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APPENDIX 3

DETAILED DESCRIPTION OF MODELS USED TO CALCULATE AIR CONCENTRATIONS OF VOCs RELEASED FROM SOIL

1.0 INTRODUCTION

The concentration of volatile organic chemicals (VOCs) in air that result from releases from contaminated soil is a complex function of soil, chemical and meteorological parameters. Estimation of the concentration values is approached in two steps: first, the emission rate of each volatile from soil is calculated, and then the resultant concentration in air is calculated. Methods used to achieve these steps are detailed below.

2.0 EMISSION MODEL

Hwang (1986) developed a mathematical model for estimating the average emission rate of a chemical from soil that considers the physical-chemical properties of the chemical (its volatility and its tendency to sorb to soil and dissolve in water), and the characteristics of the soil (the amount of organic matter in the soil and the amount of pore space between soil particles). The model assumes that the concentration of a chemical at the surface will tend to decrease over time due to volatilization, so the emission rate also decreases as a function of time.

The basic equation proposed by Hwang (1986) is:

$$Q = C_s \cdot \frac{2 \cdot E \cdot De \cdot H'}{(\pi \cdot \alpha \cdot t)^{1/2} \cdot K_d} \qquad (1)$$

A discussion of the meaning and value of each of the terms in Equation 1 is provided below.

- Q — Q is the average emission rate ($g/cm^2 \cdot sec$) of a chemical emitted from soil over time period t.
- C_s — C_s is the average concentration of chemical in soil (g/g). The values of C were calculated using the 95th upper confidence limit of the arithmetic mean of the surficial soil samples used in exposure point concentrations.
- E — E is the soil porosity (dimensionless). It corresponds to the fraction of total soil volume that is not occupied by solid matter. The value of E is calculated from the following equation:

$$E = 1-(\overline{P}_s/P_s) \qquad (2)$$

where:

$\overline{P}_s$ = Average moist bulk soil density (g/cm^3)
P_s = True soil density (the density of the solid matter)(g/cm^3)

The value of $\bar{P}_s$ at this site is unknown, but a value of 1.88 g/cm^3 was assumed based on information from the Main Street Well Field site located about one mile to the south-southeast. The value of P_s is not known, but a value of 2.65 g/cm^3 is typical of most soils (Shen 1981). Based on these values, the value of E is

$$E = 1 - (1.88/2.65) \quad (3)$$

$$= 0.29$$

D_e D_e is the effective diffusivity (cm^2/sec) of each chemical. This characterizes the rate of chemical diffusion up through the pore spaces of the soil. It is calculated from the chemical-specific molecular diffusivity constant D (cm^2/sec) and the soil porosity (E), as follows:

$$D_e = D \cdot E^{1/3} \quad (4)$$

Values of D are available for a few chemicals, but most values must be estimated by extrapolation from a reference chemical for which the diffusion coefficient is known (Lyman et al. 1982). The equation for estimating D is:

$$D = D'\left(\frac{MW'}{MW}\right)^{1/2} \quad (5)$$

where:

D = The diffusion coefficient of the chemical of concern
D' = The diffusion coefficient of the reference chemical
MW = The molecular weight of the chemical of concern
MW' = The molecular weight of the reference chemical

Lyman et al. (1982) suggest that an appropriate method of estimating D for a chemical of concern is to calculate D values based on two compounds whose diffusion coefficients are known (carbon disulfide and diethyl ether) and average the two D values.

Table A3-1 illustrates the values of D calculated for each of the volatile chemicals of potential concern at this site.

H' H' (the nondimensional Henry's law constant) is a chemical-specific term that is calculated from Henry's law constant as follows:

$$H' = H/RT \quad (6)$$

where:

H = Henry's law constant (atm-m^3/mol)
R = Gas constant (8.2E-05 atm-m^3/mol-K)
T = Temperature (K)

TABLE A3-1 CHEMICAL SPECIFIC PARAMETERS FOR THE HWANG MODEL

Chemical Name	Molecular Weight[a]	D1[b]	D2[c]	D (avg)
1,1-Dichloroethene	97	9.03E-02	7.77E-02	8.40E-02
2-Butanone	72	1.05E-01	9.02E-02	9.75E-02
Acetone	58	1.17E-01	1.01E-01	1.09E-01
Carbon disulfide	76			1.02E-01[d]
Ethylbenzene	106	8.64E-02	7.44E-02	8.04E-02
Methylene chloride	85	9.64E-02	8.30E-02	8.97E-02
Styrene	104	8.71E-02	7.5E-02	8.11E-02
Tetrachloroethylene	166	6.91E-02	5.95E-02	6.43E-02
Toluene	92	9.27E-02	7.98E-02	8.63E-02
Trichloroethylene	131	7.77E-02	6.69E-02	7.23E-02
Xylenes	106	8.64E-02	7.44E-02	8.04E-02

(a) Values from Howard (1989).
(b) Calculated by extrapolation from carbon disulfide (Lyman et al. 1982).
(c) Calculated by extrapolation from diethyl ether (Lyman et al. 1982).
(d) Known diffusion coefficient.

At 20 C (293 K), the value of RT is 0.024 atm-m^3/mol, and H' is given by:

$$H' = H/0.024 \quad (7)$$

α α is a term that combines several soil- and chemical-specific parameters, as follows:

$$\alpha = \frac{D_e \cdot E}{E+P_s(1-E)(K_d/H')} \quad (8)$$

The values of D_e, E, P_s, and H' have been discussed above. The value of K_d is discussed below.

K_d K_d is the soil-water partition coefficient (cm^3/g). It is a soil- and chemical-specific term, calculated as follows:

$$K_d = K_{oc} \cdot F_{oc} \quad (9)$$

where:

K_{oc} = Organic carbon binding constant (cm^3/g). Published values for the K_{oc} for each chemical of potential concern were used.

F_{oc} = Soil organic carbon fraction (unitless). The value of F_{oc} at this site is estimated to be about 0.1% (0.001), based on information from the Main Street Well Field Site.

t t is the time (seconds) over which the emission rate is averaged. The value of t was chosen to be 6 years (1.9E+08 seconds) for subchronic exposure), 25 years (7.9E+08 seconds) for occupational chronic exposures and 30 years (9.5E+08 seconds) for residential chronic exposures. Since the emission rate decreases as a function of time, it is assumed that all exposures begin at the present. This approach yields the highest possible exposure rates. For example, any adult exposed for 30 years beginning any time in the future would have a lower exposure than for an adult exposed currently.

Based on these input parameters, average subchronic and chronic emission rates were calculated from equation 1 for each chemical. These calculations and results are summarized in Table A3-2 and Table A3-3 (Parts 1 through 4).

3.0 BOX MODEL

The concentrations of volatile chemicals in air that result from the soil emission pathway were estimated using a simple box model (Hanna et al. 1982). The basic equation is:

$$C = \frac{Q \cdot X}{(H/2) \cdot U} \quad (10)$$

TABLE A3-2 HWANG MODEL FOR CALCULATING EMISSION OF VOCs FROM SOIL AND BOX
MODEL FOR CALCULATION OF AIR CONCENTRATIONS - LANDFILL AREA ONLY

PART 1: INPUT SOIL-SPECIFIC VARIABLES

PARAMETER	UNITS	SYMBOL	VALUE
MOIST BULK SOIL DENSITY	g/cm3	P*s	1.88
TRUE PARTICLE DENSITY	g/cm3	Ps	2.65
SOIL POROSITY (1-P*s/Ps)	--	E	0.29
FRACTION ORGANIC CARBON	--	Foc	0.001

PART 2: INPUT CHEMICAL-SPECIFIC VALUES

			CHEMICAL NAME							
			1,1-DCE	2-BUT	ACETONE	CARB DIS	ETH.BNZ.	MET.CHLR	TOLUENE	XYLENES
CONC IN SOIL (95th conf. limit)	mg/kg		3.9E-03	4.0E-03	3.0E-02	1.9E-03	2.0E-03	4.0E-03	4.0E-03	4.0E-03
	g/g	Cs	3.9E-09	4.0E-09	3.0E-08	1.9E-09	2.0E-09	4.0E-09	4.0E-09	4.0E-09
DIFFUSION COEFFICENT	cm2/sec	D	8.4E-02	9.8E-02	1.1E-01	1.0E-01	8.0E-02	9.0E-02	8.6E-02	8.0E-02
ORGANIC CARBON BINDING COEFF	mL/g	Koc	65	4.5	2.2	54	1100	8.8	300	240
HENRYS LAW CONSTANT	atm-m3/mol	H	2.1E-02	4.6E-05	4.0E-05	1.2E-02	6.6E-03	2.0E-03	6.7E-03	7.0E-03
DIMENSIONLESS HENRYS CONSTANT	--	H'	8.8E-01	1.9E-03	1.7E-03	5.0E-01	2.8E-01	8.3E-02	2.8E-01	2.9E-01

PART 3: CALCULATED VALUES

EFFECTIVE DIFFUSION COEFF (De = D * E^1/3)	cm2/sec	De	5.57E-02	6.46E-02	7.22E-02	6.76E-02	5.33E-02	5.94E-02	5.72E-02	5.33E-02
SOIL/WATER PARTITION COEFF (Kd = Koc * Foc)	cm3/g	Kd	0.065	4.5E-03	0.0022	0.054	1.1E+00	0.0088	0.3	0.24
ALPHA (De*E/(E+Ps*(1-E)*Kd/H'))	cm2/sec	ALPHA	3.8E-02	4.0E-03	7.6E-03	4.0E-02	2.0E-03	3.5E-02	7.2E-03	8.5E-03

PART 4: RESULTS OF EMISSION MODEL

EXPOSURE DURATION	years		6		25		30			
	sec	t	1.9E+08		7.9E+08		9.5E+08			
AVERAGE EMISSION RATE	g/cm2-sec	Q	3.6E-13	4.2E-14	4.5E-13	1.4E-13	1.4E-14	2.9E-13	6.0E-14	6.7E-14
(6 YR. AVERAGE)	g/m2-sec	Q	3.6E-09	4.2E-10	4.5E-09	1.4E-09	1.4E-10	2.9E-09	6.0E-10	6.7E-10
	mg/m2-sec	Q	3.6E-06	4.2E-07	4.5E-06	1.4E-06	1.4E-07	2.9E-06	6.0E-07	6.7E-07
AVERAGE EMISSION RATE	g/cm2-sec	Q	1.8E-13	2.0E-14	2.2E-13	7.0E-14	7.0E-15	1.4E-13	2.9E-14	3.3E-14
(25 YR. AVERAGE)	g/m2-sec	Q	1.8E-09	2.0E-10	2.2E-09	7.0E-10	7.0E-11	1.4E-09	2.9E-10	3.3E-10
	mg/m2-sec	Q	1.8E-06	2.0E-07	2.2E-06	7.0E-07	7.0E-08	1.4E-06	2.9E-07	3.3E-07
AVERAGE EMISSION RATE	g/cm2-sec	Q	1.6E-13	1.9E-14	2.0E-13	6.4E-14	6.4E-15	1.3E-13	2.7E-14	3.0E-14
(30 YR AVERAGE)	g/m2-sec	Q	1.6E-09	1.9E-10	2.0E-09	6.4E-10	6.4E-11	1.3E-09	2.7E-10	3.0E-10
	mg/m2-sec	Q	1.6E-06	1.9E-07	2.0E-06	6.4E-07	6.4E-08	1.3E-06	2.7E-07	3.0E-07

PART 5: CALCULATION OF C VALUES USING BOX MODEL

WIDTH (upwind-downwind distance)	m	W	206.0							
AVERAGE WIND SPEED	m/sec	U	2.25							
MIXING HEIGHT (Z0 = 0.04m)	m	H	8.7							
AIR CONCENTRATION IN BOX (C = Q*W/(H/2)*U)										
(6 yr average)	mg/m3	C	7.6E-05	8.7E-06	9.5E-05	3.0E-05	3.0E-06	6.0E-05	1.3E-05	1.4E-05
(25 yr average)	mg/m3	C	3.7E-05	4.3E-06	4.6E-05	1.5E-05	1.5E-06	2.9E-05	6.2E-06	7.0E-06
(30 yr average)	mg/m3	C	3.4E-05	3.9E-06	4.2E-05	1.3E-05	1.3E-06	2.7E-05	5.6E-06	6.4E-06

TABLE A3-3 HWANG MODEL FOR CALCULATING EMISSION OF VOCs FROM SOIL AND BOX MODEL
MODEL FOR CALCULATION OF AIR CONCENTRATIONS - DIRT BIKE RIDING AREA

PART 1: INPUT SOIL-SPECIFIC VARIABLES

PARAMETER	UNITS	SYMBO	VALUE
MOIST BULK SOIL DENSITY	g/cm3	P*s	1.88
TRUE PARTICLE DENSITY	g/cm3	Ps	2.65
SOIL POROSITY (1-P*s/Ps)	--	E	0.29
FRACTION ORGANIC CARBON	--	Foc	0.001

PART 2: INPUT CHEMICAL-SPECIFIC VALUES

			CHEMICAL NAME								
			1,1-DCE	2-BUT	ACETONE	CARB DIS	ETH.BNZ.	MET.CHLR	TOLUENE	TCE	XYLENES	PCE
CONC IN SOIL (95th conf. limit)	mg/kg		4.3E-03	4.0E-03	2.3E-02	1.9E-03	2.0E-03	4.0E-03	4.8E-03	4.0E-03	4.4E-03	4.3E-03
	g/g	Cs	4.3E-09	4.0E-09	2.3E-08	1.9E-09	2.0E-09	4.0E-09	4.8E-09	4.0E-09	4.4E-09	4.3E-09
DIFFUSION COEFFICENT	cm2/sec	D	8.4E-02	9.8E-02	1.1E-01	1.0E-01	8.0E-02	9.0E-02	8.6E-02	7.2E-02	8.0E-02	6.4E-02
ORGANIC CARBON BINDING COEFF	mL/g	Koc	65	4.5	2.2	54	1100	8.8	300	126	240	210
HENRYS LAW CONSTANT	atm-m3/mol	H	2.1E-02	4.6E-05	4.0E-05	1.2E-02	6.6E-03	2.0E-03	6.7E-03	9.1E-03	7.0E-03	1.5E-02
DIMENSIONLESS HENRYS CONSTANT	--	H'	8.8E-01	1.9E-03	1.7E-03	5.0E-01	2.8E-01	8.3E-02	2.8E-01	3.8E-01	2.9E-01	6.3E-01

PART 3: CALCULATED VALUES

EFFECTIVE DIFFUSION COEFF (De = D * E^1/3)	cm2/sec	De	5.6E-02	6.5E-02	7.2E-02	6.76E-02	5.33E-02	5.94E-02	5.72E-02	4.8E-02	5.3E-02	4.3E-02
SOIL/WATER PARTITION COEFF (Kd = Koc * Foc)	cm3/g	Kd	0.065	4.5E-03	0.0022	0.054	1.1E+00	0.0088	0.3	0.126	0.24	0.21
ALPHA (De*E/(E+Ps*(1-E)*Kd/H')	cm2/sec	ALPHA	3.8E-02	4.0E-03	7.6E-03	4.0E-02	2.0E-03	3.5E-02	7.2E-03	1.5E-02	8.5E-03	1.3E-02

PART 4: RESULTS OF EMISSION MODEL

EXPOSURE DURATION	years		6		25		30				
	sec	t	1.9E+08		7.9E+08		9.5E+08				
AVERAGE EMISSION RATE	g/cm2-sec	Q	4.0E-13	4.2E-14	3.4E-13	1.4E-13	1.4E-14	2.9E-13	7.2E-14	1.1E-13	7.4E-14	1.1E-13
(6 YR. AVERAGE)	g/m2-sec	Q	4.0E-09	4.2E-10	3.4E-09	1.4E-09	1.4E-10	2.9E-09	7.2E-10	1.1E-09	7.4E-10	1.1E-09
	mg/m2-sec	Q	4.0E-06	4.2E-07	3.4E-06	1.4E-06	1.4E-07	2.9E-06	7.2E-07	1.1E-06	7.4E-07	1.1E-06
AVERAGE EMISSION RATE	g/cm2-sec	Q	1.9E-13	2.0E-14	1.7E-13	7.0E-14	7.0E-15	1.4E-13	3.5E-14	5.5E-14	3.6E-14	5.5E-14
(25 YR. AVERAGE)	g/m2-sec	Q	1.9E-09	2.0E-10	1.7E-09	7.0E-10	7.0E-11	1.4E-09	3.5E-10	5.5E-10	3.6E-10	5.5E-10
	mg/m2-sec	Q	1.9E-06	2.0E-07	1.7E-06	7.0E-07	7.0E-08	1.4E-06	3.5E-07	5.5E-07	3.6E-07	5.5E-07
AVERAGE EMISSION RATE	g/cm2-sec	Q	1.8E-13	1.9E-14	1.5E-13	6.4E-14	6.4E-15	1.3E-13	3.2E-14	5.0E-14	3.3E-14	5.0E-14
(30 YR AVERAGE)	g/m2-sec	Q	1.8E-09	1.9E-10	1.5E-09	6.4E-10	6.4E-11	1.3E-09	3.2E-10	5.0E-10	3.3E-10	5.0E-10
	mg/m2-sec	Q	1.8E-06	1.9E-07	1.5E-06	6.4E-07	6.4E-08	1.3E-06	3.2E-07	5.0E-07	3.3E-07	5.0E-07

PART 5: CALCULATION OF C VALUES USING BOX MODEL

WIDTH (upwind-downwind distance)	m	W	206.0
AVERAGE WIND SPEED	m/sec	U	2.25
MIXING HEIGHT (Z0 = 0.04m)	m	H	8.7

AIR CONCENTRATION IN BOX (C = Q*W/(H/2)*U)

(6 yr average)	mg/m3	C	8.3E-05	8.7E-06	7.3E-05	3.0E-05	3.0E-06	6.0E-05	1.5E-05	2.3E-05	1.6E-05	2.4E-05
(25 yr average)	mg/m3	C	4.1E-05	4.3E-06	3.6E-05	1.5E-05	1.5E-06	2.9E-05	7.4E-06	1.1E-05	7.7E-06	1.2E-05
(30 yr average)	mg/m3	C	3.7E-05	3.9E-06	3.2E-05	1.3E-05	1.3E-06	2.7E-05	6.8E-06	1.0E-05	7.0E-06	1.1E-05

where:

C = concentration in air (mg/m^3)
Q = emission rate (mg/m^2-sec)
X = cross-wind dimension of the box (m)
H = mixing height of the box (m)
U = average windspeed (m/sec) across the box

Values of these parameters were derived as follows:

E The emission rates were calculated as described in Section 2.0, above.

X The distance from the upwind to downwind edge of the box was estimated to be about 206 m, derived by measurement of the sampling map (Figure 2-1).

H The mixing height of the box is a function of distance from the source and turbulence of the air which, in turn, is a function of the roughness of the terrain. The value of H at the upwind edge of the site is zero. At the downwind edge, the value of H was calculated from the following equation (Pasquill 1975):

$$X = 6.25\ Z_o[(H/Z_o)\ \ln\ (H/Z_o) - 1.58\ (H/Z_o) + 1.58] \qquad (11)$$

where:

X = Upwind to downwind distance (m)
Z_o = Roughness height (m)

The roughness height at the site was estimated to be 0.04 m, based on Cowherd et al. (1985). Employing this value for Z_o and a value of 206 m for X, the corresponding value of H is 8.7 m.

U The average wind speed was taken to be 2.25 m/sec (5.03 mph), based on wind speed measured at the South Bend/St. Joe weather station.

Employing these input parameters, the concentrations of chemicals in air were calculated as shown in Tables A3-2 and A3-3 (Part 5).

4.0 REFERENCES

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APPENDIX 4

EXPOSURE POINT CONCENTRATION CALCULATIONS

Table	Exposure Point	Page
A4-1	Soil - Dirt Bike Riding Area	A4-2
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A4-5	Surface Water - Quarry	A4-10
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TABLE A4-1 DIRT BIKE RIDING SOIL

EXPOSURE POINT: DIRT BIKE RIDER
MEDIUM: SOIL
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	0	27	6.5E-03	2.5E-03	4.0E-03	9.5E-04	4.3E-03	0.0E+00
2	1,1-Dichloroethane	0	27	6.5E-03	2.5E-03	4.0E-03	9.5E-04	4.3E-03	0.0E+00
3	1,1-Dichloroethene	1	27	6.5E-03	2.5E-03	4.0E-03	9.7E-04	4.3E-03	4.3E-03
4	1,2-Dichloroethene(total)	0	27	6.5E-03	2.5E-03	4.0E-03	9.5E-04	4.3E-03	0.0E+00
5	2-Butanone	2	22	1.6E-02	3.0E-03	6.8E-03	3.3E-03	8.0E-03	4.0E-03
6	2-Hexanone	0	27	9.0E-03	5.0E-03	6.8E-03	1.2E-03	7.2E-03	0.0E+00
7	4-Methyl-2-pentanone	0	27	9.0E-03	5.0E-03	6.8E-03	1.2E-03	7.2E-03	0.0E+00
8	Acetone	5	27	1.3E-01	5.0E-03	1.5E-02	2.5E-02	2.3E-02	2.3E-02
9	Benzene	0	27	6.5E-03	2.5E-03	4.0E-03	9.5E-04	4.3E-03	0.0E+00
10	Bromodichloromethane	0	27	6.5E-03	2.5E-03	4.0E-03	9.5E-04	4.3E-03	0.0E+00
11	Carbon Disulfide	1	27	6.5E-03	1.9E-03	3.9E-03	1.0E-03	4.3E-03	1.9E-03
12	Chlorobenzene	0	27	6.5E-03	2.5E-03	4.0E-03	9.5E-04	4.3E-03	0.0E+00
13	Chloroethane	0	27	9.0E-03	5.0E-03	6.8E-03	1.2E-03	7.2E-03	0.0E+00
14	Chloroform	0	27	6.5E-03	2.5E-03	4.0E-03	9.5E-04	4.3E-03	0.0E+00
15	Ethyl Benzene	1	27	6.5E-03	2.0E-03	3.9E-03	1.0E-03	4.3E-03	2.0E-03
16	Methylene Chloride	2	27	1.2E-02	3.0E-03	5.0E-03	1.9E-03	5.6E-03	4.0E-03
17	Styrene	0	27	6.5E-03	2.5E-03	4.0E-03	9.5E-04	4.3E-03	0.0E+00
18	Tetrachloroethene	1	27	6.5E-03	2.5E-03	4.0E-03	9.9E-04	4.3E-03	4.3E-03
19	Toluene	5	27	1.0E-02	2.0E-03	4.2E-03	1.6E-03	4.8E-03	4.8E-03
20	Trichloroethene	2	27	5.5E-03	9.0E-04	3.8E-03	9.8E-04	4.1E-03	4.0E-03
21	Vinyl Chloride	0	27	9.0E-03	5.0E-03	6.8E-03	1.2E-03	7.2E-03	0.0E+00
22	Xylenes (Total)	2	27	6.5E-03	2.0E-03	4.0E-03	1.0E-03	4.4E-03	4.4E-03
23	1,4-Dichlorobenzene	2	27	5.5E-01	1.2E-01	3.5E-01	1.4E-01	3.9E-01	2.1E-01
24	2,4-Dimethylphenol	0	27	5.5E-01	1.7E-01	3.6E-01	1.3E-01	4.0E-01	0.0E+00
25	2-Methylnaphthalene	1	27	5.5E-01	1.8E-02	3.5E-01	1.4E-01	4.0E-01	1.8E-02
26	2-Methylphenol	0	27	5.5E-01	1.7E-01	3.6E-01	1.3E-01	4.0E-01	0.0E+00
27	4-Methylphenol	0	27	5.5E-01	1.7E-01	3.6E-01	1.3E-01	4.0E-01	0.0E+00
28	Acenaphthene	1	27	5.5E-01	5.9E-02	3.5E-01	1.4E-01	4.0E-01	5.9E-02
29	Acenaphthylene	0	27	5.5E-01	1.7E-01	3.6E-01	1.3E-01	4.0E-01	0.0E+00
30	Anthracene	1	27	5.5E-01	8.2E-02	3.5E-01	1.4E-01	4.0E-01	8.2E-02
31	Benzo(a)anthracene	4	27	5.5E-01	2.3E-02	3.5E-01	1.4E-01	4.0E-01	4.0E-01
32	Benzo(a)pyrene	4	27	5.9E-01	1.2E-01	3.7E-01	1.4E-01	4.2E-01	4.2E-01
33	Benzo(b)fluoranthene	5	27	7.7E-01	5.8E-02	3.8E-01	1.9E-01	4.4E-01	4.4E-01
34	Benzo(g,h,i)perylene	3	27	6.7E-01	1.7E-01	3.7E-01	1.5E-01	4.2E-01	4.2E-01
35	Benzo(k)fluoranthene	5	27	5.5E-01	7.3E-02	3.5E-01	1.4E-01	4.0E-01	4.0E-01
36	Benzoic acid	1	21	2.6E+00	7.5E-02	1.9E+00	6.2E-01	2.1E+00	7.5E-02
37	Benzyl alcohol	0	21	5.5E-01	2.6E-01	4.1E-01	1.0E-01	4.4E-01	0.0E+00
38	bis(2-Ethylhexyl)phthalate	16	27	7.8E+00	9.5E-02	6.2E-01	1.4E+00	1.1E+00	1.1E+00
39	Butylbenzylphthalate	1	27	5.5E-01	1.7E-01	3.6E-01	1.3E-01	4.0E-01	2.4E-01
40	Carbazole	1	6	2.2E-01	3.6E-02	1.6E-01	6.1E-02	2.1E-01	3.6E-02
41	Chrysene	5	27	5.5E-01	1.3E-01	3.5E-01	1.3E-01	4.0E-01	4.0E-01
42	Di-n-butylphthalate	3	27	5.5E-01	1.3E-01	3.3E-01	1.4E-01	3.8E-01	3.8E-01
43	Di-n-octylphthalate	1	27	5.5E-01	1.4E-01	3.5E-01	1.3E-01	4.0E-01	1.4E-01
44	Dibenzo(a,h)anthracene	0	27	5.5E-01	1.7E-01	3.6E-01	1.3E-01	4.0E-01	0.0E+00
45	Dibenzofuran	1	27	5.5E-01	2.3E-02	3.5E-01	1.4E-01	4.0E-01	2.3E-02
46	Diethylphthalate	0	27	5.5E-01	1.7E-01	3.6E-01	1.3E-01	4.0E-01	0.0E+00
47	Dimethylphthalate	1	27	5.5E-01	4.2E-02	3.5E-01	1.4E-01	4.0E-01	4.2E-02
48	Fluoranthene	6	27	5.9E-01	1.7E-02	3.5E-01	1.6E-01	4.0E-01	4.0E-01
49	Fluorene	1	27	5.5E-01	4.3E-02	3.5E-01	1.4E-01	4.0E-01	4.3E-02
50	Indeno(1,2,3-cd)pyrene	3	27	6.9E-01	1.7E-01	3.8E-01	1.5E-01	4.3E-01	4.3E-01
51	Naphthalene	1	27	5.5E-01	1.8E-02	3.5E-01	1.4E-01	4.0E-01	1.8E-02
52	Phenanthrene	4	27	5.5E-01	4.2E-02	3.5E-01	1.4E-01	3.9E-01	3.9E-01
53	Phenol	0	27	5.5E-01	1.7E-01	3.6E-01	1.3E-01	4.0E-01	0.0E+00
54	Pyrene	6	27	6.2E-01	3.5E-02	3.6E-01	1.7E-01	4.1E-01	4.1E-01
55	4,4-DDE	1	27	2.6E-02	1.7E-03	1.6E-02	8.4E-03	1.8E-02	4.1E-03

TABLE A4-1 DIRT BIKE RIDING SOIL

EXPOSURE POINT: DIRT BIKE RIDER
MEDIUM: SOIL
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	4,4-DDT	2	27	6.4E-02	1.7E-03	1.8E-02	1.2E-02	2.2E-02	2.2E-02
57	Aldrin	0	27	1.3E-02	9.0E-04	7.8E-03	4.3E-03	9.2E-03	0.0E+00
58	alpha-BHC	0	27	1.3E-02	9.0E-04	7.8E-03	4.3E-03	9.2E-03	0.0E+00
59	alpha-Chlordane	0	27	1.3E-01	9.0E-04	7.6E-02	4.6E-02	9.1E-02	0.0E+00
60	Aroclor-1248	0	27	1.3E-01	1.7E-02	8.0E-02	3.9E-02	9.3E-02	0.0E+00
61	beta-BHC	0	27	1.3E-02	9.0E-04	7.8E-03	4.3E-03	9.2E-03	0.0E+00
62	Dieldrin	0	27	2.6E-02	1.7E-03	1.6E-02	8.6E-03	1.8E-02	0.0E+00
63	Endosulfan II	0	27	2.6E-02	1.7E-03	1.6E-02	8.6E-03	1.8E-02	0.0E+00
64	gamma-Chlordane	0	27	1.3E-01	9.0E-04	7.6E-02	4.6E-02	9.1E-02	0.0E+00
65	Heptachlor	0	27	1.3E-02	9.0E-04	7.8E-03	4.3E-03	9.2E-03	0.0E+00
66	Aluminum, Total	23	27	5.4E+03	4.5E+00	1.7E+03	1.9E+03	2.4E+03	2.4E+03
67	Antimony, Total	11	27	4.7E+01	3.2E+00	1.3E+01	1.3E+01	1.7E+01	1.7E+01
68	Arsenic, Total	15	27	5.0E+00	1.5E-01	1.4E+00	1.3E+00	1.9E+00	1.9E+00
69	Barium, Total	22	27	1.0E+02	1.3E+00	1.5E+01	2.1E+01	2.1E+01	2.1E+01
70	Beryllium, Total	17	27	8.3E-01	1.1E-01	4.3E-01	2.7E-01	5.2E-01	5.2E-01
71	Cadmium, Total	1	27	1.1E+00	2.9E-01	4.8E-01	2.1E-01	5.5E-01	5.5E-01
72	Chromium, Total	15	27	1.3E+01	7.0E-01	3.8E+00	3.4E+00	4.9E+00	4.9E+00
73	Cobalt, Total	14	27	5.3E+00	8.5E-01	2.0E+00	1.1E+00	2.3E+00	2.3E+00
74	Iron, Total	26	27	1.0E+04	2.3E+00	3.2E+03	3.3E+03	4.3E+03	4.3E+03
75	Lead, Total	22	27	7.7E+01	1.6E-01	9.0E+00	1.8E+01	1.5E+01	1.5E+01
76	Mercury, Total	2	27	2.3E-01	3.5E-02	6.8E-02	3.8E-02	8.0E-02	8.0E-02
77	Nickel, Total	15	27	9.6E+00	2.6E+00	4.6E+00	2.1E+00	5.3E+00	5.3E+00
78	Silver, Total	3	27	2.8E+00	3.4E-01	6.8E-01	6.5E-01	8.9E-01	8.9E-01
79	Thallium, Total	0	27	1.7E+00	1.0E-01	5.0E-01	4.2E-01	6.3E-01	0.0E+00
80	Vanadium, Total	20	27	1.2E+01	6.3E-01	5.0E+00	3.9E+00	6.3E+00	6.3E+00
81	Cyanide, Total	1	27	3.0E+00	1.1E-01	1.5E+00	8.7E-01	1.8E+00	1.8E+00

TABLE A4-2 SOIL - LANDFILL AREA

EXPOSURE POINT: LANDFILL
MEDIUM: SOIL
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	0	19	4.5E-03	3.0E-03	3.6E-03	4.8E-04	3.8E-03	0.0E+00
2	1,1-Dichloroethane	0	19	4.5E-03	3.0E-03	3.6E-03	4.8E-04	3.8E-03	0.0E+00
3	1,1-Dichloroethene	1	19	5.0E-03	3.0E-03	3.7E-03	5.7E-04	3.9E-03	3.9E-03
4	1,2-Dichloroethene(total)	0	19	4.5E-03	3.0E-03	3.6E-03	4.8E-04	3.8E-03	0.0E+00
5	2-Butanone	2	14	1.6E-02	3.0E-03	7.7E-03	3.7E-03	9.5E-03	4.0E-03
6	2-Hexanone	0	19	9.0E-03	5.5E-03	7.3E-03	9.4E-04	7.7E-03	0.0E+00
7	4-Methyl-2-pentanone	0	19	9.0E-03	5.5E-03	7.3E-03	9.4E-04	7.7E-03	0.0E+00
8	Acetone	5	19	1.3E-01	5.5E-03	1.9E-02	2.9E-02	3.0E-02	3.0E-02
9	Benzene	0	19	4.5E-03	3.0E-03	3.6E-03	4.8E-04	3.8E-03	0.0E+00
10	Bromodichloromethane	0	19	4.5E-03	3.0E-03	3.6E-03	4.8E-04	3.8E-03	0.0E+00
11	Carbon Disulfide	1	19	4.5E-03	1.9E-03	3.6E-03	6.1E-04	3.8E-03	1.9E-03
12	Chlorobenzene	0	19	4.5E-03	3.0E-03	3.6E-03	4.8E-04	3.8E-03	0.0E+00
13	Chloroethane	0	19	9.0E-03	5.5E-03	7.3E-03	9.4E-04	7.7E-03	0.0E+00
14	Chloroform	0	19	4.5E-03	3.0E-03	3.6E-03	4.8E-04	3.8E-03	0.0E+00
15	Ethyl Benzene	1	19	4.5E-03	2.0E-03	3.6E-03	6.0E-04	3.8E-03	2.0E-03
16	Methylene Chloride	2	19	1.2E-02	3.0E-03	4.9E-03	2.3E-03	5.8E-03	4.0E-03
17	Styrene	0	19	4.5E-03	3.0E-03	3.6E-03	4.8E-04	3.8E-03	0.0E+00
18	Tetrachloroethene	0	19	4.5E-03	3.0E-03	3.6E-03	4.8E-04	3.8E-03	0.0E+00
19	Toluene	5	19	5.0E-03	2.0E-03	3.7E-03	7.4E-04	4.0E-03	4.0E-03
20	Trichloroethene	0	19	4.5E-03	3.0E-03	3.6E-03	4.8E-04	3.8E-03	0.0E+00
21	Vinyl Chloride	0	19	9.0E-03	5.5E-03	7.3E-03	9.4E-04	7.7E-03	0.0E+00
22	Xylenes (Total)	1	19	5.5E-03	3.0E-03	3.8E-03	6.2E-04	4.0E-03	4.0E-03
23	1,4-Dichlorobenzene	2	19	5.5E-01	1.2E-01	4.0E-01	1.2E-01	4.5E-01	2.1E-01
24	2,4-Dimethylphenol	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
25	2-Methylnaphthalene	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
26	2-Methylphenol	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
27	4-Methylphenol	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
28	Acenaphthene	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
29	Acenaphthylene	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
30	Anthracene	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
31	Benzo(a)anthracene	1	19	5.5E-01	2.6E-01	4.0E-01	1.1E-01	4.5E-01	2.8E-01
32	Benzo(a)pyrene	1	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	4.3E-01
33	Benzo(b)fluoranthene	2	19	6.6E-01	5.8E-02	4.0E-01	1.5E-01	4.6E-01	4.6E-01
34	Benzo(g,h,i)perylene	1	19	5.6E-01	2.6E-01	4.2E-01	1.1E-01	4.6E-01	4.6E-01
35	Benzo(k)fluoranthene	2	19	5.5E-01	7.3E-02	3.9E-01	1.3E-01	4.4E-01	3.6E-01
36	Benzoic acid	1	19	2.6E+00	7.5E-02	1.9E+00	6.5E-01	2.2E+00	7.5E-02
37	Benzyl alcohol	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
38	bis(2-Ethylhexyl)phthalate	13	19	7.8E+00	1.5E-01	8.0E-01	1.7E+00	1.5E+00	1.5E+00
39	Butylbenzylphthalate	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
40	Chrysene	2	19	5.5E-01	2.4E-01	4.0E-01	1.1E-01	4.4E-01	3.6E-01
41	Di-n-butylphthalate	3	19	5.5E-01	1.3E-01	3.7E-01	1.3E-01	4.2E-01	4.2E-01
42	Di-n-octylphthalate	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
43	Dibenzo(a,h)anthracene	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
44	Dibenzofuran	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
45	Diethylphthalate	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
46	Dimethylphthalate	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
47	Fluoranthene	2	19	5.5E-01	1.0E-01	3.9E-01	1.3E-01	4.4E-01	3.3E-01
48	Fluorene	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
49	Indeno(1,2,3-cd)pyrene	1	19	6.2E-01	2.6E-01	4.2E-01	1.2E-01	4.7E-01	4.7E-01
50	Naphthalene	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
51	Phenanthrene	1	19	5.5E-01	1.9E-01	4.0E-01	1.2E-01	4.4E-01	1.9E-01
52	Phenol	0	19	5.5E-01	2.6E-01	4.1E-01	1.1E-01	4.5E-01	0.0E+00
53	Pyrene	2	19	5.5E-01	9.5E-02	3.9E-01	1.3E-01	4.4E-01	3.1E-01
54	4,4-DDE	0	19	2.6E-02	1.3E-02	2.0E-02	4.9E-03	2.2E-02	0.0E+00
55	4,4-DDT	0	19	2.6E-02	1.3E-02	2.0E-02	4.9E-03	2.2E-02	0.0E+00

TABLE A4-2 SOIL - LANDFILL AREA

EXPOSURE POINT: LANDFILL
MEDIUM: SOIL
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	Aldrin	0	19	1.3E-02	6.0E-03	9.8E-03	2.5E-03	1.1E-02	0.0E+00
57	alpha-BHC	0	19	1.3E-02	6.0E-03	9.8E-03	2.5E-03	1.1E-02	0.0E+00
58	alpha-Chlordane	0	19	1.3E-01	6.0E-02	9.8E-02	2.5E-02	1.1E-01	0.0E+00
59	Aroclor-1248	0	19	1.3E-01	6.0E-02	9.8E-02	2.5E-02	1.1E-01	0.0E+00
60	beta-BHC	0	19	1.3E-02	6.0E-03	9.8E-03	2.5E-03	1.1E-02	0.0E+00
61	Dieldrin	0	19	2.6E-02	1.3E-02	2.0E-02	4.9E-03	2.2E-02	0.0E+00
62	Endosulfan II	0	19	2.6E-02	1.3E-02	2.0E-02	4.9E-03	2.2E-02	0.0E+00
63	gamma-Chlordane	0	19	1.3E-01	6.0E-02	9.8E-02	2.5E-02	1.1E-01	0.0E+00
64	Heptachlor	0	19	1.3E-02	6.0E-03	9.8E-03	2.5E-03	1.1E-02	0.0E+00
65	Aluminum, Total	15	19	5.4E+03	4.5E+00	1.3E+03	1.9E+03	2.1E+03	2.1E+03
66	Antimony, Total	11	19	4.7E+01	3.7E+00	1.6E+01	1.5E+01	2.2E+01	2.2E+01
67	Arsenic, Total	7	19	2.3E+00	1.5E-01	8.0E-01	7.2E-01	1.1E+00	1.1E+00
68	Barium, Total	14	19	2.9E+01	1.3E+00	8.1E+00	8.6E+00	1.2E+01	1.2E+01
69	Beryllium, Total	11	19	8.3E-01	1.3E-01	4.6E-01	2.8E-01	5.7E-01	5.7E-01
70	Cadmium, Total	1	19	1.1E+00	3.4E-01	5.5E-01	2.2E-01	6.4E-01	6.4E-01
71	Chromium, Total	7	19	1.3E+01	7.0E-01	3.3E+00	3.7E+00	4.7E+00	4.7E+00
72	Cobalt, Total	6	19	3.3E+00	8.5E-01	1.6E+00	9.1E-01	2.0E+00	2.0E+00
73	Iron, Total	18	19	7.8E+03	2.3E+00	1.9E+03	2.6E+03	2.9E+03	2.9E+03
74	Lead, Total	14	19	1.3E+01	1.6E-01	2.5E+00	3.3E+00	3.8E+00	3.8E+00
75	Mercury, Total	0	19	8.5E-02	3.5E-02	6.2E-02	1.6E-02	6.8E-02	0.0E+00
76	Nickel, Total	7	19	8.0E+00	2.6E+00	3.9E+00	1.5E+00	4.5E+00	4.5E+00
77	Silver, Total	3	19	2.8E+00	3.4E-01	7.8E-01	7.5E-01	1.1E+00	1.1E+00
78	Thallium, Total	0	19	1.7E+00	3.0E-01	6.4E-01	4.2E-01	8.1E-01	0.0E+00
79	Vanadium, Total	12	19	1.2E+01	6.3E-01	4.2E+00	4.0E+00	5.8E+00	5.8E+00
80	Cyanide, Total	0	19	2.1E+00	1.1E-01	1.2E+00	7.1E-01	1.4E+00	0.0E+00

TABLE A4-3 SOIL - SOUTH OF LANDFILL

EXPOSURE POINT: SOUTH OF LANDFILL
MEDIUM: SOIL
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
2	1,1-Dichloroethane	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
3	1,1-Dichloroethene	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
4	1,2-Dichloroethene(total)	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
5	2-Butanone	0	9	6.5E-03	3.0E-03	5.3E-03	9.4E-04	5.9E-03	0.0E+00
6	2-Hexanone	0	9	6.5E-03	5.0E-03	5.7E-03	5.0E-04	6.0E-03	0.0E+00
7	4-Methyl-2-pentanone	0	9	6.5E-03	5.0E-03	5.7E-03	5.0E-04	6.0E-03	0.0E+00
8	Acetone	0	9	1.1E-02	5.0E-03	6.3E-03	1.8E-03	7.4E-03	0.0E+00
9	Benzene	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
10	Bromodichloromethane	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
11	Carbon Disulfide	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
12	Chlorobenzene	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
13	Chloroethane	0	9	6.5E-03	5.0E-03	5.7E-03	5.0E-04	6.0E-03	0.0E+00
14	Chloroform	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
15	Ethyl Benzene	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
16	Methylene Chloride	1	9	1.1E-02	4.0E-03	5.9E-03	2.0E-03	7.1E-03	4.0E-03
17	Styrene	0	9	6.5E-03	2.5E-03	4.3E-03	1.6E-03	5.3E-03	0.0E+00
18	Tetrachloroethene	1	9	6.5E-03	2.5E-03	4.4E-03	1.6E-03	5.4E-03	5.4E-03
19	Toluene	2	9	1.0E-02	2.5E-03	6.3E-03	2.8E-03	8.1E-03	8.1E-03
20	Trichloroethene	2	9	5.5E-03	9.0E-04	3.8E-03	1.7E-03	4.9E-03	4.0E-03
21	Vinyl Chloride	0	9	6.5E-03	5.0E-03	5.7E-03	5.0E-04	6.0E-03	0.0E+00
22	Xylenes (Total)	1	9	6.5E-03	2.0E-03	4.2E-03	1.7E-03	5.3E-03	2.0E-03
23	1,4-Dichlorobenzene	0	8	4.2E-01	1.7E-01	2.8E-01	1.1E-01	3.5E-01	0.0E+00
24	2,4-Dimethylphenol	0	8	4.2E-01	1.7E-01	2.8E-01	1.1E-01	3.5E-01	0.0E+00
25	2-Methylnaphthalene	1	8	4.2E-01	1.8E-02	2.6E-01	1.4E-01	3.5E-01	1.8E-02
26	2-Methylphenol	0	8	4.2E-01	1.7E-01	2.8E-01	1.1E-01	3.5E-01	0.0E+00
27	4-Methylphenol	0	8	4.2E-01	1.7E-01	2.8E-01	1.1E-01	3.5E-01	0.0E+00
28	Acenaphthene	3	8	4.2E-01	5.9E-02	2.3E-01	1.2E-01	3.1E-01	3.1E-01
29	Acenaphthylene	1	9	5.2E+00	1.7E-01	8.3E-01	1.6E+00	1.8E+00	1.8E+00
30	Anthracene	4	9	4.2E+00	8.2E-02	6.7E-01	1.3E+00	1.5E+00	1.5E+00
31	Benzo(a)anthracene	6	9	1.3E+01	2.3E-02	1.9E+00	4.2E+00	4.5E+00	4.5E+00
32	Benzo(a)pyrene	6	9	7.6E+00	1.2E-01	1.4E+00	2.4E+00	2.9E+00	2.9E+00
33	Benzo(b)fluoranthene	6	9	2.6E+01	7.4E-02	3.6E+00	8.5E+00	8.9E+00	8.9E+00
34	Benzo(g,h,i)perylene	4	8	3.5E+00	1.7E-01	7.9E-01	1.1E+00	1.5E+00	1.5E+00
35	Benzo(k)fluoranthene	6	9	1.3E+01	1.4E-01	1.9E+00	4.2E+00	4.5E+00	4.5E+00
36	Benzoic acid	0	4	2.0E+00	1.8E+00	1.8E+00	1.2E-01	2.0E+00	0.0E+00
37	Benzyl alcohol	0	4	4.2E-01	3.6E-01	3.8E-01	2.6E-02	4.1E-01	0.0E+00
38	bis(2-Ethylhexyl)phthalate	5	8	3.0E-01	9.5E-02	1.9E-01	6.7E-02	2.3E-01	2.3E-01
39	Butylbenzylphthalate	1	8	4.2E-01	1.8E-01	2.9E-01	9.8E-02	3.5E-01	2.4E-01
40	Carbazole	2	5	9.0E-01	3.6E-02	3.0E-01	3.4E-01	6.3E-01	6.3E-01
41	Chrysene	6	9	1.9E+01	1.3E-01	2.6E+00	6.2E+00	6.4E+00	6.4E+00
42	Di-n-butylphthalate	0	9	4.8E+00	1.7E-01	8.0E-01	1.5E+00	1.7E+00	0.0E+00
43	Di-n-octylphthalate	1	8	4.2E-01	1.4E-01	2.8E-01	1.1E-01	3.5E-01	1.4E-01
44	Dibenzo(a,h)anthracene	3	9	1.8E+00	9.4E-02	4.4E-01	5.3E-01	7.7E-01	7.7E-01
45	Dibenzofuran	2	9	1.0E+00	2.3E-02	3.4E-01	2.8E-01	5.2E-01	5.2E-01
46	Diethylphthalate	0	8	4.2E-01	1.7E-01	2.8E-01	1.1E-01	3.5E-01	0.0E+00
47	Dimethylphthalate	1	8	4.2E-01	4.2E-02	2.6E-01	1.3E-01	3.5E-01	4.2E-02
48	Fluoranthene	7	9	3.3E+01	1.7E-02	4.4E+00	1.1E+01	1.1E+01	1.1E+01
49	Fluorene	3	9	1.6E+00	4.3E-02	3.8E-01	4.7E-01	6.8E-01	6.8E-01
50	Indeno(1,2,3-cd)pyrene	5	9	4.2E+00	1.7E-01	1.2E+00	1.6E+00	2.2E+00	2.2E+00
51	Naphthalene	1	8	4.2E-01	1.8E-02	2.6E-01	1.4E-01	3.5E-01	1.8E-02
52	Phenanthrene	6	9	1.2E+01	4.2E-02	1.7E+00	3.9E+00	4.1E+00	4.1E+00
53	Phenol	0	8	4.2E-01	1.7E-01	2.8E-01	1.1E-01	3.5E-01	0.0E+00
54	Pyrene	7	9	1.5E+01	3.5E-02	2.3E+00	4.8E+00	5.3E+00	5.3E+00
55	4,4-DDE	1	9	2.0E-02	1.7E-03	1.1E-02	8.3E-03	1.6E-02	4.1E-03

TABLE A4-3 SOIL - SOUTH OF LANDFILL

EXPOSURE POINT: SOUTH OF LANDFILL
MEDIUM: SOIL
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	4,4-DDT	2	9	6.4E-02	1.7E-03	1.7E-02	1.9E-02	2.9E-02	2.9E-02
57	Aldrin	0	9	1.0E-02	9.0E-04	5.4E-03	4.3E-03	8.1E-03	0.0E+00
58	alpha-BHC	0	9	1.0E-02	9.0E-04	5.4E-03	4.3E-03	8.1E-03	0.0E+00
59	alpha-Chlordane	0	9	1.0E-01	9.0E-04	4.1E-02	4.6E-02	7.0E-02	0.0E+00
60	Aroclor-1248	0	9	1.7E-01	1.7E-02	6.7E-02	5.3E-02	1.00E-01	0.0E+00
61	beta-BHC	0	9	1.0E-02	9.0E-04	5.4E-03	4.3E-03	8.1E-03	0.0E+00
62	Dieldrin	0	9	2.0E-02	1.7E-03	1.1E-02	8.6E-03	1.6E-02	0.0E+00
63	Endosulfan II	0	9	2.0E-02	1.7E-03	1.1E-02	8.6E-03	1.6E-02	0.0E+00
64	gamma-Chlordane	0	9	1.0E-01	9.0E-04	4.1E-02	4.6E-02	7.0E-02	0.0E+00
65	Heptachlor	0	9	1.0E-02	9.0E-04	5.4E-03	4.3E-03	8.1E-03	0.0E+00
66	Aluminum, Total	9	9	5.4E+03	2.8E+03	3.7E+03	7.7E+02	4.2E+03	4.2E+03
67	Antimony, Total	1	9	5.9E+00	3.0E+00	4.0E+00	1.0E+00	4.7E+00	3.0E+00
68	Arsenic, Total	9	9	1.3E+01	1.4E+00	4.8E+00	3.3E+00	6.8E+00	6.8E+00
69	Barium, Total	9	9	1.0E+02	1.5E+01	5.3E+01	3.3E+01	7.3E+01	7.3E+01
70	Beryllium, Total	8	9	6.7E-01	1.1E-01	4.4E-01	1.7E-01	5.4E-01	5.4E-01
71	Cadmium, Total	0	9	3.8E-01	2.3E-01	3.1E-01	4.0E-02	3.4E-01	0.0E+00
72	Chromium, Total	9	9	1.6E+01	4.3E+00	7.7E+00	3.5E+00	9.9E+00	9.9E+00
73	Cobalt, Total	8	9	5.3E+00	8.5E-01	3.2E+00	1.4E+00	4.1E+00	4.1E+00
74	Iron, Total	9	9	1.3E+04	4.3E+03	8.1E+03	3.0E+03	1.0E+04	1.0E+04
75	Lead, Total	9	9	2.5E+02	5.0E+00	7.3E+01	7.8E+01	1.2E+02	1.2E+02
76	Mercury, Total	4	9	5.4E-01	4.5E-02	1.7E-01	1.8E-01	2.8E-01	2.8E-01
77	Nickel, Total	9	9	2.2E+01	3.8E+00	9.4E+00	5.3E+00	1.3E+01	1.3E+01
78	Silver, Total	0	9	5.5E-01	2.3E-01	4.5E-01	1.0E-01	5.1E-01	0.0E+00
79	Thallium, Total	0	9	3.3E-01	1.0E-01	2.2E-01	1.1E-01	2.8E-01	0.0E+00
80	Vanadium, Total	9	9	1.4E+01	5.7E+00	9.1E+00	2.7E+00	1.1E+01	1.1E+01
81	Cyanide, Total	4	9	2.4E+01	5.5E-01	5.6E+00	7.7E+00	1.0E+01	1.0E+01

TABLE A4-4 SEDIMENT - QUARRY

EXPOSURE POINT: QUARRY
MEDIUM: SEDIMENT
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
2	1,1-Dichloroethane	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
3	1,1-Dichloroethene	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
4	1,2-Dichloroethene(total)	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
5	2-Butanone	2	7	2.7E-02	3.8E-03	9.1E-03	8.5E-03	1.5E-02	1.5E-02
6	2-Hexanone	0	7	1.6E-02	7.3E-03	9.9E-03	3.2E-03	1.2E-02	0.0E+00
7	4-Methyl-2-pentanone	0	7	1.6E-02	7.3E-03	9.9E-03	3.2E-03	1.2E-02	0.0E+00
8	Acetone	0	7	5.5E-02	7.5E-03	2.1E-02	1.6E-02	3.3E-02	0.0E+00
9	Benzene	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
10	Bromodichloromethane	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
11	Carbon Disulfide	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
12	Chlorobenzene	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
13	Chloroethane	0	7	1.6E-02	7.3E-03	9.9E-03	3.2E-03	1.2E-02	0.0E+00
14	Chloroform	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
15	Ethyl Benzene	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
16	Methylene Chloride	0	7	1.6E-02	4.0E-03	8.6E-03	4.4E-03	1.2E-02	0.0E+00
17	Styrene	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
18	Tetrachloroethene	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
19	Toluene	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
20	Trichloroethene	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
21	Vinyl Chloride	0	7	1.6E-02	7.3E-03	9.9E-03	3.2E-03	1.2E-02	0.0E+00
22	Xylenes (Total)	0	7	1.6E-02	3.8E-03	7.8E-03	5.0E-03	1.1E-02	0.0E+00
23	1,4-Dichlorobenzene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
24	2,4-Dimethylphenol	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
25	2-Methylnaphthalene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
26	2-Methylphenol	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
27	4-Methylphenol	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
28	Acenaphthene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
29	Acenaphthylene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
30	Anthracene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
31	Benzo(a)anthracene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
32	Benzo(a)pyrene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
33	Benzo(b)fluoranthene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
34	Benzo(g,h,i)perylene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
35	Benzo(k)fluoranthene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
36	Benzoic acid	2	4	2.0E+00	9.3E-02	1.0E+00	1.0E+00	2.3E+00	1.9E-01
37	Benzyl alcohol	0	4	4.3E-01	3.9E-01	4.1E-01	1.9E-02	4.4E-01	0.0E+00
38	bis(2-Ethylhexyl)phthalate	4	7	5.4E-01	1.8E-01	3.7E-01	1.2E-01	4.5E-01	4.5E-01
39	Butylbenzylphthalate	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
40	Carbazole	0	3	5.5E-01	3.2E-01	4.3E-01	1.2E-01	6.2E-01	0.0E+00
41	Chrysene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
42	Di-n-butylphthalate	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
43	Di-n-octylphthalate	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
44	Dibenzo(a,h)anthracene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
45	Dibenzofuran	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
46	Diethylphthalate	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
47	Dimethylphthalate	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
48	Fluoranthene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
49	Fluorene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
50	Indeno(1,2,3-cd)pyrene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
51	Naphthalene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
52	Phenanthrene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
53	Phenol	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
54	Pyrene	0	7	5.5E-01	3.2E-01	4.2E-01	7.0E-02	4.7E-01	0.0E+00
55	4,4-DDE	0	7	2.1E-02	3.1E-03	1.3E-02	8.5E-03	2.0E-02	0.0E+00

TABLE A4-4 SEDIMENT - QUARRY

EXPOSURE POINT: QUARRY
MEDIUM: SEDIMENT
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	4,4-DDT	0	7	2.1E-02	3.1E-03	1.3E-02	8.5E-03	2.0E-02	0.0E+00
57	Aldrin	0	7	1.1E-02	1.6E-03	6.6E-03	4.2E-03	9.7E-03	0.0E+00
58	alpha-BHC	0	7	1.1E-02	1.6E-03	6.6E-03	4.2E-03	9.7E-03	0.0E+00
59	alpha-Chlordane	0	7	1.1E-01	1.6E-03	5.8E-02	5.2E-02	9.6E-02	0.0E+00
60	Aroclor-1248	0	7	1.1E-01	3.1E-02	7.5E-02	3.1E-02	9.8E-02	0.0E+00
61	beta-BHC	0	7	1.1E-02	1.6E-03	6.6E-03	4.2E-03	9.7E-03	0.0E+00
62	Dieldrin	0	7	2.1E-02	3.1E-03	1.3E-02	8.5E-03	2.0E-02	0.0E+00
63	Endosulfan II	0	7	2.1E-02	3.1E-03	1.3E-02	8.5E-03	2.0E-02	0.0E+00
64	gamma-Chlordane	0	7	1.1E-01	1.6E-03	5.8E-02	5.2E-02	9.6E-02	0.0E+00
65	Heptachlor	0	7	1.1E-02	1.6E-03	6.6E-03	4.2E-03	9.7E-03	0.0E+00
66	Aluminum, Total	7	7	1.8E+04	9.6E+02	8.4E+03	8.4E+03	1.5E+04	1.5E+04
67	Antimony, Total	1	7	3.0E+01	2.7E+00	9.7E+00	9.9E+00	1.7E+01	1.7E+01
68	Arsenic, Total	7	7	2.2E+01	1.7E+00	1.1E+01	1.0E+01	1.8E+01	1.8E+01
69	Barium, Total	7	7	1.3E+02	3.9E+00	5.6E+01	6.0E+01	1.00E+02	1.00E+02
70	Beryllium, Total	4	7	1.2E+00	9.0E-02	5.6E-01	4.9E-01	9.2E-01	9.2E-01
71	Cadmium, Total	0	7	8.5E-01	2.7E-01	5.0E-01	2.3E-01	6.6E-01	0.0E+00
72	Chromium, Total	7	7	2.1E+01	2.6E+00	1.1E+01	8.2E+00	1.7E+01	1.7E+01
73	Cobalt, Total	6	7	2.0E+01	7.5E-01	9.7E+00	9.1E+00	1.6E+01	1.6E+01
74	Iron, Total	7	7	3.2E+04	2.1E+03	1.7E+04	1.4E+04	2.7E+04	2.7E+04
75	Lead, Total	7	7	5.0E+01	1.7E+00	1.9E+01	2.0E+01	3.4E+01	3.4E+01
76	Mercury, Total	0	7	1.3E-01	4.5E-02	7.6E-02	3.2E-02	9.9E-02	0.0E+00
77	Nickel, Total	7	7	3.5E+01	1.3E+00	1.6E+01	1.5E+01	2.7E+01	2.7E+01
78	Silver, Total	0	7	1.2E+00	4.5E-01	7.4E-01	2.6E-01	9.2E-01	0.0E+00
79	Thallium, Total	0	4	4.4E-01	2.8E-01	3.5E-01	6.8E-02	4.3E-01	0.0E+00
80	Vanadium, Total	7	7	3.5E+01	2.7E+00	1.8E+01	1.5E+01	2.9E+01	2.9E+01
81	Cyanide, Total	0	7	6.9E+00	5.5E-01	2.8E+00	2.8E+00	4.9E+00	0.0E+00

TABLE A4-5 SURFACE WATER - QUARRY

EXPOSURE POINT: QUARRY
MEDIUM: SURFACE WATER
UNITS: MG/L
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
2	1,1-Dichloroethane	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
3	1,1-Dichloroethene	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
4	1,2-Dichloroethene(total)	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
5	2-Butanone	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
6	2-Hexanone	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
7	4-Methyl-2-pentanone	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
8	Acetone	2	7	5.0E-03	4.0E-03	4.7E-03	4.9E-04	5.1E-03	4.0E-03
9	Benzene	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
10	Bromodichloromethane	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
11	Carbon Disulfide	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
12	Chlorobenzene	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
13	Chloroethane	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
14	Chloroform	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
15	Ethyl Benzene	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
16	Methylene Chloride	2	7	7.5E-02	5.0E-03	1.5E-02	2.6E-02	3.4E-02	3.4E-02
17	Styrene	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
18	Tetrachloroethene	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
19	Toluene	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
20	Trichloroethene	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
21	Vinyl Chloride	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
22	Xylenes (Total)	0	7	5.0E-03	2.5E-03	4.3E-03	1.2E-03	5.2E-03	0.0E+00
23	1,4-Dichlorobenzene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
24	2,4-Dimethylphenol	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
25	2-Methylnaphthalene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
26	2-Methylphenol	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
27	4-Methylphenol	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
28	Acenaphthene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
29	Acenaphthylene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
30	Anthracene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
31	Benzo(a)anthracene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
32	Benzo(a)pyrene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
33	Benzo(b)fluoranthene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
34	Benzo(g,h,i)perylene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
35	Benzo(k)fluoranthene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
36	Benzoic acid	0	4	2.5E-02	2.5E-02	2.5E-02	0.0E+00	2.5E-02	0.0E+00
37	Benzyl alcohol	0	4	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
38	bis(2-Ethylhexyl)phthalate	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
39	Butylbenzylphthalate	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
40	Carbazole	0	3	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
41	Chrysene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
42	Di-n-butylphthalate	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
43	Di-n-octylphthalate	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
44	Dibenzo(a,h)anthracene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
45	Dibenzofuran	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
46	Diethylphthalate	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
47	Dimethylphthalate	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
48	Fluoranthene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
49	Fluorene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
50	Indeno(1,2,3-cd)pyrene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
51	Naphthalene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
52	Phenanthrene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
53	Phenol	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
54	Pyrene	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
55	4,4-DDE	0	7	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	0.0E+00

TABLE A4-5 SURFACE WATER - QUARRY

EXPOSURE POINT: QUARRY
MEDIUM: SURFACE WATER
UNITS: MG/L
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	4,4-DDT	0	7	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	0.0E+00
57	Aldrin	0	7	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	0.0E+00
58	alpha-BHC	0	7	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	0.0E+00
59	alpha-Chlordane	0	7	2.5E-04	2.5E-05	1.5E-04	1.2E-04	2.4E-04	0.0E+00
60	Aroclor-1248	0	7	5.0E-04	2.5E-04	3.6E-04	1.3E-04	4.6E-04	0.0E+00
61	beta-BHC	0	7	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	0.0E+00
62	Dieldrin	0	7	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	0.0E+00
63	Endosulfan II	0	7	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	0.0E+00
64	gamma-Chlordane	0	7	2.5E-04	2.5E-05	1.5E-04	1.2E-04	2.4E-04	0.0E+00
65	Heptachlor	0	7	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	0.0E+00
66	Aluminum, Total	7	7	7.4E-02	3.5E-02	5.2E-02	1.6E-02	6.4E-02	6.4E-02
67	Antimony, Total	0	7	2.4E-02	1.2E-02	1.7E-02	6.1E-03	2.1E-02	0.0E+00
68	Arsenic, Total	4	7	2.6E-03	1.0E-03	1.8E-03	7.6E-04	2.4E-03	2.4E-03
69	Barium, Total	7	7	6.2E-02	5.1E-02	5.4E-02	3.9E-03	5.7E-02	5.7E-02
70	Beryllium, Total	0	7	5.0E-04	5.0E-04	5.0E-04	0.0E+00	5.0E-04	0.0E+00
71	Cadmium, Total	0	7	1.5E-03	1.5E-03	1.5E-03	0.0E+00	1.5E-03	0.0E+00
72	Chromium, Total	1	7	2.9E-02	3.0E-03	6.7E-03	9.8E-03	1.4E-02	1.4E-02
73	Cobalt, Total	0	7	4.0E-03	2.0E-03	2.9E-03	1.1E-03	3.6E-03	0.0E+00
74	Iron, Total	7	7	3.0E-01	1.8E-02	9.9E-02	1.0E-01	1.7E-01	1.7E-01
75	Lead, Total	5	7	2.6E-03	1.0E-03	2.0E-03	7.1E-04	2.5E-03	2.5E-03
76	Mercury, Total	0	7	1.0E-04	1.0E-04	1.0E-04	0.0E+00	1.0E-04	0.0E+00
77	Nickel, Total	2	7	1.0E-02	3.0E-03	5.3E-03	2.6E-03	7.2E-03	7.2E-03
78	Silver, Total	0	7	2.5E-03	2.0E-03	2.3E-03	2.7E-04	2.5E-03	0.0E+00
79	Thallium, Total	0	7	1.0E-03	5.0E-04	7.9E-04	2.7E-04	9.8E-04	0.0E+00
80	Vanadium, Total	0	7	2.5E-03	1.5E-03	1.9E-03	5.3E-04	2.3E-03	0.0E+00
81	Cyanide, Total	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
82	Bromide, Dissolved	3	4	1.0E-01	5.0E-02	8.8E-02	2.5E-02	1.2E-01	1.0E-01
83	Chloride, Cl	4	4	3.4E+01	3.3E+01	3.3E+01	4.8E-01	3.4E+01	3.4E+01
84	Nitrogen, Ammonia (NH3)	0	4	5.0E-02	5.0E-02	5.0E-02	0.0E+00	5.0E-02	0.0E+00
85	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	3	4	7.6E-01	4.2E-01	6.4E-01	1.5E-01	8.1E-01	7.6E-01
86	Sulfate, SO4	4	4	1.3E+02	1.2E+02	1.2E+02	4.3E+00	1.3E+02	1.3E+02
87	TP (Total Phosphorus)	4	4	2.0E-02	2.0E-02	2.0E-02	0.0E+00	2.0E-02	2.0E-02

TABLE A4-6 SEDIMENT - PONDS

EXPOSURE POINT: PONDS
MEDIUM: SEDIMENT
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	1	11	1.6E-02	1.0E-03	4.6E-03	3.9E-03	6.8E-03	1.0E-03
2	1,1-Dichloroethane	0	11	1.6E-02	3.0E-03	4.8E-03	3.7E-03	6.9E-03	0.0E+00
3	1,1-Dichloroethene	0	11	1.6E-02	3.0E-03	4.8E-03	3.7E-03	6.9E-03	0.0E+00
4	1,2-Dichloroethene(total)	0	11	1.6E-02	3.0E-03	4.8E-03	3.7E-03	6.9E-03	0.0E+00
5	2-Butanone	1	11	1.2E-02	4.0E-03	6.5E-03	2.0E-03	7.5E-03	7.5E-03
6	2-Hexanone	0	11	1.6E-02	6.0E-03	7.1E-03	2.8E-03	8.7E-03	0.0E+00
7	4-Methyl-2-pentanone	0	11	1.6E-02	6.0E-03	7.1E-03	2.8E-03	8.7E-03	0.0E+00
8	Acetone	2	11	5.5E-02	6.0E-03	1.7E-02	1.8E-02	2.7E-02	2.7E-02
9	Benzene	0	11	1.6E-02	3.0E-03	4.8E-03	3.7E-03	6.9E-03	0.0E+00
10	Bromodichloromethane	0	11	1.6E-02	3.0E-03	4.8E-03	3.7E-03	6.9E-03	0.0E+00
11	Carbon Disulfide	2	11	2.7E-02	3.0E-03	6.1E-03	7.2E-03	1.00E-02	1.00E-02
12	Chlorobenzene	0	11	1.6E-02	3.0E-03	4.8E-03	3.7E-03	6.9E-03	0.0E+00
13	Chloroethane	0	11	1.6E-02	6.0E-03	7.1E-03	2.8E-03	8.7E-03	0.0E+00
14	Chloroform	1	11	1.6E-02	7.0E-04	4.6E-03	3.9E-03	6.7E-03	7.0E-04
15	Ethyl Benzene	0	11	1.6E-02	3.0E-03	4.8E-03	3.7E-03	6.9E-03	0.0E+00
16	Methylene Chloride	1	11	1.6E-02	2.0E-03	5.5E-03	3.8E-03	7.6E-03	2.0E-03
17	Styrene	0	11	1.6E-02	3.0E-03	4.8E-03	3.7E-03	6.9E-03	0.0E+00
18	Tetrachloroethene	1	11	1.6E-02	1.0E-03	4.6E-03	3.9E-03	6.8E-03	1.0E-03
19	Toluene	0	11	1.6E-02	3.0E-03	5.2E-03	3.8E-03	7.3E-03	0.0E+00
20	Trichloroethene	1	11	1.6E-02	2.0E-03	4.7E-03	3.8E-03	6.8E-03	2.0E-03
21	Vinyl Chloride	0	11	1.6E-02	6.0E-03	7.1E-03	2.8E-03	8.7E-03	0.0E+00
22	Xylenes (Total)	1	11	1.6E-02	1.0E-03	4.5E-03	3.9E-03	6.7E-03	1.0E-03
23	1,4-Dichlorobenzene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
24	2,4-Dimethylphenol	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
25	2-Methylnaphthalene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
26	2-Methylphenol	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
27	4-Methylphenol	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
28	Acenaphthene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
29	Acenaphthylene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
30	Anthracene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
31	Benzo(a)anthracene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
32	Benzo(a)pyrene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
33	Benzo(b)fluoranthene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
34	Benzo(g,h,i)perylene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
35	Benzo(k)fluoranthene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
36	Benzoic acid	0	8	2.2E+00	9.5E-01	1.4E+00	5.2E-01	1.7E+00	0.0E+00
37	Benzyl alcohol	0	8	4.4E-01	2.0E-01	2.8E-01	1.1E-01	3.5E-01	0.0E+00
38	bis(2-Ethylhexyl)phthalate	4	11	4.4E-01	4.6E-02	2.5E-01	1.4E-01	3.2E-01	3.2E-01
39	Butylbenzylphthalate	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
40	Carbazole	0	3	5.0E-01	2.0E-01	3.0E-01	1.7E-01	5.9E-01	0.0E+00
41	Chrysene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
42	Di-n-butylphthalate	1	11	5.0E-01	7.6E-02	2.8E-01	1.3E-01	3.5E-01	7.6E-02
43	Di-n-octylphthalate	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
44	Dibenzo(a,h)anthracene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
45	Dibenzofuran	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
46	Diethylphthalate	1	11	4.4E-01	2.0E-01	2.6E-01	9.5E-02	3.1E-01	2.3E-01
47	Dimethylphthalate	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
48	Fluoranthene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
49	Fluorene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
50	Indeno(1,2,3-cd)pyrene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
51	Naphthalene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
52	Phenanthrene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
53	Phenol	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
54	Pyrene	0	11	5.0E-01	2.0E-01	2.9E-01	1.2E-01	3.5E-01	0.0E+00
55	4,4-DDE	0	11	2.2E-02	2.0E-03	1.1E-02	6.6E-03	1.4E-02	0.0E+00

TABLE A4-6 SEDIMENT - PONDS

EXPOSURE POINT: PONDS
MEDIUM: SEDIMENT
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	4,4-DDT	0	11	2.2E-02	2.0E-03	1.1E-02	6.6E-03	1.4E-02	0.0E+00
57	Aldrin	0	11	1.1E-02	1.1E-03	5.5E-03	3.3E-03	7.3E-03	0.0E+00
58	alpha-BHC	0	11	1.1E-02	1.1E-03	5.5E-03	3.3E-03	7.3E-03	0.0E+00
59	alpha-Chlordane	0	11	1.1E-01	1.1E-03	5.1E-02	3.8E-02	7.2E-02	0.0E+00
60	Aroclor-1248	1	11	1.1E-01	2.0E-02	6.3E-02	3.1E-02	8.0E-02	8.0E-02
61	beta-BHC	0	11	1.1E-02	1.1E-03	5.5E-03	3.3E-03	7.3E-03	0.0E+00
62	Dieldrin	0	11	2.2E-02	2.0E-03	1.1E-02	6.6E-03	1.4E-02	0.0E+00
63	Endosulfan II	0	11	2.2E-02	2.0E-03	1.1E-02	6.6E-03	1.4E-02	0.0E+00
64	gamma-Chlordane	0	11	1.1E-01	1.1E-03	5.1E-02	3.8E-02	7.2E-02	0.0E+00
65	Heptachlor	0	11	1.1E-02	1.1E-03	5.5E-03	3.3E-03	7.3E-03	0.0E+00
66	Aluminum, Total	11	11	7.2E+03	9.8E+02	1.9E+03	1.8E+03	2.9E+03	2.9E+03
67	Antimony, Total	0	11	1.2E+01	3.1E+00	4.6E+00	2.7E+00	6.1E+00	0.0E+00
68	Arsenic, Total	11	11	6.2E+00	9.0E-01	2.1E+00	1.4E+00	2.9E+00	2.9E+00
69	Barium, Total	11	11	8.1E+01	4.0E+00	1.3E+01	2.3E+01	2.5E+01	2.5E+01
70	Beryllium, Total	2	11	1.2E+00	1.0E-01	2.4E-01	3.3E-01	4.2E-01	4.2E-01
71	Cadmium, Total	0	11	8.0E-01	3.1E-01	3.8E-01	1.4E-01	4.6E-01	0.0E+00
72	Chromium, Total	11	11	1.3E+01	1.7E+00	4.9E+00	3.2E+00	6.6E+00	6.6E+00
73	Cobalt, Total	9	11	1.2E+01	7.5E-01	3.4E+00	3.1E+00	5.1E+00	5.1E+00
74	Iron, Total	11	11	1.7E+04	1.4E+03	4.7E+03	4.3E+03	7.1E+03	7.1E+03
75	Lead, Total	11	11	2.0E+01	1.6E+00	4.6E+00	5.4E+00	7.6E+00	7.6E+00
76	Mercury, Total	0	11	1.3E-01	5.0E-02	6.2E-02	2.1E-02	7.3E-02	0.0E+00
77	Nickel, Total	10	11	2.0E+01	1.1E+00	5.6E+00	5.2E+00	8.4E+00	8.4E+00
78	Silver, Total	1	11	1.1E+00	4.7E-01	6.4E-01	2.2E-01	7.6E-01	7.6E-01
79	Thallium, Total	1	8	1.1E+01	3.3E-01	1.6E+00	3.7E+00	4.1E+00	4.1E+00
80	Vanadium, Total	11	11	2.0E+01	2.8E+00	6.2E+00	4.8E+00	8.9E+00	8.9E+00
81	Cyanide, Total	0	11	6.7E+00	6.0E-01	1.6E+00	1.9E+00	2.6E+00	0.0E+00

TABLE A4-7 SURFACE WATER - PONDS

EXPOSURE POINT: PONDS
MEDIUM: SURFACE WATER
UNITS: MG/L
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	0	9	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.4E-03	0.0E+00
2	1,1-Dichloroethane	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
3	1,1-Dichloroethene	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
4	1,2-Dichloroethene(total)	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
5	2-Butanone	0	4	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
6	2-Hexanone	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
7	4-Methyl-2-pentanone	1	11	5.0E-03	3.0E-03	4.8E-03	6.0E-04	5.1E-03	3.0E-03
8	Acetone	2	11	5.0E-03	3.0E-03	4.8E-03	6.0E-04	5.1E-03	5.0E-03
9	Benzene	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
10	Bromodichloromethane	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
11	Carbon Disulfide	2	11	5.0E-03	2.5E-03	3.7E-03	1.2E-03	4.3E-03	4.0E-03
12	Chlorobenzene	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
13	Chloroethane	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
14	Chloroform	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
15	Ethyl Benzene	4	11	5.0E-03	1.0E-03	3.1E-03	1.6E-03	4.0E-03	2.3E-03
16	Methylene Chloride	0	11	3.1E-02	2.5E-03	9.0E-03	8.1E-03	1.3E-02	0.0E+00
17	Styrene	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
18	Tetrachloroethene	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
19	Toluene	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
20	Trichloroethene	0	11	5.0E-03	2.5E-03	3.4E-03	1.3E-03	4.1E-03	0.0E+00
21	Vinyl Chloride	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
22	Xylenes (Total)	5	11	6.0E-03	2.0E-03	4.2E-03	1.3E-03	4.9E-03	4.9E-03
23	1,4-Dichlorobenzene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
24	2,4-Dimethylphenol	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
25	2-Methylnaphthalene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
26	2-Methylphenol	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
27	4-Methylphenol	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
28	Acenaphthene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
29	Acenaphthylene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
30	Anthracene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
31	Benzo(a)anthracene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
32	Benzo(a)pyrene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
33	Benzo(b)fluoranthene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
34	Benzo(g,h,i)perylene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
35	Benzo(k)fluoranthene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
36	Benzoic acid	0	8	2.5E-02	2.5E-02	2.5E-02	0.0E+00	2.5E-02	0.0E+00
37	Benzyl alcohol	0	8	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
38	bis(2-Ethylhexyl)phthalate	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
39	Butylbenzylphthalate	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
40	Carbazole	0	3	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
41	Chrysene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
42	Di-n-butylphthalate	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
43	Di-n-octylphthalate	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
44	Dibenzo(a,h)anthracene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
45	Dibenzofuran	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
46	Diethylphthalate	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
47	Dimethylphthalate	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
48	Fluoranthene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
49	Fluorene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
50	Indeno(1,2,3-cd)pyrene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
51	Naphthalene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
52	Phenanthrene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
53	Phenol	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
54	Pyrene	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
55	4,4-DDE	0	8	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	0.0E+00

TABLE A4-7 SURFACE WATER - PONDS

EXPOSURE POINT: PONDS
MEDIUM: SURFACE WATER
UNITS: MG/L
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	4,4-DDT	0	8	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	0.0E+00
57	Aldrin	0	8	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	0.0E+00
58	alpha-BHC	0	8	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	0.0E+00
59	alpha-Chlordane	0	8	2.5E-04	2.5E-05	1.7E-04	1.2E-04	2.4E-04	0.0E+00
60	Aroclor-1248	0	8	5.0E-04	2.5E-04	3.4E-04	1.3E-04	4.3E-04	0.0E+00
61	beta-BHC	0	8	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	0.0E+00
62	Dieldrin	0	8	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	0.0E+00
63	Endosulfan II	0	8	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	0.0E+00
64	gamma-Chlordane	0	8	2.5E-04	2.5E-05	1.7E-04	1.2E-04	2.4E-04	0.0E+00
65	Heptachlor	0	8	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	0.0E+00
66	Aluminum, Total	11	11	4.8E-01	3.1E-02	9.7E-02	1.3E-01	1.7E-01	1.7E-01
67	Antimony, Total	0	11	2.4E-02	1.2E-02	1.5E-02	5.4E-03	1.8E-02	0.0E+00
68	Arsenic, Total	4	11	4.7E-03	1.0E-03	1.9E-03	1.4E-03	2.6E-03	2.6E-03
69	Barium, Total	11	11	4.7E-02	2.9E-02	3.4E-02	5.5E-03	3.7E-02	3.7E-02
70	Beryllium, Total	0	11	5.0E-04	5.0E-04	5.0E-04	0.0E+00	5.0E-04	0.0E+00
71	Cadmium, Total	0	11	1.5E-03	1.5E-03	1.5E-03	0.0E+00	1.5E-03	0.0E+00
72	Chromium, Total	1	11	6.1E-03	3.0E-03	3.3E-03	9.3E-04	3.8E-03	3.8E-03
73	Cobalt, Total	0	11	4.0E-03	2.0E-03	2.5E-03	9.3E-04	3.1E-03	0.0E+00
74	Iron, Total	11	11	5.1E+00	1.9E-02	8.7E-01	1.5E+00	1.7E+00	1.7E+00
75	Lead, Total	7	11	3.6E-03	1.0E-03	2.0E-03	9.3E-04	2.5E-03	2.5E-03
76	Mercury, Total	0	11	1.0E-04	1.0E-04	1.0E-04	0.0E+00	1.0E-04	0.0E+00
77	Nickel, Total	0	11	4.5E-03	3.0E-03	3.4E-03	7.0E-04	3.8E-03	0.0E+00
78	Silver, Total	1	11	4.2E-03	2.0E-03	2.6E-03	5.8E-04	2.9E-03	2.9E-03
79	Thallium, Total	1	11	1.3E-03	5.0E-04	9.4E-04	2.3E-04	1.1E-03	1.1E-03
80	Vanadium, Total	1	11	3.5E-03	1.5E-03	2.0E-03	6.9E-04	2.3E-03	2.3E-03
81	Cyanide, Total	0	11	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	0.0E+00
82	Bromide, Dissolved	0	8	5.0E-02	5.0E-02	5.0E-02	0.0E+00	5.0E-02	0.0E+00
83	Chloride, Cl	8	8	3.8E+01	1.9E+01	2.4E+01	6.0E+00	2.8E+01	2.8E+01
84	Nitrogen, Ammonia (NH3)	0	8	5.0E-02	5.0E-02	5.0E-02	0.0E+00	5.0E-02	0.0E+00
85	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	4	8	3.1E-01	5.0E-02	1.3E-01	9.7E-02	2.0E-01	2.0E-01
86	Sulfate, SO4	8	8	1.6E+02	4.2E+01	1.2E+02	4.0E+01	1.5E+02	1.5E+02
87	TP (Total Phosphorus)	8	8	8.0E-02	2.0E-02	4.4E-02	2.3E-02	5.9E-02	5.9E-02

TABLE A4-8 GROUNDWATER - SHALLOW (SOUTH OF LANDFILL)

EXPOSURE POINT: SOUTH LANDFILL (SHALLOW)
MEDIUM: GROUNDWATER
UNITS: MG/L
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
2	1,1-Dichloroethane	2	7	5.0E-03	2.5E-03	3.7E-03	1.2E-03	4.6E-03	3.0E-03
3	1,1-Dichloroethene	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
4	1,2-Dichloroethene(total)	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
5	2-Butanone	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
6	2-Hexanone	1	7	5.0E-03	7.0E-04	4.4E-03	1.6E-03	5.6E-03	7.0E-04
7	4-Methyl-2-pentanone	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
8	Acetone	0	7	8.5E-03	5.0E-04	4.9E-03	2.3E-03	6.6E-03	6.6E-03
9	Benzene	3	7	5.0E-03	2.5E-03	3.4E-03	1.1E-03	4.2E-03	3.0E-03
10	Bromodichloromethane	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
11	Carbon Disulfide	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
12	Chlorobenzene	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
13	Chloroethane	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
14	Chloroform	0	7	5.0E-03	5.0E-04	3.3E-03	1.8E-03	4.6E-03	4.6E-03
15	Ethyl Benzene	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
16	Methylene Chloride	1	7	5.0E-03	2.0E-03	3.9E-03	1.4E-03	4.9E-03	2.0E-03
17	Styrene	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
18	Tetrachloroethene	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
19	Toluene	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
20	Trichloroethene	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
21	Vinyl Chloride	0	3	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
22	Xylenes (Total)	0	7	5.0E-03	2.5E-03	3.9E-03	1.3E-03	4.9E-03	4.9E-03
23	1,4-Dichlorobenzene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
24	2,4-Dimethylphenol	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
25	2-Methylnaphthalene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
26	2-Methylphenol	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
27	4-Methylphenol	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
28	Acenaphthene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
29	Acenaphthylene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
30	Anthracene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
31	Benzo(a)anthracene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
32	Benzo(a)pyrene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
33	Benzo(b)fluoranthene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
34	Benzo(g,h,i)perylene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
35	Benzo(k)fluoranthene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
36	Benzoic acid	0	3	2.7E-02	2.5E-02	2.6E-02	8.7E-04	2.7E-02	2.7E-02
37	Benzyl alcohol	0	3	5.5E-03	5.0E-03	5.2E-03	2.9E-04	5.7E-03	5.5E-03
38	bis(2-Ethylhexyl)phthalate	3	7	1.1E-01	4.0E-03	2.2E-02	3.9E-02	5.0E-02	5.0E-02
39	Butylbenzylphthalate	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
40	Carbazole	0	4	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
41	Chrysene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
42	Di-n-butylphthalate	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
43	Di-n-octylphthalate	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
44	Dibenzo(a,h)anthracene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
45	Dibenzofuran	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
46	Diethylphthalate	2	7	2.0E-02	2.0E-03	6.8E-03	5.9E-03	1.1E-02	1.1E-02
47	Dimethylphthalate	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
48	Fluoranthene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
49	Fluorene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
50	Indeno(1,2,3-cd)pyrene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
51	Naphthalene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
52	Phenanthrene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
53	Phenol	1	7	5.5E-03	2.0E-03	4.6E-03	1.2E-03	5.5E-03	2.0E-03
54	Pyrene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
55	4,4-DDE	0	7	5.0E-04	5.0E-05	1.1E-04	1.7E-04	2.4E-04	2.4E-04

TABLE A4-8 GROUNDWATER - SHALLOW (SOUTH OF LANDFILL)

EXPOSURE POINT: SOUTH LANDFILL (SHALLOW)
MEDIUM: GROUNDWATER
UNITS: MG/L
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	4,4-DDT	0	7	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	5.0E-05
57	Aldrin	0	7	2.6E-05	2.5E-05	2.5E-05	1.9E-07	2.5E-05	2.5E-05
58	alpha-BHC	0	7	2.6E-05	2.5E-05	2.5E-05	1.9E-07	2.5E-05	2.5E-05
59	alpha-Chlordane	0	7	2.6E-04	2.5E-05	1.2E-04	1.2E-04	2.1E-04	2.1E-04
60	Aroclor-1248	0	7	5.0E-04	2.5E-04	3.9E-04	1.3E-04	4.9E-04	0.0E+00
61	beta-BHC	0	7	2.6E-05	2.5E-05	2.5E-05	1.9E-07	2.5E-05	2.5E-05
62	Dieldrin	0	7	5.0E-04	5.0E-05	1.1E-04	1.7E-04	2.4E-04	2.4E-04
63	Endosulfan II	0	7	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	5.0E-05
64	gamma-Chlordane	0	7	2.6E-04	2.5E-05	1.2E-04	1.2E-04	2.1E-04	2.1E-04
65	Heptachlor	0	7	2.6E-05	2.5E-05	2.5E-05	1.9E-07	2.5E-05	2.5E-05
66	Aluminum, Total	6	7	1.1E+02	2.9E-02	2.0E+01	4.2E+01	5.1E+01	5.1E+01
67	Antimony, Total	1	7	3.6E-02	6.5E-03	1.3E-02	1.1E-02	2.1E-02	2.1E-02
68	Arsenic, Total	6	7	5.5E-02	1.5E-03	1.3E-02	1.9E-02	2.7E-02	2.7E-02
69	Barium, Total	7	7	2.5E-01	4.9E-02	1.4E-01	7.3E-02	1.9E-01	1.9E-01
70	Beryllium, Total	1	7	5.4E-03	5.0E-04	1.4E-03	1.8E-03	2.7E-03	2.7E-03
71	Cadmium, Total	2	7	3.0E-03	5.0E-04	1.7E-03	1.0E-03	2.4E-03	2.4E-03
72	Chromium, Total	5	7	1.3E-01	1.6E-03	2.9E-02	4.8E-02	6.4E-02	6.4E-02
73	Cobalt, Total	4	7	2.9E-02	1.5E-03	9.3E-03	9.2E-03	1.6E-02	1.6E-02
74	Iron, Total	7	7	7.9E+01	3.6E+00	2.8E+01	2.6E+01	4.7E+01	4.7E+01
75	Lead, Total	4	7	1.1E-01	1.0E-03	5.0E-02	5.0E-02	8.7E-02	8.7E-02
76	Mercury, Total	2	7	4.0E-04	1.0E-04	1.6E-04	1.1E-04	2.4E-04	2.4E-04
77	Nickel, Total	5	7	1.1E-01	3.0E-03	3.2E-02	3.6E-02	5.9E-02	5.9E-02
78	Silver, Total	1	7	1.8E-02	1.0E-03	4.1E-03	6.4E-03	8.8E-03	8.8E-03
79	Thallium, Total	0	7	2.5E-03	1.0E-03	1.9E-03	6.3E-04	2.3E-03	0.0E+00
80	Vanadium, Total	2	7	1.1E-01	1.5E-03	2.3E-02	3.9E-02	5.1E-02	5.1E-02
81	Cyanide, Total	0	6	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
82	Bromide, Dissolved	3	3	3.5E+00	2.0E-01	1.6E+00	1.7E+00	4.5E+00	3.5E+00
83	Chloride, Cl	3	3	3.4E+01	5.0E+00	1.9E+01	1.5E+01	4.3E+01	3.4E+01
84	Nitrogen, Ammonia (NH3)	2	3	3.0E+01	1.8E+01	2.3E+01	6.4E+00	3.4E+01	3.0E+01
85	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0	1	2.0E+01	2.0E+01	2.0E+01	0.0E+00	0.0E+00	2.0E+01
86	Sulfate, SO4	3	3	1.5E+02	6.0E+00	5.6E+01	8.1E+01	1.9E+02	1.5E+02
87	TP (Total Phosphorus)	2	2	2.7E-01	2.1E-01	2.4E-01	4.2E-02	4.3E-01	2.7E-01

TABLE A4-9 GROUNDWATER - DEEP (SOUTH OF LANDFILL)

EXPOSURE POINT: SOUTH LANDFILL (DEEP)
MEDIUM: GROUNDWATER
UNITS: MG/L
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
2	1,1-Dichloroethane	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
3	1,1-Dichloroethene	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
4	1,2-Dichloroethene(total)	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
5	2-Butanone	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
6	2-Hexanone	1	7	5.0E-03	7.0E-04	4.4E-03	1.6E-03	5.6E-03	7.0E-04
7	4-Methyl-2-pentanone	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
8	Acetone	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
9	Benzene	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
10	Bromodichloromethane	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
11	Carbon Disulfide	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
12	Chlorobenzene	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
13	Chloroethane	2	7	1.5E-02	5.0E-03	7.4E-03	4.1E-03	1.0E-02	1.0E-02
14	Chloroform	0	7	5.0E-03	5.0E-04	2.9E-03	1.6E-03	4.1E-03	4.1E-03
15	Ethyl Benzene	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
16	Methylene Chloride	0	7	5.0E-03	2.5E-03	4.1E-03	1.1E-03	4.9E-03	4.9E-03
17	Styrene	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
18	Tetrachloroethene	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
19	Toluene	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
20	Trichloroethene	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
21	Vinyl Chloride	0	5	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
22	Xylenes (Total)	0	7	5.0E-03	2.5E-03	3.6E-03	1.3E-03	4.6E-03	4.6E-03
23	1,4-Dichlorobenzene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
24	2,4-Dimethylphenol	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
25	2-Methylnaphthalene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
26	2-Methylphenol	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
27	4-Methylphenol	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
28	Acenaphthene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
29	Acenaphthylene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
30	Anthracene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
31	Benzo(a)anthracene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
32	Benzo(a)pyrene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
33	Benzo(b)fluoranthene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
34	Benzo(g,h,i)perylene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
35	Benzo(k)fluoranthene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
36	Benzoic acid	0	4	2.7E-02	2.5E-02	2.6E-02	7.5E-04	2.7E-02	2.7E-02
37	Benzyl alcohol	0	4	5.5E-03	5.0E-03	5.1E-03	2.5E-04	5.4E-03	5.4E-03
38	bis(2-Ethylhexyl)phthalate	2	7	5.5E-03	3.0E-03	4.5E-03	1.0E-03	5.3E-03	3.0E-03
39	Butylbenzylphthalate	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
40	Carbazole	0	3	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
41	Chrysene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
42	Di-n-butylphthalate	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
43	Di-n-octylphthalate	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
44	Dibenzo(a,h)anthracene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
45	Dibenzofuran	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
46	Diethylphthalate	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
47	Dimethylphthalate	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
48	Fluoranthene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
49	Fluorene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	0.0E+00
50	Indeno(1,2,3-cd)pyrene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
51	Naphthalene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
52	Phenanthrene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
53	Phenol	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
54	Pyrene	0	7	5.5E-03	5.0E-03	5.1E-03	1.9E-04	5.2E-03	5.2E-03
55	4,4-DDE	0	7	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	5.0E-05

TABLE A4-9 GROUNDWATER - DEEP (SOUTH OF LANDFILL)

EXPOSURE POINT: SOUTH LANDFILL (DEEP)
MEDIUM: GROUNDWATER
UNITS: MG/L
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	4,4-DDT	0	7	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	5.0E-05
57	Aldrin	0	7	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	2.5E-05
58	alpha-BHC	0	7	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	2.5E-05
59	alpha-Chlordane	0	7	2.5E-04	2.5E-05	1.5E-04	1.2E-04	2.4E-04	2.4E-04
60	Aroclor-1248	0	7	5.0E-04	2.5E-04	3.6E-04	1.3E-04	4.6E-04	0.0E+00
61	beta-BHC	0	7	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	2.5E-05
62	Dieldrin	0	7	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	5.0E-05
63	Endosulfan II	0	7	5.0E-05	5.0E-05	5.0E-05	0.0E+00	5.0E-05	5.0E-05
64	gamma-Chlordane	0	7	2.5E-04	2.5E-05	1.5E-04	1.2E-04	2.4E-04	2.4E-04
65	Heptachlor	0	7	2.5E-05	2.5E-05	2.5E-05	0.0E+00	2.5E-05	2.5E-05
66	Aluminum, Total	4	7	7.0E+00	1.8E-02	1.2E+00	2.6E+00	3.1E+00	3.1E+00
67	Antimony, Total	2	7	4.8E-02	6.5E-03	2.2E-02	1.8E-02	3.5E-02	3.5E-02
68	Arsenic, Total	5	7	9.1E-03	1.0E-03	4.6E-03	2.9E-03	6.7E-03	6.7E-03
69	Barium, Total	7	7	2.2E-01	7.5E-02	1.5E-01	6.2E-02	2.0E-01	2.0E-01
70	Beryllium, Total	2	7	2.8E-03	5.0E-04	1.3E-03	9.0E-04	2.0E-03	2.0E-03
71	Cadmium, Total	1	7	2.5E-03	5.0E-04	1.8E-03	8.9E-04	2.4E-03	2.4E-03
72	Chromium, Total	3	7	1.4E-02	1.0E-03	4.7E-03	4.7E-03	8.1E-03	8.1E-03
73	Cobalt, Total	2	7	6.0E-03	1.5E-03	3.7E-03	2.1E-03	5.3E-03	5.2E-03
74	Iron, Total	7	7	7.9E+00	5.7E-01	4.3E+00	2.9E+00	6.4E+00	6.4E+00
75	Lead, Total	2	5	4.5E-03	5.0E-04	2.1E-03	1.5E-03	3.5E-03	3.5E-03
76	Mercury, Total	0	7	1.0E-04	1.0E-04	1.0E-04	0.0E+00	1.0E-04	1.0E-04
77	Nickel, Total	1	7	2.1E-02	3.5E-03	9.5E-03	6.6E-03	1.4E-02	1.4E-02
78	Silver, Total	2	7	1.2E-02	1.0E-03	4.4E-03	4.8E-03	7.9E-03	7.9E-03
79	Thallium, Total	0	7	2.5E-03	1.5E-03	1.6E-03	3.8E-04	1.9E-03	0.0E+00
80	Vanadium, Total	4	7	1.2E-02	1.0E-03	7.4E-03	4.7E-03	1.1E-02	1.1E-02
81	Cyanide, Total	0	7	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
82	Bromide, Dissolved	4	4	1.9E+00	2.0E-01	8.5E-01	7.6E-01	1.7E+00	1.7E+00
83	Chloride, Cl	3	3	4.0E+01	1.1E+01	2.8E+01	1.5E+01	5.4E+01	4.0E+01
84	Nitrogen, Ammonia (NH3)	3	4	2.0E+01	4.9E-01	7.2E+00	8.7E+00	1.7E+01	4.4E+00
85	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	1	3	2.0E+01	4.8E-01	1.4E+01	1.1E+01	3.3E+01	4.8E-01
86	Sulfate, SO4	3	3	8.1E+02	1.1E+02	3.5E+02	4.0E+02	1.0E+03	8.1E+02

TABLE A4-10 GROUNDWATER - BENEATH LANDFILL

EXPOSURE POINT: LANDFILL
MEDIUM: GROUNDWATER
UNITS: MG/L
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	3	7	5.2E-01	1.7E-03	7.8E-02	1.9E-01	2.2E-01	2.2E-01
2	1,1-Dichloroethane	3	7	2.2E-01	2.5E-03	4.3E-02	8.1E-02	1.0E-01	1.0E-01
3	1,1-Dichloroethene	0	7	5.0E-02	2.5E-03	1.1E-02	1.7E-02	2.3E-02	2.3E-02
4	1,2-Dichloroethene(total)	2	7	4.1E-01	2.5E-03	7.1E-02	1.5E-01	1.8E-01	1.8E-01
5	2-Butanone	2	7	4.2E-01	5.0E-03	6.5E-02	1.6E-01	1.8E-01	1.8E-01
6	2-Hexanone	0	7	5.0E-02	5.0E-03	1.1E-02	1.7E-02	2.4E-02	2.4E-02
7	4-Methyl-2-pentanone	2	7	1.1E-01	5.0E-03	2.1E-02	3.9E-02	5.0E-02	5.0E-02
8	Acetone	1	7	1.3E+00	5.0E-03	2.1E-01	4.8E-01	5.6E-01	5.6E-01
9	Benzene	3	7	9.7E-02	1.7E-03	2.1E-02	3.5E-02	4.7E-02	4.7E-02
10	Bromodichloromethane	0	7	5.0E-02	2.5E-03	1.1E-02	1.7E-02	2.3E-02	2.3E-02
11	Carbon Disulfide	2	7	1.3E-01	2.5E-03	2.2E-02	4.8E-02	5.7E-02	5.7E-02
12	Chlorobenzene	1	7	5.0E-02	1.7E-03	1.1E-02	1.7E-02	2.3E-02	1.7E-03
13	Chloroethane	1	7	5.0E-02	3.0E-03	1.1E-02	1.7E-02	2.4E-02	3.0E-03
14	Chloroform	3	7	7.6E-02	1.8E-03	1.4E-02	2.7E-02	3.4E-02	3.4E-02
15	Ethyl Benzene	2	7	6.4E-01	2.5E-03	1.2E-01	2.4E-01	2.9E-01	2.9E-01
16	Methylene Chloride	3	7	5.5E-01	1.0E-03	8.3E-02	2.1E-01	2.3E-01	2.3E-01
17	Styrene	1	7	5.0E-02	2.5E-03	1.0E-02	1.7E-02	2.3E-02	3.0E-03
18	Tetrachloroethene	1	7	4.8E-02	2.5E-03	1.0E-02	1.7E-02	2.3E-02	2.3E-02
19	Toluene	2	7	1.1E+00	2.5E-03	1.7E-01	4.1E-01	4.7E-01	4.7E-01
20	Trichloroethene	3	7	5.5E-01	2.5E-03	9.5E-02	2.0E-01	2.4E-01	2.4E-01
21	Vinyl Chloride	2	6	4.7E-02	5.0E-03	1.4E-02	1.7E-02	2.8E-02	2.8E-02
22	Xylenes (Total)	2	7	3.3E-01	2.5E-03	7.9E-02	1.3E-01	1.8E-01	1.8E-01
23	1,4-Dichlorobenzene	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	8.1E-03
24	2,4-Dimethylphenol	2	7	8.4E-02	5.0E-03	1.8E-02	2.9E-02	3.9E-02	3.9E-02
25	2-Methylnaphthalene	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	0.0E+00
26	2-Methylphenol	2	7	4.4E-01	5.0E-03	6.9E-02	1.6E-01	1.9E-01	1.9E-01
27	4-Methylphenol	2	7	4.2E+00	5.0E-03	6.2E-01	1.6E+00	1.8E+00	1.8E+00
28	Acenaphthene	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	0.0E+00
29	Acenaphthylene	1	5	5.0E-03	1.0E-03	4.2E-03	1.8E-03	5.9E-03	1.0E-03
30	Anthracene	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	0.0E+00
31	Benzo(a)anthracene	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	0.0E+00
32	Benzo(a)pyrene	1	5	5.0E-03	4.0E-03	4.8E-03	4.5E-04	5.2E-03	4.0E-03
33	Benzo(b)fluoranthene	1	5	6.0E-03	5.0E-03	5.2E-03	4.5E-04	5.6E-03	5.6E-03
34	Benzo(g,h,i)perylene	1	5	5.0E-03	2.0E-03	4.4E-03	1.3E-03	5.7E-03	2.0E-03
35	Benzo(k)fluoranthene	1	5	5.0E-03	2.0E-03	4.4E-03	1.3E-03	5.7E-03	2.0E-03
36	Benzoic acid	0	2	2.5E-02	2.5E-02	2.5E-02	0.0E+00	2.5E-02	2.5E-02
37	Benzyl alcohol	0	2	5.0E-03	5.0E-03	5.0E-03	0.0E+00	5.0E-03	5.0E-03
38	bis(2-Ethylhexyl)phthalate	3	6	2.9E-02	2.0E-03	1.2E-02	1.1E-02	2.1E-02	2.1E-02
39	Butylbenzylphthalate	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	8.1E-03
40	Carbazole	0	3	1.0E-02	5.0E-03	6.7E-03	2.9E-03	1.2E-02	1.0E-02
41	Chrysene	1	5	5.0E-03	4.0E-03	4.8E-03	4.5E-04	5.2E-03	4.0E-03
42	Di-n-butylphthalate	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	8.1E-03
43	Di-n-octylphthalate	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	8.1E-03
44	Dibenzo(a,h)anthracene	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	0.0E+00
45	Dibenzofuran	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	8.1E-03
46	Diethylphthalate	1	6	4.9E-02	5.0E-03	1.3E-02	1.8E-02	2.8E-02	2.8E-02
47	Dimethylphthalate	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	8.1E-03
48	Fluoranthene	1	5	6.0E-03	5.0E-03	5.2E-03	4.5E-04	5.6E-03	5.6E-03
49	Fluorene	0	5	1.0E-02	5.0E-03	6.0E-03	2.2E-03	8.1E-03	0.0E+00
50	Indeno(1,2,3-cd)pyrene	1	5	5.0E-03	2.0E-03	4.4E-03	1.3E-03	5.7E-03	2.0E-03
51	Naphthalene	1	5	5.0E-03	3.0E-03	4.6E-03	8.9E-04	5.5E-03	3.0E-03
52	Phenanthrene	1	5	6.0E-03	5.0E-03	5.2E-03	4.5E-04	5.6E-03	5.6E-03
53	Phenol	5	10	6.6E+00	5.0E-03	1.2E+00	2.5E+00	2.7E+00	2.7E+00
54	Pyrene	1	5	6.0E-03	5.0E-03	5.2E-03	4.5E-04	5.6E-03	5.6E-03
55	4,4-DDE	0	7	5.0E-04	5.0E-05	1.8E-04	2.2E-04	3.4E-04	3.4E-04

