug/kg	1	1	2550	2550	All	2550	NA
Acenaphthene	ug/kg	1	1	495	495	All	495	NA
Acenaphthylene	ug/kg	1	1	495	495	All	495	NA
Anthracene	ug/kg	1	1	495	495	All	495	NA
Benzo(a)anthracene	ug/kg	1	1	495	495	All	495	NA
Benzo(a)pyrene	ug/kg	1	1	495	495	All	495	NA
Benzo(b)fluoranthene	ug/kg	1	1	495	495	All	495	NA
Benzo(g,h,i)perylene	ug/kg	1	1	495	495	All	495	NA
Benzo(k)fluoranthene	ug/kg	1	1	495	495	All	495	NA
bis(2-Chloroethoxy)methane	ug/kg	1	1	495	495	All	495	NA
bis(2-Chloroethyl)ether	ug/kg	1	1	495	495	All	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg	1	1	495	495	All	495	NA
Butyl Benzyl Phthalate	ug/kg	1	1	495	495	All	495	NA
Carbazole	ug/kg	1	1	495	495	All	495	NA
Chrysene	ug/kg	1	1	495	495	All	495	NA
Dibenz(a,h)anthracene	ug/kg	1	1	495	495	All	495	NA
Dibenzofuran	ug/kg	1	1	495	495	All	495	NA
Diethyl Phthalate	ug/kg	1	1	495	495	All	495	NA
Dimethyl Phthalate	ug/kg	1	1	495	495	All	495	NA
Di-n-butylphthalate	ug/kg	1	1	495	495	All	495	NA
Di-n-octylphthalate	ug/kg	1	1	495	495	All	495	NA
Fluoranthene	ug/kg	1	1	495	495	All	495	NA
Fluorene	ug/kg	1	1	495	495	All	495	NA
Hexachlorobenzene	ug/kg	1	1	495	495	All	495	NA
Hexachlorobutadiene	ug/kg	1	1	495	495	All	495	NA
Hexachlorocyclopentadiene	ug/kg	1	1	495	495	All	495	NA
Hexachloroethane	ug/kg	1	1	495	495	All	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg	1	1	495	495	All	495	NA
Isophorone	ug/kg	1	1	495	495	All	495	NA
Naphthalene	ug/kg	1	1	495	495	All	495	NA
Nitrobenzene	ug/kg	1	1	495	495	All	495	NA
N-Nitroso-di-n-propylamine	ug/kg	1	1	495	495	All	495	NA
N-Nitrosodiphenylamine	ug/kg	1	1	495	495	All	495	NA
Pentachlorophenol	ug/kg	1	1	26	136	PL-O-1	60	NA
Phenanthrene	ug/kg	1	1	495	495	All	495	NA
Phenol	ug/kg	1	1	495	495	All	495	NA
Pyrene	ug/kg	1	1	495	495	All	495	NA

Table III-B3
Calculations for Risk Assessment Modeling
Site O - Plant Tissue
Sauget, IL

Analyte	Units	Site O						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	3	1	2.4	5.0	PL-O-1, PL-O-3	4.1	NA
4,4'-DDE	ug/kg	3	1	5.0	10	PL-O-2	6.6	NA
4,4'-DDT	ug/kg	3	0	5.0	5.0	All	5.0	NA
Aldrin	ug/kg	3	1	2.6	5.1	PL-O-2	3.4	NA
alpha-BHC	ug/kg	3	0	2.6	2.6	All	2.6	NA
alpha-Chlordane	ug/kg	3	0	2.6	2.6	All	2.6	NA
beta-BHC	ug/kg	3	1	2.6	4.4	PL-O-2	3.2	NA
delta-BHC	ug/kg	3	0	2.6	2.6	All	2.6	NA
Dieldrin	ug/kg	3	0	5.0	5.0	All	5.0	NA
Endosulfan I	ug/kg	3	0	2.6	2.6	All	2.6	NA
Endosulfan II	ug/kg	3	1	5.0	5.4	PL-O-2	5.1	NA
Endosulfan Sulfate	ug/kg	3	0	5.0	5.0	All	5.0	NA
Endrin	ug/kg	3	1	2.0	5.0	PL-O-1, PL-O-3	4.0	NA
Endrin Aldehyde	ug/kg	3	1	5.0	25	PL-O-2	12	NA
Endrin Ketone	ug/kg	3	1	2.2	5.0	PL-O-1, PL-O-3	4.0	NA
gamma-BHC (Lindane)	ug/kg	3	2	2.6	9.8	PL-O-2	5.1	NA
gamma-Chlordane	ug/kg	3	1	2.6	5.7	PL-O-2	3.6	NA
Heptachlor	ug/kg	3	1	2.6	3.4	PL-O-2	2.8	NA
Heptachlor Epoxide	ug/kg	3	0	2.6	2.6	All	2.6	NA
Methoxychlor	ug/kg	3	0	26	26	All	26	NA
Toxaphene	ug/kg	3	0	255	255	All	255	NA
Herbicides								
2,4-D	ug/kg	3	2	13	110	PL-O-3	52	NA
2,4-DB	ug/kg	3	1	13	1300	PL-O-3	442	NA
2,4,5-T	ug/kg	3	0	13	60	PL-O-3	28	NA
2,4,5-TP (Silvex)	ug/kg	3	0	13	60	PL-O-3	28	NA
Dalapon	ug/kg	3	0	3000	15000	PL-O-3	7000	NA
Dicamba	ug/kg	3	0	30	150	PL-O-3	70	NA
Dichlorprop	ug/kg	3	2	170	750	PL-O-3	367	NA
Dinoseb	ug/kg	3	0	495	495	All	495	NA
MCPA	ug/kg	3	1	3000	15000	PL-O-3	7900	NA
MCPP	ug/kg	3	0	3000	15000	PL-O-3	7000	NA
PCBs								
Total PCBs	ug/kg	3	0	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	3	3	0.39	4.3	PL-O-1	1.8	NA
Metals								
Aluminum	mg/kg	3	3	7.5	14	PL-O-2	9.9	NA
Antimony	mg/kg	3	0	0.90	1.0	PL-O-3	0.93	NA
Arsenic	mg/kg	3	0	0.46	0.50	PL-O-3	0.47	NA
Barium	mg/kg	3	3	2.5	7.6	PL-O-2	5.1	NA
Beryllium	mg/kg	3	0	0.18	0.20	PL-O-3	0.19	NA
Cadmium	mg/kg	3	3	0.13	0.20	PL-O-1	0.15	NA
Calcium	mg/kg	3	3	1200	3600	PL-O-2	2133	NA
Chromium	mg/kg	3	2	0.21	0.46	PL-O-2	0.33	NA
Cobalt	mg/kg	3	0	0.46	0.50	PL-O-3	0.47	NA
Copper	mg/kg	3	3	3.5	4.0	PL-O-2, PL-O-3	3.8	NA
Iron	mg/kg	3	3	24	42	PL-O-2	31	NA
Lead	mg/kg	3	3	0.65	1.4	PL-O-2	0.93	NA
Magnesium	mg/kg	3	3	560	810	PL-O-3	717	NA
Manganese	mg/kg	3	3	10	12	PL-O-1	11	NA
Mercury	mg/kg	3	3	0.14	0.91	PL-O-2	0.41	NA
Nickel	mg/kg	3	0	1.8	2.0	PL-O-3	1.9	NA
Potassium	mg/kg	3	3	3200	5800	PL-O-2	4167	NA
Selenium	mg/kg	3	0	0.46	0.50	PL-O-3	0.47	NA
Silver	mg/kg	3	0	0.46	0.50	PL-O-3	0.47	NA
Sodium	mg/kg	3	0	23	25	PL-O-3	23	NA
Thallium	mg/kg	3	0	0.46	0.50	PL-O-3	0.47	NA
Vanadium	mg/kg	3	0	0.46	0.50	PL-O-3	0.47	NA
Zinc	mg/kg	3	3	18	25	PL-O-2	22	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B3
Calculations for Risk Assessment Modeling
Site 5 - Plant Tissue
Sauget, IL

Analyte	Units	Site 5						95% UCL Risk Assessment Concentration
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	
SVOCs								
1,2,4-Trichlorobenzene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
1,2-Dichlorobenzene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
1,3-Dichlorobenzene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
1,4-Dichlorobenzene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2,4,5-Trichlorophenol	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2,4,6-Trichlorophenol	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2,4-Dichlorophenol	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2,4-Dinitrophenol	ug/kg		[illegible]	2550	2550	Soil-S-1	2550	NA
2,4-Dinitrotoluene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2,6-Dinitrotoluene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2-Chloronaphthalene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2-Chlorophenol	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2-Methylnaphthalene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2-Methylphenol (o-Cresol)	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
2-Nitroaniline	ug/kg		[illegible]	2550	2550	Soil-S-1	2550	NA
2-Nitrophenol	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
3,3'-Dichlorobenzidine	ug/kg		[illegible]	1000	1000	Soil-S-1	1000	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
3-Nitroaniline	ug/kg		[illegible]	2550	2550	Soil-S-1	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg		[illegible]	2550	2550	Soil-S-1	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
4-Chloro-3-methylphenol	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
4-Chloroaniline	ug/kg		[illegible]	1000	1000	Soil-S-1	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
4-Nitroaniline	ug/kg		[illegible]	2550	2550	Soil-S-1	2550	NA
4-Nitrophenol	ug/kg		[illegible]	2550	2550	Soil-S-1	2550	NA
Acenaphthene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Acenaphthylene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Anthracene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Benzo(a)anthracene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Benzo(a)pyrene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Benzo(b)fluoranthene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Benzo(g,h,i)perylene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Benzo(k)fluoranthene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
bis(2-Chloroethoxy)methane	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
bis(2-Chloroethyl)ether	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg		[illegible]	12	12	Soil-S-1	12	NA
Butyl Benzyl Phthalate	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Carbazole	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Chrysene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Dibenzo(a,h)anthracene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Dibenzofuran	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Diethyl Phthalate	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Dimethyl Phthalate	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Di-n-butylphthalate	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Di-n-octylphthalate	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Fluoranthene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Fluorene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Hexachlorobenzene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Hexachlorobutadiene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Hexachlorocyclopentadiene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Hexachloroethane	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Isophorone	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Naphthalene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Nitrobenzene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
N-Nitroso-di-n-propylamine	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
N-Nitrosodiphenylamine	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Pentachlorophenol	ug/kg		[illegible]	26	26	Soil-S-1	26	NA
Phenanthrene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Phenol	ug/kg		[illegible]	495	495	Soil-S-1	495	NA
Pyrene	ug/kg		[illegible]	495	495	Soil-S-1	495	NA

Table III-B3
Calculations for Risk Assessment Modeling
Site S - Plant Tissue
Sauget, IL

Analyte	Units	Site S						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	1	0	5.0	5.0	Soil-S-1	5.0	NA
4,4'-DDE	ug/kg	1	0	5.0	5.0	Soil-S-1	5.0	NA
4,4'-DDT	ug/kg	1	1	1.5	1.5	Soil-S-1	1.5	NA
Aldrin	ug/kg	1	0	2.6	2.6	Soil-S-1	2.6	NA
alpha-BHC	ug/kg	1	0	2.6	2.6	Soil-S-1	2.6	NA
alpha-Chlordane	ug/kg	1	0	2.6	2.6	Soil-S-1	2.6	NA
beta-BHC	ug/kg	1	0	2.6	2.6	Soil-S-1	2.6	NA
delta-BHC	ug/kg	1	0	2.6	2.6	Soil-S-1	2.6	NA
Dieldrin	ug/kg	1	0	5.0	5.0	Soil-S-1	5.0	NA
Endosulfan I	ug/kg	1	0	2.6	2.6	Soil-S-1	2.6	NA
Endosulfan II	ug/kg	1	0	5.0	5.0	Soil-S-1	5.0	NA
Endosulfan Sulfate	ug/kg	1	0	5.0	5.0	Soil-S-1	5.0	NA
Endrin	ug/kg	1	0	5.0	5.0	Soil-S-1	5.0	NA
Endrin Aldehyde	ug/kg	1	0	5.0	5.0	Soil-S-1	5.0	NA
Endrin Ketone	ug/kg	1	0	5.0	5.0	Soil-S-1	5.0	NA
gamma-BHC (Lindane)	ug/kg	1	1	5.8	5.8	Soil-S-1	5.8	NA
gamma-Chlordane	ug/kg	1	0	2.6	2.6	Soil-S-1	2.6	NA
Heptachlor	ug/kg	1	0	2.6	2.6	Soil-S-1	2.6	NA
Heptachlor Epoxide	ug/kg	1	0	2.6	2.6	Soil-S-1	2.6	NA
Methoxychlor	ug/kg	1	0	26	26	Soil-S-1	26	NA
Toxaphene	ug/kg	1	0	255	255	Soil-S-1	255	NA
Herbicides								
2,4-D	ug/kg	1	0	13	13	Soil-S-1	13	NA
2,4-DB	ug/kg	1	0	13	13	Soil-S-1	13	NA
2,4,5-T	ug/kg	1	0	13	13	Soil-S-1	13	NA
2,4,5-TP (Silvex)	ug/kg	1	0	13	13	Soil-S-1	13	NA
Dalapon	ug/kg	1	0	3000	3000	Soil-S-1	3000	NA
Dicamba	ug/kg	1	0	30	30	Soil-S-1	30	NA
Dichlorprop	ug/kg	1	0	150	150	Soil-S-1	150	NA
Dinoseb	ug/kg	1	0	495	495	Soil-S-1	495	NA
MCPA	ug/kg	1	1	5100	5100	Soil-S-1	5100	NA
MCPP	ug/kg	1	0	3000	3000	Soil-S-1	3000	NA
PCBs								
Total PCBs	ug/kg	1	0	25	25	Soil-S-1	25	NA
Dioxins/Furans								
TEQ	pg/g	1	1	0.37	0.37	Soil-S-1	0.37	NA
Metals								
Aluminum	mg/kg	1	1	9.5	9.5	Soil-S-1	9.5	NA
Antimony	mg/kg	1	0	1.0	1.0	Soil-S-1	1.0	NA
Arsenic	mg/kg	1	0	0.50	0.50	Soil-S-1	0.50	NA
Barium	mg/kg	1	1	5.4	5.4	Soil-S-1	5.4	NA
Beryllium	mg/kg	1	0	0.20	0.20	Soil-S-1	0.20	NA
Cadmium	mg/kg	1	0	0.25	0.25	Soil-S-1	0.25	NA
Calcium	mg/kg	1	1	1800	1800	Soil-S-1	1800	NA
Chromium	mg/kg	1	1	0.24	0.24	Soil-S-1	0.24	NA
Cobalt	mg/kg	1	0	0.50	0.50	Soil-S-1	0.50	NA
Copper	mg/kg	1	1	3.8	3.8	Soil-S-1	3.8	NA
Iron	mg/kg	1	1	37	37	Soil-S-1	37	NA
Lead	mg/kg	1	1	0.99	0.99	Soil-S-1	0.99	NA
Magnesium	mg/kg	1	1	770	770	Soil-S-1	770	NA
Manganese	mg/kg	1	1	6.7	6.7	Soil-S-1	6.7	NA
Mercury	mg/kg	1	1	1.3	1.3	Soil-S-1	1.3	NA
Nickel	mg/kg	1	1	2.6	2.6	Soil-S-1	2.6	NA
Potassium	mg/kg	1	1	4000	4000	Soil-S-1	4000	NA
Selenium	mg/kg	1	0	0.50	0.50	Soil-S-1	0.50	NA
Silver	mg/kg	1	0	0.50	0.50	Soil-S-1	0.50	NA
Sodium	mg/kg	1	0	25	25	Soil-S-1	25	NA
Thallium	mg/kg	1	0	0.50	0.50	Soil-S-1	0.50	NA
Vanadium	mg/kg	1	0	0.50	0.50	Soil-S-1	0.50	NA
Zinc	mg/kg	1	1	17	17	Soil-S-1	17	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B3
Calculations for Risk Assessment Modeling
Site Q - Plant Tissue
Sauget, IL

Analyte	Units	Site Q						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	[illegible]	1	495	495	AL	495	NA
1,2-Dichlorobenzene	ug/kg	[illegible]	1	495	495	AL	495	NA
1,3-Dichlorobenzene	ug/kg	[illegible]	1	495	495	AL	495	NA
1,4-Dichlorobenzene	ug/kg	[illegible]	1	495	495	AL	495	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	[illegible]	1	495	495	AL	495	NA
2,4,5-Trichlorophenol	ug/kg	[illegible]	1	495	495	AL	495	NA
2,4,6-Trichlorophenol	ug/kg	[illegible]	1	495	495	AL	495	NA
2,4-Dichlorophenol	ug/kg	[illegible]	1	495	495	AL	495	NA
2,4-Dimethylphenol	ug/kg	[illegible]	1	495	495	AL	495	NA
2,4-Dinitrophenol	ug/kg	[illegible]	1	2550	2550	AL	2550	NA
2,4-Dinitrotoluene	ug/kg	[illegible]	1	495	495	AL	495	NA
2,6-Dinitrotoluene	ug/kg	[illegible]	1	495	495	AL	495	NA
2-Chloronaphthalene	ug/kg	[illegible]	1	495	495	AL	495	NA
2-Chlorophenol	ug/kg	[illegible]	1	495	495	AL	495	NA
2-Methylnaphthalene	ug/kg	[illegible]	1	495	495	AL	495	NA
2-Methylphenol (o-Cresol)	ug/kg	[illegible]	1	495	495	AL	495	NA
2-Nitroaniline	ug/kg	[illegible]	1	2550	2550	AL	2550	NA
2-Nitrophenol	ug/kg	[illegible]	1	495	495	AL	495	NA
3,3'-Dichlorobenzidine	ug/kg	[illegible]	1	1000	1000	AL	1000	NA
3,4-Methylphenol (m&p-Cresol)	ug/kg	[illegible]	1	495	495	AL	495	NA
3-Nitroaniline	ug/kg	[illegible]	1	2550	2550	AL	2550	NA
4,6-Dinitro-2-Methylphenol	ug/kg	[illegible]	1	2550	2550	AL	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg	[illegible]	1	495	495	AL	495	NA
4-Chloro-3-methylphenol	ug/kg	[illegible]	1	495	495	AL	495	NA
4-Chloroaniline	ug/kg	[illegible]	1	1000	1000	AL	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg	[illegible]	1	495	495	AL	495	NA
4-Nitroaniline	ug/kg	[illegible]	1	2550	2550	AL	2550	NA
4-Nitrophenol	ug/kg	[illegible]	1	2550	2550	AL	2550	NA
Acenaphthene	ug/kg	[illegible]	1	495	495	AL	495	NA
Acenaphthylene	ug/kg	[illegible]	1	495	495	AL	495	NA
Anthracene	ug/kg	[illegible]	1	495	495	AL	495	NA
Benzo(a)anthracene	ug/kg	[illegible]	1	495	495	AL	495	NA
Benzo(a)pyrene	ug/kg	[illegible]	1	495	495	AL	495	NA
Benzo(b)fluoranthene	ug/kg	[illegible]	1	495	495	AL	495	NA
Benzo(g,h,i)perylene	ug/kg	[illegible]	1	495	495	AL	495	NA
Benzo(k)fluoranthene	ug/kg	[illegible]	1	495	495	AL	495	NA
bis(2-Chloroethoxy)methane	ug/kg	[illegible]	1	495	495	AL	495	NA
bis(2-Chloroethyl)ether	ug/kg	[illegible]	1	495	495	AL	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg	[illegible]	1	495	495	AL	495	NA
Butyl benzyl Phthalate	ug/kg	[illegible]	1	495	495	AL	495	NA
Carbazole	ug/kg	[illegible]	1	495	495	AL	495	NA
Chrysene	ug/kg	[illegible]	1	495	495	AL	495	NA
Dibenzo(a,h)anthracene	ug/kg	[illegible]	1	495	495	AL	495	NA
Dibenzofuran	ug/kg	[illegible]	1	495	495	AL	495	NA
Diethyl Phthalate	ug/kg	[illegible]	1	495	495	AL	495	NA
Dimethyl Phthalate	ug/kg	[illegible]	1	495	495	AL	495	NA
Di-n-butylphthalate	ug/kg	[illegible]	1	[illegible]	[illegible]	Q-10, Q-11 Dup of 12, Q-12, Q-14, Q-17, Q-18, Q-25	[illegible]	NA
Di-n-octylphthalate	ug/kg	[illegible]	1	495	495	AL	495	NA
Fluoranthene	ug/kg	[illegible]	1	495	495	AL	495	NA
Fluorene	ug/kg	[illegible]	1	495	495	AL	495	NA
Hexachlorobenzene	ug/kg	[illegible]	1	495	495	AL	495	NA
Hexachlorobutadiene	ug/kg	[illegible]	1	495	495	AL	495	NA
Hexachlorocyclopentadiene	ug/kg	[illegible]	1	495	495	AL	495	NA
Hexachloroethane	ug/kg	[illegible]	1	495	495	AL	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg	[illegible]	1	495	495	AL	495	NA
Isophorone	ug/kg	[illegible]	1	495	495	AL	495	NA
Naphthalene	ug/kg	[illegible]	1	495	495	AL	495	NA
Nitrobenzene	ug/kg	[illegible]	1	495	495	AL	495	NA
N-Nitroso-di-n-propylamine	ug/kg	[illegible]	1	495	495	AL	495	NA
N-Nitrosodiphenylamine	ug/kg	[illegible]	1	495	495	AL	495	NA
Pentachlorophenol	ug/kg	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	NA
Phenanthrene	ug/kg	[illegible]	1	495	495	AL	495	NA
Phenol	ug/kg	[illegible]	[illegible]	[illegible]	495	Q-9, Q-11, Q-12, Q-21 Dup of 12, Q-13, Q-14, Q-15, Q-16, Q-17, Q-18, Q-19, Q-20	[illegible]	NA
Pyrene	ug/kg	[illegible]	1	495	495	AL	495	NA

Table III-B3
Calculations for Risk Assessment Modeling
Site Q - Plant Tissue
Sauget, IL

Analyte	Units	Site Q						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	13	0	5.0	5.0	All	5.0	NA
4,4'-DDE	ug/kg	13	1	1.3	5.0	PL-Q-9, Q-10, Q-11, Q-12, Q-21 Dup of 12, Q-13, Q-14, Q-16, Q-17, Q-18, Q-19, Q 20	4.7	NA
4,4'-DDT	ug/kg	13	2	2.0	5.0	Q-10, Q-11, Q-12, Q-21 Dup of 12,Q-14, Q 15, Q-16, Q-17, Q-18, Q-19, Q-20	4.7	NA
Aldrin	ug/kg	13	1	1.0	2.6	Q-9, Q-10, Q-11, Q-12, Q-21 Dup of 12, Q-13, Q-15, Q-16, Q-17, Q-18, Q-19, Q-20	2.4	NA
alpha-BHC	ug/kg	13	8	0.62	3.7	PL-Q-17	2.2	NA
alpha-Chlordane	ug/kg	13	2	1.6	2.7	PL-Q-17	2.5	NA
beta-BHC	ug/kg	13	5	2.2	5.9	PL-Q-16	3.3	NA
delta-BHC	ug/kg	13	2	0.29	2.6	Q-9, Q-11, Q-12, Q-21 Dup of 12, Q-14, Q-15, Q-16, Q-17, Q-18, Q-19, Q-20	2.3	NA
Dieldrin	ug/kg	13	2	1.2	5.0	Q-9, Q-10, Q-11, Q-12, Q-21 Dup of 12, Q-13, Q-14, Q-17, Q-18, Q-19, Q-20	4.4	NA
Endosulfan I	ug/kg	13	0	2.6	2.6	All	2.6	NA
Endosulfan II	ug/kg	13	1	1.4	5.0	Q-9, Q-10, Q-11, Q-12, Q-21 Dup of 12, Q-13, Q-14, Q-15, Q-16, Q-17, Q-18, Q-20	4.7	NA
Endosulfan Sulfate	ug/kg	13	0	5.0	5.0	All	5.0	NA
Endrin	ug/kg	13	1	1.3	5.0	Q-9, Q-10, Q-11, Q-12, Q-21 Dup of 12, Q-13, Q-14, Q-16, Q-17, Q-18, Q-19, Q-20	4.7	NA
Endrin Aldehyde	ug/kg	13	0	5.0	5.0	All	5.0	NA
Endrin Ketone	ug/kg	13	0	5.0	5.0	All	5.0	NA
gamma-BHC (Lindane)	ug/kg	13	5	0.25	2.6	Q-9, Q-12, Q-21 Dup of 12, Q-13, Q-15, Q-16, Q-17, Q-20	1.9	NA
gamma-Chlordane	ug/kg	13	3	0.71	2.9	PL-Q-19	2.4	NA
Heptachlor	ug/kg	13	2	0.73	2.6	Q-9, Q-10, Q-11, Q-21 Dup of 12, Q-14, Q-15, Q-16, Q-17, Q-18, Q-19, Q-20	2.3	NA
Heptachlor Epoxide	ug/kg	13	1	1.7	2.6	Q-10, Q-11, Q-12, Q-21 Dup of 12, Q-13, Q-14, Q-15, Q-16, Q-17, Q-18, Q-19, Q-20	2.5	NA
Methoxychlor	ug/kg	13	1	2.8	26	Q-9, Q-10, Q-11, Q-12, Q-21 Dup of 12, Q-13, Q-14, Q-16, Q-17, Q-18, Q-19, Q-20	24	NA
Toxaphene	ug/kg	13	0	255	255	All	255	NA
Herbicides								
2,4-D	ug/kg	13	9	13	160	PL-Q-10	54	NA
2,4-DB	ug/kg	13	7	13	560	PL-Q-18	105	NA
2,4,5-T	ug/kg	13	6	13	440	PL-Q-10	54	NA
2,4,5-TP (Silvex)	ug/kg	13	3	13	40	PL-Q-10	16	NA
Dalapon	ug/kg	13	0	3000	6000	PL-Q-10, PL-Q-18	3462	NA
Dicamba	ug/kg	13	0	30	60	PL-Q-10, PL-Q-18	35	NA
Dichlorprop	ug/kg	13	0	150	300	PL-Q-10, PL-Q-18	173	NA
Dinoseb	ug/kg	13	0	495	495	All	495	NA
MCPA	ug/kg	13	9	3000	14000	PL-Q-18	5700	NA
MCPP	ug/kg	13	3	3000	11000	PL-Q-10, PL-Q-17	4769	NA
PCBs								
Total PCBs	ug/kg	13	0	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	12	12	0.22	0.59	PL-Q-21 Dup of PL-Q-12	0.32	NA
Metals								
Aluminum	mg/kg	13	13	7.3	75	PL-Q-21 Dup of PL-Q-12	27	NA
Antimony	mg/kg	13	0	0.85	1.0	PL-Q-9, Q-10, Q-11, Q-12, Q-15, Q-16, Q-18, Q-19	0.96	NA
Arsenic	mg/kg	13	0	0.42	0.50	PL-Q-9, Q-10, Q-11, Q-12, Q-15, Q-16, Q-18, Q-19	0.48	NA
Barium	mg/kg	13	13	2.5	32	PL-Q-19	11	NA
Beryllium	mg/kg	13	0	0.17	0.20	PL-Q-9, Q-10, Q-11, Q-12, Q-15, Q-16, Q-18, Q-19	0.19	NA
Cadmium	mg/kg	13	12	0.059	0.28	PL-Q-10	0.16	NA
Calcium	mg/kg	13	13	1400	5600	PL-Q-17	2708	NA
Chromium	mg/kg	13	6	0.17	0.83	PL-Q-11	0.42	NA
Cobalt	mg/kg	13	0	0.42	0.50	PL-Q-9, Q-10, Q-11, Q-12, Q-15, Q-16, Q-18, Q-19	0.48	NA
Copper	mg/kg	13	13	1.2	8.7	PL-Q-15	3.8	NA
Iron	mg/kg	13	13	26	130	PL-Q-21 Dup of PL-Q-12	58	NA
Lead	mg/kg	13	13	0.39	1.2	PL-Q-16	0.72	NA
Magnesium	mg/kg	13	13	550	1600	PL-Q-9	904	NA
Manganese	mg/kg	13	13	4.6	29	PL-Q-16	13	NA
Mercury	mg/kg	13	13	0.097	1.3	PL-Q-14	0.44	NA
Nickel	mg/kg	13	0	1.7	2.0	PL-Q-9, Q-10, Q-11, Q-12, Q-15, Q-16, Q-18, Q-19	1.9	NA
Potassium	mg/kg	13	13	2800	10000	PL-Q-12	6169	NA
Selenium	mg/kg	13	5	0.42	0.67	PL-Q-19	0.52	NA
Silver	mg/kg	13	0	0.42	0.50	PL-Q-9, Q-10, Q-11, Q-12, Q-15, Q-16, Q-18, Q-19	0.48	NA
Sodium	mg/kg	13	0	21	25	PL-Q-9, Q-10, Q-11, Q-12, Q-15, Q-16, Q-18, Q-19, Q-20	24	NA
Thallium	mg/kg	13	0	0.42	0.50	PL-Q-9, Q-10, Q-11, Q-12, Q-15, Q-16, Q-18, Q-19	0.48	NA
Vanadium	mg/kg	13	0	0.42	0.50	PL-Q-9, Q-10, Q-11, Q-12, Q-15, Q-16, Q-18, Q-19	0.48	NA
Zinc	mg/kg	13	13	7.0	42	PL-Q-10	24	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B3
Calculations for Risk Assessment Modeling
Site-Wide - Plant Tissue
Sauget, IL

Analyte	Units	Site-Wide						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
2,4,5-Trichlorobenzene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
1,2-Dichlorobenzene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
1,3-Dichlorobenzene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
1,4-Dichlorobenzene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2-Chloro-1,4-Dichlorobenzene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2,4,5-Trichlorophenol	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2,4,6-Trichlorophenol	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2,4-Dichlorophenol	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2,4-Dimethylphenol	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2,4-Dinitrophenol	ug/kg	[illegible]	[illegible]	2550	2550	All	2550	NA
2,4-Dinitrotoluene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2,6-Dinitrotoluene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2-Chloronaphthalene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2-Chlorophenol	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2-Methylnaphthalene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2-Methylphenol (o-Cresol)	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
2-Nitroaniline	ug/kg	[illegible]	[illegible]	2550	2550	All	2550	NA
2-Nitrophenol	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
3,3'-Dichlorobenzidine	ug/kg	[illegible]	[illegible]	1000	1000	All	1000	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
3-Nitroaniline	ug/kg	[illegible]	[illegible]	2550	2550	All	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg	[illegible]	[illegible]	2550	2550	All	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
4-Chloro-3-methylphenol	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
4-Chloroaniline	ug/kg	[illegible]	[illegible]	1000	1000	All	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
4-Nitroaniline	ug/kg	[illegible]	[illegible]	2550	2550	All	2550	NA
4-Nitrophenol	ug/kg	[illegible]	[illegible]	2550	2550	All	2550	NA
Acenaphthene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Acenaphthylene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Anthracene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Benzo(a)anthracene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Benzo(a)pyrene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Benzo(b)fluoranthene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Benzo(g,h,i)perylene	ug/kg	[illegible]	[illegible]	[illegible]	495	All (Except PL-P-1, P-2, P-4	[illegible]	499
Benzo(k)fluoranthene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
bis(2-Chloroethoxy)methane	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
bis(2-Chloroethyl)ether	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg	[illegible]	[illegible]	[illegible]	495	All (Except PL-S-1	[illegible]	510
Butyl Benzyl Phthalate	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Carbazole	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Chrysene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Dibenzo(a,h)anthracene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Dibenzofuran	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Diethyl Phthalate	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Dimethyl Phthalate	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Di-n-octylphthalate	ug/kg	[illegible]	[illegible]	[illegible]	495	PL-O-1-3, P-1-4, Q-10, Q-12 Dup, Q-13-14, Q-17-19, R-1-4, S-1	[illegible]	460
Di-n-octylphthalate	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Fluoranthene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Fluorene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Hexachlorobenzene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Hexachlorobutadiene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Hexachlorocyclopentadiene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Hexachloroethane	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Isophorone	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Naphthalene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Nitrobenzene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
N-Nitroso-di-n-propylamine	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
N-Nitrosodiphenylamine	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Pentachlorophenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	PL-O-3	[illegible]	48
Phenanthrene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA
Phenol	ug/kg	[illegible]	[illegible]	[illegible]	495	All (Except PL-P-3 and PL-Q-10)	[illegible]	499
Pyrene	ug/kg	[illegible]	[illegible]	495	495	All	495	NA

Table III-B3
Calculations for Risk Assessment Modeling
Site-Wide - Plant Tissue
Sauget, IL

Analyte	Units	Site-Wide						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	26	2	1.1	10	PL-P-1	4.9	5.4
4,4'-DDE	ug/kg	26	3	0.97	10	PL-P-1	5.0	5.7
4,4'-DDT	ug/kg	26	8	1.4	10	PL-P-1	4.3	5.0
Aldrin	ug/kg	26	5	0.50	5.1	PL-O-2	2.4	2.7
alpha-BHC	ug/kg	26	9	0.62	3.7	PL-Q-17	2.3	2.6
alpha-Chlordane	ug/kg	26	3	0.93	5.0	PL-P-1	2.6	2.8
beta-BHC	ug/kg	26	11	1.9	5.9	PL-Q-16	3.3	3.8
delta-BHC	ug/kg	26	3	0.29	2.6	All (Except PL-P-1, Q-10, Q-13)	2.4	2.6
Dieldrin	ug/kg	26	8	0.92	10	PL-P-1	4.3	5.0
Endosulfan I	ug/kg	26	0	2.6	5.0	PL-P-1	2.6	2.8
Endosulfan II	ug/kg	26	7	1.4	5.4	PL-O-2	4.4	4.8
Endosulfan Sulfate	ug/kg	26	2	1.4	10	PL-P-1	4.9	5.4
Endrin	ug/kg	26	2	1.3	10	PL-P-1	4.9	5.4
Endrin Aldehyde	ug/kg	26	1	5.0	25	PL-O-2	5.9	7.5
Endrin Ketone	ug/kg	26	2	2.2	10	PL-P-1	4.9	5.4
gamma-BHC (Lindane)	ug/kg	26	13	0.25	9.8	PL-O-2	2.4	3.1
gamma-Chlordane	ug/kg	26	6	0.71	5.7	PL-O-2	2.6	2.9
Heptachlor	ug/kg	26	8	0.73	5.5	PL-P-4	2.6	3.0
Heptachlor Epoxide	ug/kg	26	3	0.52	7.6	PL-P-1	2.6	3.1
Methoxychlor	ug/kg	26	2	2.8	190	PL-P-1	31	44
Toxaphene	ug/kg	26	0	255	500	PL-P-1	264	283
Herbicides								
2,4-D	ug/kg	26	19	13	160	PL-Q-10	49	63
2,4-DB	ug/kg	26	13	13	1300	PL-O-3	118	220
2,4,5-T	ug/kg	26	8	13	440	PL-Q-10	36	69
2,4,5-TP (Silvex)	ug/kg	26	4	13	87	PL-P-4	19	26
Dalapon	ug/kg	26	0	3000	15000	PL-O-3	3692	4632
Dicamba	ug/kg	26	0	30	150	PL-O-3	37	46
Dichlorprop	ug/kg	26	3	150	750	PL-O-3	188	235
Dinoseb	ug/kg	26	0	495	495	All	495	NA
MCPA	ug/kg	26	13	3000	15000	PL-O-3	5135	6376
MCPP	ug/kg	26	4	3000	15000	PL-O-3	4569	5880
PCBs								
Total PCBs	ug/kg	26	0	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	26	25	0.22	4.3	PL-O-1	0.57	0.88
Metals								
Aluminum	mg/kg	26	26	7.3	75	PL-Q-12 Dup	24	30
Antimony	mg/kg	26	1	0.52	1.0	PL-O-3, P-2, P-4, Q-9-12, Q-15-16, Q-18-19, R-4, S-1	0.93	0.97
Arsenic	mg/kg	26	1	0.41	0.50	PL-O-3, P-1, P-4, Q-9-12, Q-15-16, Q-18-19, R-4, S-1	0.47	0.49
Barium	mg/kg	26	26	2.5	32	PL-Q-19	9.0	12
Beryllium	mg/kg	26	0	0.17	0.20	PL-O-3, P-1, P-2, P-4, Q-9-12, Q-15-16, Q-18-19, R-4, S-1	0.19	0.19
Cadmium	mg/kg	26	24	0.059	0.55	PL-P-1	0.19	0.23
Calcium	mg/kg	26	26	1200	5600	PL-Q-17	2285	2722
Chromium	mg/kg	26	18	0.17	0.83	PL-Q-11	0.36	0.42
Cobalt	mg/kg	26	1	0.42	1.0	PL-P-1	0.50	0.54
Copper	mg/kg	26	26	1.2	8.7	PL-Q-15	3.8	4.5
Iron	mg/kg	26	26	24	130	PL-Q-12 Dup	55	66
Lead	mg/kg	26	26	0.39	7.6	PL-R-1	1.8	2.5
Magnesium	mg/kg	26	26	480	1600	PL-Q-9	839	934
Manganese	mg/kg	26	26	4.6	29	PL-Q-16	11	13
Mercury	mg/kg	26	26	0.097	2.5	PL-R-4	0.70	0.94
Nickel	mg/kg	26	2	1.7	3.9	PL-P-1	2.0	2.2
Potassium	mg/kg	26	26	2800	10000	PL-Q-12	5554	6246
Selenium	mg/kg	26	7	0.42	12	PL-P-1	0.94	1.8
Silver	mg/kg	26	0	0.42	0.50	PL-O-3, P-1, P-2, P-4, Q-9-12, Q-15-16, Q-18-19, R-4, S-1	0.48	0.49
Sodium	mg/kg	26	1	21	340	PL-P-3	36	60
Thallium	mg/kg	26	0	0.42	0.50	PL-O-3, P-1, P-2, P-4, Q-9-12, Q-15-16, Q-18-19, R-4, S-1	0.48	0.49
Vanadium	mg/kg	26	2	0.25	0.50	PL-O-3, P-2, Q-9-12, Q-15-16, Q-18-19, R-4, S-1	0.46	0.48
Zinc	mg/kg	26	26	7.0	79	PL-P-1	28	33

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B4
Calculations for Risk Assessment Modeling
Off-Site Areas - Worm Tissue
Sauget, IL

Analyte	Units	Off-Site Areas						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg		[illegible]	1000	[illegible]	All	[illegible]	NA
1,2-Dichlorobenzene	ug/kg		[illegible]	1000	[illegible]	All	[illegible]	NA
1,3-Dichlorobenzene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
1,4-Dichlorobenzene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
2,4,5-Trichlorophenol	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
2,4,6-Trichlorophenol	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
2,4-Dichlorophenol	ug/kg		[illegible]	1000	[illegible]	All	[illegible]	NA
2,4-Dimethylphenol	ug/kg		[illegible]	1000	[illegible]	All	[illegible]	NA
2,4-Dinitrophenol	ug/kg	[illegible]	[illegible]	5000	5000	All	[illegible]	NA
2,4-Dinitrotoluene	ug/kg		[illegible]	1000	[illegible]	All	[illegible]	NA
2,6-Dinitrotoluene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
2-Chloronaphthalene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
2-Chlorophenol	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
2-Methylnaphthalene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
2-Methylphenol (o-Cresol)	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
2-Nitroaniline	ug/kg	[illegible]	[illegible]	5000	5000	All	[illegible]	NA
2-Nitrophenol	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
3,3'-Dichlorobenzidine	ug/kg	[illegible]	[illegible]	2000	2000	All	[illegible]	NA
3&4-Methylphenol (m&p-Cresol)	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
3-Nitroaniline	ug/kg	[illegible]	[illegible]	5000	5000	All	[illegible]	NA
4,6-Dinitro-2-methylphenol	ug/kg	[illegible]	[illegible]	5000	5000	All	[illegible]	NA
4-Bromophenyl Phenyl Ether	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
4-Chloro-3-methylphenol	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
4-Chloroaniline	ug/kg	[illegible]	[illegible]	2000	2000	All	[illegible]	NA
4-Chlorophenyl Phenyl Ether	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
4-Nitroaniline	ug/kg	[illegible]	[illegible]	5000	5000	All	[illegible]	NA
4-Nitrophenol	ug/kg	[illegible]	[illegible]	5000	5000	All	[illegible]	NA
Acenaphthene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Acenaphthylene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Anthracene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Benzo(a)anthracene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Benzo(a)pyrene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Benzo(b)fluoranthene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Benzo(g,h,i)perylene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Benzo(k)fluoranthene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
bis(2-Chloroethoxy)methane	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
bis(2-Chloroethyl)ether	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
bis(2-Ethylhexyl)phthalate	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Butyl Benzyl Phthalate	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Carbazole	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Chrysene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Dibenz(a,h)anthracene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Dibenzofuran	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Diethyl Phthalate	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Dimethyl Phthalate	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Di-n-butylphthalate	ug/kg	[illegible]	[illegible]	300	[illegible]	#14, #15	[illegible]	NA
Di-n-octylphthalate	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Fluoranthene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Fluorene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Hexachlorobenzene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Hexachlorobutadiene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Hexachlorocyclopentadiene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Hexachloroethane	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Indeno(1,2,3-cd)pyrene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Isophorone	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Naphthalene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Nitrobenzene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
N-Nitroso-di-n-propylamine	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
N-Nitrosodiphenylamine	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Pentachlorophenol	ug/kg	[illegible]	[illegible]	7.6	[illegible]	#15	[illegible]	NA
Phenanthrene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Phenol	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA
Pyrene	ug/kg	[illegible]	[illegible]	1000	[illegible]	All	[illegible]	NA

Table III-B4
Calculations for Risk Assessment Modeling
Off-Site Areas - Worm Tissue
Sauget, IL

Analyte	Units	Off-Site Areas						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	3	0	20	20	All	20	NA
4,4'-DDE	ug/kg	3	2	8.6	21	#22	17	NA
4,4'-DDT	ug/kg	3	2	20	58	#22	36	NA
Aldrin	ug/kg	3	0	10	10	All	10	NA
alpha-BHC	ug/kg	3	0	10	10	All	10	NA
alpha-Chlordane	ug/kg	3	0	10	10	All	10	NA
beta-BHC	ug/kg	3	0	10	10	All	10	NA
delta-BHC	ug/kg	3	1	2.3	10	#22, #14	7.4	NA
Dieldrin	ug/kg	3	1	5.2	20	#14, #15	15	NA
Endosulfan I	ug/kg	3	1	1.9	10	#22, #15	7.3	NA
Endosulfan II	ug/kg	3	0	20	20	All	20	NA
Endosulfan Sulfate	ug/kg	3	0	20	20	All	20	NA
Endrin	ug/kg	3	0	20	20	All	20	NA
Endrin Aldehyde	ug/kg	3	1	4.2	20	#22, #14	15	NA
Endrin Ketone	ug/kg	3	0	20	20	All	20	NA
gamma-BHC (Lindane)	ug/kg	3	0	10	10	All	10	NA
gamma-Chlordane	ug/kg	3	3	4.4	5.1	#14	4.8	NA
Heptachlor	ug/kg	3	0	10	10	All	10	NA
Heptachlor Epoxide	ug/kg	3	0	10	10	All	10	NA
Methoxychlor	ug/kg	3	1	17	100	#14, #15	72	NA
Toxaphene	ug/kg	3	0	1000	1000	All	1000	NA
Herbicides								
2,4-D	ug/kg	3	0	25	50	#15	33	NA
2,4-DB	ug/kg	3	0	25	50	#15	33	NA
2,4,5-T	ug/kg	3	1	25	50	#15	34	NA
2,4,5-TP (Silvex)	ug/kg	3	1	9.4	50	#15	28	NA
Dalapon	ug/kg	3	0	6000	12000	#15	8000	NA
Dicamba	ug/kg	3	0	60	120	#15	80	NA
Dichlorprop	ug/kg	3	0	300	600	#15	400	NA
Dinoseb	ug/kg	3	0	1000	1000	All	1000	NA
MCPA	ug/kg	3	3	27000	74000	#14	47333	NA
MCPP	ug/kg	3	0	6000	12000	#15	8000	NA
PCBs								
Total PCBs	ug/kg	3	1	22	50	#22, #15	41	NA
Dioxins/Furans								
TEQ	pg/g	3	3	3.7	6.7	#22	4.8	NA
Metals								
Aluminum	mg/kg	3	3	220	1200	#22	613	NA
Antimony	mg/kg	3	1	0.42	1.0	#15	0.77	NA
Arsenic	mg/kg	3	3	5.5	5.9	#22	5.8	NA
Barium	mg/kg	3	3	8.3	33	#22	18	NA
Beryllium	mg/kg	3	0	0.18	0.20	#22, #15	0.19	NA
Cadmium	mg/kg	3	3	0.89	2.1	#22	1.5	NA
Calcium	mg/kg	3	3	910	960	#14	937	NA
Chromium	mg/kg	3	2	0.50	2.3	#22	1.2	NA
Cobalt	mg/kg	3	3	1.3	1.9	#22	1.6	NA
Copper	mg/kg	3	3	2.0	30	#22	13	NA
Iron	mg/kg	3	3	490	2300	#22	1297	NA
Lead	mg/kg	3	3	2.5	23	#22	10	NA
Magnesium	mg/kg	3	3	300	480	#22	380	NA
Manganese	mg/kg	3	3	13	60	#22	34	NA
Mercury	mg/kg	3	3	0.030	0.096	#22	0.058	NA
Nickel	mg/kg	3	2	1.5	4.7	#22	2.7	NA
Potassium	mg/kg	3	3	1200	1400	#22	1267	NA
Selenium	mg/kg	3	1	0.50	0.53	#14	0.51	NA
Silver	mg/kg	3	1	0.27	0.50	#15	0.41	NA
Sodium	mg/kg	3	3	570	620	#15	600	NA
Thallium	mg/kg	3	0	0.46	0.50	#22, #15	0.49	NA
Vanadium	mg/kg	3	3	0.75	3.9	#22	2.1	NA
Zinc	mg/kg	3	3	18	86	#22	52	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B4
Calculations for Risk Assessment Modeling
Site P - Worm Tissue
Sauget, IL

Analyte	Units	Site P						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,4-Trichlorobenzene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
1,2-Dichlorobenzene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
1,3-Dichlorobenzene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
1,4-Dichlorobenzene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2,4,5-Trichlorophenol	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2,4,6-Trichlorophenol	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2,4-Dichlorophenol	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2,4-Dimethylphenol	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2,4-Dinitrophenol	ug/kg	4	[illegible]	2550	5000	[illegible]	3775	NA
2,4-Dinitrotoluene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2,6-Dinitrotoluene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2-Chloronaphthalene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2-Chlorophenol	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2-Methylnaphthalene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2-Methylphenol (o-Cresol)	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
2-Nitroaniline	ug/kg	4	[illegible]	2550	5000	[illegible]	3775	NA
2-Nitrophenol	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
3,3'-Dichlorobenzidine	ug/kg	4	[illegible]	1000	2000	[illegible]	1500	NA
3,4-Methylphenol (m&p-Cresol)	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
3-Nitroaniline	ug/kg	4	[illegible]	2550	5000	[illegible]	3775	NA
4,6-Dinitro-2-methylphenol	ug/kg	4	[illegible]	2550	5000	[illegible]	3775	NA
4-Bromophenyl Phenyl Ether	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
4-Chloro-3-methylphenol	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
4-Chloroaniline	ug/kg	4	[illegible]	1000	2000	[illegible]	1500	NA
4-Chlorophenyl Phenyl Ether	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
4-Nitroaniline	ug/kg	4	[illegible]	2550	5000	[illegible]	3775	NA
4-Nitrophenol	ug/kg	4	[illegible]	2550	5000	[illegible]	3775	NA
Acenaphthene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Acenaphthylene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Anthracene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Benzo(a)anthracene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Benzo(a)pyrene	ug/kg	4	[illegible]	220	1000	[illegible]	611	NA
Benzo(b)fluoranthene	ug/kg	4	[illegible]	220	1000	[illegible]	611	NA
Benzo(g,h,i)perylene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Benzo(k)fluoranthene	ug/kg	4	[illegible]	220	1000	[illegible]	614	NA
bis(2-Chloroethoxy)methane	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
bis(2-Chloroethyl)ether	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
bis(2-Ethylhexyl)phthalate	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Butyl benzyl Phthalate	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Carbazole	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Chrysene	ug/kg	4	[illegible]	122	1400	[illegible]	654	NA
Dibenzo(a,h)anthracene	ug/kg	4	[illegible]	445	1400	[illegible]	748	NA
Dibenzofuran	ug/kg	4	[illegible]	445	1400	[illegible]	748	NA
Diethyl Phthalate	ug/kg	4	[illegible]	445	1400	[illegible]	748	NA
Dimethyl Phthalate	ug/kg	4	[illegible]	445	1400	[illegible]	748	NA
Di-n-butylphthalate	ug/kg	4	[illegible]	445	1400	[illegible]	748	NA
Di-n-octylphthalate	ug/kg	4	[illegible]	445	1400	[illegible]	748	NA
Fluoranthene	ug/kg	4	[illegible]	445	1900	[illegible]	948	NA
Fluorene	ug/kg	4	[illegible]	445	1900	[illegible]	948	NA
Hexachlorobenzene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Hexachlorobutadiene	ug/kg	4	[illegible]	445	2000	[illegible]	1248	NA
Hexachlorocyclopentadiene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Hexachloroethane	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Indeno(1,2,3-cd)pyrene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Isophorone	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Naphthalene	ug/kg	4	[illegible]	445	1000	[illegible]	748	NA
Nitrobenzene	ug/kg	4	[illegible]	445	1300	[illegible]	748	NA
N-Nitroso-di-n-propylamine	ug/kg	4	[illegible]	445	1300	[illegible]	748	NA
N-Nitrosodiphenylamine	ug/kg	4	[illegible]	445	1300	[illegible]	748	NA
Pentachlorophenol	ug/kg	4	[illegible]	11	50	[illegible]	[illegible]	NA
Phenanthrene	ug/kg	4	[illegible]	445	2000	[illegible]	948	NA
Phenol	ug/kg	4	[illegible]	445	1300	[illegible]	748	NA
Pyrene	ug/kg	4	[illegible]	445	1300	[illegible]	748	NA

Table III-B4
Calculations for Risk Assessment Modeling
Site P - Worm Tissue
Sauget, IL

Analyte	Units	Site P						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	4	0	10	20	#6, #24	15	NA
4,4'-DDE	ug/kg	4	1	3.5	20	#24	11	NA
4,4'-DDT	ug/kg	4	3	4.2	220	#24	62	NA
Aldrin	ug/kg	4	0	5.0	10	#6, #24	7.5	NA
alpha-BHC	ug/kg	4	0	5.0	10	#6, #24	7.5	NA
alpha-Chlordane	ug/kg	4	0	5.0	10	#6, #24	7.5	NA
beta-BHC	ug/kg	4	0	5.0	10	#6, #24	7.5	NA
delta-BHC	ug/kg	4	3	4.1	10	#24	5.8	NA
Dieldrin	ug/kg	4	3	2.1	65	#24	21	NA
Endosulfan I	ug/kg	4	0	5.0	10	#6, #24	7.5	NA
Endosulfan II	ug/kg	4	0	10	20	#6, #24	15	NA
Endosulfan Sulfate	ug/kg	4	2	4.2	20	#24	11	NA
Endrin	ug/kg	4	1	10	20	#6, #24	17	NA
Endrin Aldehyde	ug/kg	4	0	10	20	#6, #24	15	NA
Endrin Ketone	ug/kg	4	1	8.0	20	#6	12	NA
gamma-BHC (Lindane)	ug/kg	4	0	5.0	10	#6, #24	7.5	NA
gamma-Chlordane	ug/kg	4	0	5.0	10	#6, #24	7.5	NA
Heptachlor	ug/kg	4	1	5.0	10	#6	6.4	NA
Heptachlor Epoxide	ug/kg	4	1	5.0	10	#24	7.0	NA
Methoxychlor	ug/kg	4	4	10	50	#6	23	NA
Toxaphene	ug/kg	4	0	500	1000	#6, #24	750	NA
Herbicides								
2,4-D	ug/kg	4	2	25	630	#6	208	NA
2,4-DB	ug/kg	4	0	25	25	All	25	NA
2,4,5-T	ug/kg	4	0	25	25	All	25	NA
2,4,5-TP (Silvex)	ug/kg	4	0	25	25	All	25	NA
Dalapon	ug/kg	4	0	6000	6000	All	6000	NA
Dicamba	ug/kg	4	0	60	60	All	60	NA
Dichlorprop	ug/kg	4	1	120	300	#2, #6, #7	255	NA
Dinoseb	ug/kg	4	0	495	1000	#6, #24	748	NA
MCPA	ug/kg	4	4	29000	90000	#6	59250	NA
MCPP	ug/kg	4	0	6000	6000	All	6000	NA
PCBs								
Total PCBs	ug/kg	4	2	9.0	170	#24	64	NA
Dioxins/Furans								
TEQ	pg/g	4	4	1.4	44	#6	13	NA
Metals								
Aluminum	mg/kg	4	4	510	1600	#2	863	NA
Antimony	mg/kg	4	2	0.47	1.0	#24	0.72	NA
Arsenic	mg/kg	4	4	4.9	12	#7	8.6	NA
Barium	mg/kg	4	4	10	33	#2	19	NA
Beryllium	mg/kg	4	2	0.18	0.47	#2	0.29	NA
Cadmium	mg/kg	4	4	1.2	1.4	#6, #7	1.3	NA
Calcium	mg/kg	4	4	1100	2800	#2	2000	NA
Chromium	mg/kg	4	4	1.6	11	#2	4.1	NA
Cobalt	mg/kg	4	4	1.8	5.9	#2	3.3	NA
Copper	mg/kg	4	4	5.6	14	#2	10	NA
Iron	mg/kg	4	4	830	6800	#2	2583	NA
Lead	mg/kg	4	4	8.5	15	#2	12	NA
Magnesium	mg/kg	4	4	170	940	#24	473	NA
Manganese	mg/kg	4	4	7.8	91	#2	45	NA
Mercury	mg/kg	4	4	0.017	0.071	#24	0.046	NA
Nickel	mg/kg	4	4	1.6	18	#2	7.1	NA
Potassium	mg/kg	4	4	1100	1300	#24	1200	NA
Selenium	mg/kg	4	3	0.50	2.2	#2	1.0	NA
Silver	mg/kg	4	0	0.46	0.50	#2, #7, #24	0.49	NA
Sodium	mg/kg	4	4	530	600	#6	578	NA
Thallium	mg/kg	4	0	0.46	0.50	#2, #7, #24	0.49	NA
Vanadium	mg/kg	4	4	2.7	18	#2	7.2	NA
Zinc	mg/kg	4	4	40	98	#7	73	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B4
Calculations for Risk Assessment Modeling
Site R - Worm Tissue
Sauget, IL