TABLE A4-10 GROUNDWATER - BENEATH LANDFILL

EXPOSURE POINT: LANDFILL
MEDIUM: GROUNDWATER
UNITS: MG/L
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	4,4-DDT	1	7	5.0E-04	5.0E-05	1.5E-04	1.8E-04	2.8E-04	2.8E-04
57	Aldrin	2	7	1.3E-04	2.5E-05	5.4E-05	4.9E-05	8.9E-05	8.9E-05
58	alpha-BHC	1	7	2.5E-04	1.7E-05	5.6E-05	8.6E-05	1.2E-04	1.7E-05
59	alpha-Chlordane	1	7	2.6E-04	2.5E-05	1.5E-04	1.2E-04	2.4E-04	2.2E-04
60	Aroclor-1248	0	7	5.0E-03	2.5E-04	1.7E-03	2.2E-03	3.4E-03	0.0E+00
61	beta-BHC	2	7	9.7E-05	2.5E-05	4.2E-05	2.9E-05	6.3E-05	6.3E-05
62	Dieldrin	1	7	5.0E-04	5.0E-05	1.2E-04	1.7E-04	2.4E-04	7.3E-05
63	Endosulfan II	2	7	1.7E-04	4.8E-05	6.7E-05	4.5E-05	1.0E-04	1.0E-04
64	gamma-Chlordane	2	7	2.6E-04	2.5E-05	9.1E-05	1.1E-04	1.7E-04	2.9E-05
65	Heptachlor	2	7	1.2E-04	2.3E-05	3.8E-05	3.6E-05	6.5E-05	6.5E-05
66	Aluminum, Total	2	7	2.1E+02	1.8E-02	9.0E+01	1.1E+02	1.7E+02	1.7E+00
67	Antimony, Total	2	7	1.1E+01	6.5E-03	2.2E+00	4.1E+00	5.2E+00	5.2E+00
68	Arsenic, Total	3	7	2.6E+00	1.0E-03	7.3E-01	1.2E+00	1.6E+00	1.7E-02
69	Barium, Total	4	7	9.3E+00	2.8E-02	4.0E+00	4.9E+00	7.6E+00	8.0E-02
70	Beryllium, Total	0	7	4.0E+00	5.0E-04	1.1E+00	2.0E+00	2.6E+00	2.6E+00
71	Cadmium, Total	3	7	2.5E+00	5.0E-04	4.4E-01	9.3E-01	1.1E+00	1.1E+00
72	Chromium, Total	5	7	4.5E+00	2.5E-03	1.3E+00	2.2E+00	2.9E+00	2.9E+00
73	Cobalt, Total	3	7	3.3E+00	1.5E-03	6.5E-01	1.3E+00	1.6E+00	1.6E+00
74	Iron, Total	5	7	2.7E+02	1.3E-01	6.2E+01	9.9E+01	1.3E+02	1.3E+02
75	Lead, Total	4	7	2.8E+01	1.0E-03	5.1E+00	1.1E+01	1.3E+01	1.3E+01
76	Mercury, Total	1	7	8.0E-01	1.0E-04	3.4E-01	4.3E-01	6.6E-01	6.0E-04
77	Nickel, Total	2	5	5.1E-02	3.0E-03	1.6E-02	2.0E-02	3.5E-02	3.5E-02
78	Silver, Total	1	5	6.9E-03	1.0E-03	2.7E-03	2.6E-03	5.2E-03	5.2E-03
79	Thallium, Total	0	7	1.0E+00	1.0E-03	2.9E-01	4.9E-01	6.4E-01	0.0E+00
80	Vanadium, Total	4	7	4.5E+00	1.5E-03	1.1E+00	1.9E+00	2.5E+00	2.5E+00
81	Cyanide, Total	1	6	5.0E+00	5.0E-03	1.7E+00	2.6E+00	3.8E+00	9.8E-02
82	Bromide, Dissolved	4	5	3.3E+00	5.0E-02	1.1E+00	1.4E+00	2.4E+00	2.4E+00
83	Chloride, Cl	5	5	7.0E+01	1.5E+01	3.7E+01	2.6E+01	6.2E+01	6.2E+01
84	Nitrogen, Ammonia (NH3)	4	5	8.1E+01	1.0E+01	3.2E+01	2.9E+01	5.9E+01	5.9E+01
85	Sulfate, SO4	2	5	2.0E+03	1.7E+02	1.2E+03	9.7E+02	2.2E+03	1.9E+02
86	TP (Total Phosphorus)	3	3	9.3E+00	9.0E-02	6.1E+00	5.2E+00	1.5E+01	9.3E+00

TABLE A4-11 SOIL - FUTURE RESIDENCE DOWNWIND

EXPOSURE POINT: DOWNWIND
MEDIUM: SOIL
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
1	1,1,1-Trichloroethane	0	24	5.5E-03	2.5E-03	3.8E-03	7.4E-04	4.0E-03	0.0E+00
2	1,1-Dichloroethane	0	24	5.5E-03	2.5E-03	3.8E-03	7.4E-04	4.0E-03	0.0E+00
3	1,1-Dichloroethene	1	24	5.5E-03	2.5E-03	3.8E-03	7.8E-04	4.1E-03	4.1E-03
4	1,2-Dichloroethene(total)	0	24	5.5E-03	2.5E-03	3.8E-03	7.4E-04	4.0E-03	0.0E+00
5	2-Butanone	2	19	1.6E-02	3.0E-03	6.9E-03	3.5E-03	8.3E-03	4.0E-03
6	2-Hexanone	0	24	9.0E-03	5.0E-03	6.9E-03	1.1E-03	7.3E-03	0.0E+00
7	4-Methyl-2-pentanone	0	24	9.0E-03	5.0E-03	6.9E-03	1.1E-03	7.3E-03	0.0E+00
8	Acetone	5	24	1.3E-01	5.0E-03	1.6E-02	2.6E-02	2.5E-02	2.5E-02
9	Benzene	0	24	5.5E-03	2.5E-03	3.8E-03	7.4E-04	4.0E-03	0.0E+00
10	Bromodichloromethane	0	24	5.5E-03	2.5E-03	3.8E-03	7.4E-04	4.0E-03	0.0E+00
11	Carbon Disulfide	1	24	5.5E-03	1.9E-03	3.7E-03	8.2E-04	4.0E-03	1.9E-03
12	Chlorobenzene	0	24	5.5E-03	2.5E-03	3.8E-03	7.4E-04	4.0E-03	0.0E+00
13	Chloroethane	0	24	9.0E-03	5.0E-03	6.9E-03	1.1E-03	7.3E-03	0.0E+00
14	Chloroform	0	24	5.5E-03	2.5E-03	3.8E-03	7.4E-04	4.0E-03	0.0E+00
15	Ethyl Benzene	1	24	5.5E-03	2.0E-03	3.7E-03	8.1E-04	4.0E-03	2.0E-03
16	Methylene Chloride	2	24	1.2E-02	3.0E-03	4.9E-03	2.0E-03	5.6E-03	4.0E-03
17	Styrene	0	24	5.5E-03	2.5E-03	3.8E-03	7.4E-04	4.0E-03	0.0E+00
18	Tetrachloroethene	0	24	5.5E-03	2.5E-03	3.8E-03	7.4E-04	4.0E-03	0.0E+00
19	Toluene	5	24	1.0E-02	2.0E-03	4.1E-03	1.5E-03	4.6E-03	4.6E-03
20	Trichloroethene	1	24	5.5E-03	9.0E-04	3.7E-03	9.3E-04	4.0E-03	9.0E-04
21	Vinyl Chloride	0	24	9.0E-03	5.0E-03	6.9E-03	1.1E-03	7.3E-03	0.0E+00
22	Xylenes (Total)	2	24	5.5E-03	2.0E-03	3.8E-03	8.7E-04	4.1E-03	4.1E-03
23	1,4-Dichlorobenzene	2	24	5.5E-01	1.2E-01	3.7E-01	1.3E-01	4.2E-01	2.1E-01
24	2,4-Dimethylphenol	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
25	2-Methylnaphthalene	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
26	2-Methylphenol	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
27	4-Methylphenol	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
28	Acenaphthene	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
29	Acenaphthylene	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
30	Anthracene	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
31	Benzo(a)anthracene	2	24	5.5E-01	1.7E-01	3.7E-01	1.2E-01	4.2E-01	4.1E-01
32	Benzo(a)pyrene	2	24	5.9E-01	1.7E-01	3.9E-01	1.3E-01	4.3E-01	4.3E-01
33	Benzo(b)fluoranthene	3	24	7.7E-01	5.8E-02	3.9E-01	1.7E-01	4.5E-01	4.5E-01
34	Benzo(g,h,i)perylene	2	24	6.7E-01	1.7E-01	3.9E-01	1.4E-01	4.4E-01	4.4E-01
35	Benzo(k)fluoranthene	3	24	5.5E-01	7.3E-02	3.6E-01	1.4E-01	4.1E-01	4.1E-01
36	Benzoic acid	1	21	2.6E+00	7.5E-02	1.9E+00	6.2E-01	2.1E+00	7.5E-02
37	Benzyl alcohol	0	21	5.5E-01	2.6E-01	4.1E-01	1.0E-01	4.4E-01	0.0E+00
38	bis(2-Ethylhexyl)phthalate	15	24	7.8E+00	9.5E-02	6.7E-01	1.5E+00	1.2E+00	1.2E+00
39	Butylbenzylphthalate	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
40	Carbazole	0	3	1.8E-01	1.7E-01	1.7E-01	2.9E-03	1.8E-01	0.0E+00
41	Chrysene	3	24	5.5E-01	1.7E-01	3.7E-01	1.3E-01	4.2E-01	4.2E-01
42	Di-n-butylphthalate	3	24	5.5E-01	1.3E-01	3.5E-01	1.3E-01	4.0E-01	4.0E-01
43	Di-n-octylphthalate	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
44	Dibenzo(a,h)anthracene	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
45	Dibenzofuran	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
46	Diethylphthalate	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
47	Dimethylphthalate	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
48	Fluoranthene	3	24	5.9E-01	1.0E-01	3.7E-01	1.4E-01	4.2E-01	4.2E-01
49	Fluorene	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
50	Indeno(1,2,3-cd)pyrene	2	24	6.9E-01	1.7E-01	4.0E-01	1.5E-01	4.5E-01	4.5E-01
51	Naphthalene	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
52	Phenanthrene	2	24	5.5E-01	1.7E-01	3.6E-01	1.3E-01	4.1E-01	2.3E-01
53	Phenol	0	24	5.5E-01	1.7E-01	3.8E-01	1.2E-01	4.2E-01	0.0E+00
54	Pyrene	3	24	6.2E-01	9.5E-02	3.7E-01	1.5E-01	4.2E-01	4.2E-01
55	4,4-DDE	0	24	2.6E-02	1.7E-03	1.7E-02	7.4E-03	2.0E-02	0.0E+00

TABLE A4-11 SOIL - FUTURE RESIDENCE DOWNWIND

EXPOSURE POINT: DOWNWIND
MEDIUM: SOIL
UNITS: MG/KG
U MULTIPLIER: 0.5

	CHEMICAL	HITS	TOTAL	MAX	MIN	AM	STDS	AM95	EPC
56	4,4-DDT	1	24	6.4E-02	1.7E-03	1.9E-02	1.2E-02	2.3E-02	2.3E-02
57	Aldrin	0	24	1.3E-02	9.0E-04	8.6E-03	3.7E-03	9.9E-03	0.0E+00
58	alpha-BHC	0	24	1.3E-02	9.0E-04	8.6E-03	3.7E-03	9.9E-03	0.0E+00
59	alpha-Chlordane	0	24	1.3E-01	9.0E-04	8.5E-02	3.9E-02	9.9E-02	0.0E+00
60	Aroclor-1248	0	24	1.3E-01	1.7E-02	8.7E-02	3.5E-02	9.9E-02	0.0E+00
61	beta-BHC	0	24	1.3E-02	9.0E-04	8.6E-03	3.7E-03	9.9E-03	0.0E+00
62	Dieldrin	0	24	2.6E-02	1.7E-03	1.7E-02	7.4E-03	2.0E-02	0.0E+00
63	Endosulfan II	0	24	2.6E-02	1.7E-03	1.7E-02	7.4E-03	2.0E-02	0.0E+00
64	gamma-Chlordane	0	24	1.3E-01	9.0E-04	8.5E-02	3.9E-02	9.9E-02	0.0E+00
65	Heptachlor	0	24	1.3E-02	9.0E-04	8.6E-03	3.7E-03	9.9E-03	0.0E+00
66	Aluminum, Total	20	24	5.4E+03	4.5E+00	1.6E+03	1.9E+03	2.2E+03	2.2E+03
67	Antimony, Total	11	24	4.7E+01	3.2E+00	1.4E+01	1.4E+01	1.8E+01	1.8E+01
68	Arsenic, Total	12	24	4.4E+00	1.5E-01	1.1E+00	1.1E+00	1.5E+00	1.5E+00
69	Barium, Total	19	24	1.0E+02	1.3E+00	1.2E+01	2.1E+01	2.0E+01	2.0E+01
70	Beryllium, Total	14	24	8.3E-01	1.1E-01	4.1E-01	2.7E-01	5.0E-01	5.0E-01
71	Cadmium, Total	1	24	1.1E+00	2.9E-01	5.0E-01	2.2E-01	5.7E-01	5.7E-01
72	Chromium, Total	12	24	1.3E+01	7.0E-01	3.6E+00	3.6E+00	4.8E+00	4.8E+00
73	Cobalt, Total	11	24	5.3E+00	8.5E-01	1.9E+00	1.1E+00	2.3E+00	2.3E+00
74	Iron, Total	23	24	9.9E+03	2.3E+00	2.6E+03	2.9E+03	3.6E+03	3.6E+03
75	Lead, Total	19	24	7.7E+01	1.6E-01	6.0E+00	1.6E+01	1.1E+01	1.1E+01
76	Mercury, Total	1	24	2.3E-01	3.5E-02	6.6E-02	3.8E-02	8.0E-02	8.0E-02
77	Nickel, Total	12	24	8.9E+00	2.6E+00	4.2E+00	1.8E+00	4.8E+00	4.8E+00
78	Silver, Total	3	24	2.8E+00	3.4E-01	7.1E-01	6.8E-01	9.5E-01	9.5E-01
79	Thallium, Total	0	24	1.7E+00	1.0E-01	5.5E-01	4.2E-01	6.9E-01	0.0E+00
80	Vanadium, Total	17	24	1.2E+01	6.3E-01	4.6E+00	3.9E+00	5.9E+00	5.9E+00
81	Cyanide, Total	1	24	2.6E+00	1.1E-01	1.3E+00	8.0E-01	1.6E+00	1.6E+00

TABLE A4-12 AIR - CALCULATION OF PM10 EPC's

	CHEMICAL	CONCENTRATIONS IN SOIL: DIRT BIKE RIDER (STAT-1)	AGRICUL. WORKER (STAT-2)	LANDFILL (STAT-3)	DOWNWIND RESIDENCE (STAT-19)	CALCULATION OF EMISSIONS OF AIR PARTICULATES: EPC-9 PM10 = 2.8E-06	EPC-10 PM10 = 5.4E-08	EPC-11 PM10 = 4.6E-08	EPC-12 PM10 = 3.6E-05	EPC-20 PM10 = 6.1E-09
1	1,1,1-Trichloroethane	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroethane	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
3	1,1-Dichloroethene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4	1,2-Dichloroethene(total)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
5	2-Butanone	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
6	2-Hexanone	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
7	4-Methyl-2-pentanone	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
8	Acetone	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
9	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
10	Bromodichloromethane	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
11	Carbon Disulfide	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
12	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	Chloroethane	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
14	Chloroform	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
15	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
16	Methylene Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
17	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
18	Tetrachloroethene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
19	Toluene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
20	Trichloroethene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
21	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
22	Xylenes (Total)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
23	1,4-Dichlorobenzene	2.1E-01	2.1E-01	2.1E-01	2.1E-01	5.9E-07	1.1E-08	9.7E-09	7.6E-06	1.3E-09
24	2,4-Dimethylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
25	2-Methylnaphthalene	1.8E-02	0.0E+00	0.0E+00	0.0E+00	5.0E-08	9.7E-10	0.0E+00	0.0E+00	0.0E+00
26	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
27	4-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
28	Acenaphthene	5.9E-02	0.0E+00	0.0E+00	0.0E+00	1.7E-07	3.2E-09	0.0E+00	0.0E+00	0.0E+00
29	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
30	Anthracene	8.2E-02	0.0E+00	0.0E+00	0.0E+00	2.3E-07	4.4E-09	0.0E+00	0.0E+00	0.0E+00
31	Benzo(a)anthracene	4.0E-01	2.8E-01	2.8E-01	4.1E-01	1.1E-06	2.1E-08	1.9E-08	1.0E-05	1.7E-09
32	Benzo(a)pyrene	4.2E-01	4.3E-01	4.3E-01	4.3E-01	1.2E-06	2.2E-08	2.0E-08	1.5E-05	2.6E-09
33	Benzo(b)fluoranthene	4.4E-01	4.6E-01	4.6E-01	4.5E-01	1.2E-06	2.4E-08	2.1E-08	1.7E-05	2.8E-09
34	Benzo(g,h,i)perylene	4.2E-01	4.6E-01	4.6E-01	4.4E-01	1.2E-06	2.3E-08	2.0E-08	1.7E-05	2.8E-09
35	Benzo(k)fluoranthene	4.0E-01	3.6E-01	3.6E-01	4.1E-01	1.1E-06	2.1E-08	1.9E-08	1.3E-05	2.2E-09
36	Benzoic acid	7.5E-02	7.5E-02	7.5E-02	7.5E-02	2.1E-07	4.1E-09	3.5E-09	2.7E-06	4.6E-10
37	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
38	bis(2-Ethylhexyl)phthalate	1.1E+00	1.5E+00	1.5E+00	1.2E+00	3.1E-06	5.9E-08	5.5E-08	5.3E-05	9.0E-09
39	Butylbenzylphthalate	2.4E-01	0.0E+00	0.0E+00	0.0E+00	6.6E-07	1.3E-08	0.0E+00	0.0E+00	0.0E+00
40	Carbazole	3.6E-02			0.0E+00	1.0E-07	1.9E-09	0.0E+00	0.0E+00	0.0E+00
41	Chrysene	4.0E-01	3.6E-01	3.6E-01	4.2E-01	1.1E-06	2.2E-08	1.9E-08	1.3E-05	2.2E-09
42	Di-n-butylphthalate	3.8E-01	4.2E-01	4.2E-01	4.0E-01	1.1E-06	2.0E-08	1.8E-08	1.5E-05	2.6E-09
43	Di-n-octylphthalate	1.4E-01	0.0E+00	0.0E+00	0.0E+00	3.9E-07	7.6E-09	0.0E+00	0.0E+00	0.0E+00
44	Dibenzo(a,h)anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
45	Dibenzofuran	2.3E-02	0.0E+00	0.0E+00	0.0E+00	6.4E-08	1.2E-09	0.0E+00	0.0E+00	0.0E+00
46	Diethylphthalate	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
47	Dimethylphthalate	4.2E-02	0.0E+00	0.0E+00	0.0E+00	1.2E-07	2.3E-09	0.0E+00	0.0E+00	0.0E+00
48	Fluoranthene	4.0E-01	3.3E-01	3.3E-01	4.2E-01	1.1E-06	2.2E-08	1.9E-08	1.2E-05	2.0E-09
49	Fluorene	4.3E-02	0.0E+00	0.0E+00	0.0E+00	1.2E-07	2.3E-09	0.0E+00	0.0E+00	0.0E+00
50	Indeno(1,2,3-cd)pyrene	4.3E-01	4.7E-01	4.7E-01	4.5E-01	1.2E-06	2.3E-08	2.1E-08	1.7E-05	2.8E-09
51	Naphthalene	1.8E-02	0.0E+00	0.0E+00	0.0E+00	5.0E-08	9.7E-10	0.0E+00	0.0E+00	0.0E+00

TABLE A4-12 AIR - CALCULATION OF PM10 EPC's

CHEMICAL	CONCENTRATIONS IN SOIL: DIRT BIKE RIDER (STAT-1)	AGRICUL. WORKER (STAT-2)	LANDFILL (STAT-3)	DOWNWIND RESIDENCE (STAT-19)	CALCULATION OF EMISSIONS OF AIR PARTICULATES: EPC-9 PM10 = 2.8E-06	EPC-10 PM10 = 5.4E-08	EPC-11 PM10 = 4.6E-08	EPC-12 PM10 = 3.6E-05	EPC-20 PM10 = 6.1E-09
52 Phenanthrene	3.9E-01	1.9E-01	1.9E-01	2.3E-01	1.1E-06	2.1E-08	1.1E-08	6.8E-06	1.2E-09
53 Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54 Pyrene	4.1E-01	3.1E-01	3.1E-01	4.2E-01	1.2E-06	2.2E-08	1.9E-08	1.1E-05	1.9E-09
55 4,4-DDE	4.1E-03	0.0E+00	0.0E+00	0.0E+00	1.1E-08	2.2E-10	0.0E+00	0.0E+00	0.0E+00
56 4,4-DDT	2.2E-02	0.0E+00	0.0E+00	2.3E-02	6.1E-08	1.2E-09	1.1E-09	0.0E+00	0.0E+00
57 Aldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58 alpha-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59 alpha-Chlordane	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60 Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
61 beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
62 Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
63 Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
64 gamma-Chlordane	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
65 Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
66 Aluminum, Total	2.4E+03	2.1E+03	2.1E+03	2.2E+03	6.6E-03	1.3E-04	1.0E-04	7.5E-02	1.3E-05
67 Antimony, Total	1.7E+01	2.2E+01	2.2E+01	1.8E+01	4.8E-05	9.2E-07	8.5E-07	7.9E-04	1.3E-07
68 Arsenic, Total	1.9E+00	1.1E+00	1.1E+00	1.5E+00	5.2E-06	1.0E-07	6.9E-08	3.9E-05	6.6E-09
69 Barium, Total	2.1E+01	1.2E+01	1.2E+01	2.0E+01	6.0E-05	1.2E-06	9.1E-07	4.1E-04	7.0E-08
70 Beryllium, Total	5.2E-01	5.7E-01	5.7E-01	5.0E-01	1.4E-06	2.8E-08	2.3E-08	2.0E-05	3.5E-09
71 Cadmium, Total	5.5E-01	6.4E-01	6.4E-01	5.7E-01	1.5E-06	3.0E-08	2.6E-08	2.3E-05	3.9E-09
72 Chromium, Total	4.9E+00	4.7E+00	4.7E+00	4.8E+00	1.4E-05	2.6E-07	2.2E-07	1.7E-04	2.9E-08
73 Cobalt, Total	2.3E+00	2.0E+00	2.0E+00	2.3E+00	6.6E-06	1.3E-07	1.0E-07	7.1E-05	1.2E-08
74 Iron, Total	4.3E+03	2.9E+03	2.9E+03	3.6E+03	1.2E-02	2.3E-04	1.7E-04	1.1E-01	1.8E-05
75 Lead, Total	1.5E+01	3.8E+00	3.8E+00	1.1E+01	4.2E-05	8.1E-07	5.2E-07	1.4E-04	2.3E-08
76 Mercury, Total	8.0E-02	0.0E+00	0.0E+00	8.0E-02	2.3E-07	4.3E-09	3.7E-09	0.0E+00	0.0E+00
77 Nickel, Total	5.3E+00	4.5E+00	4.5E+00	4.8E+00	1.5E-05	2.8E-07	2.2E-07	1.6E-04	2.8E-08
78 Silver, Total	8.9E-01	1.1E+00	1.1E+00	9.5E-01	2.5E-06	4.8E-08	4.4E-08	3.9E-05	6.6E-09
79 Thallium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
80 Vanadium, Total	6.3E+00	5.8E+00	5.8E+00	5.9E+00	1.8E-05	3.4E-07	2.7E-07	2.1E-04	3.5E-08
81 Cyanide, Total	1.8E+00	0.0E+00	0.0E+00	1.6E+00	5.0E-06	9.6E-08	7.4E-08	0.0E+00	0.0E+00
82 Bromide, Dissolved					0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
83 Chloride, Cl					0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
84 Nitrogen, Ammonia (NH3)					0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
85 Nitrogen, Nitrate + Nitrite (NO2 + NO3)					0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
86 Sulfate, SO4					0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
87 TP (Total Phosphorus)					0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

APPENDIX 5

EXPOSURE AND RISK CALCULATIONS

USER'S GUIDE

The following pages provide detailed documentation of the exposure and risk calculations performed at this site. The following information may be helpful for those who wish to review these calculations in detail.

Data Input

Data is provided to the computer in three parts. The first part is a worksheet called "POPSUM." This lists all the exposure scenarios that will be evaluated, grouped by populations. This is also where all HIF terms developed in Section 3.0 of this report are entered. The second part is a worksheet named "CTV." This worksheet contains the names of all chemicals of concern, and all available toxicity values. The third part is a series of exposure point concentration ("EPC") tables that record the concentrations of the chemicals of concern at each location. Since concentrations may change over time, three columns exist for each medium: subchronic (C_S), chronic (C_C) and lifetime (C_L) average values. If a chemical is assumed to remain constant over time, all of these values will be equal. These tables repeat the value already documented in Appendix 5.

Exposure and Risk Calculations

Exposure and risk calculations are performed in a series of worksheets (called "WS1," "WS2," etc.), grouped by population (POP1, POP2, etc). Each worksheet is specific for a given population, exposure point, exposure medium and exposure route. All these terms are listed at the top of the page, along with the appropriate HIF values (copied from the POPSUM worksheet). Exposure and risk calculations are then presented below, grouped into three separate sections: subchronic, chronic and lifetime. Within each section, the first data column is for the exposure point concentration, copied from the appropriate EPC table. The next column is for the HIF values. Since this does not depend on the chemical, the same value appears in all rows of the column. The next relevant column is the dose, calculated by multiplying the exposure point concentration by the HIF. The next column is the appropriate chemical, route and duration-specific CTV term (RfD_S, RfD_C and SF for subchronic, chronic and lifetime exposures, respectively). These are copied from the CTV worksheet mentioned above. The last column in each block is the risk estimate. For subchronic and chronic exposures, this is given by the dose or daily intake (DI) divided by the RfD, and is termed the Hazard Quotient (HQ). For lifetime exposures, the value is the excess cancer risk, calculated from the equation

$$RISK = 1 - e^{-(DI_1 \times SF)}$$

In most cases, this value can be accurately estimated simply as the product of $DI_1 \times SF$.

Summary Sheets

After all exposure scenarios that apply to a given population are evaluated, summary tables are prepared that tabulate the dose and risk estimates. These

are copied from the preceding worksheets. The doses are shown in the block on the left, and the risks are shown in the block on the right. In each block, each column represents one exposure scenario. This is identified by the labels heading the column. Finally, risks are summed across chemicals and across pathways. Therefore, caution must be used in summing across the appropriate pathways. These sums are shown just below the individual columns of risk estimates.

Arrangement of This Appendix

Because of the complexity of this site, three series of risk worksheets were necessary to enable calculating risk to all populations. The following lists the summary tables prepared and included in this appendix:

Section	Page
Summary of Critical Toxicity Values	A5-4
1. Current Scenarios (Dirt-Bike Rider, Wader) and Future Workers:	
Exposure Scenarios Evaluated	A5-6
Chemical of Concern	A5-8
Exposure Point Concentrations	A5-10
Exposure and Risk Calculation Worksheets and Summaries	A5-26
2. Hypothetical Future Residential Scenarios (Except for Deep Groundwater):	
Exposure Scenarios Evaluated	A5-100
Chemical of Concern	A5-102
Exposure Point Concentrations	A5-104
Exposure and Risk Calculation Worksheets and Summaries	A5-114
3. Hypothetical Future Residential Scenario (Deep Groundwater Only)	
Exposure Scenarios Evaluated	A5-186
Chemical of Concern	A5-187
Exposure Point Concentrations	A5-189
Exposure and Risk Calculation Worksheets and Summaries	A5-191
4. Background	
Exposure Scenarios Evaluated	A5-215
Exposure Point Concentrations	A5-216
Exposure and Risk Calculation Worksheets and Summaries	A5-218

RANGE NAME: CTV

LIST OF CHEMICALS OF CONCERN
WITH CTVs AND OTHER CHEMICAL-SPECIFIC DATA

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 05/12/92

		ORAL				INHALATION			DERMAL(a)				
NO.	CHEMICAL NAME	RfDs	RfDc	SF	AFo	RfDs	RfDc	SF	RfDs	RfDc	SF	ABS	P
1	1,1,1-Trichlor	9.0E-01	9.0E-02	NA	1.0E+00	3.0E+00	3.0E-01	NA	9.0E-01	9.0E-02	NA	NA	1.7E-02
2	1,1-Dichloroet	1.0E+00	1.0E-01	NA	1.0E+00	1.0E+00	1.0E-01	NA	1.0E+00	1.0E-01	NA	NA	8.9E-03
3	1,1-Dichloroet	9.0E-03	9.0E-03	6.0E-01	1.0E+00	NA	NA	1.8E-01	9.0E-03	9.0E-03	6.0E-01	NA	1.6E-02
4	1,2-Dichloroet	1.0E-01	1.0E-02	NA	1.0E+00	NA	NA	NA	1.0E-01	1.0E-02	NA	NA	1.0E-02
5	2-Butanone	5.0E-01	5.0E-02	NA	1.0E+00	9.0E-01	9.0E-02	NA	5.0E-01	5.0E-02	NA	NA	1.1E-03
6	4-Methyl-2-pen	5.0E-01	5.0E-02	NA	1.0E+00	2.0E-01	2.0E-02	NA	5.0E-01	5.0E-02	NA	NA	2.8E-03
7	Acetone	1.0E+00	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E-01	NA	NA	5.7E-04
8	Benzene	NA	NA	2.9E-02	1.0E+00	NA	NA	2.9E-02	NA	NA	2.9E-02	NA	2.1E-02
9	Bromodichlorom	2.0E-02	2.0E-02	1.3E-01	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	1.3E-01	NA	5.8E-03
10	Carbon Disulfi	1.0E-01	1.0E-01	NA	1.0E+00	2.9E-03	2.9E-03	NA	1.0E-01	1.0E-01	NA	NA	2.4E-02
11	Chlorobenzene	2.0E-01	2.0E-02	NA	1.0E+00	5.0E-02	5.0E-03	NA	2.0E-01	2.0E-02	NA	NA	4.1E-02
12	Chloroform	1.0E-02	1.0E-02	6.1E-03	1.0E+00	NA	NA	8.1E-02	1.0E-02	1.0E-02	6.1E-03	NA	8.9E-03
13	Ethyl Benzene	1.0E+00	1.0E-01	NA	1.0E+00	2.9E-01	2.9E-01	NA	1.0E+00	1.0E-01	NA	NA	7.4E-02
14	Methylene Chlo	6.0E-02	6.0E-02	7.5E-03	1.0E+00	8.6E-01	8.6E-01	1.6E-03	6.0E-02	6.0E-02	7.5E-03	NA	4.5E-03
15	Styrene	2.0E+00	2.0E-01	3.0E-02	1.0E+00	NA	NA	2.0E-03	2.0E+00	2.0E-01	3.0E-02	NA	5.5E-02
16	Tetrachloroeth	1.0E-01	1.0E-02	5.1E-02	1.0E+00	NA	NA	1.8E-03	1.0E-01	1.0E-02	5.1E-02	NA	4.8E-02
17	Toluene	2.0E+00	2.0E-01	NA	1.0E+00	5.7E-01	5.7E-01	NA	2.0E+00	2.0E-01	NA	NA	4.5E-02
18	Trichloroethen	NA	NA	1.1E-02	1.0E+00	NA	NA	6.0E-03	NA	NA	1.1E-02	NA	1.6E-02
19	Vinyl Chloride	NA	NA	1.9E+00	1.0E+00	NA	NA	2.9E-01	NA	NA	1.9E+00	NA	7.0E-03
20	Xylenes (Total	4.0E+00	2.0E+00	NA	1.0E+00	8.6E-02	8.6E-02	NA	4.0E+00	2.0E+00	NA	NA	8.0E-02
21	1,4-Dichlorobe	NA	NA	2.4E-02	1.0E+00	2.0E-01	2.0E-01	NA	NA	NA	2.4E-02	NA	6.2E-02
22	2,4-Dimethylph	2.0E-01	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-01	2.0E-02	NA	NA	1.5E-02
23	2-Methylnaphth	4.0E-02	4.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24	2-Methylphenol	5.0E-01	5.0E-02	NA	1.0E+00	NA	NA	NA	5.0E-01	5.0E-02	NA	NA	1.0E-02
25	Acenaphthene	6.0E-01	6.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
26	Acenaphthylene	6.0E-01	6.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27	Anthracene	3.0E+00	3.0E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
28	Benzo(a)anthra	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
29	Benzo(a)pyrene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
30	Benzo(b)fluora	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
31	Benzo(g,h,i)pe	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
32	Benzo(k)fluora	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
33	Benzoic acid	4.0E+00	4.0E+00	NA	1.0E+00	NA	NA	NA	4.0E+00	4.0E+00	NA	NA	7.3E-03
34	Benzyl alcohol	1.0E+00	3.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	3.0E-01	NA	NA	2.5E-03
35	bis(2-Ethylhex	2.0E-02	2.0E-02	1.4E-02	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	1.4E-02	NA	3.3E-02
36	Butylbenzylpht	2.0E+00	2.0E-01	NA	1.0E+00	NA	NA	NA	2.0E+00	2.0E-01	NA	NA	2.4E-02
37	Chrysene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
38	Di-n-butylphth	1.0E+00	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E-01	NA	NA	4.9E-02
39	Di-n-octylphth	2.0E-02	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	NA	NA	7.2E-03
40	Dibenzo(a,h)an	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
41	Diethylphthala	8.0E+00	8.0E-01	NA	1.0E+00	NA	NA	NA	8.0E+00	8.0E-01	NA	NA	4.8E-03
42	Dimethylphthal	1.0E+00	1.0E+00	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E+00	NA	NA	1.6E-03
43	Fluoranthene	4.0E-01	4.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
44	Fluorene	4.0E-01	4.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
45	Indeno(1,2,3-c	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA

46	Naphthalene	4.0E-02	4.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
47	Phenanthrene	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
48	Phenol	6.0E-01	6.0E-01	NA	1.0E+00	NA	NA	NA	6.0E-01	6.0E-01	NA	NA	5.5E-03
49	Pyrene	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
50	4,4-DDE	NA	NA	3.4E-01	1.0E+00	NA	NA	NA	NA	NA	3.4E-01	NA	2.4E-01
51	4,4-DDT	5.0E-04	5.0E-04	3.4E-01	1.0E+00	NA	NA	3.4E-01	5.0E-04	5.0E-04	3.4E-01	NA	4.3E-01
52	Aldrin	3.0E-05	3.0E-05	1.7E+01	1.0E+00	NA	NA	1.7E+01	3.0E-05	3.0E-05	1.7E+01	NA	1.6E-03
53	alpha-Chlordan	6.0E-05	6.0E-05	1.3E+00	1.0E+00	NA	NA	1.3E+00	6.0E-05	6.0E-05	1.3E+00	NA	8.9E+00
54	Aroclor-1248	NA	NA	7.7E+00	1.0E+00	NA	NA	NA	NA	NA	7.7E+00	NA	6.6E-01
55	beta-BHC	NA	NA	1.8E+00	1.0E+00	NA	NA	1.8E+00	NA	NA	1.8E+00	NA	2.1E-02
56	Dieldrin	5.0E-05	5.0E-05	1.6E+01	1.0E+00	NA	NA	1.6E+01	5.0E-05	5.0E-05	1.6E+01	NA	1.6E-02
57	Endosulfan II	2.0E-04	5.0E-05	NA	1.0E+00	NA	NA	NA	2.0E-04	5.0E-05	NA	NA	2.3E-03
58	gamma-Chlordan	6.0E-05	6.0E-05	1.3E+00	1.0E+00	NA	NA	1.3E+00	6.0E-05	6.0E-05	1.3E+00	NA	9.8E-02
59	Heptachlor	5.0E-04	5.0E-04	4.5E+00	1.0E+00	NA	NA	4.6E+00	5.0E-04	5.0E-04	4.5E+00	NA	1.1E-02
60	Antimony, Tota	4.0E-04	4.0E-04	NA	5.0E-02	NA	NA	NA	2.0E-05	2.0E-05	NA	NA	1.0E-03
61	Arsenic, Total	3.0E-04	3.0E-04	1.8E+00	1.0E+00	NA	NA	1.5E+01	3.0E-04	3.0E-04	1.8E+00	NA	1.0E-03
62	Barium, Total	7.0E-02	7.0E-02	NA	1.0E-01	1.0E-03	1.0E-04	NA	7.0E-03	7.0E-03	NA	NA	1.0E-03
63	Beryllium, Tot	5.0E-03	5.0E-03	4.3E+00	1.0E-03	NA	NA	8.4E+00	5.0E-06	5.0E-06	4.3E+03	NA	1.0E-03
64	Cadmium, Total	NA	1.0E-03	NA	6.0E-02	NA	NA	6.3E+00	NA	6.0E-05	NA	NA	1.0E-03
65	Cadmium, Total	NA	5.0E-04	NA	1.2E-01	NA	NA	6.3E+00	NA	6.0E-05	NA	NA	1.0E-03
66	Chromium, Tota	2.0E-02	5.0E-03	NA	5.0E-02	5.7E-06	5.7E-07	4.2E+01	1.0E-03	2.5E-04	NA	NA	1.0E-03
67	Mercury, Total	3.0E-04	3.0E-04	NA	1.5E-01	8.6E-05	8.6E-05	NA	4.5E-05	4.5E-05	NA	NA	1.0E-03
68	Nickel, Total	2.0E-02	2.0E-02	NA	5.0E-02	NA	NA	NA	1.0E-03	1.0E-03	NA	NA	1.0E-03
69	Silver, Total	5.0E-03	5.0E-03	NA	5.0E-02	NA	NA	NA	2.5E-04	2.5E-04	NA	NA	1.0E-03
70	Thallium, Tota	7.0E-04	7.0E-05	NA	5.0E-02	NA	NA	NA	3.5E-05	3.5E-06	NA	NA	1.0E-03
71	Vanadium, Tota	7.0E-03	7.0E-03	NA	2.0E-02	NA	NA	NA	1.4E-04	1.4E-04	NA	NA	1.0E-03
72	Cyanide, Total	2.0E-02	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	NA	NA	1.0E-03
73	Nitrogen, Nitr	1.0E-01	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E-01	1.0E-01	NA	NA	1.0E-03

RANGE NAME: POPSUM

EXPOSURE SCENARIOS EVALUATED
(GROUPED BY POPULATION)

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 07/24/92

POPULATION 1 — NO. OF SCENARIOS = 3

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	WORKSHEET NAME
1	CURRENT	DIRT BIKE RIDER	SITE	SOIL	ORAL		1.5E-07	6.5E-08	WS1
2			SITE	AIR-PART	INHALATION		7.6E-03	3.3E-03	WS2
3			SITE	AIR-VOC'S	INHALATION		7.6E-03	3.3E-03	WS3
4									WS4
5									WS5
6									WS6

POPULATION 2 — NO. OF SCENARIOS = 6

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	RANGE NAME
1	CURRENT	WADER	QUARRY PIT	SURFACE WATER	ORAL	2.7E-05		2.3E-06	WS1
2			QUARRY PIT	SURFACE WATER	DERMAL	7.4E-03		6.3E-04	WS2
3			QUARRY PIT	SEDIMENT	ORAL	1.1E-08		9.2E-10	WS3
4			POND	SURFACE WATER	ORAL	2.7E-05		2.3E-06	WS4
5			POND	SURFACE WATER	DERMAL	7.4E-03		6.3E-04	WS5
6			POND	SEDIMENT	ORAL	1.1E-08		9.2E-10	WS6

POPULATION 3 — NO. OF SCENARIOS = 2

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	RANGE NAME
1	CURRENT	RESIDENT ADULT	DOWNWIND (A)	AIR-PART	INHALATION		2.7E-01	1.1E-02	WS1
2			DOWNWIND (A)	AIR-VOC'S	INHALATION		2.7E-01	1.1E-02	WS2
3									WS3
4									WS4
5									WS5
6									WS6

POPULATION 4 — NO. OF SCENARIOS = 2

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	RANGE NAME
1	CURRENT	RESIDENT CHILD	DOWNWIND (C)	AIR-PART	INHALATION	1.3E+00		1.1E-01	WS1
2			DOWNWIND (C)	AIR-VOC'S	INHALATION	1.3E+00		1.1E-01	WS2
3									WS3
4									WS4
5									WS5
6									WS6

POPULATION 5 — NO. OF SCENARIOS = 4

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	RANGE NAME
1	FUTURE	AGRICULT. WORKER	LANDFILL	SOIL	ORAL		3.8E-07	1.3E-07	WS1
2			LANDFILL	AIR-PART	INHALATION		1.4E-02	4.9E-03	WS2
3			LANDFILL	AIR-VOC'S	INHALATION		8.2E-04	2.9E-04	WS3
4			LANDFILL	GROUNDWATER	ORAL		7.8E-04	2.8E-04	WS4
5									WS5
6									WS6

POPULATION 6 NO. OF SCENARIOS = 4

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIFl	RANGE NAME
1	FUTURE	WORKER (ON)	PLANT, ON LANDFILL	SOIL	ORAL		4.9E-07	1.7E-07	WS1
2			PLANT, ON LANDFILL	GROUNDWATER	ORAL		9.8E-03	3.5E-03	WS2
3			PLANT, ON LANDFILL	AIR-PART	INHALATION		6.5E-02	2.3E-02	WS3
4			PLANT, ON LANDFILL	AIR-VOC'S	INHALATION		6.5E-02	2.3E-02	WS4
5									WS5
6									WS6

POPULATION 7 NO. OF SCENARIOS = 2

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIFl	RANGE NAME
1	FUTURE	WORKER (SOUTH)	PLANT, S. LANDFILL	SOIL	ORAL		4.9E-07	1.7E-07	WS1
2			PLANT, S. LANDFILL	GROUNDWATER	ORAL		9.8E-03	3.5E-03	WS2
3									WS3
4									WS4
5									WS5
6									WS6

RANGE NAME: CTV

LIST OF CHEMICALS OF CONCERN
WITH CTVs AND OTHER CHEMICAL-SPECIFIC DATA

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 07/24/92

		ORAL				INHALATION			DERMAL(a)				
NO.	CHEMICAL NAME	RfDs	RfDc	SF	AFo	RfDs	RfDc	SF	RfDs	RfDc	SF	ABS	P
1	1,1,1-Trichloroethane	9.0E-01	9.0E-02	NA	1.0E+00	3.0E+00	3.0E-01	NA	9.0E-01	9.0E-02	NA	NA	1.7E-02
2	1,1-Dichloroethane	1.0E+00	1.0E-01	NA	1.0E+00	1.0E+00	1.0E-01	NA	1.0E+00	1.0E-01	NA	NA	8.9E-03
3	1,1-Dichloroethene	9.0E-03	9.0E-03	6.0E-01	1.0E+00	NA	NA	1.8E-01	9.0E-03	9.0E-03	6.0E-01	NA	1.6E-02
4	1,2-Dichloroethene(total)	1.0E-01	1.0E-02	NA	1.0E+00	NA	NA	NA	1.0E-01	1.0E-02	NA	NA	1.0E-02
5	2-Butanone	5.0E-01	5.0E-02	NA	1.0E+00	9.0E-01	9.0E-02	NA	5.0E-01	5.0E-02	NA	NA	1.1E-03
6	4-Methyl-2-pentanone	5.0E-01	5.0E-02	NA	1.0E+00	2.0E-01	2.0E-02	NA	5.0E-01	5.0E-02	NA	NA	2.8E-03
7	Acetone	1.0E+00	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E-01	NA	NA	5.7E-04
8	Benzene	NA	NA	2.9E-02	1.0E+00	NA	NA	2.9E-02	NA	NA	2.9E-02	NA	2.1E-02
9	Bromodichloromethane	2.0E-02	2.0E-02	1.3E-01	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	1.3E-01	NA	5.8E-03
10	Carbon Disulfide	1.0E-01	1.0E-01	NA	1.0E+00	2.9E-03	2.9E-03	NA	1.0E-01	1.0E-01	NA	NA	2.4E-02
11	Chlorobenzene	2.0E-01	2.0E-02	NA	1.0E+00	5.0E-02	5.0E-03	NA	2.0E-01	2.0E-02	NA	NA	4.1E-02
12	Chloroform	1.0E-02	1.0E-02	6.1E-03	1.0E+00	NA	NA	8.1E-02	1.0E-02	1.0E-02	6.1E-03	NA	8.9E-03
13	Ethyl Benzene	1.0E+00	1.0E-01	NA	1.0E+00	2.9E-01	2.9E-01	NA	1.0E+00	1.0E-01	NA	NA	7.4E-02
14	Methylene Chloride	6.0E-02	6.0E-02	7.5E-03	1.0E+00	8.6E-01	8.6E-01	1.6E-03	6.0E-02	6.0E-02	7.5E-03	NA	4.5E-03
15	Styrene	2.0E+00	2.0E-01	3.0E-02	1.0E+00	NA	NA	2.0E-03	2.0E+00	2.0E-01	3.0E-02	NA	5.5E-02
16	Tetrachloroethene	1.0E-01	1.0E-02	5.1E-02	1.0E+00	NA	NA	1.8E-03	1.0E-01	1.0E-02	5.1E-02	NA	4.8E-02
17	Toluene	2.0E+00	2.0E-01	NA	1.0E+00	5.7E-01	5.7E-01	NA	2.0E+00	2.0E-01	NA	NA	4.5E-02
18	Trichloroethene	NA	NA	1.1E-02	1.0E+00	NA	NA	6.0E-03	NA	NA	1.1E-02	NA	1.6E-02
19	Vinyl Chloride	NA	NA	1.9E+00	1.0E+00	NA	NA	2.9E-01	NA	NA	1.9E+00	NA	7.0E-03
20	Xylenes (Total)	4.0E+00	2.0E+00	NA	1.0E+00	8.6E-02	8.6E-02	NA	4.0E+00	2.0E+00	NA	NA	8.0E-02
21	1,4-Dichlorobenzene	NA	NA	2.4E-02	1.0E+00	2.0E-01	2.0E-01	NA	NA	NA	2.4E-02	NA	6.2E-02
22	2,4-Dimethylphenol	2.0E-01	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-01	2.0E-02	NA	NA	1.5E-02
23	2-Methylnaphthalene	4.0E-02	4.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24	2-Methylphenol	5.0E-01	5.0E-02	NA	1.0E+00	NA	NA	NA	5.0E-01	5.0E-02	NA	NA	1.0E-02
25	Acenaphthene	6.0E-01	6.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
26	Acenaphthylene	6.0E-01	6.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27	Anthracene	3.0E+00	3.0E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
28	Benzo(a)anthracene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
29	Benzo(a)pyrene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
30	Benzo(b)fluoranthene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
31	Benzo(g,h,i)perylene	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
32	Benzo(k)fluoranthene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
33	Benzoic acid	4.0E+00	4.0E+00	NA	1.0E+00	NA	NA	NA	4.0E+00	4.0E+00	NA	NA	7.3E-03
34	Benzyl alcohol	1.0E+00	3.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	3.0E-01	NA	NA	2.5E-03
35	bis(2-Ethylhexyl)phthalate	2.0E-02	2.0E-02	1.4E-02	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	1.4E-02	NA	3.3E-02
36	Butylbenzylphthalate	2.0E+00	2.0E-01	NA	1.0E+00	NA	NA	NA	2.0E+00	2.0E-01	NA	NA	2.4E-02
37	Chrysene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
38	Di-n-butylphthalate	1.0E+00	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E-01	NA	NA	4.9E-02
39	Di-n-octylphthalate	2.0E-02	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	NA	NA	7.2E-03
40	Dibenzo(a,h)anthracene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
41	Diethylphthalate	8.0E+00	8.0E-01	NA	1.0E+00	NA	NA	NA	8.0E+00	8.0E-01	NA	NA	4.8E-03
42	Dimethylphthalate	1.0E+00	1.0E+00	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E+00	NA	NA	1.6E-03
43	Fluoranthene	4.0E-01	4.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
44	Fluorene	4.0E-01	4.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
45	Indeno(1,2,3-cd)pyrene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA

46	Naphthalene	4.0E-02	4.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
47	Phenanthrene	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
48	Phenol	6.0E-01	6.0E-01	NA	1.0E+00	NA	NA	NA	6.0E-01	6.0E-01	NA	NA	5.5E-03
49	Pyrene	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
50	4,4-DDE	NA	NA	3.4E-01	1.0E+00	NA	NA	NA	NA	NA	3.4E-01	NA	2.4E-01
51	4,4-DDT	5.0E-04	5.0E-04	3.4E-01	1.0E+00	NA	NA	3.4E-01	5.0E-04	5.0E-04	3.4E-01	NA	4.3E-01
52	Aldrin	3.0E-05	3.0E-05	1.7E+01	1.0E+00	NA	NA	1.7E+01	3.0E-05	3.0E-05	1.7E+01	NA	1.6E-03
53	alpha-Chlordane	6.0E-05	6.0E-05	1.3E+00	1.0E+00	NA	NA	1.3E+00	6.0E-05	6.0E-05	1.3E+00	NA	8.9E+00
54	Aroclor-1248	NA	NA	7.7E+00	1.0E+00	NA	NA	NA	NA	NA	7.7E+00	NA	6.6E-01
55	beta-BHC	NA	NA	1.8E+00	1.0E+00	NA	NA	1.8E+00	NA	NA	1.8E+00	NA	2.1E-02
56	Dieldrin	5.0E-05	5.0E-05	1.6E+01	1.0E+00	NA	NA	1.6E+01	5.0E-05	5.0E-05	1.6E+01	NA	1.6E-02
57	Endosulfan II	2.0E-04	5.0E-05	NA	1.0E+00	NA	NA	NA	2.0E-04	5.0E-05	NA	NA	2.3E-03
58	gamma-Chlordane	6.0E-05	6.0E-05	1.3E+00	1.0E+00	NA	NA	1.3E+00	6.0E-05	6.0E-05	1.3E+00	NA	9.8E-02
59	Heptachlor	5.0E-04	5.0E-04	4.5E+00	1.0E+00	NA	NA	4.6E+00	5.0E-04	5.0E-04	4.5E+00	NA	1.1E-02
60	Antimony, Total	4.0E-04	4.0E-04	NA	5.0E-02	NA	NA	NA	2.0E-05	2.0E-05	NA	NA	1.0E-03
61	Arsenic, Total	3.0E-04	3.0E-04	1.8E+00	1.0E+00	NA	NA	1.5E+01	3.0E-04	3.0E-04	1.8E+00	NA	1.0E-03
62	Barium, Total	7.0E-02	7.0E-02	NA	1.0E-01	1.0E-03	1.0E-04	NA	7.0E-03	7.0E-03	NA	NA	1.0E-03
63	Beryllium, Total	5.0E-03	5.0E-03	4.3E+00	1.0E-03	NA	NA	8.4E+00	5.0E-06	5.0E-06	4.3E+03	NA	1.0E-03
64	Cadmium, Total (food)	NA	1.0E-03	NA	6.0E-02	NA	NA	6.3E+00	NA	6.0E-05	NA	NA	1.0E-03
65	Cadmium, Total (water)	NA	5.0E-04	NA	1.2E-01	NA	NA	6.3E+00	NA	6.0E-05	NA	NA	1.0E-03
66	Chromium, Total	2.0E-02	5.0E-03	NA	5.0E-02	5.7E-06	5.7E-07	4.2E+01	1.0E-03	2.5E-04	NA	NA	1.0E-03
67	Mercury, Total	3.0E-04	3.0E-04	NA	1.5E-01	8.6E-05	8.6E-05	NA	4.5E-05	4.5E-05	NA	NA	1.0E-03
68	Nickel, Total	2.0E-02	2.0E-02	NA	5.0E-02	NA	NA	NA	1.0E-03	1.0E-03	NA	NA	1.0E-03
69	Silver, Total	5.0E-03	5.0E-03	NA	5.0E-02	NA	NA	NA	2.5E-04	2.5E-04	NA	NA	1.0E-03
70	Thallium, Total	7.0E-04	7.0E-05	NA	5.0E-02	NA	NA	NA	3.5E-05	3.5E-06	NA	NA	1.0E-03
71	Vanadium, Total	7.0E-03	7.0E-03	NA	2.0E-02	NA	NA	NA	1.4E-04	1.4E-04	NA	NA	1.0E-03
72	Cyanide, Total	2.0E-02	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	NA	NA	1.0E-03
73	Nitrogen, Nitrate + Nitrite	1.0E-01	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E-01	1.0E-01	NA	NA	1.0E-03

RANGE NAME: EPC1

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: SITE

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 07/24/92

		MEDIUM 1 SOIL			MEDIUM 2 AIR-PART			MEDIUM 3 AIR-VOC'S			MEDIUM 4 0			MEDIUM 5 0		
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	11S	11C	11L	12S	12C	12L	13S	13C	13L	14S	14C	14L	15S	15C	15L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
3	1,1-Dichloroet	4.3E-03	4.3E-03	4.3E-03	0.0E+00	0.0E+00	0.0E+00	3.7E-05	3.7E-05	3.7E-05						
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
5	2-Butanone	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	3.9E-06	3.9E-06	3.9E-06						
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
7	Acetone	2.3E-02	2.3E-02	2.3E-02	0.0E+00	0.0E+00	0.0E+00	3.2E-05	3.2E-05	3.2E-05						
8	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
10	Carbon Disulfi	1.9E-03	1.9E-03	1.9E-03	0.0E+00	0.0E+00	0.0E+00	1.3E-05	1.3E-05	1.3E-05						
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
13	Ethyl Benzene	2.0E-03	2.0E-03	2.0E-03	0.0E+00	0.0E+00	0.0E+00	1.3E-06	1.3E-06	1.3E-06						
14	Methylene Chlo	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	2.7E-05	2.7E-05	2.7E-05						
15	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
16	Tetrachloroeth	4.3E-03	4.3E-03	4.3E-03	0.0E+00	0.0E+00	0.0E+00	1.1E-05	1.1E-05	1.1E-05						
17	Toluene	4.8E-03	4.8E-03	4.8E-03	0.0E+00	0.0E+00	0.0E+00	6.8E-06	6.8E-06	6.8E-06						
18	Trichloroethen	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	1.0E-05	1.0E-05	1.0E-05						
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
20	Xylenes (Total	4.4E-03	4.4E-03	4.4E-03	0.0E+00	0.0E+00	0.0E+00	7.0E-06	7.0E-06	7.0E-06						
21	1,4-Dichlorobe	2.1E-01	2.1E-01	2.1E-01	5.9E-07	5.9E-07	5.9E-07	0.0E+00	0.0E+00	0.0E+00						
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
23	2-Methylnaphth	1.8E-02	1.8E-02	1.8E-02	5.0E-08	5.0E-08	5.0E-08	0.0E+00	0.0E+00	0.0E+00						
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
25	Acenaphthene	5.9E-02	5.9E-02	5.9E-02	1.7E-07	1.7E-07	1.7E-07	0.0E+00	0.0E+00	0.0E+00						
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
27	Anthracene	8.2E-02	8.2E-02	8.2E-02	2.3E-07	2.3E-07	2.3E-07	0.0E+00	0.0E+00	0.0E+00						
28	Benzo(a)anthra	4.0E-01	4.0E-01	4.0E-01	1.1E-06	1.1E-06	1.1E-06	0.0E+00	0.0E+00	0.0E+00						
29	Benzo(a)pyrene	4.2E-01	4.2E-01	4.2E-01	1.2E-06	1.2E-06	1.2E-06	0.0E+00	0.0E+00	0.0E+00						
30	Benzo(b)fluora	4.4E-01	4.4E-01	4.4E-01	1.2E-06	1.2E-06	1.2E-06	0.0E+00	0.0E+00	0.0E+00						
31	Benzo(g,h,i)pe	4.2E-01	4.2E-01	4.2E-01	1.2E-06	1.2E-06	1.2E-06	0.0E+00	0.0E+00	0.0E+00						
32	Benzo(k)fluora	4.0E-01	4.0E-01	4.0E-01	1.1E-06	1.1E-06	1.1E-06	0.0E+00	0.0E+00	0.0E+00						
33	Benzoic acid	7.5E-02	7.5E-02	7.5E-02	2.1E-07	2.1E-07	2.1E-07	0.0E+00	0.0E+00	0.0E+00						
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
35	bis(2-Ethylhex	1.1E+00	1.1E+00	1.1E+00	3.1E-06	3.1E-06	3.1E-06	0.0E+00	0.0E+00	0.0E+00						
36	Butylbenzylpht	2.4E-01	2.4E-01	2.4E-01	6.6E-07	6.6E-07	6.6E-07	0.0E+00	0.0E+00	0.0E+00						
37	Chrysene	4.0E-01	4.0E-01	4.0E-01	1.1E-06	1.1E-06	1.1E-06	0.0E+00	0.0E+00	0.0E+00						
38	Di-n-butylphth	3.8E-01	3.8E-01	3.8E-01	1.1E-06	1.1E-06	1.1E-06	0.0E+00	0.0E+00	0.0E+00						
39	Di-n-octylphth	1.4E-01	1.4E-01	1.4E-01	3.9E-07	3.9E-07	3.9E-07	0.0E+00	0.0E+00	0.0E+00						
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
42	Dimethylphthal	4.2E-02	4.2E-02	4.2E-02	1.2E-07	1.2E-07	1.2E-07	0.0E+00	0.0E+00	0.0E+00						
43	Fluoranthene	4.0E-01	4.0E-01	4.0E-01	1.1E-06	1.1E-06	1.1E-06	0.0E+00	0.0E+00	0.0E+00						
44	Fluorene	4.3E-02	4.3E-02	4.3E-02	1.2E-07	1.2E-07	1.2E-07	0.0E+00	0.0E+00	0.0E+00						
45	Indeno(1,2,3-c	4.3E-01	4.3E-01	4.3E-01	1.2E-06	1.2E-06	1.2E-06	0.0E+00	0.0E+00	0.0E+00						
46	Naphthalene	1.8E-02	1.8E-02	1.8E-02	5.0E-08	5.0E-08	5.0E-08	0.0E+00	0.0E+00	0.0E+00						

47	Phenanthrene	3.9E-01	3.9E-01	3.9E-01	1.1E-06	1.1E-06	1.1E-06	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	4.1E-01	4.1E-01	4.1E-01	1.2E-06	1.2E-06	1.2E-06	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	4.1E-03	4.1E-03	4.1E-03	1.1E-08	1.1E-08	1.1E-08	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	2.2E-02	2.2E-02	2.2E-02	6.1E-08	6.1E-08	6.1E-08	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	1.7E+01	1.7E+01	1.7E+01	4.8E-05	4.8E-05	4.8E-05	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	1.9E+00	1.9E+00	1.9E+00	5.2E-06	5.2E-06	5.2E-06	0.0E+00	0.0E+00	0.0E+00
62	Barium, Total	2.1E+01	2.1E+01	2.1E+01	6.0E-05	6.0E-05	6.0E-05	0.0E+00	0.0E+00	0.0E+00
63	Beryllium, Tot	5.2E-01	5.2E-01	5.2E-01	1.4E-06	1.4E-06	1.4E-06	0.0E+00	0.0E+00	0.0E+00
64	Cadmium, Total	5.5E-01	5.5E-01	5.5E-01	1.5E-06	1.5E-06	1.5E-06	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0	0	0	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	4.9E+00	4.9E+00	4.9E+00	1.4E-05	1.4E-05	1.4E-05	0.0E+00	0.0E+00	0.0E+00
67	Mercury, Total	8.0E-02	8.0E-02	8.0E-02	2.3E-07	2.3E-07	2.3E-07	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	5.3E+00	5.3E+00	5.3E+00	1.5E-05	1.5E-05	1.5E-05	0.0E+00	0.0E+00	0.0E+00
69	Silver, Total	8.9E-01	8.9E-01	8.9E-01	2.5E-06	2.5E-06	2.5E-06	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	6.3E+00	6.3E+00	6.3E+00	1.8E-05	1.8E-05	1.8E-05	0.0E+00	0.0E+00	0.0E+00
72	Cyanide, Total	1.8E+00	1.8E+00	1.8E+00	5.0E-06	5.0E-06	5.0E-06	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC2

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: QUARRY PIT

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 07/24/92

		MEDIUM 1 SURFACE WATER			MEDIUM 2 SEDIMENT			MEDIUM 3 0			MEDIUM 4 0			MEDIUM 5 0		
		Ca	Cc	Cl	Ca	Cc	Cl	Ca	Cc	Cl	Ca	Cc	Cl	Ca	Cc	Cl
	CHEMICAL NAME	21S	21C	21L	22S	22C	22L	23S	23C	23L	24S	24C	24L	25S	25C	25L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
5	2-Butanone	0.0E+00	0.0E+00	0.0E+00	1.5E-02	1.5E-02	1.5E-02									
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
7	Acetone	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00									
8	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
10	Carbon Disulfi	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
13	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
14	Methylene Chlo	3.4E-02	3.4E-02	3.4E-02	0.0E+00	0.0E+00	0.0E+00									
15	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
17	Toluene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
20	Xylenes (Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
21	1,4-Dichlorobe	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
28	Benzo(a)anthra	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
29	Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
30	Benzo(b)fluora	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
31	Benzo(g,h,i)pe	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
32	Benzo(k)fluora	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
33	Benzoic acid	0.0E+00	0.0E+00	0.0E+00	1.9E-01	1.9E-01	1.9E-01									
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
35	bis(2-Ethylhex	0.0E+00	0.0E+00	0.0E+00	4.5E-01	4.5E-01	4.5E-01									
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
37	Chrysene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
38	Di-n-butylphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
43	Fluoranthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
45	Indeno(1,2,3-c	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
46	Naphthalene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									

47	Phenanthrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	0.0E+00	0.0E+00	0.0E+00	1.7E+01	1.7E+01	1.7E+01
61	Arsenic, Total	2.4E-03	2.4E-03	2.4E-03	1.8E+01	1.8E+01	1.8E+01
62	Barium, Total	5.7E-02	5.7E-02	5.7E-02	1.00E+02	1.00E+02	1.00E+02
63	Beryllium, Tot	0.0E+00	0.0E+00	0.0E+00	9.2E-01	9.2E-01	9.2E-01
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	1.4E-02	1.4E-02	1.4E-02	1.7E+01	1.7E+01	1.7E+01
67	Mercury, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	7.2E-03	7.2E-03	7.2E-03	2.7E+01	2.7E+01	2.7E+01
69	Silver, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	0.0E+00	0.0E+00	0.0E+00	2.9E+01	2.9E+01	2.9E+01
72	Cyanide, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	7.6E-01	7.6E-01	7.6E-01	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC3

EXPOSURE POINT CONCENTRATIONS

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 07/24/92

EXPOSURE POINT: POND

		MEDIUM 1 SURFACE WATER			MEDIUM 2 SEDIMENT			MEDIUM 3 0			MEDIUM 4 0			MEDIUM 5 0		
		Ca	Cc	Cl	Ca	Cc	Cl	Ca	Cc	Cl	Ca	Cc	Cl	Ca	Cc	Cl
	CHEMICAL NAME	31S	31C	31L	32S	32C	32L	33S	33C	33L	34S	34C	34L	35S	35C	35L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	1.0E-03	1.0E-03	1.0E-03									
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
5	2-Butanone	0.0E+00	0.0E+00	0.0E+00	7.5E-03	7.5E-03	7.5E-03									
6	4-Methyl-2-pen	3.0E-03	3.0E-03	3.0E-03	0.0E+00	0.0E+00	0.0E+00									
7	Acetone	5.0E-03	5.0E-03	5.0E-03	2.7E-02	2.7E-02	2.7E-02									
8	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
10	Carbon Disulfi	4.0E-03	4.0E-03	4.0E-03	1.00E-02	1.00E-02	1.00E-02									
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	7.0E-04	7.0E-04	7.0E-04									
13	Ethyl Benzene	2.3E-03	2.3E-03	2.3E-03	0.0E+00	0.0E+00	0.0E+00									
14	Methylene Chlo	0.0E+00	0.0E+00	0.0E+00	2.0E-03	2.0E-03	2.0E-03									
15	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	1.0E-03	1.0E-03	1.0E-03									
17	Toluene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	2.0E-03	2.0E-03	2.0E-03									
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
20	Xylenes (Total	4.9E-03	4.9E-03	4.9E-03	1.0E-03	1.0E-03	1.0E-03									
21	1,4-Dichlorobe	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
28	Benzo(a)anthra	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
29	Benzo(a)pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
30	Benzo(b)fluora	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
31	Benzo(g,h,i)pe	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
32	Benzo(k)fluora	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
33	Benzoic acid	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
35	bis(2-Ethylhex	0.0E+00	0.0E+00	0.0E+00	3.2E-01	3.2E-01	3.2E-01									
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
37	Chrysene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
38	Di-n-butylphth	0.0E+00	0.0E+00	0.0E+00	7.6E-02	7.6E-02	7.6E-02									
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	2.3E-01	2.3E-01	2.3E-01									
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
43	Fluoranthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
45	Indeno(1,2,3-c	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
46	Naphthalene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									

47	Phenanthrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	8.0E-02	8.0E-02	8.0E-02
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	2.6E-03	2.6E-03	2.6E-03	2.9E+00	2.9E+00	2.9E+00
62	Barium, Total	3.7E-02	3.7E-02	3.7E-02	2.5E+01	2.5E+01	2.5E+01
63	Beryllium, Tot	0.0E+00	0.0E+00	0.0E+00	4.2E-01	4.2E-01	4.2E-01
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	3.8E-03	3.8E-03	3.8E-03	6.6E+00	6.6E+00	6.6E+00
67	Mercury, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	0.0E+00	0.0E+00	0.0E+00	8.4E+00	8.4E+00	8.4E+00
69	Silver, Total	2.9E-03	2.9E-03	2.9E-03	7.6E-01	7.6E-01	7.6E-01
70	Thallium, Tota	1.1E-03	1.1E-03	1.1E-03	4.1E+00	4.1E+00	4.1E+00
71	Vanadium, Tota	2.3E-03	2.3E-03	2.3E-03	8.9E+00	8.9E+00	8.9E+00
72	Cyanide, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	2.0E-01	2.0E-01	2.0E-01	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC4

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: DOWNWIND (A)

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 07/24/92

		MEDIUM 1 AIR-PART			MEDIUM 2 AIR-VOC'S			MEDIUM 3	0		MEDIUM 4	0		MEDIUM 5	0	
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	41S	41C	41L	42S	42C	42L	43S	43C	43L	44S	44C	44L	45S	45C	45L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	3.7E-05	3.7E-05	3.7E-05									
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
5	2-Butanone	0.0E+00	0.0E+00	0.0E+00	3.9E-06	3.9E-06	3.9E-06									
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
7	Acetone	0.0E+00	0.0E+00	0.0E+00	3.2E-05	3.2E-05	3.2E-05									
8	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
10	Carbon Disulfi	0.0E+00	0.0E+00	0.0E+00	1.3E-05	1.3E-05	1.3E-05									
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
13	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	1.3E-06	1.3E-06	1.3E-06									
14	Methylene Chlo	0.0E+00	0.0E+00	0.0E+00	2.7E-05	2.7E-05	2.7E-05									
15	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	1.1E-05	1.1E-05	1.1E-05									
17	Toluene	0.0E+00	0.0E+00	0.0E+00	6.8E-06	6.8E-06	6.8E-06									
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	1.0E-05	1.0E-05	1.0E-05									
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
20	Xylenes (Total	0.0E+00	0.0E+00	0.0E+00	7.0E-06	7.0E-06	7.0E-06									
21	1,4-Dichlorobe	1.1E-08	1.1E-08	1.1E-08	0.0E+00	0.0E+00	0.0E+00									
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
23	2-Methylnaphth	9.7E-10	9.7E-10	9.7E-10	0.0E+00	0.0E+00	0.0E+00									
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
25	Acenaphthene	3.2E-09	3.2E-09	3.2E-09	0.0E+00	0.0E+00	0.0E+00									
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
27	Anthracene	4.4E-09	4.4E-09	4.4E-09	0.0E+00	0.0E+00	0.0E+00									
28	Benzo(a)anthra	2.1E-08	2.1E-08	2.1E-08	0.0E+00	0.0E+00	0.0E+00									
29	Benzo(a)pyrene	2.2E-08	2.2E-08	2.2E-08	0.0E+00	0.0E+00	0.0E+00									
30	Benzo(b)fluora	2.4E-08	2.4E-08	2.4E-08	0.0E+00	0.0E+00	0.0E+00									
31	Benzo(g,h,i)pe	2.3E-08	2.3E-08	2.3E-08	0.0E+00	0.0E+00	0.0E+00									
32	Benzo(k)fluora	2.1E-08	2.1E-08	2.1E-08	0.0E+00	0.0E+00	0.0E+00									
33	Benzoic acid	4.1E-09	4.1E-09	4.1E-09	0.0E+00	0.0E+00	0.0E+00									
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
35	bis(2-Ethylhex	5.9E-08	5.9E-08	5.9E-08	0.0E+00	0.0E+00	0.0E+00									
36	Butylbenzylpht	1.3E-08	1.3E-08	1.3E-08	0.0E+00	0.0E+00	0.0E+00									
37	Chrysene	2.2E-08	2.2E-08	2.2E-08	0.0E+00	0.0E+00	0.0E+00									
38	Di-n-butylphth	2.0E-08	2.0E-08	2.0E-08	0.0E+00	0.0E+00	0.0E+00									
39	Di-n-octylphth	7.6E-09	7.6E-09	7.6E-09	0.0E+00	0.0E+00	0.0E+00									
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
42	Dimethylphthal	2.3E-09	2.3E-09	2.3E-09	0.0E+00	0.0E+00	0.0E+00									
43	Fluoranthene	2.2E-08	2.2E-08	2.2E-08	0.0E+00	0.0E+00	0.0E+00									
44	Fluorene	2.3E-09	2.3E-09	2.3E-09	0.0E+00	0.0E+00	0.0E+00									
45	Indeno(1,2,3-c	2.3E-08	2.3E-08	2.3E-08	0.0E+00	0.0E+00	0.0E+00									
46	Naphthalene	9.7E-10	9.7E-10	9.7E-10	0.0E+00	0.0E+00	0.0E+00									

47	Phenanthrene	2.1E-08	2.1E-08	2.1E-08	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	2.2E-08	2.2E-08	2.2E-08	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	2.2E-10	2.2E-10	2.2E-10	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	1.2E-09	1.2E-09	1.2E-09	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	9.2E-07	9.2E-07	9.2E-07	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	1.0E-07	1.0E-07	1.0E-07	0.0E+00	0.0E+00	0.0E+00
62	Barium, Total	1.2E-06	1.2E-06	1.2E-06	0.0E+00	0.0E+00	0.0E+00
63	Beryllium, Tot	2.8E-08	2.8E-08	2.8E-08	0.0E+00	0.0E+00	0.0E+00
64	Cadmium, Total	3.0E-08	3.0E-08	3.0E-08	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	2.6E-07	2.6E-07	2.6E-07	0.0E+00	0.0E+00	0.0E+00
67	Mercury, Total	4.3E-09	4.3E-09	4.3E-09	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	2.8E-07	2.8E-07	2.8E-07	0.0E+00	0.0E+00	0.0E+00
69	Silver, Total	4.8E-08	4.8E-08	4.8E-08	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	3.4E-07	3.4E-07	3.4E-07	0.0E+00	0.0E+00	0.0E+00
72	Cyanide, Total	9.6E-08	9.6E-08	9.6E-08	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC5

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: DOWNWIND (C)

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 07/24/92

		MEDIUM 1 AIR-PART			MEDIUM 2 AIR-VOC'S			MEDIUM 3 0			MEDIUM 4 0			MEDIUM 5 0		
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	51S	51C	51L	52S	52C	52L	53S	53C	53L	54S	54C	54L	55S	55C	55L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	8.3E-05	8.3E-05	8.3E-05									
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
5	2-Butanone	0.0E+00	0.0E+00	0.0E+00	8.7E-06	8.7E-06	8.7E-06									
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
7	Acetone	0.0E+00	0.0E+00	0.0E+00	7.3E-05	7.3E-05	7.3E-05									
8	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
10	Carbon Disulfi	0.0E+00	0.0E+00	0.0E+00	3.0E-05	3.0E-05	3.0E-05									
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
13	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	3.0E-06	3.0E-06	3.0E-06									
14	Methylene Chlo	0.0E+00	0.0E+00	0.0E+00	6.0E-05	6.0E-05	6.0E-05									
15	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	2.4E-05	2.4E-05	2.4E-05									
17	Toluene	0.0E+00	0.0E+00	0.0E+00	1.5E-05	1.5E-05	1.5E-05									
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	2.3E-05	2.3E-05	2.3E-05									
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
20	Xylenes (Total	0.0E+00	0.0E+00	0.0E+00	1.6E-05	1.6E-05	1.6E-05									
21	1,4-Dichlorobe	1.1E-08	1.1E-08	1.1E-08	0.0E+00	0.0E+00	0.0E+00									
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
23	2-Methylnaphth	9.7E-10	9.7E-10	9.7E-10	0.0E+00	0.0E+00	0.0E+00									
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
25	Acenaphthene	3.2E-09	3.2E-09	3.2E-09	0.0E+00	0.0E+00	0.0E+00									
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
27	Anthracene	4.4E-09	4.4E-09	4.4E-09	0.0E+00	0.0E+00	0.0E+00									
28	Benzo(a)anthra	2.1E-08	2.1E-08	2.1E-08	0.0E+00	0.0E+00	0.0E+00									
29	Benzo(a)pyrene	2.2E-08	2.2E-08	2.2E-08	0.0E+00	0.0E+00	0.0E+00									
30	Benzo(b)fluora	2.4E-08	2.4E-08	2.4E-08	0.0E+00	0.0E+00	0.0E+00									
31	Benzo(g,h,i)pe	2.3E-08	2.3E-08	2.3E-08	0.0E+00	0.0E+00	0.0E+00									
32	Benzo(k)fluora	2.1E-08	2.1E-08	2.1E-08	0.0E+00	0.0E+00	0.0E+00									
33	Benzoic acid	4.1E-09	4.1E-09	4.1E-09	0.0E+00	0.0E+00	0.0E+00									
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
35	bis(2-Ethylhex	5.9E-08	5.9E-08	5.9E-08	0.0E+00	0.0E+00	0.0E+00									
36	Butylbenzylpht	1.3E-08	1.3E-08	1.3E-08	0.0E+00	0.0E+00	0.0E+00									
37	Chrysene	2.2E-08	2.2E-08	2.2E-08	0.0E+00	0.0E+00	0.0E+00									
38	Di-n-butylphth	2.0E-08	2.0E-08	2.0E-08	0.0E+00	0.0E+00	0.0E+00									
39	Di-n-octylphth	7.6E-09	7.6E-09	7.6E-09	0.0E+00	0.0E+00	0.0E+00									
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
42	Dimethylphthal	2.3E-09	2.3E-09	2.3E-09	0.0E+00	0.0E+00	0.0E+00									
43	Fluoranthene	2.2E-08	2.2E-08	2.2E-08	0.0E+00	0.0E+00	0.0E+00									
44	Fluorene	2.3E-09	2.3E-09	2.3E-09	0.0E+00	0.0E+00	0.0E+00									
45	Indeno(1,2,3-c	2.3E-08	2.3E-08	2.3E-08	0.0E+00	0.0E+00	0.0E+00									
46	Naphthalene	9.7E-10	9.7E-10	9.7E-10	0.0E+00	0.0E+00	0.0E+00									

47	Phenanthrene	2.1E-08	2.1E-08	2.1E-08	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	2.2E-08	2.2E-08	2.2E-08	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	2.2E-10	2.2E-10	2.2E-10	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	1.2E-09	1.2E-09	1.2E-09	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	9.2E-07	9.2E-07	9.2E-07	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	1.0E-07	1.0E-07	1.0E-07	0.0E+00	0.0E+00	0.0E+00
62	Barium, Total	1.2E-06	1.2E-06	1.2E-06	0.0E+00	0.0E+00	0.0E+00
63	Beryllium, Tot	2.8E-08	2.8E-08	2.8E-08	0.0E+00	0.0E+00	0.0E+00
64	Cadmium, Total	3.0E-08	3.0E-08	3.0E-08	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	2.6E-07	2.6E-07	2.6E-07	0.0E+00	0.0E+00	0.0E+00
67	Mercury, Total	4.3E-09	4.3E-09	4.3E-09	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	2.8E-07	2.8E-07	2.8E-07	0.0E+00	0.0E+00	0.0E+00
69	Silver, Total	4.8E-08	4.8E-08	4.8E-08	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	3.4E-07	3.4E-07	3.4E-07	0.0E+00	0.0E+00	0.0E+00
72	Cyanide, Total	9.6E-08	9.6E-08	9.6E-08	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC6

EXPOSURE POINT CONCENTRATIONS

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 07/24/92

EXPOSURE POINT: LANDFILL

		MEDIUM 1 SOIL			MEDIUM 2 AIR-PART			MEDIUM 3 AIR-VOC'S			MEDIUM 4 GROUNDWATER			MEDIUM 5	0	
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	61S	61C	61L	62S	62C	62L	63S	63C	63L	64S	64C	64L	65S	65C	65L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.2E-01	2.2E-01	2.2E-01			
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.0E-01	1.0E-01	1.0E-01			
3	1,1-Dichloroet	3.9E-03	3.9E-03	3.9E-03	0.0E+00	0.0E+00	0.0E+00	3.7E-05	3.7E-05	3.7E-05	2.3E-02	2.3E-02	2.3E-02			
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.8E-01	1.8E-01	1.8E-01			
5	2-Butanone	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	4.3E-06	4.3E-06	4.3E-06	1.8E-01	1.8E-01	1.8E-01			
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.0E-02	5.0E-02	5.0E-02			
7	Acetone	3.0E-02	3.0E-02	3.0E-02	0.0E+00	0.0E+00	0.0E+00	4.6E-05	4.6E-05	4.6E-05	5.6E-01	5.6E-01	5.6E-01			
8	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.7E-02	4.7E-02	4.7E-02			
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.3E-02	2.3E-02	2.3E-02			
10	Carbon Disulfi	1.9E-03	1.9E-03	1.9E-03	0.0E+00	0.0E+00	0.0E+00	1.5E-05	1.5E-05	1.5E-05	5.7E-02	5.7E-02	5.7E-02			
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E-03	1.7E-03	1.7E-03			
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.4E-02	3.4E-02	3.4E-02			
13	Ethyl Benzene	2.0E-03	2.0E-03	2.0E-03	0.0E+00	0.0E+00	0.0E+00	1.5E-06	1.5E-06	1.5E-06	2.9E-01	2.9E-01	2.9E-01			
14	Methylene Chlo	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	2.9E-05	2.9E-05	2.9E-05	2.3E-01	2.3E-01	2.3E-01			
15	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-03	3.0E-03	3.0E-03			
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.3E-02	2.3E-02	2.3E-02			
17	Toluene	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	6.2E-06	6.2E-06	6.2E-06	4.7E-01	4.7E-01	4.7E-01			
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E-01	2.4E-01	2.4E-01			
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.8E-02	2.8E-02	2.8E-02			
20	Xylenes (Total	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	7.0E-06	7.0E-06	7.0E-06	1.8E-01	1.8E-01	1.8E-01			
21	1,4-Dichlorobe	2.1E-01	2.1E-01	2.1E-01	7.6E-06	7.6E-06	7.6E-06	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03			
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.9E-02	3.9E-02	3.9E-02			
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.9E-01	1.9E-01	1.9E-01			
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.0E-03	1.0E-03	1.0E-03			
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
28	Benzo(a)anthra	2.8E-01	2.8E-01	2.8E-01	1.0E-05	1.0E-05	1.0E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
29	Benzo(a)pyrene	4.3E-01	4.3E-01	4.3E-01	1.5E-05	1.5E-05	1.5E-05	0.0E+00	0.0E+00	0.0E+00	4.0E-03	4.0E-03	4.0E-03			
30	Benzo(b)fluora	4.6E-01	4.6E-01	4.6E-01	1.7E-05	1.7E-05	1.7E-05	0.0E+00	0.0E+00	0.0E+00	5.6E-03	5.6E-03	5.6E-03			
31	Benzo(g,h,i)pe	4.6E-01	4.6E-01	4.6E-01	1.7E-05	1.7E-05	1.7E-05	0.0E+00	0.0E+00	0.0E+00	2.0E-03	2.0E-03	2.0E-03			
32	Benzo(k)fluora	3.6E-01	3.6E-01	3.6E-01	1.3E-05	1.3E-05	1.3E-05	0.0E+00	0.0E+00	0.0E+00	2.0E-03	2.0E-03	2.0E-03			
33	Benzoic acid	7.5E-02	7.5E-02	7.5E-02	2.7E-06	2.7E-06	2.7E-06	0.0E+00	0.0E+00	0.0E+00	2.5E-02	2.5E-02	2.5E-02			
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03			
35	bis(2-Ethylhex	1.5E+00	1.5E+00	1.5E+00	5.3E-05	5.3E-05	5.3E-05	0.0E+00	0.0E+00	0.0E+00	2.1E-02	2.1E-02	2.1E-02			
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03			
37	Chrysene	3.6E-01	3.6E-01	3.6E-01	1.3E-05	1.3E-05	1.3E-05	0.0E+00	0.0E+00	0.0E+00	4.0E-03	4.0E-03	4.0E-03			
38	Di-n-butylphth	4.2E-01	4.2E-01	4.2E-01	1.5E-05	1.5E-05	1.5E-05	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03			
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03			
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.8E-02	2.8E-02	2.8E-02			
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03			
43	Fluoranthene	3.3E-01	3.3E-01	3.3E-01	1.2E-05	1.2E-05	1.2E-05	0.0E+00	0.0E+00	0.0E+00	5.6E-03	5.6E-03	5.6E-03			
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
45	Indeno(1,2,3-c	4.7E-01	4.7E-01	4.7E-01	1.7E-05	1.7E-05	1.7E-05	0.0E+00	0.0E+00	0.0E+00	2.0E-03	2.0E-03	2.0E-03			
46	Naphthalene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.0E-03	3.0E-03	3.0E-03			

47	Phenanthrene	1.9E-01	1.9E-01	1.9E-01	6.8E-06	6.8E-06	6.8E-06	0.0E+00	0.0E+00	0.0E+00	5.6E-03	5.6E-03	5.6E-03
48	Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.7E+00	2.7E+00	2.7E+00
49	Pyrene	3.1E-01	3.1E-01	3.1E-01	1.1E-05	1.1E-05	1.1E-05	0.0E+00	0.0E+00	0.0E+00	5.6E-03	5.6E-03	5.6E-03
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.4E-04	3.4E-04	3.4E-04
51	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.8E-04	2.8E-04	2.8E-04
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.9E-05	8.9E-05	8.9E-05
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.2E-04	2.2E-04	2.2E-04
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.3E-05	6.3E-05	6.3E-05
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.3E-05	7.3E-05	7.3E-05
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.0E-04	1.0E-04	1.0E-04
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.9E-05	2.9E-05	2.9E-05
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.5E-05	6.5E-05	6.5E-05
60	Antimony, Tota	2.2E+01	2.2E+01	2.2E+01	7.9E-04	7.9E-04	7.9E-04	0.0E+00	0.0E+00	0.0E+00	5.2E+00	5.2E+00	5.2E+00
61	Arsenic, Total	1.1E+00	1.1E+00	1.1E+00	3.9E-05	3.9E-05	3.9E-05	0.0E+00	0.0E+00	0.0E+00	1.7E-02	1.7E-02	1.7E-02
62	Barium, Total	1.2E+01	1.2E+01	1.2E+01	4.1E-04	4.1E-04	4.1E-04	0.0E+00	0.0E+00	0.0E+00	8.0E-02	8.0E-02	8.0E-02
63	Beryllium, Tot	5.7E-01	5.7E-01	5.7E-01	2.0E-05	2.0E-05	2.0E-05	0.0E+00	0.0E+00	0.0E+00	2.6E+00	2.6E+00	2.6E+00
64	Cadmium, Total	6.4E-01	6.4E-01	6.4E-01	2.3E-05	2.3E-05	2.3E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.1E+00	1.1E+00	1.1E+00
66	Chromium, Tota	4.7E+00	4.7E+00	4.7E+00	1.7E-04	1.7E-04	1.7E-04	0.0E+00	0.0E+00	0.0E+00	2.9E+00	2.9E+00	2.9E+00
67	Mercury, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.0E-04	6.0E-04	6.0E-04
68	Nickel, Total	4.5E+00	4.5E+00	4.5E+00	1.6E-04	1.6E-04	1.6E-04	0.0E+00	0.0E+00	0.0E+00	3.5E-02	3.5E-02	3.5E-02
69	Silver, Total	1.1E+00	1.1E+00	1.1E+00	3.9E-05	3.9E-05	3.9E-05	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	5.8E+00	5.8E+00	5.8E+00	2.1E-04	2.1E-04	2.1E-04	0.0E+00	0.0E+00	0.0E+00	2.5E+00	2.5E+00	2.5E+00
72	Cyanide, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.8E-02	9.8E-02	9.8E-02
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC7

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: PLANT, ON LANDFILL

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 07/24/92

		MEDIUM 1 SOIL			MEDIUM 2 GROUNDWATER			MEDIUM 3 AIR-PART			MEDIUM 4 AIR-VOC'S			MEDIUM 5 0		
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	71S	71C	71L	72S	72C	72L	73S	73C	73L	74S	74C	74L	75S	75C	75L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	2.2E-01	2.2E-01	2.2E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	1.0E-01	1.0E-01	1.0E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
3	1,1-Dichloroet	3.9E-03	3.9E-03	3.9E-03	2.3E-02	2.3E-02	2.3E-02	0.0E+00	0.0E+00	0.0E+00	3.7E-05	3.7E-05	3.7E-05			
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	1.8E-01	1.8E-01	1.8E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
5	2-Butanone	4.0E-03	4.0E-03	4.0E-03	1.8E-01	1.8E-01	1.8E-01	0.0E+00	0.0E+00	0.0E+00	4.3E-06	4.3E-06	4.3E-06			
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	5.0E-02	5.0E-02	5.0E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
7	Acetone	3.0E-02	3.0E-02	3.0E-02	5.6E-01	5.6E-01	5.6E-01	0.0E+00	0.0E+00	0.0E+00	4.6E-05	4.6E-05	4.6E-05			
8	Benzene	0.0E+00	0.0E+00	0.0E+00	4.7E-02	4.7E-02	4.7E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	2.3E-02	2.3E-02	2.3E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
10	Carbon Disulfi	1.9E-03	1.9E-03	1.9E-03	5.7E-02	5.7E-02	5.7E-02	0.0E+00	0.0E+00	0.0E+00	1.5E-05	1.5E-05	1.5E-05			
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	1.7E-03	1.7E-03	1.7E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	3.4E-02	3.4E-02	3.4E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
13	Ethyl Benzene	2.0E-03	2.0E-03	2.0E-03	2.9E-01	2.9E-01	2.9E-01	0.0E+00	0.0E+00	0.0E+00	1.5E-06	1.5E-06	1.5E-06			
14	Methylene Chlo	4.0E-03	4.0E-03	4.0E-03	2.3E-01	2.3E-01	2.3E-01	0.0E+00	0.0E+00	0.0E+00	2.9E-05	2.9E-05	2.9E-05			
15	Styrene	0.0E+00	0.0E+00	0.0E+00	3.0E-03	3.0E-03	3.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	2.3E-02	2.3E-02	2.3E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
17	Toluene	4.0E-03	4.0E-03	4.0E-03	4.7E-01	4.7E-01	4.7E-01	0.0E+00	0.0E+00	0.0E+00	6.2E-06	6.2E-06	6.2E-06			
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	2.4E-01	2.4E-01	2.4E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	2.8E-02	2.8E-02	2.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
20	Xylenes (Total	4.0E-03	4.0E-03	4.0E-03	1.8E-01	1.8E-01	1.8E-01	0.0E+00	0.0E+00	0.0E+00	7.0E-06	7.0E-06	7.0E-06			
21	1,4-Dichlorobe	2.1E-01	2.1E-01	2.1E-01	8.1E-03	8.1E-03	8.1E-03	1.3E-09	1.3E-09	1.3E-09	0.0E+00	0.0E+00	0.0E+00			
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	3.9E-02	3.9E-02	3.9E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	1.9E-01	1.9E-01	1.9E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	1.0E-03	1.0E-03	1.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
28	Benzo(a)anthra	2.8E-01	2.8E-01	2.8E-01	0.0E+00	0.0E+00	0.0E+00	1.7E-09	1.7E-09	1.7E-09	0.0E+00	0.0E+00	0.0E+00			
29	Benzo(a)pyrene	4.3E-01	4.3E-01	4.3E-01	4.0E-03	4.0E-03	4.0E-03	2.6E-09	2.6E-09	2.6E-09	0.0E+00	0.0E+00	0.0E+00			
30	Benzo(b)fluora	4.6E-01	4.6E-01	4.6E-01	5.6E-03	5.6E-03	5.6E-03	2.8E-09	2.8E-09	2.8E-09	0.0E+00	0.0E+00	0.0E+00			
31	Benzo(g,h,i)pe	4.6E-01	4.6E-01	4.6E-01	2.0E-03	2.0E-03	2.0E-03	2.8E-09	2.8E-09	2.8E-09	0.0E+00	0.0E+00	0.0E+00			
32	Benzo(k)fluora	3.6E-01	3.6E-01	3.6E-01	2.0E-03	2.0E-03	2.0E-03	2.2E-09	2.2E-09	2.2E-09	0.0E+00	0.0E+00	0.0E+00			
33	Benzoic acid	7.5E-02	7.5E-02	7.5E-02	2.5E-02	2.5E-02	2.5E-02	4.6E-10	4.6E-10	4.6E-10	0.0E+00	0.0E+00	0.0E+00			
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
35	bis(2-Ethylhex	1.5E+00	1.5E+00	1.5E+00	2.1E-02	2.1E-02	2.1E-02	9.0E-09	9.0E-09	9.0E-09	0.0E+00	0.0E+00	0.0E+00			
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
37	Chrysene	3.6E-01	3.6E-01	3.6E-01	4.0E-03	4.0E-03	4.0E-03	2.2E-09	2.2E-09	2.2E-09	0.0E+00	0.0E+00	0.0E+00			
38	Di-n-butylphth	4.2E-01	4.2E-01	4.2E-01	8.1E-03	8.1E-03	8.1E-03	2.6E-09	2.6E-09	2.6E-09	0.0E+00	0.0E+00	0.0E+00			
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	2.8E-02	2.8E-02	2.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
43	Fluoranthene	3.3E-01	3.3E-01	3.3E-01	5.6E-03	5.6E-03	5.6E-03	2.0E-09	2.0E-09	2.0E-09	0.0E+00	0.0E+00	0.0E+00			
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			
45	Indeno(1,2,3-c	4.7E-01	4.7E-01	4.7E-01	2.0E-03	2.0E-03	2.0E-03	2.8E-09	2.8E-09	2.8E-09	0.0E+00	0.0E+00	0.0E+00			
46	Naphthalene	0.0E+00	0.0E+00	0.0E+00	3.0E-03	3.0E-03	3.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00			

47	Phenanthrene	1.9E-01	1.9E-01	1.9E-01	5.6E-03	5.6E-03	5.6E-03	1.2E-09	1.2E-09	1.2E-09	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	2.7E+00	2.7E+00	2.7E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	3.1E-01	3.1E-01	3.1E-01	5.6E-03	5.6E-03	5.6E-03	1.9E-09	1.9E-09	1.9E-09	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	3.4E-04	3.4E-04	3.4E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	2.8E-04	2.8E-04	2.8E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	8.9E-05	8.9E-05	8.9E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.2E-04	2.2E-04	2.2E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	6.3E-05	6.3E-05	6.3E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	7.3E-05	7.3E-05	7.3E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	1.0E-04	1.0E-04	1.0E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.9E-05	2.9E-05	2.9E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	6.5E-05	6.5E-05	6.5E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	2.2E+01	2.2E+01	2.2E+01	5.2E+00	5.2E+00	5.2E+00	1.3E-07	1.3E-07	1.3E-07	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	1.1E+00	1.1E+00	1.1E+00	1.7E-02	1.7E-02	1.7E-02	6.6E-09	6.6E-09	6.6E-09	0.0E+00	0.0E+00	0.0E+00
62	Barium, Total	1.2E+01	1.2E+01	1.2E+01	8.0E-02	8.0E-02	8.0E-02	7.0E-08	7.0E-08	7.0E-08	0.0E+00	0.0E+00	0.0E+00
63	Beryllium, Tot	5.7E-01	5.7E-01	5.7E-01	2.6E+00	2.6E+00	2.6E+00	3.5E-09	3.5E-09	3.5E-09	0.0E+00	0.0E+00	0.0E+00
64	Cadmium, Total	6.4E-01	6.4E-01	6.4E-01	0	0	0	3.9E-09	3.9E-09	3.9E-09	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	1.1E+00	1.1E+00	1.1E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	4.7E+00	4.7E+00	4.7E+00	2.9E+00	2.9E+00	2.9E+00	2.9E-08	2.9E-08	2.9E-08	0.0E+00	0.0E+00	0.0E+00
67	Mercury, Total	0.0E+00	0.0E+00	0.0E+00	6.0E-04	6.0E-04	6.0E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	4.5E+00	4.5E+00	4.5E+00	3.5E-02	3.5E-02	3.5E-02	3.5E-08	3.5E-08	3.5E-08	0.0E+00	0.0E+00	0.0E+00
69	Silver, Total	1.1E+00	1.1E+00	1.1E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	5.8E+00	5.8E+00	5.8E+00	2.5E+00	2.5E+00	2.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
72	Cyanide, Total	0.0E+00	0.0E+00	0.0E+00	9.8E-02	9.8E-02	9.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC8

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: PLANT, S. LANDFILL

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: DATA
LAST UPDATED: 07/24/92

		MEDIUM 1 SOIL			MEDIUM 2 GROUNDWATER			MEDIUM 3	0		MEDIUM 4	0		MEDIUM 5	0	
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	81S	81C	81L	82S	82C	82L	83S	83C	83L	84S	84C	84L	85S	85C	85L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03									
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03									
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03									
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03									
5	2-Butanone	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03									
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03									
7	Acetone	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03									
8	Benzene	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03									
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03									
10	Carbon Disulfi	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03									
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03									
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	4.1E-03	4.1E-03	4.1E-03									
13	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03									
14	Methylene Chlo	4.0E-03	4.0E-03	4.0E-03	4.9E-03	4.9E-03	4.9E-03									
15	Styrene	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03									
16	Tetrachloroeth	5.4E-03	5.4E-03	5.4E-03	4.6E-03	4.6E-03	4.6E-03									
17	Toluene	8.1E-03	8.1E-03	8.1E-03	4.6E-03	4.6E-03	4.6E-03									
18	Trichloroethen	4.0E-03	4.0E-03	4.0E-03	4.6E-03	4.6E-03	4.6E-03									
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03									
20	Xylenes (Total	2.0E-03	2.0E-03	2.0E-03	4.6E-03	4.6E-03	4.6E-03									
21	1,4-Dichlorobe	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03									
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03									
23	2-Methylnaphth	1.8E-02	1.8E-02	1.8E-02	0.0E+00	0.0E+00	0.0E+00									
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03									
25	Acenaphthene	3.1E-01	3.1E-01	3.1E-01	0.0E+00	0.0E+00	0.0E+00									
26	Acenaphthylene	1.8E+00	1.8E+00	1.8E+00	5.2E-03	5.2E-03	5.2E-03									
27	Anthracene	1.5E+00	1.5E+00	1.5E+00	0.0E+00	0.0E+00	0.0E+00									
28	Benzo(a)anthra	4.5E+00	4.5E+00	4.5E+00	0.0E+00	0.0E+00	0.0E+00									
29	Benzo(a)pyrene	2.9E+00	2.9E+00	2.9E+00	5.2E-03	5.2E-03	5.2E-03									
30	Benzo(b)fluora	8.9E+00	8.9E+00	8.9E+00	5.2E-03	5.2E-03	5.2E-03									
31	Benzo(g,h,i)pe	1.5E+00	1.5E+00	1.5E+00	5.2E-03	5.2E-03	5.2E-03									
32	Benzo(k)fluora	4.5E+00	4.5E+00	4.5E+00	5.2E-03	5.2E-03	5.2E-03									
33	Benzoic acid	0.0E+00	0.0E+00	0.0E+00	2.7E-02	2.7E-02	2.7E-02									
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	5.4E-03	5.4E-03	5.4E-03									
35	bis(2-Ethylhex	2.3E-01	2.3E-01	2.3E-01	3.0E-03	3.0E-03	3.0E-03									
36	Butylbenzylpht	2.4E-01	2.4E-01	2.4E-01	5.2E-03	5.2E-03	5.2E-03									
37	Chrysene	6.4E+00	6.4E+00	6.4E+00	5.2E-03	5.2E-03	5.2E-03									
38	Di-n-butylphth	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03									
39	Di-n-octylphth	1.4E-01	1.4E-01	1.4E-01	5.2E-03	5.2E-03	5.2E-03									
40	Dibenzo(a,h)an	7.7E-01	7.7E-01	7.7E-01	0.0E+00	0.0E+00	0.0E+00									
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03									
42	Dimethylphthal	4.2E-02	4.2E-02	4.2E-02	5.2E-03	5.2E-03	5.2E-03									
43	Fluoranthene	1.1E+01	1.1E+01	1.1E+01	5.2E-03	5.2E-03	5.2E-03									
44	Fluorene	6.8E-01	6.8E-01	6.8E-01	0.0E+00	0.0E+00	0.0E+00									
45	Indeno(1,2,3-c	2.2E+00	2.2E+00	2.2E+00	5.2E-03	5.2E-03	5.2E-03									
46	Naphthalene	1.8E-02	1.8E-02	1.8E-02	5.2E-03	5.2E-03	5.2E-03									

47	Phenanthrene	4.1E+00	4.1E+00	4.1E+00	5.2E-03	5.2E-03	5.2E-03
48	Phenol	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03
49	Pyrene	5.3E+00	5.3E+00	5.3E+00	5.2E-03	5.2E-03	5.2E-03
50	4,4-DDE	4.1E-03	4.1E-03	4.1E-03	5.0E-05	5.0E-05	5.0E-05
51	4,4-DDT	2.9E-02	2.9E-02	2.9E-02	5.0E-05	5.0E-05	5.0E-05
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	2.5E-05	2.5E-05	2.5E-05
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.4E-04	2.4E-04	2.4E-04
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	2.5E-05	2.5E-05	2.5E-05
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	5.0E-05	5.0E-05	5.0E-05
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	5.0E-05	5.0E-05	5.0E-05
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.4E-04	2.4E-04	2.4E-04
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	2.5E-05	2.5E-05	2.5E-05
60	Antimony, Tota	3.0E+00	3.0E+00	3.0E+00	3.5E-02	3.5E-02	3.5E-02
61	Arsenic, Total	6.8E+00	6.8E+00	6.8E+00	6.7E-03	6.7E-03	6.7E-03
62	Barium, Total	7.3E+01	7.3E+01	7.3E+01	2.0E-01	2.0E-01	2.0E-01
63	Beryllium, Tot	5.4E-01	5.4E-01	5.4E-01	2.0E-03	2.0E-03	2.0E-03
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	2.4E-03	2.4E-03	2.4E-03
66	Chromium, Tota	9.9E+00	9.9E+00	9.9E+00	8.1E-03	8.1E-03	8.1E-03
67	Mercury, Total	2.8E-01	2.8E-01	2.8E-01	1.0E-04	1.0E-04	1.0E-04
68	Nickel, Total	1.3E+01	1.3E+01	1.3E+01	1.4E-02	1.4E-02	1.4E-02
69	Silver, Total	0.0E+00	0.0E+00	0.0E+00	7.9E-03	7.9E-03	7.9E-03
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	1.1E+01	1.1E+01	1.1E+01	1.1E-02	1.1E-02	1.1E-02
72	Cyanide, Total	1.0E+01	1.0E+01	1.0E+01	5.0E-03	5.0E-03	5.0E-03
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	4.8E-01	4.8E-01	4.8E-01

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP1
LAST UPDATED: 07/24/92

LAND USE: CURRENT
POPULATION: DIRT BIKE RIDER

EXPOSURE POINT: SITE
MEDIUM: SOIL
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 1.5E-07
HIFl = 6.5E-08

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	1.5E-07	1	0.0E+00	9.0E-02	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	1.5E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							4.3E-03	1.5E-07	1	6.5E-10	9.0E-03	7E-08	4.3E-03	6.5E-08	1	2.8E-10	6.0E-01	2E-10
4	1,2-Dichloroethene(total)							0.0E+00	1.5E-07	1	0.0E+00	1.0E-02	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
5	2-Butanone							4.0E-03	1.5E-07	1	6.0E-10	5.0E-02	1E-08	4.0E-03	6.5E-08	1	2.6E-10	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	1.5E-07	1	0.0E+00	5.0E-02	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
7	Acetone							2.3E-02	1.5E-07	1	3.4E-09	1.0E-01	3E-08	2.3E-02	6.5E-08	1	1.5E-09	NA	NA
8	Benzene							0.0E+00	1.5E-07	1	0.0E+00	NA	NA	0.0E+00	6.5E-08	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	1.5E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	6.5E-08	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfide							1.9E-03	1.5E-07	1	2.9E-10	1.0E-01	3E-09	1.9E-03	6.5E-08	1	1.2E-10	NA	NA
11	Chlorobenzene							0.0E+00	1.5E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	1.5E-07	1	0.0E+00	1.0E-02	0E+00	0.0E+00	6.5E-08	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene							2.0E-03	1.5E-07	1	3.0E-10	1.0E-01	3E-09	2.0E-03	6.5E-08	1	1.3E-10	NA	NA
14	Methylene Chloride							4.0E-03	1.5E-07	1	6.0E-10	6.0E-02	1E-08	4.0E-03	6.5E-08	1	2.6E-10	7.5E-03	2E-12
15	Styrene							0.0E+00	1.5E-07	1	0.0E+00	2.0E-01	0E+00	0.0E+00	6.5E-08	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroethene							4.3E-03	1.5E-07	1	6.5E-10	1.0E-02	6E-08	4.3E-03	6.5E-08	1	2.8E-10	5.1E-02	1E-11
17	Toluene							4.8E-03	1.5E-07	1	7.1E-10	2.0E-01	4E-09	4.8E-03	6.5E-08	1	3.1E-10	NA	NA
18	Trichloroethene							4.0E-03	1.5E-07	1	6.0E-10	NA	NA	4.0E-03	6.5E-08	1	2.6E-10	1.1E-02	3E-12
19	Vinyl Chloride							0.0E+00	1.5E-07	1	0.0E+00	NA	NA	0.0E+00	6.5E-08	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total)							4.4E-03	1.5E-07	1	6.6E-10	2.0E+00	3E-10	4.4E-03	6.5E-08	1	2.8E-10	NA	NA
21	1,4-Dichlorobenzene							2.1E-01	1.5E-07	1	3.2E-08	NA	NA	2.1E-01	6.5E-08	1	1.4E-08	2.4E-02	3E-10
22	2,4-Dimethylphenol							0.0E+00	1.5E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							1.8E-02	1.5E-07	1	2.7E-09	4.0E-03	7E-07	1.8E-02	6.5E-08	1	1.2E-09	NA	NA
24	2-Methylphenol							0.0E+00	1.5E-07	1	0.0E+00	5.0E-02	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
25	Acenaphthene							5.9E-02	1.5E-07	1	8.9E-09	6.0E-02	1E-07	5.9E-02	6.5E-08	1	3.8E-09	NA	NA
26	Acenaphthylene							0.0E+00	1.5E-07	1	0.0E+00	6.0E-02	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
27	Anthracene							8.2E-02	1.5E-07	1	1.2E-08	3.0E-01	4E-08	8.2E-02	6.5E-08	1	5.3E-09	NA	NA
28	Benzo(a)anthracene							4.0E-01	1.5E-07	1	5.9E-08	3.0E-02	2E-06	4.0E-01	6.5E-08	1	2.6E-08	1.2E+01	3E-07
29	Benzo(a)pyrene							4.2E-01	1.5E-07	1	6.2E-08	3.0E-02	2E-06	4.2E-01	6.5E-08	1	2.7E-08	1.2E+01	3E-07
30	Benzo(b)fluoranthene							4.4E-01	1.5E-07	1	6.6E-08	3.0E-02	2E-06	4.4E-01	6.5E-08	1	2.9E-08	1.2E+01	3E-07
31	Benzo(g,h,i)perylene							4.2E-01	1.5E-07	1	6.3E-08	3.0E-02	2E-06	4.2E-01	6.5E-08	1	2.7E-08	NA	NA
32	Benzo(k)fluoranthene							4.0E-01	1.5E-07	1	5.9E-08	3.0E-02	2E-06	4.0E-01	6.5E-08	1	2.6E-08	1.2E+01	3E-07
33	Benzoic acid							7.5E-02	1.5E-07	1	1.1E-08	4.0E+00	3E-09	7.5E-02	6.5E-08	1	4.9E-09	NA	NA
34	Benzyl alcohol							0.0E+00	1.5E-07	1	0.0E+00	3.0E-01	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							1.1E+00	1.5E-07	1	1.6E-07	2.0E-02	8E-06	1.1E+00	6.5E-08	1	7.1E-08	1.4E-02	1.0E-0
36	Butylbenzylphthalate							2.4E-01	1.5E-07	1	3.5E-08	2.0E-01	2E-07	2.4E-01	6.5E-08	1	1.5E-08	NA	NA
37	Chrysene							4.0E-01	1.5E-07	1	6.0E-08	3.0E-02	2E-06	4.0E-01	6.5E-08	1	2.6E-08	1.2E+01	3E-07
38	Di-n-butylphthalate							3.8E-01	1.5E-07	1	5.6E-08	1.0E-01	6E-07	3.8E-01	6.5E-08	1	2.4E-08	NA	NA
39	Di-n-octylphthalate							1.4E-01	1.5E-07	1	2.1E-08	2.0E-02	1E-06	1.4E-01	6.5E-08	1	9.1E-09	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	1.5E-07	1	0.0E+00	3.0E-02	0E+00	0.0E+00	6.5E-08	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthalate	0.0E+00	1.5E-07	1	0.0E+00	8.0E-01	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
42	Dimethylphthalate	4.2E-02	1.5E-07	1	6.3E-09	1.0E+00	6E-09	4.2E-02	6.5E-08	1	2.7E-09	NA	NA
43	Fluoranthene	4.0E-01	1.5E-07	1	6.0E-08	4.0E-02	2E-06	4.0E-01	6.5E-08	1	2.6E-08	NA	NA
44	Fluorene	4.3E-02	1.5E-07	1	6.4E-09	4.0E-02	2E-07	4.3E-02	6.5E-08	1	2.8E-09	NA	NA
45	Indeno(1,2,3-cd)pyrene	4.3E-01	1.5E-07	1	6.4E-08	3.0E-02	2E-06	4.3E-01	6.5E-08	1	2.8E-08	1.2E+01	3E-07
46	Naphthalene	1.8E-02	1.5E-07	1	2.7E-09	4.0E-03	7E-07	1.8E-02	6.5E-08	1	1.2E-09	NA	NA
47	Phenanthrene	3.9E-01	1.5E-07	1	5.9E-08	3.0E-02	2E-06	3.9E-01	6.5E-08	1	2.6E-08	NA	NA
48	Phenol	0.0E+00	1.5E-07	1	0.0E+00	6.0E-01	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
49	Pyrene	4.1E-01	1.5E-07	1	6.2E-08	3.0E-02	2E-06	4.1E-01	6.5E-08	1	2.7E-08	NA	NA
50	4,4-DDE	4.1E-03	1.5E-07	1	6.2E-10	NA	NA	4.1E-03	6.5E-08	1	2.7E-10	3.4E-01	9E-11
51	4,4-DDT	2.2E-02	1.5E-07	1	3.2E-09	5.0E-04	6E-06	2.2E-02	6.5E-08	1	1.4E-09	3.4E-01	5E-10
52	Aldrin	0.0E+00	1.5E-07	1	0.0E+00	3.0E-05	0E+00	0.0E+00	6.5E-08	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	1.5E-07	1	0.0E+00	6.0E-05	0E+00	0.0E+00	6.5E-08	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.5E-07	1	0.0E+00	NA	NA	0.0E+00	6.5E-08	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	1.5E-07	1	0.0E+00	NA	NA	0.0E+00	6.5E-08	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.5E-07	1	0.0E+00	5.0E-05	0E+00	0.0E+00	6.5E-08	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.5E-07	1	0.0E+00	5.0E-05	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	1.5E-07	1	0.0E+00	6.0E-05	0E+00	0.0E+00	6.5E-08	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.5E-07	1	0.0E+00	5.0E-04	0E+00	0.0E+00	6.5E-08	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Total	1.7E+01	1.5E-07	1	2.6E-06	4.0E-04	6E-03	1.7E+01	6.5E-08	1	1.1E-06	NA	NA
61	Arsenic, Total	1.9E+00	1.5E-07	1	2.8E-07	3.0E-04	9E-04	1.9E+00	6.5E-08	1	1.2E-07	1.8E+00	2E-07
62	Barium, Total	2.1E+01	1.5E-07	1	3.2E-06	7.0E-02	5E-05	2.1E+01	6.5E-08	1	1.4E-06	NA	NA
63	Beryllium, Total	5.2E-01	1.5E-07	1	7.8E-08	5.0E-03	2E-05	5.2E-01	6.5E-08	1	3.4E-08	4.3E+00	1E-07
64	Cadmium, Total (food)	5.5E-01	1.5E-07	1	8.2E-08	1.0E-03	8E-05	5.5E-01	6.5E-08	1	3.6E-08	NA	NA
65	Cadmium, Total (water)	0.0E+00	1.5E-07	1	0.0E+00	5.0E-04	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
66	Chromium, Total	4.9E+00	1.5E-07	1	7.4E-07	5.0E-03	1E-04	4.9E+00	6.5E-08	1	3.2E-07	NA	NA
67	Mercury, Total	8.0E-02	1.5E-07	1	1.2E-08	3.0E-04	4E-05	8.0E-02	6.5E-08	1	5.2E-09	NA	NA
68	Nickel, Total	5.3E+00	1.5E-07	1	7.9E-07	2.0E-02	4E-05	5.3E+00	6.5E-08	1	3.4E-07	NA	NA
69	Silver, Total	8.9E-01	1.5E-07	1	1.3E-07	5.0E-03	3E-05	8.9E-01	6.5E-08	1	5.8E-08	NA	NA
70	Thallium, Total	0.0E+00	1.5E-07	1	0.0E+00	7.0E-05	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA
71	Vanadium, Total	6.3E+00	1.5E-07	1	9.4E-07	7.0E-03	1E-04	6.3E+00	6.5E-08	1	4.1E-07	NA	NA
72	Cyanide, Total	1.8E+00	1.5E-07	1	2.7E-07	2.0E-02	1E-05	1.8E+00	6.5E-08	1	1.2E-07	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	1.5E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	6.5E-08	1	0.0E+00	NA	NA

RANGE NAME: WS2

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP1
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: CURRENT
POPULATION: DIRT BIKE RIDER

EXPOSURE POINT: SITE
MEDIUM: AIR-PART
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 7.6E-03
HIFl = 3.3E-03

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	0.0E+00	7.6E-03	1	0.0E+00	3.0E-01	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	7.6E-03	1	0.0E+00	1.0E-01	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.8E-01	0E+00
4	1,2-Dichloroethene(total)							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
5	2-Butanone							0.0E+00	7.6E-03	1	0.0E+00	9.0E-02	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	7.6E-03	1	0.0E+00	2.0E-02	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
7	Acetone							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
8	Benzene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
10	Carbon Disulfide							0.0E+00	7.6E-03	1	0.0E+00	2.9E-03	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
11	Chlorobenzene							0.0E+00	7.6E-03	1	0.0E+00	5.0E-03	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							0.0E+00	7.6E-03	1	0.0E+00	2.9E-01	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
14	Methylene Chloride							0.0E+00	7.6E-03	1	0.0E+00	8.6E-01	0E+00	0.0E+00	3.3E-03	1	0.0E+00	1.6E-03	0E+00
15	Styrene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.8E-03	0E+00
17	Toluene							0.0E+00	7.6E-03	1	0.0E+00	5.7E-01	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
18	Trichloroethene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							0.0E+00	7.6E-03	1	0.0E+00	8.6E-02	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
21	1,4-Dichlorobenzene							5.9E-07	7.6E-03	1	4.5E-09	2.0E-01	2E-08	5.9E-07	3.3E-03	1	1.9E-09	NA	NA
22	2,4-Dimethylphenol							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							5.0E-08	7.6E-03	1	3.8E-10	NA	NA	5.0E-08	3.3E-03	1	1.7E-10	NA	NA
24	2-Methylphenol							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
25	Acenaphthene							1.7E-07	7.6E-03	1	1.3E-09	NA	NA	1.7E-07	3.3E-03	1	5.5E-10	NA	NA
26	Acenaphthylene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
27	Anthracene							2.3E-07	7.6E-03	1	1.7E-09	NA	NA	2.3E-07	3.3E-03	1	7.6E-10	NA	NA
28	Benzo(a)anthracene							1.1E-06	7.6E-03	1	8.4E-09	NA	NA	1.1E-06	3.3E-03	1	3.7E-09	6.1E+00	2E-08
29	Benzo(a)pyrene							1.2E-06	7.6E-03	1	8.8E-09	NA	NA	1.2E-06	3.3E-03	1	3.8E-09	6.1E+00	2E-08
30	Benzo(b)fluoranthene							1.2E-06	7.6E-03	1	9.4E-09	NA	NA	1.2E-06	3.3E-03	1	4.1E-09	6.1E+00	2E-08
31	Benzo(g,h,i)perylene							1.2E-06	7.6E-03	1	9.0E-09	NA	NA	1.2E-06	3.3E-03	1	3.9E-09	NA	NA
32	Benzo(k)fluoranthene							1.1E-06	7.6E-03	1	8.4E-09	NA	NA	1.1E-06	3.3E-03	1	3.7E-09	6.1E+00	2E-08
33	Benzoic acid							2.1E-07	7.6E-03	1	1.6E-09	NA	NA	2.1E-07	3.3E-03	1	6.9E-10	NA	NA
34	Benzyl alcohol							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							3.1E-06	7.6E-03	1	2.3E-08	NA	NA	3.1E-06	3.3E-03	1	1.0E-08	NA	NA
36	Butylbenzylphthalate							6.6E-07	7.6E-03	1	5.0E-09	NA	NA	6.6E-07	3.3E-03	1	2.2E-09	NA	NA
37	Chrysene							1.1E-06	7.6E-03	1	8.5E-09	NA	NA	1.1E-06	3.3E-03	1	3.7E-09	6.1E+00	2E-08
38	Di-n-butylphthalate							1.1E-06	7.6E-03	1	8.0E-09	NA	NA	1.1E-06	3.3E-03	1	3.5E-09	NA	NA
39	Di-n-octylphthalate							3.9E-07	7.6E-03	1	3.0E-09	NA	NA	3.9E-07	3.3E-03	1	1.3E-09	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
42	Dimethylphthalate	1.2E-07	7.6E-03	1	8.9E-10	NA	NA	1.2E-07	3.3E-03	1	3.9E-10	NA	NA
43	Fluoranthene	1.1E-06	7.6E-03	1	8.6E-09	NA	NA	1.1E-06	3.3E-03	1	3.7E-09	NA	NA
44	Fluorene	1.2E-07	7.6E-03	1	9.2E-10	NA	NA	1.2E-07	3.3E-03	1	4.0E-10	NA	NA
45	Indeno(1,2,3-cd)pyrene	1.2E-06	7.6E-03	1	9.1E-09	NA	NA	1.2E-06	3.3E-03	1	3.9E-09	6.1E+00	2E-08
46	Naphthalene	5.0E-08	7.6E-03	1	3.8E-10	NA	NA	5.0E-08	3.3E-03	1	1.7E-10	NA	NA
47	Phenanthrene	1.1E-06	7.6E-03	1	8.4E-09	NA	NA	1.1E-06	3.3E-03	1	3.6E-09	NA	NA
48	Phenol	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
49	Pyrene	1.2E-06	7.6E-03	1	8.8E-09	NA	NA	1.2E-06	3.3E-03	1	3.8E-09	NA	NA
50	4,4-DDE	1.1E-08	7.6E-03	1	8.7E-11	NA	NA	1.1E-08	3.3E-03	1	3.8E-11	NA	NA
51	4,4-DDT	6.1E-08	7.6E-03	1	4.6E-10	NA	NA	6.1E-08	3.3E-03	1	2.0E-10	3.4E-01	7E-11
52	Aldrin	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	4.8E-05	7.6E-03	1	3.6E-07	NA	NA	4.8E-05	3.3E-03	1	1.6E-07	NA	NA
61	Arsenic, Total	5.2E-06	7.6E-03	1	3.9E-08	NA	NA	5.2E-06	3.3E-03	1	1.7E-08	1.5E+01	3E-07
62	Barium, Total	6.0E-05	7.6E-03	1	4.6E-07	1.0E-04	5E-03	6.0E-05	3.3E-03	1	2.0E-07	NA	NA
63	Beryllium, Total	1.4E-06	7.6E-03	1	1.1E-08	NA	NA	1.4E-06	3.3E-03	1	4.8E-09	8.4E+00	4E-08
64	Cadmium, Total (food)	1.5E-06	7.6E-03	1	1.2E-08	NA	NA	1.5E-06	3.3E-03	1	5.1E-09	6.3E+00	3E-08
65	Cadmium, Total (water)	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	1.4E-05	7.6E-03	1	1.0E-07	5.7E-07	2E-01	1.4E-05	3.3E-03	1	4.5E-08	4.2E+01	2E-06
67	Mercury, Total	2.3E-07	7.6E-03	1	1.7E-09	8.6E-05	2E-05	2.3E-07	3.3E-03	1	7.4E-10	NA	NA
68	Nickel, Total	1.5E-05	7.6E-03	1	1.1E-07	NA	NA	1.5E-05	3.3E-03	1	4.9E-08	NA	NA
69	Silver, Total	2.5E-06	7.6E-03	1	1.9E-08	NA	NA	2.5E-06	3.3E-03	1	8.3E-09	NA	NA
70	Thallium, Total	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
71	Vanadium, Total	1.8E-05	7.6E-03	1	1.3E-07	NA	NA	1.8E-05	3.3E-03	1	5.8E-08	NA	NA
72	Cyanide, Total	5.0E-06	7.6E-03	1	3.8E-08	NA	NA	5.0E-06	3.3E-03	1	1.6E-08	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA

RANGE NAME: WS3

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP1
LAST UPDATED: 07/24/92

LAND USE: CURRENT
POPULATION: DIRT BIKE RIDER

EXPOSURE POINT: SITE
MEDIUM: AIR-VOC'S
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 7.6E-03
HIFl = 3.3E-03

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	7.6E-03	1	0.0E+00	3.0E-01	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	7.6E-03	1	0.0E+00	1.0E-01	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							3.7E-05	7.6E-03	1	2.8E-07	NA	NA	3.7E-05	3.3E-03	1	1.2E-07	1.8E-01	2E-08
4	1,2-Dichloroethene(total)							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
5	2-Butanone							3.9E-06	7.6E-03	1	3.0E-08	9.0E-02	3E-07	3.9E-06	3.3E-03	1	1.3E-08	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	7.6E-03	1	0.0E+00	2.0E-02	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
7	Acetone							3.2E-05	7.6E-03	1	2.4E-07	NA	NA	3.2E-05	3.3E-03	1	1.1E-07	NA	NA
8	Benzene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
10	Carbon Disulfide							1.3E-05	7.6E-03	1	9.9E-08	2.9E-03	3E-05	1.3E-05	3.3E-03	1	4.3E-08	NA	NA
11	Chlorobenzene							0.0E+00	7.6E-03	1	0.0E+00	5.0E-03	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							1.3E-06	7.6E-03	1	9.9E-09	2.9E-01	3E-08	1.3E-06	3.3E-03	1	4.3E-09	NA	NA
14	Methylene Chloride							2.7E-05	7.6E-03	1	2.1E-07	8.6E-01	2E-07	2.7E-05	3.3E-03	1	8.9E-08	1.6E-03	1E-10
15	Styrene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							1.1E-05	7.6E-03	1	8.4E-08	NA	NA	1.1E-05	3.3E-03	1	3.6E-08	1.8E-03	7E-11
17	Toluene							6.8E-06	7.6E-03	1	5.2E-08	5.7E-01	9E-08	6.8E-06	3.3E-03	1	2.2E-08	NA	NA
18	Trichloroethene							1.0E-05	7.6E-03	1	7.6E-08	NA	NA	1.0E-05	3.3E-03	1	3.3E-08	6.0E-03	2E-10
19	Vinyl Chloride							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							7.0E-06	7.6E-03	1	5.3E-08	8.6E-02	6E-07	7.0E-06	3.3E-03	1	2.3E-08	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	7.6E-03	1	0.0E+00	2.0E-01	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
22	2,4-Dimethylphenol							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluoranthene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)perylene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
32	Benzo(k)fluoranthene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
36	Butylbenzylphthalate							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
37	Chrysene							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphthalate							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	7.6E-03	1	0.0E+00	1.0E-04	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
63	Beryllium, Total	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total (food)	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total (water)	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	0.0E+00	7.6E-03	1	0.0E+00	5.7E-07	0E+00	0.0E+00	3.3E-03	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	7.6E-03	1	0.0E+00	8.6E-05	0E+00	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
71	Vanadium, Total	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	7.6E-03	1	0.0E+00	NA	NA	0.0E+00	3.3E-03	1	0.0E+00	NA	NA

RANGE NAME: CSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP1
LAST UPDATED: 07/24/92

CHRONIC EXPOSURE SUMMARY

CURRENT
DIRT BIKE RIDER

CHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 SITE SOIL ORAL (FROM WS1)	SCENARIO 2 SITE AIR-PART INHALATION (FROM WS2)	SCENARIO 3 SITE AIR-VOC'S INHALATION (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00			
3	1,1-Dichloroet	6.5E-10	0.0E+00	2.8E-07			
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00			
5	2-Butanone	6.0E-10	0.0E+00	3.0E-08			
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00			
7	Acetone	3.4E-09	0.0E+00	2.4E-07			
8	Benzene	0.0E+00	0.0E+00	0.0E+00			
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00			
10	Carbon Disulfi	2.9E-10	0.0E+00	9.9E-08			
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00			
12	Chloroform	0.0E+00	0.0E+00	0.0E+00			
13	Ethyl Benzene	3.0E-10	0.0E+00	9.9E-09			
14	Methylene Chlo	6.0E-10	0.0E+00	2.1E-07			
15	Styrene	0.0E+00	0.0E+00	0.0E+00			
16	Tetrachloroeth	6.5E-10	0.0E+00	8.4E-08			
17	Toluene	7.1E-10	0.0E+00	5.2E-08			
18	Trichloroethen	6.0E-10	0.0E+00	7.6E-08			
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00			
20	Xylenes (Total	6.6E-10	0.0E+00	5.3E-08			
21	1,4-Dichlorobe	3.2E-08	4.5E-09	0.0E+00			
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00			
23	2-Methylnaphth	2.7E-09	3.8E-10	0.0E+00			
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00			
25	Acenaphthene	8.9E-09	1.3E-09	0.0E+00			
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00			
27	Anthracene	1.2E-08	1.7E-09	0.0E+00			
28	Benzo(a)anthra	5.9E-08	8.4E-09	0.0E+00			
29	Benzo(a)pyrene	6.2E-08	8.8E-09	0.0E+00			
30	Benzo(b)fluora	6.6E-08	9.4E-09	0.0E+00			
31	Benzo(g,h,i)pe	6.3E-08	9.0E-09	0.0E+00			
32	Benzo(k)fluora	5.9E-08	8.4E-09	0.0E+00			
33	Benzoic acid	1.1E-08	1.6E-09	0.0E+00			
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00			
35	bis(2-Ethylhex	1.6E-07	2.3E-08	0.0E+00			
36	Butylbenzylpht	3.5E-08	5.0E-09	0.0E+00			
37	Chrysene	6.0E-08	8.5E-09	0.0E+00			
38	Di-n-butylphth	5.6E-08	8.0E-09	0.0E+00			
39	Di-n-octylphth	2.1E-08	3.0E-09	0.0E+00			
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00			
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00			
42	Dimethylphthal	6.3E-09	8.9E-10	0.0E+00			

CHRONIC RISK SUMMARY

CURRENT
DIRT BIKE RIDER

CHRONIC HAZARD QUOTIENT

SCENARIO 1 SITE SOIL ORAL (FROM WS1)	SCENARIO 2 SITE AIR-PART INHALATION (FROM WS2)	SCENARIO 3 SITE AIR-VOC'S INHALATION (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00	0E+00			
7E-08	NA	NA			
0E+00	NA	NA			
1E-08	0E+00	3E-07			
0E+00	0E+00	0E+00			
3E-08	NA	NA			
NA	NA	NA			
0E+00	NA	NA			
3E-09	0E+00	3E-05			
0E+00	0E+00	0E+00			
0E+00	NA	NA			
3E-09	0E+00	3E-08			
1E-08	0E+00	2E-07			
0E+00	NA	NA			
6E-08	NA	NA			
4E-09	0E+00	9E-08			
NA	NA	NA			
NA	NA	NA			
3E-10	0E+00	6E-07			
NA	2E-08	0E+00			
0E+00	NA	NA			
7E-07	NA	NA			
0E+00	NA	NA			
1E-07	NA	NA			
0E+00	NA	NA			
4E-08	NA	NA			
2E-06	NA	NA			
2E-06	NA	NA			
2E-06	NA	NA			
2E-06	NA	NA			
2E-06	NA	NA			
3E-09	NA	NA			
0E+00	NA	NA			
8E-06	NA	NA			
2E-07	NA	NA			
2E-06	NA	NA			
6E-07	NA	NA			
1E-06	NA	NA			
0E+00	NA	NA			
0E+00	NA	NA			
6E-09	NA	NA			

43	Fluoranthene	6.0E-08	8.6E-09	0.0E+00		2E-06	NA	NA		
44	Fluorene	6.4E-09	9.2E-10	0.0E+00		2E-07	NA	NA		
45	Indeno(1,2,3-c	6.4E-08	9.1E-09	0.0E+00		2E-06	NA	NA		
46	Naphthalene	2.7E-09	3.8E-10	0.0E+00		7E-07	NA	NA		
47	Phenanthrene	5.9E-08	8.4E-09	0.0E+00		2E-06	NA	NA		
48	Phenol	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA		
49	Pyrene	6.2E-08	8.8E-09	0.0E+00		2E-06	NA	NA		
50	4,4-DDE	6.2E-10	8.7E-11	0.0E+00		NA	NA	NA		
51	4,4-DDT	3.2E-09	4.6E-10	0.0E+00		6E-06	NA	NA		
52	Aldrin	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA		
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA		
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA		
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA		
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA		
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA		
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA		
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA		
60	Antimony, Tota	2.6E-06	3.6E-07	0.0E+00		6E-03	NA	NA		
61	Arsenic, Total	2.8E-07	3.9E-08	0.0E+00		9E-04	NA	NA		
62	Barium, Total	3.2E-06	4.6E-07	0.0E+00		5E-05	5E-03	0E+00		
63	Beryllium, Tot	7.8E-08	1.1E-08	0.0E+00		2E-05	NA	NA		
64	Cadmium, Total	8.2E-08	1.2E-08	0.0E+00		8E-05	NA	NA		
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA		
66	Chromium, Tota	7.4E-07	1.0E-07	0.0E+00		1E-04	2E-01	0E+00		
67	Mercury, Total	1.2E-08	1.7E-09	0.0E+00		4E-05	2E-05	0E+00		
68	Nickel, Total	7.9E-07	1.1E-07	0.0E+00		4E-05	NA	NA		
69	Silver, Total	1.3E-07	1.9E-08	0.0E+00		3E-05	NA	NA		
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA		
71	Vanadium, Tota	9.4E-07	1.3E-07	0.0E+00		1E-04	NA	NA		
72	Cyanide, Total	2.7E-07	3.8E-08	0.0E+00		1E-05	NA	NA		
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA		
					PATHWAY SUM (HI)	7E-03	2E-01	3E-05	0E+00	0E+00	0E+00
					POPULATION TOTAL	2E-01					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP1
LAST UPDATED: 07/24/92

LIFETIME EXPOSURE SUMMARY

CURRENT
DIRT BIKE RIDER

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 SITE SOIL ORAL (FROM WS1)	SCENARIO 2 SITE AIR-PART INHALATION (FROM WS2)	SCENARIO 3 SITE AIR-VOC'S INHALATION (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00			
3	1,1-Dichloroet	2.8E-10	0.0E+00	1.2E-07			
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00			
5	2-Butanone	2.6E-10	0.0E+00	1.3E-08			
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00			
7	Acetone	1.5E-09	0.0E+00	1.1E-07			
8	Benzene	0.0E+00	0.0E+00	0.0E+00			
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00			
10	Carbon Disulfi	1.2E-10	0.0E+00	4.3E-08			
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00			
12	Chloroform	0.0E+00	0.0E+00	0.0E+00			
13	Ethyl Benzene	1.3E-10	0.0E+00	4.3E-09			
14	Methylene Chlo	2.6E-10	0.0E+00	8.9E-08			
15	Styrene	0.0E+00	0.0E+00	0.0E+00			
16	Tetrachloroeth	2.8E-10	0.0E+00	3.6E-08			
17	Toluene	3.1E-10	0.0E+00	2.2E-08			
18	Trichloroethen	2.6E-10	0.0E+00	3.3E-08			
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00			
20	Xylenes (Total	2.8E-10	0.0E+00	2.3E-08			
21	1,4-Dichlorobe	1.4E-08	1.9E-09	0.0E+00			
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00			
23	2-Methylnaphth	1.2E-09	1.7E-10	0.0E+00			
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00			
25	Acenaphthene	3.8E-09	5.5E-10	0.0E+00			
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00			
27	Anthracene	5.3E-09	7.6E-10	0.0E+00			
28	Benzo(a)anthra	2.6E-08	3.7E-09	0.0E+00			
29	Benzo(a)pyrene	2.7E-08	3.8E-09	0.0E+00			
30	Benzo(b)fluora	2.9E-08	4.1E-09	0.0E+00			
31	Benzo(g,h,i)pe	2.7E-08	3.9E-09	0.0E+00			
32	Benzo(k)fluora	2.6E-08	3.7E-09	0.0E+00			
33	Benzoic acid	4.9E-09	6.9E-10	0.0E+00			
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00			
35	bis(2-Ethylhex	7.1E-08	1.0E-08	0.0E+00			
36	Butylbenzylpht	1.5E-08	2.2E-09	0.0E+00			
37	Chrysene	2.6E-08	3.7E-09	0.0E+00			
38	Di-n-butylphth	2.4E-08	3.5E-09	0.0E+00			
39	Di-n-octylphth	9.1E-09	1.3E-09	0.0E+00			
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00			
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00			
42	Dimethylphthal	2.7E-09	3.9E-10	0.0E+00			

LIFETIME RISK SUMMARY

CURRENT
DIRT BIKE RIDER

LIFETIME EXCESS CANCER RISK

SCENARIO 1 SITE SOIL ORAL (FROM WS1)	SCENARIO 2 SITE AIR-PART INHALATION (FROM WS2)	SCENARIO 3 SITE AIR-VOC'S INHALATION (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
NA	NA	NA	0E+00	0E+00	0E+00
NA	NA	NA			
2E-10	0E+00	2E-08			
NA	NA	NA			
NA	NA	NA			
NA	NA	NA			
NA	NA	NA			
0E+00	0E+00	0E+00			
0E+00	NA	NA			
NA	NA	NA			
NA	NA	NA			
0E+00	0E+00	0E+00			
NA	NA	NA			
2E-12	0E+00	1E-10			
0E+00	0E+00	0E+00			
1E-11	0E+00	7E-11			
NA	NA	NA			
3E-12	0E+00	2E-10			
0E+00	0E+00	0E+00			
NA	NA	NA			
3E-10	NA	NA			
NA	NA	NA			
NA	NA	NA			
NA	NA	NA			
NA	NA	NA			
NA	NA	NA			
NA	NA	NA			
NA	NA	NA			
3E-07	2E-08	0E+00			
3E-07	2E-08	0E+00			
3E-07	2E-08	0E+00			
NA	NA	NA			
3E-07	2E-08	0E+00			
NA	NA	NA			
NA	NA	NA			
1E-09	NA	NA			
NA	NA	NA			
3E-07	2E-08	0E+00			
NA	NA	NA			
NA	NA	NA			
0E+00	0E+00	0E+00			
NA	NA	NA			
NA	NA	NA			

43	Fluoranthene	2.6E-08	3.7E-09	0.0E+00			NA	NA	NA		
44	Fluorene	2.8E-09	4.0E-10	0.0E+00			NA	NA	NA		
45	Indeno(1,2,3-c	2.8E-08	3.9E-09	0.0E+00			3E-07	2E-08	0E+00		
46	Naphthalene	1.2E-09	1.7E-10	0.0E+00			NA	NA	NA		
47	Phenanthrene	2.6E-08	3.6E-09	0.0E+00			NA	NA	NA		
48	Phenol	0.0E+00	0.0E+00	0.0E+00			NA	NA	NA		
49	Pyrene	2.7E-08	3.8E-09	0.0E+00			NA	NA	NA		
50	4,4-DDE	2.7E-10	3.8E-11	0.0E+00			9E-11	NA	NA		
51	4,4-DDT	1.4E-09	2.0E-10	0.0E+00			5E-10	7E-11	0E+00		
52	Aldrin	0.0E+00	0.0E+00	0.0E+00			0E+00	0E+00	0E+00		
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00			0E+00	0E+00	0E+00		
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00			0E+00	NA	NA		
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00			0E+00	0E+00	0E+00		
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00			0E+00	0E+00	0E+00		
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00			NA	NA	NA		
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00			0E+00	0E+00	0E+00		
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00			0E+00	0E+00	0E+00		
60	Antimony, Tota	1.1E-06	1.6E-07	0.0E+00			NA	NA	NA		
61	Arsenic, Total	1.2E-07	1.7E-08	0.0E+00			2E-07	3E-07	0E+00		
62	Barium, Total	1.4E-06	2.0E-07	0.0E+00			NA	NA	NA		
63	Beryllium, Tot	3.4E-08	4.8E-09	0.0E+00			1E-07	4E-08	0E+00		
64	Cadmium, Total	3.6E-08	5.1E-09	0.0E+00			NA	3E-08	0E+00		
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00			NA	0E+00	0E+00		
66	Chromium, Tota	3.2E-07	4.5E-08	0.0E+00			NA	2E-06	0E+00		
67	Mercury, Total	5.2E-09	7.4E-10	0.0E+00			NA	NA	NA		
68	Nickel, Total	3.4E-07	4.9E-08	0.0E+00			NA	NA	NA		
69	Silver, Total	5.8E-08	8.3E-09	0.0E+00			NA	NA	NA		
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00			NA	NA	NA		
71	Vanadium, Tota	4.1E-07	5.8E-08	0.0E+00			NA	NA	NA		
72	Cyanide, Total	1.2E-07	1.6E-08	0.0E+00			NA	NA	NA		
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00			NA	NA	NA		
					TOTAL PATHWAY CANCER RISK		2E-06	2E-06	2E-08	0E+00	0E+00	0E+00
					POPULATION TOTAL EXCESS RISK		4E-06					

RANGE NAME: WS1

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP2
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: CURRENT
POPULATION: WADER

EXPOSURE POINT: QUARRY PIT
MEDIUM: SURFACE WATER
ROUTE: ORAL

HIFs = 2.7E-05
HIFc = 0.0E+00
HIFl = 2.3E-06

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	2.7E-05	1	0.0E+00	9.0E-01	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	2.7E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	2.7E-05	1	0.0E+00	9.0E-03	0E+00							0.0E+00	2.3E-06	1	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroet	0.0E+00	2.7E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
5	2-Butanone	0.0E+00	2.7E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
6	4-Methyl-2-pen	0.0E+00	2.7E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
7	Acetone	4.0E-03	2.7E-05	1	1.1E-07	1.0E+00	1E-07							4.0E-03	2.3E-06	1	9.2E-09	NA	NA
8	Benzene	0.0E+00	2.7E-05	1	0.0E+00	NA	NA							0.0E+00	2.3E-06	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	2.7E-05	1	0.0E+00	2.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfi	0.0E+00	2.7E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
11	Chlorobenzene	0.0E+00	2.7E-05	1	0.0E+00	2.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	2.7E-05	1	0.0E+00	1.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene	0.0E+00	2.7E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
14	Methylene Chlo	3.4E-02	2.7E-05	1	9.3E-07	6.0E-02	2E-05							3.4E-02	2.3E-06	1	7.9E-08	7.5E-03	6E-10
15	Styrene	0.0E+00	2.7E-05	1	0.0E+00	2.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroeth	0.0E+00	2.7E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	5.1E-02	0E+00
17	Toluene	0.0E+00	2.7E-05	1	0.0E+00	2.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
18	Trichloroethen	0.0E+00	2.7E-05	1	0.0E+00	NA	NA							0.0E+00	2.3E-06	1	0.0E+00	1.1E-02	0E+00
19	Vinyl Chloride	0.0E+00	2.7E-05	1	0.0E+00	NA	NA							0.0E+00	2.3E-06	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total	0.0E+00	2.7E-05	1	0.0E+00	4.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
21	1,4-Dichlorobe	0.0E+00	2.7E-05	1	0.0E+00	NA	NA							0.0E+00	2.3E-06	1	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylph	0.0E+00	2.7E-05	1	0.0E+00	2.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	2.7E-05	1	0.0E+00	4.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	2.7E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	2.7E-05	1	0.0E+00	6.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	2.7E-05	1	0.0E+00	6.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	2.7E-05	1	0.0E+00	3.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
30	Benzo(b)fluora	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
31	Benzo(g,h,i)pe	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
32	Benzo(k)fluora	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
33	Benzoic acid	0.0E+00	2.7E-05	1	0.0E+00	4.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	2.7E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	0.0E+00	2.7E-05	1	0.0E+00	2.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.4E-02	0E+00
36	Butylbenzylpht	0.0E+00	2.7E-05	1	0.0E+00	2.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
37	Chrysene	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
38	Di-n-butylphth	0.0E+00	2.7E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	2.7E-05	1	0.0E+00	2.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthala	0.0E+00	2.7E-05	1	0.0E+00	8.0E+00	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	2.7E-05	1	0.0E+00	1.0E+00	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	2.7E-05	1	0.0E+00	4.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	2.7E-05	1	0.0E+00	4.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
46	Naphthalene	0.0E+00	2.7E-05	1	0.0E+00	4.0E-02	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	2.7E-05	1	0.0E+00	6.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	2.7E-05	1	0.0E+00	NA	NA	0.0E+00	2.3E-06	1	0.0E+00	3.4E-01	0E+00
51	4,4-DDT	0.0E+00	2.7E-05	1	0.0E+00	5.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	2.7E-05	1	0.0E+00	3.0E-05	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	2.7E-05	1	0.0E+00	6.0E-05	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	2.7E-05	1	0.0E+00	NA	NA	0.0E+00	2.3E-06	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	2.7E-05	1	0.0E+00	NA	NA	0.0E+00	2.3E-06	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	2.7E-05	1	0.0E+00	5.0E-05	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	2.7E-05	1	0.0E+00	2.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	2.7E-05	1	0.0E+00	6.0E-05	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	2.7E-05	1	0.0E+00	5.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Tota	0.0E+00	2.7E-05	1	0.0E+00	4.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
61	Arsenic, Total	2.4E-03	2.7E-05	1	6.4E-08	3.0E-04	2E-04	2.4E-03	2.3E-06	1	5.4E-09	1.8E+00	1.0E-0
62	Barium, Total	5.7E-02	2.7E-05	1	1.5E-06	7.0E-02	2E-05	5.7E-02	2.3E-06	1	1.3E-07	NA	NA
63	Beryllium, Tot	0.0E+00	2.7E-05	1	0.0E+00	5.0E-03	0E+00	0.0E+00	2.3E-06	1	0.0E+00	4.3E+00	0E+00
64	Cadmium, Total	0.0E+00	2.7E-05	1	0.0E+00	NA	NA	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
65	Cadmium, Total	0.0E+00	2.7E-05	1	0.0E+00	NA	NA	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
66	Chromium, Tota	1.4E-02	2.7E-05	1	3.8E-07	2.0E-02	2E-05	1.4E-02	2.3E-06	1	3.2E-08	NA	NA
67	Mercury, Total	0.0E+00	2.7E-05	1	0.0E+00	3.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
68	Nickel, Total	7.2E-03	2.7E-05	1	2.0E-07	2.0E-02	1.0E-05	7.2E-03	2.3E-06	1	1.7E-08	NA	NA
69	Silver, Total	0.0E+00	2.7E-05	1	0.0E+00	5.0E-03	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
70	Thallium, Tota	0.0E+00	2.7E-05	1	0.0E+00	7.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
71	Vanadium, Tota	0.0E+00	2.7E-05	1	0.0E+00	7.0E-03	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	2.7E-05	1	0.0E+00	2.0E-02	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
73	Nitrogen, Nitr	7.6E-01	2.7E-05	1	2.1E-05	1.0E-01	2E-04	7.6E-01	2.3E-06	1	1.7E-06	NA	NA

RANGE NAME: WS2

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP2
LAST UPDATED: 07/24/92

LAND USE: CURRENT
POPULATION: WADER

EXPOSURE POINT: QUARRY PIT
MEDIUM: SURFACE WATER
ROUTE: DERMAL

HIFs = 7.4E-03
HIFc = 0.0E+00
HIFl = 6.3E-04

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	P	DIs	RfDS	HQs	Cc	HIFc	P	DIc	RfDC	HQc	Cl	HIFl	P	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	7.4E-03	1.7E-02	0.0E+00	9.0E-01	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	6.3E-04	1.7E-02	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	7.4E-03	8.9E-03	0.0E+00	1.0E+00	0E+00							0.0E+00	6.3E-04	8.9E-03	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	7.4E-03	1.6E-02	0.0E+00	9.0E-03	0E+00							0.0E+00	6.3E-04	1.6E-02	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroet	0.0E+00	7.4E-03	1.0E-02	0.0E+00	1.0E-01	0E+00							0.0E+00	6.3E-04	1.0E-02	0.0E+00	NA	NA
5	2-Butanone	0.0E+00	7.4E-03	1.1E-03	0.0E+00	5.0E-01	0E+00							0.0E+00	6.3E-04	1.1E-03	0.0E+00	NA	NA
6	4-Methyl-2-pen	0.0E+00	7.4E-03	2.8E-03	0.0E+00	5.0E-01	0E+00							0.0E+00	6.3E-04	2.8E-03	0.0E+00	NA	NA
7	Acetone	4.0E-03	7.4E-03	5.7E-04	1.7E-08	1.0E+00	2E-08							4.0E-03	6.3E-04	5.7E-04	1.4E-09	NA	NA
8	Benzene	0.0E+00	7.4E-03	2.1E-02	0.0E+00	NA	NA							0.0E+00	6.3E-04	2.1E-02	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	7.4E-03	5.8E-03	0.0E+00	2.0E-02	0E+00							0.0E+00	6.3E-04	5.8E-03	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfi	0.0E+00	7.4E-03	2.4E-02	0.0E+00	1.0E-01	0E+00							0.0E+00	6.3E-04	2.4E-02	0.0E+00	NA	NA
11	Chlorobenzene	0.0E+00	7.4E-03	4.1E-02	0.0E+00	2.0E-01	0E+00							0.0E+00	6.3E-04	4.1E-02	0.0E+00	NA	NA
12	Chloroform	0.0E+00	7.4E-03	8.9E-03	0.0E+00	1.0E-02	0E+00							0.0E+00	6.3E-04	8.9E-03	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene	0.0E+00	7.4E-03	7.4E-02	0.0E+00	1.0E+00	0E+00							0.0E+00	6.3E-04	7.4E-02	0.0E+00	NA	NA
14	Methylene Chlo	3.4E-02	7.4E-03	4.5E-03	1.1E-06	6.0E-02	2E-05							3.4E-02	6.3E-04	4.5E-03	9.8E-08	7.5E-03	7E-10
15	Styrene	0.0E+00	7.4E-03	5.5E-02	0.0E+00	2.0E+00	0E+00							0.0E+00	6.3E-04	5.5E-02	0.0E+00	3.0E-02	0E+00
16	Tetrachloroeth	0.0E+00	7.4E-03	4.8E-02	0.0E+00	1.0E-01	0E+00							0.0E+00	6.3E-04	4.8E-02	0.0E+00	5.1E-02	0E+00
17	Toluene	0.0E+00	7.4E-03	4.5E-02	0.0E+00	2.0E+00	0E+00							0.0E+00	6.3E-04	4.5E-02	0.0E+00	NA	NA
18	Trichloroethen	0.0E+00	7.4E-03	1.6E-02	0.0E+00	NA	NA							0.0E+00	6.3E-04	1.6E-02	0.0E+00	1.1E-02	0E+00
19	Vinyl Chloride	0.0E+00	7.4E-03	7.0E-03	0.0E+00	NA	NA							0.0E+00	6.3E-04	7.0E-03	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total	0.0E+00	7.4E-03	8.0E-02	0.0E+00	4.0E+00	0E+00							0.0E+00	6.3E-04	8.0E-02	0.0E+00	NA	NA
21	1,4-Dichlorobe	0.0E+00	7.4E-03	6.2E-02	0.0E+00	NA	NA							0.0E+00	6.3E-04	6.2E-02	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylph	0.0E+00	7.4E-03	1.5E-02	0.0E+00	2.0E-01	0E+00							0.0E+00	6.3E-04	1.5E-02	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
24	2-Methylphenol	0.0E+00	7.4E-03	1.0E-02	0.0E+00	5.0E-01	0E+00							0.0E+00	6.3E-04	1.0E-02	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
26	Acenaphthylene	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
27	Anthracene	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
28	Benzo(a)anthra	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
29	Benzo(a)pyrene	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
30	Benzo(b)fluora	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
31	Benzo(g,h,i)pe	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
32	Benzo(k)fluora	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
33	Benzoic acid	0.0E+00	7.4E-03	7.3E-03	0.0E+00	4.0E+00	0E+00							0.0E+00	6.3E-04	7.3E-03	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	7.4E-03	2.5E-03	0.0E+00	1.0E+00	0E+00							0.0E+00	6.3E-04	2.5E-03	0.0E+00	NA	NA
35	bis(2-Ethylhex	0.0E+00	7.4E-03	3.3E-02	0.0E+00	2.0E-02	0E+00							0.0E+00	6.3E-04	3.3E-02	0.0E+00	1.4E-02	0E+00
36	Butylbenzylpht	0.0E+00	7.4E-03	2.4E-02	0.0E+00	2.0E+00	0E+00							0.0E+00	6.3E-04	2.4E-02	0.0E+00	NA	NA
37	Chrysene	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
38	Di-n-butylphth	0.0E+00	7.4E-03	4.9E-02	0.0E+00	1.0E+00	0E+00							0.0E+00	6.3E-04	4.9E-02	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	7.4E-03	7.2E-03	0.0E+00	2.0E-02	0E+00							0.0E+00	6.3E-04	7.2E-03	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
41	Diethylphthala	0.0E+00	7.4E-03	4.8E-03	0.0E+00	8.0E+00	0E+00	0.0E+00	6.3E-04	4.8E-03	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	7.4E-03	1.6E-03	0.0E+00	1.0E+00	0E+00	0.0E+00	6.3E-04	1.6E-03	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
44	Fluorene	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
45	Indeno(1,2,3-c	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
46	Naphthalene	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
47	Phenanthrene	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
48	Phenol	0.0E+00	7.4E-03	5.5E-03	0.0E+00	6.0E-01	0E+00	0.0E+00	6.3E-04	5.5E-03	0.0E+00	NA	NA
49	Pyrene	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
50	4,4-DDE	0.0E+00	7.4E-03	2.4E-01	0.0E+00	NA	NA	0.0E+00	6.3E-04	2.4E-01	0.0E+00	3.4E-01	0E+00
51	4,4-DDT	0.0E+00	7.4E-03	4.3E-01	0.0E+00	5.0E-04	0E+00	0.0E+00	6.3E-04	4.3E-01	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	7.4E-03	1.6E-03	0.0E+00	3.0E-05	0E+00	0.0E+00	6.3E-04	1.6E-03	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	7.4E-03	8.9E+00	0.0E+00	6.0E-05	0E+00	0.0E+00	6.3E-04	8.9E+00	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	7.4E-03	6.6E-01	0.0E+00	NA	NA	0.0E+00	6.3E-04	6.6E-01	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	7.4E-03	2.1E-02	0.0E+00	NA	NA	0.0E+00	6.3E-04	2.1E-02	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	7.4E-03	1.6E-02	0.0E+00	5.0E-05	0E+00	0.0E+00	6.3E-04	1.6E-02	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	7.4E-03	2.3E-03	0.0E+00	2.0E-04	0E+00	0.0E+00	6.3E-04	2.3E-03	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	7.4E-03	9.8E-02	0.0E+00	6.0E-05	0E+00	0.0E+00	6.3E-04	9.8E-02	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	7.4E-03	1.1E-02	0.0E+00	5.0E-04	0E+00	0.0E+00	6.3E-04	1.1E-02	0.0E+00	4.5E+00	0E+00
60	Antimony, Tota	0.0E+00	7.4E-03	1.0E-03	0.0E+00	2.0E-05	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
61	Arsenic, Total	2.4E-03	7.4E-03	1.0E-03	1.8E-08	3.0E-04	6E-05	2.4E-03	6.3E-04	1.0E-03	1.5E-09	1.8E+00	3E-09
62	Barium, Total	5.7E-02	7.4E-03	1.0E-03	4.2E-07	7.0E-03	6E-05	5.7E-02	6.3E-04	1.0E-03	3.6E-08	NA	NA
63	Beryllium, Tot	0.0E+00	7.4E-03	1.0E-03	0.0E+00	5.0E-06	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	4.3E+03	0E+00
64	Cadmium, Total	0.0E+00	7.4E-03	1.0E-03	0.0E+00	NA	NA	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
65	Cadmium, Total	0.0E+00	7.4E-03	1.0E-03	0.0E+00	NA	NA	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
66	Chromium, Tota	1.4E-02	7.4E-03	1.0E-03	1.0E-07	1.0E-03	1E-04	1.4E-02	6.3E-04	1.0E-03	8.8E-09	NA	NA
67	Mercury, Total	0.0E+00	7.4E-03	1.0E-03	0.0E+00	4.5E-05	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
68	Nickel, Total	7.2E-03	7.4E-03	1.0E-03	5.4E-08	1.0E-03	5E-05	7.2E-03	6.3E-04	1.0E-03	4.6E-09	NA	NA
69	Silver, Total	0.0E+00	7.4E-03	1.0E-03	0.0E+00	2.5E-04	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
70	Thallium, Tota	0.0E+00	7.4E-03	1.0E-03	0.0E+00	3.5E-05	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
71	Vanadium, Tota	0.0E+00	7.4E-03	1.0E-03	0.0E+00	1.4E-04	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	7.4E-03	1.0E-03	0.0E+00	2.0E-02	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
73	Nitrogen, Nitr	7.6E-01	7.4E-03	1.0E-03	5.6E-06	1.0E-01	6E-05	7.6E-01	6.3E-04	1.0E-03	4.8E-07	NA	NA

RANGE NAME: WS3

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP2
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: CURRENT
POPULATION: WADER

EXPOSURE POINT: QUARRY PIT
MEDIUM: SEDIMENT
ROUTE: ORAL

HIFs = 1.1E-08
HIFc = 0.0E+00
HIFl = 9.2E-10

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	1.1E-08	1	0.0E+00	9.0E-01	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	1.1E-08	1	0.0E+00	1.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	1.1E-08	1	0.0E+00	9.0E-03	0E+00							0.0E+00	9.2E-10	1	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroet	0.0E+00	1.1E-08	1	0.0E+00	1.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
5	2-Butanone	1.5E-02	1.1E-08	1	1.7E-10	5.0E-01	3E-10							1.5E-02	9.2E-10	1	1.4E-11	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.1E-08	1	0.0E+00	5.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
7	Acetone	0.0E+00	1.1E-08	1	0.0E+00	1.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
8	Benzene	0.0E+00	1.1E-08	1	0.0E+00	NA	NA							0.0E+00	9.2E-10	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.1E-08	1	0.0E+00	2.0E-02	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfi	0.0E+00	1.1E-08	1	0.0E+00	1.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
11	Chlorobenzene	0.0E+00	1.1E-08	1	0.0E+00	2.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	1.1E-08	1	0.0E+00	1.0E-02	0E+00							0.0E+00	9.2E-10	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene	0.0E+00	1.1E-08	1	0.0E+00	1.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
14	Methylene Chlo	0.0E+00	1.1E-08	1	0.0E+00	6.0E-02	0E+00							0.0E+00	9.2E-10	1	0.0E+00	7.5E-03	0E+00
15	Styrene	0.0E+00	1.1E-08	1	0.0E+00	2.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroeth	0.0E+00	1.1E-08	1	0.0E+00	1.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	5.1E-02	0E+00
17	Toluene	0.0E+00	1.1E-08	1	0.0E+00	2.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
18	Trichloroethen	0.0E+00	1.1E-08	1	0.0E+00	NA	NA							0.0E+00	9.2E-10	1	0.0E+00	1.1E-02	0E+00
19	Vinyl Chloride	0.0E+00	1.1E-08	1	0.0E+00	NA	NA							0.0E+00	9.2E-10	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total	0.0E+00	1.1E-08	1	0.0E+00	4.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
21	1,4-Dichlorobe	0.0E+00	1.1E-08	1	0.0E+00	NA	NA							0.0E+00	9.2E-10	1	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylph	0.0E+00	1.1E-08	1	0.0E+00	2.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.1E-08	1	0.0E+00	4.0E-02	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.1E-08	1	0.0E+00	5.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.1E-08	1	0.0E+00	6.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	1.1E-08	1	0.0E+00	6.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.1E-08	1	0.0E+00	3.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
30	Benzo(b)fluora	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
31	Benzo(g,h,i)pe	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
32	Benzo(k)fluora	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
33	Benzoic acid	1.9E-01	1.1E-08	1	2.1E-09	4.0E+00	5E-10							1.9E-01	9.2E-10	1	1.7E-10	NA	NA
34	Benzyl alcohol	0.0E+00	1.1E-08	1	0.0E+00	1.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	4.5E-01	1.1E-08	1	5.0E-09	2.0E-02	2E-07							4.5E-01	9.2E-10	1	4.2E-10	1.4E-02	6E-12
36	Butylbenzylpht	0.0E+00	1.1E-08	1	0.0E+00	2.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
37	Chrysene	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
38	Di-n-butylphth	0.0E+00	1.1E-08	1	0.0E+00	1.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	1.1E-08	1	0.0E+00	2.0E-02	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthala	0.0E+00	1.1E-08	1	0.0E+00	8.0E+00	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	1.1E-08	1	0.0E+00	1.0E+00	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	1.1E-08	1	0.0E+00	4.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	1.1E-08	1	0.0E+00	4.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
46	Naphthalene	0.0E+00	1.1E-08	1	0.0E+00	4.0E-02	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	1.1E-08	1	0.0E+00	6.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	1.1E-08	1	0.0E+00	NA	NA	0.0E+00	9.2E-10	1	0.0E+00	3.4E-01	0E+00
51	4,4-DDT	0.0E+00	1.1E-08	1	0.0E+00	5.0E-04	0E+00	0.0E+00	9.2E-10	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	1.1E-08	1	0.0E+00	3.0E-05	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.1E-08	1	0.0E+00	6.0E-05	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.1E-08	1	0.0E+00	NA	NA	0.0E+00	9.2E-10	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	1.1E-08	1	0.0E+00	NA	NA	0.0E+00	9.2E-10	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.1E-08	1	0.0E+00	5.0E-05	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.1E-08	1	0.0E+00	2.0E-04	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.1E-08	1	0.0E+00	6.0E-05	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.1E-08	1	0.0E+00	5.0E-04	0E+00	0.0E+00	9.2E-10	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Tota	1.7E+01	1.1E-08	1	1.9E-07	4.0E-04	5E-04	1.7E+01	9.2E-10	1	1.6E-08	NA	NA
61	Arsenic, Total	1.8E+01	1.1E-08	1	2.0E-07	3.0E-04	7E-04	1.8E+01	9.2E-10	1	1.7E-08	1.8E+00	3E-08
62	Barium, Total	1.00E+02	1.1E-08	1	1.1E-06	7.0E-02	2E-05	1.00E+02	9.2E-10	1	9.2E-08	NA	NA
63	Beryllium, Tot	9.2E-01	1.1E-08	1	1.0E-08	5.0E-03	2E-06	9.2E-01	9.2E-10	1	8.5E-10	4.3E+00	4E-09
64	Cadmium, Total	0.0E+00	1.1E-08	1	0.0E+00	NA	NA	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
65	Cadmium, Total	0.0E+00	1.1E-08	1	0.0E+00	NA	NA	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
66	Chromium, Tota	1.7E+01	1.1E-08	1	1.9E-07	2.0E-02	1.0E-05	1.7E+01	9.2E-10	1	1.6E-08	NA	NA
67	Mercury, Total	0.0E+00	1.1E-08	1	0.0E+00	3.0E-04	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
68	Nickel, Total	2.7E+01	1.1E-08	1	3.0E-07	2.0E-02	1E-05	2.7E+01	9.2E-10	1	2.5E-08	NA	NA
69	Silver, Total	0.0E+00	1.1E-08	1	0.0E+00	5.0E-03	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
70	Thallium, Tota	0.0E+00	1.1E-08	1	0.0E+00	7.0E-04	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
71	Vanadium, Tota	2.9E+01	1.1E-08	1	3.2E-07	7.0E-03	5E-05	2.9E+01	9.2E-10	1	2.7E-08	NA	NA
72	Cyanide, Total	0.0E+00	1.1E-08	1	0.0E+00	2.0E-02	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.1E-08	1	0.0E+00	1.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA

RANGE NAME: WS4

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP2
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: CURRENT
POPULATION: WADER

EXPOSURE POINT: POND
MEDIUM: SURFACE WATER
ROUTE: ORAL

HIFs = 2.7E-05
HIFc = 0.0E+00
HIFl = 2.3E-06

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	l	DIs	RfDS	HQs	Cc	HIFc	l	DIc	RfDC	HQc	Cl	HIFl	l	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	2.7E-05	1	0.0E+00	9.0E-01	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	2.7E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	2.7E-05	1	0.0E+00	9.0E-03	0E+00							0.0E+00	2.3E-06	1	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroet	0.0E+00	2.7E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
5	2-Butanone	0.0E+00	2.7E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
6	4-Methyl-2-pen	3.0E-03	2.7E-05	1	8.1E-08	5.0E-01	2E-07							3.0E-03	2.3E-06	1	6.9E-09	NA	NA
7	Acetone	5.0E-03	2.7E-05	1	1.4E-07	1.0E+00	1E-07							5.0E-03	2.3E-06	1	1.2E-08	NA	NA
8	Benzene	0.0E+00	2.7E-05	1	0.0E+00	NA	NA							0.0E+00	2.3E-06	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	2.7E-05	1	0.0E+00	2.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfi	4.0E-03	2.7E-05	1	1.1E-07	1.0E-01	1E-06							4.0E-03	2.3E-06	1	9.2E-09	NA	NA
11	Chlorobenzene	0.0E+00	2.7E-05	1	0.0E+00	2.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	2.7E-05	1	0.0E+00	1.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene	2.3E-03	2.7E-05	1	6.1E-08	1.0E+00	6E-08							2.3E-03	2.3E-06	1	5.2E-09	NA	NA
14	Methylene Chlo	0.0E+00	2.7E-05	1	0.0E+00	6.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	7.5E-03	0E+00
15	Styrene	0.0E+00	2.7E-05	1	0.0E+00	2.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroeth	0.0E+00	2.7E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	5.1E-02	0E+00
17	Toluene	0.0E+00	2.7E-05	1	0.0E+00	2.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
18	Trichloroethen	0.0E+00	2.7E-05	1	0.0E+00	NA	NA							0.0E+00	2.3E-06	1	0.0E+00	1.1E-02	0E+00
19	Vinyl Chloride	0.0E+00	2.7E-05	1	0.0E+00	NA	NA							0.0E+00	2.3E-06	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total	4.9E-03	2.7E-05	1	1.3E-07	4.0E+00	3E-08							4.9E-03	2.3E-06	1	1.1E-08	NA	NA
21	1,4-Dichlorobe	0.0E+00	2.7E-05	1	0.0E+00	NA	NA							0.0E+00	2.3E-06	1	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylph	0.0E+00	2.7E-05	1	0.0E+00	2.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	2.7E-05	1	0.0E+00	4.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	2.7E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	2.7E-05	1	0.0E+00	6.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	2.7E-05	1	0.0E+00	6.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	2.7E-05	1	0.0E+00	3.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
30	Benzo(b)fluora	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
31	Benzo(g,h,i)pe	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
32	Benzo(k)fluora	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
33	Benzoic acid	0.0E+00	2.7E-05	1	0.0E+00	4.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	2.7E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	0.0E+00	2.7E-05	1	0.0E+00	2.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.4E-02	0E+00
36	Butylbenzylpht	0.0E+00	2.7E-05	1	0.0E+00	2.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
37	Chrysene	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00							0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
38	Di-n-butylphth	0.0E+00	2.7E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	2.7E-05	1	0.0E+00	2.0E-02	0E+00							0.0E+00	2.3E-06	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthala	0.0E+00	2.7E-05	1	0.0E+00	8.0E+00	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	2.7E-05	1	0.0E+00	1.0E+00	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	2.7E-05	1	0.0E+00	4.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	2.7E-05	1	0.0E+00	4.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.2E+01	0E+00
46	Naphthalene	0.0E+00	2.7E-05	1	0.0E+00	4.0E-02	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	2.7E-05	1	0.0E+00	6.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	2.7E-05	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	2.7E-05	1	0.0E+00	NA	NA	0.0E+00	2.3E-06	1	0.0E+00	3.4E-01	0E+00
51	4,4-DDT	0.0E+00	2.7E-05	1	0.0E+00	5.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	2.7E-05	1	0.0E+00	3.0E-05	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	2.7E-05	1	0.0E+00	6.0E-05	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	2.7E-05	1	0.0E+00	NA	NA	0.0E+00	2.3E-06	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	2.7E-05	1	0.0E+00	NA	NA	0.0E+00	2.3E-06	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	2.7E-05	1	0.0E+00	5.0E-05	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	2.7E-05	1	0.0E+00	2.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	2.7E-05	1	0.0E+00	6.0E-05	0E+00	0.0E+00	2.3E-06	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	2.7E-05	1	0.0E+00	5.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Tota	0.0E+00	2.7E-05	1	0.0E+00	4.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
61	Arsenic, Total	2.6E-03	2.7E-05	1	7.1E-08	3.0E-04	2E-04	2.6E-03	2.3E-06	1	6.1E-09	1.8E+00	1E-08
62	Barium, Total	3.7E-02	2.7E-05	1	9.9E-07	7.0E-02	1E-05	3.7E-02	2.3E-06	1	8.4E-08	NA	NA
63	Beryllium, Tot	0.0E+00	2.7E-05	1	0.0E+00	5.0E-03	0E+00	0.0E+00	2.3E-06	1	0.0E+00	4.3E+00	0E+00
64	Cadmium, Total	0.0E+00	2.7E-05	1	0.0E+00	NA	NA	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
65	Cadmium, Total	0.0E+00	2.7E-05	1	0.0E+00	NA	NA	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
66	Chromium, Tota	3.8E-03	2.7E-05	1	1.0E-07	2.0E-02	5E-06	3.8E-03	2.3E-06	1	8.7E-09	NA	NA
67	Mercury, Total	0.0E+00	2.7E-05	1	0.0E+00	3.0E-04	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	2.7E-05	1	0.0E+00	2.0E-02	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
69	Silver, Total	2.9E-03	2.7E-05	1	7.8E-08	5.0E-03	2E-05	2.9E-03	2.3E-06	1	6.6E-09	NA	NA
70	Thallium, Tota	1.1E-03	2.7E-05	1	2.9E-08	7.0E-04	4E-05	1.1E-03	2.3E-06	1	2.4E-09	NA	NA
71	Vanadium, Tota	2.3E-03	2.7E-05	1	6.3E-08	7.0E-03	9E-06	2.3E-03	2.3E-06	1	5.4E-09	NA	NA
72	Cyanide, Total	0.0E+00	2.7E-05	1	0.0E+00	2.0E-02	0E+00	0.0E+00	2.3E-06	1	0.0E+00	NA	NA
73	Nitrogen, Nitr	2.0E-01	2.7E-05	1	5.3E-06	1.0E-01	5E-05	2.0E-01	2.3E-06	1	4.5E-07	NA	NA

RANGE NAME: WS5

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP2
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: CURRENT
POPULATION: WADER

EXPOSURE POINT: POND
MEDIUM: SURFACE WATER
ROUTE: DERMAL

HIFs = 7.4E-03
HIFc = 0.0E+00
HIFl = 6.3E-04

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	P	DIs	RfDS	HQs	Cc	HIFc	P	DIc	RfDC	HQc	Cl	HIFl	P	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	7.4E-03	1.7E-02	0.0E+00	9.0E-01	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	6.3E-04	1.7E-02	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	7.4E-03	8.9E-03	0.0E+00	1.0E+00	0E+00							0.0E+00	6.3E-04	8.9E-03	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	7.4E-03	1.6E-02	0.0E+00	9.0E-03	0E+00							0.0E+00	6.3E-04	1.6E-02	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroet	0.0E+00	7.4E-03	1.0E-02	0.0E+00	1.0E-01	0E+00							0.0E+00	6.3E-04	1.0E-02	0.0E+00	NA	NA
5	2-Butanone	0.0E+00	7.4E-03	1.1E-03	0.0E+00	5.0E-01	0E+00							0.0E+00	6.3E-04	1.1E-03	0.0E+00	NA	NA
6	4-Methyl-2-pen	3.0E-03	7.4E-03	2.8E-03	6.2E-08	5.0E-01	1E-07							3.0E-03	6.3E-04	2.8E-03	5.3E-09	NA	NA
7	Acetone	5.0E-03	7.4E-03	5.7E-04	2.1E-08	1.0E+00	2E-08							5.0E-03	6.3E-04	5.7E-04	1.8E-09	NA	NA
8	Benzene	0.0E+00	7.4E-03	2.1E-02	0.0E+00	NA	NA							0.0E+00	6.3E-04	2.1E-02	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	7.4E-03	5.8E-03	0.0E+00	2.0E-02	0E+00							0.0E+00	6.3E-04	5.8E-03	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfi	4.0E-03	7.4E-03	2.4E-02	7.1E-07	1.0E-01	7E-06							4.0E-03	6.3E-04	2.4E-02	6.0E-08	NA	NA
11	Chlorobenzene	0.0E+00	7.4E-03	4.1E-02	0.0E+00	2.0E-01	0E+00							0.0E+00	6.3E-04	4.1E-02	0.0E+00	NA	NA
12	Chloroform	0.0E+00	7.4E-03	8.9E-03	0.0E+00	1.0E-02	0E+00							0.0E+00	6.3E-04	8.9E-03	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene	2.3E-03	7.4E-03	7.4E-02	1.2E-06	1.0E+00	1E-06							2.3E-03	6.3E-04	7.4E-02	1.0E-07	NA	NA
14	Methylene Chlo	0.0E+00	7.4E-03	4.5E-03	0.0E+00	6.0E-02	0E+00							0.0E+00	6.3E-04	4.5E-03	0.0E+00	7.5E-03	0E+00
15	Styrene	0.0E+00	7.4E-03	5.5E-02	0.0E+00	2.0E+00	0E+00							0.0E+00	6.3E-04	5.5E-02	0.0E+00	3.0E-02	0E+00
16	Tetrachloroeth	0.0E+00	7.4E-03	4.8E-02	0.0E+00	1.0E-01	0E+00							0.0E+00	6.3E-04	4.8E-02	0.0E+00	5.1E-02	0E+00
17	Toluene	0.0E+00	7.4E-03	4.5E-02	0.0E+00	2.0E+00	0E+00							0.0E+00	6.3E-04	4.5E-02	0.0E+00	NA	NA
18	Trichloroethen	0.0E+00	7.4E-03	1.6E-02	0.0E+00	NA	NA							0.0E+00	6.3E-04	1.6E-02	0.0E+00	1.1E-02	0E+00
19	Vinyl Chloride	0.0E+00	7.4E-03	7.0E-03	0.0E+00	NA	NA							0.0E+00	6.3E-04	7.0E-03	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total	4.9E-03	7.4E-03	8.0E-02	2.9E-06	4.0E+00	7E-07							4.9E-03	6.3E-04	8.0E-02	2.5E-07	NA	NA
21	1,4-Dichlorobe	0.0E+00	7.4E-03	6.2E-02	0.0E+00	NA	NA							0.0E+00	6.3E-04	6.2E-02	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylph	0.0E+00	7.4E-03	1.5E-02	0.0E+00	2.0E-01	0E+00							0.0E+00	6.3E-04	1.5E-02	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
24	2-Methylphenol	0.0E+00	7.4E-03	1.0E-02	0.0E+00	5.0E-01	0E+00							0.0E+00	6.3E-04	1.0E-02	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
26	Acenaphthylene	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
27	Anthracene	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
28	Benzo(a)anthra	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
29	Benzo(a)pyrene	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
30	Benzo(b)fluora	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
31	Benzo(g,h,i)pe	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
32	Benzo(k)fluora	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
33	Benzoic acid	0.0E+00	7.4E-03	7.3E-03	0.0E+00	4.0E+00	0E+00							0.0E+00	6.3E-04	7.3E-03	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	7.4E-03	2.5E-03	0.0E+00	1.0E+00	0E+00							0.0E+00	6.3E-04	2.5E-03	0.0E+00	NA	NA
35	bis(2-Ethylhex	0.0E+00	7.4E-03	3.3E-02	0.0E+00	2.0E-02	0E+00							0.0E+00	6.3E-04	3.3E-02	0.0E+00	1.4E-02	0E+00
36	Butylbenzylpht	0.0E+00	7.4E-03	2.4E-02	0.0E+00	2.0E+00	0E+00							0.0E+00	6.3E-04	2.4E-02	0.0E+00	NA	NA
37	Chrysene	0.0E+00	7.4E-03	NA	NA	NA	NA							0.0E+00	6.3E-04	NA	NA	NA	NA
38	Di-n-butylphth	0.0E+00	7.4E-03	4.9E-02	0.0E+00	1.0E+00	0E+00							0.0E+00	6.3E-04	4.9E-02	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	7.4E-03	7.2E-03	0.0E+00	2.0E-02	0E+00							0.0E+00	6.3E-04	7.2E-03	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
41	Diethylphthala	0.0E+00	7.4E-03	4.8E-03	0.0E+00	8.0E+00	0E+00	0.0E+00	6.3E-04	4.8E-03	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	7.4E-03	1.6E-03	0.0E+00	1.0E+00	0E+00	0.0E+00	6.3E-04	1.6E-03	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
44	Fluorene	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
45	Indeno(1,2,3-c	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
46	Naphthalene	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
47	Phenanthrene	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
48	Phenol	0.0E+00	7.4E-03	5.5E-03	0.0E+00	6.0E-01	0E+00	0.0E+00	6.3E-04	5.5E-03	0.0E+00	NA	NA
49	Pyrene	0.0E+00	7.4E-03	NA	NA	NA	NA	0.0E+00	6.3E-04	NA	NA	NA	NA
50	4,4-DDE	0.0E+00	7.4E-03	2.4E-01	0.0E+00	NA	NA	0.0E+00	6.3E-04	2.4E-01	0.0E+00	3.4E-01	0E+00
51	4,4-DDT	0.0E+00	7.4E-03	4.3E-01	0.0E+00	5.0E-04	0E+00	0.0E+00	6.3E-04	4.3E-01	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	7.4E-03	1.6E-03	0.0E+00	3.0E-05	0E+00	0.0E+00	6.3E-04	1.6E-03	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	7.4E-03	8.9E+00	0.0E+00	6.0E-05	0E+00	0.0E+00	6.3E-04	8.9E+00	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	7.4E-03	6.6E-01	0.0E+00	NA	NA	0.0E+00	6.3E-04	6.6E-01	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	7.4E-03	2.1E-02	0.0E+00	NA	NA	0.0E+00	6.3E-04	2.1E-02	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	7.4E-03	1.6E-02	0.0E+00	5.0E-05	0E+00	0.0E+00	6.3E-04	1.6E-02	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	7.4E-03	2.3E-03	0.0E+00	2.0E-04	0E+00	0.0E+00	6.3E-04	2.3E-03	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	7.4E-03	9.8E-02	0.0E+00	6.0E-05	0E+00	0.0E+00	6.3E-04	9.8E-02	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	7.4E-03	1.1E-02	0.0E+00	5.0E-04	0E+00	0.0E+00	6.3E-04	1.1E-02	0.0E+00	4.5E+00	0E+00
60	Antimony, Tota	0.0E+00	7.4E-03	1.0E-03	0.0E+00	2.0E-05	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
61	Arsenic, Total	2.6E-03	7.4E-03	1.0E-03	2.0E-08	3.0E-04	7E-05	2.6E-03	6.3E-04	1.0E-03	1.7E-09	1.8E+00	3E-09
62	Barium, Total	3.7E-02	7.4E-03	1.0E-03	2.7E-07	7.0E-03	4E-05	3.7E-02	6.3E-04	1.0E-03	2.3E-08	NA	NA
63	Beryllium, Tot	0.0E+00	7.4E-03	1.0E-03	0.0E+00	5.0E-06	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	4.3E+03	0E+00
64	Cadmium, Total	0.0E+00	7.4E-03	1.0E-03	0.0E+00	NA	NA	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
65	Cadmium, Total	0.0E+00	7.4E-03	1.0E-03	0.0E+00	NA	NA	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
66	Chromium, Tota	3.8E-03	7.4E-03	1.0E-03	2.8E-08	1.0E-03	3E-05	3.8E-03	6.3E-04	1.0E-03	2.4E-09	NA	NA
67	Mercury, Total	0.0E+00	7.4E-03	1.0E-03	0.0E+00	4.5E-05	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	7.4E-03	1.0E-03	0.0E+00	1.0E-03	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
69	Silver, Total	2.9E-03	7.4E-03	1.0E-03	2.1E-08	2.5E-04	9E-05	2.9E-03	6.3E-04	1.0E-03	1.8E-09	NA	NA
70	Thallium, Tota	1.1E-03	7.4E-03	1.0E-03	7.9E-09	3.5E-05	2E-04	1.1E-03	6.3E-04	1.0E-03	6.7E-10	NA	NA
71	Vanadium, Tota	2.3E-03	7.4E-03	1.0E-03	1.7E-08	1.4E-04	1E-04	2.3E-03	6.3E-04	1.0E-03	1.5E-09	NA	NA
72	Cyanide, Total	0.0E+00	7.4E-03	1.0E-03	0.0E+00	2.0E-02	0E+00	0.0E+00	6.3E-04	1.0E-03	0.0E+00	NA	NA
73	Nitrogen, Nitr	2.0E-01	7.4E-03	1.0E-03	1.5E-06	1.0E-01	1E-05	2.0E-01	6.3E-04	1.0E-03	1.2E-07	NA	NA

RANGE NAME: WS6

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP2
LAST UPDATED: 07/24/92

LAND USE: CURRENT
POPULATION: WADER

EXPOSURE POINT: POND
MEDIUM: SEDIMENT
ROUTE: ORAL

HIFs = 1.1E-08
HIFc = 0.0E+00
HIFl = 9.2E-10

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	l	DIs	RfDS	HQs	Cc	HIFc	l	DIc	RfDC	HQc	Cl	HIFl	l	DIl	SF	RISK
1	1,1,1-Trichlor	1.0E-03	1.1E-08	1	1.1E-11	9.0E-01	1E-11		0.0E+00		0.0E+00		ERR	1.0E-03	9.2E-10	1	9.2E-13	NA	NA
2	1,1-Dichloroet	0.0E+00	1.1E-08	1	0.0E+00	1.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	1.1E-08	1	0.0E+00	9.0E-03	0E+00							0.0E+00	9.2E-10	1	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroet	0.0E+00	1.1E-08	1	0.0E+00	1.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
5	2-Butanone	7.5E-03	1.1E-08	1	8.3E-11	5.0E-01	2E-10							7.5E-03	9.2E-10	1	6.9E-12	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.1E-08	1	0.0E+00	5.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
7	Acetone	2.7E-02	1.1E-08	1	2.9E-10	1.0E+00	3E-10							2.7E-02	9.2E-10	1	2.5E-11	NA	NA
8	Benzene	0.0E+00	1.1E-08	1	0.0E+00	NA	NA							0.0E+00	9.2E-10	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.1E-08	1	0.0E+00	2.0E-02	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfi	1.00E-02	1.1E-08	1	1.1E-10	1.0E-01	1E-09							1.00E-02	9.2E-10	1	9.2E-12	NA	NA
11	Chlorobenzene	0.0E+00	1.1E-08	1	0.0E+00	2.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
12	Chloroform	7.0E-04	1.1E-08	1	7.7E-12	1.0E-02	8E-10							7.0E-04	9.2E-10	1	6.4E-13	6.1E-03	4E-15
13	Ethyl Benzene	0.0E+00	1.1E-08	1	0.0E+00	1.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
14	Methylene Chlo	2.0E-03	1.1E-08	1	2.2E-11	6.0E-02	4E-10							2.0E-03	9.2E-10	1	1.8E-12	7.5E-03	1E-14
15	Styrene	0.0E+00	1.1E-08	1	0.0E+00	2.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroeth	1.0E-03	1.1E-08	1	1.1E-11	1.0E-01	1E-10							1.0E-03	9.2E-10	1	9.2E-13	5.1E-02	5E-14
17	Toluene	0.0E+00	1.1E-08	1	0.0E+00	2.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
18	Trichloroethen	2.0E-03	1.1E-08	1	2.2E-11	NA	NA							2.0E-03	9.2E-10	1	1.8E-12	1.1E-02	2E-14
19	Vinyl Chloride	0.0E+00	1.1E-08	1	0.0E+00	NA	NA							0.0E+00	9.2E-10	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total	1.0E-03	1.1E-08	1	1.1E-11	4.0E+00	3E-12							1.0E-03	9.2E-10	1	9.2E-13	NA	NA
21	1,4-Dichlorobe	0.0E+00	1.1E-08	1	0.0E+00	NA	NA							0.0E+00	9.2E-10	1	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylph	0.0E+00	1.1E-08	1	0.0E+00	2.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.1E-08	1	0.0E+00	4.0E-02	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.1E-08	1	0.0E+00	5.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.1E-08	1	0.0E+00	6.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	1.1E-08	1	0.0E+00	6.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.1E-08	1	0.0E+00	3.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
30	Benzo(b)fluora	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
31	Benzo(g,h,i)pe	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
32	Benzo(k)fluora	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
33	Benzoic acid	0.0E+00	1.1E-08	1	0.0E+00	4.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	1.1E-08	1	0.0E+00	1.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	3.2E-01	1.1E-08	1	3.5E-09	2.0E-02	2E-07							3.2E-01	9.2E-10	1	3.0E-10	1.4E-02	4E-12
36	Butylbenzylpht	0.0E+00	1.1E-08	1	0.0E+00	2.0E+00	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA
37	Chrysene	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00							0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
38	Di-n-butylphth	7.6E-02	1.1E-08	1	8.4E-10	1.0E+00	8E-10							7.6E-02	9.2E-10	1	7.0E-11	NA	NA
39	Di-n-octylphth	0.0E+00	1.1E-08	1	0.0E+00	2.0E-02	0E+00							0.0E+00	9.2E-10	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthala	2.3E-01	1.1E-08	1	2.5E-09	8.0E+00	3E-10	2.3E-01	9.2E-10	1	2.1E-10	NA	NA
42	Dimethylphthal	0.0E+00	1.1E-08	1	0.0E+00	1.0E+00	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	1.1E-08	1	0.0E+00	4.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	1.1E-08	1	0.0E+00	4.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.2E+01	0E+00
46	Naphthalene	0.0E+00	1.1E-08	1	0.0E+00	4.0E-02	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	1.1E-08	1	0.0E+00	6.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	1.1E-08	1	0.0E+00	3.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	1.1E-08	1	0.0E+00	NA	NA	0.0E+00	9.2E-10	1	0.0E+00	3.4E-01	0E+00
51	4,4-DDT	0.0E+00	1.1E-08	1	0.0E+00	5.0E-04	0E+00	0.0E+00	9.2E-10	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	1.1E-08	1	0.0E+00	3.0E-05	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.1E-08	1	0.0E+00	6.0E-05	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	8.0E-02	1.1E-08	1	8.8E-10	NA	NA	8.0E-02	9.2E-10	1	7.3E-11	7.7E+00	6E-10
55	beta-BHC	0.0E+00	1.1E-08	1	0.0E+00	NA	NA	0.0E+00	9.2E-10	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.1E-08	1	0.0E+00	5.0E-05	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.1E-08	1	0.0E+00	2.0E-04	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.1E-08	1	0.0E+00	6.0E-05	0E+00	0.0E+00	9.2E-10	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.1E-08	1	0.0E+00	5.0E-04	0E+00	0.0E+00	9.2E-10	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Tota	0.0E+00	1.1E-08	1	0.0E+00	4.0E-04	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
61	Arsenic, Total	2.9E+00	1.1E-08	1	3.1E-08	3.0E-04	1E-04	2.9E+00	9.2E-10	1	2.6E-09	1.8E+00	5E-09
62	Barium, Total	2.5E+01	1.1E-08	1	2.8E-07	7.0E-02	4E-06	2.5E+01	9.2E-10	1	2.3E-08	NA	NA
63	Beryllium, Tot	4.2E-01	1.1E-08	1	4.6E-09	5.0E-03	9E-07	4.2E-01	9.2E-10	1	3.9E-10	4.3E+00	2E-09
64	Cadmium, Total	0.0E+00	1.1E-08	1	0.0E+00	NA	NA	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
65	Cadmium, Total	0.0E+00	1.1E-08	1	0.0E+00	NA	NA	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
66	Chromium, Tota	6.6E+00	1.1E-08	1	7.3E-08	2.0E-02	4E-06	6.6E+00	9.2E-10	1	6.1E-09	NA	NA
67	Mercury, Total	0.0E+00	1.1E-08	1	0.0E+00	3.0E-04	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
68	Nickel, Total	8.4E+00	1.1E-08	1	9.3E-08	2.0E-02	5E-06	8.4E+00	9.2E-10	1	7.8E-09	NA	NA
69	Silver, Total	7.6E-01	1.1E-08	1	8.4E-09	5.0E-03	2E-06	7.6E-01	9.2E-10	1	7.0E-10	NA	NA
70	Thallium, Tota	4.1E+00	1.1E-08	1	4.5E-08	7.0E-04	6E-05	4.1E+00	9.2E-10	1	3.8E-09	NA	NA
71	Vanadium, Tota	8.9E+00	1.1E-08	1	9.8E-08	7.0E-03	1E-05	8.9E+00	9.2E-10	1	8.2E-09	NA	NA
72	Cyanide, Total	0.0E+00	1.1E-08	1	0.0E+00	2.0E-02	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.1E-08	1	0.0E+00	1.0E-01	0E+00	0.0E+00	9.2E-10	1	0.0E+00	NA	NA

RANGE NAME: SSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP2
LAST UPDATED: 07/24/92

SUBCHRONIC EXPOSURE SUMMARY

CURRENT
WADER

SUBCHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 QUARRY PIT SURFACE WAT ORAL (FROM WS1)	SCENARIO 2 QUARRY PIT SURFACE WAT DERMAL (FROM WS2)	SCENARIO 3 QUARRY PIT SEDIMENT ORAL (FROM WS3)	SCENARIO 4 POND SURFACE WAT ORAL (FROM WS4)	SCENARIO 5 POND SURFACE WAT DERMAL (FROM WS5)	SCENARIO 6 POND SEDIMENT ORAL (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.1E-11
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
5	2-Butanone	0.0E+00	0.0E+00	1.7E-10	0.0E+00	0.0E+00	8.3E-11
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	8.1E-08	6.2E-08	0.0E+00
7	Acetone	1.1E-07	1.7E-08	0.0E+00	1.4E-07	2.1E-08	2.9E-10
8	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
10	Carbon Disulfi	0.0E+00	0.0E+00	0.0E+00	1.1E-07	7.1E-07	1.1E-10
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.7E-12
13	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	6.1E-08	1.2E-06	0.0E+00
14	Methylene Chlo	9.3E-07	1.1E-06	0.0E+00	0.0E+00	0.0E+00	2.2E-11
15	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.1E-11
17	Toluene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.2E-11
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
20	Xylenes (Total	0.0E+00	0.0E+00	0.0E+00	1.3E-07	2.9E-06	1.1E-11
21	1,4-Dichlorobe	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
23	2-Methylnaphth	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
25	Acenaphthene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
26	Acenaphthylene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
27	Anthracene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
28	Benzo(a)anthra	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
29	Benzo(a)pyrene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
30	Benzo(b)fluora	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
31	Benzo(g,h,i)pe	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
32	Benzo(k)fluora	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
33	Benzoic acid	0.0E+00	0.0E+00	2.1E-09	0.0E+00	0.0E+00	0.0E+00
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
35	bis(2-Ethylhex	0.0E+00	0.0E+00	5.0E-09	0.0E+00	0.0E+00	3.5E-09
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
37	Chrysene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
38	Di-n-butylphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.4E-10
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
40	Dibenzo(a,h)an	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.5E-09
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

SUBCHRONIC RISK SUMMARY

CURRENT
WADER

SUBCHRONIC HAZARD QUOTIENT

SCENARIO 1 QUARRY PIT SURFACE WAT ORAL (FROM WS1)	SCENARIO 2 QUARRY PIT SURFACE WAT DERMAL (FROM WS2)	SCENARIO 3 QUARRY PIT SEDIMENT ORAL (FROM WS3)	SCENARIO 4 POND SURFACE WAT ORAL (FROM WS4)	SCENARIO 5 POND SURFACE WAT DERMAL (FROM WS5)	SCENARIO 6 POND SEDIMENT ORAL (FROM WS6)
0E+00	0E+00	0E+00	0E+00	0E+00	1E-11
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00	3E-10	0E+00	0E+00	2E-10
0E+00	0E+00	0E+00	2E-07	1E-07	0E+00
1E-07	2E-08	0E+00	1E-07	2E-08	3E-10
NA	NA	NA	NA	NA	NA
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00	0E+00	1E-06	7E-06	1E-09
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00	0E+00	0E+00	0E+00	8E-10
0E+00	0E+00	0E+00	6E-08	1E-06	0E+00
2E-05	2E-05	0E+00	0E+00	0E+00	4E-10
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00	0E+00	0E+00	0E+00	1E-10
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
0E+00	0E+00	0E+00	3E-08	7E-07	3E-12
NA	NA	NA	NA	NA	NA
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	NA	0E+00	0E+00	NA	0E+00
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	NA	0E+00	0E+00	NA	0E+00
0E+00	NA	0E+00	0E+00	NA	0E+00
0E+00	NA	0E+00	0E+00	NA	0E+00
0E+00	NA	0E+00	0E+00	NA	0E+00
0E+00	NA	0E+00	0E+00	NA	0E+00
0E+00	NA	0E+00	0E+00	NA	0E+00
0E+00	NA	0E+00	0E+00	NA	0E+00
0E+00	0E+00	5E-10	0E+00	0E+00	0E+00
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00	2E-07	0E+00	0E+00	2E-07
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	NA	0E+00	0E+00	NA	0E+00
0E+00	0E+00	0E+00	0E+00	0E+00	8E-10
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	NA	0E+00	0E+00	NA	0E+00
0E+00	0E+00	0E+00	0E+00	0E+00	3E-10
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00

43	Fluoranthene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	0E+00	NA	0E+00	0E+00	NA	0E+00
44	Fluorene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	0E+00	NA	0E+00	0E+00	NA	0E+00
45	Indeno(1,2,3-c	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	0E+00	NA	0E+00	0E+00	NA	0E+00
46	Naphthalene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	0E+00	NA	0E+00	0E+00	NA	0E+00
47	Phenanthrene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	0E+00	NA	0E+00	0E+00	NA	0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
49	Pyrene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	0E+00	NA	0E+00	0E+00	NA	0E+00
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
51	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
52	Aldrin	*0.0E+00*	*0.0E+00*	*0.0E+00*	*0.0E+00*	*0.0E+00*	*0.0E+00*	*0E+00*	*0E+00*	*0E+00*	*0E+00*	*0E+00*	*0E+00*
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.8E-10	NA	NA	NA	NA	NA	NA
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
60	Antimony, Tota	0.0E+00	0.0E+00	1.9E-07	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	5E-04	0E+00	0E+00	0E+00
61	Arsenic, Total	6.4E-08	1.8E-08	2.0E-07	7.1E-08	2.0E-08	3.1E-08	2E-04	6E-05	7E-04	2E-04	7E-05	1E-04
62	Barium, Total	1.5E-06	4.2E-07	1.1E-06	9.9E-07	2.7E-07	2.8E-07	2E-05	6E-05	2E-05	1E-05	4E-05	4E-06
63	Beryllium, Tot	0.0E+00	0.0E+00	1.0E-08	0.0E+00	0.0E+00	4.6E-09	0E+00	0E+00	2E-06	0E+00	0E+00	9E-07
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
66	Chromium, Tota	3.8E-07	1.0E-07	1.9E-07	1.0E-07	2.8E-08	7.3E-08	2E-05	1E-04	1E-05	5E-06	3E-05	4E-06
67	Mercury, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
68	Nickel, Total	2.0E-07	5.4E-08	3.0E-07	0.0E+00	0.0E+00	9.3E-08	1E-05	5E-05	1E-05	0E+00	0E+00	5E-06
69	Silver, Total	0.0E+00	0.0E+00	0.0E+00	7.8E-08	2.1E-08	8.4E-09	0E+00	0E+00	0E+00	2E-05	9E-05	2E-06
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	2.9E-08	7.9E-09	4.5E-08	0E+00	0E+00	0E+00	4E-05	2E-04	6E-05
71	Vanadium, Tota	0.0E+00	0.0E+00	3.2E-07	6.3E-08	1.7E-08	9.8E-08	0E+00	0E+00	5E-05	9E-06	1E-04	1E-05
72	Cyanide, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
73	Nitrogen, Nitr	2.1E-05	5.6E-06	0.0E+00	5.3E-06	1.5E-06	0.0E+00	2E-04	6E-05	0E+00	5E-05	1E-05	0E+00
						PATHWAY SUM (HI)		5E-04	4E-04	1E-03	3E-04	5E-04	2E-04
						POPULATION TOTAL		3E-03					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP2
LAST UPDATED: 07/24/92

LIFETIME EXPOSURE SUMMARY

CURRENT
WADER

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 QUARRY PIT SURFACE WAT ORAL (FROM WS1)	SCENARIO 2 QUARRY PIT SURFACE WAT DERMAL (FROM WS2)	SCENARIO 3 QUARRY PIT SEDIMENT ORAL (FROM WS3)	SCENARIO 4 POND SURFACE WAT ORAL (FROM WS4)	SCENARIO 5 POND SURFACE WAT DERMAL (FROM WS5)	SCENARIO 6 POND SEDIMENT ORAL (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.2E-13
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
5	2-Butanone	0.0E+00	0.0E+00	1.4E-11	0.0E+00	0.0E+00	6.9E-12
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	6.9E-09	5.3E-09	0.0E+00
7	Acetone	9.2E-09	1.4E-09	0.0E+00	1.2E-08	1.8E-09	2.5E-11
8	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
10	Carbon Disulfi	0.0E+00	0.0E+00	0.0E+00	9.2E-09	6.0E-08	9.2E-12
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.4E-13
13	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	5.2E-09	1.0E-07	0.0E+00
14	Methylene Chlo	7.9E-08	9.8E-08	0.0E+00	0.0E+00	0.0E+00	1.8E-12
15	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.2E-13
17	Toluene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.8E-12
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
20	Xylenes (Total	0.0E+00	0.0E+00	0.0E+00	1.1E-08	2.5E-07	9.2E-13
21	1,4-Dichlorobe	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
23	2-Methylnaphth	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
25	Acenaphthene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
26	Acenaphthylene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
27	Anthracene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
28	Benzo(a)anthra	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
29	Benzo(a)pyrene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
30	Benzo(b)fluora	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
31	Benzo(g,h,i)pe	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
32	Benzo(k)fluora	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
33	Benzoic acid	0.0E+00	0.0E+00	1.7E-10	0.0E+00	0.0E+00	0.0E+00
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
35	bis(2-Ethylhex	0.0E+00	0.0E+00	4.2E-10	0.0E+00	0.0E+00	3.0E-10
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
37	Chrysene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
38	Di-n-butylphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.0E-11
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
40	Dibenzo(a,h)an	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.1E-10
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

LIFETIME RISK SUMMARY

CURRENT
WADER

LIFETIME EXCESS CANCER RISK

	CHEMICAL NAME	SCENARIO 1 QUARRY PIT SURFACE WAT ORAL (FROM WS1)	SCENARIO 2 QUARRY PIT SURFACE WAT DERMAL (FROM WS2)	SCENARIO 3 QUARRY PIT SEDIMENT ORAL (FROM WS3)	SCENARIO 4 POND SURFACE WAT ORAL (FROM WS4)	SCENARIO 5 POND SURFACE WAT DERMAL (FROM WS5)	SCENARIO 6 POND SEDIMENT ORAL (FROM WS6)
1	1,1,1-Trichlor	NA	NA	NA	NA	NA	NA
2	1,1-Dichloroet	NA	NA	NA	NA	NA	NA
3	1,1-Dichloroet	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
4	1,2-Dichloroet	NA	NA	NA	NA	NA	NA
5	2-Butanone	NA	NA	NA	NA	NA	NA
6	4-Methyl-2-pen	NA	NA	NA	NA	NA	NA
7	Acetone	NA	NA	NA	NA	NA	NA
8	Benzene	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
9	Bromodichlorom	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
10	Carbon Disulfi	NA	NA	NA	NA	NA	NA
11	Chlorobenzene	NA	NA	NA	NA	NA	NA
12	Chloroform	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
13	Ethyl Benzene	NA	NA	NA	NA	NA	NA
14	Methylene Chlo	6E-10	7E-10	0E+00	0E+00	0E+00	0E+00
15	Styrene	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
16	Tetrachloroeth	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
17	Toluene	NA	NA	NA	NA	NA	NA
18	Trichloroethen	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
19	Vinyl Chloride	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
20	Xylenes (Total	NA	NA	NA	NA	NA	NA
21	1,4-Dichlorobe	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
22	2,4-Dimethylph	NA	NA	NA	NA	NA	NA
23	2-Methylnaphth	NA	NA	NA	NA	NA	NA
24	2-Methylphenol	NA	NA	NA	NA	NA	NA
25	Acenaphthene	NA	NA	NA	NA	NA	NA
26	Acenaphthylene	NA	NA	NA	NA	NA	NA
27	Anthracene	NA	NA	NA	NA	NA	NA
28	Benzo(a)anthra	0E+00	NA	0E+00	0E+00	NA	0E+00
29	Benzo(a)pyrene	0E+00	NA	0E+00	0E+00	NA	0E+00
30	Benzo(b)fluora	0E+00	NA	0E+00	0E+00	NA	0E+00
31	Benzo(g,h,i)pe	NA	NA	NA	NA	NA	NA
32	Benzo(k)fluora	0E+00	NA	0E+00	0E+00	NA	0E+00
33	Benzoic acid	NA	NA	NA	NA	NA	NA
34	Benzyl alcohol	NA	NA	NA	NA	NA	NA
35	bis(2-Ethylhex	0E+00	0E+00	6E-12	0E+00	0E+00	4E-12
36	Butylbenzylpht	NA	NA	NA	NA	NA	NA
37	Chrysene	0E+00	NA	0E+00	0E+00	NA	0E+00
38	Di-n-butylphth	NA	NA	NA	NA	NA	NA
39	Di-n-octylphth	NA	NA	NA	NA	NA	NA
40	Dibenzo(a,h)an	0E+00	NA	0E+00	0E+00	NA	0E+00
41	Diethylphthala	NA	NA	NA	NA	NA	NA
42	Dimethylphthal	NA	NA	NA	NA	NA	NA

43 Fluoranthene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA
44 Fluorene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA
45 Indeno(1,2,3-c	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	0E+00	NA	0E+00	0E+00	NA	0E+00
46 Naphthalene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA
47 Phenanthrene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA
48 Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
49 Pyrene	0.0E+00	NA	0.0E+00	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA
50 4,4-DDE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
51 4,4-DDT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
52 Aldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
53 alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
54 Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.3E-11	0E+00	0E+00	0E+00	0E+00	0E+00	6E-10
55 beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
56 Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
57 Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
58 gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
59 Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
60 Antimony, Tota	0.0E+00	0.0E+00	1.6E-08	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
61 Arsenic, Total	5.4E-09	1.5E-09	1.7E-08	6.1E-09	1.7E-09	2.6E-09	1E-08	3E-09	3E-08	1E-08	3E-09	5E-09
62 Barium, Total	1.3E-07	3.6E-08	9.2E-08	8.4E-08	2.3E-08	2.3E-08	NA	NA	NA	NA	NA	NA
63 Beryllium, Tot	0.0E+00	0.0E+00	8.5E-10	0.0E+00	0.0E+00	3.9E-10	0E+00	0E+00	4E-09	0E+00	0E+00	2E-09
64 Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
65 Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
66 Chromium, Tota	3.2E-08	8.8E-09	1.6E-08	8.7E-09	2.4E-09	6.1E-09	NA	NA	NA	NA	NA	NA
67 Mercury, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
68 Nickel, Total	1.7E-08	4.6E-09	2.5E-08	0.0E+00	0.0E+00	7.8E-09	NA	NA	NA	NA	NA	NA
69 Silver, Total	0.0E+00	0.0E+00	0.0E+00	6.6E-09	1.8E-09	7.0E-10	NA	NA	NA	NA	NA	NA
70 Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	2.4E-09	6.7E-10	3.8E-09	NA	NA	NA	NA	NA	NA
71 Vanadium, Tota	0.0E+00	0.0E+00	2.7E-08	5.4E-09	1.5E-09	8.2E-09	NA	NA	NA	NA	NA	NA
72 Cyanide, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
73 Nitrogen, Nitr	1.7E-06	4.8E-07	0.0E+00	4.5E-07	1.2E-07	0.0E+00	NA	NA	NA	NA	NA	NA
					TOTAL PATHWAY CANCER RISK		1E-08	4E-09	3E-08	1E-08	3E-09	8E-09
					POPULATION TOTAL EXCESS RISK		7E-08					

RANGE NAME: WS1

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP3
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: CURRENT
POPULATION: RESIDENT ADULT

EXPOSURE POINT: DOWNWIND (A)
MEDIUM: AIR-PART
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 2.7E-01
HIFl = 1.1E-02

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	2.7E-01	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	2.7E-01	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.8E-01	0E+00
4	1,2-Dichloroethene(total)							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
5	2-Butanone							0.0E+00	2.7E-01	1	0.0E+00	9.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	2.7E-01	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
7	Acetone							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
8	Benzene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
10	Carbon Disulfide							0.0E+00	2.7E-01	1	0.0E+00	2.9E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
11	Chlorobenzene							0.0E+00	2.7E-01	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							0.0E+00	2.7E-01	1	0.0E+00	2.9E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
14	Methylene Chloride							0.0E+00	2.7E-01	1	0.0E+00	8.6E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	1.6E-03	0E+00
15	Styrene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.8E-03	0E+00
17	Toluene							0.0E+00	2.7E-01	1	0.0E+00	5.7E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
18	Trichloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							0.0E+00	2.7E-01	1	0.0E+00	8.6E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
21	1,4-Dichlorobenzene							1.1E-08	2.7E-01	1	3.1E-09	2.0E-01	2E-08	1.1E-08	1.1E-02	1	1.2E-10	NA	NA
22	2,4-Dimethylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							9.7E-10	2.7E-01	1	2.6E-10	NA	NA	9.7E-10	1.1E-02	1	1.1E-11	NA	NA
24	2-Methylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
25	Acenaphthene							3.2E-09	2.7E-01	1	8.6E-10	NA	NA	3.2E-09	1.1E-02	1	3.5E-11	NA	NA
26	Acenaphthylene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
27	Anthracene							4.4E-09	2.7E-01	1	1.2E-09	NA	NA	4.4E-09	1.1E-02	1	4.9E-11	NA	NA
28	Benzo(a)anthracene							2.1E-08	2.7E-01	1	5.8E-09	NA	NA	2.1E-08	1.1E-02	1	2.4E-10	6.1E+00	1E-09
29	Benzo(a)pyrene							2.2E-08	2.7E-01	1	6.1E-09	NA	NA	2.2E-08	1.1E-02	1	2.5E-10	6.1E+00	2E-09
30	Benzo(b)fluoranthene							2.4E-08	2.7E-01	1	6.4E-09	NA	NA	2.4E-08	1.1E-02	1	2.6E-10	6.1E+00	2E-09
31	Benzo(g,h,i)perylene							2.3E-08	2.7E-01	1	6.2E-09	NA	NA	2.3E-08	1.1E-02	1	2.5E-10	NA	NA
32	Benzo(k)fluoranthene							2.1E-08	2.7E-01	1	5.8E-09	NA	NA	2.1E-08	1.1E-02	1	2.3E-10	6.1E+00	1E-09
33	Benzoic acid							4.1E-09	2.7E-01	1	1.1E-09	NA	NA	4.1E-09	1.1E-02	1	4.5E-11	NA	NA
34	Benzyl alcohol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							5.9E-08	2.7E-01	1	1.6E-08	NA	NA	5.9E-08	1.1E-02	1	6.5E-10	NA	NA
36	Butylbenzylphthalate							1.3E-08	2.7E-01	1	3.4E-09	NA	NA	1.3E-08	1.1E-02	1	1.4E-10	NA	NA
37	Chrysene							2.2E-08	2.7E-01	1	5.8E-09	NA	NA	2.2E-08	1.1E-02	1	2.4E-10	6.1E+00	1E-09
38	Di-n-butylphthalate							2.0E-08	2.7E-01	1	5.5E-09	NA	NA	2.0E-08	1.1E-02	1	2.2E-10	NA	NA
39	Di-n-octylphthalate							7.6E-09	2.7E-01	1	2.0E-09	NA	NA	7.6E-09	1.1E-02	1	8.3E-11	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
42	Dimethylphthalate	2.3E-09	2.7E-01	1	6.1E-10	NA	NA	2.3E-09	1.1E-02	1	2.5E-11	NA	NA
43	Fluoranthene	2.2E-08	2.7E-01	1	5.9E-09	NA	NA	2.2E-08	1.1E-02	1	2.4E-10	NA	NA
44	Fluorene	2.3E-09	2.7E-01	1	6.3E-10	NA	NA	2.3E-09	1.1E-02	1	2.6E-11	NA	NA
45	Indeno(1,2,3-cd)pyrene	2.3E-08	2.7E-01	1	6.2E-09	NA	NA	2.3E-08	1.1E-02	1	2.5E-10	6.1E+00	2E-09
46	Naphthalene	9.7E-10	2.7E-01	1	2.6E-10	NA	NA	9.7E-10	1.1E-02	1	1.1E-11	NA	NA
47	Phenanthrene	2.1E-08	2.7E-01	1	5.7E-09	NA	NA	2.1E-08	1.1E-02	1	2.3E-10	NA	NA
48	Phenol	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
49	Pyrene	2.2E-08	2.7E-01	1	6.0E-09	NA	NA	2.2E-08	1.1E-02	1	2.4E-10	NA	NA
50	4,4-DDE	2.2E-10	2.7E-01	1	6.0E-11	NA	NA	2.2E-10	1.1E-02	1	2.4E-12	NA	NA
51	4,4-DDT	1.2E-09	2.7E-01	1	3.2E-10	NA	NA	1.2E-09	1.1E-02	1	1.3E-11	3.4E-01	4E-12
52	Aldrin	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	9.2E-07	2.7E-01	1	2.5E-07	NA	NA	9.2E-07	1.1E-02	1	1.0E-08	NA	NA
61	Arsenic, Total	1.0E-07	2.7E-01	1	2.7E-08	NA	NA	1.0E-07	1.1E-02	1	1.1E-09	1.5E+01	2E-08
62	Barium, Total	1.2E-06	2.7E-01	1	3.1E-07	1.0E-04	3E-03	1.2E-06	1.1E-02	1	1.3E-08	NA	NA
63	Beryllium, Total	2.8E-08	2.7E-01	1	7.5E-09	NA	NA	2.8E-08	1.1E-02	1	3.1E-10	8.4E+00	3E-09
64	Cadmium, Total (food)	3.0E-08	2.7E-01	1	8.0E-09	NA	NA	3.0E-08	1.1E-02	1	3.3E-10	6.3E+00	2E-09
65	Cadmium, Total (water)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	2.6E-07	2.7E-01	1	7.1E-08	5.7E-07	1E-01	2.6E-07	1.1E-02	1	2.9E-09	4.2E+01	1E-07
67	Mercury, Total	4.3E-09	2.7E-01	1	1.2E-09	8.6E-05	1E-05	4.3E-09	1.1E-02	1	4.8E-11	NA	NA
68	Nickel, Total	2.8E-07	2.7E-01	1	7.7E-08	NA	NA	2.8E-07	1.1E-02	1	3.1E-09	NA	NA
69	Silver, Total	4.8E-08	2.7E-01	1	1.3E-08	NA	NA	4.8E-08	1.1E-02	1	5.3E-10	NA	NA
70	Thallium, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
71	Vanadium, Total	3.4E-07	2.7E-01	1	9.2E-08	NA	NA	3.4E-07	1.1E-02	1	3.7E-09	NA	NA
72	Cyanide, Total	9.6E-08	2.7E-01	1	2.6E-08	NA	NA	9.6E-08	1.1E-02	1	1.1E-09	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA

RANGE NAME: WS2

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP3
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: CURRENT
POPULATION: RESIDENT ADULT