Analyte	Units	Site R						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	5	0	1000	1000	All	1000	NA
1,2-Dichlorobenzene	ug/kg	5	0	1000	1000	All	1000	NA
1,3-Dichlorobenzene	ug/kg	5	0	1000	1000	All	1000	NA
1,4-Dichlorobenzene	ug/kg	5	0	1000	1000	All	1000	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	5	0	1000	1000	All	1000	NA
2,4,5-Trichlorophenol	ug/kg	5	0	1000	1000	All	1000	NA
2,4,6-Trichlorophenol	ug/kg	5	0	1000	1000	All	1000	NA
2,4-Dichlorophenol	ug/kg	5	0	1000	1000	All	1000	NA
2,4-Dimethylphenol	ug/kg	5	0	1000	1000	All	1000	NA
2,4-Dinitrophenol	ug/kg	5	0	5000	5000	All	5000	NA
2,4-Dinitrotoluene	ug/kg	5	0	1000	1000	All	1000	NA
2,6-Dinitrotoluene	ug/kg	5	0	1000	1000	All	1000	NA
2-Chloronaphthalene	ug/kg	5	0	1000	1000	All	1000	NA
2-Chlorophenol	ug/kg	5	0	1000	1000	All	1000	NA
2-Methylnaphthalene	ug/kg	5	0	1000	1000	All	1000	NA
2-Methylphenol (o-Cresol)	ug/kg	5	0	1000	1000	All	1000	NA
2-Nitroaniline	ug/kg	5	0	5000	5000	All	5000	NA
2-Nitrophenol	ug/kg	5	0	1000	1000	All	1000	NA
3,3'-Dichlorobenzidine	ug/kg	5	0	2000	2000	All	2500	NA
3&4-Methylphenol (m&p-Cresol)	ug/kg	5	0	1000	1000	All	1000	NA
3-Nitroaniline	ug/kg	5	0	5000	5000	All	5000	NA
4,6-Dinitro-2-methylphenol	ug/kg	5	0	5000	5000	All	5000	NA
4-Bromophenyl Phenyl Ether	ug/kg	5	0	1000	1000	All	1000	NA
4-Chloro-3-methylphenol	ug/kg	5	0	1000	1000	All	1000	NA
4-Chloroaniline	ug/kg	5	0	2000	2000	All	2000	NA
4-Chlorophenyl Phenyl Ether	ug/kg	5	0	1000	1000	All	1000	NA
4-Nitroaniline	ug/kg	5	0	5000	5000	All	5000	NA
4-Nitrophenol	ug/kg	5	0	5000	5000	All	5000	NA
Acenaphthene	ug/kg	5	0	1000	1000	All	1000	NA
Acenaphthylene	ug/kg	5	0	1000	1000	All	1000	NA
Anthracene	ug/kg	5	0	1000	1000	All	1000	NA
Benzo(a)anthracene	ug/kg	5	0	1000	1000	All	1000	NA
Benzo(a)pyrene	ug/kg	5	0	1000	1000	All	1000	NA
Benzo(b)fluoranthene	ug/kg	5	0	1000	1000	All	1000	NA
Benzo(g,h,i)perylene	ug/kg	5	0	1000	1000	All	1000	NA
Benzo(k)fluoranthene	ug/kg	5	0	1000	1000	All	1000	NA
bis(2-Chloroethoxy)methane	ug/kg	5	0	1000	1000	All	1000	NA
bis(2-Chloroethyl)ether	ug/kg	5	0	1000	1000	All	1000	NA
bis(2-Ethylhexyl)phthalate	ug/kg	5	0	1000	1000	All	1000	NA
Butyl Benzyl Phthalate	ug/kg	5	0	1000	1000	All	1000	NA
Carbazole	ug/kg	5	0	1000	1000	All	1000	NA
Chrysene	ug/kg	5	0	1000	1000	All	1000	NA
Dibenz(a,h)anthracene	ug/kg	5	0	1000	1000	All	1000	NA
Dibenzofuran	ug/kg	5	0	1000	1000	All	1000	NA
Diethyl Phthalate	ug/kg	5	0	1000	1000	All	1000	NA
Dimethyl Phthalate	ug/kg	5	0	1000	1000	All	1000	NA
Di-n-butylphthalate	ug/kg	5	0	1000	1000	All	1000	NA
Di-n-octylphthalate	ug/kg	5	0	1000	1000	All	1000	NA
Fluoranthene	ug/kg	5	0	1000	1000	All	1000	NA
Fluorene	ug/kg	5	0	1000	1000	All	1000	NA
Hexachlorobenzene	ug/kg	5	0	1000	1000	All	1000	NA
Hexachlorobutadiene	ug/kg	5	0	1000	1000	All	1000	NA
Hexachlorocyclopentadiene	ug/kg	5	0	1000	1000	All	1000	NA
Hexachloroethane	ug/kg	5	0	1000	1000	All	1000	NA
Indeno(1,2,3-cd)pyrene	ug/kg	5	0	1000	1000	All	1000	NA
Isophorone	ug/kg	5	0	1000	1000	All	1000	NA
Naphthalene	ug/kg	5	0	1000	1000	All	1000	NA
Nitrobenzene	ug/kg	5	0	1000	1000	All	1000	NA
N-Nitroso-di-n-propylamine	ug/kg	5	0	1000	1000	All	1000	NA
N-Nitrosodiphenylamine	ug/kg	5	0	1000	1000	All	1000	NA
Pentachlorophenol	ug/kg	5	1	1.1	5000	#25, #36, #4, #27	12	NA
Phenanthrene	ug/kg	5	0	1000	1000	All	1000	NA
Phenol	ug/kg	5	0	1000	1000	All	1000	NA
Pyrene	ug/kg	5	0	1000	1000	All	1000	NA

Table III-B4
Calculations for Risk Assessment Modeling
Site R - Worm Tissue
Sauget, IL

Analyte	Units	Site R						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	5	0	20	20	All	20	NA
4,4'-DDE	ug/kg	5	0	20	20	All	20	NA
4,4'-DDT	ug/kg	5	3	6.8	20	#19, #12	14	NA
Aldrin	ug/kg	5	1	2.6	10	#19, #16, #12, #17	8.5	NA
alpha-BHC	ug/kg	5	1	10	10	All	10	NA
alpha-Chlordane	ug/kg	5	0	10	10	All	10	NA
beta-BHC	ug/kg	5	0	10	10	All	10	NA
delta-BHC	ug/kg	5	3	6.5	17	#16	11	NA
Dieldrin	ug/kg	5	2	2.9	20	#16, #12, #17	14	NA
Endosulfan I	ug/kg	5	0	10	10	All	10	NA
Endosulfan II	ug/kg	5	0	20	20	All	20	NA
Endosulfan Sulfate	ug/kg	5	2	6.1	20	#16, #4, #12	15	NA
Endrin	ug/kg	5	0	20	20	All	20	NA
Endrin Aldehyde	ug/kg	5	1	4.4	20	#19, #4, #12, #17	17	NA
Endrin Ketone	ug/kg	5	1	20	31	#4	22	NA
gamma-BHC (Lindane)	ug/kg	5	0	10	10	All	10	NA
gamma-Chlordane	ug/kg	5	1	4.2	10	#19, #16, #12, #17	8.8	NA
Heptachlor	ug/kg	5	1	8.3	10	#19, #4, #12, #17	9.7	NA
Heptachlor Epoxide	ug/kg	5	0	10	10	All	10	NA
Methoxychlor	ug/kg	5	3	7.8	100	#16, #12	47	NA
Toxaphene	ug/kg	5	0	1000	1000	All	1000	NA
Herbicides								
2,4-D	ug/kg	5	1	50	110	#19	62	NA
2,4-DB	ug/kg	5	0	50	50	All	50	NA
2,4,5-T	ug/kg	5	0	50	50	All	50	NA
2,4,5-TP (Silvex)	ug/kg	5	0	50	50	All	50	NA
Dalapon	ug/kg	5	0	12000	12000	All	12000	NA
Dicamba	ug/kg	5	0	120	120	All	120	NA
Dichlorprop	ug/kg	5	0	600	600	All	600	NA
Dinoseb	ug/kg	5	0	1000	1000	All	1000	NA
MCPA	ug/kg	5	5	20000	42000	#12	29000	NA
MCPP	ug/kg	5	0	12000	12000	All	12000	NA
PCBs								
Total PCBs	ug/kg	5	0	50	50	All	50	NA
Dioxins/Furans								
TEQ	pg/g	5	5	0.68	1.5	#19	1.1	NA
Metals								
Aluminum	mg/kg	5	5	410	710	#12	532	NA
Antimony	mg/kg	5	0	0.90	1.0	#16, #12	0.94	NA
Arsenic	mg/kg	5	5	4.3	5.6	#16, #4	5.2	NA
Barium	mg/kg	5	5	5.3	8.3	#17	6.8	NA
Beryllium	mg/kg	5	0	0.18	0.20	#16, #12	0.19	NA
Cadmium	mg/kg	5	5	0.67	1.1	#12	0.88	NA
Calcium	mg/kg	5	5	670	790	#12	722	NA
Chromium	mg/kg	5	3	0.46	1.3	#12	0.85	NA
Cobalt	mg/kg	5	5	1.2	1.5	#16, #12, #17	1.4	NA
Copper	mg/kg	5	5	2.7	3.7	#12	3.1	NA
Iron	mg/kg	5	5	740	1300	#12	960	NA
Lead	mg/kg	5	5	0.76	2.4	#19	1.4	NA
Magnesium	mg/kg	5	5	280	410	#12	348	NA
Manganese	mg/kg	5	5	26	37	#17	32	NA
Mercury	mg/kg	5	5	0.023	0.030	#19, #16, #12	0.026	NA
Nickel	mg/kg	5	2	1.3	2.0	#16	1.7	NA
Potassium	mg/kg	5	5	1000	1400	#16	1240	NA
Selenium	mg/kg	5	3	0.46	0.70	#12	0.51	NA
Silver	mg/kg	5	0	0.46	0.50	#16, #12	0.47	NA
Sodium	mg/kg	5	5	550	700	#16	634	NA
Thallium	mg/kg	5	0	0.46	0.50	#16, #12	0.47	NA
Vanadium	mg/kg	5	5	1.3	2.3	#12	1.7	NA
Zinc	mg/kg	5	5	20	29	#12	23	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B4
Calculations for Risk Assessment Modeling
Site O - Worm Tissue
Sauget, IL

Analyte	Units	Site O						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,4-Dichlorobenzene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
1,2-Dichlorobenzene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
1,3-Dichlorobenzene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
2,4-Dichlorophenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
2,4-Dimethylphenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
2,4,5-Trichlorophenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
2,4,6-Trichlorophenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
2-Chlorophenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
2-Methylphenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
2-Nitroaniline	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
2-Nitrophenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
3,3'-Dichlorobenzidine	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
4,6-Dinitro-2-methylphenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
4-Bromophenyl Phenyl Ether	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
4-Chloro-3-methylphenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
4-Chloroaniline	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
4-Chlorophenyl Phenyl Ether	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
4-Nitroaniline	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
4-Nitrophenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Acenaphthene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Acenaphthylene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Anthracene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Benzo(a)anthracene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Benzo(a)pyrene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Benzo(b)fluoranthene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Benzo(g,h,i)perylene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Benzo(k)fluoranthene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
bis(2-Chloroethoxy)methane	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
bis(2-Chloroethyl)ether	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
bis(2-Ethylhexyl)phthalate	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Butyl benzyl Phthalate	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Carbazole	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Chrysene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Dibenzo(a,h)anthracene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Dibenzofuran	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Diethyl Phthalate	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Dimethyl Phthalate	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Di-n-butylphthalate	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Di-n-octylphthalate	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Fluoranthene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Fluorene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Hexachlorobenzene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Hexachlorobutadiene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Hexachlorocyclopentadiene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Hexachloroethane	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Indeno(1,2,3-cd)pyrene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Isophorone	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Naphthalene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Nitrobenzene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
N-Nitroso-di-n-propylamine	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
N-Nitrosodiphenylamine	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Pentachlorophenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NA
Phenanthrene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Phenol	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA
Pyrene	ug/kg	[illegible]	[illegible]	[illegible]	[illegible]	AJ	[illegible]	NA

Table III-B4
Calculations for Risk Assessment Modeling
Site O - Worm Tissue
Sauget, IL

Analyte	Units	Site O						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	3	1	20	140	#8	60	NA
4,4'-DDE	ug/kg	3	0	20	20	All	20	NA
4,4'-DDT	ug/kg	3	3	26	1200	#8	615	NA
Aldrin	ug/kg	3	2	5.9	21	#8	12	NA
alpha-BHC	ug/kg	3	0	10	10	All	10	NA
alpha-Chlordane	ug/kg	3	0	10	10	All	10	NA
beta-BHC	ug/kg	3	0	10	10	All	10	NA
delta-BHC	ug/kg	3	1	10	51	#8	24	NA
Dieldrin	ug/kg	3	3	26	400	#18	179	NA
Endosulfan I	ug/kg	3	1	1.9	10	#8, #10	7.3	NA
Endosulfan II	ug/kg	3	1	20	39	#8	26	NA
Endosulfan Sulfate	ug/kg	3	1	18	20	#8, #18	19	NA
Endrin	ug/kg	3	1	20	58	#10	33	NA
Endrin Aldehyde	ug/kg	3	0	20	20	All	20	NA
Endrin Ketone	ug/kg	3	0	20	20	All	20	NA
gamma-BHC (Lindane)	ug/kg	3	1	10	18	#8	13	NA
gamma-Chlordane	ug/kg	3	0	10	10	All	10	NA
Heptachlor	ug/kg	3	0	10	10	All	10	NA
Heptachlor Epoxide	ug/kg	3	0	10	10	All	10	NA
Methoxychlor	ug/kg	3	0	100	100	All	100	NA
Toxaphene	ug/kg	3	0	1000	1000	All	1000	NA
Herbicides								
2,4-D	ug/kg	3	2	25	94	#8	58	NA
2,4-DB	ug/kg	3	0	12.5	50	#8	29	NA
2,4,5-T	ug/kg	3	1	7.6	50	#8	28	NA
2,4,5-TP (Silvex)	ug/kg	3	1	6.1	50	#8	27	NA
Dalapon	ug/kg	3	0	3000	12000	#8	7000	NA
Dicamba	ug/kg	3	0	30	120	#8	70	NA
Dichlorprop	ug/kg	3	0	150	600	#8	350	NA
Dinoseb	ug/kg	3	0	1000	1000	All	1000	NA
MCPA	ug/kg	3	2	3000	58000	#10	33667	NA
MCPP	ug/kg	3	0	3000	12000	#8	7000	NA
PCBs								
Total PCBs	ug/kg	3	3	562	32614	#8	20732	NA
Dioxins/Furans								
TEQ	pg/g	3	3	37	2565	#8	1192	NA
Metals								
Aluminum	mg/kg	3	3	520	960	#18	777	NA
Antimony	mg/kg	3	0	1.0	1.0	All	1.0	NA
Arsenic	mg/kg	3	3	5.0	6.3	#18	5.6	NA
Barium	mg/kg	3	3	8.3	16	#18	12	NA
Beryllium	mg/kg	3	0	0.20	0.20	All	0.20	NA
Cadmium	mg/kg	3	3	1.3	2.6	#18	1.8	NA
Calcium	mg/kg	3	3	1100	1900	#10	1400	NA
Chromium	mg/kg	3	2	0.50	1.7	#10, #18	1.3	NA
Cobalt	mg/kg	3	3	1.7	1.9	#18	1.8	NA
Copper	mg/kg	3	3	7.7	9.1	#18	8.6	NA
Iron	mg/kg	3	3	890	1900	#18	1497	NA
Lead	mg/kg	3	3	2.6	3.9	#18	3.1	NA
Magnesium	mg/kg	3	3	380	910	#10	617	NA
Manganese	mg/kg	3	3	38	54	#10	48	NA
Mercury	mg/kg	3	3	0.076	0.42	#18	0.27	NA
Nickel	mg/kg	3	3	1.5	2.2	#18	1.9	NA
Potassium	mg/kg	3	3	1300	1400	#18	1367	NA
Selenium	mg/kg	3	1	0.50	0.73	#18	0.58	NA
Silver	mg/kg	3	0	0.50	0.50	All	0.50	NA
Sodium	mg/kg	3	3	640	690	#8	660	NA
Thallium	mg/kg	3	0	0.50	0.50	All	0.50	NA
Vanadium	mg/kg	3	3	1.6	3.2	#18	2.6	NA
Zinc	mg/kg	3	3	31	42	#18	36	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B4
Calculations for Risk Assessment Modeling
Site 5 - Worm Tissue
Sauget, IL

Analyte	Units	Site 5						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
1,2-Dichlorobenzene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
1,3-Dichlorobenzene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
1,4-Dichlorobenzene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2,4,5-Trichlorophenol	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2,4,6-Trichlorophenol	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2,4-Dichlorophenol	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2,4-Dimethylphenol	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2,4-Dinitrophenol	ug/kg		[illegible]	5000	[illegible]	#25	[illegible]	NA
2,4-Dinitrotoluene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2,6-Dinitrotoluene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2-Chloronaphthalene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2-Chlorophenol	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2-Methylnaphthalene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2-Methylphenol (o-Cresol)	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
2-Nitroaniline	ug/kg		[illegible]	5000	[illegible]	#25	[illegible]	NA
2-Nitrophenol	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
3,3'-Dichlorobenzidine	ug/kg		[illegible]	2000	[illegible]	#25	[illegible]	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
3-Nitroaniline	ug/kg		[illegible]	5000	[illegible]	#25	[illegible]	NA
4,6-Dinitro-2-methylphenol	ug/kg		[illegible]	5000	[illegible]	#25	[illegible]	NA
4-Bromophenyl Phenyl Ether	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
4-Chloro-3-methylphenol	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
4-Chloroaniline	ug/kg		[illegible]	2000	[illegible]	#25	[illegible]	NA
4-Chlorophenyl Phenyl Ether	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
4-Nitroaniline	ug/kg		[illegible]	5000	[illegible]	#25	[illegible]	NA
4-Nitrophenol	ug/kg		[illegible]	5000	[illegible]	#25	[illegible]	NA
Acenaphthene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Acenaphthylene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Anthracene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Benzo(a)anthracene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Benzo(a)pyrene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Benzo(b)fluoranthene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Benzo(g,h,i)perylene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Benzo(k)fluoranthene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
bis(2-Chloroethoxy)methane	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
bis(2-Chloroethyl)ether	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
bis(2-Ethylhexyl)phthalate	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Butyl Benzyl Phthalate	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Carbazole	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Chrysene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Dibenz(a,h)anthracene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Dibenzofuran	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Diethyl Phthalate	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Dimethyl Phthalate	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Di-n-butylphthalate	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Di-n-octylphthalate	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Fluoranthene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Fluorene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Hexachlorobenzene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Hexachlorobutadiene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Hexachlorocyclopentadiene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Hexachloroethane	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Indeno(1,2,3-cd)pyrene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Isophorone	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Naphthalene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Nitrobenzene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
N-Nitroso-di-n-propylamine	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
N-Nitrosodiphenylamine	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Pentachlorophenol	ug/kg		[illegible]	[illegible]	[illegible]	#25	[illegible]	NA
Phenanthrene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Phenol	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA
Pyrene	ug/kg		[illegible]	1000	[illegible]	#25	[illegible]	NA

Table III-B4
Calculations for Risk Assessment Modeling
Site S - Worm Tissue
Sauget, IL

Analyte	Units	Site S						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	1	0	20	20	#29	20	NA
4,4'-DDE	ug/kg	1	1	4.4	4.4	#29	4.4	NA
4,4'-DDT	ug/kg	1	0	20	20	#29	20	NA
Aldrin	ug/kg	1	0	10	10	#29	10	NA
alpha-BHC	ug/kg	1	0	10	10	#29	10	NA
alpha-Chlordane	ug/kg	1	0	10	10	#29	10	NA
beta-BHC	ug/kg	1	0	10	10	#29	10	NA
delta-BHC	ug/kg	1	0	10	10	#29	10	NA
Dieldrin	ug/kg	1	1	4.5	4.5	#29	4.5	NA
Endosulfan I	ug/kg	1	0	10	10	#29	10	NA
Endosulfan II	ug/kg	1	0	20	20	#29	20	NA
Endosulfan Sulfate	ug/kg	1	0	20	20	#29	20	NA
Endrin	ug/kg	1	0	20	20	#29	20	NA
Endrin Aldehyde	ug/kg	1	0	20	20	#29	20	NA
Endrin Ketone	ug/kg	1	0	20	20	#29	20	NA
gamma-BHC (Lindane)	ug/kg	1	0	10	10	#29	10	NA
gamma-Chlordane	ug/kg	1	0	10	10	#29	10	NA
Heptachlor	ug/kg	1	0	10	10	#29	10	NA
Heptachlor Epoxide	ug/kg	1	0	10	10	#29	10	NA
Methoxychlor	ug/kg	1	0	100	100	#29	100	NA
Toxaphene	ug/kg	1	0	1000	1000	#29	1000	NA
Herbicides								
2,4-D	ug/kg	1	0	25	25	#29	25	NA
2,4-DB	ug/kg	1	0	25	25	#29	25	NA
2,4,5-T	ug/kg	1	0	25	25	#29	25	NA
2,4,5-TP (Silvex)	ug/kg	1	0	25	25	#29	25	NA
Dalapon	ug/kg	1	0	6000	6000	#29	6000	NA
Dicamba	ug/kg	1	0	60	60	#29	60	NA
Dichlorprop	ug/kg	1	0	300	300	#29	300	NA
Dinoseb	ug/kg	1	0	1000	1000	#29	1000	NA
MCPA	ug/kg	1	1	80000	80000	#29	80000	NA
MCPP	ug/kg	1	0	6000	6000	#29	6000	NA
PCBs								
Total PCBs	ug/kg	1	0	50	50	#29	50	NA
Dioxins/Furans								
TEQ	pg/g	1	1	5.0	5.0	#29	5.0	NA
Metals								
Aluminum	mg/kg	1	1	790	790	#29	790	NA
Antimony	mg/kg	1	0	1.0	1.0	#29	1.0	NA
Arsenic	mg/kg	1	1	5.8	5.8	#29	5.8	NA
Barium	mg/kg	1	1	13	13	#29	13	NA
Beryllium	mg/kg	1	0	0.20	0.20	#29	0.20	NA
Cadmium	mg/kg	1	1	1.7	1.7	#29	1.7	NA
Calcium	mg/kg	1	1	930	930	#29	930	NA
Chromium	mg/kg	1	1	1.6	1.6	#29	1.6	NA
Cobalt	mg/kg	1	1	1.8	1.8	#29	1.8	NA
Copper	mg/kg	1	1	5.6	5.6	#29	5.6	NA
Iron	mg/kg	1	1	1400	1400	#29	1400	NA
Lead	mg/kg	1	1	3.8	3.8	#29	3.8	NA
Magnesium	mg/kg	1	1	370	370	#29	370	NA
Manganese	mg/kg	1	1	48	48	#29	48	NA
Mercury	mg/kg	1	1	0.078	0.078	#29	0.078	NA
Nickel	mg/kg	1	1	1.4	1.4	#29	1.4	NA
Potassium	mg/kg	1	1	1200	1200	#29	1200	NA
Selenium	mg/kg	1	0	0.50	0.50	#29	0.50	NA
Silver	mg/kg	1	0	0.50	0.50	#29	0.50	NA
Sodium	mg/kg	1	1	650	650	#29	650	NA
Thallium	mg/kg	1	0	0.50	0.50	#29	0.50	NA
Vanadium	mg/kg	1	1	2.5	2.5	#29	2.5	NA
Zinc	mg/kg	1	1	32	32	#29	32	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B4
Calculations for Risk Assessment Modeling
Site Q - Worm Tissue
Sauget, IL

Analyte	Units	Site Q						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
1,2-Dichlorobenzene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
1,3-Dichlorobenzene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
1,4-Dichlorobenzene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2,4,5-Trichlorophenol	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2,4,6-Trichlorophenol	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2,4-Dichlorophenol	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2,4-Dimethylphenol	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2,4-Dinitrophenol	ug/kg	13	1	2550	9000	#25, #21, #5, #20, #26, #13, #11, #24, #7	2546	NA
2,4-Dinitrotoluene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2,6-Dinitrotoluene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2-Chloronaphthalene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2-Chlorophenol	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2-Methylnaphthalene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2-Methylphenol (o-Cresol)	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
2-Nitroaniline	ug/kg	13	1	2550	9000	#25, #21, #5, #20, #26, #13, #11, #24, #7	2546	NA
2-Nitrophenol	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
3,3'-Dichlorobenzidine	ug/kg	13	1	1700	6000	#25, #21, #5, #20, #26, #13, #11, #24, #7	1692	NA
3,4-Methylphenol (m&p-Cresol)	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
3-Nitroaniline	ug/kg	13	1	2550	9000	#25, #21, #5, #20, #26, #13, #11, #24, #7	2546	NA
4,6-Dinitro-2-methylphenol	ug/kg	13	1	2550	9000	#25, #21, #5, #20, #26, #13, #11, #24, #7	2546	NA
4-Bromophenyl Phenyl Ether	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
4-Chloro-3-methylphenol	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
4-Chloroaniline	ug/kg	13	1	1700	6000	#25, #21, #5, #20, #26, #13, #11, #24, #7	1692	NA
4-Chlorophenyl Phenyl Ether	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
4-Nitroaniline	ug/kg	13	1	2550	9000	#25, #21, #5, #20, #26, #13, #11, #24, #7	2546	NA
4-Nitrophenol	ug/kg	13	1	2550	9000	#25, #21, #5, #20, #26, #13, #11, #24, #7	2546	NA
Acenaphthene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Acenaphthylene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Anthracene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Benzo(a)anthracene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Benzo(a)pyrene	ug/kg	13	1	222	1000	#25, #21, #5, #20, #26, #13, #11, #24, #7	551	NA
Benzo(b)fluoranthene	ug/kg	13	1	277	1000	#25, #21, #5, #20, #26, #13, #11, #24, #7	555	NA
Benzo(g,h,i)perylene	ug/kg	13	1	845	3000	#25, #5, #20, #26, #13, #11, #24, #7	808	NA
Benzo(k)fluoranthene	ug/kg	13	1	222	1000	#25, #21, #5, #20, #26, #13, #11, #24, #7	551	NA
bis(2-Chloroethyl)ether	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
bis(2-Chloroethyl)ether	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
bis(2-Ethylhexyl)phthalate	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Butyl Benzyl Phthalate	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Carbazole	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Chrysene	ug/kg	13	1	140	500	#25, #21, #5, #20, #26, #13, #11, #24, #7	555	NA
Dibenz(a,h)anthracene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Dibenzofuran	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Diethyl Phthalate	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Dimethyl Phthalate	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Di-n-butylphthalate	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Di-n-octylphthalate	ug/kg	13	1	555	2000	#25, #21, #5, #20, #26, #13, #11, #24, #7	556	NA
Fluoranthene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Fluorene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Hexachlorobenzene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Hexachlorobutadiene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Hexachlorocyclopentadiene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Hexachloroethane	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Indeno(1,2,3-cd)pyrene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Isophorone	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Naphthalene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Nitrobenzene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
N-Nitroso-di-n-propylamine	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
N-Nitrosodiphenylamine	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Pentachlorophenol	ug/kg	13	4	11	75	#25, #11	34	NA
Phenanthrene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Phenol	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA
Pyrene	ug/kg	13	1	845	3000	#25, #21, #5, #20, #26, #13, #11, #24, #7	845	NA

Source: Calculations Spreadsheet

Table III-B4
Calculations for Risk Assessment Modeling
Site Q - Worm Tissue
Sauget, IL

Analyte	Units	Site Q						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	13	0	10	20	#25, #21, #3, #20, #23, #26, #13, #11, #28, #27	18	NA
4,4'-DDE	ug/kg	13	5	2.4	180	#26	26	NA
4,4'-DDT	ug/kg	13	7	2.5	750	#20	184	NA
Aldrin	ug/kg	13	0	5.0	10	#25, #21, #3, #20, #23, #26, #13, #11, #28, #27	8.8	NA
alpha-BHC	ug/kg	13	2	1.8	10	#25, #21, #3, #20, #26, #11, #28, #27	7.8	NA
alpha-Chlordane	ug/kg	13	1	5.0	51	#23	12	NA
beta-BHC	ug/kg	13	1	5.0	47	#23	12	NA
delta-BHC	ug/kg	13	6	1.1	12	#20	8	NA
Dieldrin	ug/kg	13	12	2.1	400	#20	115	NA
Endosulfan I	ug/kg	13	0	5.0	10	#25, #21, #3, #20, #23, #26, #13, #11, #28, #27	8.8	NA
Endosulfan II	ug/kg	13	0	10	20	#25, #21, #3, #20, #23, #26, #13, #11, #28, #27	18	NA
Endosulfan Sulfate	ug/kg	13	3	2.7	20	#25, #21, #3, #20, #23, #26, #11, #27	16	NA
Endrin	ug/kg	13	0	10	20	#25, #21, #3, #20, #23, #26, #13, #11, #28, #27	18	NA
Endrin Aldehyde	ug/kg	13	0	10	20	#25, #21, #3, #20, #23, #26, #13, #11, #28, #27	18	NA
Endrin Ketone	ug/kg	13	2	10	20	#3, #20, #23, #26, #13, #11, #28, #27	17	NA
gamma-BHC (Lindane)	ug/kg	13	0	5.0	10	#25, #21, #3, #20, #23, #26, #13, #11, #28, #27	8.8	NA
gamma-Chlordane	ug/kg	13	1	2.4	10	#25, #21, #3, #20, #23, #26, #13, #11, #27	8.3	NA
Heptachlor	ug/kg	13	2	2.8	10	#21, #3, #20, #23, #26, #13, #11, #28	8.0	NA
Heptachlor Epoxide	ug/kg	13	0	5.0	10	#25, #21, #3, #20, #23, #26, #13, #11, #28, #27	8.8	NA
Methoxychlor	ug/kg	13	5	5.2	100	#3, #20, #23, #26, #13, #27	64	NA
Toxaphene	ug/kg	13	0	500	1000	#25, #21, #3, #20, #23, #26, #13, #11, #28, #27	885	NA
Herbicides								
2,4-D	ug/kg	13	4	13	180	#1	59	NA
2,4-DB	ug/kg	12	0	13	50	#20, #11	26	NA
2,4,5-T	ug/kg	12	1	13	50	#20, #11	26	NA
2,4,5-TP (Silvex)	ug/kg	13	1	13	50	#20, #11	25	NA
Dalapon	ug/kg	12	0	3000	12000	#20, #11	6250	NA
Dicamba	ug/kg	12	0	30	120	#20, #11	63	NA
Dichlorprop	ug/kg	12	0	150	600	#20, #11	313	NA
Dinoseb	ug/kg	13	0	495	1000	#25, #21, #3, #20, #26, #13, #11, #28, #27	845	NA
MCPA	ug/kg	12	10	6000	91000	#21	41450	NA
MCPP	ug/kg	12	0	3000	12000	#20, #11	6250	NA
PCBs								
Total PCBs	ug/kg	13	8	25	16870	#20	3272	NA
Dioxins/Furans								
TEQ	pg/g	13	13	1.5	22	#20	6.3	NA
Metals								
Aluminum	mg/kg	13	13	250	1900	#23	670	NA
Antimony	mg/kg	13	1	0.42	1.0	#25, #21, #3, #20, #23, #1, #13, #28, #27	0.93	NA
Arsenic	mg/kg	13	13	3.4	7.3	#21	5.2	NA
Barium	mg/kg	13	13	7.0	36	#23	14	NA
Beryllium	mg/kg	13	0	0.18	0.20	#25, #21, #3, #20, #23, #26, #1, #13, #28, #27	0.20	NA
Cadmium	mg/kg	13	13	0.75	1.5	#21, #20	1.1	NA
Calcium	mg/kg	13	13	690	1600	#13	1083	NA
Chromium	mg/kg	13	12	0.47	3.4	#23	1.3	NA
Cobalt	mg/kg	13	13	1.1	2.1	#20	1.5	NA
Copper	mg/kg	13	13	2.0	10	#26	4.6	NA
Iron	mg/kg	13	13	510	3200	#23	1242	NA
Lead	mg/kg	13	13	1.6	8.4	#23	3.9	NA
Magnesium	mg/kg	13	13	220	660	#23	398	NA
Manganese	mg/kg	13	13	14	52	#23	31	NA
Mercury	mg/kg	13	12	0.010	0.095	#21	0.024	NA
Nickel	mg/kg	13	9	1.2	2.8	#23	1.8	NA
Potassium	mg/kg	13	13	840	1400	#21, #20, #26, #13, #27	1226	NA
Selenium	mg/kg	13	7	0.45	0.72	#20	0.54	NA
Silver	mg/kg	13	0	0.46	0.50	#25, #21, #3, #20, #23, #26, #1, #13, #28, #27	0.49	NA
Sodium	mg/kg	13	13	470	730	#21	612	NA
Thallium	mg/kg	13	0	0.46	0.50	#25, #21, #3, #20, #23, #26, #1, #13, #28, #27	0.49	NA
Vanadium	mg/kg	13	13	0.72	4.7	#23	1.9	NA
Zinc	mg/kg	13	13	19	47	#23	31	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B5
Calculations for Risk Assessment Modeling
Off-Site Areas - Terrestrial Invertebrates
Sauget, IL

Analyte	Units	Off-Site Areas						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg			495	495	INP	495	NA
1,2-Dichlorobenzene	ug/kg			495	495	INP	495	NA
1,3-Dichlorobenzene	ug/kg			495	495	INP	495	NA
1,4-Dichlorobenzene	ug/kg			495	495	INP	495	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg			495	495	INP	495	NA
2,4,5-Trichlorophenol	ug/kg			495	495	INP	495	NA
2,4,6-Trichlorophenol	ug/kg			495	495	INP	495	NA
2,4-Dichlorophenol	ug/kg			495	495	INP	495	NA
2,4-Dinitrophenol	ug/kg			2550	2550	INP	2550	NA
2,4-Dinitrotoluene	ug/kg			495	495	INP	495	NA
2,6-Dinitrotoluene	ug/kg			495	495	INP	495	NA
2-Chloronaphthalene	ug/kg			495	495	INP	495	NA
2-Chlorophenol	ug/kg			495	495	INP	495	NA
2-Methylnaphthalene	ug/kg			495	495	INP	495	NA
2-Methylphenol (o-Cresol)	ug/kg			495	495	INP	495	NA
2-Nitroaniline	ug/kg			2550	2550	INP	2550	NA
2-Nitrophenol	ug/kg			495	495	INP	495	NA
3,3'-Dichlorobenzidine	ug/kg			1000	1000	INP	1000	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg			495	495	INP	495	NA
3-Nitroaniline	ug/kg			2550	2550	INP	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg			2550	2550	INP	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg			495	495	INP	495	NA
4-Chloro-3-methylphenol	ug/kg			495	495	INP	495	NA
4-Chloroaniline	ug/kg			1000	1000	INP	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg			495	495	INP	495	NA
4-Nitroaniline	ug/kg			2550	2550	INP	2550	NA
4-Nitrophenol	ug/kg			2550	2550	INP	2550	NA
Acenaphthene	ug/kg			495	495	INP	495	NA
Acenaphthylene	ug/kg			495	495	INP	495	NA
Anthracene	ug/kg			495	495	INP	495	NA
Benzo(a)anthracene	ug/kg			495	495	INP	495	NA
Benzo(a)pyrene	ug/kg			495	495	INP	495	NA
Benzo(b)fluoranthene	ug/kg			495	495	INP	495	NA
Benzo(g,h,i)perylene	ug/kg			495	495	INP	495	NA
Benzo(k)fluoranthene	ug/kg			495	495	INP	495	NA
bis(2-Chloroethoxy)methane	ug/kg			495	495	INP	495	NA
bis(2-Chloroethyl)ether	ug/kg			495	495	INP	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg			495	495	INP	495	NA
Butyl Benzyl Phthalate	ug/kg			495	495	INP	495	NA
Carbazole	ug/kg			495	495	INP	495	NA
Chrysene	ug/kg			495	495	INP	495	NA
Dibenzo(a,h)anthracene	ug/kg			495	495	INP	495	NA
Dibenzofuran	ug/kg			495	495	INP	495	NA
Diethyl Phthalate	ug/kg			495	495	INP	495	NA
Dimethyl Phthalate	ug/kg			495	495	INP	495	NA
Di-n-butylphthalate	ug/kg			495	495	INP	495	NA
Di-n-octylphthalate	ug/kg			495	495	INP	495	NA
Fluoranthene	ug/kg			495	495	INP	495	NA
Fluorene	ug/kg			495	495	INP	495	NA
Hexachlorobenzene	ug/kg			495	495	INP	495	NA
Hexachlorobutadiene	ug/kg			495	495	INP	495	NA
Hexachlorocyclopentadiene	ug/kg			495	495	INP	495	NA
Hexachloroethane	ug/kg			495	495	INP	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg			495	495	INP	495	NA
Isophorone	ug/kg			495	495	INP	495	NA
Naphthalene	ug/kg			495	495	INP	495	NA
Nitrobenzene	ug/kg			495	495	INP	495	NA
N-Nitroso-di-n-propylamine	ug/kg			495	495	INP	495	NA
N-Nitrosodiphenylamine	ug/kg			495	495	INP	495	NA
Pentachlorophenol	ug/kg			26	26	INP	26	NA
Phenanthrene	ug/kg			495	495	INP	495	NA
Phenol	ug/kg			495	495	INP	495	NA
Pyrene	ug/kg			495	495	INP	495	NA

Table III-B5
Calculations for Risk Assessment Modeling
Off-Site Areas - Terrestrial Invertebrates
Sauget, IL

Analyte	Units	Off-Site Areas						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
4,4'-DDE	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
4,4'-DDT	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Aldrin	ug/kg	1	1	1.9	1.9	INP1	1.9	NA
alpha-BHC	ug/kg	1	0	2.6	2.6	INP1	2.6	NA
alpha-Chlordane	ug/kg	1	0	2.6	2.6	INP1	2.6	NA
beta-BHC	ug/kg	1	0	2.6	2.6	INP1	2.6	NA
delta-BHC	ug/kg	1	1	1.5	1.5	INP1	1.5	NA
Dieldrin	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Endosulfan I	ug/kg	1	0	2.6	2.6	INP1	2.6	NA
Endosulfan II	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Endosulfan Sulfate	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Endrin	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Endrin Aldehyde	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Endrin Ketone	ug/kg	1	1	4.2	4.2	INP1	4.2	NA
gamma-BHC (Lindane)	ug/kg	1	1	1.5	1.5	INP1	1.5	NA
gamma-Chlordane	ug/kg	1	1	1.6	1.6	INP1	1.6	NA
Heptachlor	ug/kg	1	1	1.7	1.7	INP1	1.7	NA
Heptachlor Epoxide	ug/kg	1	0	2.6	2.6	INP1	2.6	NA
Methoxychlor	ug/kg	1	0	26	26	INP1	26	NA
Toxaphene	ug/kg	1	0	255	255	INP1	255	NA
Herbicides								
2,4-D	ug/kg	1	1	109	109	INP1	109	NA
2,4-DB	ug/kg	1	1	20	20	INP1	20	NA
2,4,5-T	ug/kg	1	0	13	13	INP1	13	NA
2,4,5-TP (Silvex)	ug/kg	1	0	13	13	INP1	13	NA
Dalapon	ug/kg	1	0	3000	3000	INP1	3000	NA
Dicamba	ug/kg	1	0	30	30	INP1	30	NA
Dichlorprop	ug/kg	1	0	150	150	INP1	150	NA
Dinoseb	ug/kg	1	0	495	495	INP1	495	NA
MCPA	ug/kg	1	0	3000	3000	INP1	3000	NA
MCPP	ug/kg	1	0	3000	3000	INP1	3000	NA
PCBs								
Total PCBs	pg/g	1	1	32	32	INP1	32	NA
Dioxins/Furans								
TEQ	ug/kg	1	1	0.59	0.59	INP1	0.59	NA
Metals								
Aluminum	mg/kg	1	1	24	24	INP1	24	NA
Antimony	mg/kg	1	0	0.90	0.90	INP1	0.90	NA
Arsenic	mg/kg	1	0	0.45	0.45	INP1	0.45	NA
Barium	mg/kg	1	1	2.2	2.2	INP1	2.2	NA
Beryllium	mg/kg	1	0	0.18	0.18	INP1	0.18	NA
Cadmium	mg/kg	1	1	0.72	0.72	INP1	0.72	NA
Calcium	mg/kg	1	1	598	598	INP1	598	NA
Chromium	mg/kg	1	1	0.19	0.19	INP1	0.19	NA
Cobalt	mg/kg	1	0	0.45	0.45	INP1	0.45	NA
Copper	mg/kg	1	1	22	22	INP1	22	NA
Iron	mg/kg	1	1	60	60	INP1	60	NA
Lead	mg/kg	1	1	1.0	1.0	INP1	1.0	NA
Magnesium	mg/kg	1	1	395	395	INP1	395	NA
Manganese	mg/kg	1	1	11	11	INP1	11	NA
Mercury	mg/kg	1	1	0.15	0.15	INP1	0.15	NA
Nickel	mg/kg	1	0	1.8	1.8	INP1	1.8	NA
Potassium	mg/kg	1	1	3500	3500	INP1	3500	NA
Selenium	mg/kg	1	0	0.66	0.66	INP1	0.66	NA
Silver	mg/kg	1	1	0.49	0.49	INP1	0.49	NA
Sodium	mg/kg	1	1	315	315	INP1	315	NA
Thallium	mg/kg	1	0	0.45	0.45	INP1	0.45	NA
Vanadium	mg/kg	1	0	0.45	0.45	INP1	0.45	NA
Zinc	mg/kg	1	1	62	62	INP1	62	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B5
Calculations for Risk Assessment Modeling
Site P - Terrestrial Invertebrates
Sauget, IL

Analyte	Units	Site P						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg			495	495	INP	495	NA
1,2-Dichlorobenzene	ug/kg			495	495	INP	495	NA
1,3-Dichlorobenzene	ug/kg			495	495	INP	495	NA
1,4-Dichlorobenzene	ug/kg			495	495	INP	495	NA
2,2'-Oxybis (1-Chloropropane)	ug/kg			495	495	INP	495	NA
2,4,5-Trichlorophenol	ug/kg			495	495	INP	495	NA
2,4,6-Trichlorophenol	ug/kg			495	495	INP	495	NA
2,4-Dichlorophenol	ug/kg			495	495	INP	495	NA
2,4-Dinitrophenol	ug/kg			2550	2550	INP	2550	NA
2,4-Dinitrotoluene	ug/kg			495	495	INP	495	NA
2,6-Dinitrotoluene	ug/kg			495	495	INP	495	NA
2-Chloronaphthalene	ug/kg			495	495	INP	495	NA
2-Chlorophenol	ug/kg			495	495	INP	495	NA
2-Methylnaphthalene	ug/kg			495	495	INP	495	NA
2-Methylphenol (o-Cresol)	ug/kg			495	495	INP	495	NA
2-Nitroaniline	ug/kg			2550	2550	INP	2550	NA
2-Nitrophenol	ug/kg			495	495	INP	495	NA
3,3'-Dichlorobenzidine	ug/kg			1000	1000	INP	1000	NA
3/4-Methylphenol (mdp-Cresol)	ug/kg			495	495	INP	495	NA
3-Nitroaniline	ug/kg			2550	2550	INP	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg			2550	2550	INP	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg			495	495	INP	495	NA
4-Chloro-3-methylphenol	ug/kg			495	495	INP	495	NA
4-Chloroaniline	ug/kg			1000	1000	INP	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg			495	495	INP	495	NA
4-Nitroaniline	ug/kg			2550	2550	INP	2550	NA
4-Nitrophenol	ug/kg			2550	2550	INP	2550	NA
Acenaphthene	ug/kg			495	495	INP	495	NA
Acenaphthylene	ug/kg			495	495	INP	495	NA
Anthracene	ug/kg			495	495	INP	495	NA
Benzo(a)anthracene	ug/kg			495	495	INP	495	NA
Benzo(a)pyrene	ug/kg			495	495	INP	495	NA
Benzo(b)fluoranthene	ug/kg			495	495	INP	495	NA
Benzo(g,h,i)perylene	ug/kg			495	495	INP	495	NA
Benzo(k)fluoranthene	ug/kg			495	495	INP	495	NA
bis(2-Chloroethoxy)methane	ug/kg			495	495	INP	495	NA
bis(2-Chloroethyl)ether	ug/kg			495	495	INP	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg			495	495	INP	495	NA
Butyl Benzyl Phthalate	ug/kg			495	495	INP	495	NA
Carbazole	ug/kg			495	495	INP	495	NA
Chrysene	ug/kg			495	495	INP	495	NA
Dibenzo(a,h)anthracene	ug/kg			495	495	INP	495	NA
Dibenzofuran	ug/kg			495	495	INP	495	NA
Diethyl Phthalate	ug/kg			495	495	INP	495	NA
Dimethyl Phthalate	ug/kg			495	495	INP	495	NA
Di-n-butylphthalate	ug/kg			495	495	INP	495	NA
Di-n-octylphthalate	ug/kg			495	495	INP	495	NA
Fluoranthene	ug/kg			495	495	INP	495	NA
Fluorene	ug/kg			495	495	INP	495	NA
Hexachlorobenzene	ug/kg			495	495	INP	495	NA
Hexachlorobutadiene	ug/kg			495	495	INP	495	NA
Hexachlorocyclopentadiene	ug/kg			495	495	INP	495	NA
Hexachloroethane	ug/kg			495	495	INP	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg			495	495	INP	495	NA
Isophorone	ug/kg			495	495	INP	495	NA
Naphthalene	ug/kg			495	495	INP	495	NA
Nitrobenzene	ug/kg			495	495	INP	495	NA
N-Nitroso-di-n-propylamine	ug/kg			495	495	INP	495	NA
N-Nitrosodiphenylamine	ug/kg			495	495	INP	495	NA
Pentachlorophenol	ug/kg			26	26	INP	26	NA
Phenanthrene	ug/kg			495	495	INP	495	NA
Phenol	ug/kg			495	495	INP	495	NA
Pyrene	ug/kg			495	495	INP	495	NA

Table III-B5
Calculations for Risk Assessment Modeling
Site P - Terrestrial Invertebrates
Sauget, IL

Analyte	Units	Site P						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
4,4'-DDE	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
4,4'-DDT	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Aldrin	ug/kg	1	1	1.9	1.9	INP1	1.9	NA
alpha-BHC	ug/kg	1	0	2.6	2.6	INP1	2.6	NA
alpha-Chlordane	ug/kg	1	0	2.6	2.6	INP1	2.6	NA
beta-BHC	ug/kg	1	0	2.6	2.6	INP1	2.6	NA
delta-BHC	ug/kg	1	1	1.5	1.5	INP1	1.5	NA
Dieldrin	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Endosulfan I	ug/kg	1	0	2.6	2.6	INP1	2.6	NA
Endosulfan II	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Endosulfan Sulfate	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Endrin	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Endrin Aldehyde	ug/kg	1	0	5.0	5.0	INP1	5.0	NA
Endrin Ketone	ug/kg	1	1	4.2	4.2	INP1	4.2	NA
gamma-BHC (Lindane)	ug/kg	1	1	1.5	1.5	INP1	1.5	NA
gamma-Chlordane	ug/kg	1	1	1.6	1.6	INP1	1.6	NA
Heptachlor	ug/kg	1	1	1.7	1.7	INP1	1.7	NA
Heptachlor Epoxide	ug/kg	1	0	2.6	2.6	INP1	2.6	NA
Methoxychlor	ug/kg	1	0	26	26	INP1	26	NA
Toxaphene	ug/kg	1	0	255	255	INP1	255	NA
Herbicides								
2,4-D	ug/kg	1	1	109	109	INP1	109	NA
2,4-DB	ug/kg	1	1	20	20	INP1	20	NA
2,4,5-T	ug/kg	1	0	13	13	INP1	13	NA
2,4,5-TP (Silvex)	ug/kg	1	0	13	13	INP1	13	NA
Dalapon	ug/kg	1	0	3000	3000	INP1	3000	NA
Dicamba	ug/kg	1	0	30	30	INP1	30	NA
Dichlorprop	ug/kg	1	0	150	150	INP1	150	NA
Dinoseb	ug/kg	1	0	495	495	INP1	495	NA
MCPA	ug/kg	1	0	3000	3000	INP1	3000	NA
MCPP	ug/kg	1	0	3000	3000	INP1	3000	NA
PCBs								
Total PCBs	ug/kg	1	0	25	25	INP1	25	NA
Dioxins/Furans								
TEQ	pg/g	1	1	3.4	3.4	INP1	3.4	NA
Metals								
Aluminum	mg/kg	1	1	16	16	INP1	16	NA
Antimony	mg/kg	1	0	0.90	0.90	INP1	0.90	NA
Arsenic	mg/kg	1	0	0.46	0.46	INP1	0.46	NA
Barium	mg/kg	1	1	1.8	1.8	INP1	1.8	NA
Beryllium	mg/kg	1	0	0.18	0.18	INP1	0.18	NA
Cadmium	mg/kg	1	1	0.81	0.81	INP1	0.81	NA
Calcium	mg/kg	1	1	740	740	INP1	740	NA
Chromium	mg/kg	1	1	0.21	0.21	INP1	0.21	NA
Cobalt	mg/kg	1	0	0.46	0.46	INP1	0.46	NA
Copper	mg/kg	1	1	14	14	INP1	14	NA
Iron	mg/kg	1	1	43	43	INP1	43	NA
Lead	mg/kg	1	1	2.0	2.0	INP1	2.0	NA
Magnesium	mg/kg	1	1	380	380	INP1	380	NA
Manganese	mg/kg	1	1	4.5	4.5	INP1	4.5	NA
Mercury	mg/kg	1	1	0.18	0.18	INP1	0.18	NA
Nickel	mg/kg	1	0	1.8	1.8	INP1	1.8	NA
Potassium	mg/kg	1	1	3400	3400	INP1	3400	NA
Selenium	mg/kg	1	0	1.3	1.3	INP1	1.3	NA
Silver	mg/kg	1	0	0.46	0.46	INP1	0.46	NA
Sodium	mg/kg	1	1	360	360	INP1	360	NA
Thallium	mg/kg	1	0	0.46	0.46	INP1	0.46	NA
Vanadium	mg/kg	1	0	0.46	0.46	INP1	0.46	NA
Zinc	mg/kg	1	1	87	87	INP1	87	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B5
Calculations for Risk Assessment Modeling
Sites O, R and S - Terrestrial Invertebrates
Sauget, IL

Analyte	Units	Sites O, R and S						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg			495	495	INROS	495	NA
1,2-Dichlorobenzene	ug/kg			495	495	INROS	495	NA
1,3-Dichlorobenzene	ug/kg			495	495	INROS	495	NA
1,4-Dichlorobenzene	ug/kg			495	495	INROS	495	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg			495	495	INROS	495	NA
2,4,5-Trichlorophenol	ug/kg			495	495	INROS	495	NA
2,4,6-Trichlorophenol	ug/kg			495	495	INROS	495	NA
2,4-Dichlorophenol	ug/kg			495	495	INROS	495	NA
2,4-Dimethylphenol	ug/kg			2550	2550	INROS	2550	NA
2,4-Dinitrophenol	ug/kg			495	495	INROS	495	NA
2,4-Dinitrotoluene	ug/kg			495	495	INROS	495	NA
2-Chloronaphthalene	ug/kg			495	495	INROS	495	NA
2-Chlorophenol	ug/kg			495	495	INROS	495	NA
2-Methylnaphthalene	ug/kg			495	495	INROS	495	NA
2-Methylphenol (o-Cresol)	ug/kg			495	495	INROS	495	NA
2-Nitroaniline	ug/kg			2550	2550	INROS	2550	NA
2-Nitrophenol	ug/kg			495	495	INROS	495	NA
3,3'-Dichlorobenzidine	ug/kg			990	990	INROS	990	NA
3,4-Methylphenol (mkp-Cresol)	ug/kg			495	495	INROS	495	NA
3-Nitroaniline	ug/kg			2550	2550	INROS	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg			2550	2550	INROS	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg			495	495	INROS	495	NA
4-Chloro-3-methylphenol	ug/kg			495	495	INROS	495	NA
4-Chloroaniline	ug/kg			990	990	INROS	990	NA
4-Chlorophenyl Phenyl Ether	ug/kg			495	495	INROS	495	NA
4-Nitroaniline	ug/kg			2550	2550	INROS	2550	NA
4-Nitrophenol	ug/kg			2550	2550	INROS	2550	NA
Acenaphthene	ug/kg			495	495	INROS	495	NA
Acenaphthylene	ug/kg			495	495	INROS	495	NA
Anthracene	ug/kg			495	495	INROS	495	NA
Benzo(a)anthracene	ug/kg			495	495	INROS	495	NA
Benzo(a)pyrene	ug/kg			495	495	INROS	495	NA
Benzo(b)fluoranthene	ug/kg			495	495	INROS	495	NA
Benzo(g,h,i)perylene	ug/kg			495	495	INROS	495	NA
Benzo(k)fluoranthene	ug/kg			495	495	INROS	495	NA
bis(2-Chloroethoxy)methane	ug/kg			495	495	INROS	495	NA
bis(2-Chloroethyl)ether	ug/kg			495	495	INROS	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg			495	495	INROS	495	NA
Butyl Benzyl Phthalate	ug/kg			495	495	INROS	495	NA
Carbazole	ug/kg			495	495	INROS	495	NA
Chrysene	ug/kg			495	495	INROS	495	NA
Dibenzo(a,h)anthracene	ug/kg			495	495	INROS	495	NA
Dibenzofuran	ug/kg			495	495	INROS	495	NA
Diethyl Phthalate	ug/kg			495	495	INROS	495	NA
Dimethyl Phthalate	ug/kg			495	495	INROS	495	NA
Di-n-butylphthalate	ug/kg			495	495	INROS	495	NA
Di-n-octylphthalate	ug/kg			495	495	INROS	495	NA
Fluoranthene	ug/kg			495	495	INROS	495	NA
Fluorene	ug/kg			495	495	INROS	495	NA
Hexachlorobenzene	ug/kg			495	495	INROS	495	NA
Hexachlorobutadiene	ug/kg			495	495	INROS	495	NA
Hexachlorocyclopentadiene	ug/kg			495	495	INROS	495	NA
Hexachloroethane	ug/kg			495	495	INROS	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg			495	495	INROS	495	NA
Isophorone	ug/kg			495	495	INROS	495	NA
Naphthalene	ug/kg			495	495	INROS	495	NA
Nitrobenzene	ug/kg			495	495	INROS	495	NA
N-Nitroso-di-n-propylamine	ug/kg			495	495	INROS	495	NA
N-Nitrosodiphenylamine	ug/kg			495	495	INROS	495	NA
Pentachlorophenol	ug/kg			24	24	INROS	24	NA
Phenanthrene	ug/kg			495	495	INROS	495	NA
Phenol	ug/kg			495	495	INROS	495	NA
Pyrene	ug/kg			495	495	INROS	495	NA

Table III-B5
Calculations for Risk Assessment Modeling
Sites O, R and S - Terrestrial Invertebrates
Sauget, IL