EXPOSURE POINT: DOWNWIND (A)
MEDIUM: AIR-VOC'S
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 2.7E-01
HIFl = 1.1E-02

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	2.7E-01	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	2.7E-01	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							3.7E-05	2.7E-01	1	1.00E-05	NA	NA	3.7E-05	1.1E-02	1	4.1E-07	1.8E-01	7E-08
4	1,2-Dichloroethene(total)							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
5	2-Butanone							3.9E-06	2.7E-01	1	1.1E-06	9.0E-02	1E-05	3.9E-06	1.1E-02	1	4.3E-08	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	2.7E-01	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
7	Acetone							3.2E-05	2.7E-01	1	8.6E-06	NA	NA	3.2E-05	1.1E-02	1	3.5E-07	NA	NA
8	Benzene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
10	Carbon Disulfide							1.3E-05	2.7E-01	1	3.5E-06	2.9E-03	1E-03	1.3E-05	1.1E-02	1	1.4E-07	NA	NA
11	Chlorobenzene							0.0E+00	2.7E-01	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							1.3E-06	2.7E-01	1	3.5E-07	2.9E-01	1E-06	1.3E-06	1.1E-02	1	1.4E-08	NA	NA
14	Methylene Chloride							2.7E-05	2.7E-01	1	7.3E-06	8.6E-01	8E-06	2.7E-05	1.1E-02	1	3.0E-07	1.6E-03	5E-10
15	Styrene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							1.1E-05	2.7E-01	1	3.0E-06	NA	NA	1.1E-05	1.1E-02	1	1.2E-07	1.8E-03	2E-10
17	Toluene							6.8E-06	2.7E-01	1	1.8E-06	5.7E-01	3E-06	6.8E-06	1.1E-02	1	7.5E-08	NA	NA
18	Trichloroethene							1.0E-05	2.7E-01	1	2.7E-06	NA	NA	1.0E-05	1.1E-02	1	1.1E-07	6.0E-03	7E-10
19	Vinyl Chloride							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							7.0E-06	2.7E-01	1	1.9E-06	8.6E-02	2E-05	7.0E-06	1.1E-02	1	7.7E-08	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	2.7E-01	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
22	2,4-Dimethylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluoranthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)perylene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
32	Benzo(k)fluoranthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
36	Butylbenzylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
37	Chrysene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	2.7E-01	1	0.0E+00	1.0E-04	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
63	Beryllium, Total	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total (food)	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total (water)	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	0.0E+00	2.7E-01	1	0.0E+00	5.7E-07	0E+00	0.0E+00	1.1E-02	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	2.7E-01	1	0.0E+00	8.6E-05	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
71	Vanadium, Total	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	2.7E-01	1	0.0E+00		NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA

RANGE NAME: CSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP3
LAST UPDATED: 07/24/92

CHRONIC EXPOSURE SUMMARY

CURRENT
RESIDENT ADULT

CHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 DOWNWIND (A AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (A AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00				
3	1,1-Dichloroet	0.0E+00	1.00E-05				
4	1,2-Dichloroet	0.0E+00	0.0E+00				
5	2-Butanone	0.0E+00	1.1E-06				
6	4-Methyl-2-pen	0.0E+00	0.0E+00				
7	Acetone	0.0E+00	8.6E-06				
8	Benzene	0.0E+00	0.0E+00				
9	Bromodichlorom	0.0E+00	0.0E+00				
10	Carbon Disulfi	0.0E+00	3.5E-06				
11	Chlorobenzene	0.0E+00	0.0E+00				
12	Chloroform	0.0E+00	0.0E+00				
13	Ethyl Benzene	0.0E+00	3.5E-07				
14	Methylene Chlo	0.0E+00	7.3E-06				
15	Styrene	0.0E+00	0.0E+00				
16	Tetrachloroeth	0.0E+00	3.0E-06				
17	Toluene	0.0E+00	1.8E-06				
18	Trichloroethen	0.0E+00	2.7E-06				
19	Vinyl Chloride	0.0E+00	0.0E+00				
20	Xylenes (Total	0.0E+00	1.9E-06				
21	1,4-Dichlorobe	3.1E-09	0.0E+00				
22	2,4-Dimethylph	0.0E+00	0.0E+00				
23	2-Methylnaphth	2.6E-10	0.0E+00				
24	2-Methylphenol	0.0E+00	0.0E+00				
25	Acenaphthene	8.6E-10	0.0E+00				
26	Acenaphthylene	0.0E+00	0.0E+00				
27	Anthracene	1.2E-09	0.0E+00				
28	Benzo(a)anthra	5.8E-09	0.0E+00				
29	Benzo(a)pyrene	6.1E-09	0.0E+00				
30	Benzo(b)fluora	6.4E-09	0.0E+00				
31	Benzo(g,h,i)pe	6.2E-09	0.0E+00				
32	Benzo(k)fluora	5.8E-09	0.0E+00				
33	Benzoic acid	1.1E-09	0.0E+00				
34	Benzyl alcohol	0.0E+00	0.0E+00				
35	bis(2-Ethylhex	1.6E-08	0.0E+00				
36	Butylbenzylpht	3.4E-09	0.0E+00				
37	Chrysene	5.8E-09	0.0E+00				
38	Di-n-butylphth	5.5E-09	0.0E+00				
39	Di-n-octylphth	2.0E-09	0.0E+00				
40	Dibenzo(a,h)an	0.0E+00	0.0E+00				
41	Diethylphthala	0.0E+00	0.0E+00				
42	Dimethylphthal	6.1E-10	0.0E+00				

CHRONIC RISK SUMMARY

CURRENT
RESIDENT ADULT

CHRONIC HAZARD QUOTIENT

SCENARIO 1 DOWNWIND (A AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (A AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00				
NA	NA				
NA	NA				
0E+00	1E-05				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
0E+00	1E-03				
0E+00	0E+00				
NA	NA				
0E+00	1E-06				
0E+00	8E-06				
NA	NA				
NA	NA				
0E+00	3E-06				
NA	NA				
NA	NA				
0E+00	2E-05				
2E-08	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				

43	Fluoranthene	5.9E-09	0.0E+00			NA	NA			
44	Fluorene	6.3E-10	0.0E+00			NA	NA			
45	Indeno(1,2,3-c	6.2E-09	0.0E+00			NA	NA			
46	Naphthalene	2.6E-10	0.0E+00			NA	NA			
47	Phenanthrene	5.7E-09	0.0E+00			NA	NA			
48	Phenol	0.0E+00	0.0E+00			NA	NA			
49	Pyrene	6.0E-09	0.0E+00			NA	NA			
50	4,4-DDE	6.0E-11	0.0E+00			NA	NA			
51	4,4-DDT	3.2E-10	0.0E+00			NA	NA			
52	Aldrin	0.0E+00	0.0E+00			NA	NA			
53	alpha-Chlordan	0.0E+00	0.0E+00			NA	NA			
54	Aroclor-1248	0.0E+00	0.0E+00			NA	NA			
55	beta-BHC	0.0E+00	0.0E+00			NA	NA			
56	Dieldrin	0.0E+00	0.0E+00			NA	NA			
57	Endosulfan II	0.0E+00	0.0E+00			NA	NA			
58	gamma-Chlordan	0.0E+00	0.0E+00			NA	NA			
59	Heptachlor	0.0E+00	0.0E+00			NA	NA			
60	Antimony, Tota	2.5E-07	0.0E+00			NA	NA			
61	Arsenic, Total	2.7E-08	0.0E+00			NA	NA			
62	Barium, Total	3.1E-07	0.0E+00			3E-03	0E+00			
63	Beryllium, Tot	7.5E-09	0.0E+00			NA	NA			
64	Cadmium, Total	8.0E-09	0.0E+00			NA	NA			
65	Cadmium, Total	0.0E+00	0.0E+00			NA	NA			
66	Chromium, Tota	7.1E-08	0.0E+00			1E-01	0E+00			
67	Mercury, Total	1.2E-09	0.0E+00			1E-05	0E+00			
68	Nickel, Total	7.7E-08	0.0E+00			NA	NA			
69	Silver, Total	1.3E-08	0.0E+00			NA	NA			
70	Thallium, Tota	0.0E+00	0.0E+00			NA	NA			
71	Vanadium, Tota	9.2E-08	0.0E+00			NA	NA			
72	Cyanide, Total	2.6E-08	0.0E+00			NA	NA			
73	Nitrogen, Nitr	0.0E+00	0.0E+00			NA	NA			
				PATHWAY SUM (HI)		1E-01	1E-03	0E+00	0E+00	0E+00	0E+00
				POPULATION TOTAL		1E-01					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP3
LAST UPDATED: 07/24/92

LIFETIME EXPOSURE SUMMARY

CURRENT
RESIDENT ADULT

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 DOWNWIND (A AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (A AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00				
3	1,1-Dichloroet	0.0E+00	4.1E-07				
4	1,2-Dichloroet	0.0E+00	0.0E+00				
5	2-Butanone	0.0E+00	4.3E-08				
6	4-Methyl-2-pen	0.0E+00	0.0E+00				
7	Acetone	0.0E+00	3.5E-07				
8	Benzene	0.0E+00	0.0E+00				
9	Bromodichlorom	0.0E+00	0.0E+00				
10	Carbon Disulfi	0.0E+00	1.4E-07				
11	Chlorobenzene	0.0E+00	0.0E+00				
12	Chloroform	0.0E+00	0.0E+00				
13	Ethyl Benzene	0.0E+00	1.4E-08				
14	Methylene Chlo	0.0E+00	3.0E-07				
15	Styrene	0.0E+00	0.0E+00				
16	Tetrachloroeth	0.0E+00	1.2E-07				
17	Toluene	0.0E+00	7.5E-08				
18	Trichloroethen	0.0E+00	1.1E-07				
19	Vinyl Chloride	0.0E+00	0.0E+00				
20	Xylenes (Total	0.0E+00	7.7E-08				
21	1,4-Dichlorobe	1.2E-10	0.0E+00				
22	2,4-Dimethylph	0.0E+00	0.0E+00				
23	2-Methylnaphth	1.1E-11	0.0E+00				
24	2-Methylphenol	0.0E+00	0.0E+00				
25	Acenaphthene	3.5E-11	0.0E+00				
26	Acenaphthylene	0.0E+00	0.0E+00				
27	Anthracene	4.9E-11	0.0E+00				
28	Benzo(a)anthra	2.4E-10	0.0E+00				
29	Benzo(a)pyrene	2.5E-10	0.0E+00				
30	Benzo(b)fluora	2.6E-10	0.0E+00				
31	Benzo(g,h,i)pe	2.5E-10	0.0E+00				
32	Benzo(k)fluora	2.3E-10	0.0E+00				
33	Benzoic acid	4.5E-11	0.0E+00				
34	Benzyl alcohol	0.0E+00	0.0E+00				
35	bis(2-Ethylhex	6.5E-10	0.0E+00				
36	Butylbenzylpht	1.4E-10	0.0E+00				
37	Chrysene	2.4E-10	0.0E+00				
38	Di-n-butylphth	2.2E-10	0.0E+00				
39	Di-n-octylphth	8.3E-11	0.0E+00				
40	Dibenzo(a,h)an	0.0E+00	0.0E+00				
41	Diethylphthala	0.0E+00	0.0E+00				
42	Dimethylphthal	2.5E-11	0.0E+00				

LIFETIME RISK SUMMARY

CURRENT
RESIDENT ADULT

LIFETIME EXCESS CANCER RISK

SCENARIO 1 DOWNWIND (A AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (A AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
NA	NA	0E+00	0E+00	0E+00	0E+00
NA	NA				
0E+00	7E-08				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
0E+00	5E-10				
0E+00	0E+00				
0E+00	2E-10				
NA	NA				
0E+00	7E-10				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
1E-09	0E+00				
2E-09	0E+00				
2E-09	0E+00				
NA	NA				
1E-09	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
1E-09	0E+00				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
NA	NA				

43	Fluoranthene	2.4E-10	0.0E+00		NA	NA				
44	Fluorene	2.6E-11	0.0E+00		NA	NA				
45	Indeno(1,2,3-c	2.5E-10	0.0E+00		2E-09	0E+00				
46	Naphthalene	1.1E-11	0.0E+00		NA	NA				
47	Phenanthrene	2.3E-10	0.0E+00		NA	NA				
48	Phenol	0.0E+00	0.0E+00		NA	NA				
49	Pyrene	2.4E-10	0.0E+00		NA	NA				
50	4,4-DDE	2.4E-12	0.0E+00		NA	NA				
51	4,4-DDT	1.3E-11	0.0E+00		4E-12	0E+00				
52	Aldrin	0.0E+00	0.0E+00		0E+00	0E+00				
53	alpha-Chlordan	0.0E+00	0.0E+00		0E+00	0E+00				
54	Aroclor-1248	0.0E+00	0.0E+00		NA	NA				
55	beta-BHC	0.0E+00	0.0E+00		0E+00	0E+00				
56	Dieldrin	0.0E+00	0.0E+00		0E+00	0E+00				
57	Endosulfan II	0.0E+00	0.0E+00		NA	NA				
58	gamma-Chlordan	0.0E+00	0.0E+00		0E+00	0E+00				
59	Heptachlor	0.0E+00	0.0E+00		0E+00	0E+00				
60	Antimony, Tota	1.0E-08	0.0E+00		NA	NA				
61	Arsenic, Total	1.1E-09	0.0E+00		2E-08	0E+00				
62	Barium, Total	1.3E-08	0.0E+00		NA	NA				
63	Beryllium, Tot	3.1E-10	0.0E+00		3E-09	0E+00				
64	Cadmium, Total	3.3E-10	0.0E+00		2E-09	0E+00				
65	Cadmium, Total	0.0E+00	0.0E+00		0E+00	0E+00				
66	Chromium, Tota	2.9E-09	0.0E+00		1E-07	0E+00				
67	Mercury, Total	4.8E-11	0.0E+00		NA	NA				
68	Nickel, Total	3.1E-09	0.0E+00		NA	NA				
69	Silver, Total	5.3E-10	0.0E+00		NA	NA				
70	Thallium, Tota	0.0E+00	0.0E+00		NA	NA				
71	Vanadium, Tota	3.7E-09	0.0E+00		NA	NA				
72	Cyanide, Total	1.1E-09	0.0E+00		NA	NA				
73	Nitrogen, Nitr	0.0E+00	0.0E+00		NA	NA				
				TOTAL PATHWAY CANCER RISK	1E-07	7E-08	0E+00	0E+00	0E+00	0E+00
				POPULATION TOTAL EXCESS RISK	2E-07					

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP4
LAST UPDATED: 07/24/92

LAND USE: CURRENT
POPULATION: RESIDENT CHILD

EXPOSURE POINT: DOWNWIND (C)
MEDIUM: AIR-PART
ROUTE: INHALATION

HIFs = 1.3E+00
HIFc = 0.0E+00
HIFl = 1.1E-01

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	1.3E+00	1	0.0E+00	3.0E+00	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	1.8E-01	0E+00
4	1,2-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
5	2-Butanone	0.0E+00	1.3E+00	1	0.0E+00	9.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.3E+00	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
7	Acetone	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
8	Benzene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
10	Carbon Disulfi	0.0E+00	1.3E+00	1	0.0E+00	2.9E-03	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
11	Chlorobenzene	0.0E+00	1.3E+00	1	0.0E+00	5.0E-02	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene	0.0E+00	1.3E+00	1	0.0E+00	2.9E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
14	Methylene Chlo	0.0E+00	1.3E+00	1	0.0E+00	8.6E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	1.6E-03	0E+00
15	Styrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroeth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	1.8E-03	0E+00
17	Toluene	0.0E+00	1.3E+00	1	0.0E+00	5.7E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
18	Trichloroethen	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total	0.0E+00	1.3E+00	1	0.0E+00	8.6E-02	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
21	1,4-Dichlorobe	1.1E-08	1.3E+00	1	1.5E-08	2.0E-01	7E-08							1.1E-08	1.1E-01	1	1.2E-09	NA	NA
22	2,4-Dimethylph	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
23	2-Methylnaphth	9.7E-10	1.3E+00	1	1.3E-09	NA	NA							9.7E-10	1.1E-01	1	1.1E-10	NA	NA
24	2-Methylphenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
25	Acenaphthene	3.2E-09	1.3E+00	1	4.1E-09	NA	NA							3.2E-09	1.1E-01	1	3.5E-10	NA	NA
26	Acenaphthylene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
27	Anthracene	4.4E-09	1.3E+00	1	5.8E-09	NA	NA							4.4E-09	1.1E-01	1	4.9E-10	NA	NA
28	Benzo(a)anthra	2.1E-08	1.3E+00	1	2.8E-08	NA	NA							2.1E-08	1.1E-01	1	2.4E-09	6.1E+00	1E-08
29	Benzo(a)pyrene	2.2E-08	1.3E+00	1	2.9E-08	NA	NA							2.2E-08	1.1E-01	1	2.5E-09	6.1E+00	2E-08
30	Benzo(b)fluora	2.4E-08	1.3E+00	1	3.1E-08	NA	NA							2.4E-08	1.1E-01	1	2.6E-09	6.1E+00	2E-08
31	Benzo(g,h,i)pe	2.3E-08	1.3E+00	1	3.0E-08	NA	NA							2.3E-08	1.1E-01	1	2.5E-09	NA	NA
32	Benzo(k)fluora	2.1E-08	1.3E+00	1	2.8E-08	NA	NA							2.1E-08	1.1E-01	1	2.3E-09	6.1E+00	1E-08
33	Benzoic acid	4.1E-09	1.3E+00	1	5.3E-09	NA	NA							4.1E-09	1.1E-01	1	4.5E-10	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	5.9E-08	1.3E+00	1	7.7E-08	NA	NA							5.9E-08	1.1E-01	1	6.5E-09	NA	NA
36	Butylbenzylpht	1.3E-08	1.3E+00	1	1.6E-08	NA	NA							1.3E-08	1.1E-01	1	1.4E-09	NA	NA
37	Chrysene	2.2E-08	1.3E+00	1	2.8E-08	NA	NA							2.2E-08	1.1E-01	1	2.4E-09	6.1E+00	1E-08
38	Di-n-butylphth	2.0E-08	1.3E+00	1	2.6E-08	NA	NA							2.0E-08	1.1E-01	1	2.2E-09	NA	NA
39	Di-n-octylphth	7.6E-09	1.3E+00	1	9.8E-09	NA	NA							7.6E-09	1.1E-01	1	8.3E-10	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthala	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
42	Dimethylphthal	2.3E-09	1.3E+00	1	2.9E-09	NA	NA	2.3E-09	1.1E-01	1	2.5E-10	NA	NA
43	Fluoranthene	2.2E-08	1.3E+00	1	2.8E-08	NA	NA	2.2E-08	1.1E-01	1	2.4E-09	NA	NA
44	Fluorene	2.3E-09	1.3E+00	1	3.0E-09	NA	NA	2.3E-09	1.1E-01	1	2.6E-10	NA	NA
45	Indeno(1,2,3-c	2.3E-08	1.3E+00	1	3.0E-08	NA	NA	2.3E-08	1.1E-01	1	2.5E-09	6.1E+00	2E-08
46	Naphthalene	9.7E-10	1.3E+00	1	1.3E-09	NA	NA	9.7E-10	1.1E-01	1	1.1E-10	NA	NA
47	Phenanthrene	2.1E-08	1.3E+00	1	2.8E-08	NA	NA	2.1E-08	1.1E-01	1	2.3E-09	NA	NA
48	Phenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
49	Pyrene	2.2E-08	1.3E+00	1	2.9E-08	NA	NA	2.2E-08	1.1E-01	1	2.4E-09	NA	NA
50	4,4-DDE	2.2E-10	1.3E+00	1	2.9E-10	NA	NA	2.2E-10	1.1E-01	1	2.4E-11	NA	NA
51	4,4-DDT	1.2E-09	1.3E+00	1	1.5E-09	NA	NA	1.2E-09	1.1E-01	1	1.3E-10	3.4E-01	4E-11
52	Aldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Tota	9.2E-07	1.3E+00	1	1.2E-06	NA	NA	9.2E-07	1.1E-01	1	1.0E-07	NA	NA
61	Arsenic, Total	1.0E-07	1.3E+00	1	1.3E-07	NA	NA	1.0E-07	1.1E-01	1	1.1E-08	1.5E+01	2E-07
62	Barium, Total	1.2E-06	1.3E+00	1	1.5E-06	1.0E-03	2E-03	1.2E-06	1.1E-01	1	1.3E-07	NA	NA
63	Beryllium, Tot	2.8E-08	1.3E+00	1	3.6E-08	NA	NA	2.8E-08	1.1E-01	1	3.1E-09	8.4E+00	3E-08
64	Cadmium, Total	3.0E-08	1.3E+00	1	3.9E-08	NA	NA	3.0E-08	1.1E-01	1	3.3E-09	6.3E+00	2E-08
65	Cadmium, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Tota	2.6E-07	1.3E+00	1	3.4E-07	5.7E-06	6E-02	2.6E-07	1.1E-01	1	2.9E-08	4.2E+01	1E-06
67	Mercury, Total	4.3E-09	1.3E+00	1	5.6E-09	8.6E-05	7E-05	4.3E-09	1.1E-01	1	4.8E-10	NA	NA
68	Nickel, Total	2.8E-07	1.3E+00	1	3.7E-07	NA	NA	2.8E-07	1.1E-01	1	3.1E-08	NA	NA
69	Silver, Total	4.8E-08	1.3E+00	1	6.3E-08	NA	NA	4.8E-08	1.1E-01	1	5.3E-09	NA	NA
70	Thallium, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
71	Vanadium, Tota	3.4E-07	1.3E+00	1	4.4E-07	NA	NA	3.4E-07	1.1E-01	1	3.7E-08	NA	NA
72	Cyanide, Total	9.6E-08	1.3E+00	1	1.2E-07	NA	NA	9.6E-08	1.1E-01	1	1.1E-08	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA

RANGE NAME: WS2

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP4
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: CURRENT
POPULATION: RESIDENT CHILD

EXPOSURE POINT: DOWNWIND (C)
MEDIUM: AIR-VOC'S
ROUTE: INHALATION

HIFs = 1.3E+00
HIFc = 0.0E+00
HIFl = 1.1E-01

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	1.3E+00	1	0.0E+00	3.0E+00	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
3	1,1-Dichloroet	8.3E-05	1.3E+00	1	1.1E-04	NA	NA							8.3E-05	1.1E-01	1	9.1E-06	1.8E-01	2E-06
4	1,2-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
5	2-Butanone	8.7E-06	1.3E+00	1	1.1E-05	9.0E-01	1E-05							8.7E-06	1.1E-01	1	9.6E-07	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.3E+00	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
7	Acetone	7.3E-05	1.3E+00	1	9.5E-05	NA	NA							7.3E-05	1.1E-01	1	8.0E-06	NA	NA
8	Benzene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
10	Carbon Disulfi	3.0E-05	1.3E+00	1	3.9E-05	2.9E-03	1E-02							3.0E-05	1.1E-01	1	3.3E-06	NA	NA
11	Chlorobenzene	0.0E+00	1.3E+00	1	0.0E+00	5.0E-02	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene	3.0E-06	1.3E+00	1	3.9E-06	2.9E-01	1E-05							3.0E-06	1.1E-01	1	3.3E-07	NA	NA
14	Methylene Chlo	6.0E-05	1.3E+00	1	7.8E-05	8.6E-01	9E-05							6.0E-05	1.1E-01	1	6.6E-06	1.6E-03	1E-08
15	Styrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroeth	2.4E-05	1.3E+00	1	3.1E-05	NA	NA							2.4E-05	1.1E-01	1	2.6E-06	1.8E-03	5E-09
17	Toluene	1.5E-05	1.3E+00	1	2.0E-05	5.7E-01	3E-05							1.5E-05	1.1E-01	1	1.7E-06	NA	NA
18	Trichloroethen	2.3E-05	1.3E+00	1	3.0E-05	NA	NA							2.3E-05	1.1E-01	1	2.5E-06	6.0E-03	2E-08
19	Vinyl Chloride	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total	1.6E-05	1.3E+00	1	2.1E-05	8.6E-02	2E-04							1.6E-05	1.1E-01	1	1.8E-06	NA	NA
21	1,4-Dichlorobe	0.0E+00	1.3E+00	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
22	2,4-Dimethylph	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluora	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)pe	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
32	Benzo(k)fluora	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
36	Butylbenzylpht	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
37	Chrysene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00	
41	Diethylphthala	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
42	Dimethylphthal	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
43	Fluoranthene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
44	Fluorene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
45	Indeno(1,2,3-c	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00	
46	Naphthalene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
47	Phenanthrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
48	Phenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
49	Pyrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
50	4,4-DDE	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
51	4,4-DDT	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	3.4E-01	0E+00	
52	Aldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.7E+01	0E+00	
53	alpha-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00	
54	Aroclor-1248	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
55	beta-BHC	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.8E+00	0E+00	
56	Dieldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.6E+01	0E+00	
57	Endosulfan II	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
58	gamma-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00	
59	Heptachlor	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	4.6E+00	0E+00	
60	Antimony, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
61	Arsenic, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.5E+01	0E+00	
62	Barium, Total	0.0E+00	1.3E+00	1	0.0E+00	1.0E-03	0E+00			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
63	Beryllium, Tot	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	8.4E+00	0E+00	
64	Cadmium, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	6.3E+00	0E+00	
65	Cadmium, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	6.3E+00	0E+00	
66	Chromium, Tota	0.0E+00	1.3E+00	1	0.0E+00	5.7E-06	0E+00			0.0E+00	1.1E-01	1	0.0E+00	4.2E+01	0E+00	
67	Mercury, Total	0.0E+00	1.3E+00	1	0.0E+00	8.6E-05	0E+00			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
68	Nickel, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
69	Silver, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
70	Thallium, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
71	Vanadium, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
72	Cyanide, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
73	Nitrogen, Nitr	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	

RANGE NAME: SSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP4
LAST UPDATED: 07/24/92

SUBCHRONIC EXPOSURE SUMMARY

CURRENT
RESIDENT CHILD

SUBCHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 DOWNWIND (C AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (C AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00				
3	1,1-Dichloroet	0.0E+00	1.1E-04				
4	1,2-Dichloroet	0.0E+00	0.0E+00				
5	2-Butanone	0.0E+00	1.1E-05				
6	4-Methyl-2-pen	0.0E+00	0.0E+00				
7	Acetone	0.0E+00	9.5E-05				
8	Benzene	0.0E+00	0.0E+00				
9	Bromodichlorom	0.0E+00	0.0E+00				
10	Carbon Disulfi	0.0E+00	3.9E-05				
11	Chlorobenzene	0.0E+00	0.0E+00				
12	Chloroform	0.0E+00	0.0E+00				
13	Ethyl Benzene	0.0E+00	3.9E-06				
14	Methylene Chlo	0.0E+00	7.8E-05				
15	Styrene	0.0E+00	0.0E+00				
16	Tetrachloroeth	0.0E+00	3.1E-05				
17	Toluene	0.0E+00	2.0E-05				
18	Trichloroethen	0.0E+00	3.0E-05				
19	Vinyl Chloride	0.0E+00	0.0E+00				
20	Xylenes (Total	0.0E+00	2.1E-05				
21	1,4-Dichlorobe	1.5E-08	0.0E+00				
22	2,4-Dimethylph	0.0E+00	0.0E+00				
23	2-Methylnaphth	1.3E-09	0.0E+00				
24	2-Methylphenol	0.0E+00	0.0E+00				
25	Acenaphthene	4.1E-09	0.0E+00				
26	Acenaphthylene	0.0E+00	0.0E+00				
27	Anthracene	5.8E-09	0.0E+00				
28	Benzo(a)anthra	2.8E-08	0.0E+00				
29	Benzo(a)pyrene	2.9E-08	0.0E+00				
30	Benzo(b)fluora	3.1E-08	0.0E+00				
31	Benzo(g,h,i)pe	3.0E-08	0.0E+00				
32	Benzo(k)fluora	2.8E-08	0.0E+00				
33	Benzoic acid	5.3E-09	0.0E+00				
34	Benzyl alcohol	0.0E+00	0.0E+00				
35	bis(2-Ethylhex	7.7E-08	0.0E+00				
36	Butylbenzylpht	1.6E-08	0.0E+00				
37	Chrysene	2.8E-08	0.0E+00				
38	Di-n-butylphth	2.6E-08	0.0E+00				
39	Di-n-octylphth	9.8E-09	0.0E+00				
40	Dibenzo(a,h)an	0.0E+00	0.0E+00				
41	Diethylphthala	0.0E+00	0.0E+00				
42	Dimethylphthal	2.9E-09	0.0E+00				

SUBCHRONIC RISK SUMMARY

CURRENT
RESIDENT CHILD

SUBCHRONIC HAZARD QUOTIENT

SCENARIO 1 DOWNWIND (C AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (C AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00				
NA	NA				
NA	NA				
0E+00	1E-05				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
0E+00	1E-02				
0E+00	0E+00				
NA	NA				
0E+00	1E-05				
0E+00	9E-05				
NA	NA				
NA	NA				
0E+00	3E-05				
NA	NA				
NA	NA				
0E+00	2E-04				
7E-08	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				

43	Fluoranthene	2.8E-08	0.0E+00				NA	NA			
44	Fluorene	3.0E-09	0.0E+00				NA	NA			
45	Indeno(1,2,3-c	3.0E-08	0.0E+00				NA	NA			
46	Naphthalene	1.3E-09	0.0E+00				NA	NA			
47	Phenanthrene	2.8E-08	0.0E+00				NA	NA			
48	Phenol	0.0E+00	0.0E+00				NA	NA			
49	Pyrene	2.9E-08	0.0E+00				NA	NA			
50	4,4-DDE	2.9E-10	0.0E+00				NA	NA			
51	4,4-DDT	1.5E-09	0.0E+00				NA	NA			
52	Aldrin	0.0E+00	0.0E+00				NA	NA			
53	alpha-Chlordan	0.0E+00	0.0E+00				NA	NA			
54	Aroclor-1248	0.0E+00	0.0E+00				NA	NA			
55	beta-BHC	0.0E+00	0.0E+00				NA	NA			
56	Dieldrin	0.0E+00	0.0E+00				NA	NA			
57	Endosulfan II	0.0E+00	0.0E+00				NA	NA			
58	gamma-Chlordan	0.0E+00	0.0E+00				NA	NA			
59	Heptachlor	0.0E+00	0.0E+00				NA	NA			
60	Antimony, Tota	1.2E-06	0.0E+00				NA	NA			
61	Arsenic, Total	1.3E-07	0.0E+00				NA	NA			
62	Barium, Total	1.5E-06	0.0E+00				2E-03	0E+00			
63	Beryllium, Tot	3.6E-08	0.0E+00				NA	NA			
64	Cadmium, Total	3.9E-08	0.0E+00				NA	NA			
65	Cadmium, Total	0.0E+00	0.0E+00				NA	NA			
66	Chromium, Tota	3.4E-07	0.0E+00				6E-02	0E+00			
67	Mercury, Total	5.6E-09	0.0E+00				7E-05	0E+00			
68	Nickel, Total	3.7E-07	0.0E+00				NA	NA			
69	Silver, Total	6.3E-08	0.0E+00				NA	NA			
70	Thallium, Tota	0.0E+00	0.0E+00				NA	NA			
71	Vanadium, Tota	4.4E-07	0.0E+00				NA	NA			
72	Cyanide, Total	1.2E-07	0.0E+00				NA	NA			
73	Nitrogen, Nitr	0.0E+00	0.0E+00				NA	NA			
				PATHWAY SUM (HI)			6E-02	1E-02	0E+00	0E+00	0E+00	0E+00
				POPULATION TOTAL			7E-02					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP4
LAST UPDATED: 07/24/92

LIFETIME EXPOSURE SUMMARY

CURRENT
RESIDENT CHILD

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 DOWNWIND (C AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (C AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00				
3	1,1-Dichloroet	0.0E+00	9.1E-06				
4	1,2-Dichloroet	0.0E+00	0.0E+00				
5	2-Butanone	0.0E+00	9.6E-07				
6	4-Methyl-2-pen	0.0E+00	0.0E+00				
7	Acetone	0.0E+00	8.0E-06				
8	Benzene	0.0E+00	0.0E+00				
9	Bromodichlorom	0.0E+00	0.0E+00				
10	Carbon Disulfi	0.0E+00	3.3E-06				
11	Chlorobenzene	0.0E+00	0.0E+00				
12	Chloroform	0.0E+00	0.0E+00				
13	Ethyl Benzene	0.0E+00	3.3E-07				
14	Methylene Chlo	0.0E+00	6.6E-06				
15	Styrene	0.0E+00	0.0E+00				
16	Tetrachloroeth	0.0E+00	2.6E-06				
17	Toluene	0.0E+00	1.7E-06				
18	Trichloroethen	0.0E+00	2.5E-06				
19	Vinyl Chloride	0.0E+00	0.0E+00				
20	Xylenes (Total	0.0E+00	1.8E-06				
21	1,4-Dichlorobe	1.2E-09	0.0E+00				
22	2,4-Dimethylph	0.0E+00	0.0E+00				
23	2-Methylnaphth	1.1E-10	0.0E+00				
24	2-Methylphenol	0.0E+00	0.0E+00				
25	Acenaphthene	3.5E-10	0.0E+00				
26	Acenaphthylene	0.0E+00	0.0E+00				
27	Anthracene	4.9E-10	0.0E+00				
28	Benzo(a)anthra	2.4E-09	0.0E+00				
29	Benzo(a)pyrene	2.5E-09	0.0E+00				
30	Benzo(b)fluora	2.6E-09	0.0E+00				
31	Benzo(g,h,i)pe	2.5E-09	0.0E+00				
32	Benzo(k)fluora	2.3E-09	0.0E+00				
33	Benzoic acid	4.5E-10	0.0E+00				
34	Benzyl alcohol	0.0E+00	0.0E+00				
35	bis(2-Ethylhex	6.5E-09	0.0E+00				
36	Butylbenzylpht	1.4E-09	0.0E+00				
37	Chrysene	2.4E-09	0.0E+00				
38	Di-n-butylphth	2.2E-09	0.0E+00				
39	Di-n-octylphth	8.3E-10	0.0E+00				
40	Dibenzo(a,h)an	0.0E+00	0.0E+00				
41	Diethylphthala	0.0E+00	0.0E+00				
42	Dimethylphthal	2.5E-10	0.0E+00				

LIFETIME RISK SUMMARY

CURRENT
RESIDENT CHILD

LIFETIME EXCESS CANCER RISK

SCENARIO 1 DOWNWIND (C AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (C AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
NA	NA	0E+00	0E+00	0E+00	0E+00
NA	NA				
0E+00	2E-06				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
0E+00	1E-08				
0E+00	0E+00				
0E+00	5E-09				
NA	NA				
0E+00	2E-08				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
1E-08	0E+00				
2E-08	0E+00				
2E-08	0E+00				
NA	NA				
1E-08	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
1E-08	0E+00				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
NA	NA				

43	Fluoranthene	2.4E-09	0.0E+00			NA	NA			
44	Fluorene	2.6E-10	0.0E+00			NA	NA			
45	Indeno(1,2,3-c	2.5E-09	0.0E+00			2E-08	0E+00			
46	Naphthalene	1.1E-10	0.0E+00			NA	NA			
47	Phenanthrene	2.3E-09	0.0E+00			NA	NA			
48	Phenol	0.0E+00	0.0E+00			NA	NA			
49	Pyrene	2.4E-09	0.0E+00			NA	NA			
50	4,4-DDE	2.4E-11	0.0E+00			NA	NA			
51	4,4-DDT	1.3E-10	0.0E+00			4E-11	0E+00			
52	Aldrin	0.0E+00	0.0E+00			0E+00	0E+00			
53	alpha-Chlordan	0.0E+00	0.0E+00			0E+00	0E+00			
54	Aroclor-1248	0.0E+00	0.0E+00			NA	NA			
55	beta-BHC	0.0E+00	0.0E+00			0E+00	0E+00			
56	Dieldrin	0.0E+00	0.0E+00			0E+00	0E+00			
57	Endosulfan II	0.0E+00	0.0E+00			NA	NA			
58	gamma-Chlordan	0.0E+00	0.0E+00			0E+00	0E+00			
59	Heptachlor	0.0E+00	0.0E+00			0E+00	0E+00			
60	Antimony, Tota	1.0E-07	0.0E+00			NA	NA			
61	Arsenic, Total	1.1E-08	0.0E+00			2E-07	0E+00			
62	Barium, Total	1.3E-07	0.0E+00			NA	NA			
63	Beryllium, Tot	3.1E-09	0.0E+00			3E-08	0E+00			
64	Cadmium, Total	3.3E-09	0.0E+00			2E-08	0E+00			
65	Cadmium, Total	0.0E+00	0.0E+00			0E+00	0E+00			
66	Chromium, Tota	2.9E-08	0.0E+00			1E-06	0E+00			
67	Mercury, Total	4.8E-10	0.0E+00			NA	NA			
68	Nickel, Total	3.1E-08	0.0E+00			NA	NA			
69	Silver, Total	5.3E-09	0.0E+00			NA	NA			
70	Thallium, Tota	0.0E+00	0.0E+00			NA	NA			
71	Vanadium, Tota	3.7E-08	0.0E+00			NA	NA			
72	Cyanide, Total	1.1E-08	0.0E+00			NA	NA			
73	Nitrogen, Nitr	0.0E+00	0.0E+00			NA	NA			
				TOTAL PATHWAY CANCER RISK		1E-06	2E-06	0E+00	0E+00	0E+00	0E+00
				POPULATION TOTAL EXCESS RISK		3E-06					

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP5
LAST UPDATED: 07/24/92

LAND USE: FUTURE
POPULATION: AGRICULT. WORKER

EXPOSURE POINT: LANDFILL
MEDIUM: SOIL
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 3.8E-07
HIFl = 1.3E-07

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	3.8E-07	1	0.0E+00	9.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	3.8E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							3.9E-03	3.8E-07	1	1.5E-09	9.0E-03	2E-07	3.9E-03	1.3E-07	1	5.1E-10	6.0E-01	3E-10
4	1,2-Dichloroethene(total)							0.0E+00	3.8E-07	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
5	2-Butanone							4.0E-03	3.8E-07	1	1.5E-09	5.0E-02	3E-08	4.0E-03	1.3E-07	1	5.2E-10	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	3.8E-07	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
7	Acetone							3.0E-02	3.8E-07	1	1.1E-08	1.0E-01	1E-07	3.0E-02	1.3E-07	1	3.9E-09	NA	NA
8	Benzene							0.0E+00	3.8E-07	1	0.0E+00	NA	NA	0.0E+00	1.3E-07	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	3.8E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfide							1.9E-03	3.8E-07	1	7.2E-10	1.0E-01	7E-09	1.9E-03	1.3E-07	1	2.5E-10	NA	NA
11	Chlorobenzene							0.0E+00	3.8E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	3.8E-07	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene							2.0E-03	3.8E-07	1	7.6E-10	1.0E-01	8E-09	2.0E-03	1.3E-07	1	2.6E-10	NA	NA
14	Methylene Chloride							4.0E-03	3.8E-07	1	1.5E-09	6.0E-02	3E-08	4.0E-03	1.3E-07	1	5.2E-10	7.5E-03	4E-12
15	Styrene							0.0E+00	3.8E-07	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.3E-07	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroethene							0.0E+00	3.8E-07	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	5.1E-02	0E+00
17	Toluene							4.0E-03	3.8E-07	1	1.5E-09	2.0E-01	8E-09	4.0E-03	1.3E-07	1	5.1E-10	NA	NA
18	Trichloroethene							0.0E+00	3.8E-07	1	0.0E+00	NA	NA	0.0E+00	1.3E-07	1	0.0E+00	1.1E-02	0E+00
19	Vinyl Chloride							0.0E+00	3.8E-07	1	0.0E+00	NA	NA	0.0E+00	1.3E-07	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total)							4.0E-03	3.8E-07	1	1.5E-09	2.0E+00	8E-10	4.0E-03	1.3E-07	1	5.2E-10	NA	NA
21	1,4-Dichlorobenzene							2.1E-01	3.8E-07	1	8.0E-08	NA	NA	2.1E-01	1.3E-07	1	2.7E-08	2.4E-02	7E-10
22	2,4-Dimethylphenol							0.0E+00	3.8E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	3.8E-07	1	0.0E+00	4.0E-03	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	3.8E-07	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	3.8E-07	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	3.8E-07	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	3.8E-07	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							2.8E-01	3.8E-07	1	1.1E-07	3.0E-02	4E-06	2.8E-01	1.3E-07	1	3.6E-08	1.2E+01	4E-07
29	Benzo(a)pyrene							4.3E-01	3.8E-07	1	1.6E-07	3.0E-02	5E-06	4.3E-01	1.3E-07	1	5.6E-08	1.2E+01	7E-07
30	Benzo(b)fluoranthene							4.6E-01	3.8E-07	1	1.8E-07	3.0E-02	6E-06	4.6E-01	1.3E-07	1	6.0E-08	1.2E+01	7E-07
31	Benzo(g,h,i)perylene							4.6E-01	3.8E-07	1	1.8E-07	3.0E-02	6E-06	4.6E-01	1.3E-07	1	6.0E-08	NA	NA
32	Benzo(k)fluoranthene							3.6E-01	3.8E-07	1	1.4E-07	3.0E-02	5E-06	3.6E-01	1.3E-07	1	4.7E-08	1.2E+01	6E-07
33	Benzoic acid							7.5E-02	3.8E-07	1	2.9E-08	4.0E+00	7E-09	7.5E-02	1.3E-07	1	9.8E-09	NA	NA
34	Benzyl alcohol							0.0E+00	3.8E-07	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							1.5E+00	3.8E-07	1	5.6E-07	2.0E-02	3E-05	1.5E+00	1.3E-07	1	1.9E-07	1.4E-02	3E-09
36	Butylbenzylphthalate							0.0E+00	3.8E-07	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
37	Chrysene							3.6E-01	3.8E-07	1	1.4E-07	3.0E-02	5E-06	3.6E-01	1.3E-07	1	4.7E-08	1.2E+01	6E-07
38	Di-n-butylphthalate							4.2E-01	3.8E-07	1	1.6E-07	1.0E-01	2E-06	4.2E-01	1.3E-07	1	5.5E-08	NA	NA
39	Di-n-octylphthalate							0.0E+00	3.8E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	3.8E-07	1	0.0E+00	3.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthalate	0.0E+00	3.8E-07	1	0.0E+00	8.0E-01	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	3.8E-07	1	0.0E+00	1.0E+00	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
43	Fluoranthene	3.3E-01	3.8E-07	1	1.3E-07	4.0E-02	3E-06	3.3E-01	1.3E-07	1	4.3E-08	NA	NA
44	Fluorene	0.0E+00	3.8E-07	1	0.0E+00	4.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	4.7E-01	3.8E-07	1	1.8E-07	3.0E-02	6E-06	4.7E-01	1.3E-07	1	6.1E-08	1.2E+01	7E-07
46	Naphthalene	0.0E+00	3.8E-07	1	0.0E+00	4.0E-03	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
47	Phenanthrene	1.9E-01	3.8E-07	1	7.2E-08	3.0E-02	2E-06	1.9E-01	1.3E-07	1	2.5E-08	NA	NA
48	Phenol	0.0E+00	3.8E-07	1	0.0E+00	6.0E-01	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
49	Pyrene	3.1E-01	3.8E-07	1	1.2E-07	3.0E-02	4E-06	3.1E-01	1.3E-07	1	4.0E-08	NA	NA
50	4,4-DDE	0.0E+00	3.8E-07	1	0.0E+00	NA	NA	0.0E+00	1.3E-07	1	0.0E+00	3.4E-01	0E+00
51	4,4-DDT	0.0E+00	3.8E-07	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.3E-07	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	3.8E-07	1	0.0E+00	3.0E-05	0E+00	0.0E+00	1.3E-07	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	3.8E-07	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.3E-07	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	3.8E-07	1	0.0E+00	NA	NA	0.0E+00	1.3E-07	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	3.8E-07	1	0.0E+00	NA	NA	0.0E+00	1.3E-07	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	3.8E-07	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.3E-07	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	3.8E-07	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	3.8E-07	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.3E-07	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	3.8E-07	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.3E-07	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Total	2.2E+01	3.8E-07	1	8.3E-06	4.0E-04	2E-02	2.2E+01	1.3E-07	1	2.9E-06	NA	NA
61	Arsenic, Total	1.1E+00	3.8E-07	1	4.1E-07	3.0E-04	1E-03	1.1E+00	1.3E-07	1	1.4E-07	1.8E+00	3E-07
62	Barium, Total	1.2E+01	3.8E-07	1	4.4E-06	7.0E-02	6E-05	1.2E+01	1.3E-07	1	1.5E-06	NA	NA
63	Beryllium, Total	5.7E-01	3.8E-07	1	2.2E-07	5.0E-03	4E-05	5.7E-01	1.3E-07	1	7.4E-08	4.3E+00	3E-07
64	Cadmium, Total (food)	6.4E-01	3.8E-07	1	2.4E-07	1.0E-03	2E-04	6.4E-01	1.3E-07	1	8.3E-08	NA	NA
65	Cadmium, Total (water)	0.0E+00	3.8E-07	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
66	Chromium, Total	4.7E+00	3.8E-07	1	1.8E-06	5.0E-03	4E-04	4.7E+00	1.3E-07	1	6.2E-07	NA	NA
67	Mercury, Total	0.0E+00	3.8E-07	1	0.0E+00	3.0E-04	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
68	Nickel, Total	4.5E+00	3.8E-07	1	1.7E-06	2.0E-02	9E-05	4.5E+00	1.3E-07	1	5.9E-07	NA	NA
69	Silver, Total	1.1E+00	3.8E-07	1	4.1E-07	5.0E-03	8E-05	1.1E+00	1.3E-07	1	1.4E-07	NA	NA
70	Thallium, Total	0.0E+00	3.8E-07	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
71	Vanadium, Total	5.8E+00	3.8E-07	1	2.2E-06	7.0E-03	3E-04	5.8E+00	1.3E-07	1	7.6E-07	NA	NA
72	Cyanide, Total	0.0E+00	3.8E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	3.8E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.3E-07	1	0.0E+00	NA	NA

RANGE NAME: WS2

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP5
LAST UPDATED: 07/24/92

LAND USE: FUTURE
POPULATION: AGRICULT. WORKER

EXPOSURE POINT: LANDFILL
MEDIUM: AIR-PART
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 1.4E-02
HIFl = 4.9E-03

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	0.0E+00	1.4E-02	1	0.0E+00	3.0E-01	0E+00	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	1.4E-02	1	0.0E+00	1.0E-01	0E+00	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	1.8E-01	0E+00
4	1,2-Dichloroethene(total)							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
5	2-Butanone							0.0E+00	1.4E-02	1	0.0E+00	9.0E-02	0E+00	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	1.4E-02	1	0.0E+00	2.0E-02	0E+00	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
7	Acetone							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
8	Benzene							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
10	Carbon Disulfide							0.0E+00	1.4E-02	1	0.0E+00	2.9E-03	0E+00	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
11	Chlorobenzene							0.0E+00	1.4E-02	1	0.0E+00	5.0E-03	0E+00	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							0.0E+00	1.4E-02	1	0.0E+00	2.9E-01	0E+00	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
14	Methylene Chloride							0.0E+00	1.4E-02	1	0.0E+00	8.6E-01	0E+00	0.0E+00	4.9E-03	1	0.0E+00	1.6E-03	0E+00
15	Styrene							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	1.8E-03	0E+00
17	Toluene							0.0E+00	1.4E-02	1	0.0E+00	5.7E-01	0E+00	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
18	Trichloroethene							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							0.0E+00	1.4E-02	1	0.0E+00	8.6E-02	0E+00	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
21	1,4-Dichlorobenzene							7.6E-06	1.4E-02	1	1.1E-07	2.0E-01	5E-07	7.6E-06	4.9E-03	1	3.7E-08	NA	NA
22	2,4-Dimethylphenol							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							1.0E-05	1.4E-02	1	1.4E-07	NA	NA	1.0E-05	4.9E-03	1	4.9E-08	6.1E+00	3E-07
29	Benzo(a)pyrene							1.5E-05	1.4E-02	1	2.2E-07	NA	NA	1.5E-05	4.9E-03	1	7.6E-08	6.1E+00	5E-07
30	Benzo(b)fluoranthene							1.7E-05	1.4E-02	1	2.3E-07	NA	NA	1.7E-05	4.9E-03	1	8.2E-08	6.1E+00	5E-07
31	Benzo(g,h,i)perylene							1.7E-05	1.4E-02	1	2.3E-07	NA	NA	1.7E-05	4.9E-03	1	8.1E-08	NA	NA
32	Benzo(k)fluoranthene							1.3E-05	1.4E-02	1	1.8E-07	NA	NA	1.3E-05	4.9E-03	1	6.4E-08	6.1E+00	4E-07
33	Benzoic acid							2.7E-06	1.4E-02	1	3.8E-08	NA	NA	2.7E-06	4.9E-03	1	1.3E-08	NA	NA
34	Benzyl alcohol							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							5.3E-05	1.4E-02	1	7.5E-07	NA	NA	5.3E-05	4.9E-03	1	2.6E-07	NA	NA
36	Butylbenzylphthalate							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
37	Chrysene							1.3E-05	1.4E-02	1	1.8E-07	NA	NA	1.3E-05	4.9E-03	1	6.4E-08	6.1E+00	4E-07
38	Di-n-butylphthalate							1.5E-05	1.4E-02	1	2.1E-07	NA	NA	1.5E-05	4.9E-03	1	7.5E-08	NA	NA
39	Di-n-octylphthalate							0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA

40 Dibenzo(a,h)anthracene	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	6.1E+00	0E+00
41 Diethylphthalate	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
42 Dimethylphthalate	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
43 Fluoranthene	1.2E-05	1.4E-02	1	1.7E-07	NA	NA	1.2E-05	4.9E-03	1	5.8E-08	NA	NA
44 Fluorene	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
45 Indeno(1,2,3-cd)pyrene	1.7E-05	1.4E-02	1	2.3E-07	NA	NA	1.7E-05	4.9E-03	1	8.2E-08	6.1E+00	5E-07
46 Naphthalene	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
47 Phenanthrene	6.8E-06	1.4E-02	1	9.6E-08	NA	NA	6.8E-06	4.9E-03	1	3.4E-08	NA	NA
48 Phenol	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
49 Pyrene	1.1E-05	1.4E-02	1	1.6E-07	NA	NA	1.1E-05	4.9E-03	1	5.5E-08	NA	NA
50 4,4-DDE	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
51 4,4-DDT	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	3.4E-01	0E+00
52 Aldrin	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	1.7E+01	0E+00
53 alpha-Chlordane	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	1.3E+00	0E+00
54 Aroclor-1248	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
55 beta-BHC	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	1.8E+00	0E+00
56 Dieldrin	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	1.6E+01	0E+00
57 Endosulfan II	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
58 gamma-Chlordane	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	1.3E+00	0E+00
59 Heptachlor	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	4.6E+00	0E+00
60 Antimony, Total	7.9E-04	1.4E-02	1	1.1E-05	NA	NA	7.9E-04	4.9E-03	1	3.9E-06	NA	NA
61 Arsenic, Total	3.9E-05	1.4E-02	1	5.5E-07	NA	NA	3.9E-05	4.9E-03	1	1.9E-07	1.5E+01	3E-06
62 Barium, Total	4.1E-04	1.4E-02	1	5.8E-06	1.0E-04	6E-02	4.1E-04	4.9E-03	1	2.0E-06	NA	NA
63 Beryllium, Total	2.0E-05	1.4E-02	1	2.9E-07	NA	NA	2.0E-05	4.9E-03	1	1.0E-07	8.4E+00	8E-07
64 Cadmium, Total (food)	2.3E-05	1.4E-02	1	3.2E-07	NA	NA	2.3E-05	4.9E-03	1	1.1E-07	6.3E+00	7E-07
65 Cadmium, Total (water)	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	6.3E+00	0E+00
66 Chromium, Total	1.7E-04	1.4E-02	1	2.4E-06	5.7E-07	4E+00	1.7E-04	4.9E-03	1	8.4E-07	4.2E+01	4E-05
67 Mercury, Total	0.0E+00	1.4E-02	1	0.0E+00	8.6E-05	0E+00	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
68 Nickel, Total	1.6E-04	1.4E-02	1	2.3E-06	NA	NA	1.6E-04	4.9E-03	1	8.0E-07	NA	NA
69 Silver, Total	3.9E-05	1.4E-02	1	5.4E-07	NA	NA	3.9E-05	4.9E-03	1	1.9E-07	NA	NA
70 Thallium, Total	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
71 Vanadium, Total	2.1E-04	1.4E-02	1	2.9E-06	NA	NA	2.1E-04	4.9E-03	1	1.0E-06	NA	NA
72 Cyanide, Total	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA
73 Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	1.4E-02	1	0.0E+00	NA	NA	0.0E+00	4.9E-03	1	0.0E+00	NA	NA

RANGE NAME: WS3

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP5
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: AGRICULT. WORKER

EXPOSURE POINT: LANDFILL
MEDIUM: AIR-VOC'S
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 8.2E-04
HIFl = 2.9E-04

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	0.0E+00	8.2E-04	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	8.2E-04	1	0.0E+00	1.0E-01	0E+00	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							3.7E-05	8.2E-04	1	3.0E-08	NA	NA	3.7E-05	2.9E-04	1	1.1E-08	1.8E-01	2E-09
4	1,2-Dichloroethene(total)							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
5	2-Butanone							4.3E-06	8.2E-04	1	3.5E-09	9.0E-02	4E-08	4.3E-06	2.9E-04	1	1.2E-09	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	8.2E-04	1	0.0E+00	2.0E-02	0E+00	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
7	Acetone							4.6E-05	8.2E-04	1	3.8E-08	NA	NA	4.6E-05	2.9E-04	1	1.3E-08	NA	NA
8	Benzene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
10	Carbon Disulfide							1.5E-05	8.2E-04	1	1.2E-08	2.9E-03	4E-06	1.5E-05	2.9E-04	1	4.4E-09	NA	NA
11	Chlorobenzene							0.0E+00	8.2E-04	1	0.0E+00	5.0E-03	0E+00	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							1.5E-06	8.2E-04	1	1.2E-09	2.9E-01	4E-09	1.5E-06	2.9E-04	1	4.4E-10	NA	NA
14	Methylene Chloride							2.9E-05	8.2E-04	1	2.4E-08	8.6E-01	3E-08	2.9E-05	2.9E-04	1	8.4E-09	1.6E-03	1E-11
15	Styrene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	1.8E-03	0E+00
17	Toluene							6.2E-06	8.2E-04	1	5.1E-09	5.7E-01	9E-09	6.2E-06	2.9E-04	1	1.8E-09	NA	NA
18	Trichloroethene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							7.0E-06	8.2E-04	1	5.7E-09	8.6E-02	7E-08	7.0E-06	2.9E-04	1	2.0E-09	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	8.2E-04	1	0.0E+00	2.0E-01	0E+00	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
22	2,4-Dimethylphenol							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluoranthene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)perylene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
32	Benzo(k)fluoranthene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
36	Butylbenzylphthalate							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
37	Chrysene							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphthalate							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	8.2E-04	1	0.0E+00	1.0E-04	0E+00	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
63	Beryllium, Total	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total (food)	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total (water)	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	0.0E+00	8.2E-04	1	0.0E+00	5.7E-07	0E+00	0.0E+00	2.9E-04	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	8.2E-04	1	0.0E+00	8.6E-05	0E+00	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
71	Vanadium, Total	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	8.2E-04	1	0.0E+00	NA	NA	0.0E+00	2.9E-04	1	0.0E+00	NA	NA

RANGE NAME: WS4

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP5
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: AGRICULT. WORKER

EXPOSURE POINT: LANDFILL
MEDIUM: GROUNDWATER
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 7.8E-04
HIFl = 2.8E-04

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	2.2E-01	7.8E-04	1	1.7E-04	9.0E-02	2E-03	2.2E-01	2.8E-04	1	6.2E-05	NA	NA
2	1,1-Dichloroethane							1.0E-01	7.8E-04	1	8.0E-05	1.0E-01	8E-04	1.0E-01	2.8E-04	1	2.9E-05	NA	NA
3	1,1-Dichloroethene							2.3E-02	7.8E-04	1	1.8E-05	9.0E-03	2E-03	2.3E-02	2.8E-04	1	6.6E-06	6.0E-01	4E-06
4	1,2-Dichloroethene(total)							1.8E-01	7.8E-04	1	1.4E-04	1.0E-02	1E-02	1.8E-01	2.8E-04	1	5.1E-05	NA	NA
5	2-Butanone							1.8E-01	7.8E-04	1	1.4E-04	5.0E-02	3E-03	1.8E-01	2.8E-04	1	5.0E-05	NA	NA
6	4-Methyl-2-pentanone							5.0E-02	7.8E-04	1	3.9E-05	5.0E-02	8E-04	5.0E-02	2.8E-04	1	1.4E-05	NA	NA
7	Acetone							5.6E-01	7.8E-04	1	4.4E-04	1.0E-01	4E-03	5.6E-01	2.8E-04	1	1.6E-04	NA	NA
8	Benzene							4.7E-02	7.8E-04	1	3.7E-05	NA	NA	4.7E-02	2.8E-04	1	1.3E-05	2.9E-02	4E-07
9	Bromodichloromethane							2.3E-02	7.8E-04	1	1.8E-05	2.0E-02	9E-04	2.3E-02	2.8E-04	1	6.6E-06	1.3E-01	9E-07
10	Carbon Disulfide							5.7E-02	7.8E-04	1	4.4E-05	1.0E-01	4E-04	5.7E-02	2.8E-04	1	1.6E-05	NA	NA
11	Chlorobenzene							1.7E-03	7.8E-04	1	1.3E-06	2.0E-02	7E-05	1.7E-03	2.8E-04	1	4.8E-07	NA	NA
12	Chloroform							3.4E-02	7.8E-04	1	2.7E-05	1.0E-02	3E-03	3.4E-02	2.8E-04	1	9.6E-06	6.1E-03	6E-08
13	Ethyl Benzene							2.9E-01	7.8E-04	1	2.3E-04	1.0E-01	2E-03	2.9E-01	2.8E-04	1	8.1E-05	NA	NA
14	Methylene Chloride							2.3E-01	7.8E-04	1	1.8E-04	6.0E-02	3E-03	2.3E-01	2.8E-04	1	6.5E-05	7.5E-03	5E-07
15	Styrene							3.0E-03	7.8E-04	1	2.3E-06	2.0E-01	1E-05	3.0E-03	2.8E-04	1	8.4E-07	3.0E-02	3E-08
16	Tetrachloroethene							2.3E-02	7.8E-04	1	1.8E-05	1.0E-02	2E-03	2.3E-02	2.8E-04	1	6.3E-06	5.1E-02	3E-07
17	Toluene							4.7E-01	7.8E-04	1	3.7E-04	2.0E-01	2E-03	4.7E-01	2.8E-04	1	1.3E-04	NA	NA
18	Trichloroethene							2.4E-01	7.8E-04	1	1.9E-04	NA	NA	2.4E-01	2.8E-04	1	6.8E-05	1.1E-02	8E-07
19	Vinyl Chloride							2.8E-02	7.8E-04	1	2.2E-05	NA	NA	2.8E-02	2.8E-04	1	7.8E-06	1.9E+00	1E-05
20	Xylenes (Total)							1.8E-01	7.8E-04	1	1.4E-04	2.0E+00	7E-05	1.8E-01	2.8E-04	1	4.9E-05	NA	NA
21	1,4-Dichlorobenzene							8.1E-03	7.8E-04	1	6.3E-06	NA	NA	8.1E-03	2.8E-04	1	2.3E-06	2.4E-02	5E-08
22	2,4-Dimethylphenol							3.9E-02	7.8E-04	1	3.1E-05	2.0E-02	2E-03	3.9E-02	2.8E-04	1	1.1E-05	NA	NA
23	2-Methylnaphthalene							0.0E+00	7.8E-04	1	0.0E+00	4.0E-03	0E+00	0.0E+00	2.8E-04	1	0.0E+00	NA	NA
24	2-Methylphenol							1.9E-01	7.8E-04	1	1.5E-04	5.0E-02	3E-03	1.9E-01	2.8E-04	1	5.3E-05	NA	NA
25	Acenaphthene							0.0E+00	7.8E-04	1	0.0E+00	6.0E-02	0E+00	0.0E+00	2.8E-04	1	0.0E+00	NA	NA
26	Acenaphthylene							1.0E-03	7.8E-04	1	7.8E-07	6.0E-02	1E-05	1.0E-03	2.8E-04	1	2.8E-07	NA	NA
27	Anthracene							0.0E+00	7.8E-04	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.8E-04	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	7.8E-04	1	0.0E+00	3.0E-02	0E+00	0.0E+00	2.8E-04	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene							4.0E-03	7.8E-04	1	3.1E-06	3.0E-02	1E-04	4.0E-03	2.8E-04	1	1.1E-06	1.2E+01	1E-05
30	Benzo(b)fluoranthene							5.6E-03	7.8E-04	1	4.4E-06	3.0E-02	1E-04	5.6E-03	2.8E-04	1	1.6E-06	1.2E+01	2E-05
31	Benzo(g,h,i)perylene							2.0E-03	7.8E-04	1	1.6E-06	3.0E-02	5E-05	2.0E-03	2.8E-04	1	5.6E-07	NA	NA
32	Benzo(k)fluoranthene							2.0E-03	7.8E-04	1	1.6E-06	3.0E-02	5E-05	2.0E-03	2.8E-04	1	5.6E-07	1.2E+01	7E-06
33	Benzoic acid							2.5E-02	7.8E-04	1	2.0E-05	4.0E+00	5E-06	2.5E-02	2.8E-04	1	7.0E-06	NA	NA
34	Benzyl alcohol							5.0E-03	7.8E-04	1	3.9E-06	3.0E-01	1E-05	5.0E-03	2.8E-04	1	1.4E-06	NA	NA
35	bis(2-Ethylhexyl)phthalate							2.1E-02	7.8E-04	1	1.6E-05	2.0E-02	8E-04	2.1E-02	2.8E-04	1	5.9E-06	1.4E-02	8E-08
36	Butylbenzylphthalate							8.1E-03	7.8E-04	1	6.3E-06	2.0E-01	3E-05	8.1E-03	2.8E-04	1	2.3E-06	NA	NA
37	Chrysene							4.0E-03	7.8E-04	1	3.1E-06	3.0E-02	1E-04	4.0E-03	2.8E-04	1	1.1E-06	1.2E+01	1E-05
38	Di-n-butylphthalate							8.1E-03	7.8E-04	1	6.3E-06	1.0E-01	6E-05	8.1E-03	2.8E-04	1	2.3E-06	NA	NA
39	Di-n-octylphthalate							8.1E-03	7.8E-04	1	6.3E-06	2.0E-02	3E-04	8.1E-03	2.8E-04	1	2.3E-06	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	7.8E-04	1	0.0E+00	3.0E-02	0E+00	0.0E+00	2.8E-04	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthalate	2.8E-02	7.8E-04	1	2.2E-05	8.0E-01	3E-05	2.8E-02	2.8E-04	1	7.8E-06	NA	NA
42	Dimethylphthalate	8.1E-03	7.8E-04	1	6.3E-06	1.0E+00	6E-06	8.1E-03	2.8E-04	1	2.3E-06	NA	NA
43	Fluoranthene	5.6E-03	7.8E-04	1	4.4E-06	4.0E-02	1E-04	5.6E-03	2.8E-04	1	1.6E-06	NA	NA
44	Fluorene	0.0E+00	7.8E-04	1	0.0E+00	4.0E-02	0E+00	0.0E+00	2.8E-04	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	2.0E-03	7.8E-04	1	1.6E-06	3.0E-02	5E-05	2.0E-03	2.8E-04	1	5.6E-07	1.2E+01	7E-06
46	Naphthalene	3.0E-03	7.8E-04	1	2.3E-06	4.0E-03	6E-04	3.0E-03	2.8E-04	1	8.4E-07	NA	NA
47	Phenanthrene	5.6E-03	7.8E-04	1	4.4E-06	3.0E-02	1E-04	5.6E-03	2.8E-04	1	1.6E-06	NA	NA
48	Phenol	2.7E+00	7.8E-04	1	2.1E-03	6.0E-01	3E-03	2.7E+00	2.8E-04	1	7.5E-04	NA	NA
49	Pyrene	5.6E-03	7.8E-04	1	4.4E-06	3.0E-02	1E-04	5.6E-03	2.8E-04	1	1.6E-06	NA	NA
50	4,4-DDE	3.4E-04	7.8E-04	1	2.7E-07	NA	NA	3.4E-04	2.8E-04	1	9.5E-08	3.4E-01	3E-08
51	4,4-DDT	2.8E-04	7.8E-04	1	2.2E-07	5.0E-04	4E-04	2.8E-04	2.8E-04	1	7.8E-08	3.4E-01	3E-08
52	Aldrin	8.9E-05	7.8E-04	1	7.0E-08	3.0E-05	2E-03	8.9E-05	2.8E-04	1	2.5E-08	1.7E+01	4E-07
53	alpha-Chlordane	2.2E-04	7.8E-04	1	1.7E-07	6.0E-05	3E-03	2.2E-04	2.8E-04	1	6.2E-08	1.3E+00	8E-08
54	Aroclor-1248	0.0E+00	7.8E-04	1	0.0E+00	NA	NA	0.0E+00	2.8E-04	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	6.3E-05	7.8E-04	1	4.9E-08	NA	NA	6.3E-05	2.8E-04	1	1.8E-08	1.8E+00	3E-08
56	Dieldrin	7.3E-05	7.8E-04	1	5.7E-08	5.0E-05	1E-03	7.3E-05	2.8E-04	1	2.0E-08	1.6E+01	3E-07
57	Endosulfan II	1.0E-04	7.8E-04	1	7.8E-08	5.0E-05	2E-03	1.0E-04	2.8E-04	1	2.8E-08	NA	NA
58	gamma-Chlordane	2.9E-05	7.8E-04	1	2.3E-08	6.0E-05	4E-04	2.9E-05	2.8E-04	1	8.1E-09	1.3E+00	1E-08
59	Heptachlor	6.5E-05	7.8E-04	1	5.1E-08	5.0E-04	1E-04	6.5E-05	2.8E-04	1	1.8E-08	4.5E+00	8E-08
60	Antimony, Total	5.2E+00	7.8E-04	1	4.0E-03	4.0E-04	1E+01	5.2E+00	2.8E-04	1	1.5E-03	NA	NA
61	Arsenic, Total	1.7E-02	7.8E-04	1	1.3E-05	3.0E-04	4E-02	1.7E-02	2.8E-04	1	4.6E-06	1.8E+00	8E-06
62	Barium, Total	8.0E-02	7.8E-04	1	6.2E-05	7.0E-02	9E-04	8.0E-02	2.8E-04	1	2.2E-05	NA	NA
63	Beryllium, Total	2.6E+00	7.8E-04	1	2.0E-03	5.0E-03	4E-01	2.6E+00	2.8E-04	1	7.2E-04	4.3E+00	3E-03
64	Cadmium, Total (food)	0.0E+00	7.8E-04	1	0.0E+00	1.0E-03	0E+00	0.0E+00	2.8E-04	1	0.0E+00	NA	NA
65	Cadmium, Total (water)	1.1E+00	7.8E-04	1	8.8E-04	5.0E-04	2E+00	1.1E+00	2.8E-04	1	3.2E-04	NA	NA
66	Chromium, Total	2.9E+00	7.8E-04	1	2.3E-03	5.0E-03	5E-01	2.9E+00	2.8E-04	1	8.1E-04	NA	NA
67	Mercury, Total	6.0E-04	7.8E-04	1	4.7E-07	3.0E-04	2E-03	6.0E-04	2.8E-04	1	1.7E-07	NA	NA
68	Nickel, Total	3.5E-02	7.8E-04	1	2.7E-05	2.0E-02	1E-03	3.5E-02	2.8E-04	1	9.8E-06	NA	NA
69	Silver, Total	5.2E-03	7.8E-04	1	4.0E-06	5.0E-03	8E-04	5.2E-03	2.8E-04	1	1.4E-06	NA	NA
70	Thallium, Total	0.0E+00	7.8E-04	1	0.0E+00	7.0E-05	0E+00	0.0E+00	2.8E-04	1	0.0E+00	NA	NA
71	Vanadium, Total	2.5E+00	7.8E-04	1	1.9E-03	7.0E-03	3E-01	2.5E+00	2.8E-04	1	6.9E-04	NA	NA
72	Cyanide, Total	9.8E-02	7.8E-04	1	7.7E-05	2.0E-02	4E-03	9.8E-02	2.8E-04	1	2.8E-05	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	7.8E-04	1	0.0E+00	1.0E-01	0E+00	0.0E+00	2.8E-04	1	0.0E+00	NA	NA

RANGE NAME: CSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP5
LAST UPDATED: 07/24/92

CHRONIC EXPOSURE SUMMARY

FUTURE
AGRICULT. WORKER

CHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 LANDFILL SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL AIR-PART INHALATION (FROM WS2)	SCENARIO 3 LANDFILL AIR-VOC'S INHALATION (FROM WS3)	SCENARIO 4 LANDFILL GROUNDWATER ORAL (FROM WS4)	SCENARIO 5 0 0 (FROM WS5)	SCENARIO 6 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	1.7E-04	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	8.0E-05		
3	1,1-Dichloroet	1.5E-09	0.0E+00	3.0E-08	1.8E-05		
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	1.4E-04		
5	2-Butanone	1.5E-09	0.0E+00	3.5E-09	1.4E-04		
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	3.9E-05		
7	Acetone	1.1E-08	0.0E+00	3.8E-08	4.4E-04		
8	Benzene	0.0E+00	0.0E+00	0.0E+00	3.7E-05		
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	1.8E-05		
10	Carbon Disulfi	7.2E-10	0.0E+00	1.2E-08	4.4E-05		
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	1.3E-06		
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	2.7E-05		
13	Ethyl Benzene	7.6E-10	0.0E+00	1.2E-09	2.3E-04		
14	Methylene Chlo	1.5E-09	0.0E+00	2.4E-08	1.8E-04		
15	Styrene	0.0E+00	0.0E+00	0.0E+00	2.3E-06		
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	1.8E-05		
17	Toluene	1.5E-09	0.0E+00	5.1E-09	3.7E-04		
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	1.9E-04		
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	2.2E-05		
20	Xylenes (Total	1.5E-09	0.0E+00	5.7E-09	1.4E-04		
21	1,4-Dichlorobe	8.0E-08	1.1E-07	0.0E+00	6.3E-06		
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	3.1E-05		
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	1.5E-04		
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	7.8E-07		
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
28	Benzo(a)anthra	1.1E-07	1.4E-07	0.0E+00	0.0E+00		
29	Benzo(a)pyrene	1.6E-07	2.2E-07	0.0E+00	3.1E-06		
30	Benzo(b)fluora	1.8E-07	2.3E-07	0.0E+00	4.4E-06		
31	Benzo(g,h,i)pe	1.8E-07	2.3E-07	0.0E+00	1.6E-06		
32	Benzo(k)fluora	1.4E-07	1.8E-07	0.0E+00	1.6E-06		
33	Benzoic acid	2.9E-08	3.8E-08	0.0E+00	2.0E-05		
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	3.9E-06		
35	bis(2-Ethylhex	5.6E-07	7.5E-07	0.0E+00	1.6E-05		
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	6.3E-06		
37	Chrysene	1.4E-07	1.8E-07	0.0E+00	3.1E-06		
38	Di-n-butylphth	1.6E-07	2.1E-07	0.0E+00	6.3E-06		
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	6.3E-06		
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	2.2E-05		
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	6.3E-06		

CHRONIC RISK SUMMARY

FUTURE
AGRICULT. WORKER

CHRONIC HAZARD QUOTIENT

CHEMICAL NAME	SCENARIO 1 LANDFILL SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL AIR-PART INHALATION (FROM WS2)	SCENARIO 3 LANDFILL AIR-VOC'S INHALATION (FROM WS3)	SCENARIO 4 LANDFILL GROUNDWATER ORAL (FROM WS4)	SCENARIO 5 0 0 (FROM WS5)	SCENARIO 6 0 0 (FROM WS6)
1,1,1-Trichlor	0E+00	0E+00	0E+00	2E-03	0E+00	0E+00
1,1-Dichloroet	0E+00	0E+00	0E+00	8E-04		
1,1-Dichloroet	2E-07	NA	NA	2E-03		
1,2-Dichloroet	0E+00	NA	NA	1E-02		
2-Butanone	3E-08	0E+00	4E-08	3E-03		
4-Methyl-2-pen	0E+00	0E+00	0E+00	8E-04		
Acetone	1E-07	NA	NA	4E-03		
Benzene	NA	NA	NA	NA		
Bromodichlorom	0E+00	NA	NA	9E-04		
Carbon Disulfi	7E-09	0E+00	4E-06	4E-04		
Chlorobenzene	0E+00	0E+00	0E+00	7E-05		
Chloroform	0E+00	NA	NA	3E-03		
Ethyl Benzene	8E-09	0E+00	4E-09	2E-03		
Methylene Chlo	3E-08	0E+00	3E-08	3E-03		
Styrene	0E+00	NA	NA	1E-05		
Tetrachloroeth	0E+00	NA	NA	2E-03		
Toluene	8E-09	0E+00	9E-09	2E-03		
Trichloroethen	NA	NA	NA	NA		
Vinyl Chloride	NA	NA	NA	NA		
Xylenes (Total	8E-10	0E+00	7E-08	7E-05		
1,4-Dichlorobe	NA	5E-07	0E+00	NA		
2,4-Dimethylph	0E+00	NA	NA	2E-03		
2-Methylnaphth	0E+00	NA	NA	0E+00		
2-Methylphenol	0E+00	NA	NA	3E-03		
Acenaphthene	0E+00	NA	NA	0E+00		
Acenaphthylene	0E+00	NA	NA	1E-05		
Anthracene	0E+00	NA	NA	0E+00		
Benzo(a)anthra	4E-06	NA	NA	0E+00		
Benzo(a)pyrene	5E-06	NA	NA	1E-04		
Benzo(b)fluora	6E-06	NA	NA	1E-04		
Benzo(g,h,i)pe	6E-06	NA	NA	5E-05		
Benzo(k)fluora	5E-06	NA	NA	5E-05		
Benzoic acid	7E-09	NA	NA	5E-06		
Benzyl alcohol	0E+00	NA	NA	1E-05		
bis(2-Ethylhex	3E-05	NA	NA	8E-04		
Butylbenzylpht	0E+00	NA	NA	3E-05		
Chrysene	5E-06	NA	NA	1E-04		
Di-n-butylphth	2E-06	NA	NA	6E-05		
Di-n-octylphth	0E+00	NA	NA	3E-04		
Dibenzo(a,h)an	0E+00	NA	NA	0E+00		
Diethylphthala	0E+00	NA	NA	3E-05		
Dimethylphthal	0E+00	NA	NA	6E-06		

43	Fluoranthene	1.3E-07	1.7E-07	0.0E+00	4.4E-06		3E-06	NA	NA	1E-04		
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00		
45	Indeno(1,2,3-c	1.8E-07	2.3E-07	0.0E+00	1.6E-06		6E-06	NA	NA	5E-05		
46	Naphthalene	0.0E+00	0.0E+00	0.0E+00	2.3E-06		0E+00	NA	NA	6E-04		
47	Phenanthrene	7.2E-08	9.6E-08	0.0E+00	4.4E-06		2E-06	NA	NA	1E-04		
48	Phenol	0.0E+00	0.0E+00	0.0E+00	2.1E-03		0E+00	NA	NA	3E-03		
49	Pyrene	1.2E-07	1.6E-07	0.0E+00	4.4E-06		4E-06	NA	NA	1E-04		
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	2.7E-07		NA	NA	NA	NA		
51	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	2.2E-07		0E+00	NA	NA	4E-04		
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	7.0E-08		0E+00	NA	NA	2E-03		
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	1.7E-07		0E+00	NA	NA	3E-03		
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA		
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	4.9E-08		NA	NA	NA	NA		
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	5.7E-08		0E+00	NA	NA	1E-03		
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	7.8E-08		0E+00	NA	NA	2E-03		
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.3E-08		0E+00	NA	NA	4E-04		
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	5.1E-08		0E+00	NA	NA	1E-04		
60	Antimony, Tota	8.3E-06	1.1E-05	0.0E+00	4.0E-03		2E-02	NA	NA	1E+01		
61	Arsenic, Total	4.1E-07	5.5E-07	0.0E+00	1.3E-05		1E-03	NA	NA	4E-02		
62	Barium, Total	4.4E-06	5.8E-06	0.0E+00	6.2E-05		6E-05	6E-02	0E+00	9E-04		
63	Beryllium, Tot	2.2E-07	2.9E-07	0.0E+00	2.0E-03		4E-05	NA	NA	4E-01		
64	Cadmium, Total	2.4E-07	3.2E-07	0.0E+00	0.0E+00		2E-04	NA	NA	0E+00		
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	8.8E-04		0E+00	NA	NA	2E+00		
66	Chromium, Tota	1.8E-06	2.4E-06	0.0E+00	2.3E-03		4E-04	4E+00	0E+00	5E-01		
67	Mercury, Total	0.0E+00	0.0E+00	0.0E+00	4.7E-07		0E+00	0E+00	0E+00	2E-03		
68	Nickel, Total	1.7E-06	2.3E-06	0.0E+00	2.7E-05		9E-05	NA	NA	1E-03		
69	Silver, Total	4.1E-07	5.4E-07	0.0E+00	4.0E-06		8E-05	NA	NA	8E-04		
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00		
71	Vanadium, Tota	2.2E-06	2.9E-06	0.0E+00	1.9E-03		3E-04	NA	NA	3E-01		
72	Cyanide, Total	0.0E+00	0.0E+00	0.0E+00	7.7E-05		0E+00	NA	NA	4E-03		
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00		
						PATHWAY SUM (HI)	2E-02	4E+00	4E-06	1E+01	0E+00	0E+00
						POPULATION TOTAL	1E+01					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP5
LAST UPDATED: 07/24/92

LIFETIME EXPOSURE SUMMARY

FUTURE
AGRICULT. WORKER

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 LANDFILL SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL AIR-PART INHALATION (FROM WS2)	SCENARIO 3 LANDFILL AIR-VOC'S INHALATION (FROM WS3)	SCENARIO 4 LANDFILL GROUNDWATER ORAL (FROM WS4)	SCENARIO 5 0 0 (FROM WS5)	SCENARIO 6 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	6.2E-05	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	2.9E-05		
3	1,1-Dichloroet	5.1E-10	0.0E+00	1.1E-08	6.6E-06		
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	5.1E-05		
5	2-Butanone	5.2E-10	0.0E+00	1.2E-09	5.0E-05		
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	1.4E-05		
7	Acetone	3.9E-09	0.0E+00	1.3E-08	1.6E-04		
8	Benzene	0.0E+00	0.0E+00	0.0E+00	1.3E-05		
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	6.6E-06		
10	Carbon Disulfi	2.5E-10	0.0E+00	4.4E-09	1.6E-05		
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	4.8E-07		
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	9.6E-06		
13	Ethyl Benzene	2.6E-10	0.0E+00	4.4E-10	8.1E-05		
14	Methylene Chlo	5.2E-10	0.0E+00	8.4E-09	6.5E-05		
15	Styrene	0.0E+00	0.0E+00	0.0E+00	8.4E-07		
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	6.3E-06		
17	Toluene	5.1E-10	0.0E+00	1.8E-09	1.3E-04		
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	6.8E-05		
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	7.8E-06		
20	Xylenes (Total	5.2E-10	0.0E+00	2.0E-09	4.9E-05		
21	1,4-Dichlorobe	2.7E-08	3.7E-08	0.0E+00	2.3E-06		
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	1.1E-05		
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	5.3E-05		
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	2.8E-07		
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
28	Benzo(a)anthra	3.6E-08	4.9E-08	0.0E+00	0.0E+00		
29	Benzo(a)pyrene	5.6E-08	7.6E-08	0.0E+00	1.1E-06		
30	Benzo(b)fluora	6.0E-08	8.2E-08	0.0E+00	1.6E-06		
31	Benzo(g,h,i)pe	6.0E-08	8.1E-08	0.0E+00	5.6E-07		
32	Benzo(k)fluora	4.7E-08	6.4E-08	0.0E+00	5.6E-07		
33	Benzoic acid	9.8E-09	1.3E-08	0.0E+00	7.0E-06		
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	1.4E-06		
35	bis(2-Ethylhex	1.9E-07	2.6E-07	0.0E+00	5.9E-06		
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	2.3E-06		
37	Chrysene	4.7E-08	6.4E-08	0.0E+00	1.1E-06		
38	Di-n-butylphth	5.5E-08	7.5E-08	0.0E+00	2.3E-06		
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	2.3E-06		
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	7.8E-06		
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	2.3E-06		

LIFETIME RISK SUMMARY

FUTURE
AGRICULT. WORKER

LIFETIME EXCESS CANCER RISK

	CHEMICAL NAME	SCENARIO 1 LANDFILL SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL AIR-PART INHALATION (FROM WS2)	SCENARIO 3 LANDFILL AIR-VOC'S INHALATION (FROM WS3)	SCENARIO 4 LANDFILL GROUNDWATER ORAL (FROM WS4)	SCENARIO 5 0 0 (FROM WS5)	SCENARIO 6 0 0 (FROM WS6)
1	1,1,1-Trichlor	NA	NA	NA	NA	0E+00	0E+00
2	1,1-Dichloroet	NA	NA	NA	NA		
3	1,1-Dichloroet	3E-10	0E+00	2E-09	4E-06		
4	1,2-Dichloroet	NA	NA	NA	NA		
5	2-Butanone	NA	NA	NA	NA		
6	4-Methyl-2-pen	NA	NA	NA	NA		
7	Acetone	NA	NA	NA	NA		
8	Benzene	0E+00	0E+00	0E+00	4E-07		
9	Bromodichlorom	0E+00	NA	NA	9E-07		
10	Carbon Disulfi	NA	NA	NA	NA		
11	Chlorobenzene	NA	NA	NA	NA		
12	Chloroform	0E+00	0E+00	0E+00	6E-08		
13	Ethyl Benzene	NA	NA	NA	NA		
14	Methylene Chlo	4E-12	0E+00	1E-11	5E-07		
15	Styrene	0E+00	0E+00	0E+00	3E-08		
16	Tetrachloroeth	0E+00	0E+00	0E+00	3E-07		
17	Toluene	NA	NA	NA	NA		
18	Trichloroethen	0E+00	0E+00	0E+00	8E-07		
19	Vinyl Chloride	0E+00	0E+00	0E+00	1E-05		
20	Xylenes (Total	NA	NA	NA	NA		
21	1,4-Dichlorobe	7E-10	NA	NA	5E-08		
22	2,4-Dimethylph	NA	NA	NA	NA		
23	2-Methylnaphth	NA	NA	NA	NA		
24	2-Methylphenol	NA	NA	NA	NA		
25	Acenaphthene	NA	NA	NA	NA		
26	Acenaphthylene	NA	NA	NA	NA		
27	Anthracene	NA	NA	NA	NA		
28	Benzo(a)anthra	4E-07	3E-07	0E+00	0E+00		
29	Benzo(a)pyrene	7E-07	5E-07	0E+00	1E-05		
30	Benzo(b)fluora	7E-07	5E-07	0E+00	2E-05		
31	Benzo(g,h,i)pe	NA	NA	NA	NA		
32	Benzo(k)fluora	6E-07	4E-07	0E+00	7E-06		
33	Benzoic acid	NA	NA	NA	NA		
34	Benzyl alcohol	NA	NA	NA	NA		
35	bis(2-Ethylhex	3E-09	NA	NA	8E-08		
36	Butylbenzylpht	NA	NA	NA	NA		
37	Chrysene	6E-07	4E-07	0E+00	1E-05		
38	Di-n-butylphth	NA	NA	NA	NA		
39	Di-n-octylphth	NA	NA	NA	NA		
40	Dibenzo(a,h)an	0E+00	0E+00	0E+00	0E+00		
41	Diethylphthala	NA	NA	NA	NA		
42	Dimethylphthal	NA	NA	NA	NA		

43	Fluoranthene	4.3E-08	5.8E-08	0.0E+00	1.6E-06		NA	NA	NA	NA		
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA		
45	Indeno(1,2,3-c	6.1E-08	8.2E-08	0.0E+00	5.6E-07		7E-07	5E-07	0E+00	7E-06		
46	Naphthalene	0.0E+00	0.0E+00	0.0E+00	8.4E-07		NA	NA	NA	NA		
47	Phenanthrene	2.5E-08	3.4E-08	0.0E+00	1.6E-06		NA	NA	NA	NA		
48	Phenol	0.0E+00	0.0E+00	0.0E+00	7.5E-04		NA	NA	NA	NA		
49	Pyrene	4.0E-08	5.5E-08	0.0E+00	1.6E-06		NA	NA	NA	NA		
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	9.5E-08		0E+00	NA	NA	3E-08		
51	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	7.8E-08		0E+00	0E+00	0E+00	3E-08		
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	2.5E-08		0E+00	0E+00	0E+00	4E-07		
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	6.2E-08		0E+00	0E+00	0E+00	8E-08		
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00		
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	1.8E-08		0E+00	0E+00	0E+00	3E-08		
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	2.0E-08		0E+00	0E+00	0E+00	3E-07		
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	2.8E-08		NA	NA	NA	NA		
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	8.1E-09		0E+00	0E+00	0E+00	1E-08		
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	1.8E-08		0E+00	0E+00	0E+00	8E-08		
60	Antimony, Tota	2.9E-06	3.9E-06	0.0E+00	1.5E-03		NA	NA	NA	NA		
61	Arsenic, Total	1.4E-07	1.9E-07	0.0E+00	4.6E-06		3E-07	3E-06	0E+00	8E-06		
62	Barium, Total	1.5E-06	2.0E-06	0.0E+00	2.2E-05		NA	NA	NA	NA		
63	Beryllium, Tot	7.4E-08	1.0E-07	0.0E+00	7.2E-04		3E-07	8E-07	0E+00	3E-03		
64	Cadmium, Total	8.3E-08	1.1E-07	0.0E+00	0.0E+00		NA	7E-07	0E+00	NA		
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	3.2E-04		NA	0E+00	0E+00	NA		
66	Chromium, Tota	6.2E-07	8.4E-07	0.0E+00	8.1E-04		NA	4E-05	0E+00	NA		
67	Mercury, Total	0.0E+00	0.0E+00	0.0E+00	1.7E-07		NA	NA	NA	NA		
68	Nickel, Total	5.9E-07	8.0E-07	0.0E+00	9.8E-06		NA	NA	NA	NA		
69	Silver, Total	1.4E-07	1.9E-07	0.0E+00	1.4E-06		NA	NA	NA	NA		
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA		
71	Vanadium, Tota	7.6E-07	1.0E-06	0.0E+00	6.9E-04		NA	NA	NA	NA		
72	Cyanide, Total	0.0E+00	0.0E+00	0.0E+00	2.8E-05		NA	NA	NA	NA		
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA		
						TOTAL PATHWAY CANCER RISK	4E-06	5E-05	2E-09	3E-03	0E+00	0E+00
						POPULATION TOTAL EXCESS RISK	3E-03					

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP6
LAST UPDATED: 07/24/92

LAND USE: FUTURE
POPULATION: WORKER (ON)

EXPOSURE POINT: PLANT, ON LANDFIL
MEDIUM: SOIL
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 4.9E-07
HIFl = 1.7E-07

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	4.9E-07	1	0.0E+00	9.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	4.9E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							3.9E-03	4.9E-07	1	1.9E-09	9.0E-03	2E-07	3.9E-03	1.7E-07	1	6.7E-10	6.0E-01	4E-10
4	1,2-Dichloroethene(total)							0.0E+00	4.9E-07	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
5	2-Butanone							4.0E-03	4.9E-07	1	2.0E-09	5.0E-02	4E-08	4.0E-03	1.7E-07	1	6.8E-10	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	4.9E-07	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
7	Acetone							3.0E-02	4.9E-07	1	1.5E-08	1.0E-01	1E-07	3.0E-02	1.7E-07	1	5.1E-09	NA	NA
8	Benzene							0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	4.9E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfide							1.9E-03	4.9E-07	1	9.3E-10	1.0E-01	9E-09	1.9E-03	1.7E-07	1	3.2E-10	NA	NA
11	Chlorobenzene							0.0E+00	4.9E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	4.9E-07	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene							2.0E-03	4.9E-07	1	9.8E-10	1.0E-01	1.0E-0	2.0E-03	1.7E-07	1	3.4E-10	NA	NA
14	Methylene Chloride							4.0E-03	4.9E-07	1	2.0E-09	6.0E-02	3E-08	4.0E-03	1.7E-07	1	6.8E-10	7.5E-03	5E-12
15	Styrene							0.0E+00	4.9E-07	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroethene							0.0E+00	4.9E-07	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	5.1E-02	0E+00
17	Toluene							4.0E-03	4.9E-07	1	1.9E-09	2.0E-01	1.0E-0	4.0E-03	1.7E-07	1	6.7E-10	NA	NA
18	Trichloroethene							0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	1.1E-02	0E+00
19	Vinyl Chloride							0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total)							4.0E-03	4.9E-07	1	2.0E-09	2.0E+00	1.0E-0	4.0E-03	1.7E-07	1	6.8E-10	NA	NA
21	1,4-Dichlorobenzene							2.1E-01	4.9E-07	1	1.0E-07	NA	NA	2.1E-01	1.7E-07	1	3.6E-08	2.4E-02	9E-10
22	2,4-Dimethylphenol							0.0E+00	4.9E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	4.9E-07	1	0.0E+00	4.0E-03	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	4.9E-07	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	4.9E-07	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	4.9E-07	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	4.9E-07	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							2.8E-01	4.9E-07	1	1.4E-07	3.0E-02	5E-06	2.8E-01	1.7E-07	1	4.8E-08	1.2E+01	6E-07
29	Benzo(a)pyrene							4.3E-01	4.9E-07	1	2.1E-07	3.0E-02	7E-06	4.3E-01	1.7E-07	1	7.3E-08	1.2E+01	9E-07
30	Benzo(b)fluoranthene							4.6E-01	4.9E-07	1	2.3E-07	3.0E-02	8E-06	4.6E-01	1.7E-07	1	7.9E-08	1.2E+01	9E-07
31	Benzo(g,h,i)perylene							4.6E-01	4.9E-07	1	2.3E-07	3.0E-02	8E-06	4.6E-01	1.7E-07	1	7.8E-08	NA	NA
32	Benzo(k)fluoranthene							3.6E-01	4.9E-07	1	1.8E-07	3.0E-02	6E-06	3.6E-01	1.7E-07	1	6.1E-08	1.2E+01	7E-07
33	Benzoic acid							7.5E-02	4.9E-07	1	3.7E-08	4.0E+00	9E-09	7.5E-02	1.7E-07	1	1.3E-08	NA	NA
34	Benzyl alcohol							0.0E+00	4.9E-07	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							1.5E+00	4.9E-07	1	7.3E-07	2.0E-02	4E-05	1.5E+00	1.7E-07	1	2.5E-07	1.4E-02	4E-09
36	Butylbenzylphthalate							0.0E+00	4.9E-07	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
37	Chrysene							3.6E-01	4.9E-07	1	1.8E-07	3.0E-02	6E-06	3.6E-01	1.7E-07	1	6.1E-08	1.2E+01	7E-07
38	Di-n-butylphthalate							4.2E-01	4.9E-07	1	2.1E-07	1.0E-01	2E-06	4.2E-01	1.7E-07	1	7.2E-08	NA	NA
39	Di-n-octylphthalate							0.0E+00	4.9E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	4.9E-07	1	0.0E+00	3.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthalate	0.0E+00	4.9E-07	1	0.0E+00	8.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	4.9E-07	1	0.0E+00	1.0E+00	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
43	Fluoranthene	3.3E-01	4.9E-07	1	1.6E-07	4.0E-02	4E-06	3.3E-01	1.7E-07	1	5.6E-08	NA	NA
44	Fluorene	0.0E+00	4.9E-07	1	0.0E+00	4.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	4.7E-01	4.9E-07	1	2.3E-07	3.0E-02	8E-06	4.7E-01	1.7E-07	1	7.9E-08	1.2E+01	1.0E-0
46	Naphthalene	0.0E+00	4.9E-07	1	0.0E+00	4.0E-03	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
47	Phenanthrene	1.9E-01	4.9E-07	1	9.3E-08	3.0E-02	3E-06	1.9E-01	1.7E-07	1	3.2E-08	NA	NA
48	Phenol	0.0E+00	4.9E-07	1	0.0E+00	6.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
49	Pyrene	3.1E-01	4.9E-07	1	1.5E-07	3.0E-02	5E-06	3.1E-01	1.7E-07	1	5.3E-08	NA	NA
50	4,4-DDE	0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	3.4E-01	0E+00
51	4,4-DDT	0.0E+00	4.9E-07	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.7E-07	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	4.9E-07	1	0.0E+00	3.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	4.9E-07	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	4.9E-07	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	4.9E-07	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	4.9E-07	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	4.9E-07	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.7E-07	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Total	2.2E+01	4.9E-07	1	1.1E-05	4.0E-04	3E-02	2.2E+01	1.7E-07	1	3.7E-06	NA	NA
61	Arsenic, Total	1.1E+00	4.9E-07	1	5.3E-07	3.0E-04	2E-03	1.1E+00	1.7E-07	1	1.8E-07	1.8E+00	3E-07
62	Barium, Total	1.2E+01	4.9E-07	1	5.6E-06	7.0E-02	8E-05	1.2E+01	1.7E-07	1	2.0E-06	NA	NA
63	Beryllium, Total	5.7E-01	4.9E-07	1	2.8E-07	5.0E-03	6E-05	5.7E-01	1.7E-07	1	9.6E-08	4.3E+00	4E-07
64	Cadmium, Total (food)	6.4E-01	4.9E-07	1	3.1E-07	1.0E-03	3E-04	6.4E-01	1.7E-07	1	1.1E-07	NA	NA
65	Cadmium, Total (water)	0.0E+00	4.9E-07	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
66	Chromium, Total	4.7E+00	4.9E-07	1	2.3E-06	5.0E-03	5E-04	4.7E+00	1.7E-07	1	8.1E-07	NA	NA
67	Mercury, Total	0.0E+00	4.9E-07	1	0.0E+00	3.0E-04	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
68	Nickel, Total	4.5E+00	4.9E-07	1	2.2E-06	2.0E-02	1E-04	4.5E+00	1.7E-07	1	7.7E-07	NA	NA
69	Silver, Total	1.1E+00	4.9E-07	1	5.3E-07	5.0E-03	1E-04	1.1E+00	1.7E-07	1	1.8E-07	NA	NA
70	Thallium, Total	0.0E+00	4.9E-07	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
71	Vanadium, Total	5.8E+00	4.9E-07	1	2.8E-06	7.0E-03	4E-04	5.8E+00	1.7E-07	1	9.9E-07	NA	NA
72	Cyanide, Total	0.0E+00	4.9E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	4.9E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA

RANGE NAME: WS2

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP6
LAST UPDATED: 07/24/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: WORKER (ON)

EXPOSURE POINT: PLANT, ON LANDFIL
MEDIUM: GROUNDWATER
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 9.8E-03
HIFl = 3.5E-03

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	2.2E-01	9.8E-03	1	2.2E-03	9.0E-02	2E-02	2.2E-01	3.5E-03	1	7.7E-04	NA	NA
2	1,1-Dichloroethane							1.0E-01	9.8E-03	1	1.0E-03	1.0E-01	1E-02	1.0E-01	3.5E-03	1	3.6E-04	NA	NA
3	1,1-Dichloroethene							2.3E-02	9.8E-03	1	2.3E-04	9.0E-03	3E-02	2.3E-02	3.5E-03	1	8.2E-05	6.0E-01	5E-05
4	1,2-Dichloroethene(total)							1.8E-01	9.8E-03	1	1.8E-03	1.0E-02	2E-01	1.8E-01	3.5E-03	1	6.4E-04	NA	NA
5	2-Butanone							1.8E-01	9.8E-03	1	1.8E-03	5.0E-02	4E-02	1.8E-01	3.5E-03	1	6.3E-04	NA	NA
6	4-Methyl-2-pentanone							5.0E-02	9.8E-03	1	4.9E-04	5.0E-02	1.0E-0	5.0E-02	3.5E-03	1	1.7E-04	NA	NA
7	Acetone							5.6E-01	9.8E-03	1	5.5E-03	1.0E-01	5E-02	5.6E-01	3.5E-03	1	2.0E-03	NA	NA
8	Benzene							4.7E-02	9.8E-03	1	4.6E-04	NA	NA	4.7E-02	3.5E-03	1	1.6E-04	2.9E-02	5E-06
9	Bromodichloromethane							2.3E-02	9.8E-03	1	2.3E-04	2.0E-02	1E-02	2.3E-02	3.5E-03	1	8.2E-05	1.3E-01	1E-05
10	Carbon Disulfide							5.7E-02	9.8E-03	1	5.6E-04	1.0E-01	6E-03	5.7E-02	3.5E-03	1	2.0E-04	NA	NA
11	Chlorobenzene							1.7E-03	9.8E-03	1	1.7E-05	2.0E-02	8E-04	1.7E-03	3.5E-03	1	6.0E-06	NA	NA
12	Chloroform							3.4E-02	9.8E-03	1	3.4E-04	1.0E-02	3E-02	3.4E-02	3.5E-03	1	1.2E-04	6.1E-03	7E-07
13	Ethyl Benzene							2.9E-01	9.8E-03	1	2.8E-03	1.0E-01	3E-02	2.9E-01	3.5E-03	1	1.0E-03	NA	NA
14	Methylene Chloride							2.3E-01	9.8E-03	1	2.3E-03	6.0E-02	4E-02	2.3E-01	3.5E-03	1	8.2E-04	7.5E-03	6E-06
15	Styrene							3.0E-03	9.8E-03	1	2.9E-05	2.0E-01	1E-04	3.0E-03	3.5E-03	1	1.1E-05	3.0E-02	3E-07
16	Tetrachloroethene							2.3E-02	9.8E-03	1	2.2E-04	1.0E-02	2E-02	2.3E-02	3.5E-03	1	7.9E-05	5.1E-02	4E-06
17	Toluene							4.7E-01	9.8E-03	1	4.6E-03	2.0E-01	2E-02	4.7E-01	3.5E-03	1	1.6E-03	NA	NA
18	Trichloroethene							2.4E-01	9.8E-03	1	2.4E-03	NA	NA	2.4E-01	3.5E-03	1	8.5E-04	1.1E-02	9E-06
19	Vinyl Chloride							2.8E-02	9.8E-03	1	2.7E-04	NA	NA	2.8E-02	3.5E-03	1	9.7E-05	1.9E+00	2E-04
20	Xylenes (Total)							1.8E-01	9.8E-03	1	1.7E-03	2.0E+00	9E-04	1.8E-01	3.5E-03	1	6.2E-04	NA	NA
21	1,4-Dichlorobenzene							8.1E-03	9.8E-03	1	8.0E-05	NA	NA	8.1E-03	3.5E-03	1	2.8E-05	2.4E-02	7E-07
22	2,4-Dimethylphenol							3.9E-02	9.8E-03	1	3.8E-04	2.0E-02	2E-02	3.9E-02	3.5E-03	1	1.4E-04	NA	NA
23	2-Methylnaphthalene							0.0E+00	9.8E-03	1	0.0E+00	4.0E-03	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
24	2-Methylphenol							1.9E-01	9.8E-03	1	1.8E-03	5.0E-02	4E-02	1.9E-01	3.5E-03	1	6.6E-04	NA	NA
25	Acenaphthene							0.0E+00	9.8E-03	1	0.0E+00	6.0E-02	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
26	Acenaphthylene							1.0E-03	9.8E-03	1	9.8E-06	6.0E-02	2E-04	1.0E-03	3.5E-03	1	3.5E-06	NA	NA
27	Anthracene							0.0E+00	9.8E-03	1	0.0E+00	3.0E-01	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	9.8E-03	1	0.0E+00	3.0E-02	0E+00	0.0E+00	3.5E-03	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene							4.0E-03	9.8E-03	1	3.9E-05	3.0E-02	1E-03	4.0E-03	3.5E-03	1	1.4E-05	1.2E+01	2E-04
30	Benzo(b)fluoranthene							5.6E-03	9.8E-03	1	5.5E-05	3.0E-02	2E-03	5.6E-03	3.5E-03	1	2.0E-05	1.2E+01	2E-04
31	Benzo(g,h,i)perylene							2.0E-03	9.8E-03	1	2.0E-05	3.0E-02	7E-04	2.0E-03	3.5E-03	1	7.0E-06	NA	NA
32	Benzo(k)fluoranthene							2.0E-03	9.8E-03	1	2.0E-05	3.0E-02	7E-04	2.0E-03	3.5E-03	1	7.0E-06	1.2E+01	8E-05
33	Benzoic acid							2.5E-02	9.8E-03	1	2.5E-04	4.0E+00	6E-05	2.5E-02	3.5E-03	1	8.8E-05	NA	NA
34	Benzyl alcohol							5.0E-03	9.8E-03	1	4.9E-05	3.0E-01	2E-04	5.0E-03	3.5E-03	1	1.8E-05	NA	NA
35	bis(2-Ethylhexyl)phthalate							2.1E-02	9.8E-03	1	2.1E-04	2.0E-02	1E-02	2.1E-02	3.5E-03	1	7.4E-05	1.4E-02	1E-06
36	Butylbenzylphthalate							8.1E-03	9.8E-03	1	8.0E-05	2.0E-01	4E-04	8.1E-03	3.5E-03	1	2.8E-05	NA	NA
37	Chrysene							4.0E-03	9.8E-03	1	3.9E-05	3.0E-02	1E-03	4.0E-03	3.5E-03	1	1.4E-05	1.2E+01	2E-04
38	Di-n-butylphthalate							8.1E-03	9.8E-03	1	8.0E-05	1.0E-01	8E-04	8.1E-03	3.5E-03	1	2.8E-05	NA	NA
39	Di-n-octylphthalate							8.1E-03	9.8E-03	1	8.0E-05	2.0E-02	4E-03	8.1E-03	3.5E-03	1	2.8E-05	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	9.8E-03	1	0.0E+00	3.0E-02	0E+00	0.0E+00	3.5E-03	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthalate	2.8E-02	9.8E-03	1	2.7E-04	8.0E-01	3E-04	2.8E-02	3.5E-03	1	9.7E-05	NA	NA
42	Dimethylphthalate	8.1E-03	9.8E-03	1	8.0E-05	1.0E+00	8E-05	8.1E-03	3.5E-03	1	2.8E-05	NA	NA
43	Fluoranthene	5.6E-03	9.8E-03	1	5.5E-05	4.0E-02	1E-03	5.6E-03	3.5E-03	1	2.0E-05	NA	NA
44	Fluorene	0.0E+00	9.8E-03	1	0.0E+00	4.0E-02	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	2.0E-03	9.8E-03	1	2.0E-05	3.0E-02	7E-04	2.0E-03	3.5E-03	1	7.0E-06	1.2E+01	8E-05
46	Naphthalene	3.0E-03	9.8E-03	1	2.9E-05	4.0E-03	7E-03	3.0E-03	3.5E-03	1	1.1E-05	NA	NA
47	Phenanthrene	5.6E-03	9.8E-03	1	5.5E-05	3.0E-02	2E-03	5.6E-03	3.5E-03	1	2.0E-05	NA	NA
48	Phenol	2.7E+00	9.8E-03	1	2.6E-02	6.0E-01	4E-02	2.7E+00	3.5E-03	1	9.4E-03	NA	NA
49	Pyrene	5.6E-03	9.8E-03	1	5.5E-05	3.0E-02	2E-03	5.6E-03	3.5E-03	1	2.0E-05	NA	NA
50	4,4-DDE	3.4E-04	9.8E-03	1	3.3E-06	NA	NA	3.4E-04	3.5E-03	1	1.2E-06	3.4E-01	4E-07
51	4,4-DDT	2.8E-04	9.8E-03	1	2.7E-06	5.0E-04	5E-03	2.8E-04	3.5E-03	1	9.8E-07	3.4E-01	3E-07
52	Aldrin	8.9E-05	9.8E-03	1	8.8E-07	3.0E-05	3E-02	8.9E-05	3.5E-03	1	3.1E-07	1.7E+01	5E-06
53	alpha-Chlordane	2.2E-04	9.8E-03	1	2.2E-06	6.0E-05	4E-02	2.2E-04	3.5E-03	1	7.7E-07	1.3E+00	1E-06
54	Aroclor-1248	0.0E+00	9.8E-03	1	0.0E+00	NA	NA	0.0E+00	3.5E-03	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	6.3E-05	9.8E-03	1	6.2E-07	NA	NA	6.3E-05	3.5E-03	1	2.2E-07	1.8E+00	4E-07
56	Dieldrin	7.3E-05	9.8E-03	1	7.2E-07	5.0E-05	1E-02	7.3E-05	3.5E-03	1	2.6E-07	1.6E+01	4E-06
57	Endosulfan II	1.0E-04	9.8E-03	1	9.8E-07	5.0E-05	2E-02	1.0E-04	3.5E-03	1	3.5E-07	NA	NA
58	gamma-Chlordane	2.9E-05	9.8E-03	1	2.8E-07	6.0E-05	5E-03	2.9E-05	3.5E-03	1	1.0E-07	1.3E+00	1E-07
59	Heptachlor	6.5E-05	9.8E-03	1	6.3E-07	5.0E-04	1E-03	6.5E-05	3.5E-03	1	2.3E-07	4.5E+00	1E-06
60	Antimony, Total	5.2E+00	9.8E-03	1	5.1E-02	4.0E-04	1E+02	5.2E+00	3.5E-03	1	1.8E-02	NA	NA
61	Arsenic, Total	1.7E-02	9.8E-03	1	1.6E-04	3.0E-04	5E-01	1.7E-02	3.5E-03	1	5.8E-05	1.8E+00	1E-04
62	Barium, Total	8.0E-02	9.8E-03	1	7.8E-04	7.0E-02	1E-02	8.0E-02	3.5E-03	1	2.8E-04	NA	NA
63	Beryllium, Total	2.6E+00	9.8E-03	1	2.5E-02	5.0E-03	5E+00	2.6E+00	3.5E-03	1	9.0E-03	4.3E+00	4E-02
64	Cadmium, Total (food)	0.0E+00	9.8E-03	1	0.0E+00	1.0E-03	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
65	Cadmium, Total (water)	1.1E+00	9.8E-03	1	1.1E-02	5.0E-04	2E+01	1.1E+00	3.5E-03	1	4.0E-03	NA	NA
66	Chromium, Total	2.9E+00	9.8E-03	1	2.8E-02	5.0E-03	6E+00	2.9E+00	3.5E-03	1	1.0E-02	NA	NA
67	Mercury, Total	6.0E-04	9.8E-03	1	5.9E-06	3.0E-04	2E-02	6.0E-04	3.5E-03	1	2.1E-06	NA	NA
68	Nickel, Total	3.5E-02	9.8E-03	1	3.4E-04	2.0E-02	2E-02	3.5E-02	3.5E-03	1	1.2E-04	NA	NA
69	Silver, Total	5.2E-03	9.8E-03	1	5.0E-05	5.0E-03	1E-02	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
70	Thallium, Total	0.0E+00	9.8E-03	1	0.0E+00	7.0E-05	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
71	Vanadium, Total	2.5E+00	9.8E-03	1	2.4E-02	7.0E-03	3E+00	2.5E+00	3.5E-03	1	8.6E-03	NA	NA
72	Cyanide, Total	9.8E-02	9.8E-03	1	9.6E-04	2.0E-02	5E-02	9.8E-02	3.5E-03	1	3.4E-04	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	9.8E-03	1	0.0E+00	1.0E-01	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA

RANGE NAME: WS3

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP6
LAST UPDATED: 07/24/92

LAND USE: FUTURE
POPULATION: WORKER (ON)

EXPOSURE POINT: PLANT, ON LANDFIL
MEDIUM: AIR-PART
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 6.5E-02
HIFl = 2.3E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	6.5E-02	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	6.5E-02	1	0.0E+00	1.0E-01	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.8E-01	0E+00
4	1,2-Dichloroethene(total)							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
5	2-Butanone							0.0E+00	6.5E-02	1	0.0E+00	9.0E-02	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	6.5E-02	1	0.0E+00	2.0E-02	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
7	Acetone							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
8	Benzene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
10	Carbon Disulfide							0.0E+00	6.5E-02	1	0.0E+00	2.9E-03	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
11	Chlorobenzene							0.0E+00	6.5E-02	1	0.0E+00	5.0E-03	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							0.0E+00	6.5E-02	1	0.0E+00	2.9E-01	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
14	Methylene Chloride							0.0E+00	6.5E-02	1	0.0E+00	8.6E-01	0E+00	0.0E+00	2.3E-02	1	0.0E+00	1.6E-03	0E+00
15	Styrene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.8E-03	0E+00
17	Toluene							0.0E+00	6.5E-02	1	0.0E+00	5.7E-01	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
18	Trichloroethene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							0.0E+00	6.5E-02	1	0.0E+00	8.6E-02	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
21	1,4-Dichlorobenzene							1.3E-09	6.5E-02	1	8.3E-11	2.0E-01	4E-10	1.3E-09	2.3E-02	1	2.9E-11	NA	NA
22	2,4-Dimethylphenol							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							1.7E-09	6.5E-02	1	1.1E-10	NA	NA	1.7E-09	2.3E-02	1	3.9E-11	6.1E+00	2E-10
29	Benzo(a)pyrene							2.6E-09	6.5E-02	1	1.7E-10	NA	NA	2.6E-09	2.3E-02	1	6.0E-11	6.1E+00	4E-10
30	Benzo(b)fluoranthene							2.8E-09	6.5E-02	1	1.8E-10	NA	NA	2.8E-09	2.3E-02	1	6.5E-11	6.1E+00	4E-10
31	Benzo(g,h,i)perylene							2.8E-09	6.5E-02	1	1.8E-10	NA	NA	2.8E-09	2.3E-02	1	6.5E-11	NA	NA
32	Benzo(k)fluoranthene							2.2E-09	6.5E-02	1	1.4E-10	NA	NA	2.2E-09	2.3E-02	1	5.1E-11	6.1E+00	3E-10
33	Benzoic acid							4.6E-10	6.5E-02	1	3.0E-11	NA	NA	4.6E-10	2.3E-02	1	1.1E-11	NA	NA
34	Benzyl alcohol							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							9.0E-09	6.5E-02	1	5.9E-10	NA	NA	9.0E-09	2.3E-02	1	2.1E-10	NA	NA
36	Butylbenzylphthalate							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
37	Chrysene							2.2E-09	6.5E-02	1	1.4E-10	NA	NA	2.2E-09	2.3E-02	1	5.1E-11	6.1E+00	3E-10
38	Di-n-butylphthalate							2.6E-09	6.5E-02	1	1.7E-10	NA	NA	2.6E-09	2.3E-02	1	6.0E-11	NA	NA
39	Di-n-octylphthalate							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA

40 Dibenzo(a,h)anthracene	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.1E+00	0E+00
41 Diethylphthalate	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
42 Dimethylphthalate	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
43 Fluoranthene	2.0E-09	6.5E-02	1	1.3E-10	NA	NA	2.0E-09	2.3E-02	1	4.6E-11	NA	NA
44 Fluorene	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
45 Indeno(1,2,3-cd)pyrene	2.8E-09	6.5E-02	1	1.8E-10	NA	NA	2.8E-09	2.3E-02	1	6.5E-11	6.1E+00	4E-10
46 Naphthalene	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
47 Phenanthrene	1.2E-09	6.5E-02	1	7.5E-11	NA	NA	1.2E-09	2.3E-02	1	2.7E-11	NA	NA
48 Phenol	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
49 Pyrene	1.9E-09	6.5E-02	1	1.2E-10	NA	NA	1.9E-09	2.3E-02	1	4.3E-11	NA	NA
50 4,4-DDE	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
51 4,4-DDT	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	3.4E-01	0E+00
52 Aldrin	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.7E+01	0E+00
53 alpha-Chlordane	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.3E+00	0E+00
54 Aroclor-1248	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
55 beta-BHC	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.8E+00	0E+00
56 Dieldrin	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.6E+01	0E+00
57 Endosulfan II	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
58 gamma-Chlordane	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.3E+00	0E+00
59 Heptachlor	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	4.6E+00	0E+00
60 Antimony, Total	1.3E-07	6.5E-02	1	8.7E-09	NA	NA	1.3E-07	2.3E-02	1	3.1E-09	NA	NA
61 Arsenic, Total	6.6E-09	6.5E-02	1	4.3E-10	NA	NA	6.6E-09	2.3E-02	1	1.5E-10	1.5E+01	2E-09
62 Barium, Total	7.0E-08	6.5E-02	1	4.6E-09	1.0E-04	5E-05	7.0E-08	2.3E-02	1	1.6E-09	NA	NA
63 Beryllium, Total	3.5E-09	6.5E-02	1	2.2E-10	NA	NA	3.5E-09	2.3E-02	1	8.0E-11	8.4E+00	7E-10
64 Cadmium, Total (food)	3.9E-09	6.5E-02	1	2.5E-10	NA	NA	3.9E-09	2.3E-02	1	8.9E-11	6.3E+00	6E-10
65 Cadmium, Total (water)	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.3E+00	0E+00
66 Chromium, Total	2.9E-08	6.5E-02	1	1.9E-09	5.7E-07	3E-03	2.9E-08	2.3E-02	1	6.7E-10	4.2E+01	3E-08
67 Mercury, Total	0.0E+00	6.5E-02	1	0.0E+00	8.6E-05	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
68 Nickel, Total	3.5E-08	6.5E-02	1	2.3E-09	NA	NA	3.5E-08	2.3E-02	1	8.1E-10	NA	NA
69 Silver, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
70 Thallium, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
71 Vanadium, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
72 Cyanide, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
73 Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA

RANGE NAME: WS4

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP6
LAST UPDATED: 07/24/92

LAND USE: FUTURE
POPULATION: WORKER (ON)

EXPOSURE POINT: PLANT, ON LANDFIL
MEDIUM: AIR-VOC'S
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 6.5E-02
HIFl = 2.3E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	0.0E+00	6.5E-02	1	0.0E+00	3.0E-01	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	6.5E-02	1	0.0E+00	1.0E-01	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							3.7E-05	6.5E-02	1	2.4E-06	NA	NA	3.7E-05	2.3E-02	1	8.5E-07	1.8E-01	2E-07
4	1,2-Dichloroethene(total)							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
5	2-Butanone							4.3E-06	6.5E-02	1	2.8E-07	9.0E-02	3E-06	4.3E-06	2.3E-02	1	9.9E-08	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	6.5E-02	1	0.0E+00	2.0E-02	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
7	Acetone							4.6E-05	6.5E-02	1	3.0E-06	NA	NA	4.6E-05	2.3E-02	1	1.1E-06	NA	NA
8	Benzene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
10	Carbon Disulfide							1.5E-05	6.5E-02	1	9.8E-07	2.9E-03	3E-04	1.5E-05	2.3E-02	1	3.5E-07	NA	NA
11	Chlorobenzene							0.0E+00	6.5E-02	1	0.0E+00	5.0E-03	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							1.5E-06	6.5E-02	1	9.8E-08	2.9E-01	3E-07	1.5E-06	2.3E-02	1	3.5E-08	NA	NA
14	Methylene Chloride							2.9E-05	6.5E-02	1	1.9E-06	8.6E-01	2E-06	2.9E-05	2.3E-02	1	6.7E-07	1.6E-03	1E-09
15	Styrene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.8E-03	0E+00
17	Toluene							6.2E-06	6.5E-02	1	4.0E-07	5.7E-01	7E-07	6.2E-06	2.3E-02	1	1.4E-07	NA	NA
18	Trichloroethene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							7.0E-06	6.5E-02	1	4.6E-07	8.6E-02	5E-06	7.0E-06	2.3E-02	1	1.6E-07	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	6.5E-02	1	0.0E+00	2.0E-01	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
22	2,4-Dimethylphenol							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluoranthene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)perylene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
32	Benzo(k)fluoranthene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
36	Butylbenzylphthalate							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
37	Chrysene							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphthalate							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	6.5E-02	1	0.0E+00	1.0E-04	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
63	Beryllium, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total (food)	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total (water)	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	0.0E+00	6.5E-02	1	0.0E+00	5.7E-07	0E+00	0.0E+00	2.3E-02	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	6.5E-02	1	0.0E+00	8.6E-05	0E+00	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
71	Vanadium, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	6.5E-02	1	0.0E+00	NA	NA	0.0E+00	2.3E-02	1	0.0E+00	NA	NA

RANGE NAME: CSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP6
LAST UPDATED: 07/24/92

CHRONIC EXPOSURE SUMMARY

FUTURE
WORKER (ON)

CHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 PLANT, ON L SOIL ORAL (FROM WS1)	SCENARIO 2 PLANT, ON L GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 PLANT, ON L AIR-PART INHALATION (FROM WS3)	SCENARIO 4 PLANT, ON L AIR-VOC'S INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	2.2E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	1.0E-03	0.0E+00	0.0E+00		
3	1,1-Dichloroet	1.9E-09	2.3E-04	0.0E+00	2.4E-06		
4	1,2-Dichloroet	0.0E+00	1.8E-03	0.0E+00	0.0E+00		
5	2-Butanone	2.0E-09	1.8E-03	0.0E+00	2.8E-07		
6	4-Methyl-2-pen	0.0E+00	4.9E-04	0.0E+00	0.0E+00		
7	Acetone	1.5E-08	5.5E-03	0.0E+00	3.0E-06		
8	Benzene	0.0E+00	4.6E-04	0.0E+00	0.0E+00		
9	Bromodichlorom	0.0E+00	2.3E-04	0.0E+00	0.0E+00		
10	Carbon Disulfi	9.3E-10	5.6E-04	0.0E+00	9.8E-07		
11	Chlorobenzene	0.0E+00	1.7E-05	0.0E+00	0.0E+00		
12	Chloroform	0.0E+00	3.4E-04	0.0E+00	0.0E+00		
13	Ethyl Benzene	9.8E-10	2.8E-03	0.0E+00	9.8E-08		
14	Methylene Chlo	2.0E-09	2.3E-03	0.0E+00	1.9E-06		
15	Styrene	0.0E+00	2.9E-05	0.0E+00	0.0E+00		
16	Tetrachloroeth	0.0E+00	2.2E-04	0.0E+00	0.0E+00		
17	Toluene	1.9E-09	4.6E-03	0.0E+00	4.0E-07		
18	Trichloroethen	0.0E+00	2.4E-03	0.0E+00	0.0E+00		
19	Vinyl Chloride	0.0E+00	2.7E-04	0.0E+00	0.0E+00		
20	Xylenes (Total	2.0E-09	1.7E-03	0.0E+00	4.6E-07		
21	1,4-Dichlorobe	1.0E-07	8.0E-05	8.3E-11	0.0E+00		
22	2,4-Dimethylph	0.0E+00	3.8E-04	0.0E+00	0.0E+00		
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
24	2-Methylphenol	0.0E+00	1.8E-03	0.0E+00	0.0E+00		
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
26	Acenaphthylene	0.0E+00	9.8E-06	0.0E+00	0.0E+00		
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
28	Benzo(a)anthra	1.4E-07	0.0E+00	1.1E-10	0.0E+00		
29	Benzo(a)pyrene	2.1E-07	3.9E-05	1.7E-10	0.0E+00		
30	Benzo(b)fluora	2.3E-07	5.5E-05	1.8E-10	0.0E+00		
31	Benzo(g,h,i)pe	2.3E-07	2.0E-05	1.8E-10	0.0E+00		
32	Benzo(k)fluora	1.8E-07	2.0E-05	1.4E-10	0.0E+00		
33	Benzoic acid	3.7E-08	2.5E-04	3.0E-11	0.0E+00		
34	Benzyl alcohol	0.0E+00	4.9E-05	0.0E+00	0.0E+00		
35	bis(2-Ethylhex	7.3E-07	2.1E-04	5.9E-10	0.0E+00		
36	Butylbenzylpht	0.0E+00	8.0E-05	0.0E+00	0.0E+00		
37	Chrysene	1.8E-07	3.9E-05	1.4E-10	0.0E+00		
38	Di-n-butylphth	2.1E-07	8.0E-05	1.7E-10	0.0E+00		
39	Di-n-octylphth	0.0E+00	8.0E-05	0.0E+00	0.0E+00		
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
41	Diethylphthala	0.0E+00	2.7E-04	0.0E+00	0.0E+00		
42	Dimethylphthal	0.0E+00	8.0E-05	0.0E+00	0.0E+00		

CHRONIC RISK SUMMARY

FUTURE
WORKER (ON)

CHRONIC HAZARD QUOTIENT

SCENARIO 1 PLANT, ON L SOIL ORAL (FROM WS1)	SCENARIO 2 PLANT, ON L GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 PLANT, ON L AIR-PART INHALATION (FROM WS3)	SCENARIO 4 PLANT, ON L AIR-VOC'S INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
0E+00	2E-02	0E+00	0E+00	0E+00	0E+00
0E+00	1E-02	0E+00	0E+00		
2E-07	3E-02	NA	NA		
0E+00	2E-01	NA	NA		
4E-08	4E-02	0E+00	3E-06		
0E+00	1E-02	0E+00	0E+00		
1E-07	5E-02	NA	NA		
NA	NA	NA	NA		
0E+00	1E-02	NA	NA		
9E-09	6E-03	0E+00	3E-04		
0E+00	8E-04	0E+00	0E+00		
0E+00	3E-02	NA	NA		
1E-08	3E-02	0E+00	3E-07		
3E-08	4E-02	0E+00	2E-06		
0E+00	1E-04	NA	NA		
0E+00	2E-02	NA	NA		
1E-08	2E-02	0E+00	7E-07		
NA	NA	NA	NA		
NA	NA	NA	NA		
1E-09	9E-04	0E+00	5E-06		
NA	NA	4E-10	0E+00		
0E+00	2E-02	NA	NA		
0E+00	0E+00	NA	NA		
0E+00	4E-02	NA	NA		
0E+00	0E+00	NA	NA		
0E+00	2E-04	NA	NA		
0E+00	0E+00	NA	NA		
5E-06	0E+00	NA	NA		
7E-06	1E-03	NA	NA		
8E-06	2E-03	NA	NA		
8E-06	7E-04	NA	NA		
6E-06	7E-04	NA	NA		
9E-09	6E-05	NA	NA		
0E+00	2E-04	NA	NA		
4E-05	1E-02	NA	NA		
0E+00	4E-04	NA	NA		
6E-06	1E-03	NA	NA		
2E-06	8E-04	NA	NA		
0E+00	4E-03	NA	NA		
0E+00	0E+00	NA	NA		
0E+00	3E-04	NA	NA		
0E+00	8E-05	NA	NA		

43	Fluoranthene	1.6E-07	5.5E-05	1.3E-10	0.0E+00		4E-06	1E-03	NA	NA	
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	NA	NA	
45	Indeno(1,2,3-c	2.3E-07	2.0E-05	1.8E-10	0.0E+00		8E-06	7E-04	NA	NA	
46	Naphthalene	0.0E+00	2.9E-05	0.0E+00	0.0E+00		0E+00	7E-03	NA	NA	
47	Phenanthrene	9.3E-08	5.5E-05	7.5E-11	0.0E+00		3E-06	2E-03	NA	NA	
48	Phenol	0.0E+00	2.6E-02	0.0E+00	0.0E+00		0E+00	4E-02	NA	NA	
49	Pyrene	1.5E-07	5.5E-05	1.2E-10	0.0E+00		5E-06	2E-03	NA	NA	
50	4,4-DDE	0.0E+00	3.3E-06	0.0E+00	0.0E+00		NA	NA	NA	NA	
51	4,4-DDT	0.0E+00	2.7E-06	0.0E+00	0.0E+00		0E+00	5E-03	NA	NA	
52	Aldrin	0.0E+00	8.8E-07	0.0E+00	0.0E+00		0E+00	3E-02	NA	NA	
53	alpha-Chlordan	0.0E+00	2.2E-06	0.0E+00	0.0E+00		0E+00	4E-02	NA	NA	
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA	
55	beta-BHC	0.0E+00	6.2E-07	0.0E+00	0.0E+00		NA	NA	NA	NA	
56	Dieldrin	0.0E+00	7.2E-07	0.0E+00	0.0E+00		0E+00	1E-02	NA	NA	
57	Endosulfan II	0.0E+00	9.8E-07	0.0E+00	0.0E+00		0E+00	2E-02	NA	NA	
58	gamma-Chlordan	0.0E+00	2.8E-07	0.0E+00	0.0E+00		0E+00	5E-03	NA	NA	
59	Heptachlor	0.0E+00	6.3E-07	0.0E+00	0.0E+00		0E+00	1E-03	NA	NA	
60	Antimony, Tota	1.1E-05	5.1E-02	8.7E-09	0.0E+00		3E-02	1E+02	NA	NA	
61	Arsenic, Total	5.3E-07	1.6E-04	4.3E-10	0.0E+00		2E-03	5E-01	NA	NA	
62	Barium, Total	5.6E-06	7.8E-04	4.6E-09	0.0E+00		8E-05	1E-02	5E-05	0E+00	
63	Beryllium, Tot	2.8E-07	2.5E-02	2.2E-10	0.0E+00		6E-05	5E+00	NA	NA	
64	Cadmium, Total	3.1E-07	0.0E+00	2.5E-10	0.0E+00		3E-04	0E+00	NA	NA	
65	Cadmium, Total	0.0E+00	1.1E-02	0.0E+00	0.0E+00		0E+00	2E+01	NA	NA	
66	Chromium, Tota	2.3E-06	2.8E-02	1.9E-09	0.0E+00		5E-04	6E+00	3E-03	0E+00	
67	Mercury, Total	0.0E+00	5.9E-06	0.0E+00	0.0E+00		0E+00	2E-02	0E+00	0E+00	
68	Nickel, Total	2.2E-06	3.4E-04	2.3E-09	0.0E+00		1E-04	2E-02	NA	NA	
69	Silver, Total	5.3E-07	5.0E-05	0.0E+00	0.0E+00		1E-04	1E-02	NA	NA	
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	NA	NA	
71	Vanadium, Tota	2.8E-06	2.4E-02	0.0E+00	0.0E+00		4E-04	3E+00	NA	NA	
72	Cyanide, Total	0.0E+00	9.6E-04	0.0E+00	0.0E+00		0E+00	5E-02	NA	NA	
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	NA	NA	
						PATHWAY SUM (HI)	3E-02	1E+02	3E-03	3E-04	0E+00	0E+00
						POPULATION TOTAL	1E+02				

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP6
LAST UPDATED: 07/24/92

LIFETIME EXPOSURE SUMMARY

FUTURE
WORKER (ON)

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 PLANT, ON L SOIL ORAL (FROM WS1)	SCENARIO 2 PLANT, ON L GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 PLANT, ON L AIR-PART INHALATION (FROM WS3)	SCENARIO 4 PLANT, ON L AIR-VOC'S INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	7.7E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	3.6E-04	0.0E+00	0.0E+00		
3	1,1-Dichloroet	6.7E-10	8.2E-05	0.0E+00	8.5E-07		
4	1,2-Dichloroet	0.0E+00	6.4E-04	0.0E+00	0.0E+00		
5	2-Butanone	6.8E-10	6.3E-04	0.0E+00	9.9E-08		
6	4-Methyl-2-pen	0.0E+00	1.7E-04	0.0E+00	0.0E+00		
7	Acetone	5.1E-09	2.0E-03	0.0E+00	1.1E-06		
8	Benzene	0.0E+00	1.6E-04	0.0E+00	0.0E+00		
9	Bromodichlorom	0.0E+00	8.2E-05	0.0E+00	0.0E+00		
10	Carbon Disulfi	3.2E-10	2.0E-04	0.0E+00	3.5E-07		
11	Chlorobenzene	0.0E+00	6.0E-06	0.0E+00	0.0E+00		
12	Chloroform	0.0E+00	1.2E-04	0.0E+00	0.0E+00		
13	Ethyl Benzene	3.4E-10	1.0E-03	0.0E+00	3.5E-08		
14	Methylene Chlo	6.8E-10	8.2E-04	0.0E+00	6.7E-07		
15	Styrene	0.0E+00	1.1E-05	0.0E+00	0.0E+00		
16	Tetrachloroeth	0.0E+00	7.9E-05	0.0E+00	0.0E+00		
17	Toluene	6.7E-10	1.6E-03	0.0E+00	1.4E-07		
18	Trichloroethen	0.0E+00	8.5E-04	0.0E+00	0.0E+00		
19	Vinyl Chloride	0.0E+00	9.7E-05	0.0E+00	0.0E+00		
20	Xylenes (Total	6.8E-10	6.2E-04	0.0E+00	1.6E-07		
21	1,4-Dichlorobe	3.6E-08	2.8E-05	2.9E-11	0.0E+00		
22	2,4-Dimethylph	0.0E+00	1.4E-04	0.0E+00	0.0E+00		
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
24	2-Methylphenol	0.0E+00	6.6E-04	0.0E+00	0.0E+00		
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
26	Acenaphthylene	0.0E+00	3.5E-06	0.0E+00	0.0E+00		
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
28	Benzo(a)anthra	4.8E-08	0.0E+00	3.9E-11	0.0E+00		
29	Benzo(a)pyrene	7.3E-08	1.4E-05	6.0E-11	0.0E+00		
30	Benzo(b)fluora	7.9E-08	2.0E-05	6.5E-11	0.0E+00		
31	Benzo(g,h,i)pe	7.8E-08	7.0E-06	6.5E-11	0.0E+00		
32	Benzo(k)fluora	6.1E-08	7.0E-06	5.1E-11	0.0E+00		
33	Benzoic acid	1.3E-08	8.8E-05	1.1E-11	0.0E+00		
34	Benzyl alcohol	0.0E+00	1.8E-05	0.0E+00	0.0E+00		
35	bis(2-Ethylhex	2.5E-07	7.4E-05	2.1E-10	0.0E+00		
36	Butylbenzylpht	0.0E+00	2.8E-05	0.0E+00	0.0E+00		
37	Chrysene	6.1E-08	1.4E-05	5.1E-11	0.0E+00		
38	Di-n-butylphth	7.2E-08	2.8E-05	6.0E-11	0.0E+00		
39	Di-n-octylphth	0.0E+00	2.8E-05	0.0E+00	0.0E+00		
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00		
41	Diethylphthala	0.0E+00	9.7E-05	0.0E+00	0.0E+00		
42	Dimethylphthal	0.0E+00	2.8E-05	0.0E+00	0.0E+00		

LIFETIME RISK SUMMARY

FUTURE
WORKER (ON)

LIFETIME EXCESS CANCER RISK

	CHEMICAL NAME	SCENARIO 1 PLANT, ON L SOIL ORAL (FROM WS1)	SCENARIO 2 PLANT, ON L GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 PLANT, ON L AIR-PART INHALATION (FROM WS3)	SCENARIO 4 PLANT, ON L AIR-VOC'S INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	NA	NA	NA	NA	0E+00	0E+00
2	1,1-Dichloroet	NA	NA	NA	NA		
3	1,1-Dichloroet	4E-10	5E-05	0E+00	2E-07		
4	1,2-Dichloroet	NA	NA	NA	NA		
5	2-Butanone	NA	NA	NA	NA		
6	4-Methyl-2-pen	NA	NA	NA	NA		
7	Acetone	NA	NA	NA	NA		
8	Benzene	0E+00	5E-06	0E+00	0E+00		
9	Bromodichlorom	0E+00	1E-05	NA	NA		
10	Carbon Disulfi	NA	NA	NA	NA		
11	Chlorobenzene	NA	NA	NA	NA		
12	Chloroform	0E+00	7E-07	0E+00	0E+00		
13	Ethyl Benzene	NA	NA	NA	NA		
14	Methylene Chlo	5E-12	6E-06	0E+00	1E-09		
15	Styrene	0E+00	3E-07	0E+00	0E+00		
16	Tetrachloroeth	0E+00	4E-06	0E+00	0E+00		
17	Toluene	NA	NA	NA	NA		
18	Trichloroethen	0E+00	9E-06	0E+00	0E+00		
19	Vinyl Chloride	0E+00	2E-04	0E+00	0E+00		
20	Xylenes (Total	NA	NA	NA	NA		
21	1,4-Dichlorobe	9E-10	7E-07	NA	NA		
22	2,4-Dimethylph	NA	NA	NA	NA		
23	2-Methylnaphth	NA	NA	NA	NA		
24	2-Methylphenol	NA	NA	NA	NA		
25	Acenaphthene	NA	NA	NA	NA		
26	Acenaphthylene	NA	NA	NA	NA		
27	Anthracene	NA	NA	NA	NA		
28	Benzo(a)anthra	6E-07	0E+00	2E-10	0E+00		
29	Benzo(a)pyrene	9E-07	2E-04	4E-10	0E+00		
30	Benzo(b)fluora	9E-07	2E-04	4E-10	0E+00		
31	Benzo(g,h,i)pe	NA	NA	NA	NA		
32	Benzo(k)fluora	7E-07	8E-05	3E-10	0E+00		
33	Benzoic acid	NA	NA	NA	NA		
34	Benzyl alcohol	NA	NA	NA	NA		
35	bis(2-Ethylhex	4E-09	1E-06	NA	NA		
36	Butylbenzylpht	NA	NA	NA	NA		
37	Chrysene	7E-07	2E-04	3E-10	0E+00		
38	Di-n-butylphth	NA	NA	NA	NA		
39	Di-n-octylphth	NA	NA	NA	NA		
40	Dibenzo(a,h)an	0E+00	0E+00	0E+00	0E+00		
41	Diethylphthala	NA	NA	NA	NA		
42	Dimethylphthal	NA	NA	NA	NA		

43	Fluoranthene	5.6E-08	2.0E-05	4.6E-11	0.0E+00		NA	NA	NA	NA	
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA	
45	Indeno(1,2,3-c	7.9E-08	7.0E-06	6.5E-11	0.0E+00		1E-06	8E-05	4E-10	0E+00	
46	Naphthalene	0.0E+00	1.1E-05	0.0E+00	0.0E+00		NA	NA	NA	NA	
47	Phenanthrene	3.2E-08	2.0E-05	2.7E-11	0.0E+00		NA	NA	NA	NA	
48	Phenol	0.0E+00	9.4E-03	0.0E+00	0.0E+00		NA	NA	NA	NA	
49	Pyrene	5.3E-08	2.0E-05	4.3E-11	0.0E+00		NA	NA	NA	NA	
50	4,4-DDE	0.0E+00	1.2E-06	0.0E+00	0.0E+00		0E+00	4E-07	NA	NA	
51	4,4-DDT	0.0E+00	9.8E-07	0.0E+00	0.0E+00		0E+00	3E-07	0E+00	0E+00	
52	Aldrin	0.0E+00	3.1E-07	0.0E+00	0.0E+00		0E+00	5E-06	0E+00	0E+00	
53	alpha-Chlordan	0.0E+00	7.7E-07	0.0E+00	0.0E+00		0E+00	1E-06	0E+00	0E+00	
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	NA	NA	
55	beta-BHC	0.0E+00	2.2E-07	0.0E+00	0.0E+00		0E+00	4E-07	0E+00	0E+00	
56	Dieldrin	0.0E+00	2.6E-07	0.0E+00	0.0E+00		0E+00	4E-06	0E+00	0E+00	
57	Endosulfan II	0.0E+00	3.5E-07	0.0E+00	0.0E+00		NA	NA	NA	NA	
58	gamma-Chlordan	0.0E+00	1.0E-07	0.0E+00	0.0E+00		0E+00	1E-07	0E+00	0E+00	
59	Heptachlor	0.0E+00	2.3E-07	0.0E+00	0.0E+00		0E+00	1E-06	0E+00	0E+00	
60	Antimony, Tota	3.7E-06	1.8E-02	3.1E-09	0.0E+00		NA	NA	NA	NA	
61	Arsenic, Total	1.8E-07	5.8E-05	1.5E-10	0.0E+00		3E-07	1E-04	2E-09	0E+00	
62	Barium, Total	2.0E-06	2.8E-04	1.6E-09	0.0E+00		NA	NA	NA	NA	
63	Beryllium, Tot	9.6E-08	9.0E-03	8.0E-11	0.0E+00		4E-07	4E-02	7E-10	0E+00	
64	Cadmium, Total	1.1E-07	0.0E+00	8.9E-11	0.0E+00		NA	NA	6E-10	0E+00	
65	Cadmium, Total	0.0E+00	4.0E-03	0.0E+00	0.0E+00		NA	NA	0E+00	0E+00	
66	Chromium, Tota	8.1E-07	1.0E-02	6.7E-10	0.0E+00		NA	NA	3E-08	0E+00	
67	Mercury, Total	0.0E+00	2.1E-06	0.0E+00	0.0E+00		NA	NA	NA	NA	
68	Nickel, Total	7.7E-07	1.2E-04	8.1E-10	0.0E+00		NA	NA	NA	NA	
69	Silver, Total	1.8E-07	1.8E-05	0.0E+00	0.0E+00		NA	NA	NA	NA	
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA	
71	Vanadium, Tota	9.9E-07	8.6E-03	0.0E+00	0.0E+00		NA	NA	NA	NA	
72	Cyanide, Total	0.0E+00	3.4E-04	0.0E+00	0.0E+00		NA	NA	NA	NA	
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA	
						TOTAL PATHWAY CANCER RISK	6E-06	4E-02	4E-08	2E-07	0E+00	0E+00
						POPULATION TOTAL EXCESS RISK	4E-02					

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP7
LAST UPDATED: 07/24/92

LAND USE: FUTURE
POPULATION: WORKER (SOUTH)

EXPOSURE POINT: PLANT, S. LANDFIL
MEDIUM: SOIL
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 4.9E-07
HIFl = 1.7E-07

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	4.9E-07	1	0.0E+00	9.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	4.9E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							0.0E+00	4.9E-07	1	0.0E+00	9.0E-03	0E+00	0.0E+00	1.7E-07	1	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroethene(total)							0.0E+00	4.9E-07	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
5	2-Butanone							0.0E+00	4.9E-07	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	4.9E-07	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
7	Acetone							0.0E+00	4.9E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
8	Benzene							0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	4.9E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfide							0.0E+00	4.9E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
11	Chlorobenzene							0.0E+00	4.9E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	4.9E-07	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene							0.0E+00	4.9E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
14	Methylene Chloride							4.0E-03	4.9E-07	1	2.0E-09	6.0E-02	3E-08	4.0E-03	1.7E-07	1	6.8E-10	7.5E-03	5E-12
15	Styrene							0.0E+00	4.9E-07	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroethene							5.4E-03	4.9E-07	1	2.6E-09	1.0E-02	3E-07	5.4E-03	1.7E-07	1	9.2E-10	5.1E-02	5E-11
17	Toluene							8.1E-03	4.9E-07	1	4.0E-09	2.0E-01	2E-08	8.1E-03	1.7E-07	1	1.4E-09	NA	NA
18	Trichloroethene							4.0E-03	4.9E-07	1	2.0E-09	NA	NA	4.0E-03	1.7E-07	1	6.8E-10	1.1E-02	7E-12
19	Vinyl Chloride							0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total)							2.0E-03	4.9E-07	1	9.8E-10	2.0E+00	5E-10	2.0E-03	1.7E-07	1	3.4E-10	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylphenol							0.0E+00	4.9E-07	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							1.8E-02	4.9E-07	1	8.8E-09	4.0E-03	2E-06	1.8E-02	1.7E-07	1	3.1E-09	NA	NA
24	2-Methylphenol							0.0E+00	4.9E-07	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
25	Acenaphthene							3.1E-01	4.9E-07	1	1.5E-07	6.0E-02	3E-06	3.1E-01	1.7E-07	1	5.3E-08	NA	NA
26	Acenaphthylene							1.8E+00	4.9E-07	1	9.0E-07	6.0E-02	2E-05	1.8E+00	1.7E-07	1	3.1E-07	NA	NA
27	Anthracene							1.5E+00	4.9E-07	1	7.3E-07	3.0E-01	2E-06	1.5E+00	1.7E-07	1	2.5E-07	NA	NA
28	Benzo(a)anthracene							4.5E+00	4.9E-07	1	2.2E-06	3.0E-02	7E-05	4.5E+00	1.7E-07	1	7.6E-07	1.2E+01	9E-06
29	Benzo(a)pyrene							2.9E+00	4.9E-07	1	1.4E-06	3.0E-02	5E-05	2.9E+00	1.7E-07	1	4.9E-07	1.2E+01	6E-06
30	Benzo(b)fluoranthene							8.9E+00	4.9E-07	1	4.3E-06	3.0E-02	1E-04	8.9E+00	1.7E-07	1	1.5E-06	1.2E+01	2E-05
31	Benzo(g,h,i)perylene							1.5E+00	4.9E-07	1	7.6E-07	3.0E-02	3E-05	1.5E+00	1.7E-07	1	2.6E-07	NA	NA
32	Benzo(k)fluoranthene							4.5E+00	4.9E-07	1	2.2E-06	3.0E-02	7E-05	4.5E+00	1.7E-07	1	7.7E-07	1.2E+01	9E-06
33	Benzoic acid							0.0E+00	4.9E-07	1	0.0E+00	4.0E+00	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	4.9E-07	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							2.3E-01	4.9E-07	1	1.1E-07	2.0E-02	6E-06	2.3E-01	1.7E-07	1	3.9E-08	1.4E-02	5E-10
36	Butylbenzylphthalate							2.4E-01	4.9E-07	1	1.2E-07	2.0E-01	6E-07	2.4E-01	1.7E-07	1	4.0E-08	NA	NA
37	Chrysene							6.4E+00	4.9E-07	1	3.1E-06	3.0E-02	1E-04	6.4E+00	1.7E-07	1	1.1E-06	1.2E+01	1E-05
38	Di-n-butylphthalate							0.0E+00	4.9E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							1.4E-01	4.9E-07	1	6.9E-08	2.0E-02	3E-06	1.4E-01	1.7E-07	1	2.4E-08	NA	NA

40	Dibenzo(a,h)anthracene	7.7E-01	4.9E-07	1	3.8E-07	3.0E-02	1E-05	7.7E-01	1.7E-07	1	1.3E-07	1.2E+01	2E-06
41	Diethylphthalate	0.0E+00	4.9E-07	1	0.0E+00	8.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
42	Dimethylphthalate	4.2E-02	4.9E-07	1	2.1E-08	1.0E+00	2E-08	4.2E-02	1.7E-07	1	7.1E-09	NA	NA
43	Fluoranthene	1.1E+01	4.9E-07	1	5.4E-06	4.0E-02	1E-04	1.1E+01	1.7E-07	1	1.9E-06	NA	NA
44	Fluorene	6.8E-01	4.9E-07	1	3.3E-07	4.0E-02	8E-06	6.8E-01	1.7E-07	1	1.2E-07	NA	NA
45	Indeno(1,2,3-cd)pyrene	2.2E+00	4.9E-07	1	1.1E-06	3.0E-02	4E-05	2.2E+00	1.7E-07	1	3.7E-07	1.2E+01	4E-06
46	Naphthalene	1.8E-02	4.9E-07	1	8.8E-09	4.0E-03	2E-06	1.8E-02	1.7E-07	1	3.1E-09	NA	NA
47	Phenanthrene	4.1E+00	4.9E-07	1	2.0E-06	3.0E-02	7E-05	4.1E+00	1.7E-07	1	7.1E-07	NA	NA
48	Phenol	0.0E+00	4.9E-07	1	0.0E+00	6.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
49	Pyrene	5.3E+00	4.9E-07	1	2.6E-06	3.0E-02	9E-05	5.3E+00	1.7E-07	1	9.0E-07	NA	NA
50	4,4-DDE	4.1E-03	4.9E-07	1	2.0E-09	NA	NA	4.1E-03	1.7E-07	1	7.0E-10	3.4E-01	2E-10
51	4,4-DDT	2.9E-02	4.9E-07	1	1.4E-08	5.0E-04	3E-05	2.9E-02	1.7E-07	1	4.9E-09	3.4E-01	2E-09
52	Aldrin	0.0E+00	4.9E-07	1	0.0E+00	3.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	4.9E-07	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	4.9E-07	1	0.0E+00	NA	NA	0.0E+00	1.7E-07	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	4.9E-07	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	4.9E-07	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	4.9E-07	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	4.9E-07	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.7E-07	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Total	3.0E+00	4.9E-07	1	1.5E-06	4.0E-04	4E-03	3.0E+00	1.7E-07	1	5.1E-07	NA	NA
61	Arsenic, Total	6.8E+00	4.9E-07	1	3.3E-06	3.0E-04	1E-02	6.8E+00	1.7E-07	1	1.2E-06	1.8E+00	2E-06
62	Barium, Total	7.3E+01	4.9E-07	1	3.6E-05	7.0E-02	5E-04	7.3E+01	1.7E-07	1	1.2E-05	NA	NA
63	Beryllium, Total	5.4E-01	4.9E-07	1	2.7E-07	5.0E-03	5E-05	5.4E-01	1.7E-07	1	9.2E-08	4.3E+00	4E-07
64	Cadmium, Total (food)	0.0E+00	4.9E-07	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
65	Cadmium, Total (water)	0.0E+00	4.9E-07	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
66	Chromium, Total	9.9E+00	4.9E-07	1	4.8E-06	5.0E-03	1.0E-0	9.9E+00	1.7E-07	1	1.7E-06	NA	NA
67	Mercury, Total	2.8E-01	4.9E-07	1	1.4E-07	3.0E-04	5E-04	2.8E-01	1.7E-07	1	4.8E-08	NA	NA
68	Nickel, Total	1.3E+01	4.9E-07	1	6.2E-06	2.0E-02	3E-04	1.3E+01	1.7E-07	1	2.2E-06	NA	NA
69	Silver, Total	0.0E+00	4.9E-07	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	4.9E-07	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA
71	Vanadium, Total	1.1E+01	4.9E-07	1	5.3E-06	7.0E-03	8E-04	1.1E+01	1.7E-07	1	1.8E-06	NA	NA
72	Cyanide, Total	1.0E+01	4.9E-07	1	5.1E-06	2.0E-02	3E-04	1.0E+01	1.7E-07	1	1.8E-06	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	4.9E-07	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.7E-07	1	0.0E+00	NA	NA

RANGE NAME: WS2

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP7
LAST UPDATED: 07/24/92

LAND USE: FUTURE
POPULATION: WORKER (SOUTH)

EXPOSURE POINT: PLANT, S. LANDFIL
MEDIUM: GROUNDWATER
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 9.8E-03
HIFl = 3.5E-03

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	4.6E-03	9.8E-03	1	4.5E-05	9.0E-02	5E-04	4.6E-03	3.5E-03	1	1.6E-05	NA	NA
2	1,1-Dichloroethane							4.6E-03	9.8E-03	1	4.5E-05	1.0E-01	4E-04	4.6E-03	3.5E-03	1	1.6E-05	NA	NA
3	1,1-Dichloroethene							4.6E-03	9.8E-03	1	4.5E-05	9.0E-03	5E-03	4.6E-03	3.5E-03	1	1.6E-05	6.0E-01	1.0E-0
4	1,2-Dichloroethene(total)							4.6E-03	9.8E-03	1	4.5E-05	1.0E-02	4E-03	4.6E-03	3.5E-03	1	1.6E-05	NA	NA
5	2-Butanone							5.0E-03	9.8E-03	1	4.9E-05	5.0E-02	1.0E-0	5.0E-03	3.5E-03	1	1.8E-05	NA	NA
6	4-Methyl-2-pentanone							5.0E-03	9.8E-03	1	4.9E-05	5.0E-02	1.0E-0	5.0E-03	3.5E-03	1	1.8E-05	NA	NA
7	Acetone							5.0E-03	9.8E-03	1	4.9E-05	1.0E-01	5E-04	5.0E-03	3.5E-03	1	1.8E-05	NA	NA
8	Benzene							4.6E-03	9.8E-03	1	4.5E-05	NA	NA	4.6E-03	3.5E-03	1	1.6E-05	2.9E-02	5E-07
9	Bromodichloromethane							4.6E-03	9.8E-03	1	4.5E-05	2.0E-02	2E-03	4.6E-03	3.5E-03	1	1.6E-05	1.3E-01	2E-06
10	Carbon Disulfide							4.6E-03	9.8E-03	1	4.5E-05	1.0E-01	4E-04	4.6E-03	3.5E-03	1	1.6E-05	NA	NA
11	Chlorobenzene							4.6E-03	9.8E-03	1	4.5E-05	2.0E-02	2E-03	4.6E-03	3.5E-03	1	1.6E-05	NA	NA
12	Chloroform							4.1E-03	9.8E-03	1	4.0E-05	1.0E-02	4E-03	4.1E-03	3.5E-03	1	1.4E-05	6.1E-03	9E-08
13	Ethyl Benzene							4.6E-03	9.8E-03	1	4.5E-05	1.0E-01	4E-04	4.6E-03	3.5E-03	1	1.6E-05	NA	NA
14	Methylene Chloride							4.9E-03	9.8E-03	1	4.8E-05	6.0E-02	8E-04	4.9E-03	3.5E-03	1	1.7E-05	7.5E-03	1E-07
15	Styrene							4.6E-03	9.8E-03	1	4.5E-05	2.0E-01	2E-04	4.6E-03	3.5E-03	1	1.6E-05	3.0E-02	5E-07
16	Tetrachloroethene							4.6E-03	9.8E-03	1	4.5E-05	1.0E-02	4E-03	4.6E-03	3.5E-03	1	1.6E-05	5.1E-02	8E-07
17	Toluene							4.6E-03	9.8E-03	1	4.5E-05	2.0E-01	2E-04	4.6E-03	3.5E-03	1	1.6E-05	NA	NA
18	Trichloroethene							4.6E-03	9.8E-03	1	4.5E-05	NA	NA	4.6E-03	3.5E-03	1	1.6E-05	1.1E-02	2E-07
19	Vinyl Chloride							5.0E-03	9.8E-03	1	4.9E-05	NA	NA	5.0E-03	3.5E-03	1	1.8E-05	1.9E+00	3E-05
20	Xylenes (Total)							4.6E-03	9.8E-03	1	4.5E-05	2.0E+00	2E-05	4.6E-03	3.5E-03	1	1.6E-05	NA	NA
21	1,4-Dichlorobenzene							5.2E-03	9.8E-03	1	5.1E-05	NA	NA	5.2E-03	3.5E-03	1	1.8E-05	2.4E-02	4E-07
22	2,4-Dimethylphenol							5.2E-03	9.8E-03	1	5.1E-05	2.0E-02	3E-03	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
23	2-Methylnaphthalene							0.0E+00	9.8E-03	1	0.0E+00	4.0E-03	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
24	2-Methylphenol							5.2E-03	9.8E-03	1	5.1E-05	5.0E-02	1E-03	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
25	Acenaphthene							0.0E+00	9.8E-03	1	0.0E+00	6.0E-02	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
26	Acenaphthylene							5.2E-03	9.8E-03	1	5.1E-05	6.0E-02	9E-04	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
27	Anthracene							0.0E+00	9.8E-03	1	0.0E+00	3.0E-01	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	9.8E-03	1	0.0E+00	3.0E-02	0E+00	0.0E+00	3.5E-03	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene							5.2E-03	9.8E-03	1	5.1E-05	3.0E-02	2E-03	5.2E-03	3.5E-03	1	1.8E-05	1.2E+01	2E-04
30	Benzo(b)fluoranthene							5.2E-03	9.8E-03	1	5.1E-05	3.0E-02	2E-03	5.2E-03	3.5E-03	1	1.8E-05	1.2E+01	2E-04
31	Benzo(g,h,i)perylene							5.2E-03	9.8E-03	1	5.1E-05	3.0E-02	2E-03	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
32	Benzo(k)fluoranthene							5.2E-03	9.8E-03	1	5.1E-05	3.0E-02	2E-03	5.2E-03	3.5E-03	1	1.8E-05	1.2E+01	2E-04
33	Benzoic acid							2.7E-02	9.8E-03	1	2.6E-04	4.0E+00	6E-05	2.7E-02	3.5E-03	1	9.3E-05	NA	NA
34	Benzyl alcohol							5.4E-03	9.8E-03	1	5.3E-05	3.0E-01	2E-04	5.4E-03	3.5E-03	1	1.9E-05	NA	NA
35	bis(2-Ethylhexyl)phthalate							3.0E-03	9.8E-03	1	2.9E-05	2.0E-02	1E-03	3.0E-03	3.5E-03	1	1.1E-05	1.4E-02	1E-07
36	Butylbenzylphthalate							5.2E-03	9.8E-03	1	5.1E-05	2.0E-01	3E-04	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
37	Chrysene							5.2E-03	9.8E-03	1	5.1E-05	3.0E-02	2E-03	5.2E-03	3.5E-03	1	1.8E-05	1.2E+01	2E-04
38	Di-n-butylphthalate							5.2E-03	9.8E-03	1	5.1E-05	1.0E-01	5E-04	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
39	Di-n-octylphthalate							5.2E-03	9.8E-03	1	5.1E-05	2.0E-02	3E-03	5.2E-03	3.5E-03	1	1.8E-05	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	9.8E-03	1	0.0E+00	3.0E-02	0E+00	0.0E+00	3.5E-03	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthalate	5.2E-03	9.8E-03	1	5.1E-05	8.0E-01	6E-05	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
42	Dimethylphthalate	5.2E-03	9.8E-03	1	5.1E-05	1.0E+00	5E-05	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
43	Fluoranthene	5.2E-03	9.8E-03	1	5.1E-05	4.0E-02	1E-03	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
44	Fluorene	0.0E+00	9.8E-03	1	0.0E+00	4.0E-02	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	5.2E-03	9.8E-03	1	5.1E-05	3.0E-02	2E-03	5.2E-03	3.5E-03	1	1.8E-05	1.2E+01	2E-04
46	Naphthalene	5.2E-03	9.8E-03	1	5.1E-05	4.0E-03	1E-02	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
47	Phenanthrene	5.2E-03	9.8E-03	1	5.1E-05	3.0E-02	2E-03	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
48	Phenol	5.2E-03	9.8E-03	1	5.1E-05	6.0E-01	9E-05	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
49	Pyrene	5.2E-03	9.8E-03	1	5.1E-05	3.0E-02	2E-03	5.2E-03	3.5E-03	1	1.8E-05	NA	NA
50	4,4-DDE	5.0E-05	9.8E-03	1	4.9E-07	NA	NA	5.0E-05	3.5E-03	1	1.8E-07	3.4E-01	6E-08
51	4,4-DDT	5.0E-05	9.8E-03	1	4.9E-07	5.0E-04	1.0E-0	5.0E-05	3.5E-03	1	1.8E-07	3.4E-01	6E-08
52	Aldrin	2.5E-05	9.8E-03	1	2.5E-07	3.0E-05	8E-03	2.5E-05	3.5E-03	1	8.8E-08	1.7E+01	1E-06
53	alpha-Chlordane	2.4E-04	9.8E-03	1	2.4E-06	6.0E-05	4E-02	2.4E-04	3.5E-03	1	8.5E-07	1.3E+00	1E-06
54	Aroclor-1248	0.0E+00	9.8E-03	1	0.0E+00	NA	NA	0.0E+00	3.5E-03	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	2.5E-05	9.8E-03	1	2.5E-07	NA	NA	2.5E-05	3.5E-03	1	8.8E-08	1.8E+00	2E-07
56	Dieldrin	5.0E-05	9.8E-03	1	4.9E-07	5.0E-05	1.0E-0	5.0E-05	3.5E-03	1	1.8E-07	1.6E+01	3E-06
57	Endosulfan II	5.0E-05	9.8E-03	1	4.9E-07	5.0E-05	1.0E-0	5.0E-05	3.5E-03	1	1.8E-07	NA	NA
58	gamma-Chlordane	2.4E-04	9.8E-03	1	2.4E-06	6.0E-05	4E-02	2.4E-04	3.5E-03	1	8.5E-07	1.3E+00	1E-06
59	Heptachlor	2.5E-05	9.8E-03	1	2.5E-07	5.0E-04	5E-04	2.5E-05	3.5E-03	1	8.8E-08	4.5E+00	4E-07
60	Antimony, Total	3.5E-02	9.8E-03	1	3.4E-04	4.0E-04	9E-01	3.5E-02	3.5E-03	1	1.2E-04	NA	NA
61	Arsenic, Total	6.7E-03	9.8E-03	1	6.6E-05	3.0E-04	2E-01	6.7E-03	3.5E-03	1	2.4E-05	1.8E+00	4E-05
62	Barium, Total	2.0E-01	9.8E-03	1	2.0E-03	7.0E-02	3E-02	2.0E-01	3.5E-03	1	7.0E-04	NA	NA
63	Beryllium, Total	2.0E-03	9.8E-03	1	2.0E-05	5.0E-03	4E-03	2.0E-03	3.5E-03	1	7.0E-06	4.3E+00	3E-05
64	Cadmium, Total (food)	0.0E+00	9.8E-03	1	0.0E+00	1.0E-03	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
65	Cadmium, Total (water)	2.4E-03	9.8E-03	1	2.4E-05	5.0E-04	5E-02	2.4E-03	3.5E-03	1	8.4E-06	NA	NA
66	Chromium, Total	8.1E-03	9.8E-03	1	7.9E-05	5.0E-03	2E-02	8.1E-03	3.5E-03	1	2.8E-05	NA	NA
67	Mercury, Total	1.0E-04	9.8E-03	1	9.8E-07	3.0E-04	3E-03	1.0E-04	3.5E-03	1	3.5E-07	NA	NA
68	Nickel, Total	1.4E-02	9.8E-03	1	1.4E-04	2.0E-02	7E-03	1.4E-02	3.5E-03	1	5.0E-05	NA	NA
69	Silver, Total	7.9E-03	9.8E-03	1	7.8E-05	5.0E-03	2E-02	7.9E-03	3.5E-03	1	2.8E-05	NA	NA
70	Thallium, Total	0.0E+00	9.8E-03	1	0.0E+00	7.0E-05	0E+00	0.0E+00	3.5E-03	1	0.0E+00	NA	NA
71	Vanadium, Total	1.1E-02	9.8E-03	1	1.1E-04	7.0E-03	2E-02	1.1E-02	3.5E-03	1	3.8E-05	NA	NA
72	Cyanide, Total	5.0E-03	9.8E-03	1	4.9E-05	2.0E-02	2E-03	5.0E-03	3.5E-03	1	1.8E-05	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	4.8E-01	9.8E-03	1	4.7E-03	1.0E-01	5E-02	4.8E-01	3.5E-03	1	1.7E-03	NA	NA

RANGE NAME: CSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP7
LAST UPDATED: 07/24/92

CHRONIC EXPOSURE SUMMARY

FUTURE
WORKER (SOUTH)

CHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 PLANT, S. L SOIL ORAL (FROM WS1)	SCENARIO 2 PLANT, S. L GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	4.5E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	4.5E-05				
3	1,1-Dichloroet	0.0E+00	4.5E-05				
4	1,2-Dichloroet	0.0E+00	4.5E-05				
5	2-Butanone	0.0E+00	4.9E-05				
6	4-Methyl-2-pen	0.0E+00	4.9E-05				
7	Acetone	0.0E+00	4.9E-05				
8	Benzene	0.0E+00	4.5E-05				
9	Bromodichlorom	0.0E+00	4.5E-05				
10	Carbon Disulfi	0.0E+00	4.5E-05				
11	Chlorobenzene	0.0E+00	4.5E-05				
12	Chloroform	0.0E+00	4.0E-05				
13	Ethyl Benzene	0.0E+00	4.5E-05				
14	Methylene Chlo	2.0E-09	4.8E-05				
15	Styrene	0.0E+00	4.5E-05				
16	Tetrachloroeth	2.6E-09	4.5E-05				
17	Toluene	4.0E-09	4.5E-05				
18	Trichloroethen	2.0E-09	4.5E-05				
19	Vinyl Chloride	0.0E+00	4.9E-05				
20	Xylenes (Total	9.8E-10	4.5E-05				
21	1,4-Dichlorobe	0.0E+00	5.1E-05				
22	2,4-Dimethylph	0.0E+00	5.1E-05				
23	2-Methylnaphth	8.8E-09	0.0E+00				
24	2-Methylphenol	0.0E+00	5.1E-05				
25	Acenaphthene	1.5E-07	0.0E+00				
26	Acenaphthylene	9.0E-07	5.1E-05				
27	Anthracene	7.3E-07	0.0E+00				
28	Benzo(a)anthra	2.2E-06	0.0E+00				
29	Benzo(a)pyrene	1.4E-06	5.1E-05				
30	Benzo(b)fluora	4.3E-06	5.1E-05				
31	Benzo(g,h,i)pe	7.6E-07	5.1E-05				
32	Benzo(k)fluora	2.2E-06	5.1E-05				
33	Benzoic acid	0.0E+00	2.6E-04				
34	Benzyl alcohol	0.0E+00	5.3E-05				
35	bis(2-Ethylhex	1.1E-07	2.9E-05				
36	Butylbenzylpht	1.2E-07	5.1E-05				
37	Chrysene	3.1E-06	5.1E-05				
38	Di-n-butylphth	0.0E+00	5.1E-05				
39	Di-n-octylphth	6.9E-08	5.1E-05				
40	Dibenzo(a,h)an	3.8E-07	0.0E+00				
41	Diethylphthala	0.0E+00	5.1E-05				
42	Dimethylphthal	2.1E-08	5.1E-05				

CHRONIC RISK SUMMARY

FUTURE
WORKER (SOUTH)

CHRONIC HAZARD QUOTIENT

	CHEMICAL NAME	SCENARIO 1 PLANT, S. L SOIL ORAL (FROM WS1)	SCENARIO 2 PLANT, S. L GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0E+00	5E-04	0E+00	0E+00	0E+00	0E+00
2	1,1-Dichloroet	0E+00	4E-04				
3	1,1-Dichloroet	0E+00	5E-03				
4	1,2-Dichloroet	0E+00	4E-03				
5	2-Butanone	0E+00	1E-03				
6	4-Methyl-2-pen	0E+00	1E-03				
7	Acetone	0E+00	5E-04				
8	Benzene	NA	NA				
9	Bromodichlorom	0E+00	2E-03				
10	Carbon Disulfi	0E+00	4E-04				
11	Chlorobenzene	0E+00	2E-03				
12	Chloroform	0E+00	4E-03				
13	Ethyl Benzene	0E+00	4E-04				
14	Methylene Chlo	3E-08	6E-04				
15	Styrene	0E+00	2E-04				
16	Tetrachloroeth	3E-07	4E-03				
17	Toluene	2E-08	2E-04				
18	Trichloroethen	NA	NA				
19	Vinyl Chloride	NA	NA				
20	Xylenes (Total	5E-10	2E-05				
21	1,4-Dichlorobe	NA	NA				
22	2,4-Dimethylph	0E+00	3E-03				
23	2-Methylnaphth	2E-06	0E+00				
24	2-Methylphenol	0E+00	1E-03				
25	Acenaphthene	3E-06	0E+00				
26	Acenaphthylene	2E-05	9E-04				
27	Anthracene	2E-06	0E+00				
28	Benzo(a)anthra	7E-05	0E+00				
29	Benzo(a)pyrene	5E-05	2E-03				
30	Benzo(b)fluora	1E-04	2E-03				
31	Benzo(g,h,i)pe	3E-05	2E-03				
32	Benzo(k)fluora	7E-05	2E-03				
33	Benzoic acid	0E+00	6E-05				
34	Benzyl alcohol	0E+00	2E-04				
35	bis(2-Ethylhex	6E-06	1E-03				
36	Butylbenzylpht	6E-07	3E-04				
37	Chrysene	1E-04	2E-03				
38	Di-n-butylphth	0E+00	5E-04				
39	Di-n-octylphth	3E-06	3E-03				
40	Dibenzo(a,h)an	1E-05	0E+00				
41	Diethylphthala	0E+00	6E-05				
42	Dimethylphthal	2E-08	5E-05				

43	Fluoranthene	5.4E-06	5.1E-05		1E-04	1E-03				
44	Fluorene	3.3E-07	0.0E+00		8E-06	0E+00				
45	Indeno(1,2,3-c	1.1E-06	5.1E-05		4E-05	2E-03				
46	Naphthalene	8.8E-09	5.1E-05		2E-06	1E-02				
47	Phenanthrene	2.0E-06	5.1E-05		7E-05	2E-03				
48	Phenol	0.0E+00	5.1E-05		0E+00	9E-05				
49	Pyrene	2.6E-06	5.1E-05		9E-05	2E-03				
50	4,4-DDE	2.0E-09	4.9E-07		NA	NA				
51	4,4-DDT	1.4E-08	4.9E-07		3E-05	1E-03				
52	Aldrin	0.0E+00	2.5E-07		0E+00	8E-03				
53	alpha-Chlordan	0.0E+00	2.4E-06		0E+00	4E-02				
54	Aroclor-1248	0.0E+00	0.0E+00		NA	NA				
55	beta-BHC	0.0E+00	2.5E-07		NA	NA				
56	Dieldrin	0.0E+00	4.9E-07		0E+00	1E-02				
57	Endosulfan II	0.0E+00	4.9E-07		0E+00	1E-02				
58	gamma-Chlordan	0.0E+00	2.4E-06		0E+00	4E-02				
59	Heptachlor	0.0E+00	2.5E-07		0E+00	5E-04				
60	Antimony, Tota	1.5E-06	3.4E-04		4E-03	9E-01				
61	Arsenic, Total	3.3E-06	6.6E-05		1E-02	2E-01				
62	Barium, Total	3.6E-05	2.0E-03		5E-04	3E-02				
63	Beryllium, Tot	2.7E-07	2.0E-05		5E-05	4E-03				
64	Cadmium, Total	0.0E+00	0.0E+00		0E+00	0E+00				
65	Cadmium, Total	0.0E+00	2.4E-05		0E+00	5E-02				
66	Chromium, Tota	4.8E-06	7.9E-05		1E-03	2E-02				
67	Mercury, Total	1.4E-07	9.8E-07		5E-04	3E-03				
68	Nickel, Total	6.2E-06	1.4E-04		3E-04	7E-03				
69	Silver, Total	0.0E+00	7.8E-05		0E+00	2E-02				
70	Thallium, Tota	0.0E+00	0.0E+00		0E+00	0E+00				
71	Vanadium, Tota	5.3E-06	1.1E-04		8E-04	2E-02				
72	Cyanide, Total	5.1E-06	4.9E-05		3E-04	2E-03				
73	Nitrogen, Nitr	0.0E+00	4.7E-03		0E+00	5E-02				
				PATHWAY SUM (HI)	2E-02	1E+00	0E+00	0E+00	0E+00	0E+00
				POPULATION TOTAL	1E+00					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: Disk 1
FILE NAME: POP7
LAST UPDATED: 07/24/92

LIFETIME EXPOSURE SUMMARY

FUTURE
WORKER (SOUTH)

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 PLANT, S. L SOIL ORAL (FROM WS1)	SCENARIO 2 PLANT, S. L GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	1.6E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	1.6E-05				
3	1,1-Dichloroet	0.0E+00	1.6E-05				
4	1,2-Dichloroet	0.0E+00	1.6E-05				
5	2-Butanone	0.0E+00	1.8E-05				
6	4-Methyl-2-pen	0.0E+00	1.8E-05				
7	Acetone	0.0E+00	1.8E-05				
8	Benzene	0.0E+00	1.6E-05				
9	Bromodichlorom	0.0E+00	1.6E-05				
10	Carbon Disulfi	0.0E+00	1.6E-05				
11	Chlorobenzene	0.0E+00	1.6E-05				
12	Chloroform	0.0E+00	1.4E-05				
13	Ethyl Benzene	0.0E+00	1.6E-05				
14	Methylene Chlo	6.8E-10	1.7E-05				
15	Styrene	0.0E+00	1.6E-05				
16	Tetrachloroeth	9.2E-10	1.6E-05				
17	Toluene	1.4E-09	1.6E-05				
18	Trichloroethen	6.8E-10	1.6E-05				
19	Vinyl Chloride	0.0E+00	1.8E-05				
20	Xylenes (Total	3.4E-10	1.6E-05				
21	1,4-Dichlorobe	0.0E+00	1.8E-05				
22	2,4-Dimethylph	0.0E+00	1.8E-05				
23	2-Methylnaphth	3.1E-09	0.0E+00				
24	2-Methylphenol	0.0E+00	1.8E-05				
25	Acenaphthene	5.3E-08	0.0E+00				
26	Acenaphthylene	3.1E-07	1.8E-05				
27	Anthracene	2.5E-07	0.0E+00				
28	Benzo(a)anthra	7.6E-07	0.0E+00				
29	Benzo(a)pyrene	4.9E-07	1.8E-05				
30	Benzo(b)fluora	1.5E-06	1.8E-05				
31	Benzo(g,h,i)pe	2.6E-07	1.8E-05				
32	Benzo(k)fluora	7.7E-07	1.8E-05				
33	Benzoic acid	0.0E+00	9.3E-05				
34	Benzyl alcohol	0.0E+00	1.9E-05				
35	bis(2-Ethylhex	3.9E-08	1.1E-05				
36	Butylbenzylpht	4.0E-08	1.8E-05				
37	Chrysene	1.1E-06	1.8E-05				
38	Di-n-butylphth	0.0E+00	1.8E-05				
39	Di-n-octylphth	2.4E-08	1.8E-05				
40	Dibenzo(a,h)an	1.3E-07	0.0E+00				
41	Diethylphthala	0.0E+00	1.8E-05				
42	Dimethylphthal	7.1E-09	1.8E-05				

LIFETIME RISK SUMMARY

FUTURE
WORKER (SOUTH)

LIFETIME EXCESS CANCER RISK

SCENARIO 1 PLANT, S. L SOIL ORAL (FROM WS1)	SCENARIO 2 PLANT, S. L GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
NA	NA	0E+00	0E+00	0E+00	0E+00
NA	NA				
0E+00	1E-05				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
0E+00	5E-07				
0E+00	2E-06				
NA	NA				
NA	NA				
0E+00	9E-08				
NA	NA				
5E-12	1E-07				
0E+00	5E-07				
5E-11	8E-07				
NA	NA				
7E-12	2E-07				
0E+00	3E-05				
NA	NA				
0E+00	4E-07				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
9E-06	0E+00				
6E-06	2E-04				
2E-05	2E-04				
NA	NA				
9E-06	2E-04				
NA	NA				
NA	NA				
5E-10	1E-07				
NA	NA				
1E-05	2E-04				
NA	NA				
NA	NA				
2E-06	0E+00				
NA	NA				
NA	NA				

43	Fluoranthene	1.9E-06	1.8E-05			NA	NA			
44	Fluorene	1.2E-07	0.0E+00			NA	NA			
45	Indeno(1,2,3-c	3.7E-07	1.8E-05			4E-06	2E-04			
46	Naphthalene	3.1E-09	1.8E-05			NA	NA			
47	Phenanthrene	7.1E-07	1.8E-05			NA	NA			
48	Phenol	0.0E+00	1.8E-05			NA	NA			
49	Pyrene	9.0E-07	1.8E-05			NA	NA			
50	4,4-DDE	7.0E-10	1.8E-07			2E-10	6E-08			
51	4,4-DDT	4.9E-09	1.8E-07			2E-09	6E-08			
52	Aldrin	0.0E+00	8.8E-08			0E+00	1E-06			
53	alpha-Chlordan	0.0E+00	8.5E-07			0E+00	1E-06			
54	Aroclor-1248	0.0E+00	0.0E+00			0E+00	0E+00			
55	beta-BHC	0.0E+00	8.8E-08			0E+00	2E-07			
56	Dieldrin	0.0E+00	1.8E-07			0E+00	3E-06			
57	Endosulfan II	0.0E+00	1.8E-07			NA	NA			
58	gamma-Chlordan	0.0E+00	8.5E-07			0E+00	1E-06			
59	Heptachlor	0.0E+00	8.8E-08			0E+00	4E-07			
60	Antimony, Tota	5.1E-07	1.2E-04			NA	NA			
61	Arsenic, Total	1.2E-06	2.4E-05			2E-06	4E-05			
62	Barium, Total	1.2E-05	7.0E-04			NA	NA			
63	Beryllium, Tot	9.2E-08	7.0E-06			4E-07	3E-05			
64	Cadmium, Total	0.0E+00	0.0E+00			NA	NA			
65	Cadmium, Total	0.0E+00	8.4E-06			NA	NA			
66	Chromium, Tota	1.7E-06	2.8E-05			NA	NA			
67	Mercury, Total	4.8E-08	3.5E-07			NA	NA			
68	Nickel, Total	2.2E-06	5.0E-05			NA	NA			
69	Silver, Total	0.0E+00	2.8E-05			NA	NA			
70	Thallium, Tota	0.0E+00	0.0E+00			NA	NA			
71	Vanadium, Tota	1.8E-06	3.8E-05			NA	NA			
72	Cyanide, Total	1.8E-06	1.8E-05			NA	NA			
73	Nitrogen, Nitr	0.0E+00	1.7E-03			NA	NA			
				TOTAL PATHWAY CANCER RISK		6E-05	1E-03	0E+00	0E+00	0E+00	0E+00
				POPULATION TOTAL EXCESS RISK		1E-03					

RANGE NAME: POPSUM

EXPOSURE SCENARIOS EVALUATED
(GROUPED BY POPULATION)

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: DATA
LAST UPDATED: 07/23/92

POPULATION 1 — NO. OF SCENARIOS = 6

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	WORKSHEET NAME
1	FUTURE	RESIDENT ADULT (L)	LANDFILL (A)	SOIL	ORAL		3.7E-06	1.6E-06	WS1
2			LANDFILL (A)	GROUNDWATER	ORAL		2.7E-02	1.1E-02	WS2
3			LANDFILL (A)	GROUNDWATER	DERMAL		2.3E-02	1.0E-02	WS3
4			LANDFILL (A)	GWATER (INH)	INHALATION		5.4E-02	2.2E-02	WS4
5			LANDFILL (A)	AIR-PART	INHALATION		2.7E-01	1.2E-01	WS5
6			LANDFILL (A)	AIR-VOC'S	INHALATION		2.7E-01	1.2E-01	WS6

POPULATION 2 — NO. OF SCENARIOS = 6

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	RANGE NAME
1	FUTURE	RESIDENT CHILD (L)	LANDFILL (C)	SOIL	ORAL	1.3E-05		1.1E-06	WS1
2			LANDFILL (C)	GROUNDWATER	ORAL	6.4E-02		5.5E-03	WS2
3			LANDFILL (C)	GROUNDWATER	DERMAL	1.1E-01		9.3E-02	WS3
4			LANDFILL (C)	GWATER (INH)	INHALATION	1.3E-01		1.1E-02	WS4
5			LANDFILL (C)	AIR-PART	INHALATION	1.3E+00		1.1E-01	WS5
6			LANDFILL (C)	AIR-VOC'S	INHALATION	1.3E+00		1.1E-01	WS6

POPULATION 3 — NO. OF SCENARIOS = 4

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	RANGE NAME
1	FUTURE	RESIDENT ADULT (SL)	RESIDENCE (S. LF.)	SOIL	ORAL		3.7E-06	1.6E-06	WS1
2			RESIDENCE (S. LF.)	GWATER (S)	ORAL		2.7E-02	1.1E-02	WS2
3			RESIDENCE (S. LF.)	GWATER (S)	DERMAL		2.3E-02	1.0E-02	WS3
4			RESIDENCE (S. LF.)	GWATER (INH, S	INHALATION		5.4E-02	2.2E-02	WS4
5									WS5
6									WS6

POPULATION 4 — NO. OF SCENARIOS = 4

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	RANGE NAME
1	FUTURE	RESIDENT CHILD (SL)	RESIDENCE (S. LF.)	SOIL	ORAL	1.3E-05		1.1E-06	WS1
2			RESIDENCE (S. LF.)	GWATER (S)	ORAL	6.4E-02		5.5E-03	WS2
3			RESIDENCE (S. LF.)	GWATER (S)	DERMAL	1.1E-01		9.3E-02	WS3
4			RESIDENCE (S. LF.)	GWATER (INH, S	INHALATION	1.3E-01		1.1E-02	WS4
5									WS5
6									WS6

POPULATION 5 — NO. OF SCENARIOS = 2

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	RANGE NAME
1	FUTURE	RESIDENT ADULT (D)	DOWNWIND (A)	AIR-PART	INHALATION		2.7E-01	1.2E-01	WS1
2			DOWNWIND (A)	AIR-VOC'S	INHALATION		2.7E-01	1.2E-01	WS2
3									WS3
4									WS4
5									WS5
6									WS6

POPULATION 6 NO. OF SCENARIOS = 2

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIFl	RANGE NAME
1	FUTURE	RESIDENT CHILD (D)	DOWNWIND (C)	AIR-PART	INHALATION	1.3E+00		1.1E-01	WS1
2			DOWNWIND (C)	AIR-VOC'S	INHALATION	1.3E+00		1.1E-01	WS2
3									WS3
4									WS4
5									WS5
6									WS6

RANGE NAME: CTV

LIST OF CHEMICALS OF CONCERN
WITH CTVs AND OTHER CHEMICAL-SPECIFIC DATA

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: DATA
LAST UPDATED: 07/23/92

		ORAL				INHALATION			DERMAL(a)				
NO.	CHEMICAL NAME	RfDs	RfDc	SF	AFo	RfDs	RfDc	SF	RfDs	RfDc	SF	ABS	P
1	1,1,1-Trichloroethane	9.0E-01	9.0E-02	NA	1.0E+00	3.0E+00	3.0E-01	NA	9.0E-01	9.0E-02	NA	NA	1.7E-02
2	1,1-Dichloroethane	1.0E+00	1.0E-01	NA	1.0E+00	1.0E+00	1.0E-01	NA	1.0E+00	1.0E-01	NA	NA	8.9E-03
3	1,1-Dichloroethene	9.0E-03	9.0E-03	6.0E-01	1.0E+00	NA	NA	1.8E-01	9.0E-03	9.0E-03	6.0E-01	NA	1.6E-02
4	1,2-Dichloroethene(total	1.0E-01	1.0E-02	NA	1.0E+00	NA	NA	NA	1.0E-01	1.0E-02	NA	NA	1.0E-02
5	2-Butanone	5.0E-01	5.0E-02	NA	1.0E+00	9.0E-01	9.0E-02	NA	5.0E-01	5.0E-02	NA	NA	1.1E-03
6	4-Methyl-2-pentanone	5.0E-01	5.0E-02	NA	1.0E+00	2.0E-01	2.0E-02	NA	5.0E-01	5.0E-02	NA	NA	2.8E-03
7	Acetone	1.0E+00	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E-01	NA	NA	5.7E-04
8	Benzene	NA	NA	2.9E-02	1.0E+00	NA	NA	2.9E-02	NA	NA	2.9E-02	NA	2.1E-02
9	Bromodichloromethane	2.0E-02	2.0E-02	1.3E-01	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	1.3E-01	NA	5.8E-03
10	Carbon Disulfide	1.0E-01	1.0E-01	NA	1.0E+00	2.9E-03	2.9E-03	NA	1.0E-01	1.0E-01	NA	NA	2.4E-02
11	Chlorobenzene	2.0E-01	2.0E-02	NA	1.0E+00	5.0E-02	5.0E-03	NA	2.0E-01	2.0E-02	NA	NA	4.1E-02
12	Chloroform	1.0E-02	1.0E-02	6.1E-03	1.0E+00	NA	NA	8.1E-02	1.0E-02	1.0E-02	6.1E-03	NA	8.9E-03
13	Ethyl Benzene	1.0E+00	1.0E-01	NA	1.0E+00	2.9E-01	2.9E-01	NA	1.0E+00	1.0E-01	NA	NA	7.4E-02
14	Methylene Chloride	6.0E-02	6.0E-02	7.5E-03	1.0E+00	8.6E-01	8.6E-01	1.6E-03	6.0E-02	6.0E-02	7.5E-03	NA	4.5E-03
15	Styrene	2.0E+00	2.0E-01	3.0E-02	1.0E+00	NA	NA	2.0E-03	2.0E+00	2.0E-01	3.0E-02	NA	5.5E-02
16	Tetrachloroethene	1.0E-01	1.0E-02	5.1E-02	1.0E+00	NA	NA	1.8E-03	1.0E-01	1.0E-02	5.1E-02	NA	4.8E-02
17	Toluene	2.0E+00	2.0E-01	NA	1.0E+00	5.7E-01	5.7E-01	NA	2.0E+00	2.0E-01	NA	NA	4.5E-02
18	Trichloroethene	NA	NA	1.1E-02	1.0E+00	NA	NA	6.0E-03	NA	NA	1.1E-02	NA	1.6E-02
19	Vinyl Chloride	NA	NA	1.9E+00	1.0E+00	NA	NA	2.9E-01	NA	NA	1.9E+00	NA	7.0E-03
20	Xylenes (Total)	4.0E+00	2.0E+00	NA	1.0E+00	8.6E-02	8.6E-02	NA	4.0E+00	2.0E+00	NA	NA	8.0E-02
21	1,4-Dichlorobenzene	NA	NA	2.4E-02	1.0E+00	2.0E-01	2.0E-01	NA	NA	NA	2.4E-02	NA	6.2E-02
22	2,4-Dimethylphenol	2.0E-01	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-01	2.0E-02	NA	NA	1.5E-02
23	2-Methylnaphthalene	4.0E-02	4.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24	2-Methylphenol	5.0E-01	5.0E-02	NA	1.0E+00	NA	NA	NA	5.0E-01	5.0E-02	NA	NA	1.0E-02
25	Acenaphthene	6.0E-01	6.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
26	Acenaphthylene	6.0E-01	6.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27	Anthracene	3.0E+00	3.0E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
28	Benzo(a)anthracene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
29	Benzo(a)pyrene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
30	Benzo(b)fluoranthene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
31	Benzo(g,h,i)perylene	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
32	Benzo(k)fluoranthene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
33	Benzoic acid	4.0E+00	4.0E+00	NA	1.0E+00	NA	NA	NA	4.0E+00	4.0E+00	NA	NA	7.3E-03
34	Benzyl alcohol	1.0E+00	3.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	3.0E-01	NA	NA	2.5E-03
35	bis(2-Ethylhexyl)phthala	2.0E-02	2.0E-02	1.4E-02	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	1.4E-02	NA	3.3E-02
36	Butylbenzylphthalate	2.0E+00	2.0E-01	NA	1.0E+00	NA	NA	NA	2.0E+00	2.0E-01	NA	NA	2.4E-02
37	Chrysene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
38	Di-n-butylphthalate	1.0E+00	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E-01	NA	NA	4.9E-02
39	Di-n-octylphthalate	2.0E-02	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	NA	NA	7.2E-03
40	Dibenzo(a,h)anthracene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
41	Diethylphthalate	8.0E+00	8.0E-01	NA	1.0E+00	NA	NA	NA	8.0E+00	8.0E-01	NA	NA	4.8E-03
42	Dimethylphthalate	1.0E+00	1.0E+00	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E+00	NA	NA	1.6E-03
43	Fluoranthene	4.0E-01	4.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
44	Fluorene	4.0E-01	4.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
45	Indeno(1,2,3-cd)pyrene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA

46	Naphthalene	4.0E-02	4.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
47	Phenanthrene	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
48	Phenol	6.0E-01	6.0E-01	NA	1.0E+00	NA	NA	NA	6.0E-01	6.0E-01	NA	NA	5.5E-03
49	Pyrene	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
50	4,4-DDE	NA	NA	3.4E-01	1.0E+00	NA	NA	NA	NA	NA	3.4E-01	NA	2.4E-01
51	4,4-DDT	5.0E-04	5.0E-04	3.4E-01	1.0E+00	NA	NA	3.4E-01	5.0E-04	5.0E-04	3.4E-01	NA	4.3E-01
52	Aldrin	3.0E-05	3.0E-05	1.7E+01	1.0E+00	NA	NA	1.7E+01	3.0E-05	3.0E-05	1.7E+01	NA	1.6E-03
53	alpha-Chlordane	6.0E-05	6.0E-05	1.3E+00	1.0E+00	NA	NA	1.3E+00	6.0E-05	6.0E-05	1.3E+00	NA	8.9E+00
54	Aroclor-1248	NA	NA	7.7E+00	1.0E+00	NA	NA	NA	NA	NA	7.7E+00	NA	6.6E-01
55	beta-BHC	NA	NA	1.8E+00	1.0E+00	NA	NA	1.8E+00	NA	NA	1.8E+00	NA	2.1E-02
56	Dieldrin	5.0E-05	5.0E-05	1.6E+01	1.0E+00	NA	NA	1.6E+01	5.0E-05	5.0E-05	1.6E+01	NA	1.6E-02
57	Endosulfan II	2.0E-04	5.0E-05	NA	1.0E+00	NA	NA	NA	2.0E-04	5.0E-05	NA	NA	2.3E-03
58	gamma-Chlordane	6.0E-05	6.0E-05	1.3E+00	1.0E+00	NA	NA	1.3E+00	6.0E-05	6.0E-05	1.3E+00	NA	9.8E-02
59	Heptachlor	5.0E-04	5.0E-04	4.5E+00	1.0E+00	NA	NA	4.6E+00	5.0E-04	5.0E-04	4.5E+00	NA	1.1E-02
60	Antimony, Total	4.0E-04	4.0E-04	NA	5.0E-02	NA	NA	NA	2.0E-05	2.0E-05	NA	NA	1.0E-03
61	Arsenic, Total	3.0E-04	3.0E-04	1.8E+00	1.0E+00	NA	NA	1.5E+01	3.0E-04	3.0E-04	1.8E+00	NA	1.0E-03
62	Barium, Total	7.0E-02	7.0E-02	NA	1.0E-01	1.0E-03	1.0E-04	NA	7.0E-03	7.0E-03	NA	NA	1.0E-03
63	Beryllium, Total	5.0E-03	5.0E-03	4.3E+00	1.0E-03	NA	NA	8.4E+00	5.0E-06	5.0E-06	4.3E+03	NA	1.0E-03
64	Cadmium, Total (food)	NA	1.0E-03	NA	6.0E-02	NA	NA	6.3E+00	NA	6.0E-05	NA	NA	1.0E-03
65	Cadmium, Total (water)	NA	5.0E-04	NA	1.2E-01	NA	NA	6.3E+00	NA	6.0E-05	NA	NA	1.0E-03
66	Chromium, Total	2.0E-02	5.0E-03	NA	5.0E-02	5.7E-06	5.7E-07	4.2E+01	1.0E-03	2.5E-04	NA	NA	1.0E-03
67	Mercury, Total	3.0E-04	3.0E-04	NA	1.5E-01	8.6E-05	8.6E-05	NA	4.5E-05	4.5E-05	NA	NA	1.0E-03
68	Nickel, Total	2.0E-02	2.0E-02	NA	5.0E-02	NA	NA	NA	1.0E-03	1.0E-03	NA	NA	1.0E-03
69	Silver, Total	5.0E-03	5.0E-03	NA	5.0E-02	NA	NA	NA	2.5E-04	2.5E-04	NA	NA	1.0E-03
70	Thallium, Total	7.0E-04	7.0E-05	NA	5.0E-02	NA	NA	NA	3.5E-05	3.5E-06	NA	NA	1.0E-03
71	Vanadium, Total	7.0E-03	7.0E-03	NA	2.0E-02	NA	NA	NA	1.4E-04	1.4E-04	NA	NA	1.0E-03
72	Cyanide, Total	2.0E-02	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	NA	NA	1.0E-03
73	Nitrogen, Nitrate + Nitr	1.0E-01	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E-01	1.0E-01	NA	NA	1.0E-03

RANGE NAME: EPC1

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: LANDFILL (A)

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: DATA
LAST UPDATED: 07/23/92

		MEDIUM 1 SOIL			MEDIUM 2 GROUNDWATER			MEDIUM 3 GWATER (IME)			MEDIUM 4 AIR-PART			MEDIUM 5 AIR-VOC'S		
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	11S	11C	11L	12S	12C	12L	13S	13C	13L	14S	14C	14L	15S	15C	15L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	2.2E-01	2.2E-01	2.2E-01	2.2E-01	2.2E-01	2.2E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
3	1,1-Dichloroet	3.9E-03	3.9E-03	3.9E-03	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	0.0E+00	0.0E+00	0.0E+00	3.4E-05	3.4E-05	3.4E-05
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
5	2-Butanone	4.0E-03	4.0E-03	4.0E-03	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	0.0E+00	0.0E+00	0.0E+00	3.9E-06	3.9E-06	3.9E-06
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	5.0E-02	5.0E-02	5.0E-02	5.0E-02	5.0E-02	5.0E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
7	Acetone	3.0E-02	3.0E-02	3.0E-02	5.6E-01	5.6E-01	5.6E-01	5.6E-01	5.6E-01	5.6E-01	0.0E+00	0.0E+00	0.0E+00	4.2E-05	4.2E-05	4.2E-05
8	Benzene	0.0E+00	0.0E+00	0.0E+00	4.7E-02	4.7E-02	4.7E-02	4.7E-02	4.7E-02	4.7E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
10	Carbon Disulfi	1.9E-03	1.9E-03	1.9E-03	5.7E-02	5.7E-02	5.7E-02	5.7E-02	5.7E-02	5.7E-02	0.0E+00	0.0E+00	0.0E+00	1.3E-05	1.3E-05	1.3E-05
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	1.7E-03	1.7E-03	1.7E-03	1.7E-03	1.7E-03	1.7E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	3.4E-02	3.4E-02	3.4E-02	3.4E-02	3.4E-02	3.4E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	Ethyl Benzene	2.0E-03	2.0E-03	2.0E-03	2.9E-01	2.9E-01	2.9E-01	2.9E-01	2.9E-01	2.9E-01	0.0E+00	0.0E+00	0.0E+00	1.3E-06	1.3E-06	1.3E-06
14	Methylene Chlo	4.0E-03	4.0E-03	4.0E-03	2.3E-01	2.3E-01	2.3E-01	2.3E-01	2.3E-01	2.3E-01	0.0E+00	0.0E+00	0.0E+00	2.7E-05	2.7E-05	2.7E-05
15	Styrene	0.0E+00	0.0E+00	0.0E+00	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
17	Toluene	4.0E-03	4.0E-03	4.0E-03	4.7E-01	4.7E-01	4.7E-01	4.7E-01	4.7E-01	4.7E-01	0.0E+00	0.0E+00	0.0E+00	5.6E-06	5.6E-06	5.6E-06
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	2.4E-01	2.4E-01	2.4E-01	2.4E-01	2.4E-01	2.4E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	2.8E-02	2.8E-02	2.8E-02	2.8E-02	2.8E-02	2.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
20	Xylenes (Total	4.0E-03	4.0E-03	4.0E-03	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	0.0E+00	0.0E+00	0.0E+00	6.4E-06	6.4E-06	6.4E-06
21	1,4-Dichlorobe	2.1E-01	2.1E-01	2.1E-01	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	1.3E-09	1.3E-09	1.3E-09	0.0E+00	0.0E+00	0.0E+00
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	3.9E-02	3.9E-02	3.9E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	1.9E-01	1.9E-01	1.9E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	1.0E-03	1.0E-03	1.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
28	Benzo(a)anthra	2.8E-01	2.8E-01	2.8E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E-09	1.7E-09	1.7E-09	0.0E+00	0.0E+00	0.0E+00
29	Benzo(a)pyrene	4.3E-01	4.3E-01	4.3E-01	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	2.6E-09	2.6E-09	2.6E-09	0.0E+00	0.0E+00	0.0E+00
30	Benzo(b)fluora	4.6E-01	4.6E-01	4.6E-01	5.6E-03	5.6E-03	5.6E-03	0.0E+00	0.0E+00	0.0E+00	2.8E-09	2.8E-09	2.8E-09	0.0E+00	0.0E+00	0.0E+00
31	Benzo(g,h,i)pe	4.6E-01	4.6E-01	4.6E-01	2.0E-03	2.0E-03	2.0E-03	0.0E+00	0.0E+00	0.0E+00	2.8E-09	2.8E-09	2.8E-09	0.0E+00	0.0E+00	0.0E+00
32	Benzo(k)fluora	3.6E-01	3.6E-01	3.6E-01	2.0E-03	2.0E-03	2.0E-03	0.0E+00	0.0E+00	0.0E+00	2.2E-09	2.2E-09	2.2E-09	0.0E+00	0.0E+00	0.0E+00
33	Benzoic acid	7.5E-02	7.5E-02	7.5E-02	2.5E-02	2.5E-02	2.5E-02	0.0E+00	0.0E+00	0.0E+00	4.6E-10	4.6E-10	4.6E-10	0.0E+00	0.0E+00	0.0E+00
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
35	bis(2-Ethylhex	1.5E+00	1.5E+00	1.5E+00	2.1E-02	2.1E-02	2.1E-02	0.0E+00	0.0E+00	0.0E+00	9.0E-09	9.0E-09	9.0E-09	0.0E+00	0.0E+00	0.0E+00
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
37	Chrysene	3.6E-01	3.6E-01	3.6E-01	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	2.2E-09	2.2E-09	2.2E-09	0.0E+00	0.0E+00	0.0E+00
38	Di-n-butylphth	4.2E-01	4.2E-01	4.2E-01	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	2.6E-09	2.6E-09	2.6E-09	0.0E+00	0.0E+00	0.0E+00
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	2.8E-02	2.8E-02	2.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
43	Fluoranthene	3.3E-01	3.3E-01	3.3E-01	5.6E-03	5.6E-03	5.6E-03	0.0E+00	0.0E+00	0.0E+00	2.0E-09	2.0E-09	2.0E-09	0.0E+00	0.0E+00	0.0E+00
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
45	Indeno(1,2,3-c	4.7E-01	4.7E-01	4.7E-01	2.0E-03	2.0E-03	2.0E-03	0.0E+00	0.0E+00	0.0E+00	2.8E-09	2.8E-09	2.8E-09	0.0E+00	0.0E+00	0.0E+00
46	Naphthalene	0.0E+00	0.0E+00	0.0E+00	3.0E-03	3.0E-03	3.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

47	Phenanthrene	1.9E-01	1.9E-01	1.9E-01	5.6E-03	5.6E-03	5.6E-03	0.0E+00	0.0E+00	0.0E+00	1.2E-09	1.2E-09	1.2E-09	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	2.7E+00	2.7E+00	2.7E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	3.1E-01	3.1E-01	3.1E-01	5.6E-03	5.6E-03	5.6E-03	0.0E+00	0.0E+00	0.0E+00	1.9E-09	1.9E-09	1.9E-09	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	3.4E-04	3.4E-04	3.4E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	2.8E-04	2.8E-04	2.8E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	8.9E-05	8.9E-05	8.9E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.2E-04	2.2E-04	2.2E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	6.3E-05	6.3E-05	6.3E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	7.3E-05	7.3E-05	7.3E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	1.0E-04	1.0E-04	1.0E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.9E-05	2.9E-05	2.9E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	6.5E-05	6.5E-05	6.5E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	2.2E+01	2.2E+01	2.2E+01	5.2E+00	5.2E+00	5.2E+00	0.0E+00	0.0E+00	0.0E+00	1.3E-07	1.3E-07	1.3E-07	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	1.1E+00	1.1E+00	1.1E+00	1.7E-02	1.7E-02	1.7E-02	0.0E+00	0.0E+00	0.0E+00	6.6E-09	6.6E-09	6.6E-09	0.0E+00	0.0E+00	0.0E+00
62	Barium, Total	1.2E+01	1.2E+01	1.2E+01	8.0E-02	8.0E-02	8.0E-02	0.0E+00	0.0E+00	0.0E+00	7.0E-08	7.0E-08	7.0E-08	0.0E+00	0.0E+00	0.0E+00
63	Beryllium, Tot	5.7E-01	5.7E-01	5.7E-01	2.6E+00	2.6E+00	2.6E+00	0.0E+00	0.0E+00	0.0E+00	3.5E-09	3.5E-09	3.5E-09	0.0E+00	0.0E+00	0.0E+00
64	Cadmium, Total	6.4E-01	6.4E-01	6.4E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.9E-09	3.9E-09	3.9E-09	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	1.1E+00	1.1E+00	1.1E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	4.7E+00	4.7E+00	4.7E+00	2.9E+00	2.9E+00	2.9E+00	0.0E+00	0.0E+00	0.0E+00	2.9E-08	2.9E-08	2.9E-08	0.0E+00	0.0E+00	0.0E+00
67	Mercury, Total	0.0E+00	0.0E+00	0.0E+00	6.0E-04	6.0E-04	6.0E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	4.5E+00	4.5E+00	4.5E+00	3.5E-02	3.5E-02	3.5E-02	0.0E+00	0.0E+00	0.0E+00	2.8E-08	2.8E-08	2.8E-08	0.0E+00	0.0E+00	0.0E+00
69	Silver, Total	1.1E+00	1.1E+00	1.1E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00	6.6E-09	6.6E-09	6.6E-09	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	5.8E+00	5.8E+00	5.8E+00	2.5E+00	2.5E+00	2.5E+00	0.0E+00	0.0E+00	0.0E+00	3.5E-08	3.5E-08	3.5E-08	0.0E+00	0.0E+00	0.0E+00
72	Cyanide, Total	0.0E+00	0.0E+00	0.0E+00	9.8E-02	9.8E-02	9.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC2

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: LANDFILL (C)

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: DATA
LAST UPDATED: 07/23/92

		MEDIUM 1 SOIL			MEDIUM 2 GROUNDWATER			MEDIUM 3 GWATER (INH)			MEDIUM 4 AIR-PART			MEDIUM 5 AIR-VOC'S		
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	21S	21C	21L	22S	22C	22L	23S	23C	23L	24S	24C	24L	25S	25C	25L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	2.2E-01	2.2E-01	2.2E-01	2.2E-01	2.2E-01	2.2E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E-01	1.0E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
3	1,1-Dichloroet	3.9E-03	3.9E-03	3.9E-03	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	0.0E+00	0.0E+00	0.0E+00	7.6E-05	8.3E-05	8.3E-05
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
5	2-Butanone	4.0E-03	4.0E-03	4.0E-03	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	0.0E+00	0.0E+00	0.0E+00	8.7E-06	1.7E-05	1.7E-05
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	5.0E-02	5.0E-02	5.0E-02	5.0E-02	5.0E-02	5.0E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
7	Acetone	3.0E-02	3.0E-02	3.0E-02	5.6E-01	5.6E-01	5.6E-01	5.6E-01	5.6E-01	5.6E-01	0.0E+00	0.0E+00	0.0E+00	9.5E-05	7.3E-05	7.3E-05
8	Benzene	0.0E+00	0.0E+00	0.0E+00	4.7E-02	4.7E-02	4.7E-02	4.7E-02	4.7E-02	4.7E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
10	Carbon Disulfi	1.9E-03	1.9E-03	1.9E-03	5.7E-02	5.7E-02	5.7E-02	5.7E-02	5.7E-02	5.7E-02	0.0E+00	0.0E+00	0.0E+00	3.0E-05	6.8E-05	6.8E-05
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	1.7E-03	1.7E-03	1.7E-03	1.7E-03	1.7E-03	1.7E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	3.4E-02	3.4E-02	3.4E-02	3.4E-02	3.4E-02	3.4E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
13	Ethyl Benzene	2.0E-03	2.0E-03	2.0E-03	2.9E-01	2.9E-01	2.9E-01	2.9E-01	2.9E-01	2.9E-01	0.0E+00	0.0E+00	0.0E+00	3.0E-06	6.5E-06	6.5E-06
14	Methylene Chlo	4.0E-03	4.0E-03	4.0E-03	2.3E-01	2.3E-01	2.3E-01	2.3E-01	2.3E-01	2.3E-01	0.0E+00	0.0E+00	0.0E+00	6.0E-05	8.4E-05	8.4E-05
15	Styrene	0.0E+00	0.0E+00	0.0E+00	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	2.3E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E-05	2.4E-05
17	Toluene	4.0E-03	4.0E-03	4.0E-03	4.7E-01	4.7E-01	4.7E-01	4.7E-01	4.7E-01	4.7E-01	0.0E+00	0.0E+00	0.0E+00	1.3E-05	1.5E-05	1.5E-05
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	2.4E-01	2.4E-01	2.4E-01	2.4E-01	2.4E-01	2.4E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E-05	2.4E-05
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	2.8E-02	2.8E-02	2.8E-02	2.8E-02	2.8E-02	2.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
20	Xylenes (Total	4.0E-03	4.0E-03	4.0E-03	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	1.8E-01	0.0E+00	0.0E+00	0.0E+00	1.4E-05	1.6E-05	1.6E-05
21	1,4-Dichlorobe	2.1E-01	2.1E-01	2.1E-01	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	1.3E-09	1.3E-09	1.3E-09	0.0E+00	0.0E+00	0.0E+00
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	3.9E-02	3.9E-02	3.9E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	1.9E-01	1.9E-01	1.9E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	1.0E-03	1.0E-03	1.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
28	Benzo(a)anthra	2.8E-01	2.8E-01	2.8E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.7E-09	1.7E-09	1.7E-09	0.0E+00	0.0E+00	0.0E+00
29	Benzo(a)pyrene	4.3E-01	4.3E-01	4.3E-01	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	2.6E-09	2.6E-09	2.6E-09	0.0E+00	0.0E+00	0.0E+00
30	Benzo(b)fluora	4.6E-01	4.6E-01	4.6E-01	5.6E-03	5.6E-03	5.6E-03	0.0E+00	0.0E+00	0.0E+00	2.8E-09	2.8E-09	2.8E-09	0.0E+00	0.0E+00	0.0E+00
31	Benzo(g,h,i)pe	4.6E-01	4.6E-01	4.6E-01	2.0E-03	2.0E-03	2.0E-03	0.0E+00	0.0E+00	0.0E+00	2.8E-09	2.8E-09	2.8E-09	0.0E+00	0.0E+00	0.0E+00
32	Benzo(k)fluora	3.6E-01	3.6E-01	3.6E-01	2.0E-03	2.0E-03	2.0E-03	0.0E+00	0.0E+00	0.0E+00	2.2E-09	2.2E-09	2.2E-09	0.0E+00	0.0E+00	0.0E+00
33	Benzoic acid	7.5E-02	7.5E-02	7.5E-02	2.5E-02	2.5E-02	2.5E-02	0.0E+00	0.0E+00	0.0E+00	4.6E-10	4.6E-10	4.6E-10	0.0E+00	0.0E+00	0.0E+00
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
35	bis(2-Ethylhex	1.5E+00	1.5E+00	1.5E+00	2.1E-02	2.1E-02	2.1E-02	0.0E+00	0.0E+00	0.0E+00	9.0E-09	9.0E-09	9.0E-09	0.0E+00	0.0E+00	0.0E+00
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
37	Chrysene	3.6E-01	3.6E-01	3.6E-01	4.0E-03	4.0E-03	4.0E-03	0.0E+00	0.0E+00	0.0E+00	2.2E-09	2.2E-09	2.2E-09	0.0E+00	0.0E+00	0.0E+00
38	Di-n-butylphth	4.2E-01	4.2E-01	4.2E-01	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	2.6E-09	2.6E-09	2.6E-09	0.0E+00	0.0E+00	0.0E+00
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	2.8E-02	2.8E-02	2.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
43	Fluoranthene	3.3E-01	3.3E-01	3.3E-01	5.6E-03	5.6E-03	5.6E-03	0.0E+00	0.0E+00	0.0E+00	2.0E-09	2.0E-09	2.0E-09	0.0E+00	0.0E+00	0.0E+00
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
45	Indeno(1,2,3-c	4.7E-01	4.7E-01	4.7E-01	2.0E-03	2.0E-03	2.0E-03	0.0E+00	0.0E+00	0.0E+00	2.8E-09	2.8E-09	2.8E-09	0.0E+00	0.0E+00	0.0E+00
46	Naphthalene	0.0E+00	0.0E+00	0.0E+00	3.0E-03	3.0E-03	3.0E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

47	Phenanthrene	1.9E-01	1.9E-01	1.9E-01	5.6E-03	5.6E-03	5.6E-03	0.0E+00	0.0E+00	0.0E+00	1.2E-09	1.2E-09	1.2E-09	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	2.7E+00	2.7E+00	2.7E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	3.1E-01	3.1E-01	3.1E-01	5.6E-03	5.6E-03	5.6E-03	0.0E+00	0.0E+00	0.0E+00	1.9E-09	1.9E-09	1.9E-09	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	3.4E-04	3.4E-04	3.4E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	2.8E-04	2.8E-04	2.8E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	8.9E-05	8.9E-05	8.9E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.2E-04	2.2E-04	2.2E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	6.3E-05	6.3E-05	6.3E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	7.3E-05	7.3E-05	7.3E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	1.0E-04	1.0E-04	1.0E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.9E-05	2.9E-05	2.9E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	6.5E-05	6.5E-05	6.5E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	2.2E+01	2.2E+01	2.2E+01	5.2E+00	5.2E+00	5.2E+00	0.0E+00	0.0E+00	0.0E+00	1.3E-07	1.3E-07	1.3E-07	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	1.1E+00	1.1E+00	1.1E+00	1.7E-02	1.7E-02	1.7E-02	0.0E+00	0.0E+00	0.0E+00	6.6E-09	6.6E-09	6.6E-09	0.0E+00	0.0E+00	0.0E+00
62	Barium, Total	1.2E+01	1.2E+01	1.2E+01	8.0E-02	8.0E-02	8.0E-02	0.0E+00	0.0E+00	0.0E+00	7.0E-08	7.0E-08	7.0E-08	0.0E+00	0.0E+00	0.0E+00
63	Beryllium, Tot	5.7E-01	5.7E-01	5.7E-01	2.6E+00	2.6E+00	2.6E+00	0.0E+00	0.0E+00	0.0E+00	3.5E-09	3.5E-09	3.5E-09	0.0E+00	0.0E+00	0.0E+00
64	Cadmium, Total	6.4E-01	6.4E-01	6.4E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.9E-09	3.9E-09	3.9E-09	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	1.1E+00	1.1E+00	1.1E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	4.7E+00	4.7E+00	4.7E+00	2.9E+00	2.9E+00	2.9E+00	0.0E+00	0.0E+00	0.0E+00	2.9E-08	2.9E-08	2.9E-08	0.0E+00	0.0E+00	0.0E+00
67	Mercury, Total	0.0E+00	0.0E+00	0.0E+00	6.0E-04	6.0E-04	6.0E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	4.5E+00	4.5E+00	4.5E+00	3.5E-02	3.5E-02	3.5E-02	0.0E+00	0.0E+00	0.0E+00	2.8E-08	2.8E-08	2.8E-08	0.0E+00	0.0E+00	0.0E+00
69	Silver, Total	1.1E+00	1.1E+00	1.1E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00	6.6E-09	6.6E-09	6.6E-09	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	5.8E+00	5.8E+00	5.8E+00	2.5E+00	2.5E+00	2.5E+00	0.0E+00	0.0E+00	0.0E+00	3.5E-08	3.5E-08	3.5E-08	0.0E+00	0.0E+00	0.0E+00
72	Cyanide, Total	0.0E+00	0.0E+00	0.0E+00	9.8E-02	9.8E-02	9.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC3

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: RESIDENCE (S. LF.)