Analyte	Units	Sites O, R and S						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	1	0	5.0	5.0	INROS1	5.0	NA
4,4'-DDE	ug/kg	1	0	5.0	5.0	INROS1	5.0	NA
4,4'-DDT	ug/kg	1	0	5.0	5.0	INROS1	5.0	NA
Aldrin	ug/kg	1	1	1.9	1.9	INROS1	1.9	NA
alpha-BHC	ug/kg	1	0	2.6	2.6	INROS1	2.6	NA
alpha-Chlordane	ug/kg	1	0	2.6	2.6	INROS1	2.6	NA
beta-BHC	ug/kg	1	0	2.6	2.6	INROS1	2.6	NA
delta-BHC	ug/kg	1	1	1.5	1.5	INROS1	1.5	NA
Dieldrin	ug/kg	1	0	5.0	5.0	INROS1	5.0	NA
Endosulfan I	ug/kg	1	0	2.6	2.6	INROS1	2.6	NA
Endosulfan II	ug/kg	1	0	5.0	5.0	INROS1	5.0	NA
Endosulfan Sulfate	ug/kg	1	0	5.0	5.0	INROS1	5.0	NA
Endrin	ug/kg	1	0	5.0	5.0	INROS1	5.0	NA
Endrin Aldehyde	ug/kg	1	0	5.0	5.0	INROS1	5.0	NA
Endrin Ketone	ug/kg	1	1	4.2	4.2	INROS1	4.2	NA
gamma-BHC (Lindane)	ug/kg	1	1	1.5	1.5	INROS1	1.5	NA
gamma-Chlordane	ug/kg	1	1	1.6	1.6	INROS1	1.6	NA
Heptachlor	ug/kg	1	1	1.7	1.7	INROS1	1.7	NA
Heptachlor Epoxide	ug/kg	1	0	2.6	2.6	INROS1	2.6	NA
Methoxychlor	ug/kg	1	0	26	26	INROS1	26	NA
Toxaphene	ug/kg	1	0	255	255	INROS1	255	NA
Herbicides								
2,4-D	ug/kg	1	1	109	109	INROS1	109	NA
2,4-DB	ug/kg	1	1	20	20	INROS1	20	NA
2,4,5-T	ug/kg	1	0	13	13	INROS1	13	NA
2,4,5-TP (Silvex)	ug/kg	1	0	13	13	INROS1	13	NA
Dalapon	ug/kg	1	0	3000	3000	INROS1	3000	NA
Dicamba	ug/kg	1	0	30	30	INROS1	30	NA
Dichlorprop	ug/kg	1	0	150	150	INROS1	150	NA
Dinoseb	ug/kg	1	0	495	495	INROS1	495	NA
MCPA	ug/kg	1	0	3000	3000	INROS1	3000	NA
MCPP	ug/kg	1	0	3000	3000	INROS1	3000	NA
PCBs								
Total PCBs	ug/kg	1	0	25	25	INROS1	25	NA
Dioxins/Furans								
TEQ	pg/g	1	1	13	13	INROS1	13	NA
Metals								
Aluminum	mg/kg	1	1	15	15	INROS1	15	NA
Antimony	mg/kg	1	0	1.0	1.0	INROS1	1.0	NA
Arsenic	mg/kg	1	0	0.50	0.50	INROS1	0.50	NA
Barium	mg/kg	1	1	1.9	1.9	INROS1	1.9	NA
Beryllium	mg/kg	1	0	0.20	0.20	INROS1	0.20	NA
Cadmium	mg/kg	1	1	0.36	0.36	INROS1	0.36	NA
Calcium	mg/kg	1	1	450	450	INROS1	450	NA
Chromium	mg/kg	1	1	0.20	0.20	INROS1	0.20	NA
Cobalt	mg/kg	1	0	0.50	0.50	INROS1	0.50	NA
Copper	mg/kg	1	1	20	20	INROS1	20	NA
Iron	mg/kg	1	1	39	39	INROS1	39	NA
Lead	mg/kg	1	1	1.0	1.0	INROS1	1.0	NA
Magnesium	mg/kg	1	1	360	360	INROS1	360	NA
Manganese	mg/kg	1	1	5.5	5.5	INROS1	5.5	NA
Mercury	mg/kg	1	1	0.13	0.13	INROS1	0.13	NA
Nickel	mg/kg	1	0	2.0	2.0	INROS1	2.0	NA
Potassium	mg/kg	1	1	3800	3800	INROS1	3800	NA
Selenium	mg/kg	1	0	0.50	0.50	INROS1	0.50	NA
Silver	mg/kg	1	0	0.50	0.50	INROS1	0.50	NA
Sodium	mg/kg	1	1	330	330	INROS1	330	NA
Thallium	mg/kg	1	0	0.50	0.50	INROS1	0.50	NA
Vanadium	mg/kg	1	0	0.50	0.50	INROS1	0.50	NA
Zinc	mg/kg	1	1	56	56	INROS1	56	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B5
Calculations for Risk Assessment Modeling
Site Q - Terrestrial Invertebrates
Sauget, IL

Analyte	Units	Site Q						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
1,2-Dichlorobenzene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
1,3-Dichlorobenzene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
1,4-Dichlorobenzene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2,4,5-Trichlorophenol	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2,4,6-Trichlorophenol	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2,4-Dichlorophenol	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2,4-Dinitrophenol	ug/kg	1	0	2550	2550	INQ1.QQ	2550	NA
2,4-Dinitrotoluene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2,6-Dinitrotoluene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2-Chloronaphthalene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2-Chlorophenol	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2-Methylnaphthalene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2-Methylphenol (o-Cresol)	ug/kg	1	0	495	495	INQ1.QQ	495	NA
2-Nitroaniline	ug/kg	1	0	2550	2550	INQ1.QQ	2550	NA
2-Nitrophenol	ug/kg	1	0	495	495	INQ1.QQ	495	NA
3,3'-Dichlorobenzidine	ug/kg	1	0	1000	1000	INQ1.QQ	5000	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	1	0	495	495	INQ1.QQ	495	NA
3-Nitroaniline	ug/kg	1	0	2550	2550	INQ1.QQ	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg	1	0	2550	2550	INQ1.QQ	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg	1	0	495	495	INQ1.QQ	495	NA
4-Chloro-3-methylphenol	ug/kg	1	0	495	495	INQ1.QQ	495	NA
4-Chloroaniline	ug/kg	1	0	1000	1000	INQ1.QQ	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg	1	0	495	495	INQ1.QQ	495	NA
4-Nitroaniline	ug/kg	1	0	2550	2550	INQ1.QQ	2550	NA
4-Nitrophenol	ug/kg	1	0	2550	2550	INQ1.QQ	2550	NA
Acenaphthene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Acenaphthylene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Anthracene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Benzo(a)anthracene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Benzo(a)pyrene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Benzo(b)fluoranthene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Benzo(g,h,i)perylene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Benzo(k)fluoranthene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
bis(2-Chloroethoxy)methane	ug/kg	1	0	495	495	INQ1.QQ	495	NA
bis(2-Chloroethyl)ether	ug/kg	1	0	495	495	INQ1.QQ	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Butyl Benzyl Phthalate	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Carbazole	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Chrysene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Dibenzo(a,h)anthracene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Dibenzofuran	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Diethyl Phthalate	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Dimethyl Phthalate	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Di-n-butylphthalate	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Di-n-octylphthalate	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Fluoranthene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Fluorene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Hexachlorobenzene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Hexachlorobutadiene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Hexachlorocyclopentadiene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Hexachloroethane	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Isophorone	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Naphthalene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Nitrobenzene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
N-Nitroso-di-n-propylamine	ug/kg	1	0	495	495	INQ1.QQ	495	NA
N-Nitrosodiphenylamine	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Pentachlorophenol	ug/kg	1	0	26	26	INQ1.QQ	26	NA
Phenanthrene	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Phenol	ug/kg	1	0	495	495	INQ1.QQ	495	NA
Pyrene	ug/kg	1	0	495	495	INQ1.QQ	495	NA

Mean Calculated Using 1 Month

Table III-B5
Calculations for Risk Assessment Modeling
Site Q - Terrestrial Invertebrates
Sauget, IL

Analyte	Units	Site Q						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	2	1	5.0	5.0	INQ1, Q2	5.0	NA
4,4'-DDE	ug/kg	2	0	5.0	5.0	INQ1, Q2	5.0	NA
4,4'-DDT	ug/kg	2	0	5.0	5.0	INQ1, Q2	5.0	NA
Aldrin	ug/kg	2	1	1.2	2.6	INQ1	1.9	NA
alpha-BHC	ug/kg	2	0	2.6	2.6	INQ1, Q2	2.6	NA
alpha-Chlordane	ug/kg	2	0	2.6	2.6	INQ1, Q2	2.6	NA
beta-BHC	ug/kg	2	0	2.6	2.6	INQ1, Q2	2.6	NA
delta-BHC	ug/kg	2	1	0.44	2.6	INQ2	1.5	NA
Dieldrin	ug/kg	2	0	5.0	5.0	INQ1, Q2	5.0	NA
Endosulfan I	ug/kg	2	0	2.6	2.6	INQ1, Q2	2.6	NA
Endosulfan II	ug/kg	2	0	5.0	5.0	INQ1, Q2	5.0	NA
Endosulfan Sulfate	ug/kg	2	0	5.0	5.0	INQ1, Q2	5.0	NA
Endrin	ug/kg	2	0	5.0	5.0	INQ1, Q2	5.0	NA
Endrin Aldehyde	ug/kg	2	0	5.0	5.0	INQ1, Q2	5.0	NA
Endrin Ketone	ug/kg	2	1	3.4	5.0	INQ1	4.2	NA
gamma-BHC (Lindane)	ug/kg	2	1	0.43	2.6	INQ1	1.5	NA
gamma-Chlordane	ug/kg	2	1	0.64	2.6	INQ1	1.6	NA
Heptachlor	ug/kg	2	1	0.93	2.6	INQ1	1.7	NA
Heptachlor Epoxide	ug/kg	2	0	2.6	2.6	INQ1, Q2	2.6	NA
Methoxychlor	ug/kg	2	0	26	26	INQ1, Q2	26	NA
Toxaphene	ug/kg	2	0	255	255	INQ1, Q2	255	NA
Herbicides								
2,4-D	ug/kg	2	2	68	150	INQ1	109	NA
2,4-DB	ug/kg	2	1	13	28	INQ1	20	NA
2,4,5-T	ug/kg	2	0	13	13	INQ1, Q2	13	NA
2,4,5-TP (Silvex)	ug/kg	2	0	13	13	INQ1, Q2	13	NA
Dalapon	ug/kg	2	0	3000	3000	INQ1, Q2	3000	NA
Dicamba	ug/kg	2	0	30	30	INQ1, Q2	30	NA
Dichlorprop	ug/kg	2	0	150	150	INQ1, Q2	150	NA
Dinoseb	ug/kg	2	0	495	495	INQ1, Q2	495	NA
MCPA	ug/kg	2	0	3000	3000	INQ1, Q2	3000	NA
MCPP	ug/kg	2	0	3000	3000	INQ1, Q2	3000	NA
PCBs								
Total PCBs	pg/g	2	2	25	51	INQ2	38	NA
Dioxins/Furans								
TEQ	ug/kg	2	2	0.88	487	INQ2	244	NA
Metals								
Aluminum	mg/kg	2	2	31	35	INQ1	33	NA
Antimony	mg/kg	2	0	0.85	0.85	INQ1, Q2	0.85	NA
Arsenic	mg/kg	2	0	0.42	0.42	INQ1, Q2	0.42	NA
Barium	mg/kg	2	2	1.8	3.2	INQ1	2.5	NA
Beryllium	mg/kg	2	0	0.17	0.17	INQ1, Q2	0.17	NA
Cadmium	mg/kg	2	2	0.12	1.6	INQ1	0.86	NA
Calcium	mg/kg	2	2	450	750	INQ1	600	NA
Chromium	mg/kg	2	2	0.16	0.19	INQ2	0.18	NA
Cobalt	mg/kg	2	0	0.42	0.42	INQ1, Q2	0.42	NA
Copper	mg/kg	2	2	23	32	INQ1	28	NA
Iron	mg/kg	2	2	74	83	INQ2	79	NA
Lead	mg/kg	2	2	0.39	0.75	INQ2	0.57	NA
Magnesium	mg/kg	2	2	390	450	INQ1	420	NA
Manganese	mg/kg	2	2	6.1	26	INQ1	16	NA
Mercury	mg/kg	2	2	0.12	0.17	INQ2	0.15	NA
Nickel	mg/kg	2	0	1.7	1.7	INQ1, Q2	1.7	NA
Potassium	mg/kg	2	2	3300	3500	INQ2	3400	NA
Selenium	mg/kg	2	0	0.42	0.42	INQ1, Q2	0.42	NA
Silver	mg/kg	2	1	0.42	0.57	INQ1	0.49	NA
Sodium	mg/kg	2	2	280	290	INQ1	285	NA
Thallium	mg/kg	2	0	0.42	0.42	INQ1, Q2	0.42	NA
Vanadium	mg/kg	2	0	0.42	0.42	INQ1, Q2	0.42	NA
Zinc	mg/kg	2	2	48	57	INQ2	53	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B6
Calculations for Risk Assessment Modeling
Upstream River (Plot 1 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Upstream River Surface Water (Plot 1-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/L	3	1	0.50	0.50	All	0.50	NA
1,1,2,2-Tetrachloroethane	ug/L	3	1	0.50	0.50	All	0.50	NA
1,1,2-Trichloroethane	ug/L	3	1	0.50	0.50	All	0.50	NA
1,1-Dichloroethane	ug/L	3	1	0.50	0.50	All	0.50	NA
1,1-Dichloroethylene	ug/L	3	1	0.50	0.50	All	0.50	NA
1,2-Dichloroethane	ug/L	3	1	0.50	0.50	All	0.50	NA
1,2-Dichloroethene, total	ug/L	3	1	1.0	1.0	All	1.0	NA
1,2-Dichloropropane	ug/L	3	1	0.50	0.50	All	0.50	NA
2-Butanone (MEK)	ug/L	3	1	5.0	5.0	All	5.0	NA
2-Hexanone	ug/L	3	1	5.0	5.0	All	5.0	NA
4-Methyl-2-pentanone (MIBK)	ug/L	3	1	5.0	5.0	All	5.0	NA
Acetone	ug/L	3	1	13	13	All	13	NA
Benzene	ug/L	3	1	0.50	0.50	All	0.50	NA
Bromodichloromethane	ug/L	3	1	0.50	0.50	All	0.50	NA
Bromoform	ug/L	3	1	0.50	0.50	All	0.50	NA
Bromomethane	ug/L	3	1	0.50	0.50	All	0.50	NA
Carbon Disulfide	ug/L	3	1	0.50	0.50	All	0.50	NA
Carbon Tetrachloride	ug/L	3	1	0.50	0.50	All	0.50	NA
Chlorobenzene	ug/L	3	1	0.50	0.50	All	0.50	NA
Chloroethane	ug/L	3	1	0.50	0.50	All	0.50	NA
Chloroform	ug/L	3	1	0.50	0.50	All	0.50	NA
Chloromethane	ug/L	3	1	0.25	0.50	R1AM1W, R1AU1W	0.42	NA
cis-1,3-Dichloropropene	ug/L	3	1	0.50	0.50	All	0.50	NA
Dibromochloromethane	ug/L	3	1	0.50	0.50	All	0.50	NA
Ethylbenzene	ug/L	3	1	0.50	0.50	All	0.50	NA
Methylene Chloride	ug/L	3	1	2.5	2.5	All	2.5	NA
Styrene (Monomer)	ug/L	3	1	0.50	0.50	All	0.50	NA
Tetrachloroethene	ug/L	3	1	0.50	0.50	All	0.50	NA
Toluene	ug/L	3	1	0.50	0.50	All	0.50	NA
trans-1,3-Dichloropropene	ug/L	3	1	0.50	0.50	All	0.50	NA
Trichloroethylene	ug/L	3	1	0.50	0.50	All	0.50	NA
Vinyl chloride	ug/L	3	1	0.50	0.50	All	0.50	NA
Xylenes, Total	ug/L	3	1	1.0	1.0	All	1.0	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/L	3	1	5.0	5.0	All	5.0	NA
1,2-Dichlorobenzene	ug/L	3	1	5.0	5.0	All	5.0	NA
1,3-Dichlorobenzene	ug/L	3	1	5.0	5.0	All	5.0	NA
1,4-Dichlorobenzene	ug/L	3	1	5.0	5.0	All	5.0	NA
1,2'-Oxybis(1-Chloropropane)	ug/L	3	1	5.0	5.0	All	5.0	NA
2,4,5-Trichlorophenol	ug/L	3	1	5.0	5.0	All	5.0	NA
2,4,6-Trichlorophenol	ug/L	3	1	5.0	5.0	All	5.0	NA
2,4-Dichlorophenol	ug/L	3	1	5.0	5.0	All	5.0	NA
2,4-Dimethylphenol	ug/L	3	1	5.0	5.0	All	5.0	NA
2,4-Dinitrophenol	ug/L	3	1	25	25	All	25	NA
2,4-Dinitrotoluene	ug/L	3	1	5.0	5.0	All	5.0	NA
2,6-Dinitrotoluene	ug/L	3	1	5.0	5.0	All	5.0	NA
2-Chloronaphthalene	ug/L	3	1	5.0	5.0	All	5.0	NA
2-Chlorophenol	ug/L	3	1	5.0	5.0	All	5.0	NA
2-Methylnaphthalene	ug/L	3	1	5.0	5.0	All	5.0	NA
2-Methylphenol (o-Cresol)	ug/L	3	1	5.0	5.0	All	5.0	NA
2-Nitroaniline	ug/L	3	1	25	25	All	25	NA
2-Nitrophenol	ug/L	3	1	5.0	5.0	All	5.0	NA
3,3'-Dichlorobenzidine	ug/L	3	1	10	10	All	10	NA
3/4-Methylphenol (m&p-Cresol)	ug/L	3	1	5.0	5.0	All	5.0	NA
3-Nitroaniline	ug/L	3	1	25	25	All	25	NA
4,6-Dinitro-2-methylphenol	ug/L	3	1	25	25	All	25	NA
4-Bromophenyl Phenyl Ether	ug/L	3	1	5.0	5.0	All	5.0	NA
4-Chloro-3-methylphenol	ug/L	3	1	5.0	5.0	All	5.0	NA
4-Chloroaniline	ug/L	3	1	10	10	All	10	NA
4-Chlorophenyl Phenyl Ether	ug/L	3	1	5.0	5.0	All	5.0	NA
4-Nitroaniline	ug/L	3	1	25	25	All	25	NA
4-Nitrophenol	ug/L	3	1	25	25	All	25	NA
Acenaphthene	ug/L	3	1	5.0	5.0	All	5.0	NA
Acenaphthylene	ug/L	3	1	5.0	5.0	All	5.0	NA
Anthracene	ug/L	3	1	5.0	5.0	All	5.0	NA

Table III-B6
Calculations for Risk Assessment Modeling
Upstream River (Plot 1 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Upstream River Surface Water (Plot 1-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/L	3	0	5.0	5.0	All	5.0	NA
Benzo(a)pyrene	ug/L	3	0	5.0	5.0	All	5.0	NA
Benzo(b)fluoranthene	ug/L	3	0	5.0	5.0	All	5.0	NA
Benzo(g,h,i)perylene	ug/L	3	0	5.0	5.0	All	5.0	NA
Benzo(k)fluoranthene	ug/L	3	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethoxy)methane	ug/L	3	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethyl)ether	ug/L	3	0	5.0	5.0	All	5.0	NA
bis(2-Ethylhexyl)phthalate	ug/L	3	0	5.0	5.0	All	5.0	NA
Butyl Benzyl Phthalate	ug/L	3	0	5.0	5.0	All	5.0	NA
Carbazole	ug/L	3	0	5.0	5.0	All	5.0	NA
Chrysene	ug/L	3	0	5.0	5.0	All	5.0	NA
Dibenzo(a,h)anthracene	ug/L	3	0	5.0	5.0	All	5.0	NA
Dibenzofuran	ug/L	3	0	5.0	5.0	All	5.0	NA
Diethyl Phthalate	ug/L	3	0	5.0	5.0	All	5.0	NA
Dimethyl Phthalate	ug/L	3	0	5.0	5.0	All	5.0	NA
Di-n-butylphthalate	ug/L	3	0	5.0	5.0	All	5.0	NA
Di-n-octylphthalate	ug/L	3	0	5.0	5.0	All	5.0	NA
Fluoranthene	ug/L	3	0	5.0	5.0	All	5.0	NA
Fluorene	ug/L	3	0	5.0	5.0	All	5.0	NA
Hexachlorobenzene	ug/L	3	0	5.0	5.0	All	5.0	NA
Hexachlorobutadiene	ug/L	3	0	5.0	5.0	All	5.0	NA
Hexachlorocyclopentadiene	ug/L	3	0	5.0	5.0	All	5.0	NA
Hexachloroethane	ug/L	3	0	5.0	5.0	All	5.0	NA
Indeno(1,2,3-cd)pyrene	ug/L	3	0	5.0	5.0	All	5.0	NA
Isophorone	ug/L	3	0	5.0	5.0	All	5.0	NA
Naphthalene	ug/L	3	0	5.0	5.0	All	5.0	NA
Nitrobenzene	ug/L	3	0	5.0	5.0	All	5.0	NA
N-Nitroso-di-n-propylamine	ug/L	3	0	5.0	5.0	All	5.0	NA
N-Nitrosodiphenylamine	ug/L	3	0	5.0	5.0	All	5.0	NA
Pentachlorophenol	ug/L	3	0	0.50	0.50	All	0.50	NA
Phenanthrene	ug/L	3	0	5.0	5.0	All	5.0	NA
Phenol	ug/L	3	0	5.0	5.0	All	5.0	NA
Pyrene	ug/L	3	0	5.0	5.0	All	5.0	NA
Pesticides								
4,4'-DDD	ug/L	3	0	0.050	0.050	All	0.050	NA
4,4'-DDE	ug/L	3	0	0.050	0.050	All	0.050	NA
4,4'-DDT	ug/L	3	0	0.050	0.050	All	0.050	NA
Aldrin	ug/L	3	0	0.025	0.025	All	0.025	NA
alpha-BHC	ug/L	3	0	0.025	0.025	All	0.025	NA
alpha-Chlordane	ug/L	3	0	0.025	0.025	All	0.025	NA
beta-BHC	ug/L	3	0	0.025	0.025	All	0.025	NA
delta-BHC	ug/L	3	0	0.025	0.025	All	0.025	NA
Dieldrin	ug/L	3	0	0.050	0.050	All	0.050	NA
Endosulfan I	ug/L	3	0	0.025	0.025	All	0.025	NA
Endosulfan II	ug/L	3	0	0.050	0.050	All	0.050	NA
Endosulfan Sulfate	ug/L	3	0	0.050	0.050	All	0.050	NA
Endrin	ug/L	3	0	0.050	0.050	All	0.050	NA
Endrin Aldehyde	ug/L	3	0	0.050	0.050	All	0.050	NA
Endrin Ketone	ug/L	3	2	0.015	0.050	R1AM1W	0.030	NA
gamma-BHC (Lindane)	ug/L	3	0	0.025	0.025	All	0.025	NA
gamma-Chlordane	ug/L	3	0	0.025	0.025	All	0.025	NA
Heptachlor	ug/L	3	0	0.025	0.025	All	0.025	NA
Heptachlor Epoxide	ug/L	3	0	0.025	0.025	All	0.025	NA
Methoxychlor	ug/L	3	0	0.25	0.25	All	0.25	NA
Toxaphene	ug/L	3	0	2.5	2.5	All	2.5	NA
Herbicides								
2,4-D	ug/L	3	0	0.25	0.25	All	0.25	NA
2,4-DB	ug/L	3	0	0.25	0.25	All	0.25	NA
2,4,5-T	ug/L	3	0	0.25	0.25	All	0.25	NA
2,4,5-TP (Silvex)	ug/L	3	0	0.25	0.25	All	0.25	NA
Dalapon	ug/L	3	0	60	60	All	60	NA
Dicamba	ug/L	3	0	0.60	0.60	All	0.60	NA
Dichlorprop	ug/L	3	0	3.0	3.0	All	3.0	NA
Dinoseb	ug/L	3	0	5.0	5.0	All	5.0	NA
MCPA	ug/L	3	0	60	60	All	60	NA
MCPP	ug/L	3	0	60	60	All	60	NA

Table III-B6
Calculations for Risk Assessment Modeling
Upstream River (Plot 1 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Upstream River Surface Water (Plot 1-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/L	3	1	0.25	0.25	All	0.25	NA
Dioxins/Furans (a)								
TEQ	ug/L	2	1	0.0000016	0.0000026	R1BMCW	0.0000021	NA
Metals								
Aluminum	mg/L	6	3	0.10	0.79	R1AD1W	0.38	NA
Antimony	mg/L	6	1	0.010	0.010	All	0.010	NA
Arsenic	mg/L	6	3	0.0050	0.050	R1AD1W-Filtered	0.013	NA
Barium	mg/L	6	6	0.049	0.060	R1AD1W, R1AM1W	0.054	NA
Beryllium	mg/L	6	1	0.0020	0.0020	All	0.0020	NA
Cadmium	mg/L	6	1	0.0025	0.0025	All	0.0025	NA
Calcium	mg/L	6	6	49	53	R1AM1W	51	NA
Chromium	mg/L	6	1	0.0050	0.0050	All	0.0050	NA
Cobalt	mg/L	6	1	0.0011	0.0050	All (Except R1AM1W)	0.0044	NA
Copper	mg/L	6	1	0.010	0.010	All	0.010	NA
Iron	mg/L	6	6	0.029	1.1	R1AD1W	0.49	NA
Lead	mg/L	6	1	0.0025	0.0025	All	0.0025	NA
Magnesium	mg/L	6	6	20	21	R1AD1W, R1AM1W	20	NA
Manganese	mg/L	6	3	0.0050	0.084	R1AM1W	0.043	NA
Mercury	mg/L	6	1	0.00010	0.00010	All	0.00010	NA
Nickel	mg/L	6	1	0.020	0.020	All	0.020	NA
Potassium	mg/L	6	6	3.1	3.5	R1AD1W, R1AM1W	3.3	NA
Selenium	mg/L	6	1	0.0050	0.0050	All	0.0050	NA
Silver	mg/L	6	0	0.0050	0.0050	All	0.0050	NA
Sodium	mg/L	6	6	17	19	R1AD1W, R1AD1W-Filtered, R1AM1W, R1AM1W-Filtered	18	NA
Thallium	mg/L	6	0	0.0050	0.0050	All	0.0050	NA
Vanadium	mg/L	6	2	0.0013	0.0050	R1AD1W, R1AM1W, R1AU1W, R1AU1W-Filtered	0.0038	NA
Zinc	mg/L	6	1	0.010	0.010	All	0.010	NA

NOTES
a = Dioxins/furans were not analyzed for the A-Line river samples. Therefore, the B-Line sample set was used.
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit) or a mean/95% UCL concentration based entirely in adjusted non-detected values.

Table III-B6
Calculations for Risk Assessment Modeling
Adjacent River (Plots 2-5 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Adjacent River Surface Water (Plots 2-5-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/L	14	0	0.50	0.50	All	0.50	NA
1,1,2,2-Tetrachloroethane	ug/L	14	0	0.50	0.50	All	0.50	NA
1,1,2-Trichloroethane	ug/L	14	0	0.50	0.50	All	0.50	NA
1,1-Dichloroethane	ug/L	14	0	0.50	0.50	All	0.50	NA
1,1-Dichloroethylene	ug/L	14	0	0.50	0.50	All	0.50	NA
1,2-Dichloroethane	ug/L	14	6	0.13	0.70	R3AU1W	0.43	NA
1,2-Dichloroethene (total)	ug/L	14	1	0.24	1.0	All (except R3AU1W)	0.95	NA
1,2-Dichloropropane	ug/L	14	0	0.50	0.50	All	0.50	NA
2-Butanone (MEK)	ug/L	14	0	5.0	5.0	All	5.0	NA
2-Hexanone	ug/L	14	0	5.0	5.0	All	5.0	NA
4-Methyl-2-pentanone (MIBK)	ug/L	14	1	3.8	5.0	All (except R3AU1W)	4.9	NA
Acetone	ug/L	14	1	13	40	R4AU1W	14	NA
Benzene	ug/L	14	6	0.26	4.5	R3AU1W	0.74	NA
Bromodichloromethane	ug/L	14	0	0.50	0.50	All	0.50	NA
Bromoform	ug/L	14	0	0.50	0.50	All	0.50	NA
Bromomethane	ug/L	13	0	0.50	0.50	All	0.50	NA
Carbon Disulfide	ug/L	14	2	0.28	0.50	All (except R2AM2W & R5AD1W)	0.47	NA
Carbon Tetrachloride	ug/L	14	1	0.17	0.50	All (except R3AU1W)	0.48	NA
Chlorobenzene	ug/L	14	10	0.50	56	R3AU1W	5.9	NA
Chloroethane	ug/L	14	0	0.50	0.50	All	0.50	NA
Chloroform	ug/L	14	0	0.50	0.50	All	0.50	NA
Chloromethane	ug/L	14	4	0.20	0.96	R4AU1W	0.50	NA
cis-1,3-Dichloropropene	ug/L	14	0	0.50	0.50	All	0.50	NA
Dibromochloromethane	ug/L	14	0	0.50	0.50	All	0.50	NA
Ethylbenzene	ug/L	14	1	0.50	1.3	R3AU1W	0.56	NA
Methylene Chloride	ug/L	14	0	2.5	2.5	All	2.5	NA
Styrene (Monomer)	ug/L	14	0	0.50	0.50	All	0.50	NA
Tetrachloroethene	ug/L	14	0	0.50	0.50	All	0.50	NA
Toluene	ug/L	14	4	0.50	4.5	R3AU1W	0.81	NA
trans-1,3-Dichloropropene	ug/L	14	0	0.50	0.50	All	0.50	NA
Trichloroethylene	ug/L	14	0	0.50	0.50	All	0.50	NA
Vinyl chloride	ug/L	14	0	0.50	0.50	All	0.50	NA
Xylenes, Total	ug/L	14	1	1.0	3.0	R3AU1W	1.1	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/L	14	0	5.0	5.0	All	5.0	NA
1,2-Dichlorobenzene	ug/L	14	1	5.0	40	R3AU1W	7.5	NA
1,3-Dichlorobenzene	ug/L	14	0	5.0	5.0	All	5.0	NA
1,4-Dichlorobenzene	ug/L	14	1	3.9	5.0	All (except R3AU1W)	4.9	NA
2,2'-Oxybis(1-Chloropropane)	ug/L	14	0	5.0	5.0	All	5.0	NA
2,4,5-Trichlorophenol	ug/L	14	0	5.0	5.0	All	5.0	NA
2,4,6-Trichlorophenol	ug/L	14	1	5.0	17	R3AU1W	5.9	NA
2,4-Dichlorophenol	ug/L	14	7	1.2	69	R3AU1W	8.3	NA
2,4-Dimethylphenol	ug/L	14	1	5.0	8.3	R3AU1W	5.2	NA
2,4-Dinitrophenol	ug/L	14	0	25	25	All	25	NA
2,4-Dinitrotoluene	ug/L	14	0	5.0	5.0	All	5.0	NA
2,6-Dinitrotoluene	ug/L	14	0	5.0	5.0	All	5.0	NA
2-Chloronaphthalene	ug/L	14	0	5.0	5.0	All	5.0	NA
2-Chlorophenol	ug/L	14	5	1.4	31	R3AU1W	5.9	NA
2-Methylnaphthalene	ug/L	14	0	5.0	5.0	All	5.0	NA
2-Methylphenol (o-Cresol)	ug/L	14	0	5.0	5.0	All	5.0	NA
2-Nitroaniline	ug/L	14	0	25	25	All	25	NA
2-Nitrophenol	ug/L	14	0	5.0	5.0	All	5.0	NA
3,3'-Dichlorobenzidine	ug/L	14	0	10	10	All	10	NA
3/4-Methylphenol (m&p-Cresol)	ug/L	14	1	5.0	27	R3AU1W	6.6	NA
3-Nitroaniline	ug/L	14	0	25	25	All	25	NA
4,6-Dinitro-2-methylphenol	ug/L	14	0	25	25	All	25	NA
4-Bromophenyl Phenyl Ether	ug/L	14	0	5.0	5.0	All	5.0	NA
4-Chloro-3-methylphenol	ug/L	14	0	5.0	5.0	All	5.0	NA
4-Chloroaniline	ug/L	14	9	1.4	160	R3AU1W	18	NA
4-Chlorophenyl Phenyl Ether	ug/L	14	0	5.0	5.0	All	5.0	NA
4-Nitroaniline	ug/L	14	0	25	25	All	25	NA
4-Nitrophenol	ug/L	14	0	25	25	All	25	NA
Acenaphthene	ug/L	14	0	5.0	5.0	All	5.0	NA
Acenaphthylene	ug/L	14	0	5.0	5.0	All	5.0	NA
Anthracene	ug/L	14	0	5.0	5.0	All	5.0	NA

Table III-B6
Calculations for Risk Assessment Modeling
Adjacent River (Plots 2-5 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Adjacent River Surface Water (Plots 2-5-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/L	14	0	5.0	5.0	All	5.0	NA
Benzo(a)pyrene	ug/L	14	0	5.0	5.0	All	5.0	NA
Benzo(b)fluoranthene	ug/L	14	0	5.0	5.0	All	5.0	NA
Benzo(g,h,i)perylene	ug/L	14	0	5.0	5.0	All	5.0	NA
Benzo(k)fluoranthene	ug/L	14	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethoxy)methane	ug/L	14	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethyl)ether	ug/L	14	0	5.0	5.0	All	5.0	NA
bis(2-Ethylhexyl)phthalate	ug/L	14	0	5.0	5.0	All	5.0	NA
Butyl Benzyl Phthalate	ug/L	14	0	5.0	5.0	All	5.0	NA
Carbazole	ug/L	14	0	5.0	5.0	All	5.0	NA
Chrysene	ug/L	14	0	5.0	5.0	All	5.0	NA
Dibenz(a,h)anthracene	ug/L	14	0	5.0	5.0	All	5.0	NA
Dibenzofuran	ug/L	14	0	5.0	5.0	All	5.0	NA
Diethyl Phthalate	ug/L	14	0	5.0	5.0	All	5.0	NA
Dimethyl Phthalate	ug/L	14	0	5.0	5.0	All	5.0	NA
Di-n-butylphthalate	ug/L	14	0	5.0	5.0	All	5.0	NA
Di-n-octylphthalate	ug/L	14	0	5.0	5.0	All	5.0	NA
Fluoranthene	ug/L	14	0	5.0	5.0	All	5.0	NA
Fluorene	ug/L	14	0	5.0	5.0	All	5.0	NA
Hexachlorobenzene	ug/L	14	0	5.0	5.0	All	5.0	NA
Hexachlorobutadiene	ug/L	14	0	5.0	5.0	All	5.0	NA
Hexachlorocyclopentadiene	ug/L	14	0	5.0	5.0	All	5.0	NA
Hexachloroethane	ug/L	14	0	5.0	5.0	All	5.0	NA
Indeno(1,2,3-cd)pyrene	ug/L	14	0	5.0	5.0	All	5.0	NA
Isophorone	ug/L	14	0	5.0	5.0	All	5.0	NA
Naphthalene	ug/L	14	1	5.0	7	RSAUTW	6.1	NA
Nitrobenzene	ug/L	14	1	2.5	5.0	All except RSAUTW	4.5	NA
N-Nitroso-di-n-propylamine	ug/L	14	0	5.0	5.0	All	5.0	NA
N-Nitrosodiphenylamine	ug/L	14	0	5.0	5.0	All	5.0	NA
Pentachlorophenol	ug/L	14	1	0.50	1.5	RSAUTW	0.50	NA
Phenanthrene	ug/L	14	0	5.0	5.0	All	5.0	NA
Phenol	ug/L	14	5	5.0	11	RSAMTW	6.1	NA
Pyrene	ug/L	14	0	5.0	5.0	All	5.0	NA
Pesticides								
4,4'-DDD	ug/L	14	0	0.050	0.050	All	0.050	NA
4,4'-DDE	ug/L	14	0	0.050	0.050	All	0.050	NA
4,4'-DDT	ug/L	14	0	0.050	0.050	All	0.050	NA
Aldrin	ug/L	14	0	0.025	0.025	All	0.025	NA
alpha-BHC	ug/L	14	0	0.025	0.025	All	0.025	NA
alpha-Chlordane	ug/L	14	0	0.025	0.025	All	0.025	NA
beta-BHC	ug/L	14	1	0.0092	0.025	All except RSADTW	0.024	NA
delta-BHC	ug/L	14	0	0.025	0.025	All	0.025	NA
Dieldrin	ug/L	14	0	0.050	0.050	All	0.050	NA
Endosulfan I	ug/L	14	0	0.025	0.025	All	0.025	NA
Endosulfan II	ug/L	14	0	0.050	0.050	All	0.050	NA
Endosulfan Sulfate	ug/L	14	0	0.050	0.050	All	0.050	NA
Endrin	ug/L	14	0	0.050	0.050	All	0.050	NA
Endrin Aldehyde	ug/L	14	0	0.050	0.050	All	0.050	NA
Endrin Ketone	ug/L	14	1	0.033	0.050	All except RSANTW	0.048	NA
gamma-BHC (Lindane)	ug/L	14	0	0.025	0.025	All	0.025	NA
gamma-Chlordane	ug/L	14	0	0.025	0.025	All	0.025	NA
Heptachlor	ug/L	14	0	0.025	0.025	All	0.025	NA
Heptachlor Epoxide	ug/L	14	0	0.025	0.025	All	0.025	NA
Methoxychlor	ug/L	14	0	0.25	0.25	All	0.25	NA
Toxaphene	ug/L	14	0	2.5	2.5	All	2.5	NA
Herbicides								
2,4-D	ug/L	14	10	0.25	29	RSAUTW	3.6	NA
2,4-DB	ug/L	14	0	0.25	0.25	All	0.25	NA
2,4,5-T	ug/L	14	1	0.25	0.30	RSAUTW	0.25	NA
2,4,5-TP (Silvex)	ug/L	14	0	0.25	0.25	All	0.25	NA
Dalapon	ug/L	14	1	60	60	All	60	NA
Dicamba	ug/L	14	1	0.60	0.60	All	0.60	NA
Dichloroprop	ug/L	14	7	0.11	3.0	RSADTW, RSAMTW, RSAMTW, RSAUTW, RSADTW, RSANTW, RSAUTW	1.9	NA
Dinoseb	ug/L	14	0	5.0	5.0	All	5.0	NA
MCPA	ug/L	14	0	60	60	All	60	NA
MCPP	ug/L	14	1	60	60	All	60	NA

Table III-B6
Calculations for Risk Assessment Modeling
Adjacent River (Plots 2-5 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Adjacent River Surface Water (Plots 2-5-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/L	14	0	0.25	0.25	All	0.25	NA
Dioxins/Furans (a)								
TEQ	ug/L	4	0	0.0000013	0.0000018	R2BM1W	0.0000017	NA
Metals								
Aluminum	mg/L	28	15	0.0092	1.0	R2AM2W	0.44	0.58
Antimony	mg/L	28	1	0.010	0.020	R5AN1W-Filtered	0.010	0.011
Arsenic	mg/L	28	2	0.0036	0.0061	R5AN1W	0.0050	0.0051
Barium	mg/L	28	28	0.049	0.065	R3AU1W, R4AM1W	0.057	0.059
Beryllium	mg/L	28	0	0.0020	0.0020	All	0.0020	NA
Cadmium	mg/L	28	0	0.0025	0.0025	All	0.0025	NA
Calcium	mg/L	28	28	49	54	R3AD1W, R4AM1W	52	52
Chromium	mg/L	28	0	0.0050	0.0050	All	0.0050	NA
Cobalt	mg/L	28	1	0.0010	0.0050	All (except R2AD1W-Filtered)	0.0049	0.0051
Copper	mg/L	28	0	0.0050	0.010	All (except R4AU1W)	0.0098	0.010
Iron	mg/L	28	23	0.024	1.4	R4AD1W	0.57	0.79
Lead	mg/L	28	1	0.0025	0.0031	R4AU1W	0.0025	0.0026
Magnesium	mg/L	28	28	19	22	R3AD1W	21	21
Manganese	mg/L	28	14	0.0050	0.14	R3AU1W	0.049	0.066
Mercury	mg/L	28	3	0.000094	0.00014	R5AM1W	0.00010	0.00011
Nickel	mg/L	28	0	0.020	0.020	All	0.020	NA
Potassium	mg/L	28	28	3.1	3.7	R3AD1W	3.5	3.5
Selenium	mg/L	28	0	0.0050	0.0050	All	0.0050	NA
Silver	mg/L	28	0	0.0050	0.0050	All	0.0050	NA
Sodium	mg/L	28	28	19	24	R3AU1W, R3AU1W-Filtered	21	22
Thallium	mg/L	28	0	0.0050	0.0050	All	0.0050	NA
Vanadium	mg/L	28	2	0.0013	0.0050	All (except R2AM1W-Filtered & R5AN1W)	0.0048	0.0051
Zinc	mg/L	28	6	0.0042	0.020	R2AM2W-Filtered	0.0095	0.011

NOTES:
a = Dioxins/furans were not analyzed for the A-Line river samples. Therefore, the B-Line sample set was used.
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B6
Calculations for Risk Assessment Modeling
Downstream River (Plot 6 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Downstream River Surface Water (Plot 6-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1,2-Tetrachloroethane	ug/L	4	1	0.50	0.50	All	0.50	NA
1,1,2,2-Tetrachloroethane	ug/L	4	1	0.50	0.50	All	0.50	NA
1,1,2-Trichloroethane	ug/L	4	1	0.50	0.50	All	0.50	NA
1,1-Dichloroethane	ug/L	4	1	0.50	0.50	All	0.50	NA
1,1-Dichloroethylene	ug/L	4	1	0.50	0.50	All	0.50	NA
1,2-Dichloroethane	ug/L	4	1	0.50	0.50	All	0.50	NA
1,2-Dichloroethene, total	ug/L	4	1	1.0	1.0	All	1.0	NA
1,2-Dichloropropane	ug/L	4	1	0.50	0.50	All	0.50	NA
2-Butanone (MEK)	ug/L	4	1	5.0	5.0	All	5.0	NA
2-Hexanone	ug/L	4	1	5.0	5.0	All	5.0	NA
4-Methyl-2-pentanone (MIBK)	ug/L	4	1	5.0	5.0	All	5.0	NA
Acetone	ug/L	4	1	13	13	All	13	NA
Benzene	ug/L	4	1	1.1	0.50	R6ADIW,R6AUIW	0.95	NA
Bromodichloromethane	ug/L	4	1	0.50	0.50	All	0.50	NA
Bromoform	ug/L	4	1	0.50	0.50	All	0.50	NA
Bromomethane	ug/L	4	1	0.50	0.50	All	0.50	NA
Carbon Disulfide	ug/L	4	1	0.50	0.50	All	0.50	NA
Carbon Tetrachloride	ug/L	4	1	0.50	0.50	All	0.50	NA
Chlorobenzene	ug/L	4	1	2.5	2	R6AMIW	1.4	NA
Chloroethane	ug/L	4	1	0.50	0.50	All	0.50	NA
Chloroform	ug/L	4	1	0.50	0.50	All	0.50	NA
Chloromethane	ug/L	4	1	0.50	0.50	All	0.50	NA
cis-1,3-Dichloropropene	ug/L	4	1	0.50	0.50	All	0.50	NA
Dibromochloromethane	ug/L	4	1	0.50	0.50	All	0.50	NA
Ethylbenzene	ug/L	4	1	0.50	0.50	All	0.50	NA
Methylene Chloride	ug/L	4	1	2.5	2.5	All	2.5	NA
Styrene, Monomer	ug/L	4	1	0.50	0.50	All	0.50	NA
Tetrachloroethene	ug/L	4	1	0.50	0.50	All	0.50	NA
Toluene	ug/L	4	2	0.40	0.50	R6ADIW,R6AMIW,R6AUIW	0.49	NA
trans-1,3-Dichloropropene	ug/L	4	1	0.50	0.50	All	0.50	NA
Trichloroethylene	ug/L	4	1	0.50	0.50	All	0.50	NA
Vinyl chloride	ug/L	4	1	0.50	0.50	All	0.50	NA
Xylenes, Total	ug/L	4	2	1.2	1.8	All	1.0	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/L	4	1	5.0	5.0	All	5.0	NA
1,2-Dichlorobenzene	ug/L	4	1	5.0	5.0	All	5.0	NA
1,3-Dichlorobenzene	ug/L	4	1	5.0	5.0	All	5.0	NA
1,4-Dichlorobenzene	ug/L	4	1	5.0	5.0	All	5.0	NA
2,2'-Oxybis(1-Chloropropane)	ug/L	4	0	5.0	5.0	All	5.0	NA
2,4,5-Trichlorophenol	ug/L	4	0	5.0	5.0	All	5.0	NA
2,4,6-Trichlorophenol	ug/L	4	0	5.0	5.0	All	5.0	NA
2,4-Dichlorophenol	ug/L	4	0	5.0	5.0	All	5.0	NA
2,4-Dimethylphenol	ug/L	4	0	5.0	5.0	All	5.0	NA
2,4-Dinitrophenol	ug/L	4	0	12	25	All	25	NA
2,4-Dinitrotoluene	ug/L	4	0	5.0	5.0	All	5.0	NA
2,6-Dinitrotoluene	ug/L	4	0	5.0	5.0	All	5.0	NA
2-Chloronaphthalene	ug/L	4	0	5.0	5.0	All	5.0	NA
2-Chlorophenol	ug/L	4	0	5.0	5.0	All	5.0	NA
2-Methylnaphthalene	ug/L	4	0	5.0	5.0	All	5.0	NA
2-Methylphenol (o-Cresol)	ug/L	4	0	5.0	5.0	All	5.0	NA
2-Nitroaniline	ug/L	4	0	12	25	All	25	NA
2-Nitrophenol	ug/L	4	0	5.0	5.0	All	5.0	NA
3,3'-Dichlorobenzidine	ug/L	4	0	10	20	All	20	NA
3/4-Methylphenol (m&p-Cresol)	ug/L	4	0	5.0	5.0	All	5.0	NA
3-Nitroaniline	ug/L	4	0	12	25	All	25	NA
4,6-Dinitro-2-methylphenol	ug/L	4	0	12	25	All	25	NA
4-Bromophenyl Phenyl Ether	ug/L	4	0	5.0	5.0	All	5.0	NA
4-Chloro-3-methylphenol	ug/L	4	0	5.0	5.0	All	5.0	NA
4-Chloroaniline	ug/L	4	0	10	20	All	20	NA
4-Chlorophenyl Phenyl Ether	ug/L	4	0	5.0	5.0	All	5.0	NA
4-Nitroaniline	ug/L	4	0	12	25	All	25	NA
4-Nitrophenol	ug/L	4	0	12	25	All	25	NA
Acenaphthene	ug/L	4	0	5.0	5.0	All	5.0	NA
Acenaphthylene	ug/L	4	0	5.0	5.0	All	5.0	NA
Anthracene	ug/L	4	0	5.0	5.0	All	5.0	NA

Table III-B6
Calculations for Risk Assessment Modeling
Downstream River (Plot 6 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Downstream River Surface Water (Plot 6-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/L	4	0	5.0	5.0	All	5.0	NA
Benzo(a)pyrene	ug/L	4	0	5.0	5.0	All	5.0	NA
Benzo(b)fluoranthene	ug/L	4	0	5.0	5.0	All	5.0	NA
Benzo(g,h,i)perylene	ug/L	4	0	5.0	5.0	All	5.0	NA
Benzo(k)fluoranthene	ug/L	4	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethoxy)methane	ug/L	4	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethyl)ether	ug/L	4	0	5.0	5.0	All	5.0	NA
bis(2-Ethylhexyl)phthalate	ug/L	4	0	5.0	5.0	All	5.0	NA
Butyl Benzyl Phthalate	ug/L	4	0	5.0	5.0	All	5.0	NA
Carbazole	ug/L	4	0	5.0	5.0	All	5.0	NA
Chrysene	ug/L	4	0	5.0	5.0	All	5.0	NA
Dibenzo(a,h)anthracene	ug/L	4	0	5.0	5.0	All	5.0	NA
Dibenzofuran	ug/L	4	0	5.0	5.0	All	5.0	NA
Diethyl Phthalate	ug/L	4	0	5.0	5.0	All	5.0	NA
Dimethyl Phthalate	ug/L	4	0	5.0	5.0	All	5.0	NA
Di-n-butylphthalate	ug/L	4	0	5.0	5.0	All	5.0	NA
Di-n-octylphthalate	ug/L	4	0	5.0	5.0	All	5.0	NA
Fluoranthene	ug/L	4	0	5.0	5.0	All	5.0	NA
Fluorene	ug/L	4	0	5.0	5.0	All	5.0	NA
Hexachlorobenzene	ug/L	4	0	5.0	5.0	All	5.0	NA
Hexachlorobutadiene	ug/L	4	0	5.0	5.0	All	5.0	NA
Hexachlorocyclopentadiene	ug/L	4	0	5.0	5.0	All	5.0	NA
Hexachloroethane	ug/L	4	0	5.0	5.0	All	5.0	NA
Indeno(1,2,3-cd)pyrene	ug/L	4	0	5.0	5.0	All	5.0	NA
Isophorone	ug/L	4	0	5.0	5.0	All	5.0	NA
Naphthalene	ug/L	4	0	5.0	5.0	All	5.0	NA
Nitrobenzene	ug/L	4	0	5.0	5.0	All	5.0	NA
N-Nitroso-di-n-propylamine	ug/L	4	0	5.0	5.0	All	5.0	NA
N-Nitrosodiphenylamine	ug/L	4	0	5.0	5.0	All	5.0	NA
Pentachlorophenol	ug/L	4	0	0.50	0.50	All	0.50	NA
Phenanthrene	ug/L	4	0	5.0	5.0	All	5.0	NA
Phenol	ug/L	4	0	5.0	5.0	All	5.0	NA
Pyrene	ug/L	4	0	5.0	5.0	All	5.0	NA
Pesticides								
4,4'-DDD	ug/L	4	0	0.050	0.050	All	0.050	NA
4,4'-DDE	ug/L	4	0	0.050	0.050	All	0.050	NA
4,4'-DDT	ug/L	4	0	0.050	0.050	All	0.050	NA
Aldrin	ug/L	4	0	0.025	0.025	All	0.025	NA
alpha-BHC	ug/L	4	0	0.025	0.025	All	0.025	NA
alpha-Chlordane	ug/L	4	0	0.025	0.025	All	0.025	NA
beta-BHC	ug/L	4	0	0.025	0.025	All	0.025	NA
delta-BHC	ug/L	4	0	0.025	0.025	All	0.025	NA
Dieldrin	ug/L	4	0	0.050	0.050	All	0.050	NA
Endosulfan I	ug/L	4	0	0.025	0.025	All	0.025	NA
Endosulfan II	ug/L	4	0	0.050	0.050	All	0.050	NA
Endosulfan Sulfate	ug/L	4	0	0.050	0.050	All	0.050	NA
Endrin	ug/L	4	0	0.050	0.050	All	0.050	NA
Endrin Aldehyde	ug/L	4	0	0.050	0.050	All	0.050	NA
Endrin Ketone	ug/L	4	0	0.050	0.050	All	0.050	NA
gamma-BHC (Lindane)	ug/L	4	0	0.025	0.025	All	0.025	NA
gamma-Chlordane	ug/L	4	0	0.025	0.025	All	0.025	NA
Heptachlor	ug/L	4	0	0.025	0.025	All	0.025	NA
Heptachlor Epoxide	ug/L	4	0	0.025	0.025	All	0.025	NA
Methoxychlor	ug/L	4	0	0.25	0.25	All	0.25	NA
Toxaphene	ug/L	4	0	2.5	2.5	All	2.5	NA
Herbicides								
2,4-D	ug/L	4	4	0.71	1.0	R6AM1W	0.90	NA
2,4-DB	ug/L	4	0	0.25	0.25	All	0.25	NA
2,4,5-T	ug/L	4	0	0.25	0.25	All	0.25	NA
2,4,5-TP (Silvex)	ug/L	4	0	0.25	0.25	All	0.25	NA
Dalapon	ug/L	4	0	60	60	All	60	NA
Dicamba	ug/L	4	0	0.60	0.60	All	0.60	NA
Dichlorprop	ug/L	4	0	3.0	3.0	All	3.0	NA
Dinoseb	ug/L	4	0	5.0	5.0	All	5.0	NA
MCPA	ug/L	4	0	60	60	All	60	NA
MCPP	ug/L	4	0	60	60	All	60	NA

Table III-B6
Calculations for Risk Assessment Modeling
Downstream River (Plot 6 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Downstream River Surface Water (Plot 6-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	mg/L	4	[illegible]	0.25	0.25	All	0.25	NA
Dioxins/Furans (a)								
TEQ	mg/L	[illegible]	6	0.0000020	0.0000020	R6BM1W	0.0000020	NA
Metals								
Aluminum	mg/L	8	3	0.010	1.1	R6AU1W	0.44	NA
Antimony	mg/L	8	[illegible]	0.0051	0.010	All (except R6AU1W)	0.0094	NA
Arsenic	mg/L	8	[illegible]	0.0050	0.0053	R6AU1W	0.0050	NA
Barium	mg/L	8	8	0.050	0.061	R6AM1W,R6AM2W,R6AU1W	0.056	NA
Beryllium	mg/L	8	[illegible]	0.0020	0.0020	All	0.0020	NA
Cadmium	mg/L	8	0	0.0025	0.0025	All	0.0025	NA
Calcium	mg/L	8	8	46	50	R6AM2W-Filtered	48	NA
Chromium	mg/L	8	[illegible]	0.0050	0.0050	All	0.0050	NA
Cobalt	mg/L	8	2	0.00076	0.0050	All (except R6AD1W & R6AM1W)	0.0040	NA
Copper	mg/L	8	[illegible]	0.0025	0.010	All (except R6AD1W)	0.0091	NA
Iron	mg/L	8	8	0.058	1.4	R6AU1W	0.61	NA
Lead	mg/L	8	0	0.0025	0.0025	All	0.0025	NA
Magnesium	mg/L	8	8	18	20	R6AM2W-Filtered	19	NA
Manganese	mg/L	8	4	0.0050	0.093	R6AM2W-Filtered	0.046	NA
Mercury	mg/L	8	0	0.00010	0.00010	All	0.00010	NA
Nickel	mg/L	8	0	0.020	0.020	All	0.020	NA
Potassium	mg/L	8	8	3.4	3.5	All (except R6AM1W-Filtered & R6AU1W-Filtered)	3.5	NA
Selenium	mg/L	8	0	0.0050	0.0050	All	0.0050	NA
Silver	mg/L	8	0	0.0050	0.0050	All	0.0050	NA
Sodium	mg/L	8	8	18	20	R6AD1W-Filtered	19	NA
Thallium	mg/L	8	0	0.0050	0.0050	All	0.0050	NA
Vanadium	mg/L	8	2	0.0019	0.0050	All (except R6AD1W & R6AD1W-Filtered)	0.0045	NA
Zinc	mg/L	8	6	0.0033	0.010	R6AM1W-Filtered, R6AU1W-Filtered	0.0064	NA