SITE NAME: HINCO
OPERABLE UNIT: DISK 2
FILE NAME: DATA
LAST UPDATED: 07/23/92

		MEDIUM 1 SOIL			MEDIUM 2 GWATER (S)			MEDIUM 3 GWATER (INH, S)			MEDIUM 4 0			MEDIUM 5 0		
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	31S	31C	31L	32S	32C	32L	33S	33C	33L	34S	34C	34L	35S	35C	35L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03						
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
5	2-Butanone	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03						
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03						
7	Acetone	0.0E+00	0.0E+00	0.0E+00	6.6E-03	6.6E-03	6.6E-03	6.6E-03	6.6E-03	6.6E-03						
8	Benzene	0.0E+00	0.0E+00	0.0E+00	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03						
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
10	Carbon Disulfi	0.0E+00	0.0E+00	0.0E+00	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
13	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
14	Methylene Chlo	4.0E-03	4.0E-03	4.0E-03	2.0E-03	2.0E-03	2.0E-03	2.0E-03	2.0E-03	2.0E-03						
15	Styrene	0.0E+00	0.0E+00	0.0E+00	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
16	Tetrachloroeth	5.4E-03	5.4E-03	5.4E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
17	Toluene	8.1E-03	8.1E-03	8.1E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
18	Trichloroethen	4.0E-03	4.0E-03	4.0E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03						
20	Xylenes (Total	2.0E-03	2.0E-03	2.0E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
21	1,4-Dichlorobe	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
23	2-Methylnaphth	1.8E-02	1.8E-02	1.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
25	Acenaphthene	3.1E-01	3.1E-01	3.1E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
26	Acenaphthylene	1.8E+00	1.8E+00	1.8E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
27	Anthracene	1.5E+00	1.5E+00	1.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
28	Benzo(a)anthra	4.5E+00	4.5E+00	4.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
29	Benzo(a)pyrene	2.9E+00	2.9E+00	2.9E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
30	Benzo(b)fluora	8.9E+00	8.9E+00	8.9E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
31	Benzo(g,h,i)pe	1.5E+00	1.5E+00	1.5E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
32	Benzo(k)fluora	4.5E+00	4.5E+00	4.5E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
33	Benzoic acid	0.0E+00	0.0E+00	0.0E+00	2.7E-02	2.7E-02	2.7E-02	0.0E+00	0.0E+00	0.0E+00						
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	5.5E-03	5.5E-03	5.5E-03	0.0E+00	0.0E+00	0.0E+00						
35	bis(2-Ethylhex	2.3E-01	2.3E-01	2.3E-01	5.0E-02	5.0E-02	5.0E-02	0.0E+00	0.0E+00	0.0E+00						
36	Butylbenzylpht	2.4E-01	2.4E-01	2.4E-01	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
37	Chrysene	6.4E+00	6.4E+00	6.4E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
38	Di-n-butylphth	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
39	Di-n-octylphth	1.4E-01	1.4E-01	1.4E-01	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
40	Dibenzo(a,h)an	7.7E-01	7.7E-01	7.7E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	1.1E-02	1.1E-02	1.1E-02	0.0E+00	0.0E+00	0.0E+00						
42	Dimethylphthal	4.2E-02	4.2E-02	4.2E-02	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
43	Fluoranthene	1.1E+01	1.1E+01	1.1E+01	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
44	Fluorene	6.8E-01	6.8E-01	6.8E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
45	Indeno(1,2,3-c	2.2E+00	2.2E+00	2.2E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
46	Naphthalene	1.8E-02	1.8E-02	1.8E-02	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						

47	Phenanthrene	4.1E+00	4.1E+00	4.1E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	2.0E-03	2.0E-03	2.0E-03	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	5.3E+00	5.3E+00	5.3E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	4.1E-03	4.1E-03	4.1E-03	2.4E-04	2.4E-04	2.4E-04	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	2.9E-02	2.9E-02	2.9E-02	5.0E-05	5.0E-05	5.0E-05	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	2.5E-05	2.5E-05	2.5E-05	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.1E-04	2.1E-04	2.1E-04	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	2.5E-05	2.5E-05	2.5E-05	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	2.4E-04	2.4E-04	2.4E-04	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	5.0E-05	5.0E-05	5.0E-05	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.1E-04	2.1E-04	2.1E-04	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	2.5E-05	2.5E-05	2.5E-05	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	3.0E+00	3.0E+00	3.0E+00	2.1E-02	2.1E-02	2.1E-02	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	6.8E+00	6.8E+00	6.8E+00	2.7E-02	2.7E-02	2.7E-02	0.0E+00	0.0E+00	0.0E+00
62	Barium, Total	7.3E+01	7.3E+01	7.3E+01	1.9E-01	1.9E-01	1.9E-01	0.0E+00	0.0E+00	0.0E+00
63	Beryllium, Tot	5.4E-01	5.4E-01	5.4E-01	2.7E-03	2.7E-03	2.7E-03	0.0E+00	0.0E+00	0.0E+00
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	2.4E-03	2.4E-03	2.4E-03	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	9.9E+00	9.9E+00	9.9E+00	6.4E-02	6.4E-02	6.4E-02	0.0E+00	0.0E+00	0.0E+00
67	Mercury, Total	2.8E-01	2.8E-01	2.8E-01	2.4E-04	2.4E-04	2.4E-04	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	1.3E+01	1.3E+01	1.3E+01	5.9E-02	5.9E-02	5.9E-02	0.0E+00	0.0E+00	0.0E+00
69	Silver, Total	0.0E+00	0.0E+00	0.0E+00	8.8E-03	8.8E-03	8.8E-03	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	1.1E+01	1.1E+01	1.1E+01	5.1E-02	5.1E-02	5.1E-02	0.0E+00	0.0E+00	0.0E+00
72	Cyanide, Total	1.0E+01	1.0E+01	1.0E+01	5.0E-03	5.0E-03	5.0E-03	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	2.0E+01	2.0E+01	2.0E+01	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC4

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: DOWNWIND (A)

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: DATA
LAST UPDATED: 07/23/92

		MEDIUM 1 AIR-PART			MEDIUM 2 AIR-VOC'S			MEDIUM 3 0			MEDIUM 4 0			MEDIUM 5 0		
		Ca	Cc	Cl	Ca	Cc	Cl	Ca	Cc	Cl	Ca	Cc	Cl	Ca	Cc	Cl
	CHEMICAL NAME	41S	41C	41L	42S	42C	42L	43S	43C	43L	44S	44C	44L	45S	45C	45L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	3.7E-05	3.7E-05	3.7E-05									
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
5	2-Butanone	0.0E+00	0.0E+00	0.0E+00	3.9E-06	3.9E-06	3.9E-06									
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
7	Acetone	0.0E+00	0.0E+00	0.0E+00	3.2E-05	3.2E-05	3.2E-05									
8	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
10	Carbon Disulfi	0.0E+00	0.0E+00	0.0E+00	1.3E-05	1.3E-05	1.3E-05									
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
13	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	1.3E-06	1.3E-06	1.3E-06									
14	Methylene Chlo	0.0E+00	0.0E+00	0.0E+00	2.7E-05	2.7E-05	2.7E-05									
15	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	1.1E-05	1.1E-05	1.1E-05									
17	Toluene	0.0E+00	0.0E+00	0.0E+00	6.8E-06	6.8E-06	6.8E-06									
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	1.0E-05	1.0E-05	1.0E-05									
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
20	Xylenes (Total	0.0E+00	0.0E+00	0.0E+00	7.0E-06	7.0E-06	7.0E-06									
21	1,4-Dichlorobe	9.7E-09	9.7E-09	9.7E-09	0.0E+00	0.0E+00	0.0E+00									
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
25	Acenaphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
28	Benzo(a)anthra	1.9E-08	1.9E-08	1.9E-08	0.0E+00	0.0E+00	0.0E+00									
29	Benzo(a)pyrene	2.0E-08	2.0E-08	2.0E-08	0.0E+00	0.0E+00	0.0E+00									
30	Benzo(b)fluora	2.1E-08	2.1E-08	2.1E-08	0.0E+00	0.0E+00	0.0E+00									
31	Benzo(g,h,i)pe	2.0E-08	2.0E-08	2.0E-08	0.0E+00	0.0E+00	0.0E+00									
32	Benzo(k)fluora	1.9E-08	1.9E-08	1.9E-08	0.0E+00	0.0E+00	0.0E+00									
33	Benzoic acid	3.5E-09	3.5E-09	3.5E-09	0.0E+00	0.0E+00	0.0E+00									
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
35	bis(2-Ethylhex	5.5E-08	5.5E-08	5.5E-08	0.0E+00	0.0E+00	0.0E+00									
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
37	Chrysene	1.9E-08	1.9E-08	1.9E-08	0.0E+00	0.0E+00	0.0E+00									
38	Di-n-butylphth	1.8E-08	1.8E-08	1.8E-08	0.0E+00	0.0E+00	0.0E+00									
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
43	Fluoranthene	1.9E-08	1.9E-08	1.9E-08	0.0E+00	0.0E+00	0.0E+00									
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
45	Indeno(1,2,3-c	2.1E-08	2.1E-08	2.1E-08	0.0E+00	0.0E+00	0.0E+00									
46	Naphthalene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									

47	Phenanthrene	1.1E-08	1.1E-08	1.1E-08	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	1.9E-08	1.9E-08	1.9E-08	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	1.1E-09	1.1E-09	1.1E-09	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	8.5E-07	8.5E-07	8.5E-07	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	6.9E-08	6.9E-08	6.9E-08	0.0E+00	0.0E+00	0.0E+00
62	Barium, Total	9.1E-07	9.1E-07	9.1E-07	0.0E+00	0.0E+00	0.0E+00
63	Beryllium, Tot	2.3E-08	2.3E-08	2.3E-08	0.0E+00	0.0E+00	0.0E+00
64	Cadmium, Total	2.6E-08	2.6E-08	2.6E-08	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	2.2E-07	2.2E-07	2.2E-07	0.0E+00	0.0E+00	0.0E+00
67	Mercury, Total	3.7E-09	3.7E-09	3.7E-09	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	2.2E-07	2.2E-07	2.2E-07	0.0E+00	0.0E+00	0.0E+00
69	Silver, Total	4.4E-08	4.4E-08	4.4E-08	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	2.7E-07	2.7E-07	2.7E-07	0.0E+00	0.0E+00	0.0E+00
72	Cyanide, Total	7.4E-08	7.4E-08	7.4E-08	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: EPC5

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: DOWNWIND (C)

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: DATA
LAST UPDATED: 07/23/92

		MEDIUM 1 AIR-PART			MEDIUM 2 AIR-VOC'S			MEDIUM 3 0			MEDIUM 4 0			MEDIUM 5 0		
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	51S	51C	51L	52S	52C	52L	53S	53C	53L	54S	54C	54L	55S	55C	55L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	8.3E-05	8.3E-05	8.3E-05									
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
5	2-Butanone	0.0E+00	0.0E+00	0.0E+00	8.7E-06	8.7E-06	8.7E-06									
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
7	Acetone	0.0E+00	0.0E+00	0.0E+00	7.3E-05	7.3E-05	7.3E-05									
8	Benzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
10	Carbon Disulfi	0.0E+00	0.0E+00	0.0E+00	3.0E-05	3.0E-05	3.0E-05									
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
13	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	3.0E-06	3.0E-06	3.0E-06									
14	Methylene Chlo	0.0E+00	0.0E+00	0.0E+00	6.0E-05	6.0E-05	6.0E-05									
15	Styrene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
16	Tetrachloroeth	0.0E+00	0.0E+00	0.0E+00	2.4E-05	2.4E-05	2.4E-05									
17	Toluene	0.0E+00	0.0E+00	0.0E+00	1.5E-05	1.5E-05	1.5E-05									
18	Trichloroethen	0.0E+00	0.0E+00	0.0E+00	2.3E-05	2.3E-05	2.3E-05									
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
20	Xylenes (Total	0.0E+00	0.0E+00	0.0E+00	1.6E-05	1.6E-05	1.6E-05									
21	1,4-Dichlorobe	9.7E-09	9.7E-09	9.7E-09	0.0E+00	0.0E+00	0.0E+00									
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
23	2-Methylnaphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
25	Acensphthene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
26	Acenaphthylene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
27	Anthracene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
28	Benzo(a)anthra	1.9E-08	1.9E-08	1.9E-08	0.0E+00	0.0E+00	0.0E+00									
29	Benzo(a)pyrene	2.0E-08	2.0E-08	2.0E-08	0.0E+00	0.0E+00	0.0E+00									
30	Benzo(b)fluora	2.1E-08	2.1E-08	2.1E-08	0.0E+00	0.0E+00	0.0E+00									
31	Benzo(g,h,i)pe	2.0E-08	2.0E-08	2.0E-08	0.0E+00	0.0E+00	0.0E+00									
32	Benzo(k)fluora	1.9E-08	1.9E-08	1.9E-08	0.0E+00	0.0E+00	0.0E+00									
33	Benzoic acid	3.5E-09	3.5E-09	3.5E-09	0.0E+00	0.0E+00	0.0E+00									
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
35	bis(2-Ethylhex	5.5E-08	5.5E-08	5.5E-08	0.0E+00	0.0E+00	0.0E+00									
36	Butylbenzylpht	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
37	Chrysene	1.9E-08	1.9E-08	1.9E-08	0.0E+00	0.0E+00	0.0E+00									
38	Di-n-butylphth	1.8E-08	1.8E-08	1.8E-08	0.0E+00	0.0E+00	0.0E+00									
39	Di-n-octylphth	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
42	Dimethylphthal	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
43	Fluoranthene	1.9E-08	1.9E-08	1.9E-08	0.0E+00	0.0E+00	0.0E+00									
44	Fluorene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									
45	Indeno(1,2,3-c	2.1E-08	2.1E-08	2.1E-08	0.0E+00	0.0E+00	0.0E+00									
46	Naphthalene	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00									

47	Phenanthrene	1.1E-08	1.1E-08	1.1E-08	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	1.9E-08	1.9E-08	1.9E-08	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	1.1E-09	1.1E-09	1.1E-09	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	8.5E-07	8.5E-07	8.5E-07	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	6.9E-08	6.9E-08	6.9E-08	0.0E+00	0.0E+00	0.0E+00
62	Barium, Total	9.1E-07	9.1E-07	9.1E-07	0.0E+00	0.0E+00	0.0E+00
63	Beryllium, Tot	2.3E-08	2.3E-08	2.3E-08	0.0E+00	0.0E+00	0.0E+00
64	Cadmium, Total	2.6E-08	2.6E-08	2.6E-08	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	2.2E-07	2.2E-07	2.2E-07	0.0E+00	0.0E+00	0.0E+00
67	Mercury, Total	3.7E-09	3.7E-09	3.7E-09	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	2.2E-07	2.2E-07	2.2E-07	0.0E+00	0.0E+00	0.0E+00
69	Silver, Total	4.4E-08	4.4E-08	4.4E-08	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	2.7E-07	2.7E-07	2.7E-07	0.0E+00	0.0E+00	0.0E+00
72	Cyanide, Total	7.4E-08	7.4E-08	7.4E-08	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP1
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (L)

EXPOSURE POINT: LANDFILL (A)
MEDIUM: SOIL
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 3.7E-06
HIFl = 1.6E-06

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	3.7E-06	1	0.0E+00	9.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							3.9E-03	3.7E-06	1	1.5E-08	9.0E-03	2E-06	3.9E-03	1.6E-06	1	6.3E-09	6.0E-01	4E-09
4	1,2-Dichloroethene(total)							0.0E+00	3.7E-06	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
5	2-Butanone							4.0E-03	3.7E-06	1	1.5E-08	5.0E-02	3E-07	4.0E-03	1.6E-06	1	6.4E-09	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	3.7E-06	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
7	Acetone							3.0E-02	3.7E-06	1	1.1E-07	1.0E-01	1E-06	3.0E-02	1.6E-06	1	4.8E-08	NA	NA
8	Benzene							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfide							1.9E-03	3.7E-06	1	7.0E-09	1.0E-01	7E-08	1.9E-03	1.6E-06	1	3.0E-09	NA	NA
11	Chlorobenzene							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	3.7E-06	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene							2.0E-03	3.7E-06	1	7.4E-09	1.0E-01	7E-08	2.0E-03	1.6E-06	1	3.2E-09	NA	NA
14	Methylene Chloride							4.0E-03	3.7E-06	1	1.5E-08	6.0E-02	2E-07	4.0E-03	1.6E-06	1	6.4E-09	7.5E-03	5E-11
15	Styrene							0.0E+00	3.7E-06	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroethene							0.0E+00	3.7E-06	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	5.1E-02	0E+00
17	Toluene							4.0E-03	3.7E-06	1	1.5E-08	2.0E-01	7E-08	4.0E-03	1.6E-06	1	6.3E-09	NA	NA
18	Trichloroethene							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	1.1E-02	0E+00
19	Vinyl Chloride							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total)							4.0E-03	3.7E-06	1	1.5E-08	2.0E+00	7E-09	4.0E-03	1.6E-06	1	6.4E-09	NA	NA
21	1,4-Dichlorobenzene							2.1E-01	3.7E-06	1	7.8E-07	NA	NA	2.1E-01	1.6E-06	1	3.4E-07	2.4E-02	8E-09
22	2,4-Dimethylphenol							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	3.7E-06	1	0.0E+00	4.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	3.7E-06	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	3.7E-06	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	3.7E-06	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	3.7E-06	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							2.8E-01	3.7E-06	1	1.0E-06	3.0E-02	3E-05	2.8E-01	1.6E-06	1	4.5E-07	1.2E+01	5E-06
29	Benzo(a)pyrene							4.3E-01	3.7E-06	1	1.6E-06	3.0E-02	5E-05	4.3E-01	1.6E-06	1	6.9E-07	1.2E+01	8E-06
30	Benzo(b)fluoranthene							4.6E-01	3.7E-06	1	1.7E-06	3.0E-02	6E-05	4.6E-01	1.6E-06	1	7.4E-07	1.2E+01	9E-06
31	Benzo(g,h,i)perylene							4.6E-01	3.7E-06	1	1.7E-06	3.0E-02	6E-05	4.6E-01	1.6E-06	1	7.4E-07	NA	NA
32	Benzo(k)fluoranthene							3.6E-01	3.7E-06	1	1.3E-06	3.0E-02	4E-05	3.6E-01	1.6E-06	1	5.8E-07	1.2E+01	7E-06
33	Benzoic acid							7.5E-02	3.7E-06	1	2.8E-07	4.0E+00	7E-08	7.5E-02	1.6E-06	1	1.2E-07	NA	NA
34	Benzyl alcohol							0.0E+00	3.7E-06	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							1.5E+00	3.7E-06	1	5.5E-06	2.0E-02	3E-04	1.5E+00	1.6E-06	1	2.4E-06	1.4E-02	3E-08
36	Butylbenzylphthalate							0.0E+00	3.7E-06	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
37	Chrysene							3.6E-01	3.7E-06	1	1.3E-06	3.0E-02	4E-05	3.6E-01	1.6E-06	1	5.8E-07	1.2E+01	7E-06
38	Di-n-butylphthalate							4.2E-01	3.7E-06	1	1.6E-06	1.0E-01	2E-05	4.2E-01	1.6E-06	1	6.8E-07	NA	NA
39	Di-n-octylphthalate							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	3.7E-06	1	0.0E+00	3.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthalate	0.0E+00	3.7E-06	1	0.0E+00	8.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	3.7E-06	1	0.0E+00	1.0E+00	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
43	Fluoranthene	3.3E-01	3.7E-06	1	1.2E-06	4.0E-02	3E-05	3.3E-01	1.6E-06	1	5.3E-07	NA	NA
44	Fluorene	0.0E+00	3.7E-06	1	0.0E+00	4.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	4.7E-01	3.7E-06	1	1.7E-06	3.0E-02	6E-05	4.7E-01	1.6E-06	1	7.5E-07	1.2E+01	9E-06
46	Naphthalene	0.0E+00	3.7E-06	1	0.0E+00	4.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
47	Phenanthrene	1.9E-01	3.7E-06	1	7.0E-07	3.0E-02	2E-05	1.9E-01	1.6E-06	1	3.0E-07	NA	NA
48	Phenol	0.0E+00	3.7E-06	1	0.0E+00	6.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
49	Pyrene	3.1E-01	3.7E-06	1	1.1E-06	3.0E-02	4E-05	3.1E-01	1.6E-06	1	5.0E-07	NA	NA
50	4,4-DDE	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	3.4E-01	0E+00
51	4,4-DDT	0.0E+00	3.7E-06	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	3.7E-06	1	0.0E+00	3.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	3.7E-06	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	3.7E-06	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	3.7E-06	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	3.7E-06	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	3.7E-06	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Total	2.2E+01	3.7E-06	1	8.1E-05	4.0E-04	2E-01	2.2E+01	1.6E-06	1	3.5E-05	NA	NA
61	Arsenic, Total	1.1E+00	3.7E-06	1	4.0E-06	3.0E-04	1E-02	1.1E+00	1.6E-06	1	1.7E-06	1.8E+00	3E-06
62	Barium, Total	1.2E+01	3.7E-06	1	4.3E-05	7.0E-02	6E-04	1.2E+01	1.6E-06	1	1.8E-05	NA	NA
63	Beryllium, Total	5.7E-01	3.7E-06	1	2.1E-06	5.0E-03	4E-04	5.7E-01	1.6E-06	1	9.1E-07	4.3E+00	4E-06
64	Cadmium, Total (food)	6.4E-01	3.7E-06	1	2.4E-06	1.0E-03	2E-03	6.4E-01	1.6E-06	1	1.0E-06	NA	NA
65	Cadmium, Total (water)	0.0E+00	3.7E-06	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
66	Chromium, Total	4.7E+00	3.7E-06	1	1.8E-05	5.0E-03	4E-03	4.7E+00	1.6E-06	1	7.6E-06	NA	NA
67	Mercury, Total	0.0E+00	3.7E-06	1	0.0E+00	3.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
68	Nickel, Total	4.5E+00	3.7E-06	1	1.7E-05	2.0E-02	8E-04	4.5E+00	1.6E-06	1	7.3E-06	NA	NA
69	Silver, Total	1.1E+00	3.7E-06	1	4.0E-06	5.0E-03	8E-04	1.1E+00	1.6E-06	1	1.7E-06	NA	NA
70	Thallium, Total	0.0E+00	3.7E-06	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
71	Vanadium, Total	5.8E+00	3.7E-06	1	2.1E-05	7.0E-03	3E-03	5.8E+00	1.6E-06	1	9.3E-06	NA	NA
72	Cyanide, Total	0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA

RANGE NAME: WS2

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP1
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (L)

EXPOSURE POINT: LANDFILL (A)
MEDIUM: GROUNDWATER
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 2.7E-02
HIFl = 1.1E-02

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	2.2E-01	2.7E-02	1	6.0E-03	9.0E-02	7E-02	2.2E-01	1.1E-02	1	2.4E-03	NA	NA
2	1,1-Dichloroethane							1.0E-01	2.7E-02	1	2.8E-03	1.0E-01	3E-02	1.0E-01	1.1E-02	1	1.1E-03	NA	NA
3	1,1-Dichloroethene							2.3E-02	2.7E-02	1	6.3E-04	9.0E-03	7E-02	2.3E-02	1.1E-02	1	2.6E-04	6.0E-01	2E-04
4	1,2-Dichloroethene(total)							1.8E-01	2.7E-02	1	4.9E-03	1.0E-02	5E-01	1.8E-01	1.1E-02	1	2.0E-03	NA	NA
5	2-Butanone							1.8E-01	2.7E-02	1	4.9E-03	5.0E-02	1.0E-0	1.8E-01	1.1E-02	1	2.0E-03	NA	NA
6	4-Methyl-2-pentanone							5.0E-02	2.7E-02	1	1.3E-03	5.0E-02	3E-02	5.0E-02	1.1E-02	1	5.4E-04	NA	NA
7	Acetone							5.6E-01	2.7E-02	1	1.5E-02	1.0E-01	2E-01	5.6E-01	1.1E-02	1	6.2E-03	NA	NA
8	Benzene							4.7E-02	2.7E-02	1	1.3E-03	NA	NA	4.7E-02	1.1E-02	1	5.2E-04	2.9E-02	1E-05
9	Bromodichloromethane							2.3E-02	2.7E-02	1	6.3E-04	2.0E-02	3E-02	2.3E-02	1.1E-02	1	2.6E-04	1.3E-01	3E-05
10	Carbon Disulfide							5.7E-02	2.7E-02	1	1.5E-03	1.0E-01	2E-02	5.7E-02	1.1E-02	1	6.3E-04	NA	NA
11	Chlorobenzene							1.7E-03	2.7E-02	1	4.6E-05	2.0E-02	2E-03	1.7E-03	1.1E-02	1	1.9E-05	NA	NA
12	Chloroform							3.4E-02	2.7E-02	1	9.3E-04	1.0E-02	9E-02	3.4E-02	1.1E-02	1	3.8E-04	6.1E-03	2E-06
13	Ethyl Benzene							2.9E-01	2.7E-02	1	7.8E-03	1.0E-01	8E-02	2.9E-01	1.1E-02	1	3.2E-03	NA	NA
14	Methylene Chloride							2.3E-01	2.7E-02	1	6.3E-03	6.0E-02	1E-01	2.3E-01	1.1E-02	1	2.6E-03	7.5E-03	2E-05
15	Styrene							3.0E-03	2.7E-02	1	8.1E-05	2.0E-01	4E-04	3.0E-03	1.1E-02	1	3.3E-05	3.0E-02	1.0E-0
16	Tetrachloroethene							2.3E-02	2.7E-02	1	6.1E-04	1.0E-02	6E-02	2.3E-02	1.1E-02	1	2.5E-04	5.1E-02	1E-05
17	Toluene							4.7E-01	2.7E-02	1	1.3E-02	2.0E-01	6E-02	4.7E-01	1.1E-02	1	5.2E-03	NA	NA
18	Trichloroethene							2.4E-01	2.7E-02	1	6.6E-03	NA	NA	2.4E-01	1.1E-02	1	2.7E-03	1.1E-02	3E-05
19	Vinyl Chloride							2.8E-02	2.7E-02	1	7.5E-04	NA	NA	2.8E-02	1.1E-02	1	3.0E-04	1.9E+00	6E-04
20	Xylenes (Total)							1.8E-01	2.7E-02	1	4.8E-03	2.0E+00	2E-03	1.8E-01	1.1E-02	1	1.9E-03	NA	NA
21	1,4-Dichlorobenzene							8.1E-03	2.7E-02	1	2.2E-04	NA	NA	8.1E-03	1.1E-02	1	8.9E-05	2.4E-02	2E-06
22	2,4-Dimethylphenol							3.9E-02	2.7E-02	1	1.1E-03	2.0E-02	5E-02	3.9E-02	1.1E-02	1	4.3E-04	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.7E-02	1	0.0E+00	4.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
24	2-Methylphenol							1.9E-01	2.7E-02	1	5.1E-03	5.0E-02	1E-01	1.9E-01	1.1E-02	1	2.1E-03	NA	NA
25	Acenaphthene							0.0E+00	2.7E-02	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
26	Acenaphthylene							1.0E-03	2.7E-02	1	2.7E-05	6.0E-02	5E-04	1.0E-03	1.1E-02	1	1.1E-05	NA	NA
27	Anthracene							0.0E+00	2.7E-02	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	2.7E-02	1	0.0E+00	3.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene							4.0E-03	2.7E-02	1	1.1E-04	3.0E-02	4E-03	4.0E-03	1.1E-02	1	4.4E-05	1.2E+01	5E-04
30	Benzo(b)fluoranthene							5.6E-03	2.7E-02	1	1.5E-04	3.0E-02	5E-03	5.6E-03	1.1E-02	1	6.2E-05	1.2E+01	7E-04
31	Benzo(g,h,i)perylene							2.0E-03	2.7E-02	1	5.4E-05	3.0E-02	2E-03	2.0E-03	1.1E-02	1	2.2E-05	NA	NA
32	Benzo(k)fluoranthene							2.0E-03	2.7E-02	1	5.4E-05	3.0E-02	2E-03	2.0E-03	1.1E-02	1	2.2E-05	1.2E+01	3E-04
33	Benzoic acid							2.5E-02	2.7E-02	1	6.8E-04	4.0E+00	2E-04	2.5E-02	1.1E-02	1	2.8E-04	NA	NA
34	Benzyl alcohol							5.0E-03	2.7E-02	1	1.4E-04	3.0E-01	5E-04	5.0E-03	1.1E-02	1	5.5E-05	NA	NA
35	bis(2-Ethylhexyl)phthalate							2.1E-02	2.7E-02	1	5.7E-04	2.0E-02	3E-02	2.1E-02	1.1E-02	1	2.3E-04	1.4E-02	3E-06
36	Butylbenzylphthalate							8.1E-03	2.7E-02	1	2.2E-04	2.0E-01	1E-03	8.1E-03	1.1E-02	1	8.9E-05	NA	NA
37	Chrysene							4.0E-03	2.7E-02	1	1.1E-04	3.0E-02	4E-03	4.0E-03	1.1E-02	1	4.4E-05	1.2E+01	5E-04
38	Di-n-butylphthalate							8.1E-03	2.7E-02	1	2.2E-04	1.0E-01	2E-03	8.1E-03	1.1E-02	1	8.9E-05	NA	NA
39	Di-n-octylphthalate							8.1E-03	2.7E-02	1	2.2E-04	2.0E-02	1E-02	8.1E-03	1.1E-02	1	8.9E-05	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.7E-02	1	0.0E+00	3.0E-[illegible]	0E+00	0.0E+00	1.1E-02	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthalate	2.8E-02	2.7E-02	1	7.5E-04	8.0E-01	9E-04	2.8E-02	1.1E-02	1	3.1E-04	NA	NA
42	Dimethylphthalate	8.1E-03	2.7E-02	1	2.2E-04	1.0E+00	2E-04	8.1E-03	1.1E-02	1	8.9E-05	NA	NA
43	Fluoranthene	5.6E-03	2.7E-02	1	1.5E-04	4.0E-02	4E-03	5.6E-03	1.1E-02	1	6.2E-05	NA	NA
44	Fluorene	0.0E+00	2.7E-02	1	0.0E+00	4.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	2.0E-03	2.7E-02	1	5.4E-05	3.0E-02	2E-03	2.0E-03	1.1E-02	1	2.2E-05	1.2E+01	3E-04
46	Naphthalene	3.0E-03	2.7E-02	1	8.1E-05	4.0E-03	2E-02	3.0E-03	1.1E-02	1	3.3E-05	NA	NA
47	Phenanthrene	5.6E-03	2.7E-02	1	1.5E-04	3.0E-02	5E-03	5.6E-03	1.1E-02	1	6.2E-05	NA	NA
48	Phenol	2.7E+00	2.7E-02	1	7.2E-02	6.0E-01	1E-01	2.7E+00	1.1E-02	1	2.9E-02	NA	NA
49	Pyrene	5.6E-03	2.7E-02	1	1.5E-04	3.0E-02	5E-03	5.6E-03	1.1E-02	1	6.2E-05	NA	NA
50	4,4-DDE	3.4E-04	2.7E-02	1	9.2E-06	NA	NA	3.4E-04	1.1E-02	1	3.7E-06	3.4E-01	1E-06
51	4,4-DDT	2.8E-04	2.7E-02	1	7.6E-06	5.0E-04	2E-02	2.8E-04	1.1E-02	1	3.1E-06	3.4E-01	1E-06
52	Aldrin	8.9E-05	2.7E-02	1	2.4E-06	3.0E-05	8E-02	8.9E-05	1.1E-02	1	9.8E-07	1.7E+01	2E-05
53	alpha-Chlordane	2.2E-04	2.7E-02	1	5.9E-06	6.0E-05	1.0E-0	2.2E-04	1.1E-02	1	2.4E-06	1.3E+00	3E-06
54	Aroclor-1248	0.0E+00	2.7E-02	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	6.3E-05	2.7E-02	1	1.7E-06	NA	NA	6.3E-05	1.1E-02	1	6.9E-07	1.0E+00	1E-06
56	Dieldrin	7.3E-05	2.7E-02	1	2.0E-06	5.0E-05	4E-02	7.3E-05	1.1E-02	1	8.0E-07	1.6E+01	1E-05
57	Endosulfan II	1.0E-04	2.7E-02	1	2.7E-06	5.0E-05	5E-02	1.0E-04	1.1E-02	1	1.1E-06	NA	NA
58	gamma-Chlordane	2.9E-05	2.7E-02	1	7.8E-07	6.0E-05	1E-02	2.9E-05	1.1E-02	1	3.2E-07	1.3E+00	4E-07
59	Heptachlor	6.5E-05	2.7E-02	1	1.7E-06	5.0E-04	3E-03	6.5E-05	1.1E-02	1	7.1E-07	4.5E+00	3E-06
60	Antimony, Total	5.2E+00	2.7E-02	1	1.4E-01	4.0E-04	4E+02	5.2E+00	1.1E-02	1	5.7E-02	NA	NA
61	Arsenic, Total	1.7E-02	2.7E-02	1	4.5E-04	3.0E-04	1E+00	1.7E-02	1.1E-02	1	1.8E-04	1.8E+00	3E-04
62	Barium, Total	8.0E-02	2.7E-02	1	2.1E-03	7.0E-02	3E-02	8.0E-02	1.1E-02	1	8.8E-04	NA	NA
63	Beryllium, Total	2.6E+00	2.7E-02	1	7.0E-02	5.0E-03	1E+01	2.6E+00	1.1E-02	1	2.8E-02	4.3E+00	1E-01
64	Cadmium, Total (food)	0.0E+00	2.7E-02	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
65	Cadmium, Total (water)	1.1E+00	2.7E-02	1	3.0E-02	5.0E-04	6E+01	1.1E+00	1.1E-02	1	1.2E-02	NA	NA
66	Chromium, Total	2.9E+00	2.7E-02	1	7.8E-02	5.0E-03	2E+01	2.9E+00	1.1E-02	1	3.2E-02	NA	NA
67	Mercury, Total	6.0E-04	2.7E-02	1	1.6E-05	3.0E-04	5E-02	6.0E-04	1.1E-02	1	6.6E-06	NA	NA
68	Nickel, Total	3.5E-02	2.7E-02	1	9.4E-04	2.0E-02	5E-02	3.5E-02	1.1E-02	1	3.8E-04	NA	NA
69	Silver, Total	5.2E-03	2.7E-02	1	1.4E-04	5.0E-03	3E-02	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
70	Thallium, Total	0.0E+00	2.7E-02	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
71	Vanadium, Total	2.5E+00	2.7E-02	1	6.6E-02	7.0E-03	9E+00	2.5E+00	1.1E-02	1	2.7E-02	NA	NA
72	Cyanide, Total	9.8E-02	2.7E-02	1	2.7E-03	2.0E-02	1E-01	9.8E-02	1.1E-02	1	1.1E-03	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	2.7E-02	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA

RANGE NAME: WS3

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP1
LAST UPDATED: 07/23/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (L)

EXPOSURE POINT: LANDFILL (A)
MEDIUM: GROUNDWATER
ROUTE: DERMAL

HIFs = 0.0E+00
HIFc = 2.3E-02
HIFl = 1.0E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	P	DIs	RfDS	HQs	Cc	HIFc	P	DIc	RfDC	HQc	Cl	HIFl	P	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	2.2E-01	2.3E-02	1.7E-02	8.6E-05	9.0E-02	1.0E-0	2.2E-01	1.0E-02	1.7E-02	3.8E-05	NA	NA
2	1,1-Dichloroethane							1.0E-01	2.3E-02	8.9E-03	2.1E-05	1.0E-01	2E-04	1.0E-01	1.0E-02	8.9E-03	9.2E-06	NA	NA
3	1,1-Dichloroethene							2.3E-02	2.3E-02	1.6E-02	8.6E-06	9.0E-03	1.0E-0	2.3E-02	1.0E-02	1.6E-02	3.8E-06	6.0E-01	2E-06
4	1,2-Dichloroethene(total)							1.8E-01	2.3E-02	1.0E-02	4.2E-05	1.0E-02	4E-03	1.8E-01	1.0E-02	1.0E-02	1.8E-05	NA	NA
5	2-Butanone							1.8E-01	2.3E-02	1.1E-03	4.6E-06	5.0E-02	9E-05	1.8E-01	1.0E-02	1.1E-03	2.0E-06	NA	NA
6	4-Methyl-2-pentanone							5.0E-02	2.3E-02	2.8E-03	3.2E-06	5.0E-02	6E-05	5.0E-02	1.0E-02	2.8E-03	1.4E-06	NA	NA
7	Acetone							5.6E-01	2.3E-02	5.7E-04	7.4E-06	1.0E-01	7E-05	5.6E-01	1.0E-02	5.7E-04	3.2E-06	NA	NA
8	Benzene							4.7E-02	2.3E-02	2.1E-02	2.3E-05	NA	NA	4.7E-02	1.0E-02	2.1E-02	9.8E-06	2.9E-02	3E-07
9	Bromodichloromethane							2.3E-02	2.3E-02	5.8E-03	3.1E-06	2.0E-02	2E-04	2.3E-02	1.0E-02	5.8E-03	1.4E-06	1.3E-01	2E-07
10	Carbon Disulfide							5.7E-02	2.3E-02	2.4E-02	3.1E-05	1.0E-01	3E-04	5.7E-02	1.0E-02	2.4E-02	1.4E-05	NA	NA
11	Chlorobenzene							1.7E-03	2.3E-02	4.1E-02	1.6E-06	2.0E-02	8E-05	1.7E-03	1.0E-02	4.1E-02	7.0E-07	NA	NA
12	Chloroform							3.4E-02	2.3E-02	8.9E-03	7.0E-06	1.0E-02	7E-04	3.4E-02	1.0E-02	8.9E-03	3.1E-06	6.1E-03	2E-08
13	Ethyl Benzene							2.9E-01	2.3E-02	7.4E-02	4.9E-04	1.0E-01	5E-03	2.9E-01	1.0E-02	7.4E-02	2.1E-04	NA	NA
14	Methylene Chloride							2.3E-01	2.3E-02	4.5E-03	2.4E-05	6.0E-02	4E-04	2.3E-01	1.0E-02	4.5E-03	1.1E-05	7.5E-03	8E-08
15	Styrene							3.0E-03	2.3E-02	5.5E-02	3.8E-06	2.0E-01	2E-05	3.0E-03	1.0E-02	5.5E-02	1.7E-06	3.0E-02	5E-08
16	Tetrachloroethene							2.3E-02	2.3E-02	4.8E-02	2.5E-05	1.0E-02	2E-03	2.3E-02	1.0E-02	4.8E-02	1.1E-05	5.1E-02	6E-07
17	Toluene							4.7E-01	2.3E-02	4.5E-02	4.9E-04	2.0E-01	2E-03	4.7E-01	1.0E-02	4.5E-02	2.1E-04	NA	NA
18	Trichloroethene							2.4E-01	2.3E-02	1.6E-02	9.0E-05	NA	NA	2.4E-01	1.0E-02	1.6E-02	3.9E-05	1.1E-02	4E-07
19	Vinyl Chloride							2.8E-02	2.3E-02	7.0E-03	4.5E-06	NA	NA	2.8E-02	1.0E-02	7.0E-03	1.9E-06	1.9E+00	4E-06
20	Xylenes (Total)							1.8E-01	2.3E-02	8.0E-02	3.2E-04	2.0E+00	2E-04	1.8E-01	1.0E-02	8.0E-02	1.4E-04	NA	NA
21	1,4-Dichlorobenzene							8.1E-03	2.3E-02	6.2E-02	1.2E-05	NA	NA	8.1E-03	1.0E-02	6.2E-02	5.0E-06	2.4E-02	1E-07
22	2,4-Dimethylphenol							3.9E-02	2.3E-02	1.5E-02	1.4E-05	2.0E-02	7E-04	3.9E-02	1.0E-02	1.5E-02	5.9E-06	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
24	2-Methylphenol							1.9E-01	2.3E-02	1.0E-02	4.3E-05	5.0E-02	9E-04	1.9E-01	1.0E-02	1.0E-02	1.9E-05	NA	NA
25	Acenaphthene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
26	Acenaphthylene							1.0E-03	2.3E-02	NA	NA	NA	NA	1.0E-03	1.0E-02	NA	NA	NA	NA
27	Anthracene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
28	Benzo(a)anthracene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
29	Benzo(a)pyrene							4.0E-03	2.3E-02	NA	NA	NA	NA	4.0E-03	1.0E-02	NA	NA	NA	NA
30	Benzo(b)fluoranthene							5.6E-03	2.3E-02	NA	NA	NA	NA	5.6E-03	1.0E-02	NA	NA	NA	NA
31	Benzo(g,h,i)perylene							2.0E-03	2.3E-02	NA	NA	NA	NA	2.0E-03	1.0E-02	NA	NA	NA	NA
32	Benzo(k)fluoranthene							2.0E-03	2.3E-02	NA	NA	NA	NA	2.0E-03	1.0E-02	NA	NA	NA	NA
33	Benzoic acid							2.5E-02	2.3E-02	7.3E-03	4.2E-06	4.0E+00	1E-06	2.5E-02	1.0E-02	7.3E-03	1.8E-06	NA	NA
34	Benzyl alcohol							5.0E-03	2.3E-02	2.5E-03	2.9E-07	3.0E-01	1.0E-0	5.0E-03	1.0E-02	2.5E-03	1.3E-07	NA	NA
35	bis(2-Ethylhexyl)phthalate							2.1E-02	2.3E-02	3.3E-02	1.6E-05	2.0E-02	8E-04	2.1E-02	1.0E-02	3.3E-02	7.0E-06	1.4E-02	1.0E-0
36	Butylbenzylphthalate							8.1E-03	2.3E-02	2.4E-02	4.5E-06	2.0E-01	2E-05	8.1E-03	1.0E-02	2.4E-02	2.0E-06	NA	NA
37	Chrysene							4.0E-03	2.3E-02	NA	NA	NA	NA	4.0E-03	1.0E-02	NA	NA	NA	NA
38	Di-n-butylphthalate							8.1E-03	2.3E-02	4.9E-02	9.2E-06	1.0E-01	9E-05	8.1E-03	1.0E-02	4.9E-02	4.0E-06	NA	NA
39	Di-n-octylphthalate							8.1E-03	2.3E-02	7.2E-03	1.3E-06	2.0E-02	7E-05	8.1E-03	1.0E-02	7.2E-03	5.9E-07	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
41	Diethylphthalate	2.8E-02	2.3E-02	4.8E-03	3.1E-06	8.0E-01	4E-06	2.8E-02	1.0E-02	4.8E-03	1.3E-06	NA	NA
42	Dimethylphthalate	8.1E-03	2.3E-02	1.6E-03	3.0E-07	1.0E+00	3E-07	8.1E-03	1.0E-02	1.6E-03	1.3E-07	NA	NA
43	Fluoranthene	5.6E-03	2.3E-02	NA	NA	NA	NA	5.6E-03	1.0E-02	NA	NA	NA	NA
44	Fluorene	0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
45	Indeno(1,2,3-cd)pyrene	2.0E-03	2.3E-02	NA	NA	NA	NA	2.0E-03	1.0E-02	NA	NA	NA	NA
46	Naphthalene	3.0E-03	2.3E-02	NA	NA	NA	NA	3.0E-03	1.0E-02	NA	NA	NA	NA
47	Phenanthrene	5.6E-03	2.3E-02	NA	NA	NA	NA	5.6E-03	1.0E-02	NA	NA	NA	NA
48	Phenol	2.7E+00	2.3E-02	5.5E-03	3.4E-04	6.0E-01	6E-04	2.7E+00	1.0E-02	5.5E-03	1.5E-04	NA	NA
49	Pyrene	5.6E-03	2.3E-02	NA	NA	NA	NA	5.6E-03	1.0E-02	NA	NA	NA	NA
50	4,4-DDE	3.4E-04	2.3E-02	2.4E-01	1.9E-06	NA	NA	3.4E-04	1.0E-02	2.4E-01	8.2E-07	3.4E-01	3E-07
51	4,4-DDT	2.8E-04	2.3E-02	4.3E-01	2.8E-06	5.0E-04	6E-03	2.8E-04	1.0E-02	4.3E-01	1.2E-06	3.4E-01	4E-07
52	Aldrin	8.9E-05	2.3E-02	1.6E-03	3.3E-09	3.0E-05	1E-04	8.9E-05	1.0E-02	1.6E-03	1.4E-09	1.7E+01	2E-08
53	alpha-Chlordane	2.2E-04	2.3E-02	8.9E+00	4.5E-05	6.0E-05	8E-01	2.2E-04	1.0E-02	8.9E+00	2.0E-05	1.3E+00	3E-05
54	Aroclor-1248	0.0E+00	2.3E-02	6.6E-01	0.0E+00	NA	NA	0.0E+00	1.0E-02	6.6E-01	0.0E+00	7.7E+00	0E+00
55	beta-BHC	6.3E-05	2.3E-02	2.1E-02	3.0E-08	NA	NA	6.3E-05	1.0E-02	2.1E-02	1.3E-08	1.8E+00	2E-08
56	Dieldrin	7.3E-05	2.3E-02	1.6E-02	2.7E-08	5.0E-05	5E-04	7.3E-05	1.0E-02	1.6E-02	1.2E-08	1.6E+01	2E-07
57	Endosulfan II	1.0E-04	2.3E-02	2.3E-03	5.3E-09	5.0E-05	1E-04	1.0E-04	1.0E-02	2.3E-03	2.3E-09	NA	NA
58	gamma-Chlordane	2.9E-05	2.3E-02	9.8E-02	6.5E-08	6.0E-05	1E-03	2.9E-05	1.0E-02	9.8E-02	2.8E-08	1.3E+00	4E-08
59	Heptachlor	6.5E-05	2.3E-02	1.1E-02	1.6E-08	5.0E-04	3E-05	6.5E-05	1.0E-02	1.1E-02	7.1E-09	4.5E+00	3E-08
60	Antimony, Total	5.2E+00	2.3E-02	1.0E-03	1.2E-04	2.0E-05	6E+00	5.2E+00	1.0E-02	1.0E-03	5.2E-05	NA	NA
61	Arsenic, Total	1.7E-02	2.3E-02	1.0E-03	3.8E-07	3.0E-04	1E-03	1.7E-02	1.0E-02	1.0E-03	1.7E-07	1.8E+00	3E-07
62	Barium, Total	8.0E-02	2.3E-02	1.0E-03	1.8E-06	7.0E-03	3E-04	8.0E-02	1.0E-02	1.0E-03	8.0E-07	NA	NA
63	Beryllium, Total	2.6E+00	2.3E-02	1.0E-03	5.9E-05	5.0E-06	1E+01	2.6E+00	1.0E-02	1.0E-03	2.6E-05	4.3E+03	1E-01
64	Cadmium, Total (food)	0.0E+00	2.3E-02	1.0E-03	0.0E+00	6.0E-05	0E+00	0.0E+00	1.0E-02	1.0E-03	0.0E+00	NA	NA
65	Cadmium, Total (water)	1.1E+00	2.3E-02	1.0E-03	2.6E-05	6.0E-05	4E-01	1.1E+00	1.0E-02	1.0E-03	1.1E-05	NA	NA
66	Chromium, Total	2.9E+00	2.3E-02	1.0E-03	6.7E-05	2.5E-04	3E-01	2.9E+00	1.0E-02	1.0E-03	2.9E-05	NA	NA
67	Mercury, Total	6.0E-04	2.3E-02	1.0E-03	1.4E-08	4.5E-05	3E-04	6.0E-04	1.0E-02	1.0E-03	6.0E-09	NA	NA
68	Nickel, Total	3.5E-02	2.3E-02	1.0E-03	8.0E-07	1.0E-03	8E-04	3.5E-02	1.0E-02	1.0E-03	3.5E-07	NA	NA
69	Silver, Total	5.2E-03	2.3E-02	1.0E-03	1.2E-07	2.5E-04	5E-04	5.2E-03	1.0E-02	1.0E-03	5.2E-08	NA	NA
70	Thallium, Total	0.0E+00	2.3E-02	1.0E-03	0.0E+00	3.5E-06	0E+00	0.0E+00	1.0E-02	1.0E-03	0.0E+00	NA	NA
71	Vanadium, Total	2.5E+00	2.3E-02	1.0E-03	5.6E-05	1.4E-04	4E-01	2.5E+00	1.0E-02	1.0E-03	2.5E-05	NA	NA
72	Cyanide, Total	9.8E-02	2.3E-02	1.0E-03	2.3E-06	2.0E-02	1E-04	9.8E-02	1.0E-02	1.0E-03	9.8E-07	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	2.3E-02	1.0E-03	0.0E+00	1.0E-01	0E+00	0.0E+00	1.0E-02	1.0E-03	0.0E+00	NA	NA

RANGE NAME: W64

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP1
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (L)

EXPOSURE POINT: LANDFILL (A)
MEDIUM: GWATER (INH)
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 5.4E-02
HIFl = 2.2E-02

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	2.2E-01	5.4E-02	1	1.2E-02	3.0E-01	4E-02	2.2E-01	2.2E-02	1	4.9E-03	NA	NA
2	1,1-Dichloroethane							1.0E-01	5.4E-02	1	5.6E-03	1.0E-01	6E-02	1.0E-01	2.2E-02	1	2.3E-03	NA	NA
3	1,1-Dichloroethene							2.3E-02	5.4E-02	1	1.3E-03	NA	NA	2.3E-02	2.2E-02	1	5.2E-04	1.8E-01	9E-05
4	1,2-Dichloroethene(total)							1.8E-01	5.4E-02	1	9.8E-03	NA	NA	1.8E-01	2.2E-02	1	4.0E-03	NA	NA
5	2-Butanone							1.8E-01	5.4E-02	1	9.7E-03	9.0E-02	1E-01	1.8E-01	2.2E-02	1	4.0E-03	NA	NA
6	4-Methyl-2-pentanone							5.0E-02	5.4E-02	1	2.7E-03	2.0E-02	1E-01	5.0E-02	2.2E-02	1	1.1E-03	NA	NA
7	Acetone							5.6E-01	5.4E-02	1	3.0E-02	NA	NA	5.6E-01	2.2E-02	1	1.2E-02	NA	NA
8	Benzene							4.7E-02	5.4E-02	1	2.5E-03	NA	NA	4.7E-02	2.2E-02	1	1.0E-03	2.9E-02	3E-05
9	Bromodichloromethane							2.3E-02	5.4E-02	1	1.3E-03	NA	NA	2.3E-02	2.2E-02	1	5.2E-04	NA	NA
10	Carbon Disulfide							5.7E-02	5.4E-02	1	3.1E-03	2.9E-03	1E+00	5.7E-02	2.2E-02	1	1.3E-03	NA	NA
11	Chlorobenzene							1.7E-03	5.4E-02	1	9.2E-05	5.0E-03	2E-02	1.7E-03	2.2E-02	1	3.7E-05	NA	NA
12	Chloroform							3.4E-02	5.4E-02	1	1.9E-03	NA	NA	3.4E-02	2.2E-02	1	7.6E-04	8.1E-02	6E-05
13	Ethyl Benzene							2.9E-01	5.4E-02	1	1.6E-02	2.9E-01	5E-02	2.9E-01	2.2E-02	1	6.4E-03	NA	NA
14	Methylene Chloride							2.3E-01	5.4E-02	1	1.3E-02	8.6E-01	1E-02	2.3E-01	2.2E-02	1	5.1E-03	1.6E-03	8E-06
15	Styrene							3.0E-03	5.4E-02	1	1.6E-04	NA	NA	3.0E-03	2.2E-02	1	6.6E-05	2.0E-03	1E-07
16	Tetrachloroethene							2.3E-02	5.4E-02	1	1.2E-03	NA	NA	2.3E-02	2.2E-02	1	5.0E-04	1.8E-03	9E-07
17	Toluene							4.7E-01	5.4E-02	1	2.5E-02	5.7E-01	4E-02	4.7E-01	2.2E-02	1	1.0E-02	NA	NA
18	Trichloroethene							2.4E-01	5.4E-02	1	1.3E-02	NA	NA	2.4E-01	2.2E-02	1	5.4E-03	6.0E-03	3E-05
19	Vinyl Chloride							2.8E-02	5.4E-02	1	1.5E-03	NA	NA	2.8E-02	2.2E-02	1	6.1E-04	2.9E-01	2E-04
20	Xylenes (Total)							1.8E-01	5.4E-02	1	9.5E-03	8.6E-02	1E-01	1.8E-01	2.2E-02	1	3.9E-03	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	5.4E-02	1	0.0E+00	2.0E-01	0E+00	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
22	2,4-Dimethylphenol							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluoranthene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)perylene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
32	Benzo(k)fluoranthene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
36	Butylbenzylphthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
37	Chrysene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	5.4E-02	1	0.0E+00	1.0E-04	0E+00	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
63	Beryllium, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total (food)	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total (water)	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	0.0E+00	5.4E-02	1	0.0E+00	5.7E-07	0E+00	0.0E+00	2.2E-02	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	5.4E-02	1	0.0E+00	8.6E-05	0E+00	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
71	Vanadium, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA

RANGE NAME: WS5

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP1
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (L)

EXPOSURE POINT: LANDFILL (A)
MEDIUM: AIR-PART
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 2.7E-01
HIFl = 1.2E-01

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	0.0E+00	2.7E-01	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	2.7E-01	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.8E-01	0E+00
4	1,2-Dichloroethene(total)							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
5	2-Butanone							0.0E+00	2.7E-01	1	0.0E+00	9.0E-02	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	2.7E-01	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
7	Acetone							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
8	Benzene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
10	Carbon Disulfide							0.0E+00	2.7E-01	1	0.0E+00	2.9E-03	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
11	Chlorobenzene							0.0E+00	2.7E-01	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							0.0E+00	2.7E-01	1	0.0E+00	2.9E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
14	Methylene Chloride							0.0E+00	2.7E-01	1	0.0E+00	8.6E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	1.6E-03	0E+00
15	Styrene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.8E-03	0E+00
17	Toluene							0.0E+00	2.7E-01	1	0.0E+00	5.7E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
18	Trichloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							0.0E+00	2.7E-01	1	0.0E+00	8.6E-02	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
21	1,4-Dichlorobenzene							1.3E-09	2.7E-01	1	3.5E-10	2.0E-01	2E-09	1.3E-09	1.2E-01	1	1.5E-10	NA	NA
22	2,4-Dimethylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							1.7E-09	2.7E-01	1	4.6E-10	NA	NA	1.7E-09	1.2E-01	1	2.0E-10	6.1E+00	1E-09
29	Benzo(a)pyrene							2.6E-09	2.7E-01	1	7.1E-10	NA	NA	2.6E-09	1.2E-01	1	3.1E-10	6.1E+00	2E-09
30	Benzo(b)fluoranthene							2.8E-09	2.7E-01	1	7.6E-10	NA	NA	2.8E-09	1.2E-01	1	3.4E-10	6.1E+00	2E-09
31	Benzo(g,h,i)perylene							2.8E-09	2.7E-01	1	7.6E-10	NA	NA	2.8E-09	1.2E-01	1	3.4E-10	NA	NA
32	Benzo(k)fluoranthene							2.2E-09	2.7E-01	1	5.9E-10	NA	NA	2.2E-09	1.2E-01	1	2.6E-10	6.1E+00	2E-09
33	Benzoic acid							4.6E-10	2.7E-01	1	1.2E-10	NA	NA	4.6E-10	1.2E-01	1	5.5E-11	NA	NA
34	Benzyl alcohol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							9.0E-09	2.7E-01	1	2.4E-09	NA	NA	9.0E-09	1.2E-01	1	1.1E-09	NA	NA
36	Butylbenzylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
37	Chrysene							2.2E-09	2.7E-01	1	5.9E-10	NA	NA	2.2E-09	1.2E-01	1	2.6E-10	6.1E+00	2E-09
38	Di-n-butylphthalate							2.6E-09	2.7E-01	1	7.0E-10	NA	NA	2.6E-09	1.2E-01	1	3.1E-10	NA	NA
39	Di-n-octylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
43	Fluoranthene	2.0E-09	2.7E-01	1	5.4E-10	NA	NA	2.0E-09	1.2E-01	1	2.4E-10	NA	NA
44	Fluorene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	2.8E-09	2.7E-01	1	7.7E-10	NA	NA	2.8E-09	1.2E-01	1	3.4E-10	6.1E+00	2E-09
46	Naphthalene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
47	Phenanthrene	1.2E-09	2.7E-01	1	3.1E-10	NA	NA	1.2E-09	1.2E-01	1	1.4E-10	NA	NA
48	Phenol	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
49	Pyrene	1.9E-09	2.7E-01	1	5.1E-10	NA	NA	1.9E-09	1.2E-01	1	2.3E-10	NA	NA
50	4,4-DDE	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	1.3E-07	2.7E-01	1	3.6E-08	NA	NA	1.3E-07	1.2E-01	1	1.6E-08	NA	NA
61	Arsenic, Total	6.6E-09	2.7E-01	1	1.8E-09	NA	NA	6.6E-09	1.2E-01	1	7.9E-10	1.5E+01	1E-08
62	Barium, Total	7.0E-08	2.7E-01	1	1.9E-08	1.0E-04	2E-04	7.0E-08	1.2E-01	1	8.4E-09	NA	NA
63	Beryllium, Total	3.5E-09	2.7E-01	1	9.3E-10	NA	NA	3.5E-09	1.2E-01	1	4.1E-10	8.4E+00	3E-09
64	Cadmium, Total (food)	3.9E-09	2.7E-01	1	1.0E-09	NA	NA	3.9E-09	1.2E-01	1	4.7E-10	6.3E+00	3E-09
65	Cadmium, Total (water)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	2.9E-08	2.7E-01	1	7.8E-09	5.7E-07	1E-02	2.9E-08	1.2E-01	1	3.5E-09	4.2E+01	1E-07
67	Mercury, Total	0.0E+00	2.7E-01	1	0.0E+00	8.6E-05	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
68	Nickel, Total	2.8E-08	2.7E-01	1	7.5E-09	NA	NA	2.8E-08	1.2E-01	1	3.3E-09	NA	NA
69	Silver, Total	6.6E-09	2.7E-01	1	1.8E-09	NA	NA	6.6E-09	1.2E-01	1	7.9E-10	NA	NA
70	Thallium, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
71	Vanadium, Total	3.5E-08	2.7E-01	1	9.6E-09	NA	NA	3.5E-08	1.2E-01	1	4.3E-09	NA	NA
72	Cyanide, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA

RANGE NAME: WS6

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP1
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (L)

EXPOSURE POINT: LANDFILL (A)
MEDIUM: AIR-VOC'S
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 2.7E-01
HIFl = 1.2E-01

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	2.7E-01	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	2.7E-01	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							3.4E-05	2.7E-01	1	9.2E-06	NA	NA	3.4E-05	1.2E-01	1	4.1E-06	1.8E-01	7E-07
4	1,2-Dichloroethene(total)							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
5	2-Butanone							3.9E-06	2.7E-01	1	1.1E-06	9.0E-02	1E-05	3.9E-06	1.2E-01	1	4.7E-07	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	2.7E-01	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
7	Acetone							4.2E-05	2.7E-01	1	1.1E-05	NA	NA	4.2E-05	1.2E-01	1	5.0E-06	NA	NA
8	Benzene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
10	Carbon Disulfide							1.3E-05	2.7E-01	1	3.5E-06	2.9E-03	1E-03	1.3E-05	1.2E-01	1	1.6E-06	NA	NA
11	Chlorobenzene							0.0E+00	2.7E-01	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							1.3E-06	2.7E-01	1	3.5E-07	2.9E-01	1E-06	1.3E-06	1.2E-01	1	1.6E-07	NA	NA
14	Methylene Chloride							2.7E-05	2.7E-01	1	7.3E-06	8.6E-01	8E-06	2.7E-05	1.2E-01	1	3.2E-06	1.6E-03	5E-09
15	Styrene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.8E-03	0E+00
17	Toluene							5.6E-06	2.7E-01	1	1.5E-06	5.7E-01	3E-06	5.6E-06	1.2E-01	1	6.7E-07	NA	NA
18	Trichloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							6.4E-06	2.7E-01	1	1.7E-06	8.6E-02	2E-05	6.4E-06	1.2E-01	1	7.7E-07	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	2.7E-01	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
22	2,4-Dimethylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluoranthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)perylene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
32	Benzo(k)fluoranthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
36	Butylbenzylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
37	Chrysene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.7E-01	1	0.0E+00		NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	2.7E-01	1	0.0E+00	1.0E-04	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
63	Beryllium, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total (food)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total (water)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	0.0E+00	2.7E-01	1	0.0E+00	5.7E-07	0E+00	0.0E+00	1.2E-01	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	2.7E-01	1	0.0E+00	8.6E-05	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
71	Vanadium, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA

RANGE NAME: CSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP1
LAST UPDATED: 07/23/92

CHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT ADULT (L)

CHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 LANDFILL (A SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL (A GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 LANDFILL (A GROUNDWATER DERMAL (FROM WS3)	SCENARIO 4 LANDFILL (A GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 LANDFILL (A AIR-PART INHALATION (FROM WS5)	SCENARIO 6 LANDFILL (A) AIR-VOC'S INHALATION (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	6.0E-03	8.6E-05	1.2E-02	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	2.8E-03	2.1E-05	5.6E-03	0.0E+00	0.0E+00
3	1,1-Dichloroet	1.5E-08	6.3E-04	8.6E-06	1.3E-03	0.0E+00	9.2E-06
4	1,2-Dichloroet	0.0E+00	4.9E-03	4.2E-05	9.8E-03	0.0E+00	0.0E+00
5	2-Butanone	1.5E-08	4.9E-03	4.6E-06	9.7E-03	0.0E+00	1.1E-06
6	4-Methyl-2-pen	0.0E+00	1.3E-03	3.2E-06	2.7E-03	0.0E+00	0.0E+00
7	Acetone	1.1E-07	1.5E-02	7.4E-06	3.0E-02	0.0E+00	1.1E-05
8	Benzene	0.0E+00	1.3E-03	2.3E-05	2.5E-03	0.0E+00	0.0E+00
9	Bromodichlorom	0.0E+00	6.3E-04	3.1E-06	1.3E-03	0.0E+00	0.0E+00
10	Carbon Disulfi	7.0E-09	1.5E-03	3.1E-05	3.1E-03	0.0E+00	3.5E-06
11	Chlorobenzene	0.0E+00	4.6E-05	1.6E-06	9.2E-05	0.0E+00	0.0E+00
12	Chloroform	0.0E+00	9.3E-04	7.0E-06	1.9E-03	0.0E+00	0.0E+00
13	Ethyl Benzene	7.4E-09	7.8E-03	4.9E-04	1.6E-02	0.0E+00	3.5E-07
14	Methylene Chlo	1.5E-08	6.3E-03	2.4E-05	1.3E-02	0.0E+00	7.3E-06
15	Styrene	0.0E+00	8.1E-05	3.8E-06	1.6E-04	0.0E+00	0.0E+00
16	Tetrachloroeth	0.0E+00	6.1E-04	2.5E-05	1.2E-03	0.0E+00	0.0E+00
17	Toluene	1.5E-08	1.3E-02	4.9E-04	2.5E-02	0.0E+00	1.5E-06
18	Trichloroethen	0.0E+00	6.6E-03	9.0E-05	1.3E-02	0.0E+00	0.0E+00
19	Vinyl Chloride	0.0E+00	7.5E-04	4.5E-06	1.5E-03	0.0E+00	0.0E+00
20	Xylenes (Total	1.5E-08	4.8E-03	3.2E-04	9.5E-03	0.0E+00	1.7E-06
21	1,4-Dichlorobe	7.8E-07	2.2E-04	1.2E-05	0.0E+00	3.5E-10	0.0E+00
22	2,4-Dimethylph	0.0E+00	1.1E-03	1.4E-05	0.0E+00	0.0E+00	0.0E+00
23	2-Methylnaphth	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
24	2-Methylphenol	0.0E+00	5.1E-03	4.3E-05	0.0E+00	0.0E+00	0.0E+00
25	Acenaphthene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
26	Acenaphthylene	0.0E+00	2.7E-05	NA	0.0E+00	0.0E+00	0.0E+00
27	Anthracene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
28	Benzo(a)anthra	1.0E-06	0.0E+00	NA	0.0E+00	4.6E-10	0.0E+00
29	Benzo(a)pyrene	1.6E-06	1.1E-04	NA	0.0E+00	7.1E-10	0.0E+00
30	Benzo(b)fluora	1.7E-06	1.5E-04	NA	0.0E+00	7.6E-10	0.0E+00
31	Benzo(g,h,i)pe	1.7E-06	5.4E-05	NA	0.0E+00	7.6E-10	0.0E+00
32	Benzo(k)fluora	1.3E-06	5.4E-05	NA	0.0E+00	5.9E-10	0.0E+00
33	Benzoic acid	2.8E-07	6.8E-04	4.2E-06	0.0E+00	1.2E-10	0.0E+00
34	Benzyl alcohol	0.0E+00	1.4E-04	2.9E-07	0.0E+00	0.0E+00	0.0E+00
35	bis(2-Ethylhex	5.5E-06	5.7E-04	1.6E-05	0.0E+00	2.4E-09	0.0E+00
36	Butylbenzylpht	0.0E+00	2.2E-04	4.5E-06	0.0E+00	0.0E+00	0.0E+00
37	Chrysene	1.3E-06	1.1E-04	NA	0.0E+00	5.9E-10	0.0E+00
38	Di-n-butylphth	1.6E-06	2.2E-04	9.2E-06	0.0E+00	7.0E-10	0.0E+00
39	Di-n-octylphth	0.0E+00	2.2E-04	1.3E-06	0.0E+00	0.0E+00	0.0E+00
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
41	Diethylphthala	0.0E+00	7.5E-04	3.1E-06	0.0E+00	0.0E+00	0.0E+00
42	Dimethylphthal	0.0E+00	2.2E-04	3.0E-07	0.0E+00	0.0E+00	0.0E+00

CHRONIC RISK SUMMARY

FUTURE
RESIDENT ADULT (L)

CHRONIC HAZARD QUOTIENT

	CHEMICAL NAME	SCENARIO 1 LANDFILL (A SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL (A GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 LANDFILL (A GROUNDWATER DERMAL (FROM WS3)	SCENARIO 4 LANDFILL (A GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 LANDFILL (A AIR-PART INHALATION (FROM WS5)	SCENARIO 6 LANDFILL (A) AIR-VOC'S INHALATION (FROM WS6)
1	1,1,1-Trichlor	0E+00	7E-02	1E-03	4E-02	0E+00	0E+00
2	1,1-Dichloroet	0E+00	3E-02	2E-04	6E-02	0E+00	0E+00
3	1,1-Dichloroet	2E-06	7E-02	1E-03	NA	NA	NA
4	1,2-Dichloroet	0E+00	5E-01	4E-03	NA	NA	NA
5	2-Butanone	3E-07	1E-01	9E-05	1E-01	0E+00	1E-05
6	4-Methyl-2-pen	0E+00	3E-02	6E-05	1E-01	0E+00	0E+00
7	Acetone	1E-06	2E-01	7E-05	NA	NA	NA
8	Benzene	NA	NA	NA	NA	NA	NA
9	Bromodichlorom	0E+00	3E-02	2E-04	NA	NA	NA
10	Carbon Disulfi	7E-08	2E-02	3E-04	1E+00	0E+00	1E-03
11	Chlorobenzene	0E+00	2E-03	8E-05	2E-02	0E+00	0E+00
12	Chloroform	0E+00	9E-02	7E-04	NA	NA	NA
13	Ethyl Benzene	7E-08	8E-02	5E-03	5E-02	0E+00	1E-06
14	Methylene Chlo	2E-07	1E-01	4E-04	1E-02	0E+00	8E-06
15	Styrene	0E+00	4E-04	2E-05	NA	NA	NA
16	Tetrachloroeth	0E+00	6E-02	2E-03	NA	NA	NA
17	Toluene	7E-08	6E-02	2E-03	4E-02	0E+00	3E-06
18	Trichloroethen	NA	NA	NA	NA	NA	NA
19	Vinyl Chloride	NA	NA	NA	NA	NA	NA
20	Xylenes (Total	7E-09	2E-03	2E-04	1E-01	0E+00	2E-05
21	1,4-Dichlorobe	NA	NA	NA	0E+00	2E-09	0E+00
22	2,4-Dimethylph	0E+00	5E-02	7E-04	NA	NA	NA
23	2-Methylnaphth	0E+00	0E+00	NA	NA	NA	NA
24	2-Methylphenol	0E+00	1E-01	9E-04	NA	NA	NA
25	Acenaphthene	0E+00	0E+00	NA	NA	NA	NA
26	Acenaphthylene	0E+00	5E-04	NA	NA	NA	NA
27	Anthracene	0E+00	0E+00	NA	NA	NA	NA
28	Benzo(a)anthra	3E-05	0E+00	NA	NA	NA	NA
29	Benzo(a)pyrene	5E-05	4E-03	NA	NA	NA	NA
30	Benzo(b)fluora	6E-05	5E-03	NA	NA	NA	NA
31	Benzo(g,h,i)pe	6E-05	2E-03	NA	NA	NA	NA
32	Benzo(k)fluora	4E-05	2E-03	NA	NA	NA	NA
33	Benzoic acid	7E-08	2E-04	1E-06	NA	NA	NA
34	Benzyl alcohol	0E+00	5E-04	1E-06	NA	NA	NA
35	bis(2-Ethylhex	3E-04	3E-02	8E-04	NA	NA	NA
36	Butylbenzylpht	0E+00	1E-03	2E-05	NA	NA	NA
37	Chrysene	4E-05	4E-03	NA	NA	NA	NA
38	Di-n-butylphth	2E-05	2E-03	9E-05	NA	NA	NA
39	Di-n-octylphth	0E+00	1E-02	7E-05	NA	NA	NA
40	Dibenzo(a,h)an	0E+00	0E+00	NA	NA	NA	NA
41	Diethylphthala	0E+00	9E-04	4E-06	NA	NA	NA
42	Dimethylphthal	0E+00	2E-04	3E-07	NA	NA	NA

43 Fluoranthene	1.2E-06	1.5E-04	NA	0.0E+00	5.4E-10	0.0E+00	3E-05	4E-03	NA	NA	NA	NA
44 Fluorene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	NA	NA	NA	NA
45 Indeno(1,2,3-c	1.7E-06	5.4E-05	NA	0.0E+00	7.7E-10	0.0E+00	6E-05	2E-03	NA	NA	NA	NA
46 Naphthalene	0.0E+00	8.1E-05	NA	0.0E+00	0.0E+00	0.0E+00	0E+00	2E-02	NA	NA	NA	NA
47 Phenanthrene	7.0E-07	1.5E-04	NA	0.0E+00	3.1E-10	0.0E+00	2E-05	5E-03	NA	NA	NA	NA
48 Phenol	0.0E+00	7.2E-02	3.4E-04	0.0E+00	0.0E+00	0.0E+00	0E+00	1E-01	6E-04	NA	NA	NA
49 Pyrene	1.1E-06	1.5E-04	NA	0.0E+00	5.1E-10	0.0E+00	4E-05	5E-03	NA	NA	NA	NA
50 4,4-DDE	0.0E+00	9.2E-06	1.9E-06	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
51 4,4-DDT	0.0E+00	7.6E-06	2.8E-06	0.0E+00	0.0E+00	0.0E+00	0E+00	2E-02	6E-03	NA	NA	NA
52 Aldrin	0.0E+00	2.4E-06	3.3E-09	0.0E+00	0.0E+00	0.0E+00	0E+00	8E-02	1E-04	NA	NA	NA
53 alpha-Chlordan	0.0E+00	5.9E-06	4.5E-05	0.0E+00	0.0E+00	0.0E+00	0E+00	1E-01	8E-01	NA	NA	NA
54 Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
55 beta-BHC	0.0E+00	1.7E-06	3.0E-08	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
56 Dieldrin	0.0E+00	2.0E-06	2.7E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	4E-02	5E-04	NA	NA	NA
57 Endosulfan II	0.0E+00	2.7E-06	5.3E-09	0.0E+00	0.0E+00	0.0E+00	0E+00	5E-02	1E-04	NA	NA	NA
58 gamma-Chlordan	0.0E+00	7.8E-07	6.5E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	1E-02	1E-03	NA	NA	NA
59 Heptachlor	0.0E+00	1.7E-06	1.6E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	3E-03	3E-05	NA	NA	NA
60 Antimony, Tota	8.1E-05	1.4E-01	1.2E-04	0.0E+00	3.6E-08	0.0E+00	2E-01	4E+02	6E+00	NA	NA	NA
61 Arsenic, Total	4.0E-06	4.5E-04	3.8E-07	0.0E+00	1.8E-09	0.0E+00	1E-02	1E+00	1E-03	NA	NA	NA
62 Barium, Total	4.3E-05	2.1E-03	1.8E-06	0.0E+00	1.9E-08	0.0E+00	6E-04	3E-02	3E-04	0E+00	2E-04	0E+00
63 Beryllium, Tot	2.1E-06	7.0E-02	5.9E-05	0.0E+00	9.3E-10	0.0E+00	4E-04	1E+01	1E+01	NA	NA	NA
64 Cadmium, Total	2.4E-06	0.0E+00	0.0E+00	0.0E+00	1.0E-09	0.0E+00	2E-03	0E+00	0E+00	NA	NA	NA
65 Cadmium, Total	0.0E+00	3.0E-02	2.6E-05	0.0E+00	0.0E+00	0.0E+00	0E+00	6E+01	4E-01	NA	NA	NA
66 Chromium, Tota	1.8E-05	7.8E-02	6.7E-05	0.0E+00	7.8E-09	0.0E+00	4E-03	2E+01	3E-01	0E+00	1E-02	0E+00
67 Mercury, Total	0.0E+00	1.6E-05	1.4E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	5E-02	3E-04	0E+00	0E+00	0E+00
68 Nickel, Total	1.7E-05	9.4E-04	8.0E-07	0.0E+00	7.5E-09	0.0E+00	8E-04	5E-02	8E-04	NA	NA	NA
69 Silver, Total	4.0E-06	1.4E-04	1.2E-07	0.0E+00	1.8E-09	0.0E+00	8E-04	3E-02	5E-04	NA	NA	NA
70 Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	NA	NA	NA
71 Vanadium, Tota	2.1E-05	6.6E-02	5.6E-05	0.0E+00	9.6E-09	0.0E+00	3E-03	9E+00	4E-01	NA	NA	NA
72 Cyanide, Total	0.0E+00	2.7E-03	2.3E-06	0.0E+00	0.0E+00	0.0E+00	0E+00	1E-01	1E-04	NA	NA	NA
73 Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	NA	NA	NA
						PATHWAY SUM (HI)	2E-01	5E+02	2E+01	2E+00	1E-02	1E-03
						POPULATION TOTAL	5E+02					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP1
LAST UPDATED: 07/23/92

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT ADULT (L)

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 LANDFILL (A SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL (A GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 LANDFILL (A GROUNDWATER DERMAL (FROM WS3)	SCENARIO 4 LANDFILL (A GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 LANDFILL (A AIR-PART INHALATION (FROM WS5)	SCENARIO 6 LANDFILL (A) AIR-VOC'S INHALATION (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	2.4E-03	3.8E-05	4.9E-03	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	1.1E-03	9.2E-06	2.3E-03	0.0E+00	0.0E+00
3	1,1-Dichloroet	6.3E-09	2.6E-04	3.8E-06	5.2E-04	0.0E+00	4.1E-06
4	1,2-Dichloroet	0.0E+00	2.0E-03	1.8E-05	4.0E-03	0.0E+00	0.0E+00
5	2-Butanone	6.4E-09	2.0E-03	2.0E-06	4.0E-03	0.0E+00	4.7E-07
6	4-Methyl-2-pen	0.0E+00	5.4E-04	1.4E-06	1.1E-03	0.0E+00	0.0E+00
7	Acetone	4.8E-08	6.2E-03	3.2E-06	1.2E-02	0.0E+00	5.0E-06
8	Benzene	0.0E+00	5.2E-04	9.8E-06	1.0E-03	0.0E+00	0.0E+00
9	Bromodichlorom	0.0E+00	2.6E-04	1.4E-06	5.2E-04	0.0E+00	0.0E+00
10	Carbon Disulfi	3.0E-09	6.3E-04	1.4E-05	1.3E-03	0.0E+00	1.6E-06
11	Chlorobenzene	0.0E+00	1.9E-05	7.0E-07	3.7E-05	0.0E+00	0.0E+00
12	Chloroform	0.0E+00	3.8E-04	3.1E-06	7.6E-04	0.0E+00	0.0E+00
13	Ethyl Benzene	3.2E-09	3.2E-03	2.1E-04	6.4E-03	0.0E+00	1.6E-07
14	Methylene Chlo	6.4E-09	2.6E-03	1.1E-05	5.1E-03	0.0E+00	3.2E-06
15	Styrene	0.0E+00	3.3E-05	1.7E-06	6.6E-05	0.0E+00	0.0E+00
16	Tetrachloroeth	0.0E+00	2.5E-04	1.1E-05	5.0E-04	0.0E+00	0.0E+00
17	Toluene	6.3E-09	5.2E-03	2.1E-04	1.0E-02	0.0E+00	6.7E-07
18	Trichloroethen	0.0E+00	2.7E-03	3.9E-05	5.4E-03	0.0E+00	0.0E+00
19	Vinyl Chloride	0.0E+00	3.0E-04	1.9E-06	6.1E-04	0.0E+00	0.0E+00
20	Xylenes (Total	6.4E-09	1.9E-03	1.4E-04	3.9E-03	0.0E+00	7.7E-07
21	1,4-Dichlorobe	3.4E-07	8.9E-05	5.0E-06	0.0E+00	1.5E-10	0.0E+00
22	2,4-Dimethylph	0.0E+00	4.3E-04	5.9E-06	0.0E+00	0.0E+00	0.0E+00
23	2-Methylnaphth	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
24	2-Methylphenol	0.0E+00	2.1E-03	1.9E-05	0.0E+00	0.0E+00	0.0E+00
25	Acenaphthene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
26	Acenaphthylene	0.0E+00	1.1E-05	NA	0.0E+00	0.0E+00	0.0E+00
27	Anthracene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
28	Benzo(a)anthra	4.5E-07	0.0E+00	NA	0.0E+00	2.0E-10	0.0E+00
29	Benzo(a)pyrene	6.9E-07	4.4E-05	NA	0.0E+00	3.1E-10	0.0E+00
30	Benzo(b)fluora	7.4E-07	6.2E-05	NA	0.0E+00	3.4E-10	0.0E+00
31	Benzo(g,h,i)pe	7.4E-07	2.2E-05	NA	0.0E+00	3.4E-10	0.0E+00
32	Benzo(k)fluora	5.8E-07	2.2E-05	NA	0.0E+00	2.6E-10	0.0E+00
33	Benzoic acid	1.2E-07	2.8E-04	1.8E-06	0.0E+00	5.5E-11	0.0E+00
34	Benzyl alcohol	0.0E+00	5.5E-05	1.3E-07	0.0E+00	0.0E+00	0.0E+00
35	bis(2-Ethylhex	2.4E-06	2.3E-04	7.0E-06	0.0E+00	1.1E-09	0.0E+00
36	Butylbenzylpht	0.0E+00	8.9E-05	2.0E-06	0.0E+00	0.0E+00	0.0E+00
37	Chrysene	5.8E-07	4.4E-05	NA	0.0E+00	2.6E-10	0.0E+00
38	Di-n-butylphth	6.8E-07	8.9E-05	4.0E-06	0.0E+00	3.1E-10	0.0E+00
39	Di-n-octylphth	0.0E+00	8.9E-05	5.9E-07	0.0E+00	0.0E+00	0.0E+00
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
41	Diethylphthala	0.0E+00	3.1E-04	1.3E-06	0.0E+00	0.0E+00	0.0E+00
42	Dimethylphthal	0.0E+00	8.9E-05	1.3E-07	0.0E+00	0.0E+00	0.0E+00

LIFETIME RISK SUMMARY

FUTURE
RESIDENT ADULT (L)

LIFETIME EXCESS CANCER RISK

	CHEMICAL NAME	SCENARIO 1 LANDFILL (A SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL (A GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 LANDFILL (A GROUNDWATER DERMAL (FROM WS3)	SCENARIO 4 LANDFILL (A GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 LANDFILL (A AIR-PART INHALATION (FROM WS5)	SCENARIO 6 LANDFILL (A) AIR-VOC'S INHALATION (FROM WS6)
1	1,1,1-Trichlor	NA	NA	NA	NA	NA	NA
2	1,1-Dichloroet	NA	NA	NA	NA	NA	NA
3	1,1-Dichloroet	4E-09	2E-04	2E-06	9E-05	0E+00	7E-07
4	1,2-Dichloroet	NA	NA	NA	NA	NA	NA
5	2-Butanone	NA	NA	NA	NA	NA	NA
6	4-Methyl-2-pen	NA	NA	NA	NA	NA	NA
7	Acetone	NA	NA	NA	NA	NA	NA
8	Benzene	0E+00	1E-05	3E-07	3E-05	0E+00	0E+00
9	Bromodichlorom	0E+00	3E-05	2E-07	NA	NA	NA
10	Carbon Disulfi	NA	NA	NA	NA	NA	NA
11	Chlorobenzene	NA	NA	NA	NA	NA	NA
12	Chloroform	0E+00	2E-06	2E-08	6E-05	0E+00	0E+00
13	Ethyl Benzene	NA	NA	NA	NA	NA	NA
14	Methylene Chlo	5E-11	2E-05	8E-08	8E-06	0E+00	5E-09
15	Styrene	0E+00	1E-06	5E-08	1E-07	0E+00	0E+00
16	Tetrachloroeth	0E+00	1E-05	6E-07	9E-07	0E+00	0E+00
17	Toluene	NA	NA	NA	NA	NA	NA
18	Trichloroethen	0E+00	3E-05	4E-07	3E-05	0E+00	0E+00
19	Vinyl Chloride	0E+00	6E-04	4E-06	2E-04	0E+00	0E+00
20	Xylenes (Total	NA	NA	NA	NA	NA	NA
21	1,4-Dichlorobe	8E-09	2E-06	1E-07	NA	NA	NA
22	2,4-Dimethylph	NA	NA	NA	NA	NA	NA
23	2-Methylnaphth	NA	NA	NA	NA	NA	NA
24	2-Methylphenol	NA	NA	NA	NA	NA	NA
25	Acenaphthene	NA	NA	NA	NA	NA	NA
26	Acenaphthylene	NA	NA	NA	NA	NA	NA
27	Anthracene	NA	NA	NA	NA	NA	NA
28	Benzo(a)anthra	5E-06	0E+00	NA	0E+00	1E-09	0E+00
29	Benzo(a)pyrene	8E-06	5E-04	NA	0E+00	2E-09	0E+00
30	Benzo(b)fluora	9E-06	7E-04	NA	0E+00	2E-09	0E+00
31	Benzo(g,h,i)pe	NA	NA	NA	NA	NA	NA
32	Benzo(k)fluora	7E-06	3E-04	NA	0E+00	2E-09	0E+00
33	Benzoic acid	NA	NA	NA	NA	NA	NA
34	Benzyl alcohol	NA	NA	NA	NA	NA	NA
35	bis(2-Ethylhex	3E-08	3E-06	1E-07	NA	NA	NA
36	Butylbenzylpht	NA	NA	NA	NA	NA	NA
37	Chrysene	7E-06	5E-04	NA	0E+00	2E-09	0E+00
38	Di-n-butylphth	NA	NA	NA	NA	NA	NA
39	Di-n-octylphth	NA	NA	NA	NA	NA	NA
40	Dibenzo(a,h)an	0E+00	0E+00	NA	0E+00	0E+00	0E+00
41	Diethylphthala	NA	NA	NA	NA	NA	NA
42	Dimethylphthal	NA	NA	NA	NA	NA	NA

43	Fluoranthene	5.3E-07	6.2E-05	NA	0.0E+00	2.4E-10	0.0E+00	NA	NA	NA	NA	NA	NA
44	Fluorene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
45	Indeno(1,2,3-c	7.5E-07	2.2E-05	NA	0.0E+00	3.4E-10	0.0E+00	9E-06	3E-04	NA	0E+00	2E-09	0E+00
46	Naphthalene	0.0E+00	3.3E-05	NA	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
47	Phenanthrene	3.0E-07	6.2E-05	NA	0.0E+00	1.4E-10	0.0E+00	NA	NA	NA	NA	NA	NA
48	Phenol	0.0E+00	2.9E-02	1.5E-04	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
49	Pyrene	5.0E-07	6.2E-05	NA	0.0E+00	2.3E-10	0.0E+00	NA	NA	NA	NA	NA	NA
50	4,4-DDE	0.0E+00	3.7E-06	8.2E-07	0.0E+00	0.0E+00	0.0E+00	0E+00	1E-06	3E-07	NA	NA	NA
51	4,4-DDT	0.0E+00	3.1E-06	1.2E-06	0.0E+00	0.0E+00	0.0E+00	0E+00	1E-06	4E-07	0E+00	0E+00	0E+00
52	Aldrin	0.0E+00	9.8E-07	1.4E-09	0.0E+00	0.0E+00	0.0E+00	0E+00	2E-05	2E-08	0E+00	0E+00	0E+00
53	alpha-Chlordan	0.0E+00	2.4E-06	2.0E-05	0.0E+00	0.0E+00	0.0E+00	0E+00	3E-06	3E-05	0E+00	0E+00	0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	NA	NA	NA
55	beta-BHC	0.0E+00	6.9E-07	1.3E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	1E-06	2E-08	0E+00	0E+00	0E+00
56	Dieldrin	0.0E+00	8.0E-07	1.2E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	1E-05	2E-07	0E+00	0E+00	0E+00
57	Endosulfan II	0.0E+00	1.1E-06	2.3E-09	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
58	gamma-Chlordan	0.0E+00	3.2E-07	2.8E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	4E-07	4E-08	0E+00	0E+00	0E+00
59	Heptachlor	0.0E+00	7.1E-07	7.1E-09	0.0E+00	0.0E+00	0.0E+00	0E+00	3E-06	3E-08	0E+00	0E+00	0E+00
60	Antimony, Tota	3.5E-05	5.7E-02	5.2E-05	0.0E+00	1.6E-08	0.0E+00	NA	NA	NA	NA	NA	NA
61	Arsenic, Total	1.7E-06	1.8E-04	1.7E-07	0.0E+00	7.9E-10	0.0E+00	3E-06	3E-04	3E-07	0E+00	1E-08	0E+00
62	Barium, Total	1.8E-05	8.8E-04	8.0E-07	0.0E+00	8.4E-09	0.0E+00	NA	NA	NA	NA	NA	NA
63	Beryllium, Tot	9.1E-07	2.8E-02	2.6E-05	0.0E+00	4.1E-10	0.0E+00	4E-06	1E-01	1E-01	0E+00	3E-09	0E+00
64	Cadmium, Total	1.0E-06	0.0E+00	0.0E+00	0.0E+00	4.7E-10	0.0E+00	NA	NA	NA	0E+00	3E-09	0E+00
65	Cadmium, Total	0.0E+00	1.2E-02	1.1E-05	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	0E+00	0E+00	0E+00
66	Chromium, Tota	7.6E-06	3.2E-02	2.9E-05	0.0E+00	3.5E-09	0.0E+00	NA	NA	NA	0E+00	1E-07	0E+00
67	Mercury, Total	0.0E+00	6.6E-06	6.0E-09	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
68	Nickel, Total	7.3E-06	3.8E-04	3.5E-07	0.0E+00	3.3E-09	0.0E+00	NA	NA	NA	NA	NA	NA
69	Silver, Total	1.7E-06	5.7E-05	5.2E-08	0.0E+00	7.9E-10	0.0E+00	NA	NA	NA	NA	NA	NA
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
71	Vanadium, Tota	9.3E-06	2.7E-02	2.5E-05	0.0E+00	4.3E-09	0.0E+00	NA	NA	NA	NA	NA	NA
72	Cyanide, Total	0.0E+00	1.1E-03	9.8E-07	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
						TOTAL PATHWAY CANCER RISK		5E-05	1E-01	1E-01	4E-04	1E-07	7E-07
						POPULATION TOTAL EXCESS RISK		2E-01					

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (L)

EXPOSURE POINT: LANDFILL (C)
MEDIUM: SOIL
ROUTE: ORAL

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP2
LAST UPDATED: 07/23/92

HIFs = 1.3E-05
HIFc = 0.0E+00
HIFl = 1.1E-06

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	1.3E-05	1	0.0E+00	9.0E-01	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
2	1,1-Dichloroet	*0.0E+00*	1.3E-05	1	*0.0E+00*	*1.0E+00*	*0E+00*							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
3	1,1-Dichloroet	3.9E-03	1.3E-05	1	5.1E-08	9.0E-03	6E-06							3.9E-03	1.1E-06	1	4.3E-09	6.0E-01	3E-09
4	1,2-Dichloroet	0.0E+00	1.3E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
5	2-Butanone	4.0E-03	1.3E-05	1	5.2E-08	5.0E-01	1E-07							4.0E-03	1.1E-06	1	4.4E-09	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.3E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
7	Acetone	3.0E-02	1.3E-05	1	3.9E-07	1.0E+00	4E-07							3.0E-02	1.1E-06	1	3.3E-08	NA	NA
8	Benzene	0.0E+00	1.3E-05	1	0.0E+00	NA	NA							0.0E+00	1.1E-06	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.3E-05	1	0.0E+00	2.0E-02	0E+00							0.0E+00	1.1E-06	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfi	1.9E-03	1.3E-05	1	2.5E-08	1.0E-01	2E-07							1.9E-03	1.1E-06	1	2.1E-09	NA	NA
11	Chlorobenzene	0.0E+00	1.3E-05	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	1.3E-05	1	0.0E+00	1.0E-02	0E+00							0.0E+00	1.1E-06	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene	2.0E-03	1.3E-05	1	2.6E-08	1.0E+00	3E-08							2.0E-03	1.1E-06	1	2.2E-09	NA	NA
14	Methylene Chlo	4.0E-03	1.3E-05	1	5.2E-08	6.0E-02	9E-07							4.0E-03	1.1E-06	1	4.4E-09	7.5E-03	3E-11
15	Styrene	0.0E+00	1.3E-05	1	0.0E+00	2.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroeth	0.0E+00	1.3E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	5.1E-02	0E+00
17	Toluene	4.0E-03	1.3E-05	1	5.1E-08	2.0E+00	3E-08							4.0E-03	1.1E-06	1	4.3E-09	NA	NA
18	Trichloroethen	0.0E+00	1.3E-05	1	0.0E+00	NA	NA							0.0E+00	1.1E-06	1	0.0E+00	1.1E-02	0E+00
19	Vinyl Chloride	0.0E+00	1.3E-05	1	0.0E+00	NA	NA							0.0E+00	1.1E-06	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total	4.0E-03	1.3E-05	1	5.2E-08	4.0E+00	1E-08							4.0E-03	1.1E-06	1	4.4E-09	NA	NA
21	1,4-Dichlorobe	2.1E-01	1.3E-05	1	2.7E-06	NA	NA							2.1E-01	1.1E-06	1	2.3E-07	2.4E-02	6E-09
22	2,4-Dimethylph	0.0E+00	1.3E-05	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.3E-05	1	0.0E+00	4.0E-02	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.3E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.3E-05	1	0.0E+00	6.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
26	Acenaphthylene	*0.0E+00*	1.3E-05	1	*0.0E+00*	*6.0E-01*	*0E+00*							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.3E-05	1	0.0E+00	3.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
28	Benzo(a)anthra	2.8E-01	1.3E-05	1	3.6E-06	3.0E-01	1E-05							2.8E-01	1.1E-06	1	3.1E-07	1.2E+01	4E-06
29	Benzo(a)pyrene	4.3E-01	1.3E-05	1	5.6E-06	3.0E-01	2E-05							4.3E-01	1.1E-06	1	4.7E-07	1.2E+01	6E-06
30	Benzo(b)fluora	4.6E-01	1.3E-05	1	6.0E-06	3.0E-01	2E-05							4.6E-01	1.1E-06	1	5.1E-07	1.2E+01	6E-06
31	Benzo(g,h,i)pe	4.6E-01	1.3E-05	1	6.0E-06	3.0E-01	2E-05							4.6E-01	1.1E-06	1	5.1E-07	NA	NA
32	Benzo(k)fluora	3.6E-01	1.3E-05	1	4.7E-06	3.0E-01	2E-05							3.6E-01	1.1E-06	1	4.0E-07	1.2E+01	5E-06
33	Benzoic acid	7.5E-02	1.3E-05	1	9.8E-07	4.0E+00	2E-07							7.5E-02	1.1E-06	1	8.3E-08	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	1.5E+00	1.3E-05	1	1.9E-05	2.0E-02	1.0E-03							1.5E+00	1.1E-06	1	1.6E-06	1.4E-02	2E-08
36	Butylbenzylpht	0.0E+00	1.3E-05	1	0.0E+00	2.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
37	Chrysene	3.6E-01	1.3E-05	1	4.7E-06	3.0E-01	2E-05							3.6E-01	1.1E-06	1	4.0E-07	1.2E+01	5E-06
38	Di-n-butylphth	4.2E-01	1.3E-05	1	5.5E-06	1.0E+00	6E-06							4.2E-01	1.1E-06	1	4.7E-07	NA	NA
39	Di-n-octylphth	0.0E+00	1.3E-05	1	0.0E+00	2.0E-02	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.3E-05	1	0.0E+00	3.0E-01	0E+00		0.0E+00	1.1E-06	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthala	0.0E+00	1.3E-05	1	0.0E+00	8.0E+00	0E+00		0.0E+00	1.1E-06	1	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	1.3E-05	1	0.0E+00	1.0E+00	0E+00		0.0E+00	1.1E-06	1	0.0E+00	NA	NA
43	Fluoranthene	3.3E-01	1.3E-05	1	4.3E-06	4.0E-01	1E-05		3.3E-01	1.1E-06	1	3.6E-07	NA	NA
44	Fluorene	0.0E+00	1.3E-05	1	0.0E+00	4.0E-01	0E+00		0.0E+00	1.1E-06	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	4.7E-01	1.3E-05	1	6.1E-06	3.0E-01	2E-05		4.7E-01	1.1E-06	1	5.1E-07	1.2E+01	6E-06
46	Naphthalene	0.0E+00	1.3E-05	1	0.0E+00	4.0E-02	0E+00		0.0E+00	1.1E-06	1	0.0E+00	NA	NA
47	Phenanthrene	1.9E-01	1.3E-05	1	2.5E-06	3.0E-01	8E-06		1.9E-01	1.1E-06	1	2.1E-07	NA	NA
48	Phenol	0.0E+00	1.3E-05	1	0.0E+00	6.0E-01	0E+00		0.0E+00	1.1E-06	1	0.0E+00	NA	NA
49	Pyrene	3.1E-01	1.3E-05	1	4.0E-06	3.0E-01	1E-05		3.1E-01	1.1E-06	1	3.4E-07	NA	NA
50	4,4-DDE	0.0E+00	1.3E-05	1	0.0E+00	NA	NA		0.0E+00	1.1E-06	1	0.0E+00	3.4E-01	0E+00
51	4,4-DDT	0.0E+00	1.3E-05	1	0.0E+00	5.0E-04	0E+00		0.0E+00	1.1E-06	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	1.3E-05	1	0.0E+00	3.0E-05	0E+00		0.0E+00	1.1E-06	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.3E-05	1	0.0E+00	6.0E-05	0E+00		0.0E+00	1.1E-06	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.3E-05	1	0.0E+00	NA	NA		0.0E+00	1.1E-06	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	1.3E-05	1	0.0E+00	NA	NA		0.0E+00	1.1E-06	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.3E-05	1	0.0E+00	5.0E-05	0E+00		0.0E+00	1.1E-06	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.3E-05	1	0.0E+00	2.0E-04	0E+00		0.0E+00	1.1E-06	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.3E-05	1	0.0E+00	6.0E-05	0E+00		0.0E+00	1.1E-06	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.3E-05	1	0.0E+00	5.0E-04	0E+00		0.0E+00	1.1E-06	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Tota	2.2E+01	1.3E-05	1	2.9E-04	4.0E-04	7E-01		2.2E+01	1.1E-06	1	2.4E-05	NA	NA
61	Arsenic, Total	1.1E+00	1.3E-05	1	1.4E-05	3.0E-04	5E-02		1.1E+00	1.1E-06	1	1.2E-06	1.8E+00	2E-06
62	Barium, Total	1.2E+01	1.3E-05	1	1.5E-04	7.0E-02	2E-03		1.2E+01	1.1E-06	1	1.3E-05	NA	NA
63	Beryllium, Tot	5.7E-01	1.3E-05	1	7.4E-06	5.0E-03	1E-03		5.7E-01	1.1E-06	1	6.2E-07	4.3E+00	3E-06
64	Cadmium, Total	6.4E-01	1.3E-05	1	8.3E-06	NA	NA		6.4E-01	1.1E-06	1	7.0E-07	NA	NA
65	Cadmium, Total	0.0E+00	1.3E-05	1	0.0E+00	NA	NA		0.0E+00	1.1E-06	1	0.0E+00	NA	NA
66	Chromium, Tota	4.7E+00	1.3E-05	1	6.2E-05	2.0E-02	3E-03		4.7E+00	1.1E-06	1	5.2E-06	NA	NA
67	Mercury, Total	0.0E+00	1.3E-05	1	0.0E+00	3.0E-04	0E+00		0.0E+00	1.1E-06	1	0.0E+00	NA	NA
68	Nickel, Total	4.5E+00	1.3E-05	1	5.9E-05	2.0E-02	3E-03		4.5E+00	1.1E-06	1	5.0E-06	NA	NA
69	Silver, Total	1.1E+00	1.3E-05	1	1.4E-05	5.0E-03	3E-03		1.1E+00	1.1E-06	1	1.2E-06	NA	NA
70	Thallium, Tota	0.0E+00	1.3E-05	1	0.0E+00	7.0E-04	0E+00		0.0E+00	1.1E-06	1	0.0E+00	NA	NA
71	Vanadium, Tota	5.8E+00	1.3E-05	1	7.6E-05	7.0E-03	1E-02		5.8E+00	1.1E-06	1	6.4E-06	NA	NA
72	Cyanide, Total	0.0E+00	1.3E-05	1	0.0E+00	2.0E-02	0E+00		0.0E+00	1.1E-06	1	0.0E+00	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.3E-05	1	0.0E+00	1.0E-01	0E+00		0.0E+00	1.1E-06	1	0.0E+00	NA	NA

RANGE NAME: WS2

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP2
LAST UPDATED: 07/23/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (L)

EXPOSURE POINT: LANDFILL (C)
MEDIUM: GROUNDWATER
ROUTE: ORAL

HIFs = 6.4E-02
HIFc = 0.0E+00
HIFl = 5.5E-03

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	2.2E-01	6.4E-02	1	1.4E-02	9.0E-01	2E-02		0.0E+00		0.0E+00		ERR	2.2E-01	5.5E-03	1	1.2E-03	NA	NA
2	1,1-Dichloroet	1.0E-01	6.4E-02	1	6.6E-03	1.0E+00	7E-03							1.0E-01	5.5E-03	1	5.7E-04	NA	NA
3	1,1-Dichloroet	2.3E-02	6.4E-02	1	1.5E-03	9.0E-03	2E-01							2.3E-02	5.5E-03	1	1.3E-04	6.0E-01	8E-05
4	1,2-Dichloroet	1.8E-01	6.4E-02	1	1.2E-02	1.0E-01	1E-01							1.8E-01	5.5E-03	1	1.00E-03	NA	NA
5	2-Butanone	1.8E-01	6.4E-02	1	1.2E-02	5.0E-01	2E-02							1.8E-01	5.5E-03	1	9.9E-04	NA	NA
6	4-Methyl-2-pen	5.0E-02	6.4E-02	1	3.2E-03	5.0E-01	6E-03							5.0E-02	5.5E-03	1	2.7E-04	NA	NA
7	Acetone	5.6E-01	6.4E-02	1	3.6E-02	1.0E+00	4E-02							5.6E-01	5.5E-03	1	3.1E-03	NA	NA
8	Benzene	4.7E-02	6.4E-02	1	3.0E-03	NA	NA							4.7E-02	5.5E-03	1	2.6E-04	2.9E-02	7E-06
9	Bromodichlorom	2.3E-02	6.4E-02	1	1.5E-03	2.0E-02	8E-02							2.3E-02	5.5E-03	1	1.3E-04	1.3E-01	2E-05
10	Carbon Disulfi	5.7E-02	6.4E-02	1	3.6E-03	1.0E-01	4E-02							5.7E-02	5.5E-03	1	3.1E-04	NA	NA
11	Chlorobenzene	1.7E-03	6.4E-02	1	1.1E-04	2.0E-01	5E-04							1.7E-03	5.5E-03	1	9.4E-06	NA	NA
12	Chloroform	3.4E-02	6.4E-02	1	2.2E-03	1.0E-02	2E-01							3.4E-02	5.5E-03	1	1.9E-04	6.1E-03	1E-06
13	Ethyl Benzene	2.9E-01	6.4E-02	1	1.9E-02	1.0E+00	2E-02							2.9E-01	5.5E-03	1	1.6E-03	NA	NA
14	Methylene Chlo	2.3E-01	6.4E-02	1	1.5E-02	6.0E-02	2E-01							2.3E-01	5.5E-03	1	1.3E-03	7.5E-03	1.0E-0
15	Styrene	3.0E-03	6.4E-02	1	1.9E-04	2.0E+00	1.0E-04							3.0E-03	5.5E-03	1	1.7E-05	3.0E-02	5E-07
16	Tetrachloroeth	2.3E-02	6.4E-02	1	1.4E-03	1.0E-01	1E-02							2.3E-02	5.5E-03	1	1.2E-04	5.1E-02	6E-06
17	Toluene	4.7E-01	6.4E-02	1	3.0E-02	2.0E+00	2E-02							4.7E-01	5.5E-03	1	2.6E-03	NA	NA
18	Trichloroethen	2.4E-01	6.4E-02	1	1.6E-02	NA	NA							2.4E-01	5.5E-03	1	1.3E-03	1.1E-02	1E-05
19	Vinyl Chloride	2.8E-02	6.4E-02	1	1.8E-03	NA	NA							2.8E-02	5.5E-03	1	1.5E-04	1.9E+00	3E-04
20	Xylenes (Total	1.8E-01	6.4E-02	1	1.1E-02	4.0E+00	3E-03							1.8E-01	5.5E-03	1	9.7E-04	NA	NA
21	1,4-Dichlorobe	8.1E-03	6.4E-02	1	5.2E-04	NA	NA							8.1E-03	5.5E-03	1	4.5E-05	2.4E-02	1E-06
22	2,4-Dimethylph	3.9E-02	6.4E-02	1	2.5E-03	2.0E-01	1E-02							3.9E-02	5.5E-03	1	2.2E-04	NA	NA
23	2-Methylnaphth	0.0E+00	6.4E-02	1	0.0E+00	4.0E-02	0E+00							0.0E+00	5.5E-03	1	0.0E+00	NA	NA
24	2-Methylphenol	1.9E-01	6.4E-02	1	1.2E-02	5.0E-01	2E-02							1.9E-01	5.5E-03	1	1.0E-03	NA	NA
25	Acenaphthene	0.0E+00	6.4E-02	1	0.0E+00	6.0E-01	0E+00							0.0E+00	5.5E-03	1	0.0E+00	NA	NA
26	Acenaphthylene	1.0E-03	6.4E-02	1	6.4E-05	6.0E-01	1E-04							1.0E-03	5.5E-03	1	5.5E-06	NA	NA
27	Anthracene	0.0E+00	6.4E-02	1	0.0E+00	3.0E+00	0E+00							0.0E+00	5.5E-03	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	6.4E-02	1	0.0E+00	3.0E-01	0E+00							0.0E+00	5.5E-03	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene	4.0E-03	6.4E-02	1	2.6E-04	3.0E-01	9E-04							4.0E-03	5.5E-03	1	2.2E-05	1.2E+01	3E-04
30	Benzo(b)fluora	5.6E-03	6.4E-02	1	3.6E-04	3.0E-01	1E-03							5.6E-03	5.5E-03	1	3.1E-05	1.2E+01	4E-04
31	Benzo(g,h,i)pe	2.0E-03	6.4E-02	1	1.3E-04	3.0E-01	4E-04							2.0E-03	5.5E-03	1	1.1E-05	NA	NA
32	Benzo(k)fluora	2.0E-03	6.4E-02	1	1.3E-04	3.0E-01	4E-04							2.0E-03	5.5E-03	1	1.1E-05	1.2E+01	1E-04
33	Benzoic acid	2.5E-02	6.4E-02	1	1.6E-03	4.0E+00	4E-04							2.5E-02	5.5E-03	1	1.4E-04	NA	NA
34	Benzyl alcohol	5.0E-03	6.4E-02	1	3.2E-04	1.0E+00	3E-04							5.0E-03	5.5E-03	1	2.8E-05	NA	NA
35	bis(2-Ethylhex	2.1E-02	6.4E-02	1	1.4E-03	2.0E-02	7E-02							2.1E-02	5.5E-03	1	1.2E-04	1.4E-02	2E-06
36	Butylbenzylpht	8.1E-03	6.4E-02	1	5.2E-04	2.0E+00	3E-04							8.1E-03	5.5E-03	1	4.5E-05	NA	NA
37	Chrysene	4.0E-03	6.4E-02	1	2.6E-04	3.0E-01	9E-04							4.0E-03	5.5E-03	1	2.2E-05	1.2E+01	3E-04
38	Di-n-butylphth	8.1E-03	6.4E-02	1	5.2E-04	1.0E+00	5E-04							8.1E-03	5.5E-03	1	4.5E-05	NA	NA
39	Di-n-octylphth	8.1E-03	6.4E-02	1	5.2E-04	2.0E-02	3E-02							8.1E-03	5.5E-03	1	4.5E-05	NA	NA

40	Dibenzo(a,h)an	0.0E+00	6.4E-02	1	0.0E+00	3.0E-01	0E+00	0.0E+00	5.5E-03	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthala	2.8E-02	6.4E-02	1	1.8E-03	8.0E+00	2E-04	2.8E-02	5.5E-03	1	1.5E-04	NA	NA
42	Dimethylphthal	8.1E-03	6.4E-02	1	5.2E-04	1.0E+00	5E-04	8.1E-03	5.5E-03	1	4.5E-05	NA	NA
43	Fluoranthene	5.6E-03	6.4E-02	1	3.6E-04	4.0E-01	9E-04	5.6E-03	5.5E-03	1	3.1E-05	NA	NA
44	Fluorene	0.0E+00	6.4E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	5.5E-03	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	2.0E-03	6.4E-02	1	1.3E-04	3.0E-01	4E-04	2.0E-03	5.5E-03	1	1.1E-05	1.2E+01	1E-04
46	Naphthalene	3.0E-03	6.4E-02	1	1.9E-04	4.0E-02	5E-03	3.0E-03	5.5E-03	1	1.7E-05	NA	NA
47	Phenanthrene	5.6E-03	6.4E-02	1	3.6E-04	3.0E-01	1E-03	5.6E-03	5.5E-03	1	3.1E-05	NA	NA
48	Phenol	2.7E+00	6.4E-02	1	1.7E-01	6.0E-01	3E-01	2.7E+00	5.5E-03	1	1.5E-02	NA	NA
49	Pyrene	5.6E-03	6.4E-02	1	3.6E-04	3.0E-01	1E-03	5.6E-03	5.5E-03	1	3.1E-05	NA	NA
50	4,4-DDE	3.4E-04	6.4E-02	1	2.2E-05	NA	NA	3.4E-04	5.5E-03	1	1.9E-06	3.4E-01	6E-07
51	4,4-DDT	2.8E-04	6.4E-02	1	1.8E-05	5.0E-04	4E-02	2.8E-04	5.5E-03	1	1.5E-06	3.4E-01	5E-07
52	Aldrin	8.9E-05	6.4E-02	1	5.7E-06	3.0E-05	2E-01	8.9E-05	5.5E-03	1	4.9E-07	1.7E+01	8E-06
53	alpha-Chlordan	2.2E-04	6.4E-02	1	1.4E-05	6.0E-05	2E-01	2.2E-04	5.5E-03	1	1.2E-06	1.3E+00	2E-06
54	Aroclor-1248	0.0E+00	6.4E-02	1	0.0E+00	NA	NA	0.0E+00	5.5E-03	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	6.3E-05	6.4E-02	1	4.0E-06	NA	NA	6.3E-05	5.5E-03	1	3.5E-07	1.8E+00	6E-07
56	Dieldrin	7.3E-05	6.4E-02	1	4.7E-06	5.0E-05	9E-02	7.3E-05	5.5E-03	1	4.0E-07	1.6E+01	6E-06
57	Endosulfan II	1.0E-04	6.4E-02	1	6.4E-06	2.0E-04	3E-02	1.0E-04	5.5E-03	1	5.5E-07	NA	NA
58	gamma-Chlordan	2.9E-05	6.4E-02	1	1.9E-06	6.0E-05	3E-02	2.9E-05	5.5E-03	1	1.6E-07	1.3E+00	2E-07
59	Heptachlor	6.5E-05	6.4E-02	1	4.1E-06	5.0E-04	8E-03	6.5E-05	5.5E-03	1	3.6E-07	4.5E+00	2E-06
60	Antimony, Tota	5.2E+00	6.4E-02	1	3.3E-01	4.0E-04	8E+02	5.2E+00	5.5E-03	1	2.9E-02	NA	NA
61	Arsenic, Total	1.7E-02	6.4E-02	1	1.1E-03	3.0E-04	4E+00	1.7E-02	5.5E-03	1	9.1E-05	1.8E+00	2E-04
62	Barium, Total	8.0E-02	6.4E-02	1	5.1E-03	7.0E-02	7E-02	8.0E-02	5.5E-03	1	4.4E-04	NA	NA
63	Beryllium, Tot	2.6E+00	6.4E-02	1	1.6E-01	5.0E-03	3E+01	2.6E+00	5.5E-03	1	1.4E-02	4.3E+00	6E-02
64	Cadmium, Total	0.0E+00	6.4E-02	1	0.0E+00	NA	NA	0.0E+00	5.5E-03	1	0.0E+00	NA	NA
65	Cadmium, Total	1.1E+00	6.4E-02	1	7.2E-02	NA	NA	1.1E+00	5.5E-03	1	6.2E-03	NA	NA
66	Chromium, Tota	2.9E+00	6.4E-02	1	1.9E-01	2.0E-02	9E+00	2.9E+00	5.5E-03	1	1.6E-02	NA	NA
67	Mercury, Total	6.0E-04	6.4E-02	1	3.8E-05	3.0E-04	1E-01	6.0E-04	5.5E-03	1	3.3E-06	NA	NA
68	Nickel, Total	3.5E-02	6.4E-02	1	2.2E-03	2.0E-02	1E-01	3.5E-02	5.5E-03	1	1.9E-04	NA	NA
69	Silver, Total	5.2E-03	6.4E-02	1	3.3E-04	5.0E-03	7E-02	5.2E-03	5.5E-03	1	2.8E-05	NA	NA
70	Thallium, Tota	0.0E+00	6.4E-02	1	0.0E+00	7.0E-04	0E+00	0.0E+00	5.5E-03	1	0.0E+00	NA	NA
71	Vanadium, Tota	2.5E+00	6.4E-02	1	1.6E-01	7.0E-03	2E+01	2.5E+00	5.5E-03	1	1.3E-02	NA	NA
72	Cyanide, Total	9.8E-02	6.4E-02	1	6.3E-03	2.0E-02	3E-01	9.8E-02	5.5E-03	1	5.4E-04	NA	NA
73	Nitrogen, Nitr	0.0E+00	6.4E-02	1	0.0E+00	1.0E-01	0E+00	0.0E+00	5.5E-03	1	0.0E+00	NA	NA

RANGE NAME: WS3

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP2
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (L)

EXPOSURE POINT: LANDFILL (C)
MEDIUM: GROUNDWATER
ROUTE: DERMAL

HIFs = 1.1E-01
HIFc = 0.0E+00
HIFl = 9.3E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	P	DIs	RfDS	HQs	Cc	HIFc	P	DIc	RfDC	HQc	Cl	HIFl	P	DIl	SF	RISK
1	1,1,1-Trichlor	2.2E-01	1.1E-01	1.7E-02	4.1E-04	9.0E-01	5E-04		0.0E+00		0.0E+00		ERR	2.2E-01	9.3E-02	1.7E-02	3.5E-04	NA	NA
2	1,1-Dichloroet	1.0E-01	1.1E-01	8.9E-03	1.0E-04	1.0E+00	1E-04							1.0E-01	9.3E-02	8.9E-03	8.5E-05	NA	NA
3	1,1-Dichloroet	2.3E-02	1.1E-01	1.6E-02	4.1E-05	9.0E-03	5E-03							2.3E-02	9.3E-02	1.6E-02	3.5E-05	6.0E-01	2E-05
4	1,2-Dichloroet	1.8E-01	1.1E-01	1.0E-02	2.0E-04	1.0E-01	2E-03							1.8E-01	9.3E-02	1.0E-02	1.7E-04	NA	NA
5	2-Butanone	1.8E-01	1.1E-01	1.1E-03	2.2E-05	5.0E-01	4E-05							1.8E-01	9.3E-02	1.1E-03	1.8E-05	NA	NA
6	4-Methyl-2-pen	5.0E-02	1.1E-01	2.8E-03	1.5E-05	5.0E-01	3E-05							5.0E-02	9.3E-02	2.8E-03	1.3E-05	NA	NA
7	Acetone	5.6E-01	1.1E-01	5.7E-04	3.5E-05	1.0E+00	4E-05							5.6E-01	9.3E-02	5.7E-04	3.0E-05	NA	NA
8	Benzene	4.7E-02	1.1E-01	2.1E-02	1.1E-04	NA	NA							4.7E-02	9.3E-02	2.1E-02	9.2E-05	2.9E-02	3E-06
9	Bromodichlorom	2.3E-02	1.1E-01	5.8E-03	1.5E-05	2.0E-02	7E-04							2.3E-02	9.3E-02	5.8E-03	1.3E-05	1.3E-01	2E-06
10	Carbon Disulfi	5.7E-02	1.1E-01	2.4E-02	1.5E-04	1.0E-01	2E-03							5.7E-02	9.3E-02	2.4E-02	1.3E-04	NA	NA
11	Chlorobenzene	1.7E-03	1.1E-01	4.1E-02	7.7E-06	2.0E-01	4E-05							1.7E-03	9.3E-02	4.1E-02	6.5E-06	NA	NA
12	Chloroform	3.4E-02	1.1E-01	8.9E-03	3.4E-05	1.0E-02	3E-03							3.4E-02	9.3E-02	8.9E-03	2.8E-05	6.1E-03	2E-07
13	Ethyl Benzene	2.9E-01	1.1E-01	7.4E-02	2.4E-03	1.0E+00	2E-03							2.9E-01	9.3E-02	7.4E-02	2.0E-03	NA	NA
14	Methylene Chlo	2.3E-01	1.1E-01	4.5E-03	1.2E-04	6.0E-02	2E-03							2.3E-01	9.3E-02	4.5E-03	9.8E-05	7.5E-03	7E-07
15	Styrene	3.0E-03	1.1E-01	5.5E-02	1.8E-05	2.0E+00	9E-06							3.0E-03	9.3E-02	5.5E-02	1.5E-05	3.0E-02	5E-07
16	Tetrachloroeth	2.3E-02	1.1E-01	4.8E-02	1.2E-04	1.0E-01	1E-03							2.3E-02	9.3E-02	4.8E-02	1.0E-04	5.1E-02	5E-06
17	Toluene	4.7E-01	1.1E-01	4.5E-02	2.3E-03	2.0E+00	1E-03							4.7E-01	9.3E-02	4.5E-02	2.0E-03	NA	NA
18	Trichloroethen	2.4E-01	1.1E-01	1.6E-02	4.3E-04	NA	NA							2.4E-01	9.3E-02	1.6E-02	3.6E-04	1.1E-02	4E-06
19	Vinyl Chloride	2.8E-02	1.1E-01	7.0E-03	2.1E-05	NA	NA							2.8E-02	9.3E-02	7.0E-03	1.8E-05	1.9E+00	3E-05
20	Xylenes (Total	1.8E-01	1.1E-01	8.0E-02	1.5E-03	4.0E+00	4E-04							1.8E-01	9.3E-02	8.0E-02	1.3E-03	NA	NA
21	1,4-Dichlorobe	8.1E-03	1.1E-01	6.2E-02	5.5E-05	NA	NA							8.1E-03	9.3E-02	6.2E-02	4.7E-05	2.4E-02	1E-06
22	2,4-Dimethylph	3.9E-02	1.1E-01	1.5E-02	6.5E-05	2.0E-01	3E-04							3.9E-02	9.3E-02	1.5E-02	5.5E-05	NA	NA
23	2-Methylnaphth	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
24	2-Methylphenol	1.9E-01	1.1E-01	1.0E-02	2.1E-04	5.0E-01	4E-04							1.9E-01	9.3E-02	1.0E-02	1.8E-04	NA	NA
25	Acenaphthene	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
26	Acenaphthylene	1.0E-03	1.1E-01	NA	NA	NA	NA							1.0E-03	9.3E-02	NA	NA	NA	NA
27	Anthracene	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
28	Benzo(a)anthra	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
29	Benzo(a)pyrene	4.0E-03	1.1E-01	NA	NA	NA	NA							4.0E-03	9.3E-02	NA	NA	NA	NA
30	Benzo(b)fluora	5.6E-03	1.1E-01	NA	NA	NA	NA							5.6E-03	9.3E-02	NA	NA	NA	NA
31	Benzo(g,h,i)pe	2.0E-03	1.1E-01	NA	NA	NA	NA							2.0E-03	9.3E-02	NA	NA	NA	NA
32	Benzo(k)fluora	2.0E-03	1.1E-01	NA	NA	NA	NA							2.0E-03	9.3E-02	NA	NA	NA	NA
33	Benzoic acid	2.5E-02	1.1E-01	7.3E-03	2.0E-05	4.0E+00	5E-06							2.5E-02	9.3E-02	7.3E-03	1.7E-05	NA	NA
34	Benzyl alcohol	5.0E-03	1.1E-01	2.5E-03	1.4E-06	1.0E+00	1E-06							5.0E-03	9.3E-02	2.5E-03	1.2E-06	NA	NA
35	bis(2-Ethylhex	2.1E-02	1.1E-01	3.3E-02	7.7E-05	2.0E-02	4E-03							2.1E-02	9.3E-02	3.3E-02	6.5E-05	1.4E-02	9E-07
36	Butylbenzylpht	8.1E-03	1.1E-01	2.4E-02	2.1E-05	2.0E+00	1E-05							8.1E-03	9.3E-02	2.4E-02	1.8E-05	NA	NA
37	Chrysene	4.0E-03	1.1E-01	NA	NA	NA	NA							4.0E-03	9.3E-02	NA	NA	NA	NA
38	Di-n-butylphth	8.1E-03	1.1E-01	4.9E-02	4.4E-05	1.0E+00	4E-05							8.1E-03	9.3E-02	4.9E-02	3.7E-05	NA	NA
39	Di-n-octylphth	8.1E-03	1.1E-01	7.2E-03	6.4E-06	2.0E-02	3E-04							8.1E-03	9.3E-02	7.2E-03	5.4E-06	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.1E-01	NA	NA	NA	NA	0.0E+00	9.3E-02	NA	NA	NA	NA
41	Diethylphthala	2.8E-02	1.1E-01	4.8E-03	1.5E-05	8.0E+00	2E-06	2.8E-02	9.3E-02	4.8E-03	1.2E-05	NA	NA
42	Dimethylphthal	8.1E-03	1.1E-01	1.6E-03	1.4E-06	1.0E+00	1E-06	8.1E-03	9.3E-02	1.6E-03	1.2E-06	NA	NA
43	Fluoranthene	5.6E-03	1.1E-01	NA	NA	NA	NA	5.6E-03	9.3E-02	NA	NA	NA	NA
44	Fluorene	0.0E+00	1.1E-01	NA	NA	NA	NA	0.0E+00	9.3E-02	NA	NA	NA	NA
45	Indeno(1,2,3-c	2.0E-03	1.1E-01	NA	NA	NA	NA	2.0E-03	9.3E-02	NA	NA	NA	NA
46	Naphthalene	3.0E-03	1.1E-01	NA	NA	NA	NA	3.0E-03	9.3E-02	NA	NA	NA	NA
47	Phenanthrene	5.6E-03	1.1E-01	NA	NA	NA	NA	5.6E-03	9.3E-02	NA	NA	NA	NA
48	Phenol	2.7E+00	1.1E-01	5.5E-03	1.6E-03	6.0E-01	3E-03	2.7E+00	9.3E-02	5.5E-03	1.4E-03	NA	NA
49	Pyrene	5.6E-03	1.1E-01	NA	NA	NA	NA	5.6E-03	9.3E-02	NA	NA	NA	NA
50	4,4-DDE	3.4E-04	1.1E-01	2.4E-01	9.0E-06	NA	NA	3.4E-04	9.3E-02	2.4E-01	7.6E-06	3.4E-01	3E-06
51	4,4-DDT	2.8E-04	1.1E-01	4.3E-01	1.3E-05	5.0E-04	3E-02	2.8E-04	9.3E-02	4.3E-01	1.1E-05	3.4E-01	4E-06
52	Aldrin	8.9E-05	1.1E-01	1.6E-03	1.6E-08	3.0E-05	5E-04	8.9E-05	9.3E-02	1.6E-03	1.3E-08	1.7E+01	2E-07
53	alpha-Chlordan	2.2E-04	1.1E-01	8.9E+00	2.2E-04	6.0E-05	4E+00	2.2E-04	9.3E-02	8.9E+00	1.8E-04	1.3E+00	2E-04
54	Aroclor-1248	0.0E+00	1.1E-01	6.6E-01	0.0E+00	NA	NA	0.0E+00	9.3E-02	6.6E-01	0.0E+00	7.7E+00	0E+00
55	beta-BHC	6.3E-05	1.1E-01	2.1E-02	1.5E-07	NA	NA	6.3E-05	9.3E-02	2.1E-02	1.2E-07	1.8E+00	2E-07
56	Dieldrin	7.3E-05	1.1E-01	1.6E-02	1.3E-07	5.0E-05	3E-03	7.3E-05	9.3E-02	1.6E-02	1.1E-07	1.6E+01	2E-06
57	Endosulfan II	1.0E-04	1.1E-01	2.3E-03	2.5E-08	2.0E-04	1E-04	1.0E-04	9.3E-02	2.3E-03	2.1E-08	NA	NA
58	gamma-Chlordan	2.9E-05	1.1E-01	9.8E-02	3.1E-07	6.0E-05	5E-03	2.9E-05	9.3E-02	9.8E-02	2.6E-07	1.3E+00	3E-07
59	Heptachlor	6.5E-05	1.1E-01	1.1E-02	7.8E-08	5.0E-04	2E-04	6.5E-05	9.3E-02	1.1E-02	6.6E-08	4.5E+00	3E-07
60	Antimony, Tota	5.2E+00	1.1E-01	1.0E-03	5.7E-04	2.0E-05	3E+01	5.2E+00	9.3E-02	1.0E-03	4.8E-04	NA	NA
61	Arsenic, Total	1.7E-02	1.1E-01	1.0E-03	1.8E-06	3.0E-04	6E-03	1.7E-02	9.3E-02	1.0E-03	1.5E-06	1.8E+00	3E-06
62	Barium, Total	8.0E-02	1.1E-01	1.0E-03	8.8E-06	7.0E-03	1E-03	8.0E-02	9.3E-02	1.0E-03	7.4E-06	NA	NA
63	Beryllium, Tot	2.6E+00	1.1E-01	1.0E-03	2.8E-04	5.0E-06	6E+01	2.6E+00	9.3E-02	1.0E-03	2.4E-04	4.3E+03	6E-01
64	Cadmium, Total	0.0E+00	1.1E-01	1.0E-03	0.0E+00	NA	NA	0.0E+00	9.3E-02	1.0E-03	0.0E+00	NA	NA
65	Cadmium, Total	1.1E+00	1.1E-01	1.0E-03	1.2E-04	NA	NA	1.1E+00	9.3E-02	1.0E-03	1.0E-04	NA	NA
66	Chromium, Tota	2.9E+00	1.1E-01	1.0E-03	3.2E-04	1.0E-03	3E-01	2.9E+00	9.3E-02	1.0E-03	2.7E-04	NA	NA
67	Mercury, Total	6.0E-04	1.1E-01	1.0E-03	6.6E-08	4.5E-05	1E-03	6.0E-04	9.3E-02	1.0E-03	5.6E-08	NA	NA
68	Nickel, Total	3.5E-02	1.1E-01	1.0E-03	3.8E-06	1.0E-03	4E-03	3.5E-02	9.3E-02	1.0E-03	3.3E-06	NA	NA
69	Silver, Total	5.2E-03	1.1E-01	1.0E-03	5.7E-07	2.5E-04	2E-03	5.2E-03	9.3E-02	1.0E-03	4.8E-07	NA	NA
70	Thallium, Tota	0.0E+00	1.1E-01	1.0E-03	0.0E+00	3.5E-05	0E+00	0.0E+00	9.3E-02	1.0E-03	0.0E+00	NA	NA
71	Vanadium, Tota	2.5E+00	1.1E-01	1.0E-03	2.7E-04	1.4E-04	2E+00	2.5E+00	9.3E-02	1.0E-03	2.3E-04	NA	NA
72	Cyanide, Total	9.8E-02	1.1E-01	1.0E-03	1.1E-05	2.0E-02	5E-04	9.8E-02	9.3E-02	1.0E-03	9.1E-06	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.1E-01	1.0E-03	0.0E+00	1.0E-01	0E+00	0.0E+00	9.3E-02	1.0E-03	0.0E+00	NA	NA

RANGE NAME: WS4

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP2
LAST UPDATED: 07/23/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (L)

EXPOSURE POINT: LANDFILL (C)
MEDIUM: GWATER (INH)
ROUTE: INHALATION

HIFs = 1.3E-01
HIFc = 0.0E+00
HIFl = 1.1E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	2.2E-01	1.3E-01	1	2.9E-02	3.0E+00	1.0E-02		0.0E+00		0.0E+00		ERR	2.2E-01	1.1E-02	1	2.4E-03	NA	NA
2	1,1-Dichloroet	1.0E-01	1.3E-01	1	1.3E-02	1.0E+00	1E-02							1.0E-01	1.1E-02	1	1.1E-03	NA	NA
3	1,1-Dichloroet	2.3E-02	1.3E-01	1	3.0E-03	NA	NA							2.3E-02	1.1E-02	1	2.6E-04	1.8E-01	5E-05
4	1,2-Dichloroet	1.8E-01	1.3E-01	1	2.4E-02	NA	NA							1.8E-01	1.1E-02	1	2.0E-03	NA	NA
5	2-Butanone	1.8E-01	1.3E-01	1	2.3E-02	9.0E-01	3E-02							1.8E-01	1.1E-02	1	2.0E-03	NA	NA
6	4-Methyl-2-pen	5.0E-02	1.3E-01	1	6.4E-03	2.0E-01	3E-02							5.0E-02	1.1E-02	1	5.4E-04	NA	NA
7	Acetone	5.6E-01	1.3E-01	1	7.3E-02	NA	NA							5.6E-01	1.1E-02	1	6.2E-03	NA	NA
8	Benzene	4.7E-02	1.3E-01	1	6.1E-03	NA	NA							4.7E-02	1.1E-02	1	5.2E-04	2.9E-02	1E-05
9	Bromodichlorom	2.3E-02	1.3E-01	1	3.0E-03	NA	NA							2.3E-02	1.1E-02	1	2.6E-04	NA	NA
10	Carbon Disulfi	5.7E-02	1.3E-01	1	7.4E-03	2.9E-03	3E+00							5.7E-02	1.1E-02	1	6.3E-04	NA	NA
11	Chlorobenzene	1.7E-03	1.3E-01	1	2.2E-04	5.0E-02	4E-03							1.7E-03	1.1E-02	1	1.9E-05	NA	NA
12	Chloroform	3.4E-02	1.3E-01	1	4.5E-03	NA	NA							3.4E-02	1.1E-02	1	3.8E-04	8.1E-02	3E-05
13	Ethyl Benzene	2.9E-01	1.3E-01	1	3.8E-02	2.9E-01	1E-01							2.9E-01	1.1E-02	1	3.2E-03	NA	NA
14	Methylene Chlo	2.3E-01	1.3E-01	1	3.0E-02	8.6E-01	4E-02							2.3E-01	1.1E-02	1	2.6E-03	1.6E-03	4E-06
15	Styrene	3.0E-03	1.3E-01	1	3.9E-04	NA	NA							3.0E-03	1.1E-02	1	3.3E-05	2.0E-03	7E-08
16	Tetrachloroeth	2.3E-02	1.3E-01	1	2.9E-03	NA	NA							2.3E-02	1.1E-02	1	2.5E-04	1.8E-03	4E-07
17	Toluene	4.7E-01	1.3E-01	1	6.1E-02	5.7E-01	1E-01							4.7E-01	1.1E-02	1	5.2E-03	NA	NA
18	Trichloroethen	2.4E-01	1.3E-01	1	3.2E-02	NA	NA							2.4E-01	1.1E-02	1	2.7E-03	6.0E-03	2E-05
19	Vinyl Chloride	2.8E-02	1.3E-01	1	3.6E-03	NA	NA							2.8E-02	1.1E-02	1	3.0E-04	2.9E-01	9E-05
20	Xylenes (Total	1.8E-01	1.3E-01	1	2.3E-02	8.6E-02	3E-01							1.8E-01	1.1E-02	1	1.9E-03	NA	NA
21	1,4-Dichlorobe	0.0E+00	1.3E-01	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
22	2,4-Dimethylph	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluora	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)pe	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
32	Benzo(k)fluora	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
36	Butylbenzylpht	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
37	Chrysene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphth	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthala	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Tota	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	1.3E-01	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
63	Beryllium, Tot	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Tota	0.0E+00	1.3E-01	1	0.0E+00	5.7E-06	0E+00	0.0E+00	1.1E-02	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	1.3E-01	1	0.0E+00	8.6E-05	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
70	Thallium, Tota	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
71	Vanadium, Tota	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA

RANGE NAME: WS5

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP2
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (L)

EXPOSURE POINT: LANDFILL (C)
MEDIUM: AIR-PART
ROUTE: INHALATION

HIFs = 1.3E+00
HIFc = 0.0E+00
HIFl = 1.1E-01

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	1.3E+00	1	0.0E+00	3.0E+00	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	1.8E-01	0E+00
4	1,2-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
5	2-Butanone	0.0E+00	1.3E+00	1	0.0E+00	9.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.3E+00	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
7	Acetone	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
8	Benzene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
10	Carbon Disulfi	0.0E+00	1.3E+00	1	0.0E+00	2.9E-03	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
11	Chlorobenzene	0.0E+00	1.3E+00	1	0.0E+00	5.0E-02	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene	0.0E+00	1.3E+00	1	0.0E+00	2.9E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
14	Methylene Chlo	0.0E+00	1.3E+00	1	0.0E+00	8.6E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	1.6E-03	0E+00
15	Styrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroeth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	1.8E-03	0E+00
17	Toluene	0.0E+00	1.3E+00	1	0.0E+00	5.7E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
18	Trichloroethen	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total	0.0E+00	1.3E+00	1	0.0E+00	8.6E-02	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
21	1,4-Dichlorobe	1.3E-09	1.3E+00	1	1.7E-09	2.0E-01	8E-09							1.3E-09	1.1E-01	1	1.4E-10	NA	NA
22	2,4-Dimethylph	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
28	Benzo(a)anthra	1.7E-09	1.3E+00	1	2.2E-09	NA	NA							1.7E-09	1.1E-01	1	1.9E-10	6.1E+00	1E-09
29	Benzo(a)pyrene	2.6E-09	1.3E+00	1	3.4E-09	NA	NA							2.6E-09	1.1E-01	1	2.9E-10	6.1E+00	2E-09
30	Benzo(b)fluora	2.8E-09	1.3E+00	1	3.7E-09	NA	NA							2.8E-09	1.1E-01	1	3.1E-10	6.1E+00	2E-09
31	Benzo(g,h,i)pe	2.8E-09	1.3E+00	1	3.7E-09	NA	NA							2.8E-09	1.1E-01	1	3.1E-10	NA	NA
32	Benzo(k)fluora	2.2E-09	1.3E+00	1	2.9E-09	NA	NA							2.2E-09	1.1E-01	1	2.4E-10	6.1E+00	1E-09
33	Benzoic acid	4.6E-10	1.3E+00	1	5.9E-10	NA	NA							4.6E-10	1.1E-01	1	5.0E-11	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	9.0E-09	1.3E+00	1	1.2E-08	NA	NA							9.0E-09	1.1E-01	1	9.9E-10	NA	NA
36	Butylbenzylpht	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
37	Chrysene	2.2E-09	1.3E+00	1	2.9E-09	NA	NA							2.2E-09	1.1E-01	1	2.4E-10	6.1E+00	1E-09
38	Di-n-butylphth	2.6E-09	1.3E+00	1	3.4E-09	NA	NA							2.6E-09	1.1E-01	1	2.8E-10	NA	NA
39	Di-n-octylphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthala	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
43	Fluoranthene	2.0E-09	1.3E+00	1	2.6E-09	NA	NA	2.0E-09	1.1E-01	1	2.2E-10	NA	NA
44	Fluorene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	2.8E-09	1.3E+00	1	3.7E-09	NA	NA	2.8E-09	1.1E-01	1	3.1E-10	6.1E+00	2E-09
46	Naphthalene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
47	Phenanthrene	1.2E-09	1.3E+00	1	1.5E-09	NA	NA	1.2E-09	1.1E-01	1	1.3E-10	NA	NA
48	Phenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
49	Pyrene	1.9E-09	1.3E+00	1	2.5E-09	NA	NA	1.9E-09	1.1E-01	1	2.1E-10	NA	NA
50	4,4-DDE	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Tota	1.3E-07	1.3E+00	1	1.7E-07	NA	NA	1.3E-07	1.1E-01	1	1.5E-08	NA	NA
61	Arsenic, Total	6.6E-09	1.3E+00	1	8.6E-09	NA	NA	6.6E-09	1.1E-01	1	7.3E-10	1.5E+01	1E-08
62	Barium, Total	7.0E-08	1.3E+00	1	9.1E-08	1.0E-03	9E-05	7.0E-08	1.1E-01	1	7.7E-09	NA	NA
63	Beryllium, Tot	3.5E-09	1.3E+00	1	4.5E-09	NA	NA	3.5E-09	1.1E-01	1	3.8E-10	8.4E+00	3E-09
64	Cadmium, Total	3.9E-09	1.3E+00	1	5.0E-09	NA	NA	3.9E-09	1.1E-01	1	4.3E-10	6.3E+00	3E-09
65	Cadmium, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Tota	2.9E-08	1.3E+00	1	3.8E-08	5.7E-06	7E-03	2.9E-08	1.1E-01	1	3.2E-09	4.2E+01	1E-07
67	Mercury, Total	0.0E+00	1.3E+00	1	0.0E+00	8.6E-05	0E+00	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
68	Nickel, Total	2.8E-08	1.3E+00	1	3.6E-08	NA	NA	2.8E-08	1.1E-01	1	3.0E-09	NA	NA
69	Silver, Total	6.6E-09	1.3E+00	1	8.6E-09	NA	NA	6.6E-09	1.1E-01	1	7.2E-10	NA	NA
70	Thallium, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
71	Vanadium, Tota	3.5E-08	1.3E+00	1	4.6E-08	NA	NA	3.5E-08	1.1E-01	1	3.9E-09	NA	NA
72	Cyanide, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA

RANGE NAME: WS6

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP2
LAST UPDATED: 07/23/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (L)

EXPOSURE POINT: LANDFILL (C)
MEDIUM: AIR-VOC'S
ROUTE: INHALATION

HIFs = 1.3E+00
HIFc = 0.0E+00
HIFl = 1.1E-01

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	1.3E+00	1	0.0E+00	3.0E+00	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
3	1,1-Dichloroet	7.6E-05	1.3E+00	1	9.9E-05	NA	NA							8.3E-05	1.1E-01	1	9.1E-06	1.8E-01	2E-06
4	1,2-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
5	2-Butanone	8.7E-06	1.3E+00	1	1.1E-05	9.0E-01	1E-05							1.7E-05	1.1E-01	1	1.9E-06	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.3E+00	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
7	Acetone	9.5E-05	1.3E+00	1	1.2E-04	NA	NA							7.3E-05	1.1E-01	1	8.0E-06	NA	NA
8	Benzene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
10	Carbon Disulfi	3.0E-05	1.3E+00	1	3.9E-05	2.9E-03	1E-02							6.8E-05	1.1E-01	1	7.5E-06	NA	NA
11	Chlorobenzene	0.0E+00	1.3E+00	1	0.0E+00	5.0E-02	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene	3.0E-06	1.3E+00	1	3.9E-06	2.9E-01	1E-05							6.5E-06	1.1E-01	1	7.2E-07	NA	NA
14	Methylene Chlo	6.0E-05	1.3E+00	1	7.8E-05	8.6E-01	9E-05							8.4E-05	1.1E-01	1	9.2E-06	1.6E-03	1E-08
15	Styrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroeth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							2.4E-05	1.1E-01	1	2.6E-06	1.8E-03	5E-09
17	Toluene	1.3E-05	1.3E+00	1	1.7E-05	5.7E-01	3E-05							1.5E-05	1.1E-01	1	1.7E-06	NA	NA
18	Trichloroethen	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							2.4E-05	1.1E-01	1	2.6E-06	6.0E-03	2E-08
19	Vinyl Chloride	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total	1.4E-05	1.3E+00	1	1.8E-05	8.6E-02	2E-04							1.6E-05	1.1E-01	1	1.8E-06	NA	NA
21	1,4-Dichlorobe	0.0E+00	1.3E+00	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
22	2,4-Dimethylph	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluora	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)pe	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
32	Benzo(k)fluora	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
36	Butylbenzylpht	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
37	Chrysene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00	
41	Diethylphthala	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
42	Dimethylphthal	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
43	Fluoranthene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
44	Fluorene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
45	Indeno(1,2,3-c	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00	
46	Naphthalene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
47	Phenanthrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
48	Phenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
49	Pyrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
50	4,4-DDE	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
51	4,4-DDT	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	3.4E-01	0E+00	
52	Aldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.7E+01	0E+00	
53	alpha-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00	
54	Aroclor-1248	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
55	beta-BHC	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.8E+00	0E+00	
56	Dieldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.6E+01	0E+00	
57	Endosulfan II	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
58	gamma-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00	
59	Heptachlor	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	4.6E+00	0E+00	
60	Antimony, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
61	Arsenic, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.5E+01	0E+00	
62	Barium, Total	0.0E+00	1.3E+00	1	0.0E+00	1.0E-03	0E+00			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
63	Beryllium, Tot	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	8.4E+00	0E+00	
64	Cadmium, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	6.3E+00	0E+00	
65	Cadmium, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	6.3E+00	0E+00	
66	Chromium, Tota	0.0E+00	1.3E+00	1	0.0E+00	5.7E-06	0E+00			0.0E+00	1.1E-01	1	0.0E+00	4.2E+01	0E+00	
67	Mercury, Total	0.0E+00	1.3E+00	1	0.0E+00	8.6E-05	0E+00			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
68	Nickel, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
69	Silver, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
70	Thallium, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
71	Vanadium, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
72	Cyanide, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
73	Nitrogen, Nitr	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	

RANGE NAME: SSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP2
LAST UPDATED: 07/23/92

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT CHILD (L)

SUBCHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 LANDFILL (C SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL (C GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 LANDFILL (C GROUNDWATER DERMAL (FROM WS3)	SCENARIO 4 LANDFILL (C GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 LANDFILL (C AIR-PART INHALATION (FROM WS5)	SCENARIO 6 LANDFILL (C) AIR-VOC'S INHALATION (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	1.4E-02	4.1E-04	2.9E-02	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	6.6E-03	1.0E-04	1.3E-02	0.0E+00	0.0E+00
3	1,1-Dichloroet	5.1E-08	1.5E-03	4.1E-05	3.0E-03	0.0E+00	9.9E-05
4	1,2-Dichloroet	0.0E+00	1.2E-02	2.0E-04	2.4E-02	0.0E+00	0.0E+00
5	2-Butanone	5.2E-08	1.2E-02	2.2E-05	2.3E-02	0.0E+00	1.1E-05
6	4-Methyl-2-pen	0.0E+00	3.2E-03	1.5E-05	6.4E-03	0.0E+00	0.0E+00
7	Acetone	3.9E-07	3.6E-02	3.5E-05	7.3E-02	0.0E+00	1.2E-04
8	Benzene	0.0E+00	3.0E-03	1.1E-04	6.1E-03	0.0E+00	0.0E+00
9	Bromodichlorom	0.0E+00	1.5E-03	1.5E-05	3.0E-03	0.0E+00	0.0E+00
10	Carbon Disulfi	2.5E-08	3.6E-03	1.5E-04	7.4E-03	0.0E+00	3.9E-05
11	Chlorobenzene	0.0E+00	1.1E-04	7.7E-06	2.2E-04	0.0E+00	0.0E+00
12	Chloroform	0.0E+00	2.2E-03	3.4E-05	4.5E-03	0.0E+00	0.0E+00
13	Ethyl Benzene	2.6E-08	1.9E-02	2.4E-03	3.8E-02	0.0E+00	3.9E-06
14	Methylene Chlo	5.2E-08	1.5E-02	1.2E-04	3.0E-02	0.0E+00	7.8E-05
15	Styrene	0.0E+00	1.9E-04	1.8E-05	3.9E-04	0.0E+00	0.0E+00
16	Tetrachloroeth	0.0E+00	1.4E-03	1.2E-04	2.9E-03	0.0E+00	0.0E+00
17	Toluene	5.1E-08	3.0E-02	2.3E-03	6.1E-02	0.0E+00	1.7E-05
18	Trichloroethen	0.0E+00	1.6E-02	4.3E-04	3.2E-02	0.0E+00	0.0E+00
19	Vinyl Chloride	0.0E+00	1.8E-03	2.1E-05	3.6E-03	0.0E+00	0.0E+00
20	Xylenes (Total	5.2E-08	1.1E-02	1.5E-03	2.3E-02	0.0E+00	1.8E-05
21	1,4-Dichlorobe	2.7E-06	5.2E-04	5.5E-05	0.0E+00	1.7E-09	0.0E+00
22	2,4-Dimethylph	0.0E+00	2.5E-03	6.5E-05	0.0E+00	0.0E+00	0.0E+00
23	2-Methylnaphth	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
24	2-Methylphenol	0.0E+00	1.2E-02	2.1E-04	0.0E+00	0.0E+00	0.0E+00
25	Acenaphthene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
26	Acenaphthylene	0.0E+00	6.4E-05	NA	0.0E+00	0.0E+00	0.0E+00
27	Anthracene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
28	Benzo(a)anthra	3.6E-06	0.0E+00	NA	0.0E+00	2.2E-09	0.0E+00
29	Benzo(a)pyrene	5.6E-06	2.6E-04	NA	0.0E+00	3.4E-09	0.0E+00
30	Benzo(b)fluora	6.0E-06	3.6E-04	NA	0.0E+00	3.7E-09	0.0E+00
31	Benzo(g,h,i)pe	6.0E-06	1.3E-04	NA	0.0E+00	3.7E-09	0.0E+00
32	Benzo(k)fluora	4.7E-06	1.3E-04	NA	0.0E+00	2.9E-09	0.0E+00
33	Benzoic acid	9.8E-07	1.6E-03	2.0E-05	0.0E+00	5.9E-10	0.0E+00
34	Benzyl alcohol	0.0E+00	3.2E-04	1.4E-06	0.0E+00	0.0E+00	0.0E+00
35	bis(2-Ethylhex	1.9E-05	1.4E-03	7.7E-05	0.0E+00	1.2E-08	0.0E+00
36	Butylbenzylpht	0.0E+00	5.2E-04	2.1E-05	0.0E+00	0.0E+00	0.0E+00
37	Chrysene	4.7E-06	2.6E-04	NA	0.0E+00	2.9E-09	0.0E+00
38	Di-n-butylphth	5.5E-06	5.2E-04	4.4E-05	0.0E+00	3.4E-09	0.0E+00
39	Di-n-octylphth	0.0E+00	5.2E-04	6.4E-06	0.0E+00	0.0E+00	0.0E+00
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
41	Diethylphthala	0.0E+00	1.8E-03	1.5E-05	0.0E+00	0.0E+00	0.0E+00
42	Dimethylphthal	0.0E+00	5.2E-04	1.4E-06	0.0E+00	0.0E+00	0.0E+00

SUBCHRONIC RISK SUMMARY

FUTURE
RESIDENT CHILD (L)

SUBCHRONIC HAZARD QUOTIENT

	CHEMICAL NAME	SCENARIO 1 LANDFILL (C SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL (C GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 LANDFILL (C GROUNDWATER DERMAL (FROM WS3)	SCENARIO 4 LANDFILL (C GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 LANDFILL (C AIR-PART INHALATION (FROM WS5)	SCENARIO 6 LANDFILL (C) AIR-VOC'S INHALATION (FROM WS6)
1	1,1,1-Trichlor	0E+00	2E-02	5E-04	1E-02	0E+00	0E+00
2	1,1-Dichloroet	0E+00	7E-03	1E-04	1E-02	0E+00	0E+00
3	1,1-Dichloroet	6E-06	2E-01	5E-03	NA	NA	NA
4	1,2-Dichloroet	0E+00	1E-01	2E-03	NA	NA	NA
5	2-Butanone	1E-07	2E-02	4E-05	3E-02	0E+00	1E-05
6	4-Methyl-2-pen	0E+00	6E-03	3E-05	3E-02	0E+00	0E+00
7	Acetone	4E-07	4E-02	4E-05	NA	NA	NA
8	Benzene	NA	NA	NA	NA	NA	NA
9	Bromodichlorom	0E+00	8E-02	7E-04	NA	NA	NA
10	Carbon Disulfi	2E-07	4E-02	2E-03	3E+00	0E+00	1E-02
11	Chlorobenzene	0E+00	5E-04	4E-05	4E-03	0E+00	0E+00
12	Chloroform	0E+00	2E-01	3E-03	NA	NA	NA
13	Ethyl Benzene	3E-08	2E-02	2E-03	1E-01	0E+00	1E-05
14	Methylene Chlo	9E-07	2E-01	2E-03	4E-02	0E+00	9E-05
15	Styrene	0E+00	1E-04	9E-06	NA	NA	NA
16	Tetrachloroeth	0E+00	1E-02	1E-03	NA	NA	NA
17	Toluene	3E-08	2E-02	1E-03	1E-01	0E+00	3E-05
18	Trichloroethen	NA	NA	NA	NA	NA	NA
19	Vinyl Chloride	NA	NA	NA	NA	NA	NA
20	Xylenes (Total	1E-08	3E-03	4E-04	3E-01	0E+00	2E-04
21	1,4-Dichlorobe	NA	NA	NA	0E+00	8E-09	0E+00
22	2,4-Dimethylph	0E+00	1E-02	3E-04	NA	NA	NA
23	2-Methylnaphth	0E+00	0E+00	NA	NA	NA	NA
24	2-Methylphenol	0E+00	2E-02	4E-04	NA	NA	NA
25	Acenaphthene	0E+00	0E+00	NA	NA	NA	NA
26	Acenaphthylene	0E+00	1E-04	NA	NA	NA	NA
27	Anthracene	0E+00	0E+00	NA	NA	NA	NA
28	Benzo(a)anthra	1E-05	0E+00	NA	NA	NA	NA
29	Benzo(a)pyrene	2E-05	9E-04	NA	NA	NA	NA
30	Benzo(b)fluora	2E-05	1E-03	NA	NA	NA	NA
31	Benzo(g,h,i)pe	2E-05	4E-04	NA	NA	NA	NA
32	Benzo(k)fluora	2E-05	4E-04	NA	NA	NA	NA
33	Benzoic acid	2E-07	4E-04	5E-06	NA	NA	NA
34	Benzyl alcohol	0E+00	3E-04	1E-06	NA	NA	NA
35	bis(2-Ethylhex	1E-03	7E-02	4E-03	NA	NA	NA
36	Butylbenzylpht	0E+00	3E-04	1E-05	NA	NA	NA
37	Chrysene	2E-05	9E-04	NA	NA	NA	NA
38	Di-n-butylphth	6E-06	5E-04	4E-05	NA	NA	NA
39	Di-n-octylphth	0E+00	3E-02	3E-04	NA	NA	NA
40	Dibenzo(a,h)an	0E+00	0E+00	NA	NA	NA	NA
41	Diethylphthala	0E+00	2E-04	2E-06	NA	NA	NA
42	Dimethylphthal	0E+00	5E-04	1E-06	NA	NA	NA

43 Fluoranthene	4.3E-06	3.6E-04	NA	0.0E+00	2.6E-09	0.0E+00	1E-05	9E-04	NA	NA	NA	NA
44 Fluorene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	NA	NA	NA	NA
45 Indeno(1,2,3-c	6.1E-06	1.3E-04	NA	0.0E+00	3.7E-09	0.0E+00	2E-05	4E-04	NA	NA	NA	NA
46 Naphthalene	0.0E+00	1.9E-04	NA	0.0E+00	0.0E+00	0.0E+00	0E+00	5E-03	NA	NA	NA	NA
47 Phenanthrene	2.5E-06	3.6E-04	NA	0.0E+00	1.5E-09	0.0E+00	9E-06	1E-03	NA	NA	NA	NA
48 Phenol	0.0E+00	1.7E-01	1.6E-03	0.0E+00	0.0E+00	0.0E+00	0E+00	3E-01	3E-03	NA	NA	NA
49 Pyrene	4.0E-06	3.6E-04	NA	0.0E+00	2.5E-09	0.0E+00	1E-05	1E-03	NA	NA	NA	NA
50 4,4-DDE	0.0E+00	2.2E-05	9.0E-06	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
51 4,4-DDT	0.0E+00	1.8E-05	1.3E-05	0.0E+00	0.0E+00	0.0E+00	0E+00	4E-02	3E-02	NA	NA	NA
52 Aldrin	0.0E+00	5.7E-06	1.6E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	2E-01	5E-04	NA	NA	NA
53 alpha-Chlordan	0.0E+00	1.4E-05	2.2E-04	0.0E+00	0.0E+00	0.0E+00	0E+00	2E-01	4E+00	NA	NA	NA
54 Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
55 beta-BHC	0.0E+00	4.0E-06	1.5E-07	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
56 Dieldrin	0.0E+00	4.7E-06	1.3E-07	0.0E+00	0.0E+00	0.0E+00	0E+00	9E-02	3E-03	NA	NA	NA
57 Endosulfan II	0.0E+00	6.4E-06	2.5E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	3E-02	1E-04	NA	NA	NA
58 gamma-Chlordan	0.0E+00	1.9E-06	3.1E-07	0.0E+00	0.0E+00	0.0E+00	0E+00	3E-02	5E-03	NA	NA	NA
59 Heptachlor	0.0E+00	4.1E-06	7.8E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	8E-03	2E-04	NA	NA	NA
60 Antimony, Tota	2.9E-04	3.3E-01	5.7E-04	0.0E+00	1.7E-07	0.0E+00	7E-01	8E+02	3E+01	NA	NA	NA
61 Arsenic, Total	1.4E-05	1.1E-03	1.8E-06	0.0E+00	8.6E-09	0.0E+00	5E-02	4E+00	6E-03	NA	NA	NA
62 Barium, Total	1.5E-04	5.1E-03	8.8E-06	0.0E+00	9.1E-08	0.0E+00	2E-03	7E-02	1E-03	0E+00	9E-05	0E+00
63 Beryllium, Tot	7.4E-06	1.6E-01	2.8E-04	0.0E+00	4.5E-09	0.0E+00	1E-03	3E+01	6E+01	NA	NA	NA
64 Cadmium, Total	8.3E-06	0.0E+00	0.0E+00	0.0E+00	5.0E-09	0.0E+00	NA	NA	NA	NA	NA	NA
65 Cadmium, Total	0.0E+00	7.2E-02	1.2E-04	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
66 Chromium, Tota	6.2E-05	1.9E-01	3.2E-04	0.0E+00	3.8E-08	0.0E+00	3E-03	9E+00	1E-01	0E+00	7E-03	0E+00
67 Mercury, Total	0.0E+00	3.8E-05	6.6E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	1E-01	1E-03	0E+00	0E+00	0E+00
68 Nickel, Total	5.9E-05	2.2E-03	3.8E-06	0.0E+00	3.6E-08	0.0E+00	3E-03	1E-01	4E-03	NA	NA	NA
69 Silver, Total	1.4E-05	3.3E-04	5.7E-07	0.0E+00	8.6E-09	0.0E+00	3E-03	7E-02	2E-03	NA	NA	NA
70 Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	NA	NA	NA
71 Vanadium, Tota	7.6E-05	1.6E-01	2.7E-04	0.0E+00	4.6E-08	0.0E+00	1E-02	2E+01	2E+00	NA	NA	NA
72 Cyanide, Total	0.0E+00	6.3E-03	1.1E-05	0.0E+00	0.0E+00	0.0E+00	0E+00	3E-01	5E-04	NA	NA	NA
73 Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	NA	NA	NA
					PATHWAY SUM (HI)		8E-01	9E+02	1E+02	4E+00	7E-03	1E-02
					POPULATION TOTAL		1E+03					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP2
LAST UPDATED: 07/23/92

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT CHILD (L)

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 LANDFILL (C SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL (C GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 LANDFILL (C GROUNDWATER DERMAL (FROM WS3)	SCENARIO 4 LANDFILL (C GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 LANDFILL (C AIR-PART INHALATION (FROM WS5)	SCENARIO 6 LANDFILL (C) AIR-VOC'S INHALATION (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	1.2E-03	3.5E-04	2.4E-03	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	5.7E-04	8.5E-05	1.1E-03	0.0E+00	0.0E+00
3	1,1-Dichloroet	4.3E-09	1.3E-04	3.5E-05	2.6E-04	0.0E+00	9.1E-06
4	1,2-Dichloroet	0.0E+00	1.00E-03	1.7E-04	2.0E-03	0.0E+00	0.0E+00
5	2-Butanone	4.4E-09	9.9E-04	1.8E-05	2.0E-03	0.0E+00	1.9E-06
6	4-Methyl-2-pen	0.0E+00	2.7E-04	1.3E-05	5.4E-04	0.0E+00	0.0E+00
7	Acetone	3.3E-08	3.1E-03	3.0E-05	6.2E-03	0.0E+00	8.0E-06
8	Benzene	0.0E+00	2.6E-04	9.2E-05	5.2E-04	0.0E+00	0.0E+00
9	Bromodichlorom	0.0E+00	1.3E-04	1.3E-05	2.6E-04	0.0E+00	0.0E+00
10	Carbon Disulfi	2.1E-09	3.1E-04	1.3E-04	6.3E-04	0.0E+00	7.5E-06
11	Chlorobenzene	0.0E+00	9.4E-06	6.5E-06	1.9E-05	0.0E+00	0.0E+00
12	Chloroform	0.0E+00	1.9E-04	2.8E-05	3.8E-04	0.0E+00	0.0E+00
13	Ethyl Benzene	2.2E-09	1.6E-03	2.0E-03	3.2E-03	0.0E+00	7.2E-07
14	Methylene Chlo	4.4E-09	1.3E-03	9.8E-05	2.6E-03	0.0E+00	9.2E-06
15	Styrene	0.0E+00	1.7E-05	1.5E-05	3.3E-05	0.0E+00	0.0E+00
16	Tetrachloroeth	0.0E+00	1.2E-04	1.0E-04	2.5E-04	0.0E+00	2.6E-06
17	Toluene	4.3E-09	2.6E-03	2.0E-03	5.2E-03	0.0E+00	1.7E-06
18	Trichloroethen	0.0E+00	1.3E-03	3.6E-04	2.7E-03	0.0E+00	2.6E-06
19	Vinyl Chloride	0.0E+00	1.5E-04	1.9E-05	3.0E-04	0.0E+00	0.0E+00
20	Xylenes (Total	4.4E-09	9.7E-04	1.3E-03	1.9E-03	0.0E+00	1.8E-06
21	1,4-Dichlorobe	2.3E-07	4.5E-05	4.7E-05	0.0E+00	1.4E-10	0.0E+00
22	2,4-Dimethylph	0.0E+00	2.2E-04	5.5E-05	0.0E+00	0.0E+00	0.0E+00
23	2-Methylnaphth	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
24	2-Methylphenol	0.0E+00	1.0E-03	1.8E-04	0.0E+00	0.0E+00	0.0E+00
25	Acenaphthene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
26	Acenaphthylene	0.0E+00	5.5E-06	NA	0.0E+00	0.0E+00	0.0E+00
27	Anthracene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
28	Benzo(a)anthra	3.1E-07	0.0E+00	NA	0.0E+00	1.9E-10	0.0E+00
29	Benzo(a)pyrene	4.7E-07	2.2E-05	NA	0.0E+00	2.9E-10	0.0E+00
30	Benzo(b)fluora	5.1E-07	3.1E-05	NA	0.0E+00	3.1E-10	0.0E+00
31	Benzo(g,h,i)pe	5.1E-07	1.1E-05	NA	0.0E+00	3.1E-10	0.0E+00
32	Benzo(k)fluora	4.0E-07	1.1E-05	NA	0.0E+00	2.4E-10	0.0E+00
33	Benzoic acid	8.3E-08	1.4E-04	1.7E-05	0.0E+00	5.0E-11	0.0E+00
34	Benzyl alcohol	0.0E+00	2.8E-05	1.2E-06	0.0E+00	0.0E+00	0.0E+00
35	bis(2-Ethylhex	1.6E-06	1.2E-04	6.5E-05	0.0E+00	9.9E-10	0.0E+00
36	Butylbenzylpht	0.0E+00	4.5E-05	1.8E-05	0.0E+00	0.0E+00	0.0E+00
37	Chrysene	4.0E-07	2.2E-05	NA	0.0E+00	2.4E-10	0.0E+00
38	Di-n-butylphth	4.7E-07	4.5E-05	3.7E-05	0.0E+00	2.8E-10	0.0E+00
39	Di-n-octylphth	0.0E+00	4.5E-05	5.4E-06	0.0E+00	0.0E+00	0.0E+00
40	Dibenzo(a,h)an	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00
41	Diethylphthala	0.0E+00	1.5E-04	1.2E-05	0.0E+00	0.0E+00	0.0E+00
42	Dimethylphthal	0.0E+00	4.5E-05	1.2E-06	0.0E+00	0.0E+00	0.0E+00

LIFETIME RISK SUMMARY

FUTURE
RESIDENT CHILD (L)

LIFETIME EXCESS CANCER RISK

	CHEMICAL NAME	SCENARIO 1 LANDFILL (C SOIL ORAL (FROM WS1)	SCENARIO 2 LANDFILL (C GROUNDWATER ORAL (FROM WS2)	SCENARIO 3 LANDFILL (C GROUNDWATER DERMAL (FROM WS3)	SCENARIO 4 LANDFILL (C GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 LANDFILL (C AIR-PART INHALATION (FROM WS5)	SCENARIO 6 LANDFILL (C) AIR-VOC'S INHALATION (FROM WS6)
1	1,1,1-Trichlor	NA	NA	NA	NA	NA	NA
2	1,1-Dichloroet	NA	NA	NA	NA	NA	NA
3	1,1-Dichloroet	3E-09	8E-05	2E-05	5E-05	0E+00	2E-06
4	1,2-Dichloroet	NA	NA	NA	NA	NA	NA
5	2-Butanone	NA	NA	NA	NA	NA	NA
6	4-Methyl-2-pen	NA	NA	NA	NA	NA	NA
7	Acetone	NA	NA	NA	NA	NA	NA
8	Benzene	0E+00	7E-06	3E-06	1E-05	0E+00	0E+00
9	Bromodichlorom	0E+00	2E-05	2E-06	NA	NA	NA
10	Carbon Disulfi	NA	NA	NA	NA	NA	NA
11	Chlorobenzene	NA	NA	NA	NA	NA	NA
12	Chloroform	0E+00	1E-06	2E-07	3E-05	0E+00	0E+00
13	Ethyl Benzene	NA	NA	NA	NA	NA	NA
14	Methylene Chlo	3E-11	1E-05	7E-07	4E-06	0E+00	1E-08
15	Styrene	0E+00	5E-07	5E-07	7E-08	0E+00	0E+00
16	Tetrachloroeth	0E+00	6E-06	5E-06	4E-07	0E+00	5E-09
17	Toluene	NA	NA	NA	NA	NA	NA
18	Trichloroethen	0E+00	1E-05	4E-06	2E-05	0E+00	2E-08
19	Vinyl Chloride	0E+00	3E-04	3E-05	9E-05	0E+00	0E+00
20	Xylenes (Total	NA	NA	NA	NA	NA	NA
21	1,4-Dichlorobe	6E-09	1E-06	1E-06	NA	NA	NA
22	2,4-Dimethylph	NA	NA	NA	NA	NA	NA
23	2-Methylnaphth	NA	NA	NA	NA	NA	NA
24	2-Methylphenol	NA	NA	NA	NA	NA	NA
25	Acenaphthene	NA	NA	NA	NA	NA	NA
26	Acenaphthylene	NA	NA	NA	NA	NA	NA
27	Anthracene	NA	NA	NA	NA	NA	NA
28	Benzo(a)anthra	4E-06	0E+00	NA	0E+00	1E-09	0E+00
29	Benzo(a)pyrene	6E-06	3E-04	NA	0E+00	2E-09	0E+00
30	Benzo(b)fluora	6E-06	4E-04	NA	0E+00	2E-09	0E+00
31	Benzo(g,h,i)pe	NA	NA	NA	NA	NA	NA
32	Benzo(k)fluora	5E-06	1E-04	NA	0E+00	1E-09	0E+00
33	Benzoic acid	NA	NA	NA	NA	NA	NA
34	Benzyl alcohol	NA	NA	NA	NA	NA	NA
35	bis(2-Ethylhex	2E-08	2E-06	9E-07	NA	NA	NA
36	Butylbenzylpht	NA	NA	NA	NA	NA	NA
37	Chrysene	5E-06	3E-04	NA	0E+00	1E-09	0E+00
38	Di-n-butylphth	NA	NA	NA	NA	NA	NA
39	Di-n-octylphth	NA	NA	NA	NA	NA	NA
40	Dibenzo(a,h)an	0E+00	0E+00	NA	0E+00	0E+00	0E+00
41	Diethylphthala	NA	NA	NA	NA	NA	NA
42	Dimethylphthal	NA	NA	NA	NA	NA	NA

43 Fluoranthene	3.6E-07	3.1E-05	NA	0.0E+00	2.2E-10	0.0E+00	NA	NA	NA	NA	NA	NA
44 Fluorene	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
45 Indeno(1,2,3-c	5.1E-07	1.1E-05	NA	0.0E+00	3.1E-10	0.0E+00	6E-06	1E-04	NA	0E+00	2E-09	0E+00
46 Naphthalene	0.0E+00	1.7E-05	NA	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
47 Phenanthrene	2.1E-07	3.1E-05	NA	0.0E+00	1.3E-10	0.0E+00	NA	NA	NA	NA	NA	NA
48 Phenol	0.0E+00	1.5E-02	1.4E-03	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
49 Pyrene	3.4E-07	3.1E-05	NA	0.0E+00	2.1E-10	0.0E+00	NA	NA	NA	NA	NA	NA
50 4,4-DDE	0.0E+00	1.9E-06	7.6E-06	0.0E+00	0.0E+00	0.0E+00	0E+00	6E-07	3E-06	NA	NA	NA
51 4,4-DDT	0.0E+00	1.5E-06	1.1E-05	0.0E+00	0.0E+00	0.0E+00	0E+00	5E-07	4E-06	0E+00	0E+00	0E+00
52 Aldrin	0.0E+00	4.9E-07	1.3E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	8E-06	2E-07	0E+00	0E+00	0E+00
53 alpha-Chlordan	0.0E+00	1.2E-06	1.8E-04	0.0E+00	0.0E+00	0.0E+00	0E+00	2E-06	2E-04	0E+00	0E+00	0E+00
54 Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	NA	NA	NA
55 beta-BHC	0.0E+00	3.5E-07	1.2E-07	0.0E+00	0.0E+00	0.0E+00	0E+00	6E-07	2E-07	0E+00	0E+00	0E+00
56 Dieldrin	0.0E+00	4.0E-07	1.1E-07	0.0E+00	0.0E+00	0.0E+00	0E+00	6E-06	2E-06	0E+00	0E+00	0E+00
57 Endosulfan II	0.0E+00	5.5E-07	2.1E-08	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
58 gamma-Chlordan	0.0E+00	1.6E-07	2.6E-07	0.0E+00	0.0E+00	0.0E+00	0E+00	2E-07	3E-07	0E+00	0E+00	0E+00
59 Heptachlor	0.0E+00	3.6E-07	6.6E-08	0.0E+00	0.0E+00	0.0E+00	0E+00	2E-06	3E-07	0E+00	0E+00	0E+00
60 Antimony, Tota	2.4E-05	2.9E-02	4.8E-04	0.0E+00	1.5E-08	0.0E+00	NA	NA	NA	NA	NA	NA
61 Arsenic, Total	1.2E-06	9.1E-05	1.5E-06	0.0E+00	7.3E-10	0.0E+00	2E-06	2E-04	3E-06	0E+00	1E-08	0E+00
62 Barium, Total	1.3E-05	4.4E-04	7.4E-06	0.0E+00	7.7E-09	0.0E+00	NA	NA	NA	NA	NA	NA
63 Beryllium, Tot	6.2E-07	1.4E-02	2.4E-04	0.0E+00	3.8E-10	0.0E+00	3E-06	6E-02	6E-01	0E+00	3E-09	0E+00
64 Cadmium, Total	7.0E-07	0.0E+00	0.0E+00	0.0E+00	4.3E-10	0.0E+00	NA	NA	NA	0E+00	3E-09	0E+00
65 Cadmium, Total	0.0E+00	6.2E-03	1.0E-04	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	0E+00	0E+00	0E+00
66 Chromium, Tota	5.2E-06	1.6E-02	2.7E-04	0.0E+00	3.2E-09	0.0E+00	NA	NA	NA	0E+00	1E-07	0E+00
67 Mercury, Total	0.0E+00	3.3E-06	5.6E-08	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
68 Nickel, Total	5.0E-06	1.9E-04	3.3E-06	0.0E+00	3.0E-09	0.0E+00	NA	NA	NA	NA	NA	NA
69 Silver, Total	1.2E-06	2.8E-05	4.8E-07	0.0E+00	7.2E-10	0.0E+00	NA	NA	NA	NA	NA	NA
70 Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
71 Vanadium, Tota	6.4E-06	1.3E-02	2.3E-04	0.0E+00	3.9E-09	0.0E+00	NA	NA	NA	NA	NA	NA
72 Cyanide, Total	0.0E+00	5.4E-04	9.1E-06	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
73 Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	NA
					TOTAL PATHWAY CANCER RISK		4E-05	6E-02	6E-01	2E-04	1E-07	2E-06
					POPULATION TOTAL EXCESS RISK		7E-01					

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP3
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: SOIL
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 3.7E-06
HIFl = 1.6E-06

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	3.7E-06	1	0.0E+00	9.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							0.0E+00	3.7E-06	1	0.0E+00	9.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroethene(total)							0.0E+00	3.7E-06	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
5	2-Butanone							0.0E+00	3.7E-06	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	3.7E-06	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
7	Acetone							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
8	Benzene							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfide							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
11	Chlorobenzene							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	3.7E-06	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
14	Methylene Chloride							4.0E-03	3.7E-06	1	1.5E-08	6.0E-02	2E-07	4.0E-03	1.6E-06	1	6.4E-09	7.5E-03	5E-11
15	Styrene							0.0E+00	3.7E-06	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroethene							5.4E-03	3.7E-06	1	2.0E-08	1.0E-02	2E-06	5.4E-03	1.6E-06	1	8.6E-09	5.1E-02	4E-10
17	Toluene							8.1E-03	3.7E-06	1	3.0E-08	2.0E-01	1E-07	8.1E-03	1.6E-06	1	1.3E-08	NA	NA
18	Trichloroethene							4.0E-03	3.7E-06	1	1.5E-08	NA	NA	4.0E-03	1.6E-06	1	6.4E-09	1.1E-02	7E-11
19	Vinyl Chloride							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total)							2.0E-03	3.7E-06	1	7.4E-09	2.0E+00	4E-09	2.0E-03	1.6E-06	1	3.2E-09	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylphenol							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							1.8E-02	3.7E-06	1	6.7E-08	4.0E-03	2E-05	1.8E-02	1.6E-06	1	2.9E-08	NA	NA
24	2-Methylphenol							0.0E+00	3.7E-06	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
25	Acenaphthene							3.1E-01	3.7E-06	1	1.1E-06	6.0E-02	2E-05	3.1E-01	1.6E-06	1	5.0E-07	NA	NA
26	Acenaphthylene							1.8E+00	3.7E-06	1	6.8E-06	6.0E-02	1E-04	1.8E+00	1.6E-06	1	3.0E-06	NA	NA
27	Anthracene							1.5E+00	3.7E-06	1	5.5E-06	3.0E-01	2E-05	1.5E+00	1.6E-06	1	2.4E-06	NA	NA
28	Benzo(a)anthracene							4.5E+00	3.7E-06	1	1.7E-05	3.0E-02	6E-04	4.5E+00	1.6E-06	1	7.2E-06	1.2E+01	9E-05
29	Benzo(a)pyrene							2.9E+00	3.7E-06	1	1.1E-05	3.0E-02	4E-04	2.9E+00	1.6E-06	1	4.6E-06	1.2E+01	6E-05
30	Benzo(b)fluoranthene							8.9E+00	3.7E-06	1	3.3E-05	3.0E-02	1E-03	8.9E+00	1.6E-06	1	1.4E-05	1.2E+01	2E-04
31	Benzo(g,h,i)perylene							1.5E+00	3.7E-06	1	5.7E-06	3.0E-02	2E-04	1.5E+00	1.6E-06	1	2.5E-06	NA	NA
32	Benzo(k)fluoranthene							4.5E+00	3.7E-06	1	1.7E-05	3.0E-02	6E-04	4.5E+00	1.6E-06	1	7.2E-06	1.2E+01	9E-05
33	Benzoic acid							0.0E+00	3.7E-06	1	0.0E+00	4.0E+00	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	3.7E-06	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							2.3E-01	3.7E-06	1	8.5E-07	2.0E-02	4E-05	2.3E-01	1.6E-06	1	3.7E-07	1.4E-02	5E-09
36	Butylbenzylphthalate							2.4E-01	3.7E-06	1	8.7E-07	2.0E-01	4E-06	2.4E-01	1.6E-06	1	3.8E-07	NA	NA
37	Chrysene							6.4E+00	3.7E-06	1	2.4E-05	3.0E-02	8E-04	6.4E+00	1.6E-06	1	1.0E-05	1.2E+01	1E-04
38	Di-n-butylphthalate							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							1.4E-01	3.7E-06	1	5.2E-07	2.0E-02	3E-05	1.4E-01	1.6E-06	1	2.2E-07	NA	NA

40	Dibenzo(a,h)anthracene	7.7E-01	3.7E-06	1	2.8E-06	3.0E-02	9E-05	7.7E-01	1.6E-06	1	1.2E-06	1.2E+01	1E-05
41	Diethylphthalate	0.0E+00	3.7E-06	1	0.0E+00	8.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
42	Dimethylphthalate	4.2E-02	3.7E-06	1	1.6E-07	1.0E+00	2E-07	4.2E-02	1.6E-06	1	6.7E-08	NA	NA
43	Fluoranthene	1.1E+01	3.7E-06	1	4.1E-05	4.0E-02	1E-03	1.1E+01	1.6E-06	1	1.8E-05	NA	NA
44	Fluorene	6.8E-01	3.7E-06	1	2.5E-06	4.0E-02	6E-05	6.8E-01	1.6E-06	1	1.1E-06	NA	NA
45	Indeno(1,2,3-cd)pyrene	2.2E+00	3.7E-06	1	8.1E-06	3.0E-02	3E-04	2.2E+00	1.6E-06	1	3.5E-06	1.2E+01	4E-05
46	Naphthalene	1.8E-02	3.7E-06	1	6.7E-08	4.0E-03	2E-05	1.8E-02	1.6E-06	1	2.9E-08	NA	NA
47	Phenanthrene	4.1E+00	3.7E-06	1	1.5E-05	3.0E-02	5E-04	4.1E+00	1.6E-06	1	6.6E-06	NA	NA
48	Phenol	0.0E+00	3.7E-06	1	0.0E+00	6.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
49	Pyrene	5.3E+00	3.7E-06	1	2.0E-05	3.0E-02	7E-04	5.3E+00	1.6E-06	1	8.5E-06	NA	NA
50	4,4-DDE	4.1E-03	3.7E-06	1	1.5E-08	NA	NA	4.1E-03	1.6E-06	1	6.6E-09	3.4E-01	2E-09
51	4,4-DDT	2.9E-02	3.7E-06	1	1.1E-07	5.0E-04	2E-04	2.9E-02	1.6E-06	1	4.6E-08	3.4E-01	2E-08
52	Aldrin	0.0E+00	3.7E-06	1	0.0E+00	3.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	3.7E-06	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	3.7E-06	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	3.7E-06	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	3.7E-06	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	3.7E-06	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Total	3.0E+00	3.7E-06	1	1.1E-05	4.0E-04	3E-02	3.0E+00	1.6E-06	1	4.8E-06	NA	NA
61	Arsenic, Total	6.8E+00	3.7E-06	1	2.5E-05	3.0E-04	8E-02	6.8E+00	1.6E-06	1	1.1E-05	1.8E+00	2E-05
62	Barium, Total	7.3E+01	3.7E-06	1	2.7E-04	7.0E-02	4E-03	7.3E+01	1.6E-06	1	1.2E-04	NA	NA
63	Beryllium, Total	5.4E-01	3.7E-06	1	2.0E-06	5.0E-03	4E-04	5.4E-01	1.6E-06	1	8.7E-07	4.3E+00	4E-06
64	Cadmium, Total (food)	0.0E+00	3.7E-06	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
65	Cadmium, Total (water)	0.0E+00	3.7E-06	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
66	Chromium, Total	9.9E+00	3.7E-06	1	3.7E-05	5.0E-03	7E-03	9.9E+00	1.6E-06	1	1.6E-05	NA	NA
67	Mercury, Total	2.8E-01	3.7E-06	1	1.1E-06	3.0E-04	4E-03	2.8E-01	1.6E-06	1	4.5E-07	NA	NA
68	Nickel, Total	1.3E+01	3.7E-06	1	4.7E-05	2.0E-02	2E-03	1.3E+01	1.6E-06	1	2.0E-05	NA	NA
69	Silver, Total	0.0E+00	3.7E-06	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	3.7E-06	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
71	Vanadium, Total	1.1E+01	3.7E-06	1	4.0E-05	7.0E-03	6E-03	1.1E+01	1.6E-06	1	1.7E-05	NA	NA
72	Cyanide, Total	1.0E+01	3.7E-06	1	3.8E-05	2.0E-02	2E-03	1.0E+01	1.6E-06	1	1.7E-05	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA

RANGE NAME: WS2

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP3
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (S)
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 2.7E-02
HIFl = 1.1E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	4.9E-03	2.7E-02	1	1.3E-04	9.0E-02	1E-03	4.9E-03	1.1E-02	1	5.4E-05	NA	NA
2	1,1-Dichloroethane							3.0E-03	2.7E-02	1	8.1E-05	1.0E-01	8E-04	3.0E-03	1.1E-02	1	3.3E-05	NA	NA
3	1,1-Dichloroethene							4.9E-03	2.7E-02	1	1.3E-04	9.0E-03	1E-02	4.9E-03	1.1E-02	1	5.4E-05	6.0E-01	3E-05
4	1,2-Dichloroethene(total)							4.9E-03	2.7E-02	1	1.3E-04	1.0E-02	1E-02	4.9E-03	1.1E-02	1	5.4E-05	NA	NA
5	2-Butanone							5.0E-03	2.7E-02	1	1.4E-04	5.0E-02	3E-03	5.0E-03	1.1E-02	1	5.5E-05	NA	NA
6	4-Methyl-2-pentanone							5.0E-03	2.7E-02	1	1.4E-04	5.0E-02	3E-03	5.0E-03	1.1E-02	1	5.5E-05	NA	NA
7	Acetone							6.6E-03	2.7E-02	1	1.8E-04	1.0E-01	2E-03	6.6E-03	1.1E-02	1	7.2E-05	NA	NA
8	Benzene							3.0E-03	2.7E-02	1	8.1E-05	NA	NA	3.0E-03	1.1E-02	1	3.3E-05	2.9E-02	1.0E-0
9	Bromodichloromethane							4.9E-03	2.7E-02	1	1.3E-04	2.0E-02	7E-03	4.9E-03	1.1E-02	1	5.4E-05	1.3E-01	7E-06
10	Carbon Disulfide							4.9E-03	2.7E-02	1	1.3E-04	1.0E-01	1E-03	4.9E-03	1.1E-02	1	5.4E-05	NA	NA
11	Chlorobenzene							4.9E-03	2.7E-02	1	1.3E-04	2.0E-02	7E-03	4.9E-03	1.1E-02	1	5.4E-05	NA	NA
12	Chloroform							4.6E-03	2.7E-02	1	1.2E-04	1.0E-02	1E-02	4.6E-03	1.1E-02	1	5.0E-05	6.1E-03	3E-07
13	Ethyl Benzene							4.9E-03	2.7E-02	1	1.3E-04	1.0E-01	1E-03	4.9E-03	1.1E-02	1	5.4E-05	NA	NA
14	Methylene Chloride							2.0E-03	2.7E-02	1	5.4E-05	6.0E-02	9E-04	2.0E-03	1.1E-02	1	2.2E-05	7.5E-03	2E-07
15	Styrene							4.9E-03	2.7E-02	1	1.3E-04	2.0E-01	7E-04	4.9E-03	1.1E-02	1	5.4E-05	3.0E-02	2E-06
16	Tetrachloroethene							4.9E-03	2.7E-02	1	1.3E-04	1.0E-02	1E-02	4.9E-03	1.1E-02	1	5.4E-05	5.1E-02	3E-06
17	Toluene							4.9E-03	2.7E-02	1	1.3E-04	2.0E-01	7E-04	4.9E-03	1.1E-02	1	5.4E-05	NA	NA
18	Trichloroethene							4.9E-03	2.7E-02	1	1.3E-04	NA	NA	4.9E-03	1.1E-02	1	5.4E-05	1.1E-02	6E-07
19	Vinyl Chloride							5.0E-03	2.7E-02	1	1.4E-04	NA	NA	5.0E-03	1.1E-02	1	5.5E-05	1.9E+00	1E-04
20	Xylenes (Total)							4.9E-03	2.7E-02	1	1.3E-04	2.0E+00	7E-05	4.9E-03	1.1E-02	1	5.4E-05	NA	NA
21	1,4-Dichlorobenzene							5.2E-03	2.7E-02	1	1.4E-04	NA	NA	5.2E-03	1.1E-02	1	5.7E-05	2.4E-02	1E-06
22	2,4-Dimethylphenol							5.2E-03	2.7E-02	1	1.4E-04	2.0E-02	7E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.7E-02	1	0.0E+00	4.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
24	2-Methylphenol							5.2E-03	2.7E-02	1	1.4E-04	5.0E-02	3E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
25	Acenaphthene							0.0E+00	2.7E-02	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
26	Acenaphthylene							5.2E-03	2.7E-02	1	1.4E-04	6.0E-02	2E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
27	Anthracene							0.0E+00	2.7E-02	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	2.7E-02	1	0.0E+00	3.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene							5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	1.2E+01	7E-04
30	Benzo(b)fluoranthene							5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	1.2E+01	7E-04
31	Benzo(g,h,i)perylene							5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
32	Benzo(k)fluoranthene							5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	1.2E+01	7E-04
33	Benzoic acid							2.7E-02	2.7E-02	1	7.2E-04	4.0E+00	2E-04	2.7E-02	1.1E-02	1	2.9E-04	NA	NA
34	Benzyl alcohol							5.5E-03	2.7E-02	1	1.5E-04	3.0E-01	5E-04	5.5E-03	1.1E-02	1	6.1E-05	NA	NA
35	bis(2-Ethylhexyl)phthalate							5.0E-02	2.7E-02	1	1.4E-03	2.0E-02	7E-02	5.0E-02	1.1E-02	1	5.5E-04	1.4E-02	8E-06
36	Butylbenzylphthalate							5.2E-03	2.7E-02	1	1.4E-04	2.0E-01	7E-04	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
37	Chrysene							5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	1.2E+01	7E-04
38	Di-n-butylphthalate							5.2E-03	2.7E-02	1	1.4E-04	1.0E-01	1E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
39	Di-n-octylphthalate							5.2E-03	2.7E-02	1	1.4E-04	2.0E-02	7E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.7E-02	1	0.0E+00	3.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthalate	1.1E-02	2.7E-02	1	3.0E-04	8.0E-01	4E-04	1.1E-02	1.1E-02	1	1.2E-04	NA	NA
42	Dimethylphthalate	5.2E-03	2.7E-02	1	1.4E-04	1.0E+00	1E-04	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
43	Fluoranthene	5.2E-03	2.7E-02	1	1.4E-04	4.0E-02	4E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
44	Fluorene	0.0E+00	2.7E-02	1	0.0E+00	4.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	1.2E+01	7E-04
46	Naphthalene	5.2E-03	2.7E-02	1	1.4E-04	4.0E-03	4E-02	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
47	Phenanthrene	5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
48	Phenol	2.0E-03	2.7E-02	1	5.4E-05	6.0E-01	9E-05	2.0E-03	1.1E-02	1	2.2E-05	NA	NA
49	Pyrene	5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
50	4,4-DDE	2.4E-04	2.7E-02	1	6.5E-06	NA	NA	2.4E-04	1.1E-02	1	2.6E-06	3.4E-01	9E-07
51	4,4-DDT	5.0E-05	2.7E-02	1	1.4E-06	5.0E-04	3E-03	5.0E-05	1.1E-02	1	5.5E-07	3.4E-01	2E-07
52	Aldrin	2.5E-05	2.7E-02	1	6.8E-07	3.0E-05	2E-02	2.5E-05	1.1E-02	1	2.8E-07	1.7E+01	5E-06
53	alpha-Chlordane	2.1E-04	2.7E-02	1	5.7E-06	6.0E-05	9E-02	2.1E-04	1.1E-02	1	2.3E-06	1.3E+00	3E-06
54	Aroclor-1248	0.0E+00	2.7E-02	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	2.5E-05	2.7E-02	1	6.8E-07	NA	NA	2.5E-05	1.1E-02	1	2.8E-07	1.0E+00	5E-07
56	Dieldrin	2.4E-04	2.7E-02	1	6.5E-06	5.0E-05	1E-01	2.4E-04	1.1E-02	1	2.6E-06	1.6E+01	4E-05
57	Endosulfan II	5.0E-05	2.7E-02	1	1.4E-06	5.0E-05	3E-02	5.0E-05	1.1E-02	1	5.5E-07	NA	NA
58	gamma-Chlordane	2.1E-04	2.7E-02	1	5.7E-06	6.0E-05	9E-02	2.1E-04	1.1E-02	1	2.3E-06	1.3E+00	3E-06
59	Heptachlor	2.5E-05	2.7E-02	1	6.8E-07	5.0E-04	1E-03	2.5E-05	1.1E-02	1	2.8E-07	4.5E+00	1E-06
60	Antimony, Total	2.1E-02	2.7E-02	1	5.7E-04	4.0E-04	1E+00	2.1E-02	1.1E-02	1	2.3E-04	NA	NA
61	Arsenic, Total	2.7E-02	2.7E-02	1	7.2E-04	3.0E-04	2E+00	2.7E-02	1.1E-02	1	2.9E-04	1.8E+00	5E-04
62	Barium, Total	1.9E-01	2.7E-02	1	5.2E-03	7.0E-02	7E-02	1.9E-01	1.1E-02	1	2.1E-03	NA	NA
63	Beryllium, Total	2.7E-03	2.7E-02	1	7.3E-05	5.0E-03	1E-02	2.7E-03	1.1E-02	1	3.0E-05	4.3E+00	1E-04
64	Cadmium, Total (food)	0.0E+00	2.7E-02	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
65	Cadmium, Total (water)	2.4E-03	2.7E-02	1	6.5E-05	5.0E-04	1E-01	2.4E-03	1.1E-02	1	2.7E-05	NA	NA
66	Chromium, Total	6.4E-02	2.7E-02	1	1.7E-03	5.0E-03	3E-01	6.4E-02	1.1E-02	1	7.1E-04	NA	NA
67	Mercury, Total	2.4E-04	2.7E-02	1	6.5E-06	3.0E-04	2E-02	2.4E-04	1.1E-02	1	2.6E-06	NA	NA
68	Nickel, Total	5.9E-02	2.7E-02	1	1.6E-03	2.0E-02	8E-02	5.9E-02	1.1E-02	1	6.5E-04	NA	NA
69	Silver, Total	8.8E-03	2.7E-02	1	2.4E-04	5.0E-03	5E-02	8.8E-03	1.1E-02	1	9.7E-05	NA	NA
70	Thallium, Total	0.0E+00	2.7E-02	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
71	Vanadium, Total	5.1E-02	2.7E-02	1	1.4E-03	7.0E-03	2E-01	5.1E-02	1.1E-02	1	5.6E-04	NA	NA
72	Cyanide, Total	5.0E-03	2.7E-02	1	1.4E-04	2.0E-02	7E-03	5.0E-03	1.1E-02	1	5.5E-05	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	2.0E+01	2.7E-02	1	5.4E-01	1.0E-01	5E+00	2.0E+01	1.1E-02	1	2.2E-01	NA	NA

RANGE NAME: WS3

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP3
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (S)
ROUTE: DERMAL

HIFs = 0.0E+00
HIFc = 2.3E-02
HIFl = 1.0E-02

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	P	DIs	RfDS	HQs	Cc	HIFc	P	DIc	RfDC	HQc	Cl	HIFl	P	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	4.9E-03	2.3E-02	1.7E-02	1.9E-06	9.0E-02	2E-05	4.9E-03	1.0E-02	1.7E-02	8.3E-07	NA	NA
2	1,1-Dichloroethane							3.0E-03	2.3E-02	8.9E-03	6.1E-07	1.0E-01	6E-06	3.0E-03	1.0E-02	8.9E-03	2.7E-07	NA	NA
3	1,1-Dichloroethene							4.9E-03	2.3E-02	1.6E-02	1.8E-06	9.0E-03	2E-04	4.9E-03	1.0E-02	1.6E-02	7.9E-07	6.0E-01	5E-07
4	1,2-Dichloroethene(total)							4.9E-03	2.3E-02	1.0E-02	1.1E-06	1.0E-02	1E-04	4.9E-03	1.0E-02	1.0E-02	4.9E-07	NA	NA
5	2-Butanone							5.0E-03	2.3E-02	1.1E-03	1.3E-07	5.0E-02	3E-06	5.0E-03	1.0E-02	1.1E-03	5.5E-08	NA	NA
6	4-Methyl-2-pentanone							5.0E-03	2.3E-02	2.8E-03	3.2E-07	5.0E-02	6E-06	5.0E-03	1.0E-02	2.8E-03	1.4E-07	NA	NA
7	Acetone							6.6E-03	2.3E-02	5.7E-04	8.6E-08	1.0E-01	9E-07	6.6E-03	1.0E-02	5.7E-04	3.7E-08	NA	NA
8	Benzene							3.0E-03	2.3E-02	2.1E-02	1.4E-06	NA	NA	3.0E-03	1.0E-02	2.1E-02	6.3E-07	2.9E-02	2E-08
9	Bromodichloromethane							4.9E-03	2.3E-02	5.8E-03	6.5E-07	2.0E-02	3E-05	4.9E-03	1.0E-02	5.8E-03	2.8E-07	1.3E-01	4E-08
10	Carbon Disulfide							4.9E-03	2.3E-02	2.4E-02	2.7E-06	1.0E-01	3E-05	4.9E-03	1.0E-02	2.4E-02	1.2E-06	NA	NA
11	Chlorobenzene							4.9E-03	2.3E-02	4.1E-02	4.6E-06	2.0E-02	2E-04	4.9E-03	1.0E-02	4.1E-02	2.0E-06	NA	NA
12	Chloroform							4.6E-03	2.3E-02	8.9E-03	9.4E-07	1.0E-02	9E-05	4.6E-03	1.0E-02	8.9E-03	4.1E-07	6.1E-03	2E-09
13	Ethyl Benzene							4.9E-03	2.3E-02	7.4E-02	8.4E-06	1.0E-01	8E-05	4.9E-03	1.0E-02	7.4E-02	3.6E-06	NA	NA
14	Methylene Chloride							2.0E-03	2.3E-02	4.5E-03	2.1E-07	6.0E-02	3E-06	2.0E-03	1.0E-02	4.5E-03	9.0E-08	7.5E-03	7E-10
15	Styrene							4.9E-03	2.3E-02	5.5E-02	6.2E-06	2.0E-01	3E-05	4.9E-03	1.0E-02	5.5E-02	2.7E-06	3.0E-02	8E-08
16	Tetrachloroethene							4.9E-03	2.3E-02	4.8E-02	5.4E-06	1.0E-02	5E-04	4.9E-03	1.0E-02	4.8E-02	2.4E-06	5.1E-02	1E-07
17	Toluene							4.9E-03	2.3E-02	4.5E-02	5.1E-06	2.0E-01	3E-05	4.9E-03	1.0E-02	4.5E-02	2.2E-06	NA	NA
18	Trichloroethene							4.9E-03	2.3E-02	1.6E-02	1.8E-06	NA	NA	4.9E-03	1.0E-02	1.6E-02	7.9E-07	1.1E-02	9E-09
19	Vinyl Chloride							5.0E-03	2.3E-02	7.0E-03	8.1E-07	NA	NA	5.0E-03	1.0E-02	7.0E-03	3.5E-07	1.9E+00	7E-07
20	Xylenes (Total)							4.9E-03	2.3E-02	8.0E-02	9.0E-06	2.0E+00	5E-06	4.9E-03	1.0E-02	8.0E-02	3.9E-06	NA	NA
21	1,4-Dichlorobenzene							5.2E-03	2.3E-02	6.2E-02	7.4E-06	NA	NA	5.2E-03	1.0E-02	6.2E-02	3.2E-06	2.4E-02	8E-08
22	2,4-Dimethylphenol							5.2E-03	2.3E-02	1.5E-02	1.8E-06	2.0E-02	9E-05	5.2E-03	1.0E-02	1.5E-02	7.8E-07	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
24	2-Methylphenol							5.2E-03	2.3E-02	1.0E-02	1.2E-06	5.0E-02	2E-05	5.2E-03	1.0E-02	1.0E-02	5.2E-07	NA	NA
25	Acenaphthene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
26	Acenaphthylene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
27	Anthracene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
28	Benzo(a)anthracene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
29	Benzo(a)pyrene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
30	Benzo(b)fluoranthene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
31	Benzo(g,h,i)perylene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
32	Benzo(k)fluoranthene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
33	Benzoic acid							2.7E-02	2.3E-02	7.3E-03	4.4E-06	4.0E+00	1E-06	2.7E-02	1.0E-02	7.3E-03	1.9E-06	NA	NA
34	Benzyl alcohol							5.5E-03	2.3E-02	2.5E-03	3.2E-07	3.0E-01	1E-06	5.5E-03	1.0E-02	2.5E-03	1.4E-07	NA	NA
35	bis(2-Ethylhexyl)phthalate							5.0E-02	2.3E-02	3.3E-02	3.8E-05	2.0E-02	2E-03	5.0E-02	1.0E-02	3.3E-02	1.7E-05	1.4E-02	2E-07
36	Butylbenzylphthalate							5.2E-03	2.3E-02	2.4E-02	2.9E-06	2.0E-01	1E-05	5.2E-03	1.0E-02	2.4E-02	1.3E-06	NA	NA
37	Chrysene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
38	Di-n-butylphthalate							5.2E-03	2.3E-02	4.9E-02	5.9E-06	1.0E-01	6E-05	5.2E-03	1.0E-02	4.9E-02	2.6E-06	NA	NA
39	Di-n-octylphthalate							5.2E-03	2.3E-02	7.2E-03	8.6E-07	2.0E-02	4E-05	5.2E-03	1.0E-02	7.2E-03	3.8E-07	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
41	Diethylphthalate	1.1E-02	2.3E-02	4.8E-03	1.2E-06	8.0E-01	2E-06	1.1E-02	1.0E-02	4.8E-03	5.3E-07	NA	NA
42	Dimethylphthalate	5.2E-03	2.3E-02	1.6E-03	1.9E-07	1.0E+00	2E-07	5.2E-03	1.0E-02	1.6E-03	8.3E-08	NA	NA
43	Fluoranthene	5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
44	Fluorene	0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
45	Indeno(1,2,3-cd)pyrene	5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
46	Naphthalene	5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
47	Phenanthrene	5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
48	Phenol	2.0E-03	2.3E-02	5.5E-03	2.5E-07	6.0E-01	4E-07	2.0E-03	1.0E-02	5.5E-03	1.1E-07	NA	NA
49	Pyrene	5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
50	4,4-DDE	2.4E-04	2.3E-02	2.4E-01	1.3E-06	NA	NA	2.4E-04	1.0E-02	2.4E-01	5.7E-07	3.4E-01	2E-07
51	4,4-DDT	5.0E-05	2.3E-02	4.3E-01	4.9E-07	5.0E-04	1.0E-0	5.0E-05	1.0E-02	4.3E-01	2.2E-07	3.4E-01	7E-08
52	Aldrin	2.5E-05	2.3E-02	1.6E-03	9.3E-10	3.0E-05	3E-05	2.5E-05	1.0E-02	1.6E-03	4.0E-10	1.7E+01	7E-09
53	alpha-Chlordane	2.1E-04	2.3E-02	8.9E+00	4.3E-05	6.0E-05	7E-01	2.1E-04	1.0E-02	8.9E+00	1.9E-05	1.3E+00	2E-05
54	Aroclor-1248	0.0E+00	2.3E-02	6.6E-01	0.0E+00	NA	NA	0.0E+00	1.0E-02	6.6E-01	0.0E+00	7.7E+00	0E+00
55	beta-BHC	2.5E-05	2.3E-02	2.1E-02	1.2E-08	NA	NA	2.5E-05	1.0E-02	2.1E-02	5.3E-09	1.8E+00	1.0E-0
56	Dieldrin	2.4E-04	2.3E-02	1.6E-02	8.8E-08	5.0E-05	2E-03	2.4E-04	1.0E-02	1.6E-02	3.8E-08	1.6E+01	6E-07
57	Endosulfan II	5.0E-05	2.3E-02	2.3E-03	2.6E-09	5.0E-05	5E-05	5.0E-05	1.0E-02	2.3E-03	1.2E-09	NA	NA
58	gamma-Chlordane	2.1E-04	2.3E-02	9.8E-02	4.8E-07	6.0E-05	8E-03	2.1E-04	1.0E-02	9.8E-02	2.1E-07	1.3E+00	3E-07
59	Heptachlor	2.5E-05	2.3E-02	1.1E-02	6.4E-09	5.0E-04	1E-05	2.5E-05	1.0E-02	1.1E-02	2.8E-09	4.5E+00	1E-08
60	Antimony, Total	2.1E-02	2.3E-02	1.0E-03	4.9E-07	2.0E-05	2E-02	2.1E-02	1.0E-02	1.0E-03	2.1E-07	NA	NA
61	Arsenic, Total	2.7E-02	2.3E-02	1.0E-03	6.2E-07	3.0E-04	2E-03	2.7E-02	1.0E-02	1.0E-03	2.7E-07	1.8E+00	5E-07
62	Barium, Total	1.9E-01	2.3E-02	1.0E-03	4.4E-06	7.0E-03	6E-04	1.9E-01	1.0E-02	1.0E-03	1.9E-06	NA	NA
63	Beryllium, Total	2.7E-03	2.3E-02	1.0E-03	6.2E-08	5.0E-06	1E-02	2.7E-03	1.0E-02	1.0E-03	2.7E-08	4.3E+03	1E-04
64	Cadmium, Total (food)	0.0E+00	2.3E-02	1.0E-03	0.0E+00	6.0E-05	0E+00	0.0E+00	1.0E-02	1.0E-03	0.0E+00	NA	NA
65	Cadmium, Total (water)	2.4E-03	2.3E-02	1.0E-03	5.6E-08	6.0E-05	9E-04	2.4E-03	1.0E-02	1.0E-03	2.4E-08	NA	NA
66	Chromium, Total	6.4E-02	2.3E-02	1.0E-03	1.5E-06	2.5E-04	6E-03	6.4E-02	1.0E-02	1.0E-03	6.4E-07	NA	NA
67	Mercury, Total	2.4E-04	2.3E-02	1.0E-03	5.5E-09	4.5E-05	1E-04	2.4E-04	1.0E-02	1.0E-03	2.4E-09	NA	NA
68	Nickel, Total	5.9E-02	2.3E-02	1.0E-03	1.4E-06	1.0E-03	1E-03	5.9E-02	1.0E-02	1.0E-03	5.9E-07	NA	NA
69	Silver, Total	8.8E-03	2.3E-02	1.0E-03	2.0E-07	2.5E-04	8E-04	8.8E-03	1.0E-02	1.0E-03	8.8E-08	NA	NA
70	Thallium, Total	0.0E+00	2.3E-02	1.0E-03	0.0E+00	3.5E-06	0E+00	0.0E+00	1.0E-02	1.0E-03	0.0E+00	NA	NA
71	Vanadium, Total	5.1E-02	2.3E-02	1.0E-03	1.2E-06	1.4E-04	8E-03	5.1E-02	1.0E-02	1.0E-03	5.1E-07	NA	NA
72	Cyanide, Total	5.0E-03	2.3E-02	1.0E-03	1.2E-07	2.0E-02	6E-06	5.0E-03	1.0E-02	1.0E-03	5.0E-08	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	2.0E+01	2.3E-02	1.0E-03	4.6E-04	1.0E-01	5E-03	2.0E+01	1.0E-02	1.0E-03	2.0E-04	NA	NA

RANGE NAME: WS4

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP3
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (INH, S)
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 5.4E-02
HIFl = 2.2E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	4.9E-03	5.4E-02	1	2.7E-04	3.0E-01	9E-04	4.9E-03	2.2E-02	1	1.1E-04	NA	NA
2	1,1-Dichloroethane							3.0E-03	5.4E-02	1	1.6E-04	1.0E-01	2E-03	3.0E-03	2.2E-02	1	6.6E-05	NA	NA
3	1,1-Dichloroethene							4.9E-03	5.4E-02	1	2.7E-04	NA	NA	4.9E-03	2.2E-02	1	1.1E-04	1.8E-01	2E-05
4	1,2-Dichloroethene(total)							4.9E-03	5.4E-02	1	2.7E-04	NA	NA	4.9E-03	2.2E-02	1	1.1E-04	NA	NA
5	2-Butanone							5.0E-03	5.4E-02	1	2.7E-04	9.0E-02	3E-03	5.0E-03	2.2E-02	1	1.1E-04	NA	NA
6	4-Methyl-2-pentanone							5.0E-03	5.4E-02	1	2.7E-04	2.0E-02	1E-02	5.0E-03	2.2E-02	1	1.1E-04	NA	NA
7	Acetone							6.6E-03	5.4E-02	1	3.5E-04	NA	NA	6.6E-03	2.2E-02	1	1.4E-04	NA	NA
8	Benzene							3.0E-03	5.4E-02	1	1.6E-04	NA	NA	3.0E-03	2.2E-02	1	6.6E-05	2.9E-02	2E-06
9	Bromodichloromethane							4.9E-03	5.4E-02	1	2.7E-04	NA	NA	4.9E-03	2.2E-02	1	1.1E-04	NA	NA
10	Carbon Disulfide							4.9E-03	5.4E-02	1	2.7E-04	2.9E-03	9E-02	4.9E-03	2.2E-02	1	1.1E-04	NA	NA
11	Chlorobenzene							4.9E-03	5.4E-02	1	2.7E-04	5.0E-03	5E-02	4.9E-03	2.2E-02	1	1.1E-04	NA	NA
12	Chloroform							4.6E-03	5.4E-02	1	2.5E-04	NA	NA	4.6E-03	2.2E-02	1	1.0E-04	8.1E-02	8E-06
13	Ethyl Benzene							4.9E-03	5.4E-02	1	2.7E-04	2.9E-01	9E-04	4.9E-03	2.2E-02	1	1.1E-04	NA	NA
14	Methylene Chloride							2.0E-03	5.4E-02	1	1.1E-04	8.6E-01	1E-04	2.0E-03	2.2E-02	1	4.4E-05	1.6E-03	7E-08
15	Styrene							4.9E-03	5.4E-02	1	2.7E-04	NA	NA	4.9E-03	2.2E-02	1	1.1E-04	2.0E-03	2E-07
16	Tetrachloroethene							4.9E-03	5.4E-02	1	2.7E-04	NA	NA	4.9E-03	2.2E-02	1	1.1E-04	1.8E-03	2E-07
17	Toluene							4.9E-03	5.4E-02	1	2.7E-04	5.7E-01	5E-04	4.9E-03	2.2E-02	1	1.1E-04	NA	NA
18	Trichloroethene							4.9E-03	5.4E-02	1	2.7E-04	NA	NA	4.9E-03	2.2E-02	1	1.1E-04	6.0E-03	6E-07
19	Vinyl Chloride							5.0E-03	5.4E-02	1	2.7E-04	NA	NA	5.0E-03	2.2E-02	1	1.1E-04	2.9E-01	3E-05
20	Xylenes (Total)							4.9E-03	5.4E-02	1	2.7E-04	8.6E-02	3E-03	4.9E-03	2.2E-02	1	1.1E-04	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	5.4E-02	1	0.0E+00	2.0E-01	0E+00	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
22	2,4-Dimethylphenol							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluoranthene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)perylene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
32	Benzo(k)fluoranthene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
36	Butylbenzylphthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
37	Chrysene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00	
41	Diethylphthalate	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
42	Dimethylphthalate	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
43	Fluoranthene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
44	Fluorene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
45	Indeno(1,2,3-cd)pyrene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00	
46	Naphthalene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
47	Phenanthrene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
48	Phenol	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
49	Pyrene	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
50	4,4-DDE	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
51	4,4-DDT	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	3.4E-01	0E+00	
52	Aldrin	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.7E+01	0E+00	
53	alpha-Chlordane	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.3E+00	0E+00	
54	Aroclor-1248	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
55	beta-BHC	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.8E+00	0E+00	
56	Dieldrin	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.6E+01	0E+00	
57	Endosulfan II	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
58	gamma-Chlordane	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.3E+00	0E+00	
59	Heptachlor	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	4.6E+00	0E+00	
60	Antimony, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
61	Arsenic, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	1.5E+01	0E+00	
62	Barium, Total	0.0E+00	5.4E-02	1	0.0E+00	1.0E-04	0E+00	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
63	Beryllium, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	8.4E+00	0E+00	
64	Cadmium, Total (food)	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.3E+00	0E+00	
65	Cadmium, Total (water)	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.3E+00	0E+00	
66	Chromium, Total	0.0E+00	5.4E-02	1	0.0E+00	5.7E-07	0E+00	0.0E+00	2.2E-02	1	0.0E+00	4.2E+01	0E+00	
67	Mercury, Total	0.0E+00	5.4E-02	1	0.0E+00	8.6E-05	0E+00	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
68	Nickel, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
69	Silver, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
70	Thallium, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
71	Vanadium, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
72	Cyanide, Total	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA	