NOTES:
a = Dioxins/furans were not analyzed for the A-Line river samples. Therefore, the B-Line sample set was used.
NA = Not applicable.
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B6
Calculations for Risk Assessment Modeling
Site-Wide River (Plots 2-6 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Site-Wide River Surface Water (Plots 2-6-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/L	18	0	0.50	0.50	All	0.50	NA
1,1,2,2-Tetrachloroethane	ug/L	18	0	0.50	0.50	All	0.50	NA
1,1,2-Trichloroethane	ug/L	18	0	0.50	0.50	All	0.50	NA
1,1-Dichloroethane	ug/L	18	0	0.50	0.50	All	0.50	NA
1,1-Dichloroethylene	ug/L	18	0	0.50	0.50	All	0.50	NA
1,2-Dichloroethane	ug/L	18	6	0.13	0.70	R3AU1W	0.44	NA
1,2-Dichloroethene (total)	ug/L	18	1	0.24	1.0	All (except R3AU1W)	0.96	NA
1,2-Dichloropropane	ug/L	18	0	0.50	0.50	All	0.50	NA
2-Butanone (MEK)	ug/L	18	0	5.0	5.0	All	5.0	NA
2-Hexanone	ug/L	18	0	5.0	5.0	All	5.0	NA
4-Methyl-2-pentanone (MIBK)	ug/L	18	1	3.8	5.0	All (except R3AU1W)	4.9	NA
Acetone	ug/L	18	1	13	40	R4AU1W	14	NA
Benzene	ug/L	18	8	0.21	4.5	R3AU1W	0.66	NA
Bromodichloromethane	ug/L	18	0	0.50	0.50	All	0.50	NA
Bromoform	ug/L	18	0	0.50	0.50	All	0.50	NA
Bromomethane	ug/L	17	0	0.50	0.50	All	0.50	NA
Carbon Disulfide	ug/L	18	2	0.28	0.50	All (except R2AM2W & R5AD1W)	0.48	NA
Carbon Tetrachloride	ug/L	18	1	0.17	0.50	All (except R3AU1W)	0.48	NA
Chlorobenzene	ug/L	18	13	0.50	56	R3AU1W	4.9	NA
Chloroethane	ug/L	18	0	0.50	0.50	All	0.50	NA
Chloroform	ug/L	18	0	0.50	0.50	All	0.50	NA
Chloromethane	ug/L	18	4	0.20	0.96	R4AU1W	0.50	NA
cis-1,3-Dichloropropene	ug/L	18	0	0.50	0.50	All	0.50	NA
Dibromochloromethane	ug/L	18	0	0.50	0.50	All	0.50	NA
Ethylbenzene	ug/L	18	1	0.50	1.3	R3AU1W	0.54	NA
Methylene Chloride	ug/L	18	0	2.5	2.5	All	2.5	NA
Styrene (Monomer)	ug/L	18	0	0.50	0.50	All	0.50	NA
Tetrachloroethene	ug/L	18	0	0.50	0.50	All	0.50	NA
Toluene	ug/L	18	5	0.45	4.5	R3AU1W	0.74	NA
trans-1,3-Dichloropropene	ug/L	18	0	0.50	0.50	All	0.50	NA
Trichloroethylene	ug/L	18	0	0.50	0.50	All	0.50	NA
Vinyl chloride	ug/L	18	0	0.50	0.50	All	0.50	NA
Xylenes, Total	ug/L	18	1	1.0	3.0	R3AU1W	1.1	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/L	18	0	5.0	5.0	All	5.0	NA
1,2-Dichlorobenzene	ug/L	18	1	5.0	40	R3AU1W	6.9	NA
1,3-Dichlorobenzene	ug/L	18	0	5.0	5.0	All	5.0	NA
1,4-Dichlorobenzene	ug/L	18	1	3.9	5.0	All (except R3AU1W)	4.9	NA
2,2'-Oxybis(1-Chloropropane)	ug/L	18	0	5.0	5.0	All	5.0	NA
2,4,5-Trichlorophenol	ug/L	18	0	5.0	5.0	All	5.0	NA
2,4,6-Trichlorophenol	ug/L	18	1	5.0	17	R3AU1W	5.7	NA
2,4-Dichlorophenol	ug/L	18	7	1.2	69	R3AU1W	7.6	NA
2,4-Dimethylphenol	ug/L	18	1	5.0	8.3	R3AU1W	5.2	NA
2,4-Dinitrophenol	ug/L	18	0	25	25	All	25	NA
2,4-Dinitrotoluene	ug/L	18	0	5.0	5.0	All	5.0	NA
2,6-Dinitrotoluene	ug/L	18	0	5.0	5.0	All	5.0	NA
2-Chloronaphthalene	ug/L	18	0	5.0	5.0	All	5.0	NA
2-Chlorophenol	ug/L	18	5	1.4	31	R3AU1W	5.7	NA
2-Methylnaphthalene	ug/L	18	0	5.0	5.0	All	5.0	NA
2-Methylphenol (o-Cresol)	ug/L	18	0	5.0	5.0	All	5.0	NA
2-Nitroaniline	ug/L	18	0	25	25	All	25	NA
2-Nitrophenol	ug/L	18	0	5.0	5.0	All	5.0	NA
3,3'-Dichlorobenzidine	ug/L	18	0	10	10	All	10	NA
3/4-Methylphenol (m&p-Cresol)	ug/L	18	1	5.0	27	R3AU1W	6.2	NA
3-Nitroaniline	ug/L	18	0	25	25	All	25	NA
4,6-Dinitro-2-methylphenol	ug/L	18	0	25	25	All	25	NA
4-Bromophenyl Phenyl Ether	ug/L	18	0	5.0	5.0	All	5.0	NA
4-Chloro-3-methylphenol	ug/L	18	0	5.0	5.0	All	5.0	NA
4-Chloroaniline	ug/L	18	9	1.4	160	R3AU1W	16	NA
4-Chlorophenyl Phenyl Ether	ug/L	18	0	5.0	5.0	All	5.0	NA
4-Nitroaniline	ug/L	18	0	25	25	All	25	NA
4-Nitrophenol	ug/L	18	0	25	25	All	25	NA
Acenaphthene	ug/L	18	0	5.0	5.0	All	5.0	NA
Acenaphthylene	ug/L	18	0	5.0	5.0	All	5.0	NA
Anthracene	ug/L	18	0	5.0	5.0	All	5.0	NA

Table III-B6
Calculations for Risk Assessment Modeling
Site-Wide River (Plots 2-6 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Site-Wide River Surface Water (Plots 2-6-A-Line)						95% UCL Risk Assessment Concentration
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	
SVOCs								
Benzo(a)anthracene	ug/L	18	1	5.0	5.0	All	5.0	NA
Benzo(a)pyrene	ug/L	18	1	5.0	5.0	All	5.0	NA
Benzo(b)fluoranthene	ug/L	18	0	5.0	5.0	All	5.0	NA
Benzo(g,h,i)perylene	ug/L	18	1	5.0	5.0	All	5.0	NA
Benzo(k)fluoranthene	ug/L	18	1	5.0	5.0	All	5.0	NA
bis(2-Chloroethoxy)methane	ug/L	18	1	5.0	5.0	All	5.0	NA
bis(2-Chloroethyl)ether	ug/L	18	1	5.0	5.0	All	5.0	NA
bis(2-Ethylhexyl)phthalate	ug/L	18	1	5.0	5.0	All	5.0	NA
Butyl Benzyl Phthalate	ug/L	18	1	5.0	5.0	All	5.0	NA
Carbazole	ug/L	18	1	5.0	5.0	All	5.0	NA
Chrysene	ug/L	18	1	5.0	5.0	All	5.0	NA
Dibenzo(a,h)anthracene	ug/L	18	1	5.0	5.0	All	5.0	NA
Dibenzofuran	ug/L	18	1	5.0	5.0	All	5.0	NA
Diethyl Phthalate	ug/L	18	1	5.0	5.0	All	5.0	NA
Dimethyl Phthalate	ug/L	18	1	5.0	5.0	All	5.0	NA
Di-n-butylphthalate	ug/L	18	1	5.0	5.0	All	5.0	NA
Di-n-octylphthalate	ug/L	18	1	5.0	5.0	All	5.0	NA
Fluoranthene	ug/L	18	1	5.0	5.0	All	5.0	NA
Fluorene	ug/L	18	1	5.0	5.0	All	5.0	NA
Hexachlorobenzene	ug/L	18	1	5.0	5.0	All	5.0	NA
Hexachlorobutadiene	ug/L	18	1	5.0	5.0	All	5.0	NA
Hexachlorocyclopentadiene	ug/L	18	1	5.0	5.0	All	5.0	NA
Hexachloroethane	ug/L	18	1	5.0	5.0	All	5.0	NA
Indeno(1,2,3-cd)pyrene	ug/L	18	1	5.0	5.0	All	5.0	NA
Isophorone	ug/L	18	1	5.0	5.0	All	5.0	NA
Naphthalene	ug/L	18	1	5.0	[illegible]	RSAU:W	[illegible]	NA
Nitrobenzene	ug/L	18	1	2.5	5.0	All (except RSAU:W)	4.9	NA
N-Nitroso-di-n-propylamine	ug/L	18	1	5.0	5.0	All	5.0	NA
N-Nitrosodiphenylamine	ug/L	18	1	5.0	5.0	All	5.0	NA
Pentachlorophenol	ug/L	18	1	0.50	[illegible]	RSAU:W	0.58	NA
Phenanthrene	ug/L	18	1	5.0	5.0	All	5.0	NA
Phenol	ug/L	18	1	5.0	[illegible]	RSAM:W	5.3	NA
Pyrene	ug/L	18	1	5.0	5.0	All	5.0	NA
Pesticides								
4,4'-DDD	ug/L	18	1	0.050	0.050	All	0.050	NA
4,4'-DDE	ug/L	18	1	0.050	0.050	All	0.050	NA
4,4'-DDT	ug/L	18	1	0.050	0.050	All	0.050	NA
Aldrin	ug/L	18	1	0.025	0.025	All	0.025	NA
alpha-BHC	ug/L	18	1	0.025	0.025	All	0.025	NA
alpha-Chlordane	ug/L	18	1	0.025	0.025	All	0.025	NA
beta-BHC	ug/L	18	1	0.0092	0.025	All (except RSAD:W)	0.024	NA
delta-BHC	ug/L	18	1	0.025	0.025	All	0.025	NA
Dieldrin	ug/L	18	1	0.050	0.050	All	0.050	NA
Endosulfan I	ug/L	18	1	0.025	0.025	All	0.025	NA
Endosulfan II	ug/L	18	1	0.050	0.050	All	0.050	NA
Endosulfan Sulfate	ug/L	18	1	0.050	0.050	All	0.050	NA
Endrin	ug/L	18	1	0.050	0.050	All	0.050	NA
Endrin Aldehyde	ug/L	18	1	0.050	0.050	All	0.050	NA
Endrin Ketone	ug/L	18	1	0.025	0.050	All (except RSAN:W)	0.049	NA
gamma-BHC (Lindane)	ug/L	18	1	0.025	0.025	All	0.025	NA
gamma-Chlordane	ug/L	18	1	0.025	0.025	All	0.025	NA
Heptachlor	ug/L	18	1	0.025	0.025	All	0.025	NA
Heptachlor Epoxide	ug/L	18	1	0.025	0.025	All	0.025	NA
Methoxychlor	ug/L	18	0	0.25	0.25	All	0.25	NA
Toxaphene	ug/L	18	0	2.5	2.5	All	2.5	NA
Herbicides								
2,4-D	ug/L	18	14	0.25	29	RSAU:W	3.0	NA
2,4-DB	ug/L	18	0	0.25	0.25	All	0.25	NA
2,4,5-T	ug/L	18	1	0.25	0.30	RSAU:W	0.25	NA
2,4,5-TP (Silvex)	ug/L	18	1	0.25	0.25	All	0.25	NA
Dalapon	ug/L	18	1	60	60	All	60	NA
Dicamba	ug/L	18	1	0.60	0.60	All	0.60	NA
Dichloroprop	ug/L	18	1	2.1	5.0	RSAD:W, RSAM:W, RSAM:W, RSAU:W, RSAD:W, RSAN:W, RSAU:W	2.2	NA
Dinoseb	ug/L	18	1	5.0	5.0	All	5.0	NA
MCPA	ug/L	18	0	60	60	All	60	NA
MCPP	ug/L	18	1	60	60	All	60	NA

Table III-B6
Calculations for Risk Assessment Modeling
Site-Wide River (Plots 2-6 - A Line Only) - Surface Water
Sauget, IL

Analyte	Units	Site-Wide River Surface Water (Plots 2-6-A-Line)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/L	18	0	0.25	0.25	All	0.25	NA
Dioxins/Furans (a)								
TEQ	ug/L	5	0	0.0000013	0.0000020	R6BM1W	0.0000017	NA
Metals								
Aluminum	mg/L	36	18	0.0092	1.1	R6AU1W	0.44	0.57
Antimony	mg/L	36	2	0.0051	0.020	R5AN1W-Filtered	0.010	0.011
Arsenic	mg/L	36	3	0.0036	0.0061	R5AN1W	0.0050	0.0051
Barium	mg/L	36	36	0.049	0.065	R3AU1W, R4AM1W	0.057	0.058
Beryllium	mg/L	36	0	0.0020	0.0020	All	0.0020	NA
Cadmium	mg/L	36	0	0.0025	0.0025	All	0.0025	NA
Calcium	mg/L	36	36	46	54	R3AD1W, R4AM1W	51	52
Chromium	mg/L	36	0	0.0050	0.0050	All	0.0050	NA
Cobalt	mg/L	36	3	0.00076	0.0050	All (except R2AD1W-Filtered, R6AD1W & R6AM1W)	0.0047	0.0050
Copper	mg/L	36	1	0.0025	0.010	All (except R6AD1W & R4AU1W)	0.0097	0.010
Iron	mg/L	36	31	0.024	1.4	R4AD1W, R6AU1W	0.58	0.77
Lead	mg/L	36	1	0.0025	0.0031	R4AU1W	0.0025	0.0025
Magnesium	mg/L	36	36	18	22	R3AD1W	20	20
Manganese	mg/L	36	18	0.0050	0.14	R3AU1W	0.049	0.063
Mercury	mg/L	36	3	0.000094	0.00014	R5AM1W	0.00010	0.00010
Nickel	mg/L	36	0	0.020	0.020	All	0.020	NA
Potassium	mg/L	36	36	3.1	3.7	R3AD1W	3.5	3.5
Selenium	mg/L	36	0	0.0050	0.0050	All	0.0050	NA
Silver	mg/L	36	0	0.0050	0.0050	All	0.0050	NA
Sodium	mg/L	36	36	18	24	R3AU1W,R3AU1W-Filtered	21	21
Thallium	mg/L	36	0	0.0050	0.0050	All	0.0050	NA
Vanadium	mg/L	36	4	0.0013	0.0050	All (except R2AM1W-Filtered & R5AN1W)	0.0047	0.0050
Zinc	mg/L	36	12	0.0033	0.020	R2AM2W-Filtered	0.0088	0.0098

NOTES:
a = Dioxins/furans were not analyzed for the A-Line river samples. Therefore, the B-Line sample set was used.
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B7
Calculations for Risk Assessment Modeling
Pond - Surface Water
Sauget, IL

Analyte	Units	Pond Surface Water						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/L	2	1	0.50	0.50	All	0.50	NA
1,1,2-Trichloroethane	ug/L	2	1	0.50	0.50	All	0.50	NA
1,1,2-Trichloroethane	ug/L	2	1	0.50	0.50	All	0.50	NA
1,1-Dichloroethane	ug/L	2	1	0.50	0.50	All	0.50	NA
1,1-Dichloroethylene	ug/L	2	1	0.50	0.50	All	0.50	NA
1,2-Dichloroethane	ug/L	2	1	0.50	0.50	All	0.50	NA
1,2-Dichloroethene (total)	ug/L	2	1	1.0	1.0	All	1.0	NA
1,2-Dichloropropane	ug/L	2	1	0.50	0.50	All	0.50	NA
2-Butanone (MEK)	ug/L	2	0	5.0	5.0	All	5.0	NA
2-Hexanone	ug/L	2	1	5.0	5.0	All	5.0	NA
4-Methyl-2-pentanone (MIBK)	ug/L	2	1	5.0	5.0	All	5.0	NA
Acetone	ug/L	2	1	13	13	All	13	NA
Benzene	ug/L	2	1	0.50	0.50	All	0.50	NA
Bromodichloromethane	ug/L	2	1	0.50	0.50	All	0.50	NA
Bromoform	ug/L	2	1	0.50	0.50	All	0.50	NA
Bromomethane	ug/L	2	0	0.50	0.50	All	0.50	NA
Carbon Disulfide	ug/L	2	1	0.50	0.50	All	0.50	NA
Carbon Tetrachloride	ug/L	2	0	0.50	0.50	All	0.50	NA
Chlorobenzene	ug/L	2	1	0.50	0.50	All	0.50	NA
Chloroethane	ug/L	2	0	0.50	0.50	All	0.50	NA
Chloroform	ug/L	2	0	0.50	0.50	All	0.50	NA
Chloromethane	ug/L	2	1	0.50	0.50	All	0.50	NA
cis-1,3-Dichloropropene	ug/L	2	1	0.50	0.50	All	0.50	NA
Dibromochloromethane	ug/L	2	0	0.50	0.50	All	0.50	NA
Ethylbenzene	ug/L	2	0	0.50	0.50	All	0.50	NA
Methylene Chloride	ug/L	2	0	2.5	2.5	All	2.5	NA
Styrene (Monomer)	ug/L	2	0	0.50	0.50	All	0.50	NA
Tetrachloroethene	ug/L	2	0	0.50	0.50	All	0.50	NA
Toluene	ug/L	2	0	0.50	0.50	All	0.50	NA
trans-1,3-Dichloropropene	ug/L	2	0	0.50	0.50	All	0.50	NA
Trichloroethylene	ug/L	2	0	0.50	0.50	All	0.50	NA
Vinyl chloride	ug/L	2	1	0.50	0.50	All	0.50	NA
Xylenes, Total	ug/L	2	0	1.0	1.0	All	1.0	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/L	2	1	5.0	5.0	All	5.0	NA
1,2-Dichlorobenzene	ug/L	2	1	5.0	5.0	All	5.0	NA
1,3-Dichlorobenzene	ug/L	2	0	5.0	5.0	All	5.0	NA
1,4-Dichlorobenzene	ug/L	2	0	5.0	5.0	All	5.0	NA
2,2'-Oxybis(1-Chloropropane)	ug/L	2	1	5.0	5.0	All	5.0	NA
2,4,5-Trichlorophenol	ug/L	2	1	5.0	5.0	All	5.0	NA
2,4,6-Trichlorophenol	ug/L	2	1	5.0	5.0	All	5.0	NA
2,4-Dichlorophenol	ug/L	2	1	5.0	5.0	All	5.0	NA
2,4-Dimethylphenol	ug/L	2	1	5.0	5.0	All	5.0	NA
2,4-Dinitrophenol	ug/L	2	1	25	25	All	25	NA
2,4-Dinitrotoluene	ug/L	2	0	5.0	5.0	All	5.0	NA
2,6-Dinitrotoluene	ug/L	2	0	5.0	5.0	All	5.0	NA
2-Chloronaphthalene	ug/L	2	1	5.0	5.0	All	5.0	NA
2-Chlorophenol	ug/L	2	0	5.0	5.0	All	5.0	NA
2-Methylnaphthalene	ug/L	2	1	5.0	5.0	All	5.0	NA
2-Methylphenol (o-Cresol)	ug/L	2	1	5.0	5.0	All	5.0	NA
2-Nitroaniline	ug/L	2	0	25	25	All	25	NA
2-Nitrophenol	ug/L	2	1	5.0	5.0	All	5.0	NA
3,3'-Dichlorobenzidine	ug/L	2	1	10	10	All	10	NA
3/4-Methylphenol (m&p-Cresol)	ug/L	2	1	5.0	5.0	All	5.0	NA
3-Nitroaniline	ug/L	2	0	25	25	All	25	NA
4,6-Dinitro-2-methylphenol	ug/L	2	1	25	25	All	25	NA
4-Bromophenyl Phenyl Ether	ug/L	2	1	5.0	5.0	All	5.0	NA
4-Chloro-3-methylphenol	ug/L	2	1	5.0	5.0	All	5.0	NA
4-Chloroaniline	ug/L	2	1	10	10	All	10	NA
4-Chlorophenyl Phenyl Ether	ug/L	2	1	5.0	5.0	All	5.0	NA
4-Nitroaniline	ug/L	2	1	25	25	All	25	NA
4-Nitrophenol	ug/L	2	1	25	25	All	25	NA
Acenaphthene	ug/L	2	1	5.0	5.0	All	5.0	NA
Acenaphthylene	ug/L	2	1	5.0	5.0	All	5.0	NA
Anthracene	ug/L	2	1	5.0	5.0	All	5.0	NA

Table III-B7
Calculations for Risk Assessment Modeling
Pond - Surface Water
Sauget, IL

Analyte	Units	Pond Surface Water						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/L	2	0	5.0	5.0	All	5.0	NA
Benzo(a)pyrene	ug/L	2	0	5.0	5.0	All	5.0	NA
Benzo(b)fluoranthene	ug/L	2	0	5.0	5.0	All	5.0	NA
Benzo(g,h,i)perylene	ug/L	2	0	5.0	5.0	All	5.0	NA
Benzo(k)fluoranthene	ug/L	2	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethoxy)methane	ug/L	2	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethyl)ether	ug/L	2	0	5.0	5.0	All	5.0	NA
bis(2-Ethylhexyl)phthalate	ug/L	2	0	5.0	5.0	All	5.0	NA
Butyl Benzyl Phthalate	ug/L	2	0	5.0	5.0	All	5.0	NA
Carbazole	ug/L	2	0	5.0	5.0	All	5.0	NA
Chrysene	ug/L	2	0	5.0	5.0	All	5.0	NA
Dibenzo(a,h)anthracene	ug/L	2	0	5.0	5.0	All	5.0	NA
Dibenzofuran	ug/L	2	0	5.0	5.0	All	5.0	NA
Diethyl Phthalate	ug/L	2	0	5.0	5.0	All	5.0	NA
Dimethyl Phthalate	ug/L	2	0	5.0	5.0	All	5.0	NA
Di-n-butylphthalate	ug/L	2	1	1.3	5.0	P11W	3.2	NA
Di-n-octylphthalate	ug/L	2	0	5.0	5.0	All	5.0	NA
Fluoranthene	ug/L	2	0	5.0	5.0	All	5.0	NA
Fluorene	ug/L	2	0	5.0	5.0	All	5.0	NA
Hexachlorobenzene	ug/L	2	0	5.0	5.0	All	5.0	NA
Hexachlorobutadiene	ug/L	2	0	5.0	5.0	All	5.0	NA
Hexachlorocyclopentadiene	ug/L	2	0	5.0	5.0	All	5.0	NA
Hexachloroethane	ug/L	2	0	5.0	5.0	All	5.0	NA
Indeno(1,2,3-cd)pyrene	ug/L	2	0	5.0	5.0	All	5.0	NA
Isophorone	ug/L	2	0	5.0	5.0	All	5.0	NA
Naphthalene	ug/L	2	1	4.3	5.0	P11W	4.7	NA
Nitrobenzene	ug/L	2	0	5.0	5.0	All	5.0	NA
N-Nitroso-di-n-propylamine	ug/L	2	0	5.0	5.0	All	5.0	NA
N-Nitrosodiphenylamine	ug/L	2	0	5.0	5.0	All	5.0	NA
Pentachlorophenol	ug/L	2	0	0.50	0.50	All	0.50	NA
Phenanthrene	ug/L	2	0	5.0	5.0	All	5.0	NA
Phenol	ug/L	2	0	5.0	5.0	All	5.0	NA
Pyrene	ug/L	2	0	5.0	5.0	All	5.0	NA
Pesticides								
4,4'-DDD	ug/L	2	0	0.050	0.050	All	0.050	NA
4,4'-DDE	ug/L	2	0	0.050	0.050	All	0.050	NA
4,4'-DDT	ug/L	2	1	0.028	0.050	P12W	0.039	NA
Aldrin	ug/L	2	1	0.0089	0.025	P11W	0.017	NA
alpha-BHC	ug/L	2	0	0.025	0.025	All	0.025	NA
alpha-Chlordane	ug/L	2	0	0.025	0.025	All	0.025	NA
beta-BHC	ug/L	2	1	0.0079	0.025	P11W	0.016	NA
delta-BHC	ug/L	2	0	0.025	0.025	All	0.025	NA
Dieldrin	ug/L	2	1	0.010	0.050	P12W	0.030	NA
Endosulfan I	ug/L	2	0	0.025	0.025	All	0.025	NA
Endosulfan II	ug/L	2	0	0.050	0.050	All	0.050	NA
Endosulfan Sulfate	ug/L	2	0	0.050	0.050	All	0.050	NA
Endrin	ug/L	2	0	0.050	0.050	All	0.050	NA
Endrin Aldehyde	ug/L	2	0	0.050	0.050	All	0.050	NA
Endrin Ketone	ug/L	2	0	0.050	0.050	R1AM1W	0.050	NA
gamma-BHC (Lindane)	ug/L	2	0	0.025	0.025	All	0.025	NA
gamma-Chlordane	ug/L	2	0	0.025	0.025	All	0.025	NA
Heptachlor	ug/L	2	0	0.025	0.025	All	0.025	NA
Heptachlor Epoxide	ug/L	2	0	0.025	0.025	All	0.025	NA
Methoxychlor	ug/L	2	0	0.25	0.25	All	0.25	NA
Toxaphene	ug/L	2	0	2.5	2.5	All	2.5	NA
Herbicides								
2,4-D	ug/L	2	0	0.25	0.25	All	0.25	NA
2,4-DB	ug/L	2	0	0.25	0.25	All	0.25	NA
2,4,5-T	ug/L	2	0	0.25	0.25	All	0.25	NA
2,4,5-TP (Silvex)	ug/L	2	0	0.25	0.25	All	0.25	NA
Dalapon	ug/L	2	0	60	60	All	60	NA
Dicamba	ug/L	2	0	0.60	0.60	All	0.60	NA
Dichlorprop	ug/L	2	0	3.0	3.0	All	3.0	NA
Dinoseb	ug/L	2	0	5.0	5.0	All	5.0	NA
MCPA	ug/L	2	0	60	60	All	60	NA
MCPP	ug/L	2	0	60	60	All	60	NA

Table III-B7
Calculations for Risk Assessment Modeling
Pond - Surface Water
Sauget, IL

Analyte	Units	Pond Surface Water						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/L	2	0	0.25	0.25	All	0.25	NA
Dioxins/Furans								
TEQ	ug/L		1	0.000011	0.000011	P11W-Filtered	0.000011	NA
Metals								
Aluminum	mg/L	2	1	0.10	[illegible]	P11W	3.6	NA
Antimony	mg/L	2	0	0.010	0.010	All	0.010	NA
Arsenic	mg/L	2	2	0.0039	0.0054	P11W	0.0047	NA
Barium	mg/L	2	2	0.11	0.20	P11W	0.16	NA
Beryllium	mg/L	2	0	0.0020	0.0020	All	0.0020	NA
Cadmium	mg/L	2	1	0.00065	0.0025	P11W-Filtered	0.0016	NA
Calcium	mg/L	2	2	56	57	P11W	57	NA
Chromium	mg/L	2	1	0.0050	0.010	P11W	0.0075	NA
Cobalt	mg/L	2	1	0.0036	0.0050	P11W-Filtered	0.0043	NA
Copper	mg/L	2	1	0.010	0.013	P11W	0.012	NA
Iron	mg/L	2	1	0.025	8.9	P11W	4.5	NA
Lead	mg/L	2	1	0.0025	0.014	P11W	0.0083	NA
Magnesium	mg/L	2	2	13	15	P11W	14	NA
Manganese	mg/L	2	2	0.035	0.46	P11W	0.25	NA
Mercury	mg/L	2	0	0.00010	0.00010	All	0.00010	NA
Nickel	mg/L	2	1	0.0093	0.020	P11W-Filtered	0.015	NA
Potassium	mg/L	2	2	4.2	5.6	P11W	4.9	NA
Selenium	mg/L	2	0	0.0050	0.0050	All	0.0050	NA
Silver	mg/L	2	0	0.0050	0.0050	All	0.0050	NA
Sodium	mg/L	2	2	6.2	6.7	P11W	6.5	NA
Thallium	mg/L	2	0	0.0050	0.0050	All	0.0050	NA
Vanadium	mg/L	2	2	0.0016	0.023	P11W	0.012	NA
Zinc	mg/L	2	1	0.010	0.052	P11W	0.031	NA

NOTES
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B8
Calculations for Risk Assessment Modeling
Upstream River (Plot 1 - A, B, C-Lines) Surface Water
Sauget, IL

Analyte	Units	Upstream River Surface Water (Plot 1 - A, B, & C-Lines)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/L	8	0	0.50	0.50	All	0.50	NA
1,1,2,2-Tetrachloroethane	ug/L	8	0	0.50	0.50	All	0.50	NA
1,1,2-Trichloroethane	ug/L	8	0	0.50	0.50	All	0.50	NA
1,1-Dichloroethane	ug/L	8	0	0.50	0.50	All	0.50	NA
1,1-Dichloroethylene	ug/L	8	0	0.50	0.50	All	0.50	NA
1,2-Dichloroethane	ug/L	8	0	0.50	0.50	All	0.50	NA
1,2-Dichloroethene (total)	ug/L	8	0	1.0	1.0	All	1.0	NA
1,2-Dichloropropane	ug/L	8	0	0.50	0.50	All	0.50	NA
2-Butanone (MEK)	ug/L	8	0	5.0	5.0	All	5.0	NA
2-Hexanone	ug/L	8	0	5.0	5.0	All	5.0	NA
4-Methyl-2-pentanone (MIBK)	ug/L	8	0	5.0	5.0	All	5.0	NA
Acetone	ug/L	8	0	13	13	All	13	NA
Benzene	ug/L	8	0	0.50	0.50	All	0.50	NA
Bromodichloromethane	ug/L	8	0	0.50	0.50	All	0.50	NA
Bromoform	ug/L	8	0	0.50	0.50	All	0.50	NA
Bromomethane	ug/L	8	0	0.50	0.50	All	0.50	NA
Carbon Disulfide	ug/L	8	0	0.50	0.50	All	0.50	NA
Carbon Tetrachloride	ug/L	8	0	0.50	0.50	All	0.50	NA
Chlorobenzene	ug/L	8	0	0.50	0.50	All	0.50	NA
Chloroethane	ug/L	8	0	0.50	0.50	All	0.50	NA
Chloroform	ug/L	8	0	0.50	0.50	All	0.50	NA
Chloromethane	ug/L	8	1	0.25	0.50	All (except R1AD1W)	0.47	NA
cis-1,3-Dichloropropene	ug/L	8	0	0.50	0.50	All	0.50	NA
Dibromochloromethane	ug/L	8	0	0.50	0.50	All	0.50	NA
Ethylbenzene	ug/L	8	0	0.50	0.50	All	0.50	NA
Methylene Chloride	ug/L	8	0	2.5	2.5	All	2.5	NA
Styrene (Monomer)	ug/L	8	0	0.50	0.50	All	0.50	NA
Tetrachloroethene	ug/L	8	0	0.50	0.50	All	0.50	NA
Toluene	ug/L	8	0	0.50	0.50	All	0.50	NA
trans-1,3-Dichloropropene	ug/L	8	0	0.50	0.50	All	0.50	NA
Trichloroethylene	ug/L	8	0	0.50	0.50	All	0.50	NA
Vinyl chloride	ug/L	8	0	0.50	0.50	All	0.50	NA
Xylenes, Total	ug/L	8	0	1.0	1.0	All	1.0	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/L	8	0	5.0	5.0	All	5.0	NA
1,2-Dichlorobenzene	ug/L	8	0	5.0	5.0	All	5.0	NA
1,3-Dichlorobenzene	ug/L	8	0	5.0	5.0	All	5.0	NA
1,4-Dichlorobenzene	ug/L	8	0	5.0	5.0	All	5.0	NA
2,2'-Oxybis(1-Chloropropane)	ug/L	8	0	5.0	5.0	All	5.0	NA
2,4,5-Trichlorophenol	ug/L	8	0	5.0	5.0	All	5.0	NA
2,4,6-Trichlorophenol	ug/L	8	0	5.0	5.0	All	5.0	NA
2,4-Dichlorophenol	ug/L	8	0	5.0	5.0	All	5.0	NA
2,4-Dimethylphenol	ug/L	8	0	5.0	5.0	All	5.0	NA
2,4-Dinitrophenol	ug/L	8	0	25	25	All	25	NA
2,4-Dinitrotoluene	ug/L	8	0	5.0	5.0	All	5.0	NA
2,6-Dinitrotoluene	ug/L	8	0	5.0	5.0	All	5.0	NA
2-Chloronaphthalene	ug/L	8	0	5.0	5.0	All	5.0	NA
2-Chlorophenol	ug/L	8	0	5.0	5.0	All	5.0	NA
2-Methylnaphthalene	ug/L	8	0	5.0	5.0	All	5.0	NA
2-Methylphenol (o-Cresol)	ug/L	8	0	5.0	5.0	All	5.0	NA
2-Nitroaniline	ug/L	8	0	25	25	All	25	NA
2-Nitrophenol	ug/L	8	0	5.0	5.0	All	5.0	NA
3,3'-Dichlorobenzidine	ug/L	8	0	10	10	All	10	NA
3/4-Methylphenol (m&p-Cresol)	ug/L	8	0	5.0	5.0	All	5.0	NA
3-Nitroaniline	ug/L	8	0	25	25	All	25	NA
4,6-Dinitro-2-methylphenol	ug/L	8	0	25	25	All	25	NA
4-Bromophenyl Phenyl Ether	ug/L	8	0	5.0	5.0	All	5.0	NA
4-Chloro-3-methylphenol	ug/L	8	0	5.0	5.0	All	5.0	NA
4-Chloroaniline	ug/L	8	0	10	10	All	10	NA
4-Chlorophenyl Phenyl Ether	ug/L	8	0	5.0	5.0	All	5.0	NA
4-Nitroaniline	ug/L	8	0	25	25	All	25	NA
4-Nitrophenol	ug/L	8	0	25	25	All	25	NA
Acenaphthene	ug/L	8	0	5.0	5.0	All	5.0	NA
Acenaphthylene	ug/L	8	0	5.0	5.0	All	5.0	NA
Anthracene	ug/L	8	0	5.0	5.0	All	5.0	NA

Table III-B8
Calculations for Risk Assessment Modeling
Upstream River (Plot 1 - A, B, C-Lines) Surface Water
Sauget, IL

Analyte	Units	Upstream River Surface Water (Plot 1 - A, B, & C-Lines)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Benzo(a)pyrene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Benzo(b)fluoranthene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Benzo(g,h,i)perylene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Benzo(k)fluoranthene	ug/L	8	0	5.0	5.0	AI	5.0	NA
bis(2-Chloroethoxy)methane	ug/L	8	0	5.0	5.0	AI	5.0	NA
bis(2-Chloroethyl)ether	ug/L	8	0	5.0	5.0	AI	5.0	NA
bis(2-Ethylhexyl)phthalate	ug/L	8		5.0	[illegible]	R1BMW	[illegible]	NA
Butyl Benzyl Phthalate	ug/L	8	0	5.0	5.0	AI	5.0	NA
Carbazole	ug/L	8	0	5.0	5.0	AI	5.0	NA
Chrysene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Dibenzo(a,h)anthracene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Dibenzofuran	ug/L	8	0	5.0	5.0	AI	5.0	NA
Diethyl Phthalate	ug/L	8	0	5.0	5.0	AI	5.0	NA
Dimethyl Phthalate	ug/L	8	0	5.0	5.0	AI	5.0	NA
Di-n-butylphthalate	ug/L	8	0	5.0	5.0	AI	5.0	NA
Di-n-octylphthalate	ug/L	8	0	5.0	5.0	AI	5.0	NA
Fluoranthene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Fluorene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Hexachlorobenzene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Hexachlorobutadiene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Hexachlorocyclopentadiene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Hexachloroethane	ug/L	8	0	5.0	5.0	AI	5.0	NA
Indeno(1,2,3-cd)pyrene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Isophorone	ug/L	8	0	5.0	5.0	AI	5.0	NA
Naphthalene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Nitrobenzene	ug/L	8	0	5.0	5.0	AI	5.0	NA
N-Nitroso-di-n-propylamine	ug/L	8	0	5.0	5.0	AI	5.0	NA
N-Nitrosodiphenylamine	ug/L	8	0	5.0	5.0	AI	5.0	NA
Pentachlorophenol	ug/L	8	1	0.30	0.30	AI (except R1CMW)	[illegible]	NA
Phenanthrene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Phenol	ug/L	8	0	5.0	5.0	AI	5.0	NA
Pyrene	ug/L	8	0	5.0	5.0	AI	5.0	NA
Pesticides								
4,4'-DDD	ug/L	8	1	0.050	0.050	AI	0.050	NA
4,4'-DDE	ug/L	8	0	0.050	0.050	AI	0.050	NA
4,4'-DDT	ug/L	8	1	0.050	0.050	AI	0.050	NA
Aldrin	ug/L	8	0	0.025	0.025	AI	0.025	NA
alpha-BHC	ug/L	8	0	0.025	0.025	AI	0.025	NA
alpha-Chlordane	ug/L	8	0	0.025	0.025	AI	0.025	NA
beta-BHC	ug/L	8	0	0.025	0.025	AI	0.025	NA
delta-BHC	ug/L	8	0	0.025	0.025	AI	0.025	NA
Dieldrin	ug/L	8	0	0.050	0.050	AI	0.050	NA
Endosulfan I	ug/L	8	1	0.025	0.025	AI	0.025	NA
Endosulfan II	ug/L	8	0	0.050	0.050	AI	0.050	NA
Endosulfan Sulfate	ug/L	8	0	0.050	0.050	AI	0.050	NA
Endrin	ug/L	8	0	0.050	0.050	AI	0.050	NA
Endrin Aldehyde	ug/L	8	0	0.050	0.050	AI	0.050	NA
Endrin Ketone	ug/L	8	6	0.015	0.050	R1AMW, R1BUW	0.026	NA
gamma-BHC (Lindane)	ug/L	8	0	0.025	0.025	AI	0.025	NA
gamma-Chlordane	ug/L	8	0	0.025	0.025	AI	0.025	NA
Heptachlor	ug/L	8	0	0.025	0.025	AI	0.025	NA
Heptachlor Epoxide	ug/L	8	0	0.025	0.025	AI	0.025	NA
Methoxychlor	ug/L	8	0	0.25	0.25	AI	0.25	NA
Toxaphene	ug/L	8	0	2.5	2.5	AI	2.5	NA
Herbicides								
2,4-D	ug/L	8	0	0.25	0.25	AI	0.25	NA
2,4-DB	ug/L	8	0	0.25	0.25	AI	0.25	NA
2,4,5-T	ug/L	8	0	0.25	0.25	AI	0.25	NA
2,4,5-TP (Silvex)	ug/L	8	0	0.25	0.25	AI	0.25	NA
Dalapon	ug/L	8	0	60	60	AI	60	NA
Dicamba	ug/L	8	0	0.60	0.60	AI	0.60	NA
Dichloroprop	ug/L	8	0	3.0	3.0	AI	3.0	NA
Dinoseb	ug/L	8	0	5.0	5.0	AI	5.0	NA
MCPA	ug/L	8	0	60	60	AI	60	NA
MCPP	ug/L	8	0	60	60	AI	60	NA

Table III-B8
Calculations for Risk Assessment Modeling
Upstream River (Plot 1 - A, B, C-Lines) Surface Water
Sauget, IL

Analyte	Units	Upstream River Surface Water (Plot 1 - A, B, & C-Lines)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/L	8	0	0.25	0.25	All	0.25	NA
Dioxins/Furans								
TEQ	ug/L	2	0	0.0000024	0.0000041	R1BM2W	0.0000032	NA
Metals								
Aluminum	mg/L	16	8	0.10	0.88	R1BD1W	0.40	NA
Antimony	mg/L	16	0	0.010	0.010	All	0.010	NA
Arsenic	mg/L	16	1	0.0050	0.050	R1AD1W-Filtered	0.0078	NA
Barium	mg/L	16	16	0.049	0.061	R1BD1W	0.054	NA
Beryllium	mg/L	16	0	0.0020	0.0020	All	0.0020	NA
Cadmium	mg/L	16	0	0.0025	0.0025	All	0.0025	NA
Calcium	mg/L	16	16	49	53	R1AM1W	50	NA
Chromium	mg/L	16	0	0.0050	0.0050	All	0.0050	NA
Cobalt	mg/L	16	1	0.0011	0.0050	All (except R1AM1W)	0.0048	NA
Copper	mg/L	16	0	0.010	0.010	All	0.010	NA
Iron	mg/L	16	15	0.022	1.1	R1AD1W, R1BD1W	0.50	NA
Lead	mg/L	16	0	0.0025	0.0025	All	0.0025	NA
Magnesium	mg/L	16	16	20	21	R1AD1W, R1AM1W, R1BD1W, R1CM1W	20	NA
Manganese	mg/L	16	8	0.0050	0.084	R1AM1W, R1BD1W	0.043	NA
Mercury	mg/L	16	0	0.00010	0.00010	All	0.00010	NA
Nickel	mg/L	16	0	0.020	0.020	All	0.020	NA
Potassium	mg/L	16	16	3.1	3.5	R1AD1W, R1AM1W, R1BD1W	3.3	NA
Selenium	mg/L	16	0	0.0050	0.0050	All	0.0050	NA
Silver	mg/L	16	0	0.0050	0.0050	All	0.0050	NA
Sodium	mg/L	16	16	17	20	R1BU1W, R1BU1W-Filtered	18	NA
Thallium	mg/L	16	1	0.0050	0.0052	R1CM1W	0.0050	NA
Vanadium	mg/L	16	6	0.0013	0.0050	All (except R1AD1W-Filtered, R1AM1W-Filtered, R1BM1W-Filtered, R1BU1W, R1BU1W-Filtered, R1CM1W-Filtered)	0.0038	NA
Zinc	mg/L	16	1	0.0046	0.010	All (except R1BU1W)	0.0097	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B8
Calculations for Risk Assessment Modeling
Adjacent River (Plots 2-5 - A, B C-Lines) Surface Water
Sauget, IL

Analyte	Units	Adjacent River Surface Water (Plots 2-5 - A, B, & C-Lines)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/L	32	0	0.50	0.50	All	0.50	NA
1,1,2,2-Tetrachloroethane	ug/L	32	0	0.50	0.50	All	0.50	NA
1,1,2-Trichloroethane	ug/L	32	0	0.50	0.50	All	0.50	NA
1,1-Dichloroethane	ug/L	32	0	0.50	0.50	All	0.50	NA
1,1-Dichloroethylene	ug/L	32	3	0.50	0.50	All (except R4BD1W, R4BU1W, R4CM1W)	0.49	0.50
1,2-Dichloroethane	ug/L	32	11	0.13	0.71	R3AU1W	0.44	0.48
1,2-Dichloroethene, total	ug/L	32	3	0.22	1.0	All (except R3AU1W, R3BM1W, R3BN1W)	0.93	1.0
1,2-Dichloropropane	ug/L	32	0	0.50	0.50	All	0.50	NA
2-Butanone (MEK)	ug/L	32	0	5.0	5.0	All	5.0	NA
2-Hexanone	ug/L	32	1	0.33	5.0	All (except R3CM1W)	4.9	5.1
4-Methyl-2-pentanone (MIBK)	ug/L	32	1	3.9	5.0	All (except R3AU1W)	5.0	5.0
Acetone	ug/L	32	1	13	47	R4AU1W	13	15
Benzene	ug/L	32	11	0.23	4.5	R3AU1W	0.58	0.83
Bromodichloromethane	ug/L	32	0	0.50	0.50	All	0.50	NA
Bromoform	ug/L	32	0	0.50	0.50	All	0.50	NA
Bromomethane	ug/L	32	0	0.50	0.50	All	0.50	NA
Carbon Disulfide	ug/L	32	5	0.28	0.69	R3CM1W	0.48	0.51
Carbon Tetrachloride	ug/L	32	1	0.17	0.50	All (except R3AU1W)	0.49	0.51
Chlorobenzene	ug/L	32	23	0.50	56	R3AU1W	3.6	7.0
Chloroethane	ug/L	32	0	0.50	0.50	All	0.50	NA
Chloroform	ug/L	32	0	0.50	0.50	All	0.50	NA
Chloromethane	ug/L	32	5	0.28	0.96	R4AU1W	0.50	0.54
cis-1,3-Dichloropropene	ug/L	32	0	0.50	0.50	All	0.50	NA
Dibromochloromethane	ug/L	32	0	0.50	0.50	All	0.50	NA
Ethylbenzene	ug/L	32	1	0.50	13	R3AU1W	0.55	0.57
Methylene Chloride	ug/L	32	1	2.5	2.5	All	2.5	NA
Styrene, Monomer	ug/L	32	0	0.50	0.50	All	0.50	NA
Tetrachloroethene	ug/L	32	1	0.45	0.50	All (except R4CM1W)	0.50	0.50
Toluene	ug/L	32	9	0.28	4.5	R3AU1W	0.64	0.88
trans-1,3-Dichloropropene	ug/L	32	0	0.50	0.50	All	0.50	NA
Trichloroethylene	ug/L	32	1	0.50	0.51	R3BM1W	0.50	0.51
Vinyl chloride	ug/L	32	0	0.50	0.50	All	0.50	NA
Xylenes, Total	ug/L	32	3	0.20	3.2	R3AU1W	1.0	1.2
SVOCs								
1,2,4-Trichlorobenzene	ug/L	32	0	5.0	5.0	All	5.0	NA
1,2-Dichlorobenzene	ug/L	32	1	1.2	40	R3AU1W	6.0	8.1
1,3-Dichlorobenzene	ug/L	32	0	5.0	5.0	All	5.0	NA
1,4-Dichlorobenzene	ug/L	32	1	3.9	5.0	All (except R3AU1W)	5.0	5.0
2,2'-Oxybis(1-Chloropropane)	ug/L	32	0	5.0	5.0	All	5.0	NA
2,4,5-Trichlorophenol	ug/L	32	0	5.0	5.0	All	5.0	NA
2,4,6-Trichlorophenol	ug/L	32	1	5.0	17	R3AU1W	5.4	6.1
2,4-Dichlorophenol	ug/L	32	11	1.2	66	R3AU1W	6.1	10
2,4-Dimethylphenol	ug/L	32	1	5.0	83	R3AU1W	5.1	5.3
2,4-Dinitrophenol	ug/L	32	0	25	25	All	25	NA
2,4-Dinitrotoluene	ug/L	32	0	5.0	5.0	All	5.0	NA
2,6-Dinitrotoluene	ug/L	32	1	5.0	17	R4CM1W	5.4	6.1
2-Chloronaphthalene	ug/L	32	0	5.0	5.0	All	5.0	NA
2-Chlorophenol	ug/L	32	6	1.4	31	R3AU1W	5.3	7.0
2-Methylnaphthalene	ug/L	32	0	5.0	5.0	All	5.0	NA
2-Methylphenol (o-Cresol)	ug/L	32	0	5.0	5.0	All	5.0	NA
2-Nitroaniline	ug/L	32	0	25	25	All	25	NA
2-Nitrophenol	ug/L	32	0	5.0	5.0	All	5.0	NA
3,3'-Dichlorobenzidine	ug/L	32	0	10	10	All	10	NA
3/4-Methylphenol (m&p-Cresol)	ug/L	32	2	1.3	17	R3AU1W	5.6	6.9
3-Nitroaniline	ug/L	32	0	25	25	All	25	NA
4,6-Dinitro-2-methylphenol	ug/L	32	0	25	25	All	25	NA
4-Bromophenyl Phenyl Ether	ug/L	32	0	5.0	5.0	All	5.0	NA
4-Chloro-3-methylphenol	ug/L	32	0	5.0	5.0	All	5.0	NA
4-Chloroaniline	ug/L	32	17	1.2	160	R3AU1W	12	22
4-Chlorophenyl Phenyl Ether	ug/L	32	0	5.0	5.0	All	5.0	NA
4-Nitroaniline	ug/L	32	0	25	25	All	25	NA
4-Nitrophenol	ug/L	32	0	25	25	All	25	NA
Acenaphthene	ug/L	32	0	5.0	5.0	All	5.0	NA
Acenaphthylene	ug/L	32	0	5.0	5.0	All	5.0	NA
Anthracene	ug/L	32	0	5.0	5.0	All	5.0	NA

Table III-B8
Calculations for Risk Assessment Modeling
Adjacent River (Plots 2-5 - A, B C-Lines) Surface Water
Sauget, IL

Analyte	Units	Adjacent River Surface Water (Plots 2-5 - A, B, & C-Lines)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/L	32	0	5.0	5.0	All	5.0	NA
Benzo(a)pyrene	ug/L	32	0	5.0	5.0	All	5.0	NA
Benzo(b)fluoranthene	ug/L	32	0	5.0	5.0	All	5.0	NA
Benzo(g,h,i)perylene	ug/L	32	0	5.0	5.0	All	5.0	NA
Benzo(k)fluoranthene	ug/L	32	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethoxy)methane	ug/L	32	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethyl)ether	ug/L	32	0	5.0	5.0	All	5.0	NA
bis(2-Ethylhexyl)phthalate	ug/L	32	0	5.0	5.0	All	5.0	NA
Butyl Benzyl Phthalate	ug/L	32	0	5.0	5.0	All	5.0	NA
Carbazole	ug/L	32	0	5.0	5.0	All	5.0	NA
Chrysene	ug/L	32	0	5.0	5.0	All	5.0	NA
Dibenzo(a,h)anthracene	ug/L	32	0	5.0	5.0	All	5.0	NA
Dibenzofuran	ug/L	32	0	5.0	5.0	All	5.0	NA
Diethyl Phthalate	ug/L	32	0	5.0	5.0	All	5.0	NA
Dimethyl Phthalate	ug/L	32	0	5.0	5.0	All	5.0	NA
Di-n-butylphthalate	ug/L	32	0	5.0	5.0	All	5.0	NA
Di-n-octylphthalate	ug/L	32	0	5.0	5.0	All	5.0	NA
Fluoranthene	ug/L	32	0	5.0	5.0	All	5.0	NA
Fluorene	ug/L	32	0	5.0	5.0	All	5.0	NA
Hexachlorobenzene	ug/L	32	0	5.0	5.0	All	5.0	NA
Hexachlorobutadiene	ug/L	32	0	5.0	5.0	All	5.0	NA
Hexachlorocyclopentadiene	ug/L	32	0	5.0	5.0	All	5.0	NA
Hexachloroethane	ug/L	32	0	5.0	5.0	All	5.0	NA
Indeno(1,2,3-cd)pyrene	ug/L	32	0	5.0	5.0	All	5.0	NA
Isophorone	ug/L	32	0	5.0	5.0	All	5.0	NA
Naphthalene	ug/L	32	1	5.0	21	R3AU1W	5.5	6.5
Nitrobenzene	ug/L	32	1	2.5	5.0	All (except R3AU1W)	4.9	5.1
N-Nitroso-di-n-propylamine	ug/L	32	0	5.0	5.0	All	5.0	NA
N-Nitrosodiphenylamine	ug/L	32	0	5.0	5.0	All	5.0	NA
Pentachlorophenol	ug/L	32	1	0.50	1.9	R3AU1W	0.54	0.63
Phenanthrene	ug/L	32	0	5.0	5.0	All	5.0	NA
Phenol	ug/L	32	9	3.1	14	R3BM1W	5.7	6.4
Pyrene	ug/L	32	0	5.0	5.0	All	5.0	NA
Pesticides								
4,4'-DDD	ug/L	31	0	0.050	0.050	All	0.050	NA
4,4'-DDE	ug/L	31	0	0.050	0.050	All	0.050	NA
4,4'-DDT	ug/L	31	0	0.050	0.050	All	0.050	NA
Aldrin	ug/L	31	0	0.025	0.025	All	0.025	NA
alpha-BHC	ug/L	31	0	0.025	0.025	All	0.025	NA
alpha-Chlordane	ug/L	31	0	0.025	0.025	All	0.025	NA
beta-BHC	ug/L	31	2	0.0080	0.025	All (except R3AD1W, R3BM1W)	0.024	0.025
delta-BHC	ug/L	31	0	0.025	0.025	All	0.025	NA
Dieldrin	ug/L	31	0	0.050	0.050	All	0.050	NA
Endosulfan I	ug/L	31	0	0.025	0.025	All	0.025	NA
Endosulfan II	ug/L	31	0	0.050	0.050	All	0.050	NA
Endosulfan Sulfate	ug/L	31	0	0.050	0.050	All	0.050	NA
Endrin	ug/L	31	0	0.050	0.050	All	0.050	NA
Endrin Aldehyde	ug/L	31	0	0.050	0.050	All	0.050	NA
Endrin Ketone	ug/L	31	2	0.019	0.050	All (except R2BU1W, R5AN1W)	0.048	0.051
gamma-BHC (Lindane)	ug/L	31	0	0.025	0.025	All	0.025	NA
gamma-Chlordane	ug/L	31	0	0.025	0.025	All	0.025	NA
Heptachlor	ug/L	31	0	0.025	0.025	All	0.025	NA
Heptachlor Epoxide	ug/L	31	0	0.025	0.025	All	0.025	NA
Methoxychlor	ug/L	31	0	0.25	0.25	All	0.25	NA
Toxaphene	ug/L	31	0	2.5	2.5	All	2.5	NA
Herbicides								
2,4-D	ug/L	32	19	0.25	29	R3AU1W	2.2	4.0
2,4-DB	ug/L	32	0	0.25	0.25	All	0.25	NA
2,4,5-T	ug/L	32	1	0.25	0.30	R3AU1W	0.25	0.25
2,4,5-TP (Silvex)	ug/L	32	0	0.25	0.25	All	0.25	NA
Dalapon	ug/L	32	0	60	60	All	60	NA
Dicamba	ug/L	32	0	0.60	0.60	All	0.60	NA
Dichlorprop	ug/L	32	12	0.11	3.0	(a)	2.2	2.6
Dinoseb	ug/L	32	0	5.0	5.0	All	5.0	NA
MCPA	ug/L	32	1	31	60	All (except R5BM1W)	59	61
MCPP	ug/L	32	1	53	60	All (except R5BM1W)	60	60

Table III-B8
Calculations for Risk Assessment Modeling
Adjacent River (Plots 2-5 - A, B C-Lines) Surface Water
Sauget, IL

Analyte	Units	Adjacent River Surface Water (Plots 2-5 - A, B, & C-Lines)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/L	32	0	0.25	0.25	AL	0.25	NA
Dioxins/Furans								
TEQ	ug/L	4	2	0.0000014	0.0000025	R2BM1W	0.0000021	NA
Metals								
Aluminum	mg/L	64	35	0.0079	1.6	R2AM2W	0.42	0.51
Antimony	mg/L	64	0	0.010	0.010	AL	0.010	NA
Arsenic	mg/L	64	5	0.0032	0.050	All except R3BD1W, R4AU1W, R5AN1W, R5BN1W, R5BN1W-Filtered	0.0057	0.0071
Barium	mg/L	64	64	0.049	0.165	R3AU1W, R3BD1W, R4AM1W	0.056	0.058
Beryllium	mg/L	64	0	0.0025	0.0025	AL	0.0025	NA
Cadmium	mg/L	64	0	0.0025	0.0025	AL	0.0025	NA
Calcium	mg/L	64	64	49	54	R3AD1W, R3BD1W, R4AM1W	52	52
Chromium	mg/L	64	0	0.0050	0.0050	AL	0.0050	NA
Cobalt	mg/L	64	9	0.00075	0.010	R3CM1W	0.0045	0.0049
Copper	mg/L	64	1	0.0050	0.039	R3CM1W	0.010	0.011
Iron	mg/L	64	52	0.022	1.4	R4AD1W	0.54	0.67
Lead	mg/L	64	5	0.0025	0.0049	R4BM1W	0.0026	0.0027
Magnesium	mg/L	64	64	19	22	R3AD1W, R3BD1W, R4BM1W-Filtered, R4BU1W	21	21
Manganese	mg/L	64	32	0.0014	0.14	R3AU1W	0.046	0.056
Mercury	mg/L	64	6	0.000080	0.00020	R5BD1W	0.00010	0.00011
Nickel	mg/L	64	0	0.020	0.020	AL	0.020	NA
Potassium	mg/L	64	64	3.1	3.7	R3AD1W, R3BD1W, R4BU1W	3.4	3.5
Selenium	mg/L	64	0	0.0050	0.0050	AL	0.0050	NA
Silver	mg/L	64	2	0.00084	0.0050	All (except R2BU1W-Filtered, R5BM1W	0.0049	0.0050
Sodium	mg/L	64	64	18	24	R3AU1W, R3AU1W-Filtered	21	20.9
Thallium	mg/L	64	0	0.0050	0.0050	AL	0.0050	NA
Vanadium	mg/L	64	4	0.0012	0.010	R2BU1W-Filtered	0.0049	0.0051
Zinc	mg/L	64	11	0.0035	0.041	R4BU1W	0.011	0.012

NOTES
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.
a = All samples except for the following: R3AD1W, R3AM1W, R3AU1W, R3BD1W, R3BM1W, R3BU1W, R4AD1W, R4AM1W, R4AU1W, R4BM1W, R4BU1W, and R5AM1W

Table III-B8
Calculations for Risk Assessment Modeling
Downstream River (Plot 6 - A, B C-Lines) Surface Water
Sauget, IL

Analyte	Units	Downstream River Surface Water (Plot 6 - A, B, & C-Lines)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
VOCs								
1,1,1-Trichloroethane	ug/L	7	0	0.50	0.50	All	0.50	NA
1,1,2,2-Tetrachloroethane	ug/L	7	0	0.50	0.50	All	0.50	NA
1,1,2-Trichloroethane	ug/L	7	0	0.50	0.50	All	0.50	NA
1,1-Dichloroethane	ug/L	7	0	0.50	0.50	All	0.50	NA
1,1-Dichloroethylene	ug/L	7	0	0.50	0.50	All	0.50	NA
1,2-Dichloroethane	ug/L	7	0	0.50	0.50	All	0.50	NA
1,2-Dichloroethene (total)	ug/L	7	0	1.0	1.0	All	1.0	NA
1,2-Dichloropropane	ug/L	7	0	0.50	0.50	All	0.50	NA
2-Butanone (MEK)	ug/L	7	0	5.0	5.0	All	5.0	NA
2-Hexanone	ug/L	7	0	5.0	5.0	All	5.0	NA
4-Methyl-2-pentanone (MIBK)	ug/L	7	0	5.0	5.0	All	5.0	NA
Acetone	ug/L	7	0	13	13	All	13	NA
Benzene	ug/L	7	3	0.19	0.50	R6AD1W,R6AU1W, R6BU1W, R6CM1W	0.39	NA
Bromodichloromethane	ug/L	7	0	0.50	0.50	All	0.50	NA
Bromoform	ug/L	7	0	0.50	0.50	All	0.50	NA
Bromomethane	ug/L	7	0	0.50	0.50	All	0.50	NA
Carbon Disulfide	ug/L	7	0	0.50	0.50	All	0.50	NA
Carbon Tetrachloride	ug/L	7	0	0.50	0.50	All	0.50	NA
Chlorobenzene	ug/L	7	5	0.50	2.3	R6AM1W	1.2	NA
Chloroethane	ug/L	7	0	0.50	0.50	All	0.50	NA
Chloroform	ug/L	7	0	0.50	0.50	All	0.50	NA
Chloromethane	ug/L	7	0	0.50	0.50	All	0.50	NA
cis-1,3-Dichloropropene	ug/L	7	0	0.50	0.50	All	0.50	NA
Dibromochloromethane	ug/L	7	0	0.50	0.50	All	0.50	NA
Ethylbenzene	ug/L	7	0	0.50	0.50	All	0.50	NA
Methylene Chloride	ug/L	7	0	2.5	2.5	All	2.5	NA
Styrene (Monomer)	ug/L	7	0	0.50	0.50	All	0.50	NA
Tetrachloroethene	ug/L	7	0	0.50	0.50	All	0.50	NA
Toluene	ug/L	7	1	0.45	0.50	All (except R6AM1W)	0.49	NA
trans-1,3-Dichloropropene	ug/L	7	0	0.50	0.50	All	0.50	NA
Trichloroethylene	ug/L	7	0	0.50	0.50	All	0.50	NA
Vinyl chloride	ug/L	7	0	0.50	0.50	All	0.50	NA
Xylenes, Total	ug/L	7	0	1.0	1.0	All	1.0	NA
SVOCs								
1,2,4-Trichlorobenzene	ug/L	7	0	5.0	5.0	All	5.0	NA
1,2-Dichlorobenzene	ug/L	7	0	5.0	5.0	All	5.0	NA
1,3-Dichlorobenzene	ug/L	7	0	5.0	5.0	All	5.0	NA
1,4-Dichlorobenzene	ug/L	7	0	5.0	5.0	All	5.0	NA
2,2'-Oxybis(1-Chloropropane)	ug/L	7	0	5.0	5.0	All	5.0	NA
2,4,5-Trichlorophenol	ug/L	7	0	5.0	5.0	All	5.0	NA
2,4,6-Trichlorophenol	ug/L	7	0	5.0	5.0	All	5.0	NA
2,4-Dichlorophenol	ug/L	7	0	5.0	5.0	All	5.0	NA
2,4-Dimethylphenol	ug/L	7	0	5.0	5.0	All	5.0	NA
2,4-Dinitrophenol	ug/L	7	0	25	25	All	25	NA
2,4-Dinitrotoluene	ug/L	7	0	5.0	5.0	All	5.0	NA
2,6-Dinitrotoluene	ug/L	7	0	5.0	5.0	All	5.0	NA
2-Chloronaphthalene	ug/L	7	0	5.0	5.0	All	5.0	NA
2-Chlorophenol	ug/L	7	0	5.0	5.0	All	5.0	NA
2-Methylnaphthalene	ug/L	7	0	5.0	5.0	All	5.0	NA
2-Methylphenol (o-Cresol)	ug/L	7	0	5.0	5.0	All	5.0	NA
2-Nitroaniline	ug/L	7	0	25	25	All	25	NA
2-Nitrophenol	ug/L	7	0	5.0	5.0	All	5.0	NA
3,3'-Dichlorobenzidine	ug/L	7	0	10	10	All	10	NA
3/4-Methylphenol (m&p-Cresol)	ug/L	7	0	5.0	5.0	All	5.0	NA
3-Nitroaniline	ug/L	7	0	25	25	All	25	NA
4,6-Dinitro-2-methylphenol	ug/L	7	0	25	25	All	25	NA
4-Bromophenyl Phenyl Ether	ug/L	7	0	5.0	5.0	All	5.0	NA
4-Chloro-3-methylphenol	ug/L	7	0	5.0	5.0	All	5.0	NA
4-Chloroaniline	ug/L	7	0	10	10	All	10	NA
4-Chlorophenyl Phenyl Ether	ug/L	7	0	5.0	5.0	All	5.0	NA
4-Nitroaniline	ug/L	7	0	25	25	All	25	NA
4-Nitrophenol	ug/L	7	0	25	25	All	25	NA
Acenaphthene	ug/L	7	0	5.0	5.0	All	5.0	NA
Acenaphthylene	ug/L	7	0	5.0	5.0	All	5.0	NA
Anthracene	ug/L	7	0	5.0	5.0	All	5.0	NA

Table III-B8
Calculations for Risk Assessment Modeling
Downstream River (Plot 6 - A, B C-Lines) Surface Water
Sauget, IL

Analyte	Units	Downstream River Surface Water (Plot 6 - A, B, & C-Lines)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
Benzo(a)anthracene	ug/L	-	0	5.0	5.0	All	5.0	NA
Benzo(a)pyrene	ug/L	-	0	5.0	5.0	All	5.0	NA
Benzo(b)fluoranthene	ug/L	-	0	5.0	5.0	All	5.0	NA
Benzo(g,h,i)perylene	ug/L	-	0	5.0	5.0	All	5.0	NA
Benzo(k)fluoranthene	ug/L	-	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethoxy)methane	ug/L	-	0	5.0	5.0	All	5.0	NA
bis(2-Chloroethyl)ether	ug/L	-	0	5.0	5.0	All	5.0	NA
bis(2-Ethylhexyl)phthalate	ug/L	-	1	1.7	5.0	All except R6CM:W	4.5	NA
Butyl Benzyl Phthalate	ug/L	-	0	5.0	5.0	All	5.0	NA
Carbazole	ug/L	-	0	5.0	5.0	All	5.0	NA
Chrysene	ug/L	-	0	5.0	5.0	All	5.0	NA
Dibenzo(a,h)anthracene	ug/L	-	0	5.0	5.0	All	5.0	NA
Dibenzofuran	ug/L	-	0	5.0	5.0	All	5.0	NA
Diethyl Phthalate	ug/L	-	0	5.0	5.0	All	5.0	NA
Dimethyl Phthalate	ug/L	-	0	5.0	5.0	All	5.0	NA
Di-n-butylphthalate	ug/L	-	0	5.0	5.0	All	5.0	NA
Di-n-octylphthalate	ug/L	-	0	5.0	5.0	All	5.0	NA
Fluoranthene	ug/L	-	0	5.0	5.0	All	5.0	NA
Fluorene	ug/L	-	0	5.0	5.0	All	5.0	NA
Hexachlorobenzene	ug/L	-	0	5.0	5.0	All	5.0	NA
Hexachlorobutadiene	ug/L	-	0	5.0	5.0	All	5.0	NA
Hexachlorocyclopentadiene	ug/L	-	0	5.0	5.0	All	5.0	NA
Hexachloroethane	ug/L	-	0	5.0	5.0	All	5.0	NA
Indeno(1,2,3-cd)pyrene	ug/L	-	0	5.0	5.0	All	5.0	NA
Isophorone	ug/L	-	0	5.0	5.0	All	5.0	NA
Naphthalene	ug/L	-	0	5.0	5.0	All	5.0	NA
Nitrobenzene	ug/L	-	0	5.0	5.0	All	5.0	NA
N-Nitroso-di-n-propylamine	ug/L	-	0	5.0	5.0	All	5.0	NA
N-Nitrosodiphenylamine	ug/L	-	0	5.0	5.0	All	5.0	NA
Pentachlorophenol	ug/L	-	0	0.50	0.50	All	0.50	NA
Phenanthrene	ug/L	-	0	5.0	5.0	All	5.0	NA
Phenol	ug/L	-	1	1.0	5.0	All except R6BU:W	4.4	NA
Pyrene	ug/L	-	0	5.0	5.0	All	5.0	NA
Pesticides								
4,4'-DDD	ug/L	-	0	0.050	0.050	All	0.050	NA
4,4'-DDE	ug/L	-	0	0.050	0.050	All	0.050	NA
4,4'-DDT	ug/L	-	0	0.050	0.050	All	0.050	NA
Aldrin	ug/L	-	0	0.025	0.025	All	0.025	NA
alpha-BHC	ug/L	-	0	0.025	0.025	All	0.025	NA
alpha-Chlordane	ug/L	-	0	0.025	0.025	All	0.025	NA
beta-BHC	ug/L	-	0	0.025	0.025	All	0.025	NA
delta-BHC	ug/L	-	0	0.025	0.025	All	0.025	NA
Dieldrin	ug/L	-	0	0.050	0.050	All	0.050	NA
Endosulfan I	ug/L	-	0	0.025	0.025	All	0.025	NA
Endosulfan II	ug/L	-	0	0.050	0.050	All	0.050	NA
Endosulfan Sulfate	ug/L	-	0	0.050	0.050	All	0.050	NA
Endrin	ug/L	-	0	0.050	0.050	All	0.050	NA
Endrin Aldehyde	ug/L	-	0	0.050	0.050	All	0.050	NA
Endrin Ketone	ug/L	-	0	0.050	0.050	All	0.050	NA
gamma-BHC (Lindane)	ug/L	-	0	0.025	0.025	All	0.025	NA
gamma-Chlordane	ug/L	-	0	0.025	0.025	All	0.025	NA
Heptachlor	ug/L	-	0	0.025	0.025	All	0.025	NA
Heptachlor Epoxide	ug/L	-	0	0.025	0.025	All	0.025	NA
Methoxychlor	ug/L	-	0	0.25	0.25	All	0.25	NA
Toxaphene	ug/L	-	0	2.5	2.5	All	2.5	NA
Herbicides								
2,4-D	ug/L	-	4	0.25	1.0	R6AM:W	0.81	NA
2,4-DB	ug/L	-	0	0.25	0.25	All	0.25	NA
2,4,5-T	ug/L	-	0	0.25	0.25	All	0.25	NA
2,4,5-TP (Silvex)	ug/L	-	0	0.25	0.25	All	0.25	NA
Dalapon	ug/L	-	0	60	60	All	60	NA
Dicamba	ug/L	-	0	0.60	0.60	All	0.60	NA
Dichloroprop	ug/L	-	0	30	30	All	30	NA
Dinoseb	ug/L	-	0	5.0	5.0	All	5.0	NA
MCPA	ug/L	-	0	60	60	All	60	NA
MCPP	ug/L	-	0	60	60	All	60	NA

Table III-B8
Calculations for Risk Assessment Modeling
Downstream River (Plot 6 - A, B C-Lines) Surface Water
Sauget, IL

Analyte	Units	Downstream River Surface Water (Plot 6 - A, B, & C-Lines)						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
PCBs								
Total PCBs	ug/L	7	0	0.25	0.25	All	0.25	NA
Dioxins/Furans								
TEQ	ug/L	1	0	0.0000027	0.0000027	R6BM1W	0.0000027	NA
Metals								
Aluminum	mg/L	14	6	0.010	1.1	R6AU1W	0.45	NA
Antimony	mg/L	14	1	0.0051	0.010	All (except R6AU1W)	0.010	NA
Arsenic	mg/L	14	3	0.0031	0.0053	R6AU1W	0.0048	NA
Barium	mg/L	14	14	0.050	0.063	R6BM1W	0.056	NA
Beryllium	mg/L	14	0	0.0020	0.0020	All	0.0020	NA
Cadmium	mg/L	14	0	0.0025	0.0025	All	0.0025	NA
Calcium	mg/L	14	14	46	51	R6BM1W	49	NA
Chromium	mg/L	14	0	0.0050	0.0050	All	0.0050	NA
Cobalt	mg/L	14	3	0.00076	0.0050	All (except R6AD1W, R6AM1W, R6BM1W)	0.0041	NA
Copper	mg/L	14	1	0.0025	0.010	All (except R6AD1W)	0.0095	NA
Iron	mg/L	14	14	0.051	1.4	R6AU1W	0.59	NA
Lead	mg/L	14	0	0.0025	0.0025	All	0.0025	NA
Magnesium	mg/L	14	14	18	20	R6AM2W-Filtered, R6BM1W, R6BM1W-Filtered, R6CM1W))	19	NA
Manganese	mg/L	14	7	0.0050	0.093	R6AM2W-Filtered)	0.045	NA
Mercury	mg/L	14	0	0.00010	0.00010	All	0.00010	NA
Nickel	mg/L	14	0	0.020	0.020	All	0.020	NA
Potassium	mg/L	14	14	3.4	3.7	R6BM1W	3.5	NA
Selenium	mg/L	14	0	0.0050	0.0050	All	0.0050	NA
Silver	mg/L	14	0	0.0050	0.0050	All	0.0050	NA
Sodium	mg/L	14	14	18	20	R6AD1W-Filtered	19	NA
Thallium	mg/L	14	0	0.0050	0.0050	All	0.0050	NA
Vanadium	mg/L	14	2	0.0019	0.0050	All (except R6AD1W & R6AD1W-Filtered)	0.0047	NA
Zinc	mg/L	14	9	0.0033	0.010	R6AM1W-Filtered,R6AU1W-Filtered, R6BM1W-Filtered, R6BU1W-Filtered, R6CM1W-Filtered	0.0069	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B9
Calculations for Risk Assessment Modeling
Upstream River Whole-Body Fish Tissue (Mink Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Upstream Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	3	1	255	255	All	255	NA
1,2-Dichlorobenzene	ug/kg	3	1	255	255	All	255	NA
1,3-Dichlorobenzene	ug/kg	3	1	255	255	All	255	NA
1,4-Dichlorobenzene	ug/kg	3	1	255	255	All	255	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	3	1	255	255	All	255	NA
2,4,5-Trichlorophenol	ug/kg	3	1	255	255	All	255	NA
2,4,6-Trichlorophenol	ug/kg	3	1	255	255	All	255	NA
2,4-Dichlorophenol	ug/kg	3	1	255	255	All	255	NA
2,4-Dimethylphenol	ug/kg	3	1	255	255	All	255	NA
2,4-Dinitrophenol	ug/kg	3	1	1250	1250	All	1250	NA
2,4-Dinitrotoluene	ug/kg	3	1	255	255	All	255	NA
2,6-Dinitrotoluene	ug/kg	3	1	255	255	All	255	NA
2-Chloronaphthalene	ug/kg	3	1	255	255	All	255	NA
2-Chlorophenol	ug/kg	3	1	255	255	All	255	NA
2-Methylnaphthalene	ug/kg	3	1	255	255	All	255	NA
2-Methylphenol (o-Cresol)	ug/kg	3	1	111	255	All except 15	217	NA
2-Nitroaniline	ug/kg	3	1	1250	1250	All	1250	NA
2-Nitrophenol	ug/kg	3	1	255	255	All	255	NA
3,3'-Dichlorobenzidine	ug/kg	3	1	1000	1000	All	1000	NA
3+4-Methylphenol (m&p-Cresol)	ug/kg	3	1	255	255	All	255	NA
3-Nitroaniline	ug/kg	3	1	1250	1250	All	1250	NA
4,6-Dinitro-2-methylphenol	ug/kg	3	1	1250	1250	All	1250	NA
4-Bromophenyl Phenyl Ether	ug/kg	3	1	255	255	All	255	NA
4-Chloro-3-methylphenol	ug/kg	3	1	255	255	All	255	NA
4-Chloroaniline	ug/kg	3	1	495	495	All	495	NA
4-Chlorophenyl Phenyl Ether	ug/kg	3	1	255	255	All	255	NA
4-Nitroaniline	ug/kg	3	1	1250	1250	All	1250	NA
4-Nitrophenol	ug/kg	3	1	1250	1250	All	1250	NA
Acenaphthene	ug/kg	3	1	255	255	All	255	NA
Acenaphthylene	ug/kg	3	1	255	255	All	255	NA
Anthracene	ug/kg	3	1	255	255	All	255	NA
Benzo(a)anthracene	ug/kg	3	1	255	255	All	255	NA
Benzo(a)pyrene	ug/kg	3	1	255	255	All	255	NA
Benzo(b)fluoranthene	ug/kg	3	1	255	255	All	255	NA
Benzo(g,h,i)perylene	ug/kg	3	1	255	255	All	255	NA
Benzo(k)fluoranthene	ug/kg	3	1	255	255	All	255	NA
bis(2-Chloroethoxy)methane	ug/kg	3	1	255	255	All	255	NA
bis(2-Chloroethyl)ether	ug/kg	3	1	255	255	All	255	NA
bis(2-Ethylhexyl)phthalate	ug/kg	3	1	255	255	All	255	NA
Butyl Benzyl Phthalate	ug/kg	3	1	255	255	All	255	NA
Carbazole	ug/kg	3	1	255	255	All	255	NA
Chrysene	ug/kg	3	1	255	255	All	255	NA
Dibenzo(a,h)anthracene	ug/kg	3	1	255	255	All	255	NA
Dibenzofuran	ug/kg	3	1	255	255	All	255	NA
Diethyl Phthalate	ug/kg	3	1	111	255	All except 14	217	NA
Dimethyl Phthalate	ug/kg	3	1	255	255	All	255	NA
Di-n-butylphthalate	ug/kg	3	1	255	255	All	255	NA
Di-n-octylphthalate	ug/kg	3	1	255	255	All	255	NA
Fluoranthene	ug/kg	3	1	255	255	All	255	NA
Fluorene	ug/kg	3	1	255	255	All	255	NA
Hexachlorobenzene	ug/kg	3	1	255	255	All	255	NA
Hexachlorobutadiene	ug/kg	3	1	255	255	All	255	NA
Hexachlorocyclopentadiene	ug/kg	3	1	255	255	All	255	NA
Hexachloroethane	ug/kg	3	1	255	255	All	255	NA
Indeno(1,2,3-cd)pyrene	ug/kg	3	1	255	255	All	255	NA
Isophorone	ug/kg	3	1	255	255	All	255	NA
Naphthalene	ug/kg	3	1	255	255	All	255	NA
Nitrobenzene	ug/kg	3	1	255	255	All	255	NA
N-Nitroso-di-n-propylamine	ug/kg	3	1	255	255	All	255	NA
N-Nitrosodiphenylamine	ug/kg	3	1	255	255	All	255	NA
Pentachlorophenol	ug/kg	3	1	1250	1250	All	1250	NA
Phenanthrene	ug/kg	3	1	255	255	All	255	NA
Phenol	ug/kg	3	1	255	255	All	255	NA
Pyrene	ug/kg	3	1	255	255	All	255	NA

Table III-B9
Calculations for Risk Assessment Modeling
Upstream River Whole-Body Fish Tissue (Mink Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Upstream Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	3	0	13	25	13	17	NA
4,4'-DDE	ug/kg	3	2	13	25	13	21	NA
4,4'-DDT	ug/kg	3	1	7.6	25	13	15	NA
Aldrin	ug/kg	3	0	13	25	13	17	NA
alpha-BHC	ug/kg	3	0	13	25	13	17	NA
alpha-Chlordane	ug/kg	3	0	13	25	13	17	NA
beta-BHC	ug/kg	3	0	13	25	13	17	NA
delta-BHC	ug/kg	3	0	13	25	13	17	NA
Dieldrin	ug/kg	3	2	6.7	32	14	21	NA
Endosulfan I	ug/kg	3	1	3.0	25	13	14	NA
Endosulfan II	ug/kg	3	0	13	25	13	17	NA
Endosulfan Sulfate	ug/kg	3	0	13	25	13	17	NA
Endrin	ug/kg	3	0	13	25	13	17	NA
Endrin Aldehyde	ug/kg	3	2	5.1	25	13	13	NA
Endrin Ketone	ug/kg	3	0	13	25	13	17	NA
gamma-BHC (Lindane)	ug/kg	3	0	13	25	13	17	NA
gamma-Chlordane	ug/kg	3	1	5.8	25	13	14	NA
Heptachlor	ug/kg	3	0	13	25	13	17	NA
Heptachlor Epoxide	ug/kg	3	0	13	25	13	17	NA
Methoxychlor	ug/kg	3	0	50	100	13	67	NA
Toxaphene	ug/kg	3	0	425	850	13	567	NA
Herbicides								
2,4-D	ug/kg	3	0	4.2	4.2	All	4.2	NA
2,4-DB	ug/kg	3	0	4.2	4.2	All	4.2	NA
2,4,5-T	ug/kg	3	1	4.2	7.1	14	5.1	NA
2,4,5-TP (Silvex)	ug/kg	3	1	4.2	7.5	14	5.3	NA
Dalapon	ug/kg	3	0	1000	1000	All	1000	NA
Dicamba	ug/kg	3	2	5.2	10	15	7.2	NA
Dichlorprop	ug/kg	3	0	50	50	All	50	NA
Dinoseb	ug/kg	3	0	50	50	All	50	NA
MCPA	ug/kg	3	0	1000	1000	All	1000	NA
MCPP	ug/kg	3	0	1000	1000	All	1000	NA
PCBs								
Total PCBs	ug/kg	3	0	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	3	3	0.47	3.0	8	1.8	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.
Calculations for river fish metals concentrations are presented in Table III-B10

Upstream Sample IDs:
13 = UDA Channel Catfish-Comp#1
14 = UDA Drum Comp
15 = UDA-UE Comp Shad

Table III-B9
Calculations for Risk Assessment Modeling
Adjacent River Whole-Body Fish Tissue (Mink Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Adjacent Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	9	0	255	255	All	255	NA
1,2-Dichlorobenzene	ug/kg	9	4	46	255	All except 5,7,8,9	123	NA
1,3-Dichlorobenzene	ug/kg	9	0	255	255	All	255	NA
1,4-Dichlorobenzene	ug/kg	9	1	130	255	All except 9	241	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	9	0	255	255	All	255	NA
2,4,5-Trichlorophenol	ug/kg	9	0	255	255	All	255	NA
2,4,6-Trichlorophenol	ug/kg	9	0	255	255	All	255	NA
2,4-Dichlorophenol	ug/kg	9	3	46	255	All except 5,7,8	171	NA
2,4-Dimethylphenol	ug/kg	9	1	255	255	All	255	NA
2,4-Dinitrophenol	ug/kg	9	0	1250	1250	All	1250	NA
2,4-Dinitrotoluene	ug/kg	9	0	255	255	All	255	NA
2,6-Dinitrotoluene	ug/kg	9	0	255	255	All	255	NA
2-Chloronaphthalene	ug/kg	9	0	255	255	All	255	NA
2-Chlorophenol	ug/kg	9	0	255	255	All	255	NA
2-Methylnaphthalene	ug/kg	9	0	255	255	All	255	NA
2-Methylphenol (o-Cresol)	ug/kg	9	4	46	255	All except 5,9,10,11	171	NA
2-Nitroaniline	ug/kg	9	0	1250	1250	All	1250	NA
2-Nitrophenol	ug/kg	9	0	255	255	All	255	NA
3,3'-Dichlorobenzidine	ug/kg	9	0	1000	1000	All	1000	NA
3,4-Methylphenol (m&p-Cresol)	ug/kg	9	0	255	255	All	255	NA
3-Nitroaniline	ug/kg	9	0	1250	1250	All	1250	NA
4,6-Dinitro-2-methylphenol	ug/kg	9	0	1250	1250	All	1250	NA
4-Bromophenyl Phenyl Ether	ug/kg	9	0	255	255	All	255	NA
4-Chloro-3-methylphenol	ug/kg	9	0	255	255	All	255	NA
4-Chloroaniline	ug/kg	9	0	495	495	All	495	NA
4-Chlorophenyl Phenyl Ether	ug/kg	9	0	255	255	All	255	NA
4-Nitroaniline	ug/kg	9	0	1250	1250	All	1250	NA
4-Nitrophenol	ug/kg	9	0	1250	1250	All	1250	NA
Acenaphthene	ug/kg	9	0	255	255	All	255	NA
Acenaphthylene	ug/kg	9	0	255	255	All	255	NA
Anthracene	ug/kg	9	0	255	255	All	255	NA
Benzo(a)anthracene	ug/kg	9	0	255	255	All	255	NA
Benzo(a)pyrene	ug/kg	9	0	255	255	All	255	NA
Benzo(b)fluoranthene	ug/kg	9	0	255	255	All	255	NA
Benzo(g,h,i)perylene	ug/kg	9	0	255	255	All	255	NA
Benzo(k)fluoranthene	ug/kg	9	0	255	255	All	255	NA
bis(2-Chloroethoxy)methane	ug/kg	9	0	255	255	All	255	NA
bis(2-Chloroethyl)ether	ug/kg	9	0	255	255	All	255	NA
bis(2-Ethylhexyl)phthalate	ug/kg	9	0	255	255	All	255	NA
Butyl Benzyl Phthalate	ug/kg	9	1	255	255	All	495	NA
Carbazole	ug/kg	9	0	255	255	All	255	NA
Chrysene	ug/kg	9	0	255	255	All	255	NA
Dibenzo(a,h)anthracene	ug/kg	9	0	255	255	All	255	NA
Dibenzofuran	ug/kg	9	0	255	255	All	255	NA
Diethyl Phthalate	ug/kg	9	1	255	255	All	495	NA
Dimethyl Phthalate	ug/kg	9	0	255	255	All	255	NA
Di-n-butylphthalate	ug/kg	9	0	255	255	All	255	NA
Di-n-octylphthalate	ug/kg	9	0	255	255	All	255	NA
Fluoranthene	ug/kg	9	0	255	255	All	255	NA
Fluorene	ug/kg	9	0	255	255	All	255	NA
Hexachlorobenzene	ug/kg	9	0	255	255	All	255	NA
Hexachlorobutadiene	ug/kg	9	0	255	255	All	255	NA
Hexachlorocyclopentadiene	ug/kg	9	0	255	255	All	255	NA
Hexachloroethane	ug/kg	9	0	255	255	All	255	NA
Indeno(1,2,3-cd)pyrene	ug/kg	9	0	255	255	All	255	NA
Isophorone	ug/kg	9	0	255	255	All	255	NA
Naphthalene	ug/kg	9	0	255	255	All	255	NA
Nitrobenzene	ug/kg	9	0	255	255	All	255	NA
N-Nitroso-di-n-propylamine	ug/kg	9	0	255	255	All	255	NA
N-Nitrosodiphenylamine	ug/kg	9	0	255	255	All	255	NA
Pentachlorophenol	ug/kg	9	0	1250	1250	All	1250	NA
Phenanthrene	ug/kg	9	0	255	255	All	255	NA
Phenol	ug/kg	9	0	255	255	All	255	NA
Pyrene	ug/kg	9	0	255	255	All	255	NA

Table III-B9
Calculations for Risk Assessment Modeling
Adjacent River Whole-Body Fish Tissue (Mink Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Adjacent Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	9	2	6.6	13	All (except 10,12)	11	NA
4,4'-DDE	ug/kg	9	8	5.4	60	12	18	NA
4,4'-DDT	ug/kg	9	1	13	13	12	13	NA
Aldrin	ug/kg	9	0	13	13	All	13	NA
alpha-BHC	ug/kg	9	1	2.6	13	All (except 7)	11	NA
alpha-Chlordane	ug/kg	9	2	3.8	14	12	12	NA
beta-BHC	ug/kg	9	0	13	13	All	13	NA
delta-BHC	ug/kg	9	0	13	13	All	13	NA
Dieldrin	ug/kg	9	7	4.3	64	12	15	NA
Endosulfan I	ug/kg	9	1	4.3	13	All (except 12)	12	NA
Endosulfan II	ug/kg	9	0	13	13	All	13	NA
Endosulfan Sulfate	ug/kg	9	0	13	13	All	13	NA
Endrin	ug/kg	9	2	7.5	15	5	12	NA
Endrin Aldehyde	ug/kg	9	2	6.4	13	All (except 5,12)	12	NA
Endrin Ketone	ug/kg	9	0	13	13	All	13	NA
gamma-BHC (Lindane)	ug/kg	9	0	13	13	All	13	NA
gamma-Chlordane	ug/kg	9	2	3.4	13	All (except 6,12)	11	NA
Heptachlor	ug/kg	9	0	13	13	All	13	NA
Heptachlor Epoxide	ug/kg	9	2	3.4	13	All (except 5,12)	11	NA
Methoxychlor	ug/kg	9	0	50	50	All	50	NA
Toxaphene	ug/kg	9	0	425	425	All	425	NA
Herbicides								
2,4-D	ug/kg	9	0	4.2	4.2	All	4.2	NA
2,4-DB	ug/kg	9	0	4.2	4.2	All	4.2	NA
2,4,5-T	ug/kg	9	3	4.2	13	10	5.7	NA
2,4,5-TP (Silvex)	ug/kg	9	5	3.3	8.7	8	4.9	NA
Dalapon	ug/kg	9	0	1000	1000	All	1000	NA
Dicamba	ug/kg	9	0	10	10	All	10	NA
Dichlorprop	ug/kg	9	0	50	50	All	50	NA
Dinoseb	ug/kg	9	0	50	50	All	50	NA
MCPA	ug/kg	9	0	1000	1000	All	1000	NA
MCPP	ug/kg	9	3	1000	8600	5	2300	NA
PCBs								
Total PCBs	ug/kg	9	0	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	9	9	0.20	3.5	8	1.5	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.
Calculations for river fish metals concentrations are presented in Table III-B10

Adjacent Sample IDs:
4 = PDA Channel Catfish-Comp#1
5 = PDA Channel Catfish-Comp#2
6 = PDA Channel Catfish-Comp#3
7 = PDA Comp#1 Shad
8 = PDA Comp#2 Shad
9 = PDA Comp#3 Shad
10 = PDA Drum Comp#1
11 = PDA Drum Comp#2
12 = PDA Drum-Comp#4

Table III-B9
Calculations for Risk Assessment Modeling
Downstream River Whole-Body Fish Tissue (Mink Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Downstream Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	3	[illegible]	125	125	All	125	NA
1,2-Dichlorobenzene	ug/kg	3	[illegible]	125	125	All	125	NA
1,3-Dichlorobenzene	ug/kg	3	[illegible]	125	125	All	125	NA
1,4-Dichlorobenzene	ug/kg	3	[illegible]	125	125	All	125	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	3	[illegible]	125	125	All	125	NA
2,4,5-Trichlorophenol	ug/kg	3	[illegible]	125	125	All	125	NA
2,4,6-Trichlorophenol	ug/kg	3	[illegible]	125	125	All	125	NA
2,4-Dichlorophenol	ug/kg	3	[illegible]	125	125	All	125	NA
2,4-Dimethylphenol	ug/kg	3	[illegible]	125	125	All	125	NA
2,4-Dinitrophenol	ug/kg	3	[illegible]	125	125	All	125	NA
2,4-Dinitrotoluene	ug/kg	3	[illegible]	125	125	All	125	NA
2,6-Dinitrotoluene	ug/kg	3	[illegible]	125	125	All	125	NA
2-Chloronaphthalene	ug/kg	3	[illegible]	125	125	All	125	NA
2-Chlorophenol	ug/kg	3	[illegible]	125	125	All	125	NA
2-Methylnaphthalene	ug/kg	3	[illegible]	125	125	All	125	NA
2-Methylphenol (o-Cresol)	ug/kg	3	3	29	34	[illegible]	[illegible]	NA
2-Nitroaniline	ug/kg	3	[illegible]	125	125	All	125	NA
2-Nitrophenol	ug/kg	3	[illegible]	125	125	All	125	NA
3,3'-Dichlorobenzidine	ug/kg	3	[illegible]	100	1000	All	1000	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	3	[illegible]	125	125	All	125	NA
3-Nitroaniline	ug/kg	3	[illegible]	125	125	All	125	NA
4,6-Dinitro-2-methylphenol	ug/kg	3	3	125	125	All	125	NA
4-Bromophenyl Phenyl Ether	ug/kg	3	[illegible]	125	125	All	125	NA
4-Chloro-3-methylphenol	ug/kg	3	[illegible]	125	125	All	125	NA
4-Chloroaniline	ug/kg	3	[illegible]	49	49	All	49	NA
4-Chlorophenyl Phenyl Ether	ug/kg	3	[illegible]	125	125	All	125	NA
4-Nitroaniline	ug/kg	3	[illegible]	125	125	All	125	NA
4-Nitrophenol	ug/kg	3	[illegible]	125	125	All	125	NA
Acenaphthene	ug/kg	3	[illegible]	125	125	All	125	NA
Acenaphthylene	ug/kg	3	[illegible]	125	125	All	125	NA
Anthracene	ug/kg	3	[illegible]	125	125	All	125	NA
Benzo(a)anthracene	ug/kg	3	[illegible]	125	125	All	125	NA
Benzo(a)pyrene	ug/kg	3	[illegible]	125	125	All	125	NA
Benzo(b)fluoranthene	ug/kg	3	[illegible]	125	125	All	125	NA
Benzo(g,h,i)perylene	ug/kg	3	[illegible]	125	125	All	125	NA
Benzo(k)fluoranthene	ug/kg	3	[illegible]	125	125	All	125	NA
bis(2-Chloroethoxy)methane	ug/kg	3	[illegible]	125	125	All	125	NA
bis(2-Chloroethyl)ether	ug/kg	3	[illegible]	125	125	All	125	NA
bis(2-Ethylhexyl)phthalate	ug/kg	3	[illegible]	125	125	All	125	NA
Butyl Benzyl Phthalate	ug/kg	3	[illegible]	125	125	All	125	NA
Carbazole	ug/kg	3	[illegible]	125	125	All	125	NA
Chrysene	ug/kg	3	[illegible]	125	125	All	125	NA
Dibenzo(a,h)anthracene	ug/kg	3	[illegible]	125	125	All	125	NA
Dibenzofuran	ug/kg	3	[illegible]	125	125	All	125	NA
Diethyl Phthalate	ug/kg	3	[illegible]	125	125	All	125	NA
Dimethyl Phthalate	ug/kg	3	[illegible]	125	125	All	125	NA
Di-n-butylphthalate	ug/kg	3	[illegible]	125	125	All	125	NA
Di-n-octylphthalate	ug/kg	3	[illegible]	125	125	All	125	NA
Fluoranthene	ug/kg	3	[illegible]	125	125	All	125	NA
Fluorene	ug/kg	3	[illegible]	125	125	All	125	NA
Hexachlorobenzene	ug/kg	3	[illegible]	125	125	All	125	NA
Hexachlorobutadiene	ug/kg	3	[illegible]	125	125	All	125	NA
Hexachlorocyclopentadiene	ug/kg	3	[illegible]	125	125	All	125	NA
Hexachloroethane	ug/kg	3	[illegible]	125	125	All	125	NA
Indeno(1,2,3-cd)pyrene	ug/kg	3	[illegible]	125	125	All	125	NA
Isophorone	ug/kg	3	[illegible]	125	125	All	125	NA
Naphthalene	ug/kg	3	[illegible]	125	125	All	125	NA
Nitrobenzene	ug/kg	3	[illegible]	125	125	All	125	NA
N-Nitroso-di-n-propylamine	ug/kg	3	[illegible]	125	125	All	125	NA
N-Nitrosodiphenylamine	ug/kg	3	[illegible]	125	125	All	125	NA
Pentachlorophenol	ug/kg	3	[illegible]	125	125	All	125	NA
Phenanthrene	ug/kg	3	[illegible]	125	125	All	125	NA
Phenol	ug/kg	3	[illegible]	125	125	All	125	NA
Pyrene	ug/kg	3	[illegible]	125	125	All	125	NA

Table III-B9
Calculations for Risk Assessment Modeling
Downstream River Whole-Body Fish Tissue (Mink Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Downstream Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	3	1	12	25	1	17	NA
4,4'-DDE	ug/kg	3	3	5.2	19	3	13	NA
4,4'-DDT	ug/kg	3	0	13	25	1	17	NA
Aldrin	ug/kg	3	0	13	25	1	17	NA
alpha-BHC	ug/kg	3	0	13	25	1	17	NA
alpha-Chlordane	ug/kg	3	1	7.7	12.5	All (except 1)	11	NA
beta-BHC	ug/kg	3	0	13	25	1	17	NA
delta-BHC	ug/kg	3	0	13	25	1	17	NA
Dieldrin	ug/kg	3	3	8.8	19	1	14	NA
Endosulfan I	ug/kg	3	0	13	25	1	17	NA
Endosulfan II	ug/kg	3	0	13	25	1	17	NA
Endosulfan Sulfate	ug/kg	3	1	12	25	1	17	NA
Endrin	ug/kg	3	0	13	25	1	17	NA
Endrin Aldehyde	ug/kg	3	1	4.9	25	1	14	NA
Endrin Ketone	ug/kg	3	0	13	25	1	17	NA
gamma-BHC (Lindane)	ug/kg	3	0	13	25	1	17	NA
gamma-Chlordane	ug/kg	3	1	3.5	25	1	14	NA
Heptachlor	ug/kg	3	0	13	25	1	17	NA
Heptachlor Epoxide	ug/kg	3	0	13	25	1	17	NA
Methoxychlor	ug/kg	3	0	50	100	1	67	NA
Toxaphene	ug/kg	3	0	425	850	1	567	NA
Herbicides								
2,4-D	ug/kg	3	0	4.2	4.2	All	4.2	NA
2,4-DB	ug/kg	3	0	4.2	4.2	All	4.2	NA
2,4,5-T	ug/kg	3	0	4.2	4.2	All	4.2	NA
2,4,5-TP (Silvex)	ug/kg	3	2	3.9	6.9	3	5.0	NA
Dalapon	ug/kg	3	0	1000	1000	All	1000	NA
Dicamba	ug/kg	3	0	10	10	All	10	NA
Dichlorprop	ug/kg	3	0	50	50	All	50	NA
Dinoseb	ug/kg	3	0	50	50	All	50	NA
MCPA	ug/kg	3	0	1000	1000	All	1000	NA
MCPP	ug/kg	3	0	1000	1000	All	1000	NA
PCBs								
Total PCBs	ug/kg	3	0	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	3	3	0.19	3.3	1	1.5	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.
Calculations for river fish metals concentrations are presented in Table III-B10

Downstream Sample IDs:
1 = DDA Channel Catfish-Comp#1
2 = DDA Comp Shad
3 = DDA Drum-Comp#1

Table III-B10
Calculations for Risk Assessment Modeling
River Whole-Body Fish Tissue (Metals Calculations)
Mink Modeling
Sauget, IL

Metal (mg/kg)	Upstream			Adjacent			Downstream		
	Surface Water Value	BCF	Adjusted Fish Concentration	Surface Water Value	BCF	Adjusted Fish Concentration	Surface Water Value	BCF	Adjusted Fish Concentration
Aluminum	7.9E-01	2.7	2.1E+00	4.4E-01	2.7	1.2E+00	4.4E-01	2.7	1.2E+00
Antimony	***1.0E-02***	40	***4.0E-01***	1.0E-02	40	4.1E-01	9.4E-03	40	3.8E-01
Arsenic	***5.0E-02***	114	***5.7E+00***	5.0E-03	114	5.7E-01	5.0E-03	114	5.7E-01
Barium	6.0E-02	633	3.8E+01	5.7E-02	633	3.6E+01	5.6E-02	633	3.6E+01
Beryllium	***2.0E-03***	62	***1.2E-01***	***2.0E-03***	62	***1.2E-01***	***2.0E-03***	62	***1.2E-01***
Cadmium	***2.5E-03***	907	***2.3E+00***	***2.5E-03***	907	***2.3E+00***	***2.5E-03***	907	***2.3E+00***
Chromium	***5.0E-03***	19	***9.5E-02***	***5.0E-03***	19	***9.5E-02***	***5.0E-03***	19	***9.5E-02***
Cobalt	***5.0E-03***	1734	***8.7E+00***	4.9E-03	1734	8.4E+00	4.0E-03	1734	6.9E+00
Copper	***1.0E-02***	710	***7.1E+00***	***9.8E-03***	710	***7.0E+00***	9.1E-03	710	6.4E+00
Lead	***2.5E-03***	0.090	***2.3E-04***	2.5E-03	0.090	2.3E-04	***2.5E-03***	0.090	***2.3E-04***
Manganese	8.4E-02	1734	1.5E+02	4.9E-02	1734	8.6E+01	4.6E-02	1734	7.9E+01
Mercury	***1.0E-04***	11168	***1.1E+00***	1.0E-04	11168	1.1E+00	***1.0E-04***	11168	***1.1E+00***
Nickel	***2.0E-02***	78	***1.6E+00***	***2.0E-02***	78	***1.6E+00***	***2.0E-02***	78	***1.6E+00***
Selenium	***5.0E-03***	129	***6.5E-01***	***5.0E-03***	129	***6.5E-01***	***5.0E-03***	129	***6.5E-01***
Silver	***5.0E-03***	88	***4.4E-01***	***5.0E-03***	88	***4.4E-01***	***5.0E-03***	88	***4.4E-01***
Thallium	***5.0E-03***	10000	***5.0E+01***	***5.0E-03***	10000	***5.0E+01***	***5.0E-03***	10000	***5.0E+01***
Vanadium	***5.0E-03***	1734	***8.7E+00***	4.8E-03	1734	8.3E+00	4.5E-03	1734	7.8E+00
Zinc	***1.0E-02***	2059	***2.1E+01***	9.5E-03	2059	2.0E+01	6.4E-03	2059	1.3E+01

NOTES:

Surface water values presented here are based on A-Line samples only. The mink modeling used only the A-Line samples as these were closest to the rivers edge and theoretically the only ones available to the mink from shore.

BCF = Bioconcentration factor from surface water to fish (USEPA, 1999). If a bioconcentration factor for a metal was not available, the average of the available metal bioconcentration factors was used.

Bolded/Italicized values indicate a concentration based on non-detected values.

Table III-B11
Calculations for Risk Assessment Modeling
Pond Whole-Body Fish Tissue
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Pond						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	1	0	495	495	Bluegill	495	NA
1,2-Dichlorobenzene	ug/kg	1	0	495	495	Bluegill	495	NA
1,3-Dichlorobenzene	ug/kg	1	0	495	495	Bluegill	495	NA
1,4-Dichlorobenzene	ug/kg	1	0	495	495	Bluegill	495	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	1	0	495	495	Bluegill	495	NA
2,4,5-Trichlorophenol	ug/kg	1	0	495	495	Bluegill	495	NA
2,4,6-Trichlorophenol	ug/kg	1	0	495	495	Bluegill	495	NA
2,4-Dichlorophenol	ug/kg	1	0	495	495	Bluegill	495	NA
2,4-Dinitrophenol	ug/kg	1	0	2550	2550	Bluegill	2550	NA
2,4-Dinitrotoluene	ug/kg	1	0	495	495	Bluegill	495	NA
2,6-Dinitrotoluene	ug/kg	1	0	495	495	Bluegill	495	NA
2-Chloronaphthalene	ug/kg	1	0	495	495	Bluegill	495	NA
2-Chlorophenol	ug/kg	1	0	495	495	Bluegill	495	NA
2-Methylnaphthalene	ug/kg	1	0	495	495	Bluegill	495	NA
2-Methylphenol (o-Cresol)	ug/kg	1	0	495	495	Bluegill	495	NA
2-Nitroaniline	ug/kg	1	0	2550	2550	Bluegill	2550	NA
2-Nitrophenol	ug/kg	1	0	495	495	Bluegill	495	NA
3,3'-Dichlorobenzidine	ug/kg	1	0	1000	1000	Bluegill	1000	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	1	0	495	495	Bluegill	495	NA
3-Nitroaniline	ug/kg	1	0	2550	2550	Bluegill	2550	NA
4,6-Dinitro-2-methylphenol	ug/kg	1	0	2550	2550	Bluegill	2550	NA
4-Bromophenyl Phenyl Ether	ug/kg	1	0	495	495	Bluegill	495	NA
4-Chloro-3-methylphenol	ug/kg	1	0	495	495	Bluegill	495	NA
4-Chloroaniline	ug/kg	1	0	1000	1000	Bluegill	1000	NA
4-Chlorophenyl Phenyl Ether	ug/kg	1	0	495	495	Bluegill	495	NA
4-Nitroaniline	ug/kg	1	0	2550	2550	Bluegill	2550	NA
4-Nitrophenol	ug/kg	1	0	2550	2550	Bluegill	2550	NA
Acenaphthene	ug/kg	1	0	495	495	Bluegill	495	NA
Acenaphthylene	ug/kg	1	0	495	495	Bluegill	495	NA
Anthracene	ug/kg	1	0	495	495	Bluegill	495	NA
Benzo(a)anthracene	ug/kg	1	0	495	495	Bluegill	495	NA
Benzo(a)pyrene	ug/kg	1	0	495	495	Bluegill	495	NA
Benzo(b)fluoranthene	ug/kg	1	0	495	495	Bluegill	495	NA
Benzo(g,h,i)perylene	ug/kg	1	0	495	495	Bluegill	495	NA
Benzo(k)fluoranthene	ug/kg	1	0	495	495	Bluegill	495	NA
bis(2-Chloroethoxy)methane	ug/kg	1	0	495	495	Bluegill	495	NA
bis(2-Chloroethyl)ether	ug/kg	1	0	495	495	Bluegill	495	NA
bis(2-Ethylhexyl)phthalate	ug/kg	1	0	495	495	Bluegill	495	NA
Butyl Benzyl Phthalate	ug/kg	1	0	495	495	Bluegill	495	NA
Carbazole	ug/kg	1	0	495	495	Bluegill	495	NA
Chrysene	ug/kg	1	0	495	495	Bluegill	495	NA
Dibenzo(a,h)anthracene	ug/kg	1	0	495	495	Bluegill	495	NA
Dibenzofuran	ug/kg	1	0	495	495	Bluegill	495	NA
Diethyl Phthalate	ug/kg	1	0	495	495	Bluegill	495	NA
Dimethyl Phthalate	ug/kg	1	0	495	495	Bluegill	495	NA
Di-n-butylphthalate	ug/kg	1	0	495	495	Bluegill	495	NA
Di-n-octylphthalate	ug/kg	1	0	495	495	Bluegill	495	NA
Fluoranthene	ug/kg	1	0	495	495	Bluegill	495	NA
Fluorene	ug/kg	1	0	495	495	Bluegill	495	NA
Hexachlorobenzene	ug/kg	1	0	495	495	Bluegill	495	NA
Hexachlorobutadiene	ug/kg	1	0	495	495	Bluegill	495	NA
Hexachlorocyclopentadiene	ug/kg	1	0	495	495	Bluegill	495	NA
Hexachloroethane	ug/kg	1	0	495	495	Bluegill	495	NA
Indeno(1,2,3-cd)pyrene	ug/kg	1	0	495	495	Bluegill	495	NA
Isophorone	ug/kg	1	0	495	495	Bluegill	495	NA
Naphthalene	ug/kg	1	0	495	495	Bluegill	495	NA
Nitrobenzene	ug/kg	1	0	495	495	Bluegill	495	NA
N-Nitroso-di-n-propylamine	ug/kg	1	0	495	495	Bluegill	495	NA
N-Nitrosodiphenylamine	ug/kg	1	0	495	495	Bluegill	495	NA
Pentachlorophenol	ug/kg	1	0	25.5	26	Bluegill	26	NA
Phenanthrene	ug/kg	1	0	495	495	Bluegill	495	NA
Phenol	ug/kg	1	0	495	495	Bluegill	495	NA
Pyrene	ug/kg	1	0	495	495	Bluegill	495	NA

Table III-B11
Calculations for Risk Assessment Modeling
Pond Whole-Body Fish Tissue
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Pond						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg		1	5.0	5.0	Bluegill	5.0	NA
4,4'-DDE	ug/kg		1	5.0	5.0	Bluegill	5.0	NA
4,4'-DDT	ug/kg		1	20	20	Bluegill	20	NA
Aldrin	ug/kg		1	2.6	2.6	Bluegill	2.6	NA
alpha-BHC	ug/kg		1	2.6	2.6	Bluegill	2.6	NA
alpha-Chlordane	ug/kg		1	2.6	2.6	Bluegill	2.6	NA
beta-BHC	ug/kg		1	2.6	2.6	Bluegill	2.6	NA
delta-BHC	ug/kg		1	2.4	2.4	Bluegill	2.4	NA
Dieldrin	ug/kg		1	14	14	Bluegill	14	NA
Endosulfan I	ug/kg		1	2.6	2.6	Bluegill	2.6	NA
Endosulfan II	ug/kg		1	5.0	5.0	Bluegill	5.0	NA
Endosulfan Sulfate	ug/kg		1	5.0	5.0	Bluegill	5.0	NA
Endrin	ug/kg		1	5.0	5.0	Bluegill	5.0	NA
Endrin Aldehyde	ug/kg		1	5.0	5.0	Bluegill	5.0	NA
Endrin Ketone	ug/kg		1	3.6	3.6	Bluegill	3.6	NA
gamma-BHC (Lindane)	ug/kg		1	2.6	2.6	Bluegill	2.6	NA
gamma-Chlordane	ug/kg		1	2.6	2.6	Bluegill	2.6	NA
Heptachlor	ug/kg		1	2.6	2.6	Bluegill	2.6	NA
Heptachlor Epoxide	ug/kg		1	2.6	2.6	Bluegill	2.6	NA
Methoxychlor	ug/kg		1	26	26	Bluegill	26	NA
Toxaphene	ug/kg		1	255	255	Bluegill	255	NA
Herbicides								
2,4-D	ug/kg		1	13	13	Bluegill	13	NA
2,4-DB	ug/kg		1	13	13	Bluegill	13	NA
2,4,5-T	ug/kg		1	13	13	Bluegill	13	NA
2,4,5-TP (Silvex)	ug/kg		1	13	13	Bluegill	13	NA
Dalapon	ug/kg		1	3000	3000	Bluegill	3000	NA
Dicamba	ug/kg		1	30	30	Bluegill	30	NA
Dichlorprop	ug/kg		1	150	150	Bluegill	150	NA
Dinoseb	ug/kg		1	495	495	Bluegill	495	NA
MCPA	ug/kg		1	3000	3000	Bluegill	3000	NA
MCPP	ug/kg		1	3000	3000	Bluegill	3000	NA
PCBs								
Total PCBs	ug/kg		1	6445	6445	Bluegill	6445	NA
Dioxins/Furans								
TEQ	pg/g		1	9.9	9.9	Bluegill	9.9	NA
Metals								
Aluminum	mg/kg		1	16	16	Bluegill	16	NA
Ammonia	mg/kg		0	0.90	0.90	Bluegill	0.90	NA
Arsenic	mg/kg		1	2.73	2.73	Bluegill	2.73	NA
Barium	mg/kg		1	5.3	5.3	Bluegill	5.3	NA
Beryllium	mg/kg		0	0.18	0.18	Bluegill	0.18	NA
Cadmium	mg/kg		0	0.23	0.23	Bluegill	0.23	NA
Calcium	mg/kg		1	12000	12000	Bluegill	12000	NA
Chromium	mg/kg		1	0.33	0.33	Bluegill	0.33	NA
Cobalt	mg/kg		1	0.46	0.46	Bluegill	0.46	NA
Copper	mg/kg		1	0.91	0.91	Bluegill	0.91	NA
Iron	mg/kg		1	57	57	Bluegill	57	NA
Lead	mg/kg		0	0.23	0.23	Bluegill	0.23	NA
Magnesium	mg/kg		1	430	430	Bluegill	430	NA
Manganese	mg/kg		1	9.9	9.9	Bluegill	9.9	NA
Mercury	mg/kg		1	0.062	0.062	Bluegill	0.062	NA
Nickel	mg/kg		0	1.8	1.8	Bluegill	1.8	NA
Potassium	mg/kg		1	2800	2800	Bluegill	2800	NA
Selenium	mg/kg		0	0.46	0.46	Bluegill	0.46	NA
Silver	mg/kg		0	0.46	0.46	Bluegill	0.46	NA
Sodium	mg/kg		1	920	920	Bluegill	920	NA
Thallium	mg/kg		0	0.46	0.46	Bluegill	0.46	NA
Vanadium	mg/kg		0	0.46	0.46	Bluegill	0.46	NA
Zinc	mg/kg		1	46	46	Bluegill	46	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.

Table III-B12
Calculations for Risk Assessment Modeling
Upstream River Whole-Body Fish Tissue (Osprey Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Upstream Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	3	0	255	255	All	255	NA
1,2-Dichlorobenzene	ug/kg	3	0	255	255	All	255	NA
1,3-Dichlorobenzene	ug/kg	3	0	255	255	All	255	NA
1,4-Dichlorobenzene	ug/kg	3	0	255	255	All	255	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	3	0	255	255	All	255	NA
2,4,5-Trichlorophenol	ug/kg	3	0	255	255	All	255	NA
2,4,6-Trichlorophenol	ug/kg	3	0	255	255	All	255	NA
2,4-Dichlorophenol	ug/kg	3	0	255	255	All	255	NA
2,4-Dimethylphenol	ug/kg	3	0	255	255	All	255	NA
2,4-Dinitrophenol	ug/kg	3	0	1250	1250	All	1250	NA
2,4-Dinitrotoluene	ug/kg	3	0	255	255	All	255	NA
2,6-Dinitrotoluene	ug/kg	3	0	255	255	All	255	NA
2-Chloronaphthalene	ug/kg	3	0	255	255	All	255	NA
2-Chlorophenol	ug/kg	3	0	255	255	All	255	NA
2-Methylnaphthalene	ug/kg	3	0	255	255	All	255	NA
2-Methylphenol (o-Cresol)	ug/kg	3	1	110	255	All (except 15)	207	NA
2-Nitroaniline	ug/kg	3	0	1250	1250	All	1250	NA
2-Nitrophenol	ug/kg	3	0	255	255	All	255	NA
3,3'-Dichlorobenzidine	ug/kg	3	0	1000	1000	All	1000	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	3	0	255	255	All	255	NA
3-Nitroaniline	ug/kg	3	0	1250	1250	All	1250	NA
4,6-Dinitro-2-methylphenol	ug/kg	3	0	1250	1250	All	1250	NA
4-Bromophenyl Phenyl Ether	ug/kg	3	0	255	255	All	255	NA
4-Chloro-3-methylphenol	ug/kg	3	0	255	255	All	255	NA
4-Chloroaniline	ug/kg	3	0	495	495	All	495	NA
4-Chlorophenyl Phenyl Ether	ug/kg	3	0	255	255	All	255	NA
4-Nitroaniline	ug/kg	3	0	1250	1250	All	1250	NA
4-Nitrophenol	ug/kg	3	0	1250	1250	All	1250	NA
Acenaphthene	ug/kg	3	0	255	255	All	255	NA
Acenaphthylene	ug/kg	3	0	255	255	All	255	NA
Anthracene	ug/kg	3	0	255	255	All	255	NA
Benzo(a)anthracene	ug/kg	3	0	255	255	All	255	NA
Benzo(a)pyrene	ug/kg	3	0	255	255	All	255	NA
Benzo(b)fluoranthene	ug/kg	3	0	255	255	All	255	NA
Benzo(g,h,i)perylene	ug/kg	3	0	255	255	All	255	NA
Benzo(k)fluoranthene	ug/kg	3	0	255	255	All	255	NA
bis(2-Chloroethoxy)methane	ug/kg	3	0	255	255	All	255	NA
bis(2-Chloroethyl)ether	ug/kg	3	0	255	255	All	255	NA
bis(2-Ethylhexyl)phthalate	ug/kg	3	0	255	255	All	255	NA
Butyl Benzyl Phthalate	ug/kg	3	0	255	255	All	255	NA
Carbazole	ug/kg	3	0	255	255	All	255	NA
Chrysene	ug/kg	3	0	255	255	All	255	NA
Dibenzo(a,h)anthracene	ug/kg	3	0	255	255	All	255	NA
Dibenzofuran	ug/kg	3	0	255	255	All	255	NA
Diethyl Phthalate	ug/kg	3	1	110	255	All (except 14)	207	NA
Dimethyl Phthalate	ug/kg	3	0	255	255	All	255	NA
Di-n-butylphthalate	ug/kg	3	0	255	255	All	255	NA
Di-n-octylphthalate	ug/kg	3	0	255	255	All	255	NA
Fluoranthene	ug/kg	3	0	255	255	All	255	NA
Fluorene	ug/kg	3	0	255	255	All	255	NA
Hexachlorobenzene	ug/kg	3	0	255	255	All	255	NA
Hexachlorobutadiene	ug/kg	3	0	255	255	All	255	NA
Hexachlorocyclopentadiene	ug/kg	3	0	255	255	All	255	NA
Hexachloroethane	ug/kg	3	0	255	255	All	255	NA
Indeno(1,2,3-cd)pyrene	ug/kg	3	0	255	255	All	255	NA
Isophorone	ug/kg	3	0	255	255	All	255	NA
Naphthalene	ug/kg	3	0	255	255	All	255	NA
Nitrobenzene	ug/kg	3	0	255	255	All	255	NA
N-Nitroso-di-n-propylamine	ug/kg	3	0	255	255	All	255	NA
N-Nitrosodiphenylamine	ug/kg	3	0	255	255	All	255	NA
Pentachlorophenol	ug/kg	3	0	1250	1250	All	1250	NA
Phenanthrene	ug/kg	3	0	255	255	All	255	NA
Phenol	ug/kg	3	0	255	255	All	255	NA
Pyrene	ug/kg	3	0	255	255	All	255	NA

Table III-B12
Calculations for Risk Assessment Modeling
Upstream River Whole-Body Fish Tissue (Osprey Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Upstream Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	3	1	13	25	13	17	NA
4,4'-DDE	ug/kg	3	2	13	25	13	11	NA
4,4'-DDT	ug/kg	3	1	7.6	25	13	15	NA
Aldrin	ug/kg	3	1	13	25	13	17	NA
alpha-BHC	ug/kg	3	1	13	25	13	17	NA
alpha-Chlordane	ug/kg	3	1	13	25	13	17	NA
beta-BHC	ug/kg	3	1	13	25	13	17	NA
delta-BHC	ug/kg	3	1	13	25	13	17	NA
Dieldrin	ug/kg	3	2	6.7	11	14	11	NA
Endosulfan I	ug/kg	3	1	3.1	25	13	14	NA
Endosulfan II	ug/kg	3	1	13	25	13	17	NA
Endosulfan Sulfate	ug/kg	3	1	13	25	13	17	NA
Endrin	ug/kg	3	1	13	25	13	17	NA
Endrin Aldehyde	ug/kg	3	2	5.1	25	13	13	NA
Endrin Ketone	ug/kg	3	1	13	25	13	17	NA
gamma-BHC (Lindane)	ug/kg	3	1	13	25	13	17	NA
gamma-Chlordane	ug/kg	3	1	5.8	25	13	14	NA
Heptachlor	ug/kg	3	1	13	25	13	17	NA
Heptachlor Epoxide	ug/kg	3	1	13	25	13	17	NA
Methoxychlor	ug/kg	3	1	51	100	13	67	NA
Toxaphene	ug/kg	3	1	425	850	13	567	NA
Herbicides								
2,4-D	ug/kg	3	1	4.2	4.2	AI	4.2	NA
2,4-DB	ug/kg	3	1	4.2	4.2	AI	4.2	NA
2,4,5-T	ug/kg	3	1	4.2	[illegible]	14	5.1	NA
2,4,5-TP (Silvex)	ug/kg	3	1	4.2	[illegible]	14	5.3	NA
Dalapon	ug/kg	3	1	1000	1000	AI	1000	NA
Dicamba	ug/kg	3	2	5.2	80	15	7.2	NA
Dichloroprop	ug/kg	3	1	50	50	AI	50	NA
Dinoseb	ug/kg	3	1	50	50	AI	50	NA
MCPA	ug/kg	3	1	1000	1000	AI	1000	NA
MCPP	ug/kg	3	1	1000	1000	AI	1000	NA
PCBs								
Total PCBs	ug/kg	3	0	25	25	AI	25	NA
Dioxins/Furans								
TEQ	pg/g	3	3	1.3	5.2	8	2.9	NA

NOTES:
NA = Not applicable
Shaded cells indicate other maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.
Calculations for river fish metals concentrations are presented in Table III-B13.

Upstream Sample IDs:
13 = UDA Channel Catfish-Comp#1
14 = UDA Drum Comp
15 = UDA-UE Comp Shad

Table III-B12
Calculations for Risk Assessment Modeling
Adjacent River Whole-Body Fish Tissue (Osprey Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Adjacent Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	9	0	255	255	All	255	NA
1,2-Dichlorobenzene	ug/kg	9	4	140	255	All (except 5,7,8,9)	228	NA
1,3-Dichlorobenzene	ug/kg	9	0	255	255	All	255	NA
1,4-Dichlorobenzene	ug/kg	9	1	130	255	All (except 9)	241	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	9	0	255	255	All	255	NA
2,4,5-Trichlorophenol	ug/kg	9	0	255	255	All	255	NA
2,4,6-Trichlorophenol	ug/kg	9	0	255	255	All	255	NA
2,4-Dichlorophenol	ug/kg	9	3	140	255	All (except 5,7,8)	227	NA
2,4-Dimethylphenol	ug/kg	9	0	255	255	All	255	NA
2,4-Dinitrophenol	ug/kg	9	0	1250	1250	All	1250	NA
2,4-Dinitrotoluene	ug/kg	9	0	255	255	All	255	NA
2,6-Dinitrotoluene	ug/kg	9	0	255	255	All	255	NA
2-Chloronaphthalene	ug/kg	9	0	255	255	All	255	NA
2-Chlorophenol	ug/kg	9	0	255	255	All	255	NA
2-Methylnaphthalene	ug/kg	9	0	255	255	All	255	NA
2-Methylphenol (o-Cresol)	ug/kg	9	4	140	255	All (except 5,9,10,11)	222	NA
2-Nitroaniline	ug/kg	9	0	1250	1250	All	1250	NA
2-Nitrophenol	ug/kg	9	0	255	255	All	255	NA
3,3'-Dichlorobenzidine	ug/kg	9	0	1000	1000	All	1000	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	9	0	255	255	All	255	NA
3-Nitroaniline	ug/kg	9	0	1250	1250	All	1250	NA
4,6-Dinitro-2-methylphenol	ug/kg	9	0	1250	1250	All	1250	NA
4-Bromophenyl Phenyl Ether	ug/kg	9	0	255	255	All	255	NA
4-Chloro-3-methylphenol	ug/kg	9	0	255	255	All	255	NA
4-Chloroaniline	ug/kg	9	0	495	495	All	495	NA
4-Chlorophenyl Phenyl Ether	ug/kg	9	0	255	255	All	255	NA
4-Nitroaniline	ug/kg	9	0	1250	1250	All	1250	NA
4-Nitrophenol	ug/kg	9	0	1250	1250	All	1250	NA
Acenaphthene	ug/kg	9	0	255	255	All	255	NA
Acenaphthylene	ug/kg	9	0	255	255	All	255	NA
Anthracene	ug/kg	9	0	255	255	All	255	NA
Benzo(a)anthracene	ug/kg	9	0	255	255	All	255	NA
Benzo(a)pyrene	ug/kg	9	0	255	255	All	255	NA
Benzo(b)fluoranthene	ug/kg	9	0	255	255	All	255	NA
Benzo(g,h,i)perylene	ug/kg	9	0	255	255	All	255	NA
Benzo(k)fluoranthene	ug/kg	9	0	255	255	All	255	NA
bis(2-Chloroethoxy)methane	ug/kg	9	0	255	255	All	255	NA
bis(2-Chloroethyl)ether	ug/kg	9	0	255	255	All	255	NA
bis(2-Ethylhexyl)phthalate	ug/kg	9	0	255	255	All	255	NA
Butyl Benzyl Phthalate	ug/kg	9	0	255	255	All	255	NA
Carbazole	ug/kg	9	0	255	255	All	255	NA
Chrysene	ug/kg	9	0	255	255	All	255	NA
Dibenzo(a,h)anthracene	ug/kg	9	0	255	255	All	255	NA
Dibenzofuran	ug/kg	9	0	255	255	All	255	NA
Diethyl Phthalate	ug/kg	9	0	255	255	All	255	NA
Dimethyl Phthalate	ug/kg	9	0	255	255	All	255	NA
Di-n-butylphthalate	ug/kg	9	0	255	255	All	255	NA
Di-n-octylphthalate	ug/kg	9	0	255	255	All	255	NA
Fluoranthene	ug/kg	9	0	255	255	All	255	NA
Fluorene	ug/kg	9	0	255	255	All	255	NA
Hexachlorobenzene	ug/kg	9	0	255	255	All	255	NA
Hexachlorobutadiene	ug/kg	9	0	255	255	All	255	NA
Hexachlorocyclopentadiene	ug/kg	9	0	255	255	All	255	NA
Hexachloroethane	ug/kg	9	0	255	255	All	255	NA
Indeno(1,2,3-cd)pyrene	ug/kg	9	0	255	255	All	255	NA
Isophorone	ug/kg	9	0	255	255	All	255	NA
Naphthalene	ug/kg	9	0	255	255	All	255	NA
Nitrobenzene	ug/kg	9	0	255	255	All	255	NA
N-Nitroso-di-n-propylamine	ug/kg	9	0	255	255	All	255	NA
N-Nitrosodiphenylamine	ug/kg	9	0	255	255	All	255	NA
Pentachlorophenol	ug/kg	9	0	1250	1250	All	1250	NA
Phenanthrene	ug/kg	9	0	255	255	All	255	NA
Phenol	ug/kg	9	0	255	255	All	255	NA
Pyrene	ug/kg	9	0	255	255	All	255	NA

Table III-B12
Calculations for Risk Assessment Modeling
Adjacent River Whole-Body Fish Tissue (Osprey Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Adjacent Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4'-DDD	ug/kg	9	2	6.6	13	All (except 10,12)	11	NA
4,4'-DDE	ug/kg	9	1	5.4	60	12	18	NA
4,4'-DDT	ug/kg	9		13	13	12	13	NA
Aldrin	ug/kg	9	0	13	13	All	13	NA
alpha-BHC	ug/kg	9	1	2.6	13	All (except 7)	11	NA
alpha-Chlordane	ug/kg	9	2	3.6	14	12	12	NA
beta-BHC	ug/kg	9	0	13	13	All	13	NA
delta-BHC	ug/kg	9	0	13	13	All	13	NA
Dieldrin	ug/kg	9	7	4.3	64	12	15	NA
Endosulfan I	ug/kg	9	1	4.3	13	All (except 12)	12	NA
Endosulfan II	ug/kg	9	0	13	13	All	13	NA
Endosulfan Sulfate	ug/kg	9	0	13	13	All	13	NA
Endrin	ug/kg	9	2	7.5	15	5	12	NA
Endrin Aldehyde	ug/kg	9	2	6.4	13	All (except 5,12)	12	NA
Endrin Ketone	ug/kg	9	0	13	13	All	13	NA
gamma-BHC (Lindane)	ug/kg	9	0	13	13	All	13	NA
gamma-Chlordane	ug/kg	9	2	3.4	13	All (except 6,12)	11	NA
Heptachlor	ug/kg	9	0	13	13	All	13	NA
Heptachlor Epoxide	ug/kg	9	2	3.4	13	All (except 5,12)	11	NA
Methoxychlor	ug/kg	9	0	50	50	All	50	NA
Toxaphene	ug/kg	9	0	425	425	All	425	NA
Herbicides								
2,4-D	ug/kg	9	0	4.2	4.2	All	4.2	NA
2,4-DB	ug/kg	9	0	4.2	4.2	All	4.2	NA
2,4,5-T	ug/kg	9	3	4.2	13	10	5.7	NA
2,4,5-TP (Silvex)	ug/kg	9	5	3.3	8.7	8	4.9	NA
Dalapon	ug/kg	9	0	1000	1000	All	1000	NA
Dicamba	ug/kg	9	0	10	10	All	10	NA
Dichlorprop	ug/kg	9	0	50	50	All	50	NA
Dinoseb	ug/kg	9	0	50	50	All	50	NA
MCPA	ug/kg	9	0	1000	1000	All	1000	NA
MCPP	ug/kg	9	3	1000	8600	5	2300	NA
PCBs								
Total PCBs	ug/kg	9	0	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	9	9	0.42	7.6	8	2.8	NA

NOTES:
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value (e.g., one-half of the detection limit), or a mean/95% UCL concentration based entirely on adjusted non-detected values.
Calculations for river fish metals concentrations are presented in Table III-B13.

Adjacent Sample IDs:
4 = PDA Channel Catfish-Comp#1
5 = PDA Channel Catfish-Comp#2
6 = PDA Channel Catfish-Comp#3
7 = PDA Comp#1 Shad
8 = PDA Comp#2 Shad
9 = PDA Comp#3 Shad
10 = PDA Drum Comp#1
11 = PDA Drum Comp#2
12 = PDA Drum-Comp#4

Table III-B12
Calculations for Risk Assessment Modeling
Downstream River Whole-Body Fish Tissue (Osprey Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Downstream Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
SVOCs								
1,2,4-Trichlorobenzene	ug/kg	3	0	255	255	All	255	NA
1,2-Dichlorobenzene	ug/kg	3	0	255	255	All	255	NA
1,3-Dichlorobenzene	ug/kg	3	0	255	255	All	255	NA
1,4-Dichlorobenzene	ug/kg	3	0	255	255	All	255	NA
2,2'-Oxybis(1-Chloropropane)	ug/kg	3	0	255	255	All	255	NA
2,4,5-Trichlorophenol	ug/kg	3	0	255	255	All	255	NA
2,4,6-Trichlorophenol	ug/kg	3	0	255	255	All	255	NA
2,4-Dichlorophenol	ug/kg	3	0	255	255	All	255	NA
2,4-Dimethylphenol	ug/kg	3	0	255	255	All	255	NA
2,4-Dinitrophenol	ug/kg	3	0	1250	1250	All	1250	NA
2,4-Dinitrotoluene	ug/kg	3	0	255	255	All	255	NA
2,6-Dinitrotoluene	ug/kg	3	0	255	255	All	255	NA
2-Chloronaphthalene	ug/kg	3	0	255	255	All	255	NA
2-Chlorophenol	ug/kg	3	0	255	255	All	255	NA
2-Methylnaphthalene	ug/kg	3	0	255	255	All	255	NA
2-Methylphenol (o-Cresol)	ug/kg	3	3	290	340	1	317	NA
2-Nitroaniline	ug/kg	3	0	1250	1250	All	1250	NA
2-Nitrophenol	ug/kg	3	0	255	255	All	255	NA
3,3'-Dichlorobenzidine	ug/kg	3	0	1000	1000	All	1000	NA
3/4-Methylphenol (m&p-Cresol)	ug/kg	3	0	255	255	All	255	NA
3-Nitroaniline	ug/kg	3	0	1250	1250	All	1250	NA
4,6-Dinitro-2-methylphenol	ug/kg	3	0	1250	1250	All	1250	NA
4-Bromophenyl Phenyl Ether	ug/kg	3	0	255	255	All	255	NA
4-Chloro-3-methylphenol	ug/kg	3	0	255	255	All	255	NA
4-Chloroaniline	ug/kg	3	0	495	495	All	495	NA
4-Chlorophenyl Phenyl Ether	ug/kg	3	0	255	255	All	255	NA
4-Nitroaniline	ug/kg	3	0	1250	1250	All	1250	NA
4-Nitrophenol	ug/kg	3	0	1250	1250	All	1250	NA
Acenaphthene	ug/kg	3	0	255	255	All	255	NA
Acenaphthylene	ug/kg	3	0	255	255	All	255	NA
Anthracene	ug/kg	3	0	255	255	All	255	NA
Benzo(a)anthracene	ug/kg	3	0	255	255	All	255	NA
Benzo(a)pyrene	ug/kg	3	0	255	255	All	255	NA
Benzo(b)fluoranthene	ug/kg	3	0	255	255	All	255	NA
Benzo(g,h,i)perylene	ug/kg	3	0	255	255	All	255	NA
Benzo(k)fluoranthene	ug/kg	3	0	255	255	All	255	NA
bis(2-Chloroethoxy)methane	ug/kg	3	0	255	255	All	255	NA
bis(2-Chloroethyl)ether	ug/kg	3	0	255	255	All	255	NA
bis(2-Ethylhexyl)phthalate	ug/kg	3	0	255	255	All	255	NA
Butyl Benzyl Phthalate	ug/kg	3	0	255	255	All	255	NA
Carbazole	ug/kg	3	0	255	255	All	255	NA
Chrysene	ug/kg	3	0	255	255	All	255	NA
Dibenzo(a,h)anthracene	ug/kg	3	0	255	255	All	255	NA
Dibenzofuran	ug/kg	3	0	255	255	All	255	NA
Diethyl Phthalate	ug/kg	3	0	255	255	All	255	NA
Dimethyl Phthalate	ug/kg	3	0	255	255	All	255	NA
Di-n-butylphthalate	ug/kg	3	0	255	255	All	255	NA
Di-n-octylphthalate	ug/kg	3	0	255	255	All	255	NA
Fluoranthene	ug/kg	3	0	255	255	All	255	NA
Fluorene	ug/kg	3	0	255	255	All	255	NA
Hexachlorobenzene	ug/kg	3	0	255	255	All	255	NA
Hexachlorobutadiene	ug/kg	3	0	255	255	All	255	NA
Hexachlorocyclopentadiene	ug/kg	3	0	255	255	All	255	NA
Hexachloroethane	ug/kg	3	0	255	255	All	255	NA
Indeno(1,2,3-cd)pyrene	ug/kg	3	0	255	255	All	255	NA
Isophorone	ug/kg	3	0	255	255	All	255	NA
Naphthalene	ug/kg	3	0	255	255	All	255	NA
Nitrobenzene	ug/kg	3	0	255	255	All	255	NA
N-Nitroso-di-n-propylamine	ug/kg	3	0	255	255	All	255	NA
N-Nitrosodiphenylamine	ug/kg	3	0	255	255	All	255	NA
Pentachlorophenol	ug/kg	3	0	1250	1250	All	1250	NA
Phenanthrene	ug/kg	3	0	255	255	All	255	NA
Phenol	ug/kg	3	0	255	255	All	255	NA
Pyrene	ug/kg	3	0	255	255	All	255	NA

Table III-B12
Calculations for Risk Assessment Modeling
Downstream River Whole-Body Fish Tissue (Osprey Modeling)
Sauget, IL

Analyte	Units	Whole-Body Fish Tissue - Downstream Mississippi River						
		# of Samples	# of Detects	Minimum Value	Maximum Value	Maximum Sample ID	Mean Risk Assessment Concentration	95% UCL Risk Assessment Concentration
Pesticides								
4,4-DDD	ug/kg	3	1	12	25		17	NA
4,4-DDE	ug/kg	3	3	5.2	19	3	13	NA
4,4-DDT	ug/kg	3	1	13	25	1	17	NA
Aldrin	ug/kg	3	1	13	25	1	17	NA
alpha-BHC	ug/kg	3	1	13	25	1	17	NA
alpha-Chlordane	ug/kg	3	1	7.7	12.5	All except 1	11	NA
beta-BHC	ug/kg	3	1	13	25	1	17	NA
delta-BHC	ug/kg	3	1	13	25	1	17	NA
Dieldrin	ug/kg	3	3	3.4	9	1	14	NA
Endosulfan I	ug/kg	3	1	13	25	1	17	NA
Endosulfan II	ug/kg	3	1	13	25	1	17	NA
Endosulfan Sulfate	ug/kg	3	1	12	25	1	17	NA
Endrin	ug/kg	3	1	13	25	1	17	NA
Endrin Aldehyde	ug/kg	3	1	4.9	25	1	14	NA
Endrin Ketone	ug/kg	3	1	13	25	1	17	NA
gamma-BHC (Lindane)	ug/kg	3	1	13	25	1	17	NA
gamma-Chlordane	ug/kg	3	1	3.5	25	1	14	NA
Heptachlor	ug/kg	3	1	13	25	1	17	NA
Heptachlor Epoxide	ug/kg	3	1	13	25	1	17	NA
Methoxychlor	ug/kg	3	1	50	100	1	67	NA
Toxaphene	ug/kg	3	1	425	850	1	567	NA
Herbicides								
2,4-D	ug/kg	3	1	4.2	4.2	All	4.2	NA
2,4-DB	ug/kg	3	1	4.2	4.2	All	4.2	NA
2,4,5-T	ug/kg	3	1	4.2	4.2	All	4.2	NA
2,4,5-TP (Silvex)	ug/kg	3	2	3.9	6.9	3	5.2	NA
Dinoseb	ug/kg	3	1	1000	1000	All	1000	NA
Dicamba	ug/kg	3	1	10	20	All	10	NA
Dichloroprop	ug/kg	3	1	50	50	All	50	NA
Dinoseb	ug/kg	3	1	50	50	All	50	NA
MCPA	ug/kg	3	1	1000	1000	All	1000	NA
MCPP	ug/kg	3	1	1000	1000	All	1000	NA
PCBs								
Total PCBs	ug/kg	3	1	25	25	All	25	NA
Dioxins/Furans								
TEQ	pg/g	3	3	0.46	4.1	1	2.1	NA

NOTES
NA = Not applicable
Shaded cells indicate either maximum concentrations based on an adjusted non-detected value, e.g., one-half of the detection limit, or a mean/95% UCL concentration based entirely on adjusted non-detected values.
Calculations for river fish metals concentrations are presented in Table III-B13

Downstream Sample IDs:
1 = DDA Chassis Catfish-Comp#1
2 = DDA Comp Shad
3 = DDA Drum-Comp#1

Table III-B13
Calculations for Risk Assessment Modeling
River Whole-Body Fish Tissue (Metals Calculations)
Osprey Modeling
Sauget, IL

	Upstream			Adjacent			Downstream		
Metal (mg/kg)	Surface Water Value	BCF	Adjusted Fish Concentration	Surface Water Value	BCF	Adjusted Fish Concentration	Surface Water Value	BCF	Adjusted Fish Concentration
Aluminum	4.0E-01	2.7	1.1E+00	4.2E-01	2.7	1.1E+00	4.5E-01	2.7	1.2E+00
Antimony	***1.0E-02***	40	***4.0E-01***	***1.0E-02***	40	***4.1E-01***	9.7E-03	40	3.9E-01
Arsenic	7.8E-03	114	8.9E-01	5.7E-03	114	6.5E-01	4.8E-03	114	5.4E-01
Barium	5.4E-02	633	3.4E+01	5.6E-02	633	3.6E+01	5.6E-02	633	3.6E+01
Beryllium	***2.0E-03***	62	***1.2E-01***	***2.0E-03***	62	***1.2E-01***	***2.0E-03***	62	***1.2E-01***
Cadmium	***2.5E-03***	907	***2.3E+00***	***2.5E-03***	907	***2.3E+00***	***2.5E-03***	907	***2.3E+00***
Chromium	***5.0E-03***	19	***9.5E-02***	***5.0E-03***	19	***9.5E-02***	***5.0E-03***	19	***9.5E-02***
Cobalt	4.8E-03	1734	8.2E+00	4.5E-03	1734	7.8E+00	4.1E-03	1734	7.2E+00
Copper	***1.0E-02***	710	***7.1E+00***	1.0E-02	710	7.3E+00	9.5E-03	710	6.7E+00
Lead	***2.5E-03***	0.090	***2.3E-04***	2.6E-03	0.090	2.3E-04	***2.5E-03***	0.090	***2.3E-04***
Manganese	4.3E-02	1734	7.5E+01	4.6E-02	1734	7.9E+01	4.5E-02	1734	7.8E+01
Mercury	***1.0E-04***	11168	***1.1E+00***	1.0E-04	11168	1.1E+00	***1.0E-04***	11168	***1.1E+00***
Nickel	***2.0E-02***	78	***1.6E+00***	***2.0E-02***	78	***1.6E+00***	***2.0E-02***	78	***1.6E+00***
Selenium	***5.0E-03***	129	***6.5E-01***	***5.0E-03***	129	***6.5E-01***	5.0E-03	129	6.5E-01
Silver	***5.0E-03***	88	***4.4E-01***	4.9E-03	88	4.3E-01	5.0E-03	88	4.4E-01
Thallium	5.0E-03	10000	5.0E+01	***5.0E-03***	10000	***5.0E+01***	***5.0E-03***	10000	***5.0E+01***
Vanadium	3.8E-03	1734	6.6E+00	4.9E-03	1734	8.5E+00	4.7E-03	1734	8.2E+00
Zinc	9.7E-03	2059	2.0E+01	1.1E-02	2059	2.2E+01	6.9E-03	2059	1.4E+01

NOTES:

Surface water values presented here are based on all samples (A, B and C-Lines). The osprey modeling used all the samples for calculations because all areas of the river are accessible to the osprey.

BCF = Bioconcentration factor from surface water to fish (USEPA, 1999). If a bioconcentration factor for a metal was not available, the average of the available metal bioconcentration factors was used.

Bolded/Italicized values indicate a concentration based on non-detected values.

Appendix III-C

Mammalian and Avian NOAELs and LOAELs

Table 1II-C1
Mammalian and Avian NOAELs
Sauget, IL

Chemical	Mammalian Test Species	Test Species Chronic NOAEL (mg/kg-d)	Note	Uncertainty Factor (o)	Derived NOAEL: Prairie Vole NOAEL (mg/kg-d)	Derived NOAEL: Short Tailed Shrew NOAEL (mg/kg-d)	Derived NOAEL: Mink NOAEL (mg/kg-d)	Derived NOAEL: Fox NOAEL (mg/kg-d)	AvianTest Species	Test Species Chronic NOAEL (mg/kg-d)	Note	Uncertainty Factor (o)	Derived NOAEL: Osprey NOAEL (mg/kg-d)
SVOCs													
1,2,4-Trichlorobenzene	Rat	14.8	b		27	33	11	7.8	Wild bird species	1.0	a,w,d,p	100	1.0
1,2-Dichlorobenzene	Rat	86	c		157	188	66	45	Wild bird species	0.42	a,f,d,p	100	0.42
1,3-Dichlorobenzene		86	e		157	188	66	45	Wild bird species	0.42	a,f,d,p	100	0.42
1,4-Dichlorobenzene		86	e		157	188	66	45	Wild bird species	0.42	a,f,d,p	100	0.42
2,2'-oxybis (1-chloropropane)	Mouse	36	b		35	43	15	10		1.1	m		1.1
2,4,5-Trichlorophenol	Rat	10	b		18	22	7.7	5.3			u		
2,4,6-Trichlorophenol	Rat	500	q		914	1099	385	264			u		
2,4-Dichlorophenol	Rat	0.30	b		0.55	0.66	0.23	0.16		102	n		102
2,4-Dimethylphenol	Mouse	5.0	b		4.9	5.9	2.1	1.4		102	n		102
2,4-Dinitrophenol	Rabbit	0.0013	r,d,p	100	0.0031	0.0038	0.0013	0.00091	Chicken	102	r,d,p	100	102
2,4-Dinitrotoluene	Dog	0.20	b		0.90	1.1	0.38	0.26		102	n		102
2,6-Dinitrotoluene	Rat	0.70	q,p	10	1.3	1.5	0.54	0.37		102	n		102
2-Chloronaphthalene	Mouse	25	c,d	10	25	30	10	7.1		1.1	g		1.1
2-Chlorophenol	Rat	50	q		91	110	38	26	Blackbird	1.1	l,d,p	100	1.1
2-Methylnaphthalene	Mouse	2850	r,p	10	2820	3389	1186	814		1.1	g		1.1
2-Methylphenol	Mink	219	b		521	626	219	150		0.96	v		0.96
2-Nitroaniline		4.2	s		7.7	9.2	3.2	2.2	Blackbird	7.5	l,d,p	100	7.5
2-Nitrophenol		2.5	t		4.6	5.5	1.9	1.3		0.65	t		0.65
3,3'-Dichlorobenzidine	Dog	10	q		47	56	20	13			u		
3/4-Methylphenol		219	h		521	626	219	150	Blackbird	0.96	l,d,p	100	0.96
3-Nitroaniline	Rat	4.2	r,d,p	100	7.7	9.2	3.2	2.2	Blackbird	1.3	l,d,p	100	1.3
4,6-Dinitro-2-Methylphenol	Rat	0.25	q,d	10	0.46	0.55	0.19	0.13	Pigeon	0.070	a,d,p	100	0.070
4-Bromophenyl-phenylether	Rat	1.0	c,x		1.8	2.2	0.77	0.53			u		
4-Chloro-3-methylphenol	Rat	112	r,d,p	100	205	246	86	59	Blackbird	1.13	l,d,p	100	1.1
4-Chloroaniline	Rat	1.3	b		2.3	2.7	0.96	0.66	Sparrow	1.0	l,d,p	100	1.0
4-Chlorophenyl-phenylether	Rat	1.0	c,x		1.8	2.2	0.77	0.53			u		
4-Nitroaniline	Rat	4.2	r,d,p	100	7.7	9.2	3.2	2.2	Blackbird	0.75	l,d,p	100	0.75
4-Nitrophenol	Rat	2.5	q,d	10	4.6	5.5	1.9	1.3	Pigeon	0.65	a,d,p	100	0.65
Acenaphthene	Mouse	18	c,d	10	17	21	7.3	5.0	Blackbird	1.0	l,d,p	100	1.0
Acenaphthylene		18	i		17	21	7.3	5.0		23	k		23
Anthracene	Mouse	100	b		99	119	42	29	Blackbird	1.1	l,d,p	100	1.1
Benzo(a)anthracene		1.0	j		0.99	1.2	0.42	0.29		7.1	j		7.1

NOTES:
(a) - NTP, 2003
(b) - SRSERD, 1999
(c) - USEPA, 2002
(d) - acute/subchronic study
(e) - based on 1,2-Dichlorobenzene
(f) - based on 1,3 Dinitrobenzene
(g) - based on Anthracene
(h) - based on 2-Methylphenol
(i) - based on Acenaphthene
(j) - based on Benzo(a)pyrene
(k) - based on Phenanthrene
(l) - Schafer *et al*., 1983
(m) - based on Bis(2-ethylhexyl) phthalate
(n) - based on 2,4-Dinitrophenol
(o) - UF = 10 for subchronic/acute exposure to chronic OR from a LOAEL/LD50 to a NOAEL
(p) - based on a LOAEL/LD_{50}
(q) - ATSDR, 2002
(r) - NIOSH, 2002
(s) - based on 4-Nitroanaline
(t) - based on 4-Nitrophenol
(u) - No avian data available, therefore no TRV calculated
(v) - based on 3/4 Methylphenol
(w) - based on 2,4,5-Trichloronitrobenzene
(x) - based on Decabromodiphenyl ether

Table III-C1
Mammalian and Avian NOAELs
Sauget, IL

Chemical	Mammalian Test Species	Test Species Chronic NOAEL (mg/kg-d)	Note	Uncertainty Factor (o)	Derived NOAEL: Prairie Vole NOAEL (mg/kg-d)	Derived NOAEL: Short Tailed Shrew NOAEL (mg/kg-d)	Derived NOAEL: Mink NOAEL (mg/kg-d)	Derived NOAEL: Fox NOAEL (mg/kg-d)	Avian Test Species	Test Species Chronic NOAEL (mg/kg-d)	Note	Uncertainty Factor (o)	Derived NOAEL: Osprey NOAEL (mg/kg-d)
SVOCs													
Benzo(a)pyrene	Mouse	1.0	a		0.99	1.2	0.42	0.29	Chicken	7.1	z		7.1
Benzo(b)fluoranthene		1.0	j		0.99	1.2	0.42	0.29		7.1	j		7.1
Benzo(ghi)perylene		1.0	j		0.99	1.2	0.42	0.29		7.1	j		7.1
Benzo(k)fluoranthene		1.0	j		0.99	1.2	0.42	0.29		7.1	j		7.1
Bis(2-chloroethoxy)methane	Mouse	36	k		35	43	15	10		1.1	e		1.1
Bis(2-chloroethyl)ether	Mouse	36	k		35	43	15	10		1.1	e		1.1
Bis(2-ethylhexyl)phthalate	Mouse	18	b		18	22	7.6	5.2	Dove	1.1	b		1.1
Butylbenzylphthalate	Rat	16	c,d	10	29	35	12	8.4		1.1	e		1.1
Carbazole	Mouse	3.0	v,d,p	100	3.0	3.6	1.2	0.9		u			
Chrysene		1.0	j		0.99	1.2	0.42	0.29		7.1	j		7.1
Dibenzo(ah)anthracene		1.0	j		0.99	1.2	0.42	0.29		7.1	j		7.1
Dibenzofuran	Hamster	0.013	v,w,d,p	100	0.024	0.029	0.010	0.0069	Blackbird	1.0	aa,d,p	100	1.0
Diethyl phthalate	Mouse	4580	b		4532	5447	1906	1309		1.0	f		1.0
Dimethyl phthalate		4580	l		4532	5447	1906	1309	Blackbird	1.0	aa,d,p	100	1.0
Di-n-butylphthalate	Mouse	550	b		544	654	229	157	Dove	0.11	b		0.11
Di-n-octylphthalate		550	m		544	654	229	157	Pheasant	8.8	bb,d,p	100	8.8
Fluoranthene	Mouse	13	c,d	10	12	15	5.2	3.6		7.1	j		7.1
Fluorene	Mouse	13	b		12	15	5.2	3.6	Blackbird	1.0	aa,d,p	100	1.0
Hexachlorobenzene	Rat	0.080	c		0.15	0.18	0.062	0.042	Quail	5.5	r,d	10	5.5
Hexachlorobutadiene	Rat	0.20	q		0.37	0.44	0.15	0.11	Quail	3.2	s		3.2
Hexachlorocyclopentadiene	Rat	0.60	c,d,n	10	1.1	1.3	0.46	0.32		3.2	g		3.2
Hexachloroethane	Rat	0.10	b		0.18	0.22	0.077	0.053		3.2	g		3.2
Indeno(1,2,3-cd)pyrene		1.0	j		0.99	1.2	0.42	0.29		7.1	j		7.1
Isophorone	Dog	15	c,d	10	67	81	28	19		u			
Naphthalene	Rat	7.1	c,d	10	13	16	5.5	3.7		23	y		23
Nitrobenzene	Mouse	0.046	c,d,p	100	0.046	0.055	0.019	0.013	Wild bird species	0.42	t,h,d,p	100	0.42
N-nitroso-di-n-propylamine	Mouse	0.010	q,d,p	100	0.0099	0.012	0.0042	0.0029		7.5	x		7.5
N-nitrosodiphenylamine	Rat	200	q		166	440	154	106		7.5	x		7.5
Pentachlorophenol	Rat	0.24	b		0.44	0.53	0.18	0.13	Quail	8.7	r,d,p	100	8.7
Phenanthrene		18	i		17	21	7.3	5.0	Mallard	23	z		23
Phenol	Rat	60	b		110	132	46	32	Blackbird	1.1	aa,d,p	100	1.1
Pyrene	Mouse	7.5	c,d	10	7.4	8.9	3.1	2.1		7.1	j		7.1

NOTES:

(a) - Sample *et al.*, 1996
(b) - SRSERD, 1999
(c) - USEPA, 2002
(d) - acute/subchronic study
(e) - based on Bis(2-ethylhexyl) phthalate
(f) - based on Dimethyl phthalate
(g) - based on Hexachlorobutadiene
(h) - based on 1,3 Dinitrobenzene
(i) - based on Acenaphthene
(j) - based on Benzo(a)pyrene
(k) - based on 2,2'-Oxybis (1-chloropropane)
(l) - based on Diethyl phthalate
(m) - based on Di-n-butylphthalate
(n) - based on $BMDL_{10}$ - 95% lower confidence limit on the maximum likelihood estimate of dose equaling 10% risk
(o) - UF = 10 for subchronic/acute exposure to a chronic OR from a LOAEL/LD50 to a NOAEL
(p) - based on a $LOAEL/LD_{50}$
(q) - ATSDR, 2002
(r) - Hill and Camardese, 1986
(s) - Schwetz *et al.*, 1974
(t) - NTP, 2003
(u) - No avian data available, therefore no TRV calculated
(v) - SIRI, 2003
(w) - Based on hamster mutation data - calculated using average rat body weight and daily water intake from Sample *et al.*, 1996.
(x) - based on 2-Nitroaniline
(y) - based on Phenanthrene
(z) - Windward Environmental, 2001
(aa) - Schafer *et al.*, 1983
(bb) - Hill *et al.*, 1975

Table III-C1
Mammalian and Avian NOAELs
Sauget, IL

Chemical	Mammalian Test Species	Test Species Chronic NOAEL (mg/kg-d)	Note	Uncertainty Factor (k)	Derived NOAEL: Prairie Vole NOAEL (mg/kg-d)	Derived NOAEL: Short Tailed Shrew NOAEL (mg/kg-d)	Derived NOAEL: Mink NOAEL (mg/kg-d)	Derived NOAEL: Fox NOAEL (mg/kg-d)	AvianTest Species	Test Species Chronic NOAEL (mg/kg-d)	Note	Uncertainty Factor (k)	Derived NOAEL: Osprey NOAEL (mg/kg-d)
Pesticides													
4,4'-DDD		0.80	f		1.5	1.8	0.62	0.42		0.0028	f		0.0028
4,4'-DDE		0.80	f		1.5	1.8	0.62	0.42		0.0028	f		0.0028
4,4'-DDT (DDT and metabolites)	Rat	0.80	a		1.5	1.8	0.62	0.42	Pelican	0.0028	a		0.0028
Aldrin	Rat	0.20	a		0.37	0.44	0.15	0.11	Bobwhite	0.066	u,d,e	100	0.066
alpha-BHC	Rat/Mink	1.6/.014	a,g		2.9	3.5	0.014	0.0096	Quail	0.56	a		0.56
alpha-Chlordane	Mouse	4.6	a,h		4.6	5.5	1.9	1.3	Blackbird	2.14	a,h		2.1
beta-BHC	Rat	0.40	a		0.73	0.88	0.31	0.21	Quail	0.56	a		0.56
delta-BHC	Rat/Mink	1.6/.014	a,g		2.9	3.5	0.014	0.0096	Quail	0.56	a		0.56
Dieldrin	Rat	0.020	a		0.037	0.044	0.015	0.011	Barn owl	0.077	a		0.077
Endosulfan-I	Rat	0.15	a,i		0.27	0.33	0.12	0.079	Partridge	10	a,i		10
Endosulfan-II	Rat	0.15	a,i		0.27	0.33	0.12	0.079	Partridge	10	a,i		10
Endosulfan sulfate	Rat	0.15	a,i		0.27	0.33	0.12	0.079	Partridge	10	a,i		10
Endrin	Mouse	0.092	a		0.091	0.11	0.038	0.026	Screech owl	0.010	a		0.010
Endrin Aldehyde		0.092	j		0.091	0.11	0.038	0.026		0.010	j		0.010
Endrin Ketone		0.092	j		0.091	0.11	0.038	0.026		0.010	j		0.010
gamma-BHC (Lindane)	Rat	8.0	a		15	18	6.2	4.2	Mallard	2.0	a		2.0
gamma-Chlordane	Mouse	4.6	a,h		4.6	5.5	1.9	1.3	Blackbird	2.14	a,h		2.1
Heptachlor	Mink	0.10	a		0.24	0.29	0.10	0.069	Quail	0.065	m		0.065
Heptachlor epoxide	Rat	0.0013	c,e	10	0.0023	0.0027	0.00096	0.00066		0.065	o		0.065
Methoxychlor	Rat	4.0	a		7.3	8.8	3.1	2.1	Chicken	145	q		145
Toxaphene	Rat	8.0	a		15	18	6.2	4.2	Black duck	2.0	b		2.0
Herbicides													
2,4-D (herbicide)	Rat	1.0	c		1.8	2.2	0.77	0.53	Quail	6.7	q,d,e	100	6.7
2,4-DB	Dog	0.80	c,d	10	3.6	4.3	1.5	1.0		6.7	r		6.7
2,4,5-T	Rat	3.0	c		5.5	6.6	2.3	1.6	Pheasant	5.0	u,d,e	100	5.0
2,4,5-TP (Silvex)	Dog	0.75	c		3.4	4.0	1.4	0.97		5.0	v		5.0
Dalapon	Rat	8.5	c		15	19	6.5	4.5	Quail	10	q,d,e	100	10
Dicamba	Rabbit	3.0	c		7.5	9.0	3.1	2.2	Quail	13	q,d,e	100	13
Dichloroprop	Mouse	0.20	l,d,e	100	0.20	0.24	0.083	0.057			n		
Dinoseb	Rat	0.10	c,e	10	0.18	0.22	0.077	0.053	Quail	0.070	q,d,e	100	0.070
MCPA	Dog	0.15	c		0.67	0.81	0.28	0.19	Quail	3.8	q,d,e	100	3.8
MCPP	Rat	0.30	c,d	10	0.55	0.66	0.23	0.16	Quail	7.0	q,d,e	100	7.0
PCBs													
Total PCBs	Rat	0.10	aa,d,e	100	0.18	0.22	0.077	0.053	Quail	5.0	aa,e	10	5.0
Dioxins/Furans													
2,3,7,8-TCDD	Rat	0.0000010	y		0.0000018	0.0000022	0.00000077	0.00000053	Ring-necked pheasant	0.0000014	z,d	10	0.0000014
Metals													
Aluminum	Mouse	1.9	a		1.9	2.3	0.80	0.55	Dove	110	a		110
Antimony	Mouse	0.13	a		0.12	0.15	0.052	0.036		1.0	w		1.0
Arsenic	Mouse	0.13	a		0.12	0.15	0.052	0.036	Mallard	5.1	a		5.1
Barium	Rat	5.1	a		9.3	11.2	3.9	2.7	1-Day old chick	21	b		21
Beryllium	Rat	0.66	a		1.2	1.5	0.51	0.35		1.5	x		1.5
Cadmium	Rat	1.0	a		1.8	2.2	0.77	0.53	Mallard	1.5	a		1.5
Chromium (6+)	Rat	3.3	a		6.0	7.2	2.5	1.7	Black Duck	1.0	a,t		1.0
Cobalt	Rat	0.050	b		0.091	0.11	0.038	0.026	Chicken	0.092	s,d	10	0.092
Copper	Mink	12	a		28	33	12	8.0	1-Day old chick	47	a		47
Lead	Rat	8.0	a		15	18	6.2	4.2	Kestrel	3.9	a		3.9
Manganese	Rat	88	a		161	193	68	46	Japanese Quail	997	a		997
Mercury	Rat/Mink	.032/.015	a		0.059	0.070	0.015	0.010	Mallard	0.0064	a		0.0064
Nickel	Rat	40	a		73	88	31	21	Mallard duckling	77	a		77
Selenium	Rat	0.20	a		0.37	0.44	0.15	0.11	Mallard	0.50	a		0.50
Silver	Mouse	0.18	b,d,e	100	0.18	0.22	0.075	0.052	Mallard	178	m		178
Thallium	Rat	0.0074	a		0.014	0.016	0.0057	0.0039	Starling	0.35	p		0.35
Vanadium	Rat	0.21	a		0.38	0.46	0.16	0.11	Mallard	11	b		11
Zinc	Rat	160	a		293	352	123	84	Chicken	15	a		15

NOTES:

(a) - Sample *et al.*, 1996
(b) - ATSDR, 2002
(c) - USEPA, 2002
(d) - acute/subchronic study
(e) - based on a LOAEL/LD50
(f) - based on 4,4'-DDT
(g) - based on BHC mixed isomers
(h) - based on chlordane
(i) - based on endosulfan
(j) - based on endrin
(k) - UF = 10 for subchronic/acute exposure to a chronic OR from a LOAEL/LD50 to a NOAEL
(l) - NIOSH, 2002
(m) - USEPA, 1999
(n) - No avian data available, therefore no TRV calculated
(o) - based on heptachlor
(p) - Desmond, 2002
(q) - EXTOXNET, 2003
(r) - based on 2,4-D
(s) - USEPA, 2003
(t) - based on Cr^{3+}
(u) - Hudson *et al.*, 1984
(v) - based on 2,4-T
(w) - based on Chromium
(x) - based on Cadmium
(y) - Murray *et al.*, 1979
(z) - Nosek *et al.*, 1992
(aa) - SIRI, 2003

NOTE: Calcium, Iron, Potassium, Magnesium and Sodium TRVs were not calculated as these analytes are considered essential nutrients.

Table III-C1
Mammalian and Avian LOAELs
Sauget, IL

Chemical	Mammalian Test Species	Test Species Chronic LOAEL (mg/kg-d)	Note	Uncertainty Factor (o)	Derived LOAEL Prairie Vole LOAEL (mg/kg-d)	Short Tailed Shrew LOAEL (mg/kg-d)	Mink LOAEL (mg/kg-d)	Fox LOAEL (mg/kg-d)	Avian Test Species	Test Species Chronic LOAEL (mg/kg-d)	Note	Uncertainty Factor (o)	Derived LOAEL Osprey LOAEL (mg/kg-d)
SVOCs													
1,2,4-Trichlorobenzene	Rat	54	b		98	118	41	28	Wild bird species	10	a,n,d	10	10
1,2-Dichlorobenzene	Rat	1200	b,p		2194	2637	923	634	Wild bird species	4.2	a,u,d	10	4.2
1,3-Dichlorobenzene		1200	e		2194	2637	923	634	Wild bird species	4.2	a,u,d	10	4.2
1,4-Dichlorobenzene	Rat	150	q		274	330	115	79	Wild bird species	4.2	a,u,d	10	4.2
2,2'-oxybis (1-chloropropane)	Mouse	198	c		196	235	82	57		11	k		11
2,4,5-Trichlorophenol	Rat	30	c,d	10	55	66	23	16			g		
2,4,6-Trichlorophenol		30	f		55	66	23	16			g		
2,4 Dichlorophenol	Rat	10	b		5.5	6.6	2.3	1.6		1023	l		1023
2,4 Dimethylphenol	Mouse	25	b		25	30	10	7.1		1023	l		1023
2,4 Dinitrophenol	Rabbit	0.013	r,d	10	0.031	0.038	0.013	0.0091	Chicken	1023	r,d	10	1023
2,4 Dinitrotoluene	Dog	1.5	c		6.7	8.1	2.8	1.9		1023	l		1023
2,6 Dinitrotoluene	Rat	7.0	q		13	15	5.4	3.7		1023	l		1023
2 Chloronaphthalene	Mouse	60	c,d	10	59	71	25	17		11	v		11
2-Chlorophenol	Rat	5.0	c,d	10	9.1	11	3.8	2.6	Blackbird	11	y,d	10	11
2 Methylnaphthalene	Mouse	28500	r		28199	33892	11861	8144		11	v		11
2-Methylphenol	Mink	2190	h		5207	6258	2190	1504		9.6	m		9.6
2-Nitroaniline		42	s		77	92	32	22	Blackbird	75	y,d	10	75
2 Nitrophenol		7.0	i		13	15	5.4	3.7		6.5	i		6.5
3,3'-Dichlorobenzidine	Mouse	510	r,d	10	505	606	212	146			g		
3/4 Methylphenol		2190	h		5207	6258	2190	1504	Blackbird	9.6	y,d	10	9.6
3 Nitroaniline	Rat	42	r,d	10	77	92	32	22	Blackbird	13	y,d	10	13
4,6-Dinitro-2-Methylphenol	Rat	4.6	r,d	10	8.3	10	3.5	2.4	Pigeon	0.70	n,d	10	0.70
4-Bromophenyl-phenylether	Rat	8.0	c,w,d	10	15	18	6.2	4.2			g		
4 Chloro 3-methylphenol	Rat	1120	r,d	10	2048	2462	861	591	Blackbird	11	y,d	10	11
4 Chloroaniline	Rat	13	c		23	27	9.6	6.6	Sparrow	10	y,d	10	10
4 Chlorophenyl phenylether	Rat	8.0	c,w,d	10	15	18	6.2	4.2			g		
4-Nitroaniline	Rat	42	r,d	10	77	92	32	22	Blackbird	7.5	y,d	10	7.5
4 Nitrophenol	Rat	7.0	q,d	10	13	15	5.4	3.7	Pigeon	6.5	n,d	10	6.5
Acenaphthene	Mouse	35	c,d	10	35	42	15	10	Blackbird	10	y,d	10	10
Acenaphthylene		35	j		35	42	15	10		228	x		228
Anthracene	Mouse	1000	b		989	1189	416	286	Blackbird	11	y,d	10	11
Benzo(a)anthracene		10	j		9.9	12	4.2	2.9		71	j		71

NOTES:
(a) - NTP, 2001
(b) - SRSERD, 1999
(c) - USEPA, 2002
(d) - acute/subchronic study
(e) - based on 1,2 Dichlorobenzene
(f) - based on 2,4,5-Trichlorophenol
(g) - No avian data available, therefore no TRV calculated
(h) - based on 2-Methylphenol
(i) - based on Acenaphthene
(j) - based on Benzo(a)pyrene
(k) - based on Bis(2-ethylhexyl) phthalate
(l) - based on 2,4 Dinitrophenol
(m) - based on 3/4 Methylphenol
(n) - based on 2,4,5-Trichloronitrobenzene
(o) - UF = 10 for subchronic/acute exposure to chronic
(p) - based on a NOAEL x 10
(q) - ATSDR, 2002
(r) - NIOSH, 2002
(s) - based on 4-Nitroaniline
(t) - based on 4-Nitrophenol
(u) - based on 1,3 Dinitrobenzene
(v) - based on Anthracene
(w) - based on Decabromodiphenyl ether
(x) - based on Phenanthrene
(y) - Schafer *et al.*, 1983

Table III-C1
Mammalian and Avian LOAELs
Sauget, IL

Chemical	Mammalian Test Species	Test Species Chronic LOAEL (mg/kg-d)	Note	Uncertainty Factor (o)	Derived LOAEL: Prairie Vole LOAEL (mg/kg-d)	Derived LOAEL: Short Tailed Shrew LOAEL (mg/kg-d)	Derived LOAEL: Mink LOAEL (mg/kg-d)	Derived LOAEL: Fox LOAEL (mg/kg-d)	AvianTest Species	Test Species Chronic LOAEL (mg/kg-d)	Note	Uncertainty Factor (o)	Derived LOAEL: Osprey LOAEL (mg/kg-d)
SVOCs													
Benzo(a)pyrene	Mouse	10	a		9.9	12	4.2	2.9	Chicken	71	y,p		71
Benzo(b)fluoranthene		10	j		9.9	12	4.2	2.9		71	j		71
Benzo(ghi)perylene		10	j		9.9	12	4.2	2.9		71	j		71
Benzo(k)fluoranthene		10	j		9.9	12	4.2	2.9		71	j		71
Bis(2-chloroethoxy)methane		198	k		196	235	82	57		11	s		11
Bis(2-chloroethyl)ether		198	k		196	235	82	57		11	s		11
Bis(2-ethylhexyl)phthalate	Mouse	183	a		181	218	76	52	Dove	11	b		11
Butylbenzylphthalate	Rat	47	c,d	10	86	103	36	25		11	s		11
Carbazole	Mouse	30	u,d	10	30	36	12	8.6		g			
Chrysene		10	j		9.9	12	4.2	2.9		71	j		71
Dibenzo(ah)anthracene		10	j		9.9	12	4.2	2.9		71	j		71
Dibenzofuran	Hamster	0.13	u,d,bb	10	0.24	0.29	0.10	0.069	Blackbird	10	z,d	10	10
Diethyl phthalate	Mouse	45800	b		45317	54466	19061	13087		10	t		10
Dimethyl phthalate		45800	l		45317	54466	19061	13087	Blackbird	10	z,d	10	10
Di-n-butylphthalate	Mouse	1833	a		1814	2180	763	524	Dove	1.1	b		1.1
Di-n-octylphthalate		1833	m		1814	2180	763	524	Pheasant	88	aa,d	10	88
Fluoranthene	Mouse	25	c,d	10	25	30	10	7.1		71	j		71
Fluorene	Mouse	25	b		25	30	10	7.1	Blackbird	10	z,d	10	10
Hexachlorobenzene	Rat	0.29	c		0.53	0.64	0.22	0.15	Quail	55	v,d,p	10	55
Hexachlorobutadiene	Rat	0.20	q		0.37	0.44	0.15	0.11	Quail	32	e,p		32
Hexachlorocyclopentadiene	Rat	1.1	c,d,n	10	2.0	2.4	0.85	0.58		32	f		32
Hexachloroethane	Rat	1.5	b		2.7	3.3	1.2	0.79		32	f		32
Indeno(1,2,3-cd)pyrene		10	j		10	12	4.2	2.9		71	j		71
Isophorone	Rat	179	c		327	393	138	95		g			
Naphthalene	Rat	14	c,d	10	26	31	11	7.5		228	x		228
Nitrobenzene	Mouse	0.46	c,d	10	0.46	0.55	0.19	0.13	Wild bird species	4.2	h,w,d	10	4.2
N-nitroso-di-n-propylamine	Mouse	0.10	q,d	10	0.099	0.12	0.042	0.029		75	r		75
N-nitrosodiphenylamine	Rat	50	q		91	110	38	26		75	r		75
Pentachlorophenol	Rat	2.4	a		4.4	5.3	1.8	1.3	Quail	87	v,d	10	87
Phenanthrene		35	i		35	42	15	10	Mallard	228	y,p		228
Phenol	Rat	120	b		219	264	92	63	Blackbird	11	z,d	10	11
Pyrene	Mouse	13	c,d	10	12	15	5.2	3.6		71	j		71

NOTES:
(a) - Sample *et al*., 1996
(b) - SRSERD, 1999
(c) - USEPA, 2002
(d) - acute/subchronic study
(e) - Schwetz *et al*., 1974
(f) - based on Hexachlorobutadiene
(g) - No avian data available, therefore no TRV calculated
(h) - NTP, 2003
(i) - based on Acenaphthene
(j) - based on Benzo(a)pyrene
(k) -based on 2,2'-Oxybis (1-chloropropane)
(l) - based on Diethyl phthalate
(m) - based on Di-n-butylphthalate
(n) - based on BMD_{10} - Maximum likelihood estimate of dose equaling 10% risk
(o) - UF = 10 for subchronic/acute exposure to chronic
(p) - based on a NOAEL x 10
(q) - ATSDR, 2002
(r) - based on 2-Nitroanaline
(s) - based on Bis(2-ethylhexyl) phthalate
(t) - based on Dimetyl phthalate
(u) - SIRI, 2003
(v) - Hill and Camardese, 1986
(w) - based on 1,3 Dinitrobenzene
(x) - based on Phenanthrene
(y) - Windward Environmental, 2001
(z) - Schafer *et al*., 1983
(aa) - Hill *et al*., 1975
(bb) - Based on hamster mutation data - calculated using average rat body weight and daily water intake from Sample *et al*., 1996.

Table III-C1
Mammalian and Avian LOAELs
Sauget, IL

Chemical	Mammalian Test Species	Test Species Chronic LOAEL (mg/kg d)	Note	Uncertainty Factor (h)	Derived LOAEL Prairie Vole LOAEL (mg/kg d)	Derived LOAEL Short Tailed Shrew LOAEL (mg/kg d)	Derived LOAEL Mink LOAEL (mg/kg d)	Derived LOAEL Fox LOAEL (mg/kg d)	Avian Test Species	Test Species Chronic LOAEL (mg/kg d)	Note	Uncertainty Factor (h)	Derived LOAEL Osprey LOAEL (mg/kg d)
Pesticides													
4,4' DDD		4.0	f		7.3	8.8	5.1	2.1		0.028	f		0.028
4,4' DDE		4.0	f		7.3	8.8	5.1	2.1		0.028	f		0.028
4,4'-DDT (DDT and metabolites)	Rat	4.0	a		7.3	8.8	5.1	2.1	Pelican	0.028	b		0.028
Aldrin	Rat	1.0	a		1.8	2.2	0.77	0.53	Bobwhite	0.66	v,e	10	0.66
alpha-BHC	Rat/Mink	3.2/0.14	a,g		5.9	7.0	0.14	0.096	Quail	23	b,g		23
alpha-Chlordane	Mouse	9.2	a,h		9.1	11	3.8	2.6	Blackbird	11	b,h		11
beta-BHC	Rat	2.0	a		3.7	4.4	1.5	1.1	Quail	23	b,g		23
delta-BHC	Rat/Mink	3.2/0.14	a,g		5.9	7.0	0.14	0.096	Quail	23	b,g		23
Dieldrin	Rat	0.20	a		0.37	0.44	0.15	0.11	Barn Owl	0.77	b		0.77
Endosulfan I	Rat	1.5	b,i		2.7	3.3	1.2	0.79	Partridge	100	b,i		100
Endosulfan II	Rat	1.5	b,i		2.7	3.3	1.2	0.79	Partridge	100	b,i		100
Endosulfan sulfate	Rat	1.5	b,i		2.7	3.3	1.2	0.79	Partridge	100	b,i		100
Endrin	Mouse	0.92	a		0.91	1.1	0.38	0.26	Screech Owl	0.10	b		0.10
Endrin Aldehyde		0.92	j		0.91	1.1	0.38	0.26		0.10	j		0.10
Endrin Ketone		0.92	j		0.91	1.1	0.38	0.26		0.10	j		0.10
gamma BHC (Lindane)	Rat	80	b		146	176	62	42	Mallard	20	b		20
gamma Chlordane	Mouse	9.2	a,h		9.1	11	3.8	2.6	Blackbird	11	b,h		11
Heptachlor	Mink	1.0	a		2.4	2.9	1.0	0.69	Quail	0.65	o,n		0.65
Heptachlor epoxide	Dog	0.013	d		0.036	0.047	0.024	0.016		0.65	p		0.65
Methoxychlor	Rat	80	a		15	18	6.2	4.2	Chicken	1450	r,n		1450
Toxaphene	Rat	80	b		146	176	62	42	Black duck	10	b		10
Herbicides													
2,4-D (herbicide)	Rat	5.0	d		9.1	11	3.8	2.6	Quail	67	r,e	10	67
2,4 DB	Dog	2.5	d,e	10	11	13	4.7	3.2		67	s		67
2,4,5-T	Rat	10	d		18	22	7.7	5.3	Pheasant	50	v,e	10	50
2,4,5-TP (Silvex)	Dog	2.5	d		11	13	4.7	3.2		50	w		50
Dalapon	Rat	29	d		52	63	22	15	Quail	100	r,e	10	100
Dicamba	Rabbit	10	d		25	30	10	7.2	Quail	125	r,e	10	125
Dichloroprop	Mouse	2.0	t,e	10	2.0	2.4	0.83	0.57		m			
Dinoseb	Rat	1.0	d		1.8	2.2	0.77	0.53	Quail	0.70	r,e	10	0.70
MCPA	Dog	0.75	d		3.4	4.0	1.4	0.97	Quail	38	r,e	10	38
MCPP	Rat	0.90	d,e	10	1.6	2.0	0.69	0.48	Quail	70	r,e	10	70
PCBs													
Total PCBs	Rat	1.0	r,e	10	1.8	2.2	0.77	0.53	Quail	50	r		50
Dioxins/Furans													
2,3,7,8-TCDD	Rat	0.000010	aa		0.000018	0.000022	0.0000077	0.0000053	Ring-necked pheasant	0.000014	bb,e	10	0.000014
Metals													
Aluminum	Mouse	19	a		19	23	8.0	5.5	Dove	1100	b		1100
Antimony	Mouse	1.3	a		1.2	1.5	0.52	0.36		5.0	a		5.0
Arsenic	Mouse	1.3	a		1.2	1.5	0.52	0.36	Mallard	13	b		13
Barium	Rat	20	a		36	44	15	10	1-Day old chick	42	b		42
Beryllium	Rat	6.6	b		12	15	5.1	3.5		20	y		20
Cadmium	Rat	10	a		18	22	7.7	5.3	Mallard	20	b		20
Chromium (6+)	Rat	13	a		24	29	10	6.9	Black Duck	5.0	a,u		5.0
Cobalt	Rat	0.50	c		0.91	1.1	0.38	0.26	Chicken	0.46	t,e	10	0.46
Copper	Mink	15	a		37	44	15	11	1-Day old chick	62	b		62
Lead	Rat	80	a		146	176	62	42	Kestrel	39	a,n		39
Manganese	Rat	284	a		519	624	218	150	Japanese Quail	9970	a,n		9970
Mercury	Rat/Mink	0.16/0.025	a		0.29	0.35	0.025	0.017	Mallard	0.064	a		0.064
Nickel	Rat	80	a		146	176	62	42	Mallard duckling	107	b		107
Selenium	Rat	0.33	a		0.60	0.73	0.25	0.17	Mallard	1.0	b		1.0
Silver	Mouse	1.8	c,e	10	1.8	2.2	0.75	0.52	Mallard	1780	o,n		1780
Thallium	Rat	0.074	a		0.14	0.16	0.057	0.039	Starling	3.5	q,n		3.5
Vanadium	Rat	2.1	a		3.8	4.6	1.6	1.1	Mallard	114	b		114
Zinc	Rat	320	a		585	703	246	169	Chicken	131	a		131

NOTES:

(a) - Sample *et al*., 1996
(b) - SRSERD, 1999
(c) - ATSDR, 2002
(d) - USEPA, 2002
(e) - [illegible]/subchronic study
(f) [illegible] 4,4'-DDT
(g) - based on BHC mixed isomers
(h) - based on chlordane
(i) - based on endosulfan
(j) - based on endrin
(k) - UF = 10 for subchronic/acute exposure to chronic
(l) - NIOSH, 2002
(m) - No avian data available, therefore no TRV calculated
(n) - based on a NOAEL x 10
(o) - USEPA, 1999
(p) - based on heptachlor
(q) - Desmond, 2002
(r) - EXTOXNET, 2003
(s) - based on 2,4-D
(t) - USEPA, 2003
(u) - based on Cr^{3+}
(v) - Hudson *et al*., 1984
(w) - based on 2,4,5-T
(x) - based on Chromium
(y) - based on Cadmium
(z) - SIRI, 2003
(aa) - Murray *et al*., 1979
(bb) - Nosek *et al*., 1992

NOTE: Calcium, Iron, Potassium, Magnesium and Sodium TRVs were not calculated as these analytes are considered essential nutrients

Table III-C1
References and Calculations for TRVs
Sauget, IL

References

1) Agency for Toxic Substances and Disease Registry (ATSDR). 2002. Minimal Risk Levels for Hazardous Substances. www.atsdr.cdc.gov/mrls.html.

2) Desmond, W.P., PhD. 2002. Draft Final Phase I Ecological Risk Assessment. Deseret Chemical Depot; Tooele Chemical Agent Disposal Facility (TOCDF); EPA I.D. No. UT 5210090002.

3)Extension Toxicology Network (EXTOXNET). 2003. http://ace.orst.edu/info/extoxnet/ghindex.html.

4) Hill, E. F., M. B. Camardese. 1986. Lethal Dietary Toxicities of Environmental Contaminants and Pesticides to Coturnix. U.S. Fish and Wildlife Service, Fish and Wildlife Technical Report 2.

5) Hill, E. F., R. G. Heath, J. W. Spann, and J.D. Williams. 1975. Lethal Dietary Toxicities of Environmental Pollutants to Birds. U.S. Fish and Wildlife Service, Special Scientific Report-Wildlife 191:1-61.

6) Hudson R. H., R. K. Tucker, and M. A. Haegele. 1984. Handbook of Toxicity of Pesticides to Wildlife. U.S. Fish and Wildlife Service, Resource Publication 153.

7) Murray, F.J., F.A. Smith, K.D. Nitschke, C.G. Humiston, R.J. Kociba, and B.A. Schwetz. 1979. Three-Generation Reproduction Study of Rats Given 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) in the Diet. Toxicology and Applied Pharmacology. 50: 241-252.

8) Nosek, J.A., S.R. Craven, J.R. Sullivan, S.S. Hurley, and R.E. Peterson. 1992. Toxicity and Reproductive Effects of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin in Ring-necked Pheasant Hens. Journal of Toxicology and Environmental Health. 35: 187-198.

9) National Institute for Occupational Safety and Health (NIOSH). 2002. The Registry of Toxic Effects of Chemical Substances. www.cdc.gov/niosh/rtecs.html.

10) National Toxicology Program (NTP). 2003. http://ntp-server.niehs.nih.gov/.

11) Sample, B.E., D.M. Opresko, and G.W. Suter II. 1996. Toxicological Benchmarks for Wildlife: 1996 Revision. ES/ER/TM-86/R3.

12) Savannah River Site Environmental Restoration Division (SRSERD). 1999. Regulatory Document Handbook. ERD-AG-003: P.7.3.

13) Schafer, E. W. Jr., W. A. Bowles, Jr., and J. Hurlbut. 1983. The Acute Oral Toxicity, Repellency, and Hazard Potential of 998 Chemicals to One or More Species of Wild and Domestic Birds. Arch. Environm. Contam. Toxicol. 12: 355-382.

14) Schwetz, B.A., J.M. Norris, R.J. Kociba, P.A. Keeler, R.F. Cornier, and P.J. Gehring. 1974. "Reproduction Study in Japanese Quail Fed Hexachlorobutadiene for 90 Days." Toxicology and Applied Pharmacology. 30:255-265.

15) United States Environmental Protection Agency (USEPA). 1999. Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities. EPA530-D-99-001A.

16) USEPA. 2002. Integrated Risk Information System (IRIS). www.epa.gov/iris.

Table III-C1
References and Calculations for TRVs
Sauget, IL

References (Cont.)

17) USEPA. 2003. Draft Ecological Soil Screening Level for Cobalt - Interim Final.

18) Vermont Safety Information Resources, Inc. (SIRI). 2003. http://hazard.com/msds/index.php.

19) Windward Environmental, LLC. 2001. Final Ecological Risk Assessment: Current and Future Scenarios. http://avilapierstatus.org/pdfs/ERA.pdf.

Calculations

NOAEL TRVs:

Mammalian Species[a]	Avian Species[a]
$NOAEL_w = NOAEL_t \times (BW_t / BW_w)^{1/4}$	$NOAEL_w = NOAEL_t \times (BW_t / BW_w)^0$

$NOAEL_w$ = No observable adverse effects level for the wildlife species.
$NOAEL_t$ = No observable adverse effects level for the laboratory test species.
BW_w = Body weight of the wildlife species.
BW_t = Body weight of the laboratory test species.
[a] - Calculations from Sample *et al.*, 1996.

Note: An uncertainty factor of ten was used for extrapolating from a $LOAEL/LD_{50}$ to a NOAEL or from an acute/subchronic value to a chronic value.

LOAEL TRVs:

Mammalian Species[a]	Avian Species[a]
$LOAEL_w = LOAEL_t \times (BW_t / BW_w)^{1/4}$	$LOAEL_w = LOAEL_t \times (BW_t / BW_w)^0$

$LOAEL_w$ = Lowest observable adverse effects level for the wildlife species.
$LOAEL_t$ = Lowest observable adverse effects level for the laboratory test species.
BW_w = Body weight of the wildlife species.
BW_t = Body weight of the laboratory test species.
[a] - Calculations from Sample *et al.*, 1996.

Notes: An uncertainty factor of ten was used for extrapolating from an acute/subchronic value to a chronic value.
If a LOAEL value was not available, the NOAEL was multiplied by ten to estimate the LOAEL.

Table III-C2
Toxicity Equivalency Factors (TEFs) for Wildlife
Sauget, IL

Dioxin/Furan Congeners	Mammals	Fish	Birds
1,2,3,4,6,7,8-Heptachlorodibenzo-P-Dioxin	0.010	0.0010	0.0010
1,2,3,4,6,7,8-HpCDF	0.010	0.010	0.010
1,2,3,4,7,8,9-HpCDF	0.010	0.010	0.010
1,2,3,4,7,8-Hexachlorodibenzo-P-Dioxin	0.10	0.50	0.050
1,2,3,4,7,8-HxCDF	0.10	0.10	0.10
1,2,3,6,7,8-Hexachlorodibenzo-P-Dioxin	0.10	0.010	0.010
1,2,3,6,7,8-HxCDF	0.10	0.10	0.10
1,2,3,7,8,9-Hexachlorodibenzo-P-Dioxin	0.10	0.010	0.10
1,2,3,7,8,9-HxCDF	0.10	0.10	0.10
1,2,3,7,8-Pentachlorodibenzofuran	0.050	0.050	0.10
1,2,3,7,8-Pentachlorodibenzo-P-Dioxin	1.0	1.0	1.0
2,3,4,6,7,8-HxCDF	0.10	0.10	0.10
2,3,4,7,8-PeCDF	0.50	0.50	1.0
2,3,7,8-TCDD	1.0	1.0	1.0
2,3,7,8-Tetrachlorodibenzofuran	0.10	0.050	1.0
OCDD	0.00010	0.00010*	0.00010*
OCDF	0.00010	0.00010	0.00010
Total HpCDD	0.010	0.0010	0.0010
Total HpCDF	0.010	0.010	0.010
Total HxCDD	0.10	0.50	0.10
Total HxCDF	0.10	0.10	0.10
Total PeCDD	1.0	1.0	1.0
Total PeCDF	0.50	0.50	1.0
Total TCDD	1.0	1.0	1.0
Total TCDF	0.10	0.050	1.0

Source: Van den Berg *et al*., 1998
* = Values not available for fish or birds, therefore, the TEF presented was based on the mammalian value.

Appendix III-D

Fate and Transport Processes for COPECs

Neither chemical concentrations nor chemical structures remain constant in the environment. When a chemical is released into the environment, it may be transported, transformed, and/or accumulated in one or more media. This Appendix summarizes the transport and transformation processes applicable to COPECs at the Sauget Site 2, which are:

- physical transport - which occurs when chemicals volatilize from soil, sediment, or surface water and diffuse into pore spaces or into the atmosphere.
- chemical transformation - which involves natural chemical reactions in soil, sediment, or surface water to change the structure of the compounds (*e.g.*, photolysis, sorption, biodegradation).

Collectively, these processes are called natural attenuation (USEPA, 1985). Processes that affect chemical residuals detected in soil within Areas O-S and pond water are summarized below.

D1. VOLATILIZATION

Volatilization is the transfer of matter from the dissolved phase to the gaseous phase. Volatilization rates are chemical-specific and are dependent on the physical and chemical properties of each compound (USEPA, 1985). Several classes of compounds have been detected at Site 2 including SVOCs, pesticides, herbicides, PCBs, dioxins/furans, and metals. Some of these compounds are more likely to volatilize than others, such as the SVOCs and some herbicides. Metals rarely volatilize unless transformed into an organo-metallic compounds, such as mercury. A measure of volatility is the Henry's Law Constant, with higher values indicating greater volatility.

D1.1 TERRESTRIAL COPECS

In general, volatilization from soil is not a significant transport pathway for many of the SVOCs including chrysene (ATSDR, 1995a), bis(2-chloroethoxy)methane (Zeiger, 1998), and dibenzofuran (Spectrum Laboratories, 2003b). However, N-nitroso-di-n-propylamine volatilizes quickly in surface soil (half-life of two to six hours) but it does not volatilize in subsurface soils (ATSDR, 1989).

Volatilization is a significant transport pathway for some of the pesticides/herbicides. In silty sand, approximately 12% of endosulfan is volatilized after 24 hours and 60% from plant surfaces (ATSDR, 2000a). Despite a low vapor pressure, approximately 20 to 30% of endrin volatilizes into the atmosphere after an agricultural application thereby significantly decreasing the amount of endrin on plant surfaces (ATSDR. 1996a). MCPA can volatilize into the atmosphere, sorb to airborne soil particles and moisture in clouds, then redeposit on the landscape as rain (Donald et al., 2001). However, volatilization of dinoseb and heptachlor epoxide is not expected to be significant (ATSDR, 1993c; Spectrum Laboratories, 2003c).

PCBs volatilize from both soil and water and are transported throughout the atmosphere via volatilization/deposition cycles. PCBs tend to volatilize more rapidly from soil with low organic content. Biphenyl and monochlorobiphenyl tend to remain in the atmosphere. Monochlorobiphenyl through tetrachlorobiphenyls will gradually migrate into the atmosphere to polar latitudes while tetrachlorobiphenyls through octachlorobiphenyls remain in the mid-latitude atmosphere. Octachloro- and nonachlorobiphenyls remain close to the contaminant source. (ATSDR, 2000). TCDD undergoes rapid volatilization in soil (Hrudey et al., 1996).

D1.2 AQUATIC COPECs

Dinitrocresols dissociate and form hydrogen bonds with water reducing its vapor pressure, so volatilization is not a significant degradation pathway for this compound (ATSDR, 1995b). Volatilization of bis (2-chloroethoxy)methane is a slow process from dry soil and negligible from wet soil (Spectrum Laboratories, 2003a).

Volatilization is a major degradation pathway for DDT and its metabolites DDE and DDD where the compounds are transported throughout the atmosphere. The half-life for DDT is several hours to 50 hours. DDD volatilizes five times less than DDT or DDE (ATSDR, 1994).
Photolysis is a significant abiotic degradation pathway in water for PCBs. The photolysis half-life in shallow water (less than 0.5 meters) for less chlorinated congeners (mono- to tetrachlorinated biphenyls) ranges from 17 to 210 days in summer. More highly chlorinated congeners are sequestered in sediments (ATSDR, 2000b). Volatilization of chlorinated dioxins is rapid in surface waters with half-lives of 32 days in ponds and lakes and 16 days in rivers (ATSDR, 1998).

D2. PHOTOLYSIS/PHOTOOXIDATION

Photolysis and photooxidation are the result of the decomposition of molecules through the absorption of light (USEPA, 1985).

D2.1 TERRESTRIAL COPECS

PAHs are readily photooxidized and the most important factor in the decay of particle-sorbed PAHs in the atmosphere. Photodegradation is a significant degradation pathway in soil for Dinoseb (EXTOXNET, 1993a), N-nitroso-di-n-propylamine (ATSDR, 1989), endosulfan (under alkaline conditions) (ATSDR, 2000a), and endrin (ATSDR, 1996a). Photolysis of heptachlor in the surface layer yields heptachlor epoxide (Miglioranza et al., 2003). Heptachlor epoxide is converted to intermediate and final photoproducts when exposed to sunlight or ultraviolet light on the surface of plants (ATSDR, 1993c).

Photodegradation of dibenzofuran occurs quickly by photochemical produced hydroxyl radicals as evidenced by a half-life of 11.3 hours (Spectrum Laboratories, 2003b). MCPA is stable to photolysis in soils because it is applied post-emergence to growing crops and the crop canopy protects residues reaching the soil. MCPA can degrade in water through photodegradation (Spectrum Laboratories, 2003d).

Photolysis of PCBs may occur in surface soil; however, it is an insignificant degradation pathway (ATSDR, 2000b).

The dominant transformation processes affecting chlorinated dioxins (CDDs) have shown to be surface photolysis (ATSDR, 1998; Hrudey et al., 1996). In a study completed after eight years of aerial spraying of 2,4,5-T at Eglin Air Force Base in Florida where approximately 2.8 kg of TCDD was applied, no indications of adverse ecological impacts were observed from contaminating dioxins contained within 2,4,5-T. Much of the TCDD was photodegraded such that less than one percent was left in the soil and approximately 5% was estimated to be lost annually due to volatilization. Although Eglin AFB receives an annual rainfall of approximately 150 cm, TCDD did not leach into the sandy soil as it is strongly adsorbed. The biodegradation half-life was estimated at 10 to 12 years. No animal deaths were recorded (Young, 1983).

D2.2 AQUATIC COPECs

Many of the aquatic COPECs are readily photodegraded. Photolysis and biodegradation are the dominant degradation pathways in surface water for pentachlorophenol – its half-life is approximately 3.5 hours at pH 7.3 in surface water. However, photolysis attenuates at increasing water depth (ATSDSR, 1994b). DDE absorbs short-wave uV radiation and undergoes rapid photolysis within 0.94 to 6.1 days. DDE also undergoes photoisomerization and the photoisomers are slower to photolyzed than the parent compounds (ATSDR, 1994). Aldrin is degraded by ultraviolet radiation or microbial action into the compound photo dieldrin (ATSDR, 1993b). However, MCPP does not readily photodegrade in water (USEPA, 1988b).

Photolysis in CDDs is a major route of degradation in aqueous solutions; however, it is slow unless an organic hydrogen donor, such as petroleum hydrocarbons is present. The less chlorinated congeners are degraded faster than more chlorinated congeners and those congeners with chlorines in the lateral positions (e.g., 2,3,7,8-TCCD) are more susceptible than the chlorines in the *para* positions (1,4,6,9-TCDD). The half-life in water is approximate 118 hours in winter, 51 hours in fall, 27 hours in spring and 21 hours in summer (ATSDR, 1998).

D3. SORPTION

Sorption is the binding of chemical residuals to soil particles. The relative strength of this binding is measured by the organic carbon partition coefficient (K_{oc}), such that the higher the K_{oc}, the greater the affinity the compound has bind to soil particles. In general, adsorption of contaminants increases with increasing organic content in soil. The extent of metals' adsorption to soil is measured as K_d and is defined as the ratio of the concentration adsorbed to the soil surface to the concentration in soil pore water (Dragun, 1998).

Sorption is important to biological systems in that it is one of the factors governing bioavailability. Whether a COPEC is bound to soil or the gastrointestinal (GI) tract lining, it is not available for systemic circulation and would preclude toxicological effects. Sorption is also affected by such factors as pH, especially in metals: decreasing pH yields increasing mobility.

D3.1 SVOCS

SVOCs with log K_{oc} values greater than three indicate an affinity to sorb to soil. High molecular weight PAHs such as chrysene have a greater tendency to sorb to soil, based on increasing K_{oc} values (ATSDR, 1995a). PCP adsorption is Ph dependent such that sorption decreases with neutral and basic soils and increases with increasing acidity (ATSDR, 1994b).

Hexachlorobenzene sorbs strongly to soils and sediments and will be transported by silts during flooding rather than remaining in the dissolved phase. Hexachlorobenzene is reported as a contaminant in sediments associated with river systems of the Mississippi River drainage area (ATSDR, 1996b). Hexachlorobutadiene adsorbs to sediments with high organic content, based on a log K_{oc} of 3.67. It is mobile in sandy sediments with low organic content (ATSDR, 1994b). Nitrophenols partitioning between the water and sediment interface are dependent on pH. Sorption is correlated with iron oxide, clay and silt contents (ATSDR, 1992d). Bis (2-chloroethoxy)methane has a low affinity for sorption (log 2.0); therefore, it would most likely be mobile in soil (Spectrum Laboratories, 2003a).

D3.2 PESTICIDES/HERBICIDES

TOC is the most important organochlorine pesticide (OCP) sorbent along with other factors such as particle size characteristics, organic matter composition and physico-chemical characteristics (Miglioranza et al., 2003). Dieldrin, heptachlor epoxide and endrin are persistent in soil as these compounds adsorb strongly. Thus, it is likely that these compounds will not leach to groundwater (ATSDR, 1993b; ATSDR, 1993c; ATSDR, 1996a). Endosulfan (log K_{oc} of 3.3) (ATSDR, 2000a) and MCPA/MCPP (log K_{oc} 2.0) do not adsorb well onto soil and will easily leach. However, mobility decreases with increasing organic matter in soil. MCPA/MCPP are persistent under reducing conditions (e.g., -120mV) (Vink and van den Zee, 1997).

One of the dominant fate processes for 4,4, DDE is sorption whether it is to biota, suspended particulate matter, sediments, or soils (ATSDR, 1994c).

D3.3 PCBs

Highly chlorinated (7-10 chlorines) PCBs, present in low concentrations, are tightly bound to soil, sediment, and organic matter. In general, log K_{oc} values range from 3.27 for biphenyl to 6.08 for hexachlorobiphenyl. Log K_{oc} values for PCBs 8, 52, and 153 in soils with variable organic carbon contents (0.2-2.3% by weight) are 1.87-2.92, 2.73-3.74, and 4.15-4.84, respectively indicating that these compounds do not leach to groundwater (ATSDR, 2000).

In surface water, PCBs exist in three phases: dissolved, particle-associated, and colloid-associated. Dissolved PCBs consist of the less chlorinated congeners and will readily partition to the vapor phase. Highly chlorinated, less soluble congeners are associated with the particles and colloids and do not exchange with the vapor phase. In the water column, the ratio between particle-bound PCBs to dissolved is 2:1 (ATSDR, 2000b).

Highly chlorinated (*ortho*-poor) PCB congeners can be sequestered in aquatic sediments for relatively long periods. In the Great Lakes, half-lives based on sedimentation and volatility are 11 (di), 15 (tri), 10, (tetra), 12 (penta), 5.3 (hexa), 7 (hepta), and 5 (octa) (ATSDR, 2000b).

D3.4 Dioxins/Furans

TCDD has low water solubility but a high K_{oc} indicating that it readily bound to soil and is immobile (ATSDR, 1998; Hrudey et al., 1996). Approximately 70 to 80% of dioxin is removed from the water column through sorption to sediment precluding volatilization or bioaccumulation (ATSDR, 1998).

D3.5 Metals

The ability of metals to sorb to soil is dependent on speciation (*i.e.*, trivalent cations are preferentially adsorbed over divalent cations which are preferentially adsorbed over monovalent cations) and soil properties (Dragun, 1998).

Increasing K_d indicates increasing affinity for soil and a decreasing concentration of dissolved metal in the pore water (Allen, 2002). The fraction of total metals that are dissolved in the pore

water solution is dependent on the metal. For example, the percentage of total dissolved metals in pore water for copper and lead is between 0.001% and 0.01%; for cadmium, the percentage is 0.05% to 15% and 0.001% to 5% for zinc (Allen, 2002). Some of the metal COPECs (*e.g.,* arsenic, barium, lead, silver) will react with metal oxides and hydroxides or complex with other metals or organics in soils rendering them immobile and not bioavailable (ATSDR, 1992b; Eisler, 2000).

Aluminum. Aluminum is a naturally occurring, abundant mineral found in silicates, micas, feldspar, cryolite and bauxite (ATSDR, 1999) at concentrations between 0.45 and 10% (Pendias and Pendias, 1992). Aluminum is not a free metal in nature but is only found as the trivalent ion (Al^{3+}). It reacts with chlorine, fluorine, sulfate, nitrate, phosphate and other negatively charged functional groups found in humic materials and clay (ATSDR, 1999). Aluminum salt coagulants are used in potable drinking water (Pendias and Pendias, 1992).

Transport and partitioning is affected by chemical properties. At pHs between 5 and 8 and with weathering, aluminum forms an insoluble hydroxide [$Al(OH)_3$] or aluminosilicate that are the structural components of clays (ATSDR, 1999; Pendias and Pendias, 1992). Clays may act as a sink or source for soluble aluminum, depending on the degree of aluminum saturation (ATSDR, 1999). Acidification causes mobility (ATSDR, 1999; Pendias and Pendias, 1992), increasing pH (i.e., at pH 5 to 6), aluminum complexes with phosphate and precipitates out of solution (ATSDR, 1999).

Arsenic. Arsenic occurs in over 200 naturally occurring compounds. It is readily soluble. It is found in three oxidation states – elemental (As^0), trivalent (As^{3+}), and pentavalent (As^{5+}). The elemental and trivalent forms are characteristic of reducing environments. Various oxidized forms (AsO_2-, AsO_4^{3-}, $HAsO_4^{2-}$, and H_2AsO_3- are common soluble forms of arsenic. Under most environmental conditions, the pentavalent arsenic is in the form of $H_2AsO_4^-$. The most dominant species found in acidic reducing conditions is H_3AsO_3 (Pendias and Pendias, 1992). Arsenic strongly sorbed to soils and is not likely to desorb unless it combines with iron or aluminum oxides and liberated with hydrolysis and with the reduction of soil potential (Pendias and Pendias, 1992).

The lowest arsenic levels are found in sand (Pendias and Pendias, 1992); however, arsenic accumulates in soils where the organic form is complexed and chelated by organic material, iron, aluminum, and calcium. Arsenic can undergo a series of transformation processes in when bound to soil such as oxidation-reduction, methylation, volatilization, leaching, adsorption, and precipitation (Hrudey et al., 1996).

Barium. Common concentration ranges for barium are between 400 and 1200 ppm. It is associated with potassium. Barium is not usually mobile as it is sorbed to oxides and hydroxides and easily precipitates as a sulfate or carbonate (Pendias and Pendias, 1992).

Natural water contains high levels of barium sulfate ($BaSO_4$) and organic matter complexes. It precipitates out of solution as insoluble salts ($BaSO_4$ or $BaCO_3$). Barium also adsorbs to suspended particulate matter within the water column. In sediments, barium is found as the sulfate form (ATSDR, 1992b).

Cadmium. Average cadmium concentrations in soil range between 0.06 and 1.1 ppm. The amount bound to soil is stable and it undergoes competitive adsorption on clays. Cadmium solubility is dependent on pH so that it is most mobile in slightly acidic (pH 4.5-5.5) soils but immobile in alkaline soils. Sources of cadmium include sewage sludge and phosphate fertilizers (Pendias and Pendias, 1992).

Chromium. In most soils, chromium exists as the trivalent form (Cr^{3+}) and is within mineral structures or forms of mixed chromic (Cr^{3+}) and ferric (Fe^{3+}) oxides. Trivalent chromium is only slightly mobile in very acidic media; at pH 5.5 it will precipitate out. Thus, chromic compounds are considered stable in soil. Hexavalent chromium (Cr^{6+}) is unstable in soil and in easily mobilized in alkaline or acidic soils. However, hexavalent chromium is easily reduced to the trivalent form in most soil (Pendias and Pendias, 1992). Adsorption is not a major degradation process for hexavalent chromium (K_d up to 37) but is for trivalent chromium (K_d up to 150,000) (Dragun, 1998; Eisler, 2000).

Cobalt. Cobalt is a naturally occurring element found in soil and water. In large rivers, cobalt may be found in the following ranges (ATSDR, 1992c):

Cobalt Ranges	Unpolluted River	Contaminated River
Dissolved	1.6-1.6%	12%
Adsorbed	4.7-8%	27%
Precipitated w/mineral oxides (e.g., iron/manganese)	27-29%	19%
Precipitated w/carbonates and hydroxides	12-19%	15%
Crystalline aluminosilicates	44-51%	27%

Cobalt abundance in sedimentary rock is between 0.1 to 20 ppm and it is associated with clay minerals or organic matter (Pendias and Pendias, 1992). In soil and in water, cobalt is retained by oxides (e.g., iron and especially manganese), crystalline materials (e.g., clays, aluminosilicate, goethite), and natural organic substances that render it insoluble in water (ATSDR, 1992c; Pendias and Pendias, 1992). In water, cobalt will precipitate out as the carbonate and hydroxy forms (ATSDR, 1992c).

The mobility of cobalt decreases with increasing soil pH and in reducing conditions (ATSDR, 1992c; Pendias and Pendias, 1992). As cobalt is an organic complexing agent, bioavailability of inorganic cobalt is reduced in plants (ATSDR, 1992c).

Copper. Copper is naturally occurring at levels around 50 ppm in the earth's crust and the following average concentration in variously used soils (ATSDR, 1990a):

- 13-24 ppm natural (Pendias and Pendias, 1992)
- 25 ppm agricultural
- 50 ppm suburban/residential
- 100 ppm mixed residential/industrial
- 175 ppm industrial/inner urban

Copper adsorbs to organic matter, carbonate and clay minerals, hydrous iron and manganese oxides, and phosphates (ATSDR, 1990a; Pendias and Pendias, 1992). If organic matter is low, then the mineral content or the iron/manganese/aluminum oxides become important in determining copper adsorption (ATSDR, 1990a).

Lead. The primary form of lead in the natural state is galena or lead sulfide (PbS) (as divalent lead, Pb^{2+}). With weathering, galena slowly oxidizes to form carbonates which are incorporated into soils and sediment consisting of clay minerals, iron and manganese oxides and organic matter rendering these lead compounds insoluble (Hrudey et al., 1996; Pendias and Pendias, 1992). In alkaline soils, lead precipitates out as hydroxide, phosphate and carbonate compounds that further promote the formation of stable lead-organic complexes. Lead has the ability to replace potassium, barium, strontium, and calcium. Natural lead occurs at concentrations ranging from 10 to 67 ppm with an average of 32 ppm (Pendias and Pendias, 1992).

Mercury. Mercury is a naturally occurring element ranging in soils from 50 to 300 ppb. A common oxidation state is the divalent form (H^{2+}) that can be reduced by several bacterial and yeast species to elemental mercury. Elemental mercury (Hg^0) is volatile but develops strong bonds with sulfur and organic matter to form organo-mercury compounds, which are stable in aqueous media. The adsorption of mercury in clays is limited and controlled by organic complexation and precipitation. The mobility of mercury requires dissolution processes and biochemical degradation of theses organo-mercury compounds. (Pendias and Pendias, 1992).

Selenium. Selenium occurs naturally at average concentrations of 33 ppm. The oxidation state and solubility of selenium are controlled by the oxidation-reduction regime and the environmental pH. In well-drained mineral soils that are pH neutral, selenites exist exclusively, which are rapidly and nearly completely fixed by iron oxides and other oxides; these compounds are only slightly bioavailable. In alkaline and well-oxidized soils, selenates exists which are easily soluble and readily bioavailable to plants. In acid-gley soils and soils with high organic matter content, selenides and selenium sulfides dominate which are only slightly mobile and are not bioavailable. Biological methylation is common. In sediments, selenium is associated with the clay fraction and occurs at concentrations less than one ppm. The presence of phosphate and sulfate reduce selenium adsorption. Sources of selenium include the combustion of coal (Pendias and Pendias, 1992).

Silver. The common concentration range for naturally occurring silver is 0.03 to 0.09 ppm (Pendias and Pendias, 1992). The mobility of silver in soil is affected by drainage (it is removed from well-drained soil), Eh, pH, and the presence of organic matter (which act to immobilize

silver). Silver is immobile in soil if the pH is greater than 4 as it complexes with iron and manganese (ATSDR, 1990; Irwin *et al.*, 1997). Manganese oxides are the most significant adsorbent for silver (Pendias and Pendias, 1992). Under oxidizing condition, the prevalent forms are the bromides, chlorides, and iodides; under reducing conditions, silver is the free metal or silver sulfide. In natural waters, silver exists as metalloorganic complexes or adsorbed to organic materials (Irwin *et al.*, 1997).

Thallium. Thallium concentrations in US soils range between 0.02 and 2.8 ppm. Thallium occurs in three oxidation states – Tl^{+}, Tl^{2+}, and Tl^{3+}. It has an affinity to micaceous minerals and is fixed *in situ* by clays and gels of manganese and iron oxides. Thallium sorbs to organic matter under reducing conditions but when weathered, it is readily mobilized and transported with alkaline metals (Pendias and Pendias, 1992).

Vanadium. Vanadium is found in the earth's crust at an average concentration of 150 mg/kg (ATSDR,1992f). Loam and silty soils contain large amounts of vanadium – usually exceeding the amounts of the parent material (Pendias and Pendias, 1992). Fossil fuels contain vanadium and it is found in all coals used in the US (eastern – 30 ppm; interior – 34 ppm; western – 15 ppm) (ATSDR,1992f). Crude petroleum oil contains between 1 to 400 g/metric ton of vanadium (ATSDR, 1992f; Pendias and Pendias, 1992).

Vanadium occurs in four oxidations states – divalent (V^{2+}), trivalent (V^{3+}), tetravalent (V^{4+}), and pentavalent(V^{5+}). Oxidation states are influenced by pH, oxidation-reduction potential, and the presence of particulates (ATSDR, 1992f). Trivalent and pentavalent vanadium binds strongly to mineral and biogenic surfaces by adsorption and complexation (ATSDR, 1992f; Pendias and Pendias, 1992). Vanadium mobility decreases in acidic, reduced, saturated soils and fairly mobile in neutral and alkaline soils. The most common forms in water are VO^{2+}, $VO(OH)^{+}$, $H_2VO_4^{-}$, and HVO_4^{2-} (ATSDR, 1992f).

Vanadium forms complexes of cationic and anionic oxides and hydroxy oxides. It doesn't form its own minerals but replaces other metals (e.g., iron, titanium, aluminum) in crystal structures. It is adsorbed and incorporated in minerals structures of clays and iron oxides and is associated with organic matter, manganese, and potassium in soil (ATSDR, 1992f).

D4. BIODEGRADATION

Microorganisms, such as bacteria and fungi, use chemical residuals as food sources, an attenuation process called biodegradation, which usually results in decreased COPEC concentrations and decreased toxicity. Biodegradation of organic compounds has been extensively reported in the scientific literature.

D4.1 SOIL

Most of the organic COPECs detected at the Site are biodegradable; however, certain compounds degrade more quickly than others.

SVOCs. The biodegradation of PAHs is dependent, among other factors, on its molecular weight. Chrysene is a high molecular weight PAHs with a biodegradation half-life between 371-387 days (ATSDR, 1995; Howard, 1991).

Dibenzofuran is readily biodegraded by adapted microbes under aerobic conditions. Anaerobic biodegradation occurs but at a much slower rate (Spectrum Laboratories, 2003b). A yeast strain, *Trichosporon mucoides* was isolated from dioxin-contaminated soil and is capable of cleaving the aromatic structure of dibenzofuran (Hammer, et al., 1998).

Hexachlorobenzene is not significantly degraded by either abiotic or biotic processes. Its half-life in soil ranges from three to six years. Anaerobic degradation is by reductive dechlorination to form tri- and dichlorobenzenes (ATSDR, 1996b).

Biodegradation is the dominant removal process of N-nitroso-di-n-propylamine in subsurface soils. The aerobic half-life is between 14 and 40 days; the anaerobic half-life is between 47 and 80 days (ATSDR, 1989).

Pentachlorophenol is readily biodegraded under aerobic or anaerobic conditions in soil. The half-life of pentachlorophenol in aerobic soil is approximately 0.36 days and 192 days under anaerobic conditions (ATSDR. 1994b). Under anaerobic conditions, pentachlorophenol undergoes reductive dechlorination to tri and tetrachlorphenols and the transformation of rings

to carbon dioxide and methane (ATSDR, 1994b; Chaudhry, 1994). In freshwater sediments, reductive dechlorination byproducts include tetrachlorophenol, trichlorophenol, dichlorophenol, 3-chlorophenol, and phenol, which, under conditions at an activated sludge treatment facility, are transformed to hydrochloric acid, carbon dioxide and water (ATSDR, 1994b).

Biodegradation of 4-nitrophenol in surface water occurs rapidly, within 3.5 days in a river. In sediments, biodegradation occurs slowly under anaerobic conditions due to high concentrations of inhibitory methanogenic microorganisms. In flooded soils, greater than 50% of 4-nitrophenol was degraded in ten days (ATSDR, 1992d).

Biodegradation is not a significant pathway for bis (2-chloroethoxy) methane (Spectrum Laboratories, 2003a).

Pesticides. Pesticides enter the environment by a variety of transport processes – direct application, drift, washing off plant surface during rainfall or irrigation, erosion, surface runoff, volatilization, adsorption to airborne particulates. The proportion of applied pesticides reaching the target pest has been found to be less than 0.3%, leaving over 99% to go elsewhere (Pimentel, 1995).

DDT/DDE/DDD. Biodegradation of DDT and its metabolites is not significant but it does occur under aerobic (dechlorination) and anaerobic conditions (reductive dechlorination) by fungi, algae, and mixed microbes. Flooding increases the chemical transformation of DDT (ATSDR, 1994c).

Endosulfan. In soil, the biodegradation half-life is approximately one to two weeks. Biotransformation of endosulfan occurs under aerobic or anaerobic conditions by fungi, bacteria, and actinomycetes. Endosulfan sulfate is the product of fungal metabolism; the diol is a product of bacterial metabolism (ATSDR, 2000a). Other biodegradation metabolites include endosulfan ether, hydroxyether, and lactone although the sulfate is the only significant metabolite (Antonious and Byers, 1997).

On plant surfaces, endosulfan is oxidized to endosulfan sulfate. Residue levels on plants typically decrease to less than 20% within one week of application. The alpha and beta isomers

(i.e., Endosulfan I/II) are not readily biodegraded (Antonious and Byers, 1997) and the endosulfan sulfate residue is typically more persistent than other metabolites (ATSDR, 2000a).

Endrin. Endrin is not significantly biodegraded in soil. Results from an experiment using a clay soil with 10 to 33% moisture and an initial concentration of 1.6 to 2 ppm, the half-life was 26 to 32 weeks. Slower degradation was observed in drier soils (ATSDR, 1996a).

Herbicides. Dichlorprop is rapidly degraded in soil by bacterial activity given its half-life of approximately 10 days. Degradation occurs more rapidly in warm, moist soils with high organic content (USDA, 2003).

Chlorinated dibenzo-p-dioxins are resistant to microbial degradation in soil (ATSDR, 1998). MCPA undergoes rapid biodegradation; its half-life in aerobic soil is reported as less than four days up to 30 days (Vink and van den Zee, 1997). In soils with less than 10% organic matter, the compound was degraded in one day; soils with organic matter greater than 10% degraded in three to nine days (EXTOXNET, 1993b). Under low oxygen conditions, the half-life is 38 days and under anaerobic conditions in sediments, only 5% was transformed over 200 days. Transformation rates are regulated by oxygen-utilizing microorganisms (Vink and van den Zee, 1997). Two bacterial species, *Pseudomonas* and *Alcaligenes* will grow on MCPA (Chaudhry 1994).

MCPP, MCPA, and other chlorophenoxy herbicides are rapidly degraded in groundwater by *Stenotrophomonas maltophila* (Mai et al., 2001); however, another study indicates MCPP degradation is slow in aquifers whether aerobic, denitrifying or methanogenic conditions exist (Johannesen and Aaman, 2003). The residence time in soil may be extended with unfavorable environmental conditions; however, rapid mineralization occurs under aerobic conditions (Johannesen and Aamand, 2003). A transformation rate of 0.173/day was reported in an aerobic, undisturbed soil column; however, under anaerobic conditions, the transformation rate was reduced to 0.017/day (Vink and van der Zee, 1997). Bacteria such as *Sphingomonas herbicidovorans* and *Alcaligenes denitrificans* biodegrade MCPP as a sole carbon source along with other energy sources for growth (Vink and van der Zee, 1997; Zipper et al., 1998). *S. herbicidovorans* demonstrates distinct uptake systems for chiral phenoxyproprionic acid herbicides such as MCPP and Dichlorprop that are facilitated by diffusion and active transport

(Zipper et al., 1998). Aging has no effect on the mineralization of MCPP (Johannesen and Aamand, 2003).

PCBs. Biodegradation of PCBs is considered a major degradation pathway. Numerous bacteria and some fungi can degrade PCBs under both aerobic and anaerobic conditions. Biodegradation is highly variable and dependent on many factors such as previous exposure to PCBs or PCB-like compounds, bioavailability, initial concentrations, moisture, temperature, available nutrients and the presence of inhibitory compounds. Biodegradation is dependent on level of chlorination; it is predominant in the mono- through tetrachlorobiphenyls homologs. The penta-, hexa-, and hepta-chlorinated biphenyls are resistant to degradation unless enrichment is used (ATSDR, 2000b).

Dioxins/Furans. TCDD undergoes biodegradation but at a slow rate – the half-life ranges from 18 months to 100 years (Hrudey et al., 1996). In a study completed after eight years of aerial spraying of 2,4,5-T at Eglin Air Force Base in Florida where approximately 2.8 kg of TCDD was applied, no indications of adverse ecological impacts were observed from contaminating dioxins contained within 2,4,5-T. Much of the TCDD was photodegraded such that less than one percent was left in the soil and approximately 5% was estimated to be lost annually due to volatilization. Although Eglin AFB receives an annual rainfall of approximately 150 cm, TCDD did not leach into the sandy soil as it is strongly adsorbed. The biodegradation half-life was estimated at 10 to 12 years. No animal deaths were recorded (Young, 1983).

Metals. Metals do not biodegrade but may be biotransformed. Mercury is altered into a highly toxic form, methyl mercury, under acidic conditions (Eisler, 2000).

D4.2 WATER

SVOCs. Dinitro-o-cresols are slowly biodegraded by several pure cultures including *Corynebacterium simplex*, *Rhizobium leguminosarum*, *Veillonella alkalescens* and *Pseudomonas* spp although concentrations of 7500 mg/L were toxic to *C. simplex* (ATSDR, 1995b).

PCBs. Biodegradation of PCBs occurs through aerobic and anaerobic processes although, in sediments it is primarily through aerobic processes and primarily for the less chlorinated congeners. This is because highly chlorinated PCBs tend to sorb strongly to sediments and they are persistent with half-lives of months to years. Numerous bacterial and fungi species degrade mono- to tetrachlorinated biphenyls and biodegradation of congeners up to hexa and heptachlorobiphenyls will occur with enrichment. Metabolites of PCB degradation are chlorinated benzoic acids that degrade to chlorobenzoate that further degrades to carbon dioxide and inorganic chlorides (ATSDR, 2002b).

Biodegradation of PCB mixtures (such as Aroclors) occurs by fractionation where the less chlorinated congeners are degraded first, leaving the higher chlorinated congeners (ATSDR, 2002).

Aerobic degradation rates of PCBs are variable, based on various factors. Structural characteristics affect biodegradation - *ortho*-chlorinated congeners are more resistant than chlorines in the *meta* and *para* positions. Other factors include whether the microorganism has had previous exposure to PCB/PCB-like compounds, bioavailability, initial concentration, moisture, temperature available nutrients (carbon sources) and the presence of inhibitory compounds such as the PCB-degradation metabolites of mono- and dichlorobenzoates. These chlorinated benzoates may act as inhibitors for the further degradation of higher chlorinated PCBs (ATSDR, 2000b).

Under anaerobic conditions, slow, reductive dechlorination forms mono- and dichlorobiphenyls that can be aerobically degraded. Anaerobic degradation will decrease the concentrations of the more highly chlorinated congeners with a corresponding increase in less chlorinated congeners. Reductive dechlorination occurs in freshwater (lakes, ponds, rivers) and is dependent on the environmental factors that control aerobic degradation as well as electron acceptor availability, presence of co-contaminants, oxygen tension, redox levels, salinity, and trace metals (ATSDR, 2000b).

The optimum concentration range for biodegradation of PCBs is between 100 and 1000 ppm. Dechlorination rates at concentrations les than 50 ppm are negligible. Reductive dechlorination occurs under methanogenic, sulfidogenic, denitrifying and iron (III)-reducing conditions;

however, the fastest reduction occurs under methanogenic conditions. The extent and type of dechlorination varies from site to site. The congeners remaining from anaerobic degradation may be resistant to aerobic degradation (ATSDR, 2000b).

Dioxins/Furans. Biodegradation of dioxins in slow in water. The half-life of 1,2,3,4,7,8-HxCDD in the Hudson River was two year but the 1,2,4,6,8,9- and 1,2,4,6,7,8-HxCDD congeners were not degraded (ATSDR, 1998).

Appendix III-E

Ecotoxicology

This appendix summarizes the bioavailability of COPECs found at the Sauget Site 2 and their potential for bioaccumulation and biomagnification and discusses potential adverse effects.

Bioavailability is an important concept in risk assessments because toxicological effects are not elicited merely from the presence of a chemical. A receptor must be exposed such that the toxicant must first enter an organism through an exposure route (inhalation, ingestion or dermal contact) before interacting with cells. In other words, the chemical must be bioavailable. Bioavailability is defined as that portion of the exposure concentration that actually reaches the systemic (arterial) circulation for distribution through the organism and/or to the target organ. A chemical's bioavailability is affected by physical, chemical, and biological factors such as physical adsorption (*e.g.*, K_{oc}), lipid (fat) solubility and chemical adsorption, among others (Hamelink, *et al.*, 1994). Bioavailability determines if a chemical will bioaccumulate and/or biomagnify.

Bioaccumulation is defined as the net accumulation of a substance in a living organisms from all routes of exposure. Biomagnification is the tendency of a chemical to accumulate to higher concentrations at higher trophic levels through dietary accumulation (Suter, 1993).

E1. EFFECTS ON TERRESTRIAL RECEPTORS

This section describes bioavailability of Sauget Site 2 COPECs and their potential for bioaccumulation, biomagnification in soil and possible adverse effects on terrestrial receptors.

SVOCs. Bis (2-chloroethoxy)methane is not expected to be taken up be plant roots or foliage; however, it may translocate through plants and be taken up by animals (Zeiger, 1998). No information was found on bioavailability, bioaccumulation or ecotoxicology for dibenzofuran.

Hexachlorobenzene can bioconcentrate in animals. A BCF of 0.54 was reported for two oligochaete worms; however, hexachlorobenzene is not detected in all trophic levels. Concentrations were not detected in soils or plant tissue or mammals but were found in earthworms and birds. Higher concentrations were observed in plants with higher lipid concentrations. Gaseous hexachlorobenzene diffuses into the plant directly or the evaporated compound is taken up by plant foliage (ATSDR, 1996b).

Bioavailability of N-nitroso-di-n-propylamine in laboratory rodents was between 25 and 70% through ingestion (ATSDR, 1989). No information was found on ecotoxicology of N-nitroso-di-n-propyalmine for terrestrial receptors.

PAHs. Some terrestrial plants can uptake PAHs from soil via roots or from air via the foliage through deposition, adsorption and translocation over the cuticula, uptake of the vapors through the stomata, and uptake and transport through oil cells (*e.g.*, carrots, cress) (Polder *et al.*, 1995). Atmospheric deposition greatly exceeds root uptake from soil and PAH concentrations on roots are primarily due to adsorption to root surfaces. Studies done in carrots for determination of PAH bioaccumulation in the human food chain indicate that there is no evidence of increased PAHs concentrations in carrot roots. Low molecular weight PAHs were detected in the peel; however, these compounds were there as a result of simple adsorption and there was no evidence of transfer from the peel to the core (Wild and Jones, 1992). The waxy surface of some plant leaves and fruits can concentration PAHs through surface adsorption (Irwin *et al.*, 1997).

Uptake rates are dependent on a variety of factors such as PAH concentration, solubility, PAH molecular weight, soil type, and plant species (ATSDR, 1995b; Eisler, 2000). Low molecular weight PAHs are taken up faster than higher molecular weight PAHs, such as chrysene (Eisler, 2000). In plants, PAH bioaccumulation is less prevalent than metal bioaccumulation due to the tendency for PAHs to sorb and sequester in soil, precluding bioavailability (Hillegass *et al.*, 2001). This is demonstrated by low bioaccumulation indices[1] for total PAHs (0.001 to 0.18) and individual PAHs such as benzo(a)pyrene (0.002 to 0.33). PAHs have a low potential for biomagnification in plants as well (Eisler, 2000).

Plant uptake of PAHs is by active and passive transport through the roots and possibly through the transpiration stream (Polder *et al.*, 1995). PAHs are rapidly absorbed/adsorbed by the roots but little translocation occurs to the upper plant parts.

Concentrations of benzo(b)fluoranthene were detected in the leaves of higher plants with greater concentrations in older leaves than in younger ones (Irwin *et al.*, 1997), as shown below.

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[1] The bioaccumulation index is the ration of the concentration in the plant to the concentration in the soil (Pendias and Pendias, 1992).

(µg/kg)	Green leaves (summer)	Yellow leaves (fall)
Beech	62	274
Oak	62	292
Tobacco	32	126

PAH-induced phytotoxic effects are rare. Some plants contain ellagic acid, which destroys the diol epoxide form of benzo(a)pyrene, effectively inactivating its carcinogenic and mutagenic potential. Higher plants have been shown to catabolize benzo(a)pyrene (Eisler, 2000). Certain PAHs (benzo(a)pyrene, benzo(a)anthracene, ideno(1,2,3-cd)pyrene, benzo(b)fluoranthene, fluoranthene, benzo(ghi)pyrene) have growth-promoting effects on plants (Eisler, 2000; Graf and Novak, 1968).

In animals, bioaccumulation usually occurs with low molecular weight PAHs (*i.e.*, two and three rings, such as naphthalene) whereas higher molecular weight PAHs (*i.e.*, four through six rings, such as benzo(a)pyrene, benzo(b)fluoranthene, chrysene) undergo metabolism (Beyer *et al.*, 1996).

A study was conducted using creosote coal tar distillates to determine bioaccumulation in a laboratory ecosystem involving soil, insects, snails, earthworms and voles (*Microtus canicaudus*). The voles had levels of phenanthrene and acenaphthene at concentrations 12 to 31 times greater than the soil; however, these PAHs were found as bound residues in the GI tract, not accumulated in body tissues (ATSDR, 1995b).

In worms, there is a close relationship between the concentration found in the worm and the concentration in soil indicating that accumulation is due to simple partitioning. If the BSAF is less than one, such as in the case of fluoranthene, phenanthrene, and anthracene, uptake will decrease with increasing PAH soil concentrations. BSAFs for PAHs in this study are between 0.13 and 0.2; fluoranthene is 0.41, phenanthrene is 0.33 and anthracene is 0.26 (Krauss *et al.*, 2000).

Despite their high lipid solubility, vertebrates have the ability to metabolize PAHs using a mixed function oxidase (MFO) enzyme system, which transforms insoluble molecules to water soluble structures (Beyer *et al.*, 1996). Elimination rates are faster in vertebrates than invertebrates

(Hendriks *et al.*, 2001) in part, due to the presence of the MFO system in only select invertebrates and because vertebrate metabolism is faster than invertebrate metabolism (Beyer, *et al.*, 1996). The ability of vertebrates to metabolize PAHs minimizes the possibility of bioconcentration or biomagnification (Edwards, 1986).

The ability of vertebrates to metabolize rather than bioaccumulate PAHs is demonstrated by a study completed to correlate PAH concentrations in diet and in resulting carcasses for tree swallows and house wrens (insectivorous species that are likely to be at the Site). It was determined that PAH concentrations in the diets of the tree swallow and the house wren were 28 and 38 times greater, respectively in the diet than in carcasses due to rapid metabolism (Custer *et al.*, 2001).

Chrysene. The oral absorption of CHR is high in rats with high dose; however, 64 to 87% is excreted with the feces. At a concentration of 22 mg/kg in corn oil, rats excreted nearly 75% of the CHR. CHR is rapidly and widely distributed in rats in the liver, blood, and brain (ATSDR, 1995). Bioavailability of CHR in rats ranged from 41 to 53% through inhalation and 60 to 87% through ingestion (Hrudey et al., 1996).

Pentachlorophenol. Pentachlorophenol is readily bioavailable when ingested, regardless of species (i.e., monkey, rat, mouse), vehicle (corn oil, diet, water) or different doses (Hrudey et al., 1996). Oral bioavailability was reported between four and 34% in rodents (ATSDR, 1994b) and 65 to 100% for rodents and the monkey (Hrudey et al., 1996) . Elimination is rapid an biphasic in rats as well as sex dependent. When pentachlorophenol-contaminated soil is applied to monkey skin, approximately 30% is bioavailable (ATDSR, 1994b); other species have similar results (Hrudey et al., 1996).

Bioaccumulation of pentachlorophenol is dependent on pH. Observed bioaccumulation factors in earthworms ranged between 3.4 and 13. It is not biomagnified in terrestrial or aquatic food chains (ATSDR, 1994b).

PESTICIDES

Endosulfan. Endosulfan does not bioaccumulate in terrestrial or aquatic ecosystems or bioconcentrate in fatty tissues or milk. Endosulfan and its metabolites are translocated in plants from leaves to roots (ATSDR, 2000a).

In animals, 80% of the oral dose is absorbed and metabolized to polar and non-polar metabolites that are excreted in the feces. When applied dermally, 20% of the dose is absorbed (ATSDR, 2000a).

Endrin. Plants may have significant uptake of endrin and/or transformation products (ATSDR, 1996a). In animals, endrin is well absorbed through ingestion and is distributed to the fat and skin then excreted in urine and feces. Dermal exposure to rats and rabbits resulted in death and toxicity; however, no doses were provided (ATSDR, 1996a).

Heptachlor/Heptachlor epoxide. Due to its persistent characteristics and lipophilicity, heptachlor epoxide is a significant biomagnifier in the terrestrial food chain. When ingested by rats, approximately 72% of heptachlor epoxide is absorbed from the gastrointestinal (GI) tract and eliminated via bile into the feces. It is also absorbed through the skin. The highest concentrations of heptachlor epoxide in whole fish samples are located in Hawaii and in the Midwest, especially in Lake Michigan and the Mississippi, Missouri, Ohio, and Illinois Rivers (ATSDR, 1993c).

Lindane (gamma-BHC). Experimental data indicates that worms (*Eisenia fetida*) have a high metabolic rate of Lindane with a maximum body burden that is 25 to 30 times greater than of their food source (alder leaves). However, the percent organic matter does not appear to be a factor as there is no difference in the body burden between soils with 3% or 10% organic matter. In times of drought, isopods have adapted to avoid water losses that reduce contact with surrounding medium thereby decreasing exposure (Sousa et al., 2000).

HERBICIDES

Dichlorprop. No information was found on bioavailability, bioconcentration or ecotoxicology of Dichlorprop.

Dinoseb. Dinoseb does not bioaccumulate in plants or animals. Dinoseb interferes with the cell's ability to absorb food and disturbs production of ATP . Plants are affected by direct contact as it does not translocate within the plant. Breakdown products of Dinoseb have been detected with fruitier skin and flesh (EXTOXNET, 1993a). Dinoseb is rapidly taken up by fish but depurated easily thus, bioaccumulation is not significant (EXTOXNET, 1993a).

It is a reproductive toxin in rabbits at doses between 1 and 22 mg/kg-day and teratogenic effects were observed in rats, mice, and rabbits at doses of 7.5 to 33 mg/kg-day. Reduced growth rates and weight loss were noted with chronic exposure (200+ days) at a dose of one mg/kg-day. No tumors were noted at doses of one, three, or ten mg/kg-day (CalEPA, 1997). Adverse effects have been reported in rats and mice at a dose of 10 mg/kg-day (Pesticide Information Profile, 1993b).

MCPA. MCPA is absorbed and translocated in most plants where it interferes with protein synthesis, cell division, and ultimately the growth of non-resistant plants (Vink and van der Zee, 1997).

MCPA is rapidly absorbed and eliminated from mammalian systems (Vink and van der Zee, 1997); approximately 75% of the dose is gone within two days in rats (EXTOXNET, 1993c). The chronic lowest effects level (LEL) in a dog was 0.75 mg/kg-day; the subchronic (90-day) LEL was 3 mg/kg-day and the no observed effects level (NOEL) was 1 mg/kg-day. At concentrations greater than 0.75 mg/kg in dogs, blood chemistry and organ weight changes and histopathological changes were observed (USEPA, 2003a).

Toxicity tests completed on MCPA using amphibian embryos indicated low toxicity based on an LC50 of 3600 mg/L (Bernardini et al., 1996).

MCPP. MCPP (Mecoprop) causes kidney damage in rats at concentrations between 9 and 27 mg/kg-day and it is teratogenic in rats at concentrations of 125 mg/kg-day but not in rabbits (EXTOXNET, 1993c). Estimated doses for onsite short-tailed shrews are between 3 to 6 mg/kg-day.

MCPP is not toxic to birds. LC50 values for mallard ducks and bobwhite quail are 5620 ppm and 5000 ppm, respectively. Oral LD50 concentrations for Japanese quail and bobwhite quail were 740 mg/kg and 700 mg/kg, respectively (EXTOXNET, 1993c).

PCBs. Factors that affect the uptake and accumulation of PCBs into biota include K_{oc}, and lipid content. Less chlorinated PCBs (1 to 4 chlorines) are readily take up but they are also readily metabolized and excreted (ATSDR, 2000b).

Oral and dermal bioavailability of PCBs in animals decreases with increasing chlorination and correlates strongly with log K_{ow}. Approximately 6-8% of PCB 77 is bioavailable and 5-8% of PCB 153 (ATSDR, 2000b).

PCB accumulation in plants may occur through wet/dry deposition on aerial parts or through root uptake. The primary uptake mechanism is vapor-to-plant transfer, especially for trichlorinated homologs. Aerial dry deposition is the most important transfer pathway for hepta- and octachlorinated homologs. Strong adsorption to organic matter and clays inhibit PCB uptake through plant roots. Below ground vegetation accumulates lower PCB concentrations and predominantly accumulates moderately chlorinated congeners (i.e., PCB 99, 101, 110) directly from soil (ATSDR, 2000b).

In general, plant BCFs for PCBs are less than 0.02. However, higher uptake can occur in certain root crops as PCBs partition into the lipid-rich epidermal layer or by soil particles adhering to the root. In carrots grown in acid brown sands with Aroclor 1254 concentrations of 0.05, 0.5, and 5 ppm, the BCF was calculated at 0.16. At 100 ppm in the top six inches of soil, the BCF was still 0.16 in the roots (ATSDR, 2000b).

PCBs concentrate primarily in adipose tissue. Bioaccumulation is dependent on the compounds stereochemistry with optimal bioaccumulation occurring from planar molecules with fiver or seven chlorines. PCBs with log K_{ow}s greater than 5 are not readily bioaccumulated from soil and sediments directly but from food web transfer (ATSDR, 2000b).

Biomagnification in piscivorous birds is congener specific and more predominant for congeners with K_{ow}s between five and seven (ATSDR, 2000b).

PCBs can be transferred across the placental barrier and enter the fetus (ATSDR, 2000b). Excretion of PCBs into eggs is inversely related to chlorination. In adult ring-necked pheasants (*Phasianus colchicus*), approximately 2 to 3.8% of the total PCB mass in the adult hens was excreted into the eggs, chickens excreted approximately 0.4 to 1.2%, and approximately 8% was excreted from adult herring gulls (*Larus argentatus*) and nearly 25% for arctic terns (*Sterna pardisaea*) to their eggs. Adult PCB concentrations were approximately two to seven times greater than egg concentrations (Bargar et al., 2001).

Eastern bluebirds (*Sialia sialis*) and tree swallows (*Iridoprocne bicolor*) nesting in apple orchards from the Great Lakes Basin that sprayed with pesticides from 1988 through 1994 were analyzed for organochlorine residues. All organochlorine residues were low, less than 0.23 µg/g (WW), except DDE. Total PCB concentrations in tree swallows ranged from 0.27 to 0.71 µg/g and from 0.07 to 0.87 µg/g in bluebirds. Based on the concentrations of these pesticides, egg survival was affected and declined 14% (Bishop et al., 2000).

In ospreys, a NOAEL of 136 ng/kg TEQ for osprey embryo survival was reported (Woodford et al., 1998) and a NOAEL of 210 ng/kg in bald eagles (Elliott et al., 1996).

DIOXINS/FURANS. In plants, TCDD has been demonstrated to be deposited, taken up in roots, undergo air-to-leaf transfer and bioaccumulate in tissue and eggs in foraging animals (Hrudey et al., 1996).

Bioavailability in rats was demonstrated at 50 to 85%, depending on the vehicle carrier; soot, fly ash and soil extracts with corn oil yielded lower absorption. In rabbits, bioavailability from contaminated soil was 29 to44%. Bioavailability to rats from soil containing one µg/kg was approximately 25% and 50% with soil containing 5 µg/kg TCDD (Hrudey et al., 1996).

Rats had 18% oral absorption of TCDD as dissolved soil. The dermal absorption is highly dependent on the formulation but in soil, ranged between 20 and 40%. TCDD in soil reduced the dermal uptake (Hrudey et al., 1996; Young, 1983).

Unspecified low doses in animals cause adverse effects on immune functions, reproductive development, behavior and metabolism of glucose and lipids. TCDD has been shown to be a tumor promoter for liver and skin cancer (Hrudey et al., 1996).

In a study completed after eight years of aerial spraying of 2,4,5-T at Eglin Air Force Base in Florida where approximately 2.8 kg of TCDD was applied, no indications of adverse ecological impacts were observed from contaminating dioxins contained within 2,4,5-T. Much of the TCDD was photodegraded such that less than one percent was left in the soil and approximately 5% was estimated to be lost annually due to volatilization. Although Eglin AFB receives an annual rainfall of approximately 150 cm, TCDD did not leach into the sandy soil as it is strongly adsorbed. The biodegradation half-life was estimated at 10 to 12 years. No animal deaths were recorded (Young, 1983).

A NOAEL of 37 ng/kg TEQ and a LOAEL of 130 ng/kg TEQ were reported for dioxins and PCBs for CYP1A indication in osprey chicks (Elliot et al, 2001).

Dioxins will bioaccumulate in aquatic organisms, based on K_{ow} values ranging from 10^4 to 10^{12}. Bioconcentration increases with increasing chlorination up to the TCDD then decrease with chlorinated up to OCDD. Greater chlorination than OCDD lessens the bioconcentration potential because the large molecule cannot transport across biological membranes (ATSDR, 1998).

METALS. In general, there is less transport of metals to plant root surfaces in cooler, humid climates than in hotter, drier climates. In terrestrial plants, metals' bioavailability is decreased as the diffusion layers are much thicker (approximately 10 to 100 μm) than in aquatic plants. The distance may actually be greater than 100 μm due to tortuosity in the apoplast[2]. In addition to plant-based diffusional limitations, the soil itself exerts strong diffusional limitations to metal transport in the roots due to strong metals' soil adsorption and pore space tortuosity (Allen, 2002).

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[2] The apoplast consists of cell walls and intracellular spaces and provides the plant with another mechanism, besides osmosis, to bring water into the cell.

Aluminum. Aluminum is naturally occurring, beneficial nutrient found in many plants at concentrations of ten to hundreds of mg/kg (Pendias and Pendias, 1992). Aluminum in edible plants and foods (eggs, apples, cabbage, corn) has been measured at concentrations between 0.0 to 7.16 mg/kg (ATSDR, 1999). Plant species and cultivars of the same species differ considerably in their ability to take up and translocated aluminum to above ground parts ; accumulation is dependent on soil and plant factors (ATSDR, 1999; Pendias and Pendias, 1992). In leafy vegetables, the uptake factors range between approximately 0.004 and 0.00065 in fruits. These factors indicate that aluminum is not taken up in plants from soil but is biodiluted (ATSDR, 1999). Some plants are capable of hyperaccumulation, with concentrations greater than 0.1% (ATSDR, 1999; Pendias and Pendias, 1992).

Aluminum toxicity impairs nutrient uptake and transport by causing an imbalanced ration of cations to anions occurring first in the roots and then translocated to above ground portions. Aluminum interferes with cell division and properties of the protoplasm and cell wall by forming organic complexes within the cell and precipitating out with nucleic acids. Excess aluminum in plants is accompanied by increased calcium and magnesium in the plants (Pendias and Pendias, 1992).

Oral bioavailability of aluminum is dependent on its form. In rabbits, the citrate, lactate, nitrate, or chloride form is between 0.57 to 2.18% whereas bioavailability of insoluble aluminum (borate, hydroxide, glycinate, sucrose, sulfate) ranged from 0.27 to 0.6%. Bioavailability is also dependent on if the stomach is empty or full, less bioavailability with a full stomach (ATSDR, 1999).

Aluminum toxicity affects the brain, with preferentially accumulation in the hippocampus. There is limited evidence in rabbits, and mice that aluminum crosses the placenta (ATSDR, 1999).

Antimony. Antimony is not an essential metal for plants; however, it is easily taken up by plants in soluble forms as indicated by average concentrations of 0.06 ppm (DW) in terrestrial plants, 0.029 ppm (DW) in grasses, and 0.0002 to 0.0042 mg/kg fresh weight (FW) in edible plants. However, antimony concentrations found in plants from soil at a smelter site was the result of surface deposition, actual uptake was minor (Pendias and Pendias, 1992).

Speciation is important in the bioavailability of antimony (ATSDR, 1992a). Antimony does not readily bioaccumulate in soil; its bioaccumulation index is 0.01 compared to an index of five for cadmium and three to four for selenium (Pendias and Pendias, 1992).

Phytotoxicity has not been widely reported in plants, toxicity would occur because it competes with essential metabolites (Pendias and Pendias, 1992).

Antimony bioconcentration has been measured in invertebrates, shrews, rabbits, and voles; however, it does not biomagnify from lower to high trophic levels (ATSDR, 1992a). In rats, it was demonstrated that antimony does not accumulate appreciably as it is slowly absorbed in the GI tract of rodents and excreted in the urine or the feces, depending on its speciation [National Research Council (NRC), 1980]. In a study where rats were fed up to 100 mg/kg-day for six months, only one milligram of antimony was found in the carcasses, regardless of the daily dose (USEPA, 1988a). Rabbits were able to tolerate concentrations of 70 to 150 parts per million (ppm) in their diet (NRC, 1980).

Arsenic. Arsenic is an essential nutrient, used in algae and fungi for the metabolism of carbohydrates (Pendias and Pendias, 1992). Background concentrations in terrestrial flora and fauna, birds and freshwater biota are usually less than one mg/kg (FW).

Arsenic bioavailability is greatest in coarse-textured soil with little colloidal material and little ion exchange capacity; however, the arsenic must be in a soluble form (Eisler, 2000). Flooded soils, such as those that occur at the Sauget Site 2, limit the arsenic bioavailability (Pendias and Pendias, 1992).

In plants, arsenic becomes less toxic when it is methylated to monomethylarsonic and dimethylarsinic acids or converted to arseno-sugars, arsenobetaine or phospholipids (Newman, 2001). Soil microorganisms are capable of tolerating and metabolizing relatively high concentration of arsenic, up to 1600 mg/kg (Eisler, 2000). Bacteria accelerate the oxidation of arsenites and alkylation processes - biomethylation is conducted aerobically by yeast and anaerobically by methanogenic bacteria (Pendias and Pendias, 1992).

Because arsenic is strongly adsorbed to soil colloids, it may be absorbed by plants roots; however, it will not be translocated to above ground tissues (Allen, 2002). Arsenic concentrations in plants from uncontaminated areas ranged from 0.009 to 1.5 mg/kg (DW). Some plants can accumulate amount of arsenic up to 6000 mg/kg (DW), including mushrooms (Pendias and Pendias, 1992).

In plants, arsenic toxicity occurs because it competes with essential metabolites. Symptoms of phytotoxicity include leaf wilting, increased anthocyanin levels (violet coloration), root discoloration, cell plasmolysis, and growth reduction (Pendias and Pendias, 1992). Phytotoxic actions of inorganic and organic forms of arsenic are different (Eisler, 2000).

Soil concentrations of 150 mg/kg to 165 mg/kg are usually devoid of earthworms (Eisler, 2000). However, arsenic does not appear to bioaccumulate in terrestrial mammals. Arsenic concentrations in small mammals (field mouse, bank vole, field vole, common shrew) near an arsenic refinery were less than one mg/kg fresh weight (FW), which did not reflect levels in the surrounding soil and vegetation.

Most mammals rapidly excrete ingested arsenic in the urine with a half-life averaging six days. Studies from the scientific literature suggest that small mammals[3] may exhibit avoidance behavior with arsenic-supplemented food. However, if arsenic is distributed in the body, tissues with high lipid content will contain greater concentrations (Eisler, 2000).

Arsenic concentrations in birds in excess of 120 mg/kg are considered poisonous; concentrations of 2 mg/kg to 10 mg/mg are considered elevated (Eisler, 2000).

Barium. Barium is not an essential component of plant tissue; however, is found at concentrations ranging from 1 to 198 ppm (DW). The highest ranges are found in the leaves of cereal and legumes; the lowest in grains and fruits. High concentrations (greater than 10,000 ppm) are found in different trees, shrubs, and Brazil nuts (Pendias and Pendias, 1992).

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[3] Care should be taken when choosing arsenic toxicity benchmarks from rats (NOAEL used for this ERA is from a mouse) because arsenic metabolism in rats is unique. It is stored in the hemoglobin and excreted very slowly with a half-life between 60 and 90 days (Eisler, 2000).

Approximately one to two percent dry weight of barium is considered toxic to plants; however, the toxicity is reduced with the addition of calcium, magnesium, or sulfur salts (Pendias and Pendias, 1992).

Barium does not significantly bioaccumulate or biomagnify in biological organisms (ATSDR, 1992b; Newman, 2001).

Cadmium. Cadmium is naturally occurring element in soil, plants, and animals with documented concentrations of 0.3 mg/kg in terrestrial plants (legumes, grasses) and animals and 3.5 mg/kg in freshwater biota. Willows (*Salicaceae*) and mushrooms have naturally high concentrations of cadmium (Eisler, 2000; Pendias and Pendias, 1992). However, cadmium is not an essential element in plants (Pendias and Pendias, 1992). Greater soil bioavailability and root uptake has been observed for cadmium compared to most other heavy metals, especially in acidic soils (Hrudey et al., 1996; Pendias and Pendias, 1992; Torres and Johnson, 2001).

Cadmium concentrations in plants are not usually phytotoxic (Allen, 2002). However, symptoms of phytotoxicity include growth retardation, root damage, chlorosis, and red-brown coloration of the leaf margin or veins. It also affects photosynthesis, disturbs transpiration and carbon dioxide fixation and cell membrane permeability. Cadmium has a strong affinity for sulfhydryl groups (Pendias and Pendias, 1992).

In earthworms, acidic conditions increase the potential for cadmium bioaccumulation. The main detoxification pathway for cadmium in a number of earthworm species is the sequestration within inorganic matrices or binding to organic ligands (Allen, 2002).

Cadmium has a prolonged biological half-life and may have the potential for biomagnification due to its binding with metallothionein (Beyer *et al.*, 1996).

In Japanese quail, cadmium uptake was dose dependent but only 0.4% to 2% was absorbed as much of ingested cadmium was bound to the intestinal epithelium. Dietary supplements greater than two mg/kg induce metallothionein and other effects. In birds, most of the cadmium is stored in the feathers which is why molting is an important depuration process (Eisler, 2000).

Cadmium bioaccumulation increases in the following sequence: terrestrial carnivores, passerines, waders, and then seabirds (Beyer *et al.*, 1996).

In small rodents, such as rats and mice, the oral bioavailability of cadmium ranges from 0.2 to 0.8%; however, bioavailability is affected by various factors such as age, gender, pregnancy and dietary factors. Dermal bioavailability is guinea pigs, rabbits, and mice ranged from 0.1 to 0.6% (Hrudey et al., 1996).

In birds, cadmium can accumulate in tissues such as (in decreasing order) the kidney, liver, brain, bone, and muscles. In terrestrial animals, cadmium accumulates with age in the kidneys and livers of moles, shrews, deer, and caribou. Cadmium accumulates with age; the greatest concentrations are found in older animals (Eisler, 2000).

Cadmium toxicity is dependent on various nutritional factors for both animals and plants. The addition of zinc, iron, ascorbic acid, calcium, or selenium to a diet will ameliorate the adverse effects of cadmium (Allen, 2002; Eisler, 2000; Hrudey et al., 1996). The addition of lead or mercury will exacerbate cadmium toxicity. Birds are relatively resistant to the biocidal properties of cadmium due to the presence of metallothioneins; ducks have the greatest levels of metallothionein. However, cadmium has been detected in rodents at concentrations up to 20 mg/kg bw without adverse effects (Eisler, 2000).

Chromium. Chromium is not taken up to any great extent by plants due to its low solubility and strong adsorption to soils (Allen, 2002) but, in higher plants, chromium is beneficial but not essential (Eisler, 2000; Pendias and Pendias, 1992). Several factors affect the ability of plants to uptake chromium. Under normal soil conditions, soluble hexavalent chromium is easily converted to insoluble trivalent chromium and root tissues are not capable of stimulating the reduction of trivalent chromium to the soluble divalent (Cr^{2+}) form, a key process in iron absorption in plants. Chromium concentrations in plants range from 0.02 to 0.2 ppm (DW) (Pendias and Pendias, 1992).

No adverse affects were seen in plants with concentrations up to 2140 mg/kg. Maximum tolerated doses for chromium oxides were 3000 ppm and 1000 ppm (Eisler, 2000). Phytotoxicity in sensitive species occurs around one to two ppm which may inhibit seed

germination and growth of roots and shoots (Eisler, 2000), in tobacco between 18 and 24 ppm; 10 to 100 ppm in rice; 10 ppm in barley seedlings and 4-8 ppm in corn. Symptoms of phytotoxicity in clued wilting of tops, root injury chlorotic new leaves and brownish-red leaves (Pendias and Pendias, 1992).

In animals, trivalent chromium (Cr^{3+}) is an essential element in mammals, necessary for normal carbohydrate and lipid metabolism as well as a cofactor in insulin production. Chromium deficiency exhibits a pathology similar to diabetes (NRC, 1980). The oral bioavailability of chromium to rodents (rats, mice) is less than 0.5% for trivalent chromium and 2.3 to 2.4% for hexavalent chromium. Dermal bioavailability is pH dependent where increasing pH increase dermal absorption. Dermal bioavailability from chromium adsorbed to soil is less than one percent in guinea pigs (Hrudey et al., 1992). In warm-blooded animals, chromium toxicity is mostly by the hexavalent form (Eisler, 2000).

Chromium does not biomagnify in terrestrial or aquatic food chains rather, chromium concentrations decrease with increasing trophic levels (*i.e.*, food webs with birds and mammals) (Eisler, 2000).

Cobalt. Cobalt is an essential nutrient for both blue-green algae and nitrogen-fixating microorganisms. It is unknown if cobalt is essential for higher plants. Cobalt concentrations of 10 ppb are necessary for nitrogen-fixating bacteria found in alders and legumes; however, cobalt inhibits magnesium in some microbial species (Pendias and Pendias, 1992).

Plant uptake is a function of cobalt mobility. Plants can take up cobalt by leaves through the cuticles or through the roots. Translocation of cobalt from the roots to above ground parts is not significant; the transfer coefficient is between 0.01 and 0.3 (ATSDR, 1992). Soils with less than five ppm produce cobalt deficient herbage, especially in soils with iron and manganese oxides. Cobalt is applied to soil in salt form to alleviate the deficiency (Pendias and Pendias, 1992).

Cobalt toxicity is not seen in nature. Cobalt toxicity in plants from anthropogenic sources results in white, dead margins and leaf tips and interveinal chlorosis of new leaves that is lined to iron chlorosis. Toxic levels in range from 43 to 142 mg/kg in bush beans, 19 to 32 mg/kg in grass

and six mg/kg in barley seedlings. The critical levels range between 30 and 40 ppm (Pendias and Pendias 1992).

Certain species including Cruciferae. Caryophyllaceae, Violaceae, Leguminosae, Boraginaceae, Myrtaceae, and Nyssaceae can hyperaccumulate cobalt to concentrations between 2500 and 17,000 mg/kg. Normal cobalt levels in clover range between 0.1 and 0.57 mg/kg and 0.03 and 0.27 mg/kg for grass (Pendias and Pendias 1992).

Cobalt is an essential element in animals as it is a precursor of Vitamin B12 (Pendias and Pendias, 1992). It is found in liver, muscle, lung, lymph nodes, heart, skin, bone, stomach, hair, brain, pancreas, kidneys, plasma, and the bladder (ATSDR, 1992c).

In animals, absorption of cobalt is dependent on the compound type, dose, animal weight and nutritional status. In rats, approximately 30% of cobalt (as cobalt chloride) was absorbed. Iron deficiency increases cobalt absorption (ATSDR, 1992c).

Little biomagnification of cobalt has been observed in animals at higher trophic levels (ATSDR, 1992c).

Copper. Copper occurs in forms from elemental (Cu^0) to trivalent (Cu^{3+}); however, the divalent form (Cu^{2+}) is the biological significant species. It is an essential element for normal growth and development of plants. It rarely accumulates in organisms to high levels (Hrudey et al., 1996).

The uptake of copper in earthworms from soil is not influence by pH (Allen, 2002) but chelation and complexation are the key reactions that govern copper in most soils. Around 80% of the soluble copper in soil is complexed with organic substances (Pendias and Pendias, 1992). The metal-chelate complex in copper is important in determining plant uptake. The bioavailability of the soluble copper form depends on the molecular weight of the copper complexes and the amounts present (Pendias and Pendias, 1992). Uncharged metal complexes exhibit lipophilicity and are transported across biological membranes. Due to complexation, total copper concentrations in soil solution are not well correlated to copper concentrations in plants (Allen, 2002).

Complexed copper dissociates after entering the plant root; however, plant roots have the ability to hold copper against transport to the shoots under both copper deficiency and copper excess conditions. Thus, copper has a low mobility relative to other elements in plants. Once in the cell wall of roots, it becomes essentially immobile (Pendias and Pendias, 1992).

Copper is an essential element in plants involved in biochemical functions of photosynthesis, respiration, carbohydrate distribution, nitrogen reduction/fixation, protein metabolism and cell well metabolism, influences the water permeability of the xylem vessels, controls the production of DNA and RNA, and increases disease resistance, especially to fungi. A deficiency of copper greatly inhibits plant reproduction by decreasing seed production and causing sterility in pollen. Copper levels in plants less than two mg/kg are considered inadequate (Pendias and Pendias, 1992).

Some organisms are copper hyperaccumulators. *Penicillium* sp. can accumulate copper to concentrations of 20,000 ppm from solutions containing 100 ppm. Conversely, micromycetes have develop a resistance to copper in contaminated soils (Pendias and Pendias, 1992).

Copper interacts with other metals. For example, copper and zinc competitively inhibit root absorption of each other; copper and iron are antagonistic and cause chlorotic conditions. Copper interferes with the role of molybdenum in the enzymatic reduction of nitrate (Pendias and Pendias, 1992).

Copper toxicity symptoms in plants include chlorosis and root malformation and occur at concentration between 15 and 20 ppm in the most sensitive species (Pendias and Pendias, 1992).

Plant tissue is also a major source of copper to animals (Pendias and Pendias, 1992). Spiders, oribitatide mites, centipedes, fly larvae, and beetles can accumulate copper greater than earthworms or enchytraeid worm (Allen, 2002). No evidence has been found of bioaccumulation in earthworms or mammals (ATSDR, 1990a).

Lead. Lead is a ubiquitous element found in plants, animals, soil, and water. Lead essentiality in plants is controversial; however, concentration between two and six ppb seem to be

necessary. Some stimulating effects in plant growth have been observed using lead salts [$Pb((NO)_3)_2$] (Pendias and Pendias, 1992).

Lead in edible portion of plants from uncontaminated areas is approximately 0.05 to 3 ppm (DW). Average lead concentrations in grasses were 2.1 ppm and 2.5 ppm in clovers (Pendias and Pendias, 1992).

Lead accumulation in roots may be overestimated since much of the measured lead is bound tightly on surface deposit and is not bioavailable therefore, a substantial amount must accumulate in soil before it affects the growth of higher plants (Eisler, 2000). (Allen, 2002; Hrudey et al., 1996; Torres and Johnson, 2001). However, certain soil and plant factors, such as low phosphorous, acidic soils and organic ligands, are known to facilitate lead uptake by roots and translocation into plants (Allen, 2002; Eisler, 2000; Newman, 2001; Pendias and Pendias, 1992). However, lead is not translocated readily to above ground tissues due to low solubility (Allen, 2002). In soluble forms (including tetra-alkyl lead) in nutrient solutions within the laboratory, plant roots take up great amounts of lead; however, in soil, only 0.003 to 0.005% is taken up but only 3% of that is translocated (Pendias and Pendias, 1992). Therefore, lead does not usually biomagnify in the terrestrial food chain (Allen, 2002; Eisler, 2000; Newman, 2001).

Lead concentrations between 100 and 500 ppm are considered toxic to plants and cause changes in cell membrane permeability and reactions of thiol groups with cations (Pendias and Pendias, 1992). It also inhibits plant growth and decreases photosynthesis, mitosis and water absorption (Eisler, 2000; Pendias and Pendias, 1992). Some plant species and bacterial strains have developed a lead-tolerant mechanism (Pendias and Pendias, 1992).

In microorganisms, lead can significantly accumulate at concentrations proportional to concentrations in the soil Lead toxicity limits enzymatic activity; thus, soil organic matter, especially cellulose is incompletely decomposed (Pendias and Pendias, 1992).

Lead uptake in soil invertebrates is dependent on their calcium turnover rates because soil calcium competitively suppresses lead uptake in earthworms. The main detoxification pathway

for lead in a number of earthworm species is the sequestration within inorganic matrices or binding to organic ligands (Allen, 2002).

In mammals, lead bioavailability is dependent on a variety of factors including age, nutritional status, dietary factors and carrier vehicles. In the environment, lead is present as a mixture of salts, soil/dust bound, or incorporated into the soil matrix; therefore, the bioavailability of lead is dependent on the solubility of these lead forms. Dermal bioavailability of lead is very slight as it forms complexes with the proteins on the skin to prevent absorption. However, some forms of lead, such as the tetra-alkyl and acetate salts, are relatively permeable. Tetraethyl lead absorbed rapidly at a rate of 6.5% through rat skin; lead acetate between 1.5 and 4.4% (Hrudey et al., 1996).

Most lead poisoning in animals, especially birds, is a result of ingesting of lead shot and sinkers or exposure to automobile exhaust. Lead is a cumulative poison concentrating in bone and hematopoietic tissues in mammals and all metabolic effects from lead are adverse (Eisler, 2000). A maximum tolerated dose has been observed at 30 ppm (NRC, 1980).

Mercury. Mercury occurs in three general forms – elemental, inorganic and organic, all of which are biologically significant. Mercury is strongly adsorbed by soil colloids that may be absorbed by plant roots but not readily translocated to above ground tissues (Allen, 2002).

Mercury may undergo biotransformation processes and oxidation reduction in both surface water and soil (Hrudey et al., 1996). Microbial methylation occurs under aerobic and anaerobic conditions. Methylated mercury is readily absorbed through cell membranes where it can be absorbed by into plant root system and translocation within the plant. Plants can also uptake mercury vapor from the atmosphere (Pendias and Pendias, 1992). Background levels of mercury are found in vegetables and fruits at concentrations between 2.6 and 86 ppb (DW). Lichens, carrots, lettuces and mushrooms are mercury accumulators (Pendias and Pendias, 1992).

Symptoms of mercury phytotoxicity cause changes in plant cell membrane permeability and interfere with metabolic process such as photosynthesis, chlorophyll manufacture, gas exchange and respiration through reactions of thiol groups with cations. Symptoms of

phytotoxicity include stunted seedling growth and root development and inhibition of photosynthesis (Pendias and Pendias, 1992).

Mercury is not an essential element and it is bioaccumulated and biomagnified in biological organisms. Uptake is modified by the age of the organism, water pH (greatest uptake occurs at pH 5), and dissolved organic matter, which decreases bioavailability (Eisler, 2000). Oral bioavailability of inorganic mercury is low in mice, approximately 2% in diet and 20 to 25% with water; however, bioavailability of methylmercury increases substantially to 95%. Dermal bioavailability is also low, approximately 2.2-5.9% in guinea pigs (Hrudey, et al., 1996).

Within biological systems, mercury is transformed into compounds with high toxicities that are mutagenic, teratogenic, and carcinogenic with embryocidal, cytochemical and histopathological effects. However, mercury toxicity in mammals is modified by the age, sex, sexual condition, and diet of the animal as well as the season and other variables. A body burden of less than 250 μg/kg for mammals and a daily dose of 32 μg/kg bw for birds have been suggested (Eisler, 2000).

Bioaccumulation in birds occurs in species that eat fish and other birds. Great blue herons collected from the Great Lakes region have body burdens of mercury between 0.7 to 4.3 (FW) mg/kg. Mercury concentrations within birds that eat larger fish are greater than those that eat smaller fish or crustacea. In raptor species such as *Falco* (falcons), *Haliaeetus* (bald eagle), *Buteo* (*e.g.*, red-tailed hawk), and *Accipiter* (*e.g.*, sharp-shinned hawk), mercury may take up to 10 years to accumulate in feathers. Molting provides an important depuration process (Eisler, 2000).

Selenium. Selenium is an essential element used by plants in the glycine reductase enzyme. In higher animals, it prevents silver necrosis and myopathies and is integral part of the glutathione peroxidase electron transport chain (NRC, 1980).

Selenium bioavailability from soil is dependent on many factors such as pH, temperature (increased bioavailability with soil temperatures greater than 20°C than cooler temperatures less than 15°C), rainfall (increased rainfall yields decreased selenium concentrations in plants), water regime, and oxidation reduction potential (Pendias and Pendias, 1992).

Selenium deficiency has been determined to be a greater threat to animal health than selenium toxicity (Eisler, 2000; Pendias and Pendias, 1992) and concentrations between 0.1 and 0.3 mg/kg are routinely added to animal diets (NRC, 1980). In rats, the minimum concentration necessary to prevent selenium deficiency is 54 to 84 μg/kg (FW) (Eisler, 2000). In birds, diets with concentrations of selenium less than 0.1 mg/kg are deficient. Selenium diet concentrations between 0.1 mg/kg and 1 mg/kg are nutritionally adequate and diet concentrations greater than three mg/kg are considered high (Scheuhammer *et al.*, 1998).

The margin of safety for selenium between micronutrient and toxic is narrow. Phytotoxicity of selenium has not been reported under natural conditions. In plants, selenium toxicity occurs because it competes with essential metabolites (nitrogen, phosphorus, sulfur) and several amino acids (Pendias and Pendias, 1992). Toxicity occurs at concentrations of 25 to 50 mg/kg in some sensitive plants; however, some species, such as mushrooms, *Aster* spp. and *Astragalus* spp. (vetches) and other legumes, are able to accumulate very high levels of selenium, up to 1000 ppm, without toxicity (Pendias and Pendias, 1992).

Selenium toxicity in plants is positively correlated with pH, salinity and calcium carbonate in soils (Pendias and Pendias, 1992). Selenium works to protect biological systems against the adverse effects of mercury, cadmium arsenic, thallium, copper, zinc, silver, and various pesticides (Eisler, 2000).

Selenium has a short effectual biological half-life. In voles, the half-life is 13 days and in earthworms 64 days (Eisler, 2000).

Silver. Silver is naturally occurring in soils at concentrations up to 0.5 mg/kg, but has no known biological purpose. It is found in trace concentrations in many organisms; terrestrial plants contain between 0.03 and 0.5 mg/kg DW with higher concentrations in trees and shrubs (Irwin, *et al.*, 1997; Pendias and Pendias, 1992). Nuts, seeds and fruits have higher concentrations than other plant parts (Irwin, *et al.*, 1997).

Uptake in plants is primarily through air-to-leaf transfer rather than through root uptake (ATSDR, 1990b). Silver concentrations in roots are due to soil adsorption rather than uptake (Allen, 2002; Irwin *et al.*, 1997). The amount absorbed in certain species (horsetail, lichen, mosses,

fungi, and some deciduous tress) is related the amount in soil. Concentrations of 5 ppm in tops and 1500 ppm in roots have been documented without toxicity (Pendias and Pendias, 1992).

Silver, along with other metals such as cobalt and copper, may indirectly change cell metabolism, resulting in high cell growth rates. Silver can substitute for potassium in cell membranes, thereby inhibiting absorption of other cations by the roots. Silver precipitates with bacterial proteins to form insoluble complexes with RNA. Silver also binds to sulfhydryl groups (Pendias and Pendias, 1992).

Bioaccumulation and biomagnification of silver is not likely in terrestrial systems due to a low half-life persistence - between 0.1 and 1.6 days. Absorption of any chemical is dependent on its residence time in the GI tract; the transit time of silver in mice is less than eight hours and, when administered orally, is rapidly cleared through the feces with a 99.6% efficiency. Thus, silver has not been detected or detected in negligible concentrations in mammalian tissues (Irwin *et al.*, 1997).

Thallium. Thallium can be bioconcentrated from water or absorbed by plants in soil and enter the terrestrial food chain (ATSDR, 1992e). The amount of thallium uptake by plants is proportional to the thallium concentrations in soil (Adriano, 1986).

In plants, thallium is readily bioaccumulated because it is chemically analogous to potassium. Ratios up to ten have been reported (Adriano, 1986) and accumulations as high as 17,000 ppm have been documented in some species, such as *Galium* sp. *(e.g.*, bedstraw, madder, goosegrass). Wormwood (*Artemisia* sp.) has been observed to accumulate thallium to concentration of 2.8 ppm (ATSDR, 1992e; Pendias and Pendias, 1992). Thallium in pine trees is approximately 2 to 100 ppm with concentration higher in the needles than the stems (Pendias and Pendias, 1992). Some plants contain higher amounts of thallium than other plants *e.g.*, herbage [0.02 - 1.0 ppm DW], edible plants (0.02 – 0.125 ppm DW), and clover (0.008 – 0.01ppm DW)(ATSDR, 1992e; Pendias and Pendias, 1992). However, thallium is not likely to biomagnify in the terrestrial or aquatic food chain (WHO, 1996).

Thallium is taken up by all plant parts but occurs principally in the roots and chlorophyll-containing regions such that oxygen production is reduced and it interferes with pigments

resulting in chlorosis (WHO, 1996). Significant reduction in photosynthesis in corn and sunflowers was noted using a nutrient solution containing two ppm thallium. Other studies found the impairment of chlorophyll syntheses and seed germination, reduced transpiration due to interference of thallium in stomatal processes, growth reduction, stunting of roots and leaf chlorosis (Adriano, 1986), and inhibition of nitrate formation (ATSDR, 1992d). Plant growth can be affected by concentrations of one mg/kg when in the monovalent form (WHO, 1996). Microbial community disturbances have been documented at thallium concentrations between one and ten mg/kg (WHO, 1996).

Thallium has a high degree of bioavailability from all exposure routes in laboratory animals (NIH, 2002). It was formerly used as a rodenticide due to its action to the central nervous system (CNS) and GI tract. Thallium causes loss of dorsal feathers in ducks (concentration not specified) (WHO, 1996).

Vanadium. Whether vanadium is an essential element for plants unknown; however, if so, less than two ppb is the concentration. Vanadium has been shown to stimulate photosynthesis in blue-green algae (Pendias and Pendias, 1992).

In higher plants, average vanadium concentrations are around one ppm DW, most vegetables vanadium concentrations average between less than five to 50 ppm DW. Bryophytes, fungi [mushrooms (e.g., *Amanita muscaria*)] and certain legumes [*e.g.*, vetches (*Astralagus sp.*)] have been observed to be vanadium accumulators, at concentrations up to 180 ppm DW. In legumes, vanadium replaces molybdenum as a specific catalyst in nitrogen fixation with rhizobium bacteria; thus, large amounts of vanadium are found in root nodules (ATSDR, 1992f; Pendias and Pendias, 1992).

Bioaccumulation of vanadium is more commonly observed in lower plant phyla than in higher seed-producing phyla. Plants uptake soluble vanadium in above ground parts but at low concentrations. Root concentrations have shown some correlation with soil concentrations (ATSDR, 1992f).

In plants, pentavalent vanadium (V^{5+}) is a potential inhibitor of several enzymes but the tetravalent ion (V^{4+}) does not affect the same enzymes. There are no reports of vanadium toxicity under natural field conditions (Pendias and Pendias, 1992).

Vanadium is present in all mammals; however, tissue concentrations are very low (ATSDR, 1992f) due to low gastrointestinal absorption in animals, e.g., less than 0.1 to 2.6 % in rats. Absorption in rats in higher in young animals due to a greater non-selective permeability in the undeveloped intestinal barrier. Dermal absorption is minimal. Due to low bioavailability, biomagnification of vanadium is unlikely (ATSDR, 1992f).

E2. EFFECTS ON AQUATIC RECEPTORS

This section describes bioavailability of Sauget Site 2 COPECs and their potential for bioaccumulation, biomagnification in soil and possible adverse effects on aquatic receptors, i.e., mink and osprey from ingestion of fish from onsite ponds.

SVOCs

4,6-Dinitro-2-cresol. Dinitrocresols are not readily absorbed in animals as it dissociates readily. Therefore, bioconcentration is not significant (ATSDR, 1995b).

Hexachlorobutadiene. Absorption of hexachlorobutadiene is dose dependent, with lower doses more bioavailable. When pure hexachlorobutadiene was applied to animal skin at a concentration of 388 to 1550 mg/kg), 100% was absorbed. Approximately 85% unmetabolized hexachlorobutadiene was observed when animals were given a higher dose (50 mg/kg). Experiments with oral ingestion of low doses (approximately 1 mg/kg) in animals indicated rapid and complete absorption of hexachlorobutadiene in the GI tract. The kidney is the target organ (ATSDR, 1994).

4-Nitrophenol. Nitrophenol will bioconcentrate in plants and animals (e.g., green algae BCF = 30; fathead minnow BCF = 180). However, in animals, the compound will be eliminated relatively quickly, as demonstrated by a half-life of 150 hours in both terrestrial and aquatic organisms (ATSDR, 1992).

PAHs. In sediments, concentrations of PAHs thought to be acutely toxic have been found to have limited bioavailability due to high K_{oc} factors. Sorption to sediments renders the PAHs less toxic than those in solution (Eisler, 2000).

Various investigations indicate that pitch and/or coke globules from smelters and coal and coal leachates have limited or no bioavailability, do not leach, and are not toxic to aquatic life (Chapman *et al.*, 1996; Paine *et al.*, 1996). Studies from Norway also indicate limited bioavailability of PAHs in sediments originating from smelters (Paine *et al.* 1996).

A study with Great Lakes benthos indicated that the organisms obtain PAHs from water when concentrations of PAHs in sediments are low. When PAH concentrations increase in sediments, benthos obtain PAHs from sediments. Bioconcentration factors increase with increasing K_{ow}, dissolved organic matter, and lipid content (Eisler, 2000).

Many species of aquatic organisms rapidly bioconcentrate PAHs from low concentrations in ambient media. PAH uptake is highly species-specific but greater uptake has been documented in algae, mollusks (Beyer *et al.*, 1996; Eisler, 2000), and other species without PAH-metabolizing enzymes, such as polychaete annelids. Benzo(a)pyrene BCFs for selected macroinvertebrates are 166 (midge), 9 to 236 (clam), 2837 (*D. magna*), 134,248 (*D. pulex*), 5258 (alga), and 82,231 (snail - *Physa*) (Eisler, 2000). Bioaccumulation in mollusks is dependent on a variety of factors such as percent lipid, feeding niche, temperature and season (Beyer *et al.*, 1996). Crustacea assimilate PAHs well due to rapid metabolism and excretion resulting in little potential for food chain biomagnification (Eisler, 2000). PAHs are not evenly distributed within the tissues (Beyer *et al.*, 1996).

PAHs are eliminated primarily through the hepatobiliary system and the GI tract; however, the ability to metabolize PAHs is variable amongst species (Eisler, 2000; Meador *et al.*, 1995). Microsomal oxidases enzyme systems in fish rapidly metabolize PAHs (Irwin, *et al.*, 1997). Fish, mollusks, and most crustacea have the MFO enzyme system similar to terrestrial vertebrates, which can convert PAHs into mutagenic metabolites (Eisler, 2000). However, metabolic rates are much lower in aquatic organisms so the potential for bioaccumulation is greater (Beyer *et al.*, 1996). Higher molecular weight, hydrophobic PAHs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene,

dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, benzo(ghi)pyrene) do not accumulate in fish (Eisler, 2000) so there is limited exposure to higher trophic level organisms (such as the great blue heron) (Eisler, 2000; McElroy *et al.*, 1989; Suedel *et al.*, 1994)..

Depuration rates also vary widely. Teleosts and arthropods have high depuration rates, *e.g.*, the bluegill sunfish removes 89% of benzo(a)pyrene in four hours and midge larvae can remove 72% of benzo(a)pyrene in eight hours. Conversely, daphnids require 18 hours to remove only 21% of BaP (Eisler, 2000).

Toxicity occurs from PAHs (fluorene, pyrene, benzo(a)pyrene, anthracene) in aquatic organisms when they are exposed to uV radiation and is greatest in crustacea and least in teleosts (Eisler, 2000).

Mallards fed PAHs (naphthalenes, naphthenes, and phenanthrene) at 4000 mg/kg bw exhibited no mortality; however there were increased liver weights and increased blood flow to the liver. Mallard embryos may have microsomal enzymes that metabolize PAHs to a more toxic intermediate that than mammalian embryos and fetuses (Eisler, 2000).

Pentachlorophenol. Bioconcentration occurs in aquatic organisms, not through diet but through food. BCFs in freshwater mussels range from 81 to 461, in carp the BCF is approximately 218 and 3830 in bluegill. However, the compound is rapidly cleared from organisms– approximately 50% in 12 hours. Biomagnification has not been observed (ATSDR, 1994b).

PESTICIDES/HERBICIDES

4,4'-DDE. Despite it's strong adsorption affinity, DDE is rapidly bioconcentrated and biomagnified due to its high lipid solubility and bioavailability. Bioaccumulation has been observed in plankton, insects, mollusks, other invertebrates, and fish (ATSDR, 1994c).

Dieldrin. Dieldrin is rapidly bioconcentrated and biomagnified in aquatic organisms (ATSDR, 1993b).

MCPP. There is a low potential for MCPP to bioaccumulate in fish. The 96-hour LC50 for rainbow trout is 124 ppm and greater than 100 ppm for bluegill sunfish (EXTOXNET, 1993c).

PCBs. PCBs are bioconcentrated in biota with accumulation occurring in higher trophic levels directly from water or through the consumption of contaminated food. BCFs in freshwater species range from 500 to 40,000 for lower chlorinated congeners to 1000 to 300,000 for tetra- to hexachlorinated biphenyls. Higher chlorinated congeners are not bioconcentrated as they cannot pass through the lipid membrane (ATSDR, 2000b).

Mono- through tetrachlorobiphenyls are readily taken and but also readily eliminated and metabolized and thus, are not bioaccumulated to any great extent. Higher chlorinated biphenyls (hepta- through decachlorinated biphenyls) in low environmental concentrations are tightly bound to soils, sediments, or organic matter. These congeners are not significantly bioaccumulated. Penta- hexa-, and heptachlorinated biphenyls are bioavailable, resistant to degradation and bioaccumulate readily (ATSDR, 2000b).

Bioaccumulation of PCBs occurs in the fatty tissues; therefore, those with higher lipid concentration accumulate greater concentrations of PCBs via trophic transfer. The highest bioaccumulation factors (BAFs) occur at the bottom of the food chain but are dependent on the water zone in which the organism feeds and lives. Benthic organisms accumulate PCBs from water at the water-sediment interface and via ingestion of phyto- and zooplankton. Airborne PCBs deposited on surface water create concentrations on the surface microlayer 500 times greater than the rest of the water column and BAFs are higher in fish from the zone (ATSDR, 2000b).

Biomagnification of PCBs occurs from trophic transfer and affects piscivorous birds, such as osprey. However, biomagnification is congener-specific, predominantly with congeners with K_{ow} between 5 and 7 (ATSDR, 2000b).

DIOXINS/FURANS. Lower trophic level organisms (e.g., phytoplankton, aquatic invertebrates, aquatic plants) uptake CDDs from the water column or for the interstitial sediments. Foraging and predatory fish and piscivorous wildlife uptake CDDs through food chain transfer and receive negligible CDD contribution from the water and sediment (ATSDR, 1998).

Piscivorous birds preferentially bioconcentrate and bioaccumulate 2,3,7,8-TCDD and other 2,3,7,8-substituted CDDs/TCDFs. BCFs in aquatic organisms for 2,3,7,8-TCDD has been measured at 37,900 to 128.000; however, the field results or at least two orders-of-magnitude less than the predicted BCFs because some aquatic organisms are able to metabolize and eliminate specific dioxin congeners. The elimination half-lives of TCDD/PeCDD are rapid e.g., 2.6 days for trout fry and three days for minnows. Hx/HpCDD congener elimination half-lives are longer – 16 days for rainbow trout and 20 days for fathead minnows (ATSDR, 1998).

Biota to sediment accumulation factors (BASF) decrease with increasing chlorination and are higher for benthic organisms than for pelagics due to higher lipid content and increased exposure to contaminated sediments (ATSDR, 1998).

Chironomus sp. larvae, *Hexagenia* sp. nymphs, stoneflies, and other predaceous nymphs preferentially store 1,2,6,8-TCDD rather than OCDD. In fish, TCDD is stored in the fat but OCDD is stored preferentially in bile then liver, caeca, kidney, liver, spleen skin then muscle tissue. Differences are due to exposure pathways (diet vs. water) and differences in metabolic breakdown rates (ATSDR, 1998).

METALS

Aluminum. Aluminum is somewhat bioconcentrated in fish; however, as demonstrated in brook trout, whole body concentrations decrease as the fish ages because it is toxic to most fish and shellfish species. Bioconcentration does occur in some aquatic invertebrate species such as snails, crayfish, and insects (mayflies) (ATSDR, 1999).

Antimony. Antimony does not bioconcentrate appreciably in fish and aquatic organisms (ATSDR, 1992a; USEPA, 1988b). No bioconcentration was observed in bluegill sunfish (USEPA, 1988b).

Arsenic. Arsenic will bioaccumulate in aquatic organisms but there is no evidence of biomagnification in the aquatic food chain (Eisler, 2000). In fish, arsenic is bioaccumulated but rapidly excreted; however, the rate of elimination is much slower than the rate of uptake (Baudo *et al.*,1990). The BCF for inorganic trivalent arsenic (As^{3+}) in most aquatic invertebrates and

fish is 17 (Eisler, 2000). BCF ranges were determined at 3 to 30 for fish, 4 to 7000 for algae, 1 to 3 for duckweed, and 110 to 14,500 for lakeweeds (Baudo *et al.*, 1990).

Barium. Uptake by fish is an important removal mechanisms for barium in the water column. Studies of marine organism indicate marine plants can bioconcentration barium at concentration s1000 times greater than those in the water column (ATSDR, 1992b).

Cobalt. Cobalt compounds are naturally occurring in surface, spring and groundwater. Cobalt can be bioconcentration by aquatic organisms such as mollusks, crustacea and fish. BCFs in freshwater fish range between 40 and 1000 (ATSDR, 1992c).

Mercury. Bioaccumulation in birds occurs in species that eat fish and other birds. Great blue herons collected from the Great Lakes region have body burdens of mercury between 0.7 to 4.3 (FW) mg/kg. Mercury concentrations within birds that eat larger fish are greater than those that eat smaller fish or crustacea. In raptor species such as *Falco* (falcons), *Haliaeetus* (bald eagle), *Buteo* (*e.g.,* red-tailed hawk), and *Accipiter* (*e.g.*, sharp-shinned hawk), mercury may take up to 10 years to accumulate in feathers. Molting provides an important depuration process (Eisler, 2000).