RANGE NAME: CSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP3
LAST UPDATED: 07/23/92

CHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT ADULT (SL)

CHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (S) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (S) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 (FROM WS5)	SCENARIO 6 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	1.3E-04	1.9E-06	2.7E-04	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	8.1E-05	6.1E-07	1.6E-04		
3	1,1-Dichloroet	0.0E+00	1.3E-04	1.8E-06	2.7E-04		
4	1,2-Dichloroet	0.0E+00	1.3E-04	1.1E-06	2.7E-04		
5	2-Butanone	0.0E+00	1.4E-04	1.3E-07	2.7E-04		
6	4-Methyl-2-pen	0.0E+00	1.4E-04	3.2E-07	2.7E-04		
7	Acetone	0.0E+00	1.0E-04	8.6E-08	3.5E-04		
8	Benzene	0.0E+00	8.1E-05	1.4E-06	1.6E-04		
9	Bromodichlorom	0.0E+00	1.3E-04	6.5E-07	2.7E-04		
10	Carbon Disulfi	0.0E+00	1.3E-04	2.7E-06	2.7E-04		
11	Chlorobenzene	0.0E+00	1.3E-04	4.6E-06	2.7E-04		
12	Chloroform	0.0E+00	1.2E-04	9.4E-07	2.5E-04		
13	Ethyl Benzene	0.0E+00	1.3E-04	8.4E-06	2.7E-04		
14	Methylene Chlo	1.5E-08	5.4E-05	2.1E-07	1.1E-04		
15	Styrene	0.0E+00	1.3E-04	6.2E-06	2.7E-04		
16	Tetrachloroeth	2.0E-08	1.3E-04	5.4E-06	2.7E-04		
17	Toluene	3.0E-08	1.3E-04	5.1E-06	2.7E-04		
18	Trichloroethen	1.5E-08	1.3E-04	1.8E-06	2.7E-04		
19	Vinyl Chloride	0.0E+00	1.4E-04	8.1E-07	2.7E-04		
20	Xylenes (Total	7.4E-09	1.3E-04	9.0E-06	2.7E-04		
21	1,4-Dichlorobe	0.0E+00	1.4E-04	7.4E-06	0.0E+00		
22	2,4-Dimethylph	0.0E+00	1.4E-04	1.8E-06	0.0E+00		
23	2-Methylnaphth	6.7E-08	0.0E+00	NA	0.0E+00		
24	2-Methylphenol	0.0E+00	1.4E-04	1.2E-06	0.0E+00		
25	Acenaphthene	1.1E-06	0.0E+00	NA	0.0E+00		
26	Acenaphthylene	6.8E-06	1.4E-04	NA	0.0E+00		
27	Anthracene	5.5E-06	0.0E+00	NA	0.0E+00		
28	Benzo(a)anthra	1.7E-05	0.0E+00	NA	0.0E+00		
29	Benzo(a)pyrene	1.1E-05	1.4E-04	NA	0.0E+00		
30	Benzo(b)fluora	3.3E-05	1.4E-04	NA	0.0E+00		
31	Benzo(g,h,i)pe	5.7E-06	1.4E-04	NA	0.0E+00		
32	Benzo(k)fluora	1.7E-05	1.4E-04	NA	0.0E+00		
33	Benzoic acid	0.0E+00	7.2E-04	4.4E-06	0.0E+00		
34	Benzyl alcohol	0.0E+00	1.5E-04	3.2E-07	0.0E+00		
35	bis(2-Ethylhex	8.5E-07	1.4E-03	3.8E-05	0.0E+00		
36	Butylbenzylpht	8.7E-07	1.4E-04	2.9E-06	0.0E+00		
37	Chrysene	2.4E-05	1.4E-04	NA	0.0E+00		
38	Di-n-butylphth	0.0E+00	1.4E-04	5.9E-06	0.0E+00		
39	Di-n-octylphth	5.2E-07	1.4E-04	8.6E-07	0.0E+00		
40	Dibenzo(a,h)an	2.8E-06	0.0E+00	NA	0.0E+00		
41	Diethylphthala	0.0E+00	3.0E-04	1.2E-06	0.0E+00		
42	Dimethylphthal	1.6E-07	1.4E-04	1.9E-07	0.0E+00		

CHRONIC RISK SUMMARY

FUTURE
RESIDENT ADULT (SL)

CHRONIC HAZARD QUOTIENT

SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (S) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (S) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 (FROM WS5)	SCENARIO 6 0 0 (FROM WS6)
0E+00	1E-03	2E-05	9E-04	0E+00	0E+00
0E+00	8E-04	6E-06	2E-03		
0E+00	1E-02	2E-04	NA		
0E+00	1E-02	1E-04	NA		
0E+00	3E-03	3E-06	3E-03		
0E+00	3E-03	6E-06	1E-02		
0E+00	2E-03	9E-07	NA		
NA	NA	NA	NA		
0E+00	7E-03	3E-05	NA		
0E+00	1E-03	3E-05	9E-02		
0E+00	7E-03	2E-04	5E-02		
0E+00	1E-02	9E-05	NA		
0E+00	1E-03	8E-05	9E-04		
2E-07	9E-04	3E-06	1E-04		
0E+00	7E-04	3E-05	NA		
2E-06	1E-02	5E-04	NA		
1E-07	7E-04	3E-05	5E-04		
NA	NA	NA	NA		
NA	NA	NA	NA		
4E-09	7E-05	5E-06	3E-03		
NA	NA	NA	0E+00		
0E+00	7E-03	9E-05	NA		
2E-05	0E+00	NA	NA		
0E+00	3E-03	2E-05	NA		
2E-05	0E+00	NA	NA		
1E-04	2E-03	NA	NA		
2E-05	0E+00	NA	NA		
6E-04	0E+00	NA	NA		
4E-04	5E-03	NA	NA		
1E-03	5E-03	NA	NA		
2E-04	5E-03	NA	NA		
6E-04	5E-03	NA	NA		
0E+00	2E-04	1E-06	NA		
0E+00	5E-04	1E-06	NA		
4E-05	7E-02	2E-03	NA		
4E-06	7E-04	1E-05	NA		
8E-04	5E-03	NA	NA		
0E+00	1E-03	6E-05	NA		
3E-05	7E-03	4E-05	NA		
9E-05	0E+00	NA	NA		
0E+00	4E-04	2E-06	NA		
2E-07	1E-04	2E-07	NA		

43	Fluoranthene	4.1E-05	1.4E-04	NA	0.0E+00		1E-03	4E-03	NA	NA		
44	Fluorene	2.5E-06	0.0E+00	NA	0.0E+00		6E-05	0E+00	NA	NA		
45	Indeno(1,2,3-c	8.1E-06	1.4E-04	NA	0.0E+00		3E-04	5E-03	NA	NA		
46	Naphthalene	6.7E-08	1.4E-04	NA	0.0E+00		2E-05	4E-02	NA	NA		
47	Phenanthrene	1.5E-05	1.4E-04	NA	0.0E+00		5E-04	5E-03	NA	NA		
48	Phenol	0.0E+00	5.4E-05	2.5E-07	0.0E+00		0E+00	9E-05	4E-07	NA		
49	Pyrene	2.0E-05	1.4E-04	NA	0.0E+00		7E-04	5E-03	NA	NA		
50	4,4-DDE	1.5E-08	6.5E-06	1.3E-06	0.0E+00		NA	NA	NA	NA		
51	4,4-DDT	1.1E-07	1.4E-06	4.9E-07	0.0E+00		2E-04	3E-03	1E-03	NA		
52	Aldrin	0.0E+00	6.8E-07	9.3E-10	0.0E+00		0E+00	2E-02	3E-05	NA		
53	alpha-Chlordan	0.0E+00	5.7E-06	4.3E-05	0.0E+00		0E+00	9E-02	7E-01	NA		
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA		
55	beta-BHC	0.0E+00	6.8E-07	1.2E-08	0.0E+00		NA	NA	NA	NA		
56	Dieldrin	0.0E+00	6.5E-06	8.8E-08	0.0E+00		0E+00	1E-01	2E-03	NA		
57	Endosulfan II	0.0E+00	1.4E-06	2.6E-09	0.0E+00		0E+00	3E-02	5E-05	NA		
58	gamma-Chlordan	0.0E+00	5.7E-06	4.8E-07	0.0E+00		0E+00	9E-02	8E-03	NA		
59	Heptachlor	0.0E+00	6.8E-07	6.4E-09	0.0E+00		0E+00	1E-03	1E-05	NA		
60	Antimony, Tota	1.1E-05	5.7E-04	4.9E-07	0.0E+00		3E-02	1E+00	2E-02	NA		
61	Arsenic, Total	2.5E-05	7.2E-04	6.2E-07	0.0E+00		8E-02	2E+00	2E-03	NA		
62	Barium, Total	2.7E-04	5.2E-03	4.4E-06	0.0E+00		4E-03	7E-02	6E-04	0E+00		
63	Beryllium, Tot	2.0E-06	7.3E-05	6.2E-08	0.0E+00		4E-04	1E-02	1E-02	NA		
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	0E+00	NA		
65	Cadmium, Total	0.0E+00	6.5E-05	5.6E-08	0.0E+00		0E+00	1E-01	9E-04	NA		
66	Chromium, Tota	3.7E-05	1.7E-03	1.5E-06	0.0E+00		7E-03	3E-01	6E-03	0E+00		
67	Mercury, Total	1.1E-06	6.5E-06	5.5E-09	0.0E+00		4E-03	2E-02	1E-04	0E+00		
68	Nickel, Total	4.7E-05	1.6E-03	1.4E-06	0.0E+00		2E-03	8E-02	1E-03	NA		
69	Silver, Total	0.0E+00	2.4E-04	2.0E-07	0.0E+00		0E+00	5E-02	8E-04	NA		
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	0E+00	NA		
71	Vanadium, Tota	4.0E-05	1.4E-03	1.2E-06	0.0E+00		6E-03	2E-01	8E-03	NA		
72	Cyanide, Total	3.8E-05	1.4E-04	1.2E-07	0.0E+00		2E-03	7E-03	6E-06	NA		
73	Nitrogen, Nitr	0.0E+00	5.4E-01	4.6E-04	0.0E+00		0E+00	5E+00	5E-03	NA		
						PATHWAY SUM (HI)	1E-01	9E+00	8E-01	2E-01	0E+00	0E+00
						POPULATION TOTAL	1E+01					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP3
LAST UPDATED: 07/23/92

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT ADULT (SL)

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (S) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (S) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 (FROM WS5)	SCENARIO 6 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	5.4E-05	8.3E-07	1.1E-04	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	3.3E-05	2.7E-07	6.6E-05		
3	1,1-Dichloroet	0.0E+00	5.4E-05	7.9E-07	1.1E-04		
4	1,2-Dichloroet	0.0E+00	5.4E-05	4.9E-07	1.1E-04		
5	2-Butanone	0.0E+00	5.5E-05	5.5E-08	1.1E-04		
6	4-Methyl-2-pen	0.0E+00	5.5E-05	1.4E-07	1.1E-04		
7	Acetone	0.0E+00	7.2E-05	3.7E-08	1.4E-04		
8	Benzene	0.0E+00	3.3E-05	6.3E-07	6.6E-05		
9	Bromodichlorom	0.0E+00	5.4E-05	2.8E-07	1.1E-04		
10	Carbon Disulfi	0.0E+00	5.4E-05	1.2E-06	1.1E-04		
11	Chlorobenzene	0.0E+00	5.4E-05	2.0E-06	1.1E-04		
12	Chloroform	0.0E+00	5.0E-05	4.1E-07	1.0E-04		
13	Ethyl Benzene	0.0E+00	5.4E-05	3.6E-06	1.1E-04		
14	Methylene Chlo	6.4E-09	2.2E-05	9.0E-08	4.4E-05		
15	Styrene	0.0E+00	5.4E-05	2.7E-06	1.1E-04		
16	Tetrachloroeth	8.6E-09	5.4E-05	2.4E-06	1.1E-04		
17	Toluene	1.3E-08	5.4E-05	2.2E-06	1.1E-04		
18	Trichloroethen	6.4E-09	5.4E-05	7.9E-07	1.1E-04		
19	Vinyl Chloride	0.0E+00	5.5E-05	3.5E-07	1.1E-04		
20	Xylenes (Total	3.2E-09	5.4E-05	3.9E-06	1.1E-04		
21	1,4-Dichlorobe	0.0E+00	5.7E-05	3.2E-06	0.0E+00		
22	2,4-Dimethylph	0.0E+00	5.7E-05	7.8E-07	0.0E+00		
23	2-Methylnaphth	2.9E-08	0.0E+00	NA	0.0E+00		
24	2-Methylphenol	0.0E+00	5.7E-05	5.2E-07	0.0E+00		
25	Acenaphthene	5.0E-07	0.0E+00	NA	0.0E+00		
26	Acenaphthylene	3.0E-06	5.7E-05	NA	0.0E+00		
27	Anthracene	2.4E-06	0.0E+00	NA	0.0E+00		
28	Benzo(a)anthra	7.2E-06	0.0E+00	NA	0.0E+00		
29	Benzo(a)pyrene	4.6E-06	5.7E-05	NA	0.0E+00		
30	Benzo(b)fluora	1.4E-05	5.7E-05	NA	0.0E+00		
31	Benzo(g,h,i)pe	2.5E-06	5.7E-05	NA	0.0E+00		
32	Benzo(k)fluora	7.2E-06	5.7E-05	NA	0.0E+00		
33	Benzoic acid	0.0E+00	2.9E-04	1.9E-06	0.0E+00		
34	Benzyl alcohol	0.0E+00	6.1E-05	1.4E-07	0.0E+00		
35	bis(2-Ethylhex	3.7E-07	5.5E-04	1.7E-05	0.0E+00		
36	Butylbenzylpht	3.8E-07	5.7E-05	1.3E-06	0.0E+00		
37	Chrysene	1.0E-05	5.7E-05	NA	0.0E+00		
38	Di-n-butylphth	0.0E+00	5.7E-05	2.6E-06	0.0E+00		
39	Di-n-octylphth	2.2E-07	5.7E-05	3.8E-07	0.0E+00		
40	Dibenzo(a,h)an	1.2E-06	0.0E+00	NA	0.0E+00		
41	Diethylphthala	0.0E+00	1.2E-04	5.3E-07	0.0E+00		
42	Dimethylphthal	6.7E-08	5.7E-05	8.3E-08	0.0E+00		

LIFETIME RISK SUMMARY

FUTURE
RESIDENT ADULT (SL)

LIFETIME EXCESS CANCER RISK

SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (S) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (S) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 (FROM WS5)	SCENARIO 6 0 0 (FROM WS6)
NA	NA	NA	NA	0E+00	0E+00
NA	NA	NA	NA		
0E+00	3E-05	5E-07	2E-05		
NA	NA	NA	NA		
NA	NA	NA	NA		
NA	NA	NA	NA		
NA	NA	NA	NA		
0E+00	1E-06	2E-08	2E-06		
0E+00	7E-06	4E-08	NA		
NA	NA	NA	NA		
NA	NA	NA	NA		
0E+00	3E-07	2E-09	8E-06		
NA	NA	NA	NA		
5E-11	2E-07	7E-10	7E-08		
0E+00	2E-06	6E-08	2E-07		
4E-10	3E-06	1E-07	2E-07		
NA	NA	NA	NA		
7E-11	6E-07	9E-09	6E-07		
0E+00	1E-04	7E-07	3E-05		
NA	NA	NA	NA		
0E+00	1E-06	8E-08	NA		
NA	NA	NA	NA		
NA	NA	NA	NA		
NA	NA	NA	NA		
NA	NA	NA	NA		
9E-05	0E+00	NA	0E+00		
6E-05	7E-04	NA	0E+00		
2E-04	7E-04	NA	0E+00		
NA	NA	NA	NA		
9E-05	7E-04	NA	0E+00		
NA	NA	NA	NA		
NA	NA	NA	NA		
5E-09	8E-06	2E-07	NA		
NA	NA	NA	NA		
1E-04	7E-04	NA	0E+00		
NA	NA	NA	NA		
NA	NA	NA	NA		
1E-05	0E+00	NA	0E+00		
NA	NA	NA	NA		
NA	NA	NA	NA		

43	Fluoranthene	1.8E-05	5.7E-05	NA	0.0E+00		NA	NA	NA	NA		
44	Fluorene	1.1E-06	0.0E+00	NA	0.0E+00		NA	NA	NA	NA		
45	Indeno(1,2,3-c	3.5E-06	5.7E-05	NA	0.0E+00		4E-05	7E-04	NA	0E+00		
46	Naphthalene	2.9E-08	5.7E-05	NA	0.0E+00		NA	NA	NA	NA		
47	Phenanthrene	6.6E-06	5.7E-05	NA	0.0E+00		NA	NA	NA	NA		
48	Phenol	0.0E+00	2.2E-05	1.1E-07	0.0E+00		NA	NA	NA	NA		
49	Pyrene	8.5E-06	5.7E-05	NA	0.0E+00		NA	NA	NA	NA		
50	4,4-DDE	6.6E-09	2.6E-06	5.7E-07	0.0E+00		2E-09	9E-07	2E-07	NA		
51	4,4-DDT	4.6E-08	5.5E-07	2.2E-07	0.0E+00		2E-08	2E-07	7E-08	0E+00		
52	Aldrin	0.0E+00	2.8E-07	4.0E-10	0.0E+00		0E+00	5E-06	7E-09	0E+00		
53	alpha-Chlordan	0.0E+00	2.3E-06	1.9E-05	0.0E+00		0E+00	3E-06	2E-05	0E+00		
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	0E+00	NA		
55	beta-BHC	0.0E+00	2.6E-07	5.3E-09	0.0E+00		0E+00	5E-07	1E-08	0E+00		
56	Dieldrin	0.0E+00	2.6E-06	3.8E-08	0.0E+00		0E+00	4E-05	6E-07	0E+00		
57	Endosulfan II	0.0E+00	5.5E-07	1.2E-09	0.0E+00		NA	NA	NA	NA		
58	gamma-Chlordan	0.0E+00	2.3E-06	2.1E-07	0.0E+00		0E+00	3E-06	3E-07	0E+00		
59	Heptachlor	0.0E+00	2.8E-07	2.8E-09	0.0E+00		0E+00	1E-06	1E-08	0E+00		
60	Antimony, Tota	4.8E-06	2.3E-04	2.1E-07	0.0E+00		NA	NA	NA	NA		
61	Arsenic, Total	1.1E-05	2.9E-04	2.7E-07	0.0E+00		2E-05	5E-04	5E-07	0E+00		
62	Barium, Total	1.2E-04	2.1E-03	1.9E-06	0.0E+00		NA	NA	NA	NA		
63	Beryllium, Tot	8.7E-07	3.0E-05	2.7E-08	0.0E+00		4E-06	1E-04	1E-04	0E+00		
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	0E+00		
65	Cadmium, Total	0.0E+00	2.7E-05	2.4E-08	0.0E+00		NA	NA	NA	0E+00		
66	Chromium, Tota	1.6E-05	7.1E-04	6.4E-07	0.0E+00		NA	NA	NA	0E+00		
67	Mercury, Total	4.5E-07	2.6E-06	2.4E-09	0.0E+00		NA	NA	NA	NA		
68	Nickel, Total	2.0E-05	6.5E-04	5.9E-07	0.0E+00		NA	NA	NA	NA		
69	Silver, Total	0.0E+00	9.7E-05	8.8E-08	0.0E+00		NA	NA	NA	NA		
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA		
71	Vanadium, Tota	1.7E-05	5.6E-04	5.1E-07	0.0E+00		NA	NA	NA	NA		
72	Cyanide, Total	1.7E-05	5.5E-05	5.0E-08	0.0E+00		NA	NA	NA	NA		
73	Nitrogen, Nitr	0.0E+00	2.2E-01	2.0E-04	0.0E+00		NA	NA	NA	NA		
						TOTAL PATHWAY CANCER RISK	6E-04	4E-03	1E-04	6E-05	0E+00	0E+00
						POPULATION TOTAL EXCESS RISK	5E-03					

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP4
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: SOIL
ROUTE: ORAL

HIFs = 1.3E-05
HIFc = 0.0E+00
HIFl = 1.1E-06

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	1.3E-05	1	0.0E+00	9.0E-01	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	1.3E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	1.3E-05	1	0.0E+00	9.0E-03	0E+00							0.0E+00	1.1E-06	1	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroet	0.0E+00	1.3E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
5	2-Butanone	0.0E+00	1.3E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.3E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
7	Acetone	0.0E+00	1.3E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
8	Benzene	0.0E+00	1.3E-05	1	0.0E+00	NA	NA							0.0E+00	1.1E-06	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.3E-05	1	0.0E+00	2.0E-02	0E+00							0.0E+00	1.1E-06	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfi	0.0E+00	1.3E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
11	Chlorobenzene	0.0E+00	1.3E-05	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	1.3E-05	1	0.0E+00	1.0E-02	0E+00							0.0E+00	1.1E-06	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene	0.0E+00	1.3E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
14	Methylene Chlo	4.0E-03	1.3E-05	1	5.2E-08	6.0E-02	9E-07							4.0E-03	1.1E-06	1	4.4E-09	7.5E-03	3E-11
15	Styrene	0.0E+00	1.3E-05	1	0.0E+00	2.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroeth	5.4E-03	1.3E-05	1	7.0E-08	1.0E-01	7E-07							5.4E-03	1.1E-06	1	5.9E-09	5.1E-02	3E-10
17	Toluene	8.1E-03	1.3E-05	1	1.0E-07	2.0E+00	5E-08							8.1E-03	1.1E-06	1	8.9E-09	NA	NA
18	Trichloroethen	4.0E-03	1.3E-05	1	5.2E-08	NA	NA							4.0E-03	1.1E-06	1	4.4E-09	1.1E-02	5E-11
19	Vinyl Chloride	0.0E+00	1.3E-05	1	0.0E+00	NA	NA							0.0E+00	1.1E-06	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total	2.0E-03	1.3E-05	1	2.6E-08	4.0E+00	7E-09							2.0E-03	1.1E-06	1	2.2E-09	NA	NA
21	1,4-Dichlorobe	0.0E+00	1.3E-05	1	0.0E+00	NA	NA							0.0E+00	1.1E-06	1	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylph	0.0E+00	1.3E-05	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
23	2-Methylnaphth	1.8E-02	1.3E-05	1	2.3E-07	4.0E-02	6E-06							1.8E-02	1.1E-06	1	2.0E-08	NA	NA
24	2-Methylphenol	0.0E+00	1.3E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
25	Acenaphthene	3.1E-01	1.3E-05	1	4.0E-06	6.0E-01	7E-06							3.1E-01	1.1E-06	1	3.4E-07	NA	NA
26	Acenaphthylene	1.8E+00	1.3E-05	1	2.4E-05	6.0E-01	4E-05							1.8E+00	1.1E-06	1	2.0E-06	NA	NA
27	Anthracene	1.5E+00	1.3E-05	1	1.9E-05	3.0E+00	6E-06							1.5E+00	1.1E-06	1	1.6E-06	NA	NA
28	Benzo(a)anthra	4.5E+00	1.3E-05	1	5.8E-05	3.0E-01	2E-04							4.5E+00	1.1E-06	1	4.9E-06	1.2E+01	6E-05
29	Benzo(a)pyrene	2.9E+00	1.3E-05	1	3.8E-05	3.0E-01	1E-04							2.9E+00	1.1E-06	1	3.2E-06	1.2E+01	4E-05
30	Benzo(b)fluora	8.9E+00	1.3E-05	1	1.2E-04	3.0E-01	4E-04							8.9E+00	1.1E-06	1	9.7E-06	1.2E+01	1E-04
31	Benzo(g,h,i)pe	1.5E+00	1.3E-05	1	2.0E-05	3.0E-01	7E-05							1.5E+00	1.1E-06	1	1.7E-06	NA	NA
32	Benzo(k)fluora	4.5E+00	1.3E-05	1	5.9E-05	3.0E-01	2E-04							4.5E+00	1.1E-06	1	5.0E-06	1.2E+01	6E-05
33	Benzoic acid	0.0E+00	1.3E-05	1	0.0E+00	4.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	2.3E-01	1.3E-05	1	3.0E-06	2.0E-02	1E-04							2.3E-01	1.1E-06	1	2.5E-07	1.4E-02	4E-09
36	Butylbenzylpht	2.4E-01	1.3E-05	1	3.1E-06	2.0E+00	2E-06							2.4E-01	1.1E-06	1	2.6E-07	NA	NA
37	Chrysene	6.4E+00	1.3E-05	1	8.3E-05	3.0E-01	3E-04							6.4E+00	1.1E-06	1	7.1E-06	1.2E+01	8E-05
38	Di-n-butylphth	0.0E+00	1.3E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
39	Di-n-octylphth	1.4E-01	1.3E-05	1	1.8E-06	2.0E-02	9E-05							1.4E-01	1.1E-06	1	1.5E-07	NA	NA

40	Dibenzo(a,h)an	7.7E-01	1.3E-05	1	1.00E-05	3.0E-01	3E-05	7.7E-01	1.1E-06	1	8.5E-07	1.2E+01	1E-05
41	Diethylphthala	0.0E+00	1.3E-05	1	0.0E+00	8.0E+00	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
42	Dimethylphthal	4.2E-02	1.3E-05	1	5.5E-07	1.0E+00	5E-07	4.2E-02	1.1E-06	1	4.6E-08	NA	NA
43	Fluoranthene	1.1E+01	1.3E-05	1	1.4E-04	4.0E-01	4E-04	1.1E+01	1.1E-06	1	1.2E-05	NA	NA
44	Fluorene	6.8E-01	1.3E-05	1	8.8E-06	4.0E-01	2E-05	6.8E-01	1.1E-06	1	7.4E-07	NA	NA
45	Indeno(1,2,3-c	2.2E+00	1.3E-05	1	2.8E-05	3.0E-01	9E-05	2.2E+00	1.1E-06	1	2.4E-06	1.2E+01	3E-05
46	Naphthalene	1.8E-02	1.3E-05	1	2.3E-07	4.0E-02	6E-06	1.8E-02	1.1E-06	1	2.0E-08	NA	NA
47	Phenanthrene	4.1E+00	1.3E-05	1	5.4E-05	3.0E-01	2E-04	4.1E+00	1.1E-06	1	4.6E-06	NA	NA
48	Phenol	0.0E+00	1.3E-05	1	0.0E+00	6.0E-01	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
49	Pyrene	5.3E+00	1.3E-05	1	6.9E-05	3.0E-01	2E-04	5.3E+00	1.1E-06	1	5.8E-06	NA	NA
50	4,4-DDE	4.1E-03	1.3E-05	1	5.3E-08	NA	NA	4.1E-03	1.1E-06	1	4.5E-09	3.4E-01	2E-09
51	4,4-DDT	2.9E-02	1.3E-05	1	3.7E-07	5.0E-04	7E-04	2.9E-02	1.1E-06	1	3.2E-08	3.4E-01	1E-08
52	Aldrin	0.0E+00	1.3E-05	1	0.0E+00	3.0E-05	0E+00	0.0E+00	1.1E-06	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.3E-05	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.1E-06	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.3E-05	1	0.0E+00	NA	NA	0.0E+00	1.1E-06	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	1.3E-05	1	0.0E+00	NA	NA	0.0E+00	1.1E-06	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.3E-05	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.1E-06	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.3E-05	1	0.0E+00	2.0E-04	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.3E-05	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.1E-06	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.3E-05	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.1E-06	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Tota	3.0E+00	1.3E-05	1	3.9E-05	4.0E-04	1.0E-01	3.0E+00	1.1E-06	1	3.3E-06	NA	NA
61	Arsenic, Total	6.8E+00	1.3E-05	1	8.9E-05	3.0E-04	3E-01	6.8E+00	1.1E-06	1	7.5E-06	1.8E+00	1E-05
62	Barium, Total	7.3E+01	1.3E-05	1	9.5E-04	7.0E-02	1E-02	7.3E+01	1.1E-06	1	8.1E-05	NA	NA
63	Beryllium, Tot	5.4E-01	1.3E-05	1	7.0E-06	5.0E-03	1E-03	5.4E-01	1.1E-06	1	6.0E-07	4.3E+00	3E-06
64	Cadmium, Total	0.0E+00	1.3E-05	1	0.0E+00	NA	NA	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
65	Cadmium, Total	0.0E+00	1.3E-05	1	0.0E+00	NA	NA	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
66	Chromium, Tota	9.9E+00	1.3E-05	1	1.3E-04	2.0E-02	6E-03	9.9E+00	1.1E-06	1	1.1E-05	NA	NA
67	Mercury, Total	2.8E-01	1.3E-05	1	3.7E-06	3.0E-04	1E-02	2.8E-01	1.1E-06	1	3.1E-07	NA	NA
68	Nickel, Total	1.3E+01	1.3E-05	1	1.6E-04	2.0E-02	8E-03	1.3E+01	1.1E-06	1	1.4E-05	NA	NA
69	Silver, Total	0.0E+00	1.3E-05	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
70	Thallium, Tota	0.0E+00	1.3E-05	1	0.0E+00	7.0E-04	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
71	Vanadium, Tota	1.1E+01	1.3E-05	1	1.4E-04	7.0E-03	2E-02	1.1E+01	1.1E-06	1	1.2E-05	NA	NA
72	Cyanide, Total	1.0E+01	1.3E-05	1	1.3E-04	2.0E-02	7E-03	1.0E+01	1.1E-06	1	1.1E-05	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.3E-05	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA

RANGE NAME: WS2

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP4
LAST UPDATED: 07/23/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (S)
ROUTE: ORAL

HIFs = 6.4E-02
HIFc = 0.0E+00
HIFl = 5.5E-03

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	4.9E-03	6.4E-02	1	3.1E-04	9.0E-01	3E-04		0.0E+00		0.0E+00		ERR	4.9E-03	5.5E-03	1	2.7E-05	NA	NA
2	1,1-Dichloroet	3.0E-03	6.4E-02	1	1.9E-04	1.0E+00	2E-04							3.0E-03	5.5E-03	1	1.7E-05	NA	NA
3	1,1-Dichloroet	4.9E-03	6.4E-02	1	3.1E-04	9.0E-03	3E-02							4.9E-03	5.5E-03	1	2.7E-05	6.0E-01	2E-05
4	1,2-Dichloroet	4.9E-03	6.4E-02	1	3.1E-04	1.0E-01	3E-03							4.9E-03	5.5E-03	1	2.7E-05	NA	NA
5	2-Butanone	5.0E-03	6.4E-02	1	3.2E-04	5.0E-01	6E-04							5.0E-03	5.5E-03	1	2.8E-05	NA	NA
6	4-Methyl-2-pen	5.0E-03	6.4E-02	1	3.2E-04	5.0E-01	6E-04							5.0E-03	5.5E-03	1	2.8E-05	NA	NA
7	Acetone	6.6E-03	6.4E-02	1	4.2E-04	1.0E+00	4E-04							6.6E-03	5.5E-03	1	3.6E-05	NA	NA
8	Benzene	3.0E-03	6.4E-02	1	1.9E-04	NA	NA							3.0E-03	5.5E-03	1	1.7E-05	2.9E-02	5E-07
9	Bromodichlorom	4.9E-03	6.4E-02	1	3.1E-04	2.0E-02	2E-02							4.9E-03	5.5E-03	1	2.7E-05	1.3E-01	4E-06
10	Carbon Disulfi	4.9E-03	6.4E-02	1	3.1E-04	1.0E-01	3E-03							4.9E-03	5.5E-03	1	2.7E-05	NA	NA
11	Chlorobenzene	4.9E-03	6.4E-02	1	3.1E-04	2.0E-01	2E-03							4.9E-03	5.5E-03	1	2.7E-05	NA	NA
12	Chloroform	4.6E-03	6.4E-02	1	2.9E-04	1.0E-02	3E-02							4.6E-03	5.5E-03	1	2.5E-05	6.1E-03	2E-07
13	Ethyl Benzene	4.9E-03	6.4E-02	1	3.1E-04	1.0E+00	3E-04							4.9E-03	5.5E-03	1	2.7E-05	NA	NA
14	Methylene Chlo	2.0E-03	6.4E-02	1	1.3E-04	6.0E-02	2E-03							2.0E-03	5.5E-03	1	1.1E-05	7.5E-03	8E-08
15	Styrene	4.9E-03	6.4E-02	1	3.1E-04	2.0E+00	2E-04							4.9E-03	5.5E-03	1	2.7E-05	3.0E-02	8E-07
16	Tetrachloroeth	4.9E-03	6.4E-02	1	3.1E-04	1.0E-01	3E-03							4.9E-03	5.5E-03	1	2.7E-05	5.1E-02	1E-06
17	Toluene	4.9E-03	6.4E-02	1	3.1E-04	2.0E+00	2E-04							4.9E-03	5.5E-03	1	2.7E-05	NA	NA
18	Trichloroethen	4.9E-03	6.4E-02	1	3.1E-04	NA	NA							4.9E-03	5.5E-03	1	2.7E-05	1.1E-02	3E-07
19	Vinyl Chloride	5.0E-03	6.4E-02	1	3.2E-04	NA	NA							5.0E-03	5.5E-03	1	2.8E-05	1.9E+00	5E-05
20	Xylenes (Total	4.9E-03	6.4E-02	1	3.1E-04	4.0E+00	8E-05							4.9E-03	5.5E-03	1	2.7E-05	NA	NA
21	1,4-Dichlorobe	5.2E-03	6.4E-02	1	3.3E-04	NA	NA							5.2E-03	5.5E-03	1	2.9E-05	2.4E-02	7E-07
22	2,4-Dimethylph	5.2E-03	6.4E-02	1	3.3E-04	2.0E-01	2E-03							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
23	2-Methylnaphth	0.0E+00	6.4E-02	1	0.0E+00	4.0E-02	0E+00							0.0E+00	5.5E-03	1	0.0E+00	NA	NA
24	2-Methylphenol	5.2E-03	6.4E-02	1	3.3E-04	5.0E-01	7E-04							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
25	Acenaphthene	0.0E+00	6.4E-02	1	0.0E+00	6.0E-01	0E+00							0.0E+00	5.5E-03	1	0.0E+00	NA	NA
26	Acenaphthylene	5.2E-03	6.4E-02	1	3.3E-04	6.0E-01	6E-04							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
27	Anthracene	0.0E+00	6.4E-02	1	0.0E+00	3.0E+00	0E+00							0.0E+00	5.5E-03	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	6.4E-02	1	0.0E+00	3.0E-01	0E+00							0.0E+00	5.5E-03	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03							5.2E-03	5.5E-03	1	2.9E-05	1.2E+01	3E-04
30	Benzo(b)fluora	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03							5.2E-03	5.5E-03	1	2.9E-05	1.2E+01	3E-04
31	Benzo(g,h,i)pe	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
32	Benzo(k)fluora	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03							5.2E-03	5.5E-03	1	2.9E-05	1.2E+01	3E-04
33	Benzoic acid	2.7E-02	6.4E-02	1	1.7E-03	4.0E+00	4E-04							2.7E-02	5.5E-03	1	1.5E-04	NA	NA
34	Benzyl alcohol	5.5E-03	6.4E-02	1	3.5E-04	1.0E+00	4E-04							5.5E-03	5.5E-03	1	3.0E-05	NA	NA
35	bis(2-Ethylhex	5.0E-02	6.4E-02	1	3.2E-03	2.0E-02	2E-01							5.0E-02	5.5E-03	1	2.8E-04	1.4E-02	4E-06
36	Butylbenzylpht	5.2E-03	6.4E-02	1	3.3E-04	2.0E+00	2E-04							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
37	Chrysene	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03							5.2E-03	5.5E-03	1	2.9E-05	1.2E+01	3E-04
38	Di-n-butylphth	5.2E-03	6.4E-02	1	3.3E-04	1.0E+00	3E-04							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
39	Di-n-octylphth	5.2E-03	6.4E-02	1	3.3E-04	2.0E-02	2E-02							5.2E-03	5.5E-03	1	2.9E-05	NA	NA

40	Dibenzo(a,h)an	0.0E+00	6.4E-02	1	0.0E+00	3.0E-01	0E+00		0.0E+00	5.5E-03	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthala	1.1E-02	6.4E-02	1	7.1E-04	8.0E+00	9E-05		1.1E-02	5.5E-03	1	6.1E-05	NA	NA
42	Dimethylphthal	5.2E-03	6.4E-02	1	3.3E-04	1.0E+00	3E-04		5.2E-03	5.5E-03	1	2.9E-05	NA	NA
43	Fluoranthene	5.2E-03	6.4E-02	1	3.3E-04	4.0E-01	8E-04		5.2E-03	5.5E-03	1	2.9E-05	NA	NA
44	Fluorene	0.0E+00	6.4E-02	1	0.0E+00	4.0E-01	0E+00		0.0E+00	5.5E-03	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03		5.2E-03	5.5E-03	1	2.9E-05	1.2E+01	3E-04
46	Naphthalene	5.2E-03	6.4E-02	1	3.3E-04	4.0E-02	8E-03		5.2E-03	5.5E-03	1	2.9E-05	NA	NA
47	Phenanthrene	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03		5.2E-03	5.5E-03	1	2.9E-05	NA	NA
48	Phenol	2.0E-03	6.4E-02	1	1.3E-04	6.0E-01	2E-04		2.0E-03	5.5E-03	1	1.1E-05	NA	NA
49	Pyrene	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03		5.2E-03	5.5E-03	1	2.9E-05	NA	NA
50	4,4-DDE	2.4E-04	6.4E-02	1	1.5E-05	NA	NA		2.4E-04	5.5E-03	1	1.3E-06	3.4E-01	4E-07
51	4,4-DDT	5.0E-05	6.4E-02	1	3.2E-06	5.0E-04	6E-03		5.0E-05	5.5E-03	1	2.8E-07	3.4E-01	9E-08
52	Aldrin	2.5E-05	6.4E-02	1	1.6E-06	3.0E-05	5E-02		2.5E-05	5.5E-03	1	1.4E-07	1.7E+01	2E-06
53	alpha-Chlordan	2.1E-04	6.4E-02	1	1.4E-05	6.0E-05	2E-01		2.1E-04	5.5E-03	1	1.2E-06	1.3E+00	2E-06
54	Aroclor-1248	0.0E+00	6.4E-02	1	0.0E+00	NA	NA		0.0E+00	5.5E-03	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	2.5E-05	6.4E-02	1	1.6E-06	NA	NA		2.5E-05	5.5E-03	1	1.4E-07	1.8E+00	2E-07
56	Dieldrin	2.4E-04	6.4E-02	1	1.5E-05	5.0E-05	3E-01		2.4E-04	5.5E-03	1	1.3E-06	1.6E+01	2E-05
57	Endosulfan II	5.0E-05	6.4E-02	1	3.2E-06	2.0E-04	2E-02		5.0E-05	5.5E-03	1	2.8E-07	NA	NA
58	gamma-Chlordan	2.1E-04	6.4E-02	1	1.4E-05	6.0E-05	2E-01		2.1E-04	5.5E-03	1	1.2E-06	1.3E+00	2E-06
59	Heptachlor	2.5E-05	6.4E-02	1	1.6E-06	5.0E-04	3E-03		2.5E-05	5.5E-03	1	1.4E-07	4.5E+00	6E-07
60	Antimony, Tota	2.1E-02	6.4E-02	1	1.4E-03	4.0E-04	3E+00		2.1E-02	5.5E-03	1	1.2E-04	NA	NA
61	Arsenic, Total	2.7E-02	6.4E-02	1	1.7E-03	3.0E-04	6E+00		2.7E-02	5.5E-03	1	1.5E-04	1.8E+00	3E-04
62	Barium, Total	1.9E-01	6.4E-02	1	1.2E-02	7.0E-02	2E-01		1.9E-01	5.5E-03	1	1.1E-03	NA	NA
63	Beryllium, Tot	2.7E-03	6.4E-02	1	1.7E-04	5.0E-03	3E-02		2.7E-03	5.5E-03	1	1.5E-05	4.3E+00	6E-05
64	Cadmium, Total	0.0E+00	6.4E-02	1	0.0E+00	NA	NA		0.0E+00	5.5E-03	1	0.0E+00	NA	NA
65	Cadmium, Total	2.4E-03	6.4E-02	1	1.6E-04	NA	NA		2.4E-03	5.5E-03	1	1.3E-05	NA	NA
66	Chromium, Tota	6.4E-02	6.4E-02	1	4.1E-03	2.0E-02	2E-01		6.4E-02	5.5E-03	1	3.5E-04	NA	NA
67	Mercury, Total	2.4E-04	6.4E-02	1	1.5E-05	3.0E-04	5E-02		2.4E-04	5.5E-03	1	1.3E-06	NA	NA
68	Nickel, Total	5.9E-02	6.4E-02	1	3.8E-03	2.0E-02	2E-01		5.9E-02	5.5E-03	1	3.2E-04	NA	NA
69	Silver, Total	8.8E-03	6.4E-02	1	5.6E-04	5.0E-03	1E-01		8.8E-03	5.5E-03	1	4.8E-05	NA	NA
70	Thallium, Tota	0.0E+00	6.4E-02	1	0.0E+00	7.0E-04	0E+00		0.0E+00	5.5E-03	1	0.0E+00	NA	NA
71	Vanadium, Tota	5.1E-02	6.4E-02	1	3.3E-03	7.0E-03	5E-01		5.1E-02	5.5E-03	1	2.8E-04	NA	NA
72	Cyanide, Total	5.0E-03	6.4E-02	1	3.2E-04	2.0E-02	2E-02		5.0E-03	5.5E-03	1	2.8E-05	NA	NA
73	Nitrogen, Nitr	2.0E+01	6.4E-02	1	1.3E+00	1.0E-01	1E+01		2.0E+01	5.5E-03	1	1.1E-01	NA	NA

RANGE NAME: WS3

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP4
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (S)
ROUTE: DERMAL

HIFs = 1.1E-01
HIFc = 0.0E+00
HIFl = 9.3E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	P	DIs	RfDS	HQs	Cc	HIFc	P	DIc	RfDC	HQc	Cl	HIFl	P	DIl	SF	RISK
1	1,1,1-Trichlor	4.9E-03	1.1E-01	1.7E-02	9.2E-06	9.0E-01	1E-05		0.0E+00		0.0E+00		ERR	4.9E-03	9.3E-02	1.7E-02	7.8E-06	NA	NA
2	1,1-Dichloroet	3.0E-03	1.1E-01	8.9E-03	2.9E-06	1.0E+00	3E-06							3.0E-03	9.3E-02	8.9E-03	2.5E-06	NA	NA
3	1,1-Dichloroet	4.9E-03	1.1E-01	1.6E-02	8.6E-06	9.0E-03	1.0E-03							4.9E-03	9.3E-02	1.6E-02	7.3E-06	6.0E-01	4E-06
4	1,2-Dichloroet	4.9E-03	1.1E-01	1.0E-02	5.4E-06	1.0E-01	5E-05							4.9E-03	9.3E-02	1.0E-02	4.6E-06	NA	NA
5	2-Butanone	5.0E-03	1.1E-01	1.1E-03	6.1E-07	5.0E-01	1E-06							5.0E-03	9.3E-02	1.1E-03	5.1E-07	NA	NA
6	4-Methyl-2-pen	5.0E-03	1.1E-01	2.8E-03	1.5E-06	5.0E-01	3E-06							5.0E-03	9.3E-02	2.8E-03	1.3E-06	NA	NA
7	Acetone	6.6E-03	1.1E-01	5.7E-04	4.1E-07	1.0E+00	4E-07							6.6E-03	9.3E-02	5.7E-04	3.5E-07	NA	NA
8	Benzene	3.0E-03	1.1E-01	2.1E-02	6.9E-06	NA	NA							3.0E-03	9.3E-02	2.1E-02	5.9E-06	2.9E-02	2E-07
9	Bromodichlorom	4.9E-03	1.1E-01	5.8E-03	3.1E-06	2.0E-02	2E-04							4.9E-03	9.3E-02	5.8E-03	2.6E-06	1.3E-01	3E-07
10	Carbon Disulfi	4.9E-03	1.1E-01	2.4E-02	1.3E-05	1.0E-01	1E-04							4.9E-03	9.3E-02	2.4E-02	1.1E-05	NA	NA
11	Chlorobenzene	4.9E-03	1.1E-01	4.1E-02	2.2E-05	2.0E-01	1E-04							4.9E-03	9.3E-02	4.1E-02	1.9E-05	NA	NA
12	Chloroform	4.6E-03	1.1E-01	8.9E-03	4.5E-06	1.0E-02	4E-04							4.6E-03	9.3E-02	8.9E-03	3.8E-06	6.1E-03	2E-08
13	Ethyl Benzene	4.9E-03	1.1E-01	7.4E-02	4.0E-05	1.0E+00	4E-05							4.9E-03	9.3E-02	7.4E-02	3.4E-05	NA	NA
14	Methylene Chlo	2.0E-03	1.1E-01	4.5E-03	9.9E-07	6.0E-02	2E-05							2.0E-03	9.3E-02	4.5E-03	8.4E-07	7.5E-03	6E-09
15	Styrene	4.9E-03	1.1E-01	5.5E-02	3.0E-05	2.0E+00	1E-05							4.9E-03	9.3E-02	5.5E-02	2.5E-05	3.0E-02	8E-07
16	Tetrachloroeth	4.9E-03	1.1E-01	4.8E-02	2.6E-05	1.0E-01	3E-04							4.9E-03	9.3E-02	4.8E-02	2.2E-05	5.1E-02	1E-06
17	Toluene	4.9E-03	1.1E-01	4.5E-02	2.4E-05	2.0E+00	1E-05							4.9E-03	9.3E-02	4.5E-02	2.1E-05	NA	NA
18	Trichloroethen	4.9E-03	1.1E-01	1.6E-02	8.6E-06	NA	NA							4.9E-03	9.3E-02	1.6E-02	7.3E-06	1.1E-02	8E-08
19	Vinyl Chloride	5.0E-03	1.1E-01	7.0E-03	3.9E-06	NA	NA							5.0E-03	9.3E-02	7.0E-03	3.3E-06	1.9E+00	6E-06
20	Xylenes (Total	4.9E-03	1.1E-01	8.0E-02	4.3E-05	4.0E+00	1E-05							4.9E-03	9.3E-02	8.0E-02	3.7E-05	NA	NA
21	1,4-Dichlorobe	5.2E-03	1.1E-01	6.2E-02	3.6E-05	NA	NA							5.2E-03	9.3E-02	6.2E-02	3.0E-05	2.4E-02	7E-07
22	2,4-Dimethylph	5.2E-03	1.1E-01	1.5E-02	8.6E-06	2.0E-01	4E-05							5.2E-03	9.3E-02	1.5E-02	7.3E-06	NA	NA
23	2-Methylnaphth	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
24	2-Methylphenol	5.2E-03	1.1E-01	1.0E-02	5.7E-06	5.0E-01	1E-05							5.2E-03	9.3E-02	1.0E-02	4.8E-06	NA	NA
25	Acenaphthene	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
26	Acenaphthylene	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
27	Anthracene	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
28	Benzo(a)anthra	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
29	Benzo(a)pyrene	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
30	Benzo(b)fluora	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
31	Benzo(g,h,i)pe	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
32	Benzo(k)fluora	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
33	Benzoic acid	2.7E-02	1.1E-01	7.3E-03	2.1E-05	4.0E+00	5E-06							2.7E-02	9.3E-02	7.3E-03	1.8E-05	NA	NA
34	Benzyl alcohol	5.5E-03	1.1E-01	2.5E-03	1.5E-06	1.0E+00	2E-06							5.5E-03	9.3E-02	2.5E-03	1.3E-06	NA	NA
35	bis(2-Ethylhex	5.0E-02	1.1E-01	3.3E-02	1.8E-04	2.0E-02	9E-03							5.0E-02	9.3E-02	3.3E-02	1.5E-04	1.4E-02	2E-06
36	Butylbenzylpht	5.2E-03	1.1E-01	2.4E-02	1.4E-05	2.0E+00	7E-06							5.2E-03	9.3E-02	2.4E-02	1.2E-05	NA	NA
37	Chrysene	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
38	Di-n-butylphth	5.2E-03	1.1E-01	4.9E-02	2.8E-05	1.0E+00	3E-05							5.2E-03	9.3E-02	4.9E-02	2.4E-05	NA	NA
39	Di-n-octylphth	5.2E-03	1.1E-01	7.2E-03	4.1E-06	2.0E-02	2E-04							5.2E-03	9.3E-02	7.2E-03	3.5E-06	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.1E-01	NA	NA	NA	NA	0.0E+00	9.3E-02	NA	NA	NA	NA
41	Diethylphthala	1.1E-02	1.1E-01	4.8E-03	5.9E-06	8.0E+00	7E-07	1.1E-02	9.3E-02	4.8E-03	5.0E-06	NA	NA
42	Dimethylphthal	5.2E-03	1.1E-01	1.6E-03	9.2E-07	1.0E+00	9E-07	5.2E-03	9.3E-02	1.6E-03	7.8E-07	NA	NA
43	Fluoranthene	5.2E-03	1.1E-01	NA	NA	NA	NA	5.2E-03	9.3E-02	NA	NA	NA	NA
44	Fluorene	0.0E+00	1.1E-01	NA	NA	NA	NA	0.0E+00	9.3E-02	NA	NA	NA	NA
45	Indeno(1,2,3-c	5.2E-03	1.1E-01	NA	NA	NA	NA	5.2E-03	9.3E-02	NA	NA	NA	NA
46	Naphthalene	5.2E-03	1.1E-01	NA	NA	NA	NA	5.2E-03	9.3E-02	NA	NA	NA	NA
47	Phenanthrene	5.2E-03	1.1E-01	NA	NA	NA	NA	5.2E-03	9.3E-02	NA	NA	NA	NA
48	Phenol	2.0E-03	1.1E-01	5.5E-03	1.2E-06	6.0E-01	2E-06	2.0E-03	9.3E-02	5.5E-03	1.0E-06	NA	NA
49	Pyrene	5.2E-03	1.1E-01	NA	NA	NA	NA	5.2E-03	9.3E-02	NA	NA	NA	NA
50	4,4-DDE	2.4E-04	1.1E-01	2.4E-01	6.3E-06	NA	NA	2.4E-04	9.3E-02	2.4E-01	5.3E-06	3.4E-01	2E-06
51	4,4-DDT	5.0E-05	1.1E-01	4.3E-01	2.4E-06	5.0E-04	5E-03	5.0E-05	9.3E-02	4.3E-01	2.0E-06	3.4E-01	7E-07
52	Aldrin	2.5E-05	1.1E-01	1.6E-03	4.4E-09	3.0E-05	1E-04	2.5E-05	9.3E-02	1.6E-03	3.8E-09	1.7E+01	6E-08
53	alpha-Chlordan	2.1E-04	1.1E-01	8.9E+00	2.1E-04	6.0E-05	3E+00	2.1E-04	9.3E-02	8.9E+00	1.7E-04	1.3E+00	2E-04
54	Aroclor-1248	0.0E+00	1.1E-01	6.6E-01	0.0E+00	NA	NA	0.0E+00	9.3E-02	6.6E-01	0.0E+00	7.7E+00	0E+00
55	beta-BHC	2.5E-05	1.1E-01	2.1E-02	5.8E-08	NA	NA	2.5E-05	9.3E-02	2.1E-02	4.9E-08	1.8E+00	9E-08
56	Dieldrin	2.4E-04	1.1E-01	1.6E-02	4.2E-07	5.0E-05	8E-03	2.4E-04	9.3E-02	1.6E-02	3.6E-07	1.6E+01	6E-06
57	Endosulfan II	5.0E-05	1.1E-01	2.3E-03	1.3E-08	2.0E-04	6E-05	5.0E-05	9.3E-02	2.3E-03	1.1E-08	NA	NA
58	gamma-Chlordan	2.1E-04	1.1E-01	9.8E-02	2.3E-06	6.0E-05	4E-02	2.1E-04	9.3E-02	9.8E-02	1.9E-06	1.3E+00	2E-06
59	Heptachlor	2.5E-05	1.1E-01	1.1E-02	3.1E-08	5.0E-04	6E-05	2.5E-05	9.3E-02	1.1E-02	2.6E-08	4.5E+00	1E-07
60	Antimony, Tota	2.1E-02	1.1E-01	1.0E-03	2.3E-06	2.0E-05	1E-01	2.1E-02	9.3E-02	1.0E-03	2.0E-06	NA	NA
61	Arsenic, Total	2.7E-02	1.1E-01	1.0E-03	2.9E-06	3.0E-04	1.0E-02	2.7E-02	9.3E-02	1.0E-03	2.5E-06	1.8E+00	4E-06
62	Barium, Total	1.9E-01	1.1E-01	1.0E-03	2.1E-05	7.0E-03	3E-03	1.9E-01	9.3E-02	1.0E-03	1.8E-05	NA	NA
63	Beryllium, Tot	2.7E-03	1.1E-01	1.0E-03	3.0E-07	5.0E-06	6E-02	2.7E-03	9.3E-02	1.0E-03	2.5E-07	4.3E+03	1E-03
64	Cadmium, Total	0.0E+00	1.1E-01	1.0E-03	0.0E+00	NA	NA	0.0E+00	9.3E-02	1.0E-03	0.0E+00	NA	NA
65	Cadmium, Total	2.4E-03	1.1E-01	1.0E-03	2.7E-07	NA	NA	2.4E-03	9.3E-02	1.0E-03	2.3E-07	NA	NA
66	Chromium, Tota	6.4E-02	1.1E-01	1.0E-03	7.1E-06	1.0E-03	7E-03	6.4E-02	9.3E-02	1.0E-03	6.0E-06	NA	NA
67	Mercury, Total	2.4E-04	1.1E-01	1.0E-03	2.6E-08	4.5E-05	6E-04	2.4E-04	9.3E-02	1.0E-03	2.2E-08	NA	NA
68	Nickel, Total	5.9E-02	1.1E-01	1.0E-03	6.5E-06	1.0E-03	6E-03	5.9E-02	9.3E-02	1.0E-03	5.5E-06	NA	NA
69	Silver, Total	8.8E-03	1.1E-01	1.0E-03	9.7E-07	2.5E-04	4E-03	8.8E-03	9.3E-02	1.0E-03	8.2E-07	NA	NA
70	Thallium, Tota	0.0E+00	1.1E-01	1.0E-03	0.0E+00	3.5E-05	0E+00	0.0E+00	9.3E-02	1.0E-03	0.0E+00	NA	NA
71	Vanadium, Tota	5.1E-02	1.1E-01	1.0E-03	5.6E-06	1.4E-04	4E-02	5.1E-02	9.3E-02	1.0E-03	4.8E-06	NA	NA
72	Cyanide, Total	5.0E-03	1.1E-01	1.0E-03	5.5E-07	2.0E-02	3E-05	5.0E-03	9.3E-02	1.0E-03	4.7E-07	NA	NA
73	Nitrogen, Nitr	2.0E+01	1.1E-01	1.0E-03	2.2E-03	1.0E-01	2E-02	2.0E+01	9.3E-02	1.0E-03	1.9E-03	NA	NA

RANGE NAME: WS4

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP4
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (INH, S)
ROUTE: INHALATION

HIFs = 1.3E-01
HIFc = 0.0E+00
HIFl = 1.1E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	4.9E-03	1.3E-01	1	6.4E-04	3.0E+00	2E-04		0.0E+00		0.0E+00		ERR	4.9E-03	1.1E-02	1	5.4E-05	NA	NA
2	1,1-Dichloroet	3.0E-03	1.3E-01	1	3.9E-04	1.0E+00	4E-04							3.0E-03	1.1E-02	1	3.3E-05	NA	NA
3	1,1-Dichloroet	4.9E-03	1.3E-01	1	6.4E-04	NA	NA							4.9E-03	1.1E-02	1	5.4E-05	1.8E-01	1.0E-0
4	1,2-Dichloroet	4.9E-03	1.3E-01	1	6.4E-04	NA	NA							4.9E-03	1.1E-02	1	5.4E-05	NA	NA
5	2-Butanone	5.0E-03	1.3E-01	1	6.5E-04	9.0E-01	7E-04							5.0E-03	1.1E-02	1	5.5E-05	NA	NA
6	4-Methyl-2-pen	5.0E-03	1.3E-01	1	6.5E-04	2.0E-01	3E-03							5.0E-03	1.1E-02	1	5.5E-05	NA	NA
7	Acetone	6.6E-03	1.3E-01	1	8.5E-04	NA	NA							6.6E-03	1.1E-02	1	7.2E-05	NA	NA
8	Benzene	3.0E-03	1.3E-01	1	3.9E-04	NA	NA							3.0E-03	1.1E-02	1	3.3E-05	2.9E-02	1.0E-0
9	Bromodichlorom	4.9E-03	1.3E-01	1	6.4E-04	NA	NA							4.9E-03	1.1E-02	1	5.4E-05	NA	NA
10	Carbon Disulfi	4.9E-03	1.3E-01	1	6.4E-04	2.9E-03	2E-01							4.9E-03	1.1E-02	1	5.4E-05	NA	NA
11	Chlorobenzene	4.9E-03	1.3E-01	1	6.4E-04	5.0E-02	1E-02							4.9E-03	1.1E-02	1	5.4E-05	NA	NA
12	Chloroform	4.6E-03	1.3E-01	1	5.9E-04	NA	NA							4.6E-03	1.1E-02	1	5.0E-05	8.1E-02	4E-06
13	Ethyl Benzene	4.9E-03	1.3E-01	1	6.4E-04	2.9E-01	2E-03							4.9E-03	1.1E-02	1	5.4E-05	NA	NA
14	Methylene Chlo	2.0E-03	1.3E-01	1	2.6E-04	8.6E-01	3E-04							2.0E-03	1.1E-02	1	2.2E-05	1.6E-03	4E-08
15	Styrene	4.9E-03	1.3E-01	1	6.4E-04	NA	NA							4.9E-03	1.1E-02	1	5.4E-05	2.0E-03	1E-07
16	Tetrachloroeth	4.9E-03	1.3E-01	1	6.4E-04	NA	NA							4.9E-03	1.1E-02	1	5.4E-05	1.8E-03	1.0E-0
17	Toluene	4.9E-03	1.3E-01	1	6.4E-04	5.7E-01	1E-03							4.9E-03	1.1E-02	1	5.4E-05	NA	NA
18	Trichloroethen	4.9E-03	1.3E-01	1	6.4E-04	NA	NA							4.9E-03	1.1E-02	1	5.4E-05	6.0E-03	3E-07
19	Vinyl Chloride	5.0E-03	1.3E-01	1	6.5E-04	NA	NA							5.0E-03	1.1E-02	1	5.5E-05	2.9E-01	2E-05
20	Xylenes (Total	4.9E-03	1.3E-01	1	6.4E-04	8.6E-02	7E-03							4.9E-03	1.1E-02	1	5.4E-05	NA	NA
21	1,4-Dichlorobe	0.0E+00	1.3E-01	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
22	2,4-Dimethylph	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluora	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)pe	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
32	Benzo(k)fluora	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
36	Butylbenzylpht	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
37	Chrysene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphth	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthala	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Tota	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	1.3E-01	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
63	Beryllium, Tot	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Tota	0.0E+00	1.3E-01	1	0.0E+00	5.7E-06	0E+00	0.0E+00	1.1E-02	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	1.3E-01	1	0.0E+00	8.6E-05	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
70	Thallium, Tota	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
71	Vanadium, Tota	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA

RANGE NAME: SSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP4
LAST UPDATED: 07/23/92

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT CHILD (SL)

SUBCHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (S) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (S) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	3.1E-04	9.2E-06	6.4E-04	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	1.9E-04	2.9E-06	3.9E-04		
3	1,1-Dichloroet	0.0E+00	3.1E-04	8.6E-06	6.4E-04		
4	1,2-Dichloroet	0.0E+00	3.1E-04	5.4E-06	6.4E-04		
5	2-Butanone	0.0E+00	3.2E-04	6.1E-07	6.5E-04		
6	4-Methyl-2-pen	0.0E+00	3.2E-04	1.5E-06	6.5E-04		
7	Acetone	0.0E+00	4.2E-04	4.1E-07	8.5E-04		
8	Benzene	0.0E+00	1.9E-04	6.9E-06	3.9E-04		
9	Bromodichlorom	0.0E+00	3.1E-04	3.1E-06	6.4E-04		
10	Carbon Disulfi	0.0E+00	3.1E-04	1.3E-05	6.4E-04		
11	Chlorobenzene	0.0E+00	3.1E-04	2.2E-05	6.4E-04		
12	Chloroform	0.0E+00	2.9E-04	4.5E-06	5.9E-04		
13	Ethyl Benzene	0.0E+00	3.1E-04	4.0E-05	6.4E-04		
14	Methylene Chlo	5.2E-08	1.3E-04	9.9E-07	2.6E-04		
15	Styrene	0.0E+00	3.1E-04	3.0E-05	6.4E-04		
16	Tetrachloroeth	7.0E-08	3.1E-04	2.6E-05	6.4E-04		
17	Toluene	1.0E-07	3.1E-04	2.4E-05	6.4E-04		
18	Trichloroethen	5.2E-08	3.1E-04	8.6E-06	6.4E-04		
19	Vinyl Chloride	0.0E+00	3.2E-04	3.9E-06	6.5E-04		
20	Xylenes (Total	2.6E-08	3.1E-04	4.3E-05	6.4E-04		
21	1,4-Dichlorobe	0.0E+00	3.3E-04	3.6E-05	0.0E+00		
22	2,4-Dimethylph	0.0E+00	3.3E-04	8.6E-06	0.0E+00		
23	2-Methylnaphth	2.3E-07	0.0E+00	NA	0.0E+00		
24	2-Methylphenol	0.0E+00	3.3E-04	5.7E-06	0.0E+00		
25	Acenaphthene	4.0E-06	0.0E+00	NA	0.0E+00		
26	Acenaphthylene	2.4E-05	3.3E-04	NA	0.0E+00		
27	Anthracene	1.9E-05	0.0E+00	NA	0.0E+00		
28	Benzo(a)anthra	5.8E-05	0.0E+00	NA	0.0E+00		
29	Benzo(a)pyrene	3.8E-05	3.3E-04	NA	0.0E+00		
30	Benzo(b)fluora	1.2E-04	3.3E-04	NA	0.0E+00		
31	Benzo(g,h,i)pe	2.0E-05	3.3E-04	NA	0.0E+00		
32	Benzo(k)fluora	5.9E-05	3.3E-04	NA	0.0E+00		
33	Benzoic acid	0.0E+00	1.7E-03	2.1E-05	0.0E+00		
34	Benzyl alcohol	0.0E+00	3.5E-04	1.5E-06	0.0E+00		
35	bis(2-Ethylhex	3.0E-06	3.2E-03	1.8E-04	0.0E+00		
36	Butylbenzylpht	3.1E-06	3.3E-04	1.4E-05	0.0E+00		
37	Chrysene	8.3E-05	3.3E-04	NA	0.0E+00		
38	Di-n-butylphth	0.0E+00	3.3E-04	2.8E-05	0.0E+00		
39	Di-n-octylphth	1.8E-06	3.3E-04	4.1E-06	0.0E+00		
40	Dibenzo(a,h)an	1.00E-05	0.0E+00	NA	0.0E+00		
41	Diethylphthala	0.0E+00	7.1E-04	5.9E-06	0.0E+00		
42	Dimethylphthal	5.5E-07	3.3E-04	9.2E-07	0.0E+00		

SUBCHRONIC RISK SUMMARY

FUTURE
RESIDENT CHILD (SL)

SUBCHRONIC HAZARD QUOTIENT

SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (S) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (S) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
0E+00	3E-04	1E-05	2E-04	0E+00	0E+00
0E+00	2E-04	3E-06	4E-04		
0E+00	3E-02	1E-03	NA		
0E+00	3E-03	5E-05	NA		
0E+00	6E-04	1E-06	7E-04		
0E+00	6E-04	3E-06	3E-03		
0E+00	4E-04	4E-07	NA		
NA	NA	NA	NA		
0E+00	2E-02	2E-04	NA		
0E+00	3E-03	1E-04	2E-01		
0E+00	2E-03	1E-04	1E-02		
0E+00	3E-02	4E-04	NA		
0E+00	3E-04	4E-05	2E-03		
9E-07	2E-03	2E-05	3E-04		
0E+00	2E-04	1E-05	NA		
7E-07	3E-03	3E-04	NA		
5E-08	2E-04	1E-05	1E-03		
NA	NA	NA	NA		
NA	NA	NA	NA		
6E-09	8E-05	1E-05	7E-03		
NA	NA	NA	0E+00		
0E+00	2E-03	4E-05	NA		
6E-06	0E+00	NA	NA		
0E+00	7E-04	1E-05	NA		
7E-06	0E+00	NA	NA		
4E-05	6E-04	NA	NA		
6E-06	0E+00	NA	NA		
2E-04	0E+00	NA	NA		
1E-04	1E-03	NA	NA		
4E-04	1E-03	NA	NA		
7E-05	1E-03	NA	NA		
2E-04	1E-03	NA	NA		
0E+00	4E-04	5E-06	NA		
0E+00	4E-04	2E-06	NA		
1E-04	2E-01	9E-03	NA		
2E-06	2E-04	7E-06	NA		
3E-04	1E-03	NA	NA		
0E+00	3E-04	3E-05	NA		
9E-05	2E-02	2E-04	NA		
3E-05	0E+00	NA	NA		
0E+00	9E-05	7E-07	NA		
5E-07	3E-04	9E-07	NA		

43	Fluoranthene	1.4E-04	3.3E-04	NA	0.0E+00		4E-04	8E-04	NA	NA		
44	Fluorene	8.8E-06	0.0E+00	NA	0.0E+00		2E-05	0E+00	NA	NA		
45	Indeno(1,2,3-c	2.8E-05	3.3E-04	NA	0.0E+00		9E-05	1E-03	NA	NA		
46	Naphthalene	2.3E-07	3.3E-04	NA	0.0E+00		6E-06	8E-03	NA	NA		
47	Phenanthrene	5.4E-05	3.3E-04	NA	0.0E+00		2E-04	1E-03	NA	NA		
48	Phenol	0.0E+00	1.3E-04	1.2E-06	0.0E+00		0E+00	2E-04	2E-06	NA		
49	Pyrene	6.9E-05	3.3E-04	NA	0.0E+00		2E-04	1E-03	NA	NA		
50	4,4-DDE	5.3E-08	1.5E-05	6.3E-06	0.0E+00		NA	NA	NA	NA		
51	4,4-DDT	3.7E-07	3.2E-06	2.4E-06	0.0E+00		7E-04	6E-03	5E-03	NA		
52	Aldrin	0.0E+00	1.6E-06	4.4E-09	0.0E+00		0E+00	5E-02	1E-04	NA		
53	alpha-Chlordan	0.0E+00	1.4E-05	2.1E-04	0.0E+00		0E+00	2E-01	3E+00	NA		
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA		
55	beta-BHC	0.0E+00	1.6E-06	5.8E-08	0.0E+00		NA	NA	NA	NA		
56	Dieldrin	0.0E+00	1.5E-05	4.2E-07	0.0E+00		0E+00	3E-01	8E-03	NA		
57	Endosulfan II	0.0E+00	3.2E-06	1.3E-08	0.0E+00		0E+00	2E-02	6E-05	NA		
58	gamma-Chlordan	0.0E+00	1.4E-05	2.3E-06	0.0E+00		0E+00	2E-01	4E-02	NA		
59	Heptachlor	0.0E+00	1.6E-06	3.1E-08	0.0E+00		0E+00	3E-03	6E-05	NA		
60	Antimony, Tota	3.9E-05	1.4E-03	2.3E-06	0.0E+00		1E-01	3E+00	1E-01	NA		
61	Arsenic, Total	8.9E-05	1.7E-03	2.9E-06	0.0E+00		3E-01	6E+00	1E-02	NA		
62	Barium, Total	9.5E-04	1.2E-02	2.1E-05	0.0E+00		1E-02	2E-01	3E-03	0E+00		
63	Beryllium, Tot	7.0E-06	1.7E-04	3.0E-07	0.0E+00		1E-03	3E-02	6E-02	NA		
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA		
65	Cadmium, Total	0.0E+00	1.6E-04	2.7E-07	0.0E+00		NA	NA	NA	NA		
66	Chromium, Tota	1.3E-04	4.1E-03	7.1E-06	0.0E+00		6E-03	2E-01	7E-03	0E+00		
67	Mercury, Total	3.7E-06	1.5E-05	2.6E-08	0.0E+00		1E-02	5E-02	6E-04	0E+00		
68	Nickel, Total	1.6E-04	3.8E-03	6.5E-06	0.0E+00		8E-03	2E-01	6E-03	NA		
69	Silver, Total	0.0E+00	5.6E-04	9.7E-07	0.0E+00		0E+00	1E-01	4E-03	NA		
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	0E+00	NA		
71	Vanadium, Tota	1.4E-04	3.3E-03	5.6E-06	0.0E+00		2E-02	5E-01	4E-02	NA		
72	Cyanide, Total	1.3E-04	3.2E-04	5.5E-07	0.0E+00		7E-03	2E-02	3E-05	NA		
73	Nitrogen, Nitr	0.0E+00	1.3E+00	2.2E-03	0.0E+00		0E+00	1E+01	2E-02	NA		
						PATHWAY SUM (HI)	5E-01	2E+01	3E+00	2E-01	0E+00	0E+00
						POPULATION TOTAL	2E+01					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP4
LAST UPDATED: 07/23/92

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT CHILD (SL)

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER ($) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER ($) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	2.7E-05	7.8E-06	5.4E-05	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	1.7E-05	2.5E-06	3.3E-05		
3	1,1-Dichloroet	0.0E+00	2.7E-05	7.3E-06	5.4E-05		
4	1,2-Dichloroet	0.0E+00	2.7E-05	4.6E-06	5.4E-05		
5	2-Butanone	0.0E+00	2.8E-05	5.1E-07	5.5E-05		
6	4-Methyl-2-pen	0.0E+00	2.8E-05	1.3E-06	5.5E-05		
7	Acetone	0.0E+00	3.6E-05	3.5E-07	7.2E-05		
8	Benzene	0.0E+00	1.7E-05	5.9E-06	3.3E-05		
9	Bromodichlorom	0.0E+00	2.7E-05	2.6E-06	5.4E-05		
10	Carbon Disulfi	0.0E+00	2.7E-05	1.1E-05	5.4E-05		
11	Chlorobenzene	0.0E+00	2.7E-05	1.9E-05	5.4E-05		
12	Chloroform	0.0E+00	2.5E-05	3.8E-06	5.0E-05		
13	Ethyl Benzene	0.0E+00	2.7E-05	3.4E-05	5.4E-05		
14	Methylene Chlo	4.4E-09	1.1E-05	8.4E-07	2.2E-05		
15	Styrene	0.0E+00	2.7E-05	2.5E-05	5.4E-05		
16	Tetrachloroeth	5.9E-09	2.7E-05	2.2E-05	5.4E-05		
17	Toluene	8.9E-09	2.7E-05	2.1E-05	5.4E-05		
18	Trichloroethen	4.4E-09	2.7E-05	7.3E-06	5.4E-05		
19	Vinyl Chloride	0.0E+00	2.8E-05	3.3E-06	5.5E-05		
20	Xylenes (Total	2.2E-09	2.7E-05	3.7E-05	5.4E-05		
21	1,4-Dichlorobe	0.0E+00	2.9E-05	3.0E-05	0.0E+00		
22	2,4-Dimethylph	0.0E+00	2.9E-05	7.3E-06	0.0E+00		
23	2-Methylnaphth	2.0E-08	0.0E+00	NA	0.0E+00		
24	2-Methylphenol	0.0E+00	2.9E-05	4.8E-06	0.0E+00		
25	Acenaphthene	3.4E-07	0.0E+00	NA	0.0E+00		
26	Acenaphthylene	2.0E-06	2.9E-05	NA	0.0E+00		
27	Anthracene	1.6E-06	0.0E+00	NA	0.0E+00		
28	Benzo(a)anthra	4.9E-06	0.0E+00	NA	0.0E+00		
29	Benzo(a)pyrene	3.2E-06	2.9E-05	NA	0.0E+00		
30	Benzo(b)fluora	9.7E-06	2.9E-05	NA	0.0E+00		
31	Benzo(g,h,i)pe	1.7E-06	2.9E-05	NA	0.0E+00		
32	Benzo(k)fluora	5.0E-06	2.9E-05	NA	0.0E+00		
33	Benzoic acid	0.0E+00	1.5E-04	1.8E-05	0.0E+00		
34	Benzyl alcohol	0.0E+00	3.0E-05	1.3E-06	0.0E+00		
35	bis(2-Ethylhex	2.5E-07	2.8E-04	1.5E-04	0.0E+00		
36	Butylbenzylpht	2.6E-07	2.9E-05	1.2E-05	0.0E+00		
37	Chrysene	7.1E-06	2.9E-05	NA	0.0E+00		
38	Di-n-butylphth	0.0E+00	2.9E-05	2.4E-05	0.0E+00		
39	Di-n-octylphth	1.5E-07	2.9E-05	3.5E-06	0.0E+00		
40	Dibenzo(a,h)an	8.5E-07	0.0E+00	NA	0.0E+00		
41	Diethylphthala	0.0E+00	6.1E-05	5.0E-06	0.0E+00		
42	Dimethylphthal	4.6E-08	2.9E-05	7.8E-07	0.0E+00		

LIFETIME RISK SUMMARY

FUTURE
RESIDENT CHILD (SL)

LIFETIME EXCESS CANCER RISK

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER ($) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER ($) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	NA	NA	NA	NA	0E+00	0E+00
2	1,1-Dichloroet	NA	NA	NA	NA		
3	1,1-Dichloroet	0E+00	2E-05	4E-06	1E-05		
4	1,2-Dichloroet	NA	NA	NA	NA		
5	2-Butanone	NA	NA	NA	NA		
6	4-Methyl-2-pen	NA	NA	NA	NA		
7	Acetone	NA	NA	NA	NA		
8	Benzene	0E+00	5E-07	2E-07	1E-06		
9	Bromodichlorom	0E+00	4E-06	3E-07	NA		
10	Carbon Disulfi	NA	NA	NA	NA		
11	Chlorobenzene	NA	NA	NA	NA		
12	Chloroform	0E+00	2E-07	2E-08	4E-06		
13	Ethyl Benzene	NA	NA	NA	NA		
14	Methylene Chlo	3E-11	8E-08	6E-09	4E-08		
15	Styrene	0E+00	9E-07	9E-07	1E-07		
16	Tetrachloroeth	3E-10	1E-06	1E-06	1E-07		
17	Toluene	NA	NA	NA	NA		
18	Trichloroethen	5E-11	3E-07	8E-08	3E-07		
19	Vinyl Chloride	0E+00	5E-05	6E-06	2E-05		
20	Xylenes (Total	NA	NA	NA	NA		
21	1,4-Dichlorobe	0E+00	7E-07	7E-07	NA		
22	2,4-Dimethylph	NA	NA	NA	NA		
23	2-Methylnaphth	NA	NA	NA	NA		
24	2-Methylphenol	NA	NA	NA	NA		
25	Acenaphthene	NA	NA	NA	NA		
26	Acenaphthylene	NA	NA	NA	NA		
27	Anthracene	NA	NA	NA	NA		
28	Benzo(a)anthra	6E-05	0E+00	NA	0E+00		
29	Benzo(a)pyrene	4E-05	3E-04	NA	0E+00		
30	Benzo(b)fluora	1E-04	3E-04	NA	0E+00		
31	Benzo(g,h,i)pe	NA	NA	NA	NA		
32	Benzo(k)fluora	6E-05	3E-04	NA	0E+00		
33	Benzoic acid	NA	NA	NA	NA		
34	Benzyl alcohol	NA	NA	NA	NA		
35	bis(2-Ethylhex	4E-09	4E-06	2E-06	NA		
36	Butylbenzylpht	NA	NA	NA	NA		
37	Chrysene	8E-05	3E-04	NA	0E+00		
38	Di-n-butylphth	NA	NA	NA	NA		
39	Di-n-octylphth	NA	NA	NA	NA		
40	Dibenzo(a,h)an	1E-05	0E+00	NA	0E+00		
41	Diethylphthala	NA	NA	NA	NA		
42	Dimethylphthal	NA	NA	NA	NA		

43	Fluoranthene	1.2E-05	2.9E-05	NA	0.0E+00		NA	NA	NA	NA		
44	Fluorene	7.4E-07	0.0E+00	NA	0.0E+00		NA	NA	NA	NA		
45	Indeno(1,2,3-c	2.4E-06	2.9E-05	NA	0.0E+00		3E-05	3E-04	NA	0E+00		
46	Naphthalene	2.0E-08	2.9E-05	NA	0.0E+00		NA	NA	NA	NA		
47	Phenanthrene	4.6E-06	2.9E-05	NA	0.0E+00		NA	NA	NA	NA		
48	Phenol	0.0E+00	1.1E-05	1.0E-06	0.0E+00		NA	NA	NA	NA		
49	Pyrene	5.8E-06	2.9E-05	NA	0.0E+00		NA	NA	NA	NA		
50	4,4-DDE	4.5E-09	1.3E-06	5.3E-06	0.0E+00		2E-09	4E-07	2E-06	NA		
51	4,4-DDT	3.2E-08	2.8E-07	2.0E-06	0.0E+00		1E-08	9E-08	7E-07	0E+00		
52	Aldrin	0.0E+00	1.4E-07	3.8E-09	0.0E+00		0E+00	2E-06	6E-08	0E+00		
53	alpha-Chlordan	0.0E+00	1.2E-06	1.7E-04	0.0E+00		0E+00	2E-06	2E-04	0E+00		
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	0E+00	NA		
55	beta-BHC	0.0E+00	1.4E-07	4.9E-08	0.0E+00		0E+00	2E-07	9E-08	0E+00		
56	Dieldrin	0.0E+00	1.3E-06	3.6E-07	0.0E+00		0E+00	2E-05	6E-06	0E+00		
57	Endosulfan II	0.0E+00	2.8E-07	1.1E-08	0.0E+00		NA	NA	NA	NA		
58	gamma-Chlordan	0.0E+00	1.2E-06	1.9E-06	0.0E+00		0E+00	2E-06	2E-06	0E+00		
59	Heptachlor	0.0E+00	1.4E-07	2.6E-08	0.0E+00		0E+00	6E-07	1E-07	0E+00		
60	Antimony, Tota	3.3E-06	1.2E-04	2.0E-06	0.0E+00		NA	NA	NA	NA		
61	Arsenic, Total	7.5E-06	1.5E-04	2.5E-06	0.0E+00		1E-05	3E-04	4E-06	0E+00		
62	Barium, Total	8.1E-05	1.1E-03	1.8E-05	0.0E+00		NA	NA	NA	NA		
63	Beryllium, Tot	6.0E-07	1.5E-05	2.5E-07	0.0E+00		3E-06	6E-05	1E-03	0E+00		
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	0E+00		
65	Cadmium, Total	0.0E+00	1.3E-05	2.3E-07	0.0E+00		NA	NA	NA	0E+00		
66	Chromium, Tota	1.1E-05	3.5E-04	6.0E-06	0.0E+00		NA	NA	NA	0E+00		
67	Mercury, Total	3.1E-07	1.3E-06	2.2E-08	0.0E+00		NA	NA	NA	NA		
68	Nickel, Total	1.4E-05	3.2E-04	5.5E-06	0.0E+00		NA	NA	NA	NA		
69	Silver, Total	0.0E+00	4.8E-05	8.2E-07	0.0E+00		NA	NA	NA	NA		
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA		
71	Vanadium, Tota	1.2E-05	2.8E-04	4.8E-06	0.0E+00		NA	NA	NA	NA		
72	Cyanide, Total	1.1E-05	2.8E-05	4.7E-07	0.0E+00		NA	NA	NA	NA		
73	Nitrogen, Nitr	0.0E+00	1.1E-01	1.9E-03	0.0E+00		NA	NA	NA	NA		
						TOTAL PATHWAY CANCER RISK	4E-04	2E-03	1E-03	4E-05	0E+00	0E+00
						POPULATION TOTAL EXCESS RISK	3E-03					

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP5
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (D)

EXPOSURE POINT: DOWNWIND (A)
MEDIUM: AIR-PART
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 2.7E-01
HIFl = 1.2E-01

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	2.7E-01	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	2.7E-01	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.8E-01	0E+00
4	1,2-Dichloroethene(total)							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
5	2-Butanone							0.0E+00	2.7E-01	1	0.0E+00	9.0E-02	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	2.7E-01	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
7	Acetone							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
8	Benzene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
10	Carbon Disulfide							0.0E+00	2.7E-01	1	0.0E+00	2.9E-03	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
11	Chlorobenzene							0.0E+00	2.7E-01	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							0.0E+00	2.7E-01	1	0.0E+00	2.9E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
14	Methylene Chloride							0.0E+00	2.7E-01	1	0.0E+00	8.6E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	1.6E-03	0E+00
15	Styrene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.8E-03	0E+00
17	Toluene							0.0E+00	2.7E-01	1	0.0E+00	5.7E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
18	Trichloroethene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							0.0E+00	2.7E-01	1	0.0E+00	8.6E-02	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
21	1,4-Dichlorobenzene							9.7E-09	2.7E-01	1	2.6E-09	2.0E-01	1E-08	9.7E-09	1.2E-01	1	1.2E-09	NA	NA
22	2,4-Dimethylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							1.9E-08	2.7E-01	1	5.1E-09	NA	NA	1.9E-08	1.2E-01	1	2.3E-09	6.1E+00	1E-08
29	Benzo(a)pyrene							2.0E-08	2.7E-01	1	5.4E-09	NA	NA	2.0E-08	1.2E-01	1	2.4E-09	6.1E+00	1E-08
30	Benzo(b)fluoranthene							2.1E-08	2.7E-01	1	5.6E-09	NA	NA	2.1E-08	1.2E-01	1	2.5E-09	6.1E+00	2E-08
31	Benzo(g,h,i)perylene							2.0E-08	2.7E-01	1	5.5E-09	NA	NA	2.0E-08	1.2E-01	1	2.4E-09	NA	NA
32	Benzo(k)fluoranthene							1.9E-08	2.7E-01	1	5.1E-09	NA	NA	1.9E-08	1.2E-01	1	2.3E-09	6.1E+00	1E-08
33	Benzoic acid							3.5E-09	2.7E-01	1	9.3E-10	NA	NA	3.5E-09	1.2E-01	1	4.1E-10	NA	NA
34	Benzyl alcohol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							5.5E-08	2.7E-01	1	1.5E-08	NA	NA	5.5E-08	1.2E-01	1	6.6E-09	NA	NA
36	Butylbenzylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
37	Chrysene							1.9E-08	2.7E-01	1	5.2E-09	NA	NA	1.9E-08	1.2E-01	1	2.3E-09	6.1E+00	1E-08
38	Di-n-butylphthalate							1.6E-08	2.7E-01	1	4.9E-09	NA	NA	1.6E-08	1.2E-01	1	2.2E-09	NA	NA
39	Di-n-octylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.7E-01	1	0.0E+00		NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00	
41	Diethylphthalate	0.0E+00	2.7E-01	1	0.0E+00		NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA	
42	Dimethylphthalate	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA	
43	Fluoranthene	1.9E-08	2.7E-01	1	5.2E-09	NA	NA	1.9E-08	1.2E-01	1	2.3E-09	NA	NA	
44	Fluorene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA	
45	Indeno(1,2,3-cd)pyrene	2.1E-08	2.7E-01	1	5.6E-09	NA	NA	2.1E-08	1.2E-01	1	2.5E-09	6.1E+00	2E-08	
46	Naphthalene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA	
47	Phenanthrene	1.1E-08	2.7E-01	1	2.9E-09	NA	NA	1.1E-08	1.2E-01	1	1.3E-09	NA	NA	
48	Phenol	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA	
49	Pyrene	1.9E-08	2.7E-01	1	5.2E-09	NA	NA	1.9E-08	1.2E-01	1	2.3E-09	NA	NA	
50	4,4-DDE	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA	
51	4,4-DDT	1.1E-09	2.7E-01	1	2.9E-10	NA	NA	1.1E-09	1.2E-01	1	1.3E-10	3.4E-01	4E-11	
52	Aldrin	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.7E+01	0E+00	
53	alpha-Chlordane	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.3E+00	0E+00	
54	Aroclor-1248	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA	
55	beta-BHC	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.8E+00	0E+00	
56	Dieldrin	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.6E+01	0E+00	
57	Endosulfan II	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA	
58	gamma-Chlordane	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.3E+00	0E+00	
59	Heptachlor	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	4.6E+00	0E+00	
60	Antimony, Total	8.5E-07	2.7E-01	1	2.3E-07	NA	NA	8.5E-07	1.2E-01	1	1.0E-07	NA	NA	
61	Arsenic, Total	6.9E-08	2.7E-01	1	1.9E-08	NA	NA	6.9E-08	1.2E-01	1	8.3E-09	1.5E+01	1E-07	
62	Barium, Total	9.1E-07	2.7E-01	1	2.4E-07	1.0E-04	2E-03	9.1E-07	1.2E-01	1	1.1E-07	NA	NA	
63	Beryllium, Total	2.3E-08	2.7E-01	1	6.2E-09	NA	NA	2.3E-08	1.2E-01	1	2.8E-09	8.4E+00	2E-08	
64	Cadmium, Total (food)	2.6E-08	2.7E-01	1	7.1E-09	NA	NA	2.6E-08	1.2E-01	1	3.2E-09	6.3E+00	2E-08	
65	Cadmium, Total (water)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.3E+00	0E+00	
66	Chromium, Total	2.2E-07	2.7E-01	1	6.0E-08	5.7E-07	1E-01	2.2E-07	1.2E-01	1	2.7E-08	4.2E+01	1E-06	
67	Mercury, Total	3.7E-09	2.7E-01	1	9.9E-10	8.6E-05	1E-05	3.7E-09	1.2E-01	1	4.4E-10	NA	NA	
68	Nickel, Total	2.2E-07	2.7E-01	1	6.0E-08	NA	NA	2.2E-07	1.2E-01	1	2.7E-08	NA	NA	
69	Silver, Total	4.4E-08	2.7E-01	1	1.2E-08	NA	NA	4.4E-08	1.2E-01	1	5.2E-09	NA	NA	
70	Thallium, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA	
71	Vanadium, Total	2.7E-07	2.7E-01	1	7.3E-08	NA	NA	2.7E-07	1.2E-01	1	3.3E-08	NA	NA	
72	Cyanide, Total	7.4E-08	2.7E-01	1	2.0E-08	NA	NA	7.4E-08	1.2E-01	1	8.9E-09	NA	NA	
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA	

RANGE NAME: WS2

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP5
LAST UPDATED: 07/23/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (D)

EXPOSURE POINT: DOWNWIND (A)
MEDIUM: AIR-VOC'S
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 2.7E-01
HIFl = 1.2E-01

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	I	DIs	RfDS	HQs	Cc	HIFc	I	DIc	RfDC	HQc	Cl	HIFl	I	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	0.0E+00	2.7E-01	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	2.7E-01	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							3.7E-05	2.7E-01	1	1.00E-05	NA	NA	3.7E-05	1.2E-01	1	4.4E-06	1.8E-01	8E-07
4	1,2-Dichloroethene(total)							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
5	2-Butanone							3.9E-06	2.7E-01	1	1.1E-06	9.0E-02	1E-05	3.9E-06	1.2E-01	1	4.7E-07	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	2.7E-01	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
7	Acetone							3.2E-05	2.7E-01	1	8.6E-06	NA	NA	3.2E-05	1.2E-01	1	3.8E-06	NA	NA
8	Benzene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
10	Carbon Disulfide							1.3E-05	2.7E-01	1	3.5E-06	2.9E-03	1E-03	1.3E-05	1.2E-01	1	1.6E-06	NA	NA
11	Chlorobenzene							0.0E+00	2.7E-01	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene							1.3E-06	2.7E-01	1	3.5E-07	2.9E-01	1E-06	1.3E-06	1.2E-01	1	1.6E-07	NA	NA
14	Methylene Chloride							2.7E-05	2.7E-01	1	7.3E-06	8.6E-01	8E-06	2.7E-05	1.2E-01	1	3.2E-06	1.6E-03	5E-09
15	Styrene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroethene							1.1E-05	2.7E-01	1	3.0E-06	NA	NA	1.1E-05	1.2E-01	1	1.3E-06	1.8E-03	2E-09
17	Toluene							6.8E-06	2.7E-01	1	1.8E-06	5.7E-01	3E-06	6.8E-06	1.2E-01	1	8.2E-07	NA	NA
18	Trichloroethene							1.0E-05	2.7E-01	1	2.7E-06	NA	NA	1.0E-05	1.2E-01	1	1.2E-06	6.0E-03	7E-09
19	Vinyl Chloride							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total)							7.0E-06	2.7E-01	1	1.9E-06	8.6E-02	2E-05	7.0E-06	1.2E-01	1	8.4E-07	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	2.7E-01	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
22	2,4-Dimethylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluoranthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)perylene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
32	Benzo(k)fluoranthene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
36	Butylbenzylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
37	Chrysene							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	2.7E-01	1	0.0E+00	1.0E-04	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
63	Beryllium, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total (food)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total (water)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	0.0E+00	2.7E-01	1	0.0E+00	5.7E-07	0E+00	0.0E+00	1.2E-01	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	2.7E-01	1	0.0E+00	8.6E-05	0E+00	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
71	Vanadium, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	2.7E-01	1	0.0E+00	NA	NA	0.0E+00	1.2E-01	1	0.0E+00	NA	NA

RANGE NAME: C5UM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP5
LAST UPDATED: 07/23/92

CHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT ADULT (D)

CHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 DOWNWIND (A AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (A AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00				
3	1,1-Dichloroet	0.0E+00	1.00E-05				
4	1,2-Dichloroet	0.0E+00	0.0E+00				
5	2-Butanone	0.0E+00	1.1E-06				
6	4-Methyl-2-pen	0.0E+00	0.0E+00				
7	Acetone	0.0E+00	8.6E-06				
8	Benzene	0.0E+00	0.0E+00				
9	Bromodichlorom	0.0E+00	0.0E+00				
10	Carbon Disulfi	0.0E+00	3.5E-06				
11	Chlorobenzene	0.0E+00	0.0E+00				
12	Chloroform	0.0E+00	0.0E+00				
13	Ethyl Benzene	0.0E+00	3.5E-07				
14	Methylene Chlo	0.0E+00	7.3E-06				
15	Styrene	0.0E+00	0.0E+00				
16	Tetrachloroeth	0.0E+00	3.0E-06				
17	Toluene	0.0E+00	1.8E-06				
18	Trichloroethen	0.0E+00	2.7E-06				
19	Vinyl Chloride	0.0E+00	0.0E+00				
20	Xylenes (Total	0.0E+00	1.9E-06				
21	1,4-Dichlorobe	2.6E-09	0.0E+00				
22	2,4-Dimethylph	0.0E+00	0.0E+00				
23	2-Methylnaphth	0.0E+00	0.0E+00				
24	2-Methylphenol	0.0E+00	0.0E+00				
25	Acenaphthene	0.0E+00	0.0E+00				
26	Acenaphthylene	0.0E+00	0.0E+00				
27	Anthracene	0.0E+00	0.0E+00				
28	Benzo(a)anthra	5.1E-09	0.0E+00				
29	Benzo(a)pyrene	5.4E-09	0.0E+00				
30	Benzo(b)fluora	5.6E-09	0.0E+00				
31	Benzo(g,h,i)pe	5.5E-09	0.0E+00				
32	Benzo(k)fluora	5.1E-09	0.0E+00				
33	Benzoic acid	9.3E-10	0.0E+00				
34	Benzyl alcohol	0.0E+00	0.0E+00				
35	bis(2-Ethylhex	1.5E-08	0.0E+00				
36	Butylbenzylpht	0.0E+00	0.0E+00				
37	Chrysene	5.2E-09	0.0E+00				
38	Di-n-butylphth	4.9E-09	0.0E+00				
39	Di-n-octylphth	0.0E+00	0.0E+00				
40	Dibenzo(a,h)an	0.0E+00	0.0E+00				
41	Diethylphthala	0.0E+00	0.0E+00				
42	Dimethylphthal	0.0E+00	0.0E+00				

CHRONIC RISK SUMMARY

FUTURE
RESIDENT ADULT (D)

CHRONIC HAZARD QUOTIENT

SCENARIO 1 DOWNWIND (A AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (A AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
0E+00	0E+00				
NA	NA				
NA	NA				
0E+00	1E-05				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
0E+00	1E-03				
0E+00	0E+00				
NA	NA				
0E+00	1E-06				
0E+00	8E-06				
NA	NA				
NA	NA				
0E+00	3E-06				
NA	NA				
NA	NA				
0E+00	2E-05				
1E-08	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				

43	Fluoranthene	5.2E-09	0.0E+00			NA	NA				
44	Fluorene	0.0E+00	0.0E+00			NA	NA				
45	Indeno(1,2,3-c	5.6E-09	0.0E+00			NA	NA				
46	Naphthalene	0.0E+00	0.0E+00			NA	NA				
47	Phenanthrene	2.9E-09	0.0E+00			NA	NA				
48	Phenol	0.0E+00	0.0E+00			NA	NA				
49	Pyrene	5.2E-09	0.0E+00			NA	NA				
50	4,4-DDE	0.0E+00	0.0E+00			NA	NA				
51	4,4-DDT	2.9E-10	0.0E+00			NA	NA				
52	Aldrin	0.0E+00	0.0E+00			NA	NA				
53	alpha-Chlordan	0.0E+00	0.0E+00			NA	NA				
54	Aroclor-1248	0.0E+00	0.0E+00			NA	NA				
55	beta-BHC	0.0E+00	0.0E+00			NA	NA				
56	Dieldrin	0.0E+00	0.0E+00			NA	NA				
57	Endosulfan II	0.0E+00	0.0E+00			NA	NA				
58	gamma-Chlordan	0.0E+00	0.0E+00			NA	NA				
59	Heptachlor	0.0E+00	0.0E+00			NA	NA				
60	Antimony, Tota	2.3E-07	0.0E+00			NA	NA				
61	Arsenic, Total	1.9E-08	0.0E+00			NA	NA				
62	Barium, Total	2.4E-07	0.0E+00			2E-03	0E+00				
63	Beryllium, Tot	6.2E-09	0.0E+00			NA	NA				
64	Cadmium, Total	7.1E-09	0.0E+00			NA	NA				
65	Cadmium, Total	0.0E+00	0.0E+00			NA	NA				
66	Chromium, Tota	6.0E-08	0.0E+00			1E-01	0E+00				
67	Mercury, Total	9.9E-10	0.0E+00			1E-05	0E+00				
68	Nickel, Total	6.0E-08	0.0E+00			NA	NA				
69	Silver, Total	1.2E-08	0.0E+00			NA	NA				
70	Thallium, Tota	0.0E+00	0.0E+00			NA	NA				
71	Vanadium, Tota	7.3E-08	0.0E+00			NA	NA				
72	Cyanide, Total	2.0E-08	0.0E+00			NA	NA				
73	Nitrogen, Nitr	0.0E+00	0.0E+00			NA	NA				
				PATHWAY SUM (HI)		1E-01	1E-03	0E+00	0E+00	0E+00	0E+00
				POPULATION TOTAL		1E-01					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP5
LAST UPDATED: 07/23/92

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT ADULT (D)

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 DOWNWIND (A AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (A AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00				
3	1,1-Dichloroet	0.0E+00	4.4E-06				
4	1,2-Dichloroet	0.0E+00	0.0E+00				
5	2-Butanone	0.0E+00	4.7E-07				
6	4-Methyl-2-pen	0.0E+00	0.0E+00				
7	Acetone	0.0E+00	3.8E-06				
8	Benzene	0.0E+00	0.0E+00				
9	Bromodichlorom	0.0E+00	0.0E+00				
10	Carbon Disulfi	0.0E+00	1.6E-06				
11	Chlorobenzene	0.0E+00	0.0E+00				
12	Chloroform	0.0E+00	0.0E+00				
13	Ethyl Benzene	0.0E+00	1.6E-07				
14	Methylene Chlo	0.0E+00	3.2E-06				
15	Styrene	0.0E+00	0.0E+00				
16	Tetrachloroeth	0.0E+00	1.3E-06				
17	Toluene	0.0E+00	8.2E-07				
18	Trichloroethen	0.0E+00	1.2E-06				
19	Vinyl Chloride	0.0E+00	0.0E+00				
20	Xylenes (Total	0.0E+00	8.4E-07				
21	1,4-Dichlorobe	1.2E-09	0.0E+00				
22	2,4-Dimethylph	0.0E+00	0.0E+00				
23	2-Methylnaphth	0.0E+00	0.0E+00				
24	2-Methylphenol	0.0E+00	0.0E+00				
25	Acenaphthene	0.0E+00	0.0E+00				
26	Acenaphthylene	0.0E+00	0.0E+00				
27	Anthracene	0.0E+00	0.0E+00				
28	Benzo(a)anthra	2.3E-09	0.0E+00				
29	Benzo(a)pyrene	2.4E-09	0.0E+00				
30	Benzo(b)fluora	2.5E-09	0.0E+00				
31	Benzo(g,h,i)pe	2.4E-09	0.0E+00				
32	Benzo(k)fluora	2.3E-09	0.0E+00				
33	Benzoic acid	4.1E-10	0.0E+00				
34	Benzyl alcohol	0.0E+00	0.0E+00				
35	bis(2-Ethylhex	6.6E-09	0.0E+00				
36	Butylbenzylpht	0.0E+00	0.0E+00				
37	Chrysene	2.3E-09	0.0E+00				
38	Di-n-butylphth	2.2E-09	0.0E+00				
39	Di-n-octylphth	0.0E+00	0.0E+00				
40	Dibenzo(a,h)an	0.0E+00	0.0E+00				
41	Diethylphthala	0.0E+00	0.0E+00				
42	Dimethylphthal	0.0E+00	0.0E+00				

LIFETIME RISK SUMMARY

FUTURE
RESIDENT ADULT (D)

LIFETIME EXCESS CANCER RISK

SCENARIO 1 DOWNWIND (A AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (A AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
NA	NA	0E+00	0E+00	0E+00	0E+00
NA	NA				
0E+00	8E-07				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
0E+00	5E-09				
0E+00	0E+00				
0E+00	2E-09				
NA	NA				
0E+00	7E-09				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
1E-08	0E+00				
1E-08	0E+00				
2E-08	0E+00				
NA	NA				
1E-08	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
1E-08	0E+00				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
NA	NA				

43	Fluoranthene	2.3E-09	0.0E+00				NA	NA			
44	Fluorene	0.0E+00	0.0E+00				NA	NA			
45	Indeno(1,2,3-c	2.5E-09	0.0E+00				2E-08	0E+00			
46	Naphthalene	0.0E+00	0.0E+00				NA	NA			
47	Phenanthrene	1.3E-09	0.0E+00				NA	NA			
48	Phenol	0.0E+00	0.0E+00				NA	NA			
49	Pyrene	2.3E-09	0.0E+00				NA	NA			
50	4,4-DDE	0.0E+00	0.0E+00				NA	NA			
51	4,4-DDT	1.3E-10	0.0E+00				4E-11	0E+00			
52	Aldrin	0.0E+00	0.0E+00				0E+00	0E+00			
53	alpha-Chlordan	0.0E+00	0.0E+00				0E+00	0E+00			
54	Aroclor-1248	0.0E+00	0.0E+00				NA	NA			
55	beta-BHC	0.0E+00	0.0E+00				0E+00	0E+00			
56	Dieldrin	0.0E+00	0.0E+00				0E+00	0E+00			
57	Endosulfan II	0.0E+00	0.0E+00				NA	NA			
58	gamma-Chlordan	0.0E+00	0.0E+00				0E+00	0E+00			
59	Heptachlor	0.0E+00	0.0E+00				0E+00	0E+00			
60	Antimony, Tota	1.0E-07	0.0E+00				NA	NA			
61	Arsenic, Total	8.3E-09	0.0E+00				1E-07	0E+00			
62	Barium, Total	1.1E-07	0.0E+00				NA	NA			
63	Beryllium, Tot	2.8E-09	0.0E+00				2E-08	0E+00			
64	Cadmium, Total	3.2E-09	0.0E+00				2E-08	0E+00			
65	Cadmium, Total	0.0E+00	0.0E+00				0E+00	0E+00			
66	Chromium, Tota	2.7E-08	0.0E+00				1E-06	0E+00			
67	Mercury, Total	4.4E-10	0.0E+00				NA	NA			
68	Nickel, Total	2.7E-08	0.0E+00				NA	NA			
69	Silver, Total	5.2E-09	0.0E+00				NA	NA			
70	Thallium, Tota	0.0E+00	0.0E+00				NA	NA			
71	Vanadium, Tota	3.3E-08	0.0E+00				NA	NA			
72	Cyanide, Total	8.9E-09	0.0E+00				NA	NA			
73	Nitrogen, Nitr	0.0E+00	0.0E+00				NA	NA			
				TOTAL PATHWAY CANCER RISK			1E-06	8E-07	0E+00	0E+00	0E+00	0E+00
				POPULATION TOTAL EXCESS RISK			2E-06				

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP6
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (D)

EXPOSURE POINT: DOWNWIND (C)
MEDIUM: AIR-PART
ROUTE: INHALATION

HIFs = 1.3E+00
HIFc = 0.0E+00
HIFl = 1.1E-01

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	1.3E+00	1	0.0E+00	3.0E+00	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	1.8E-01	0E+00
4	1,2-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
5	2-Butanone	0.0E+00	1.3E+00	1	0.0E+00	9.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.3E+00	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
7	Acetone	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
8	Benzene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
10	Carbon Disulfi	0.0E+00	1.3E+00	1	0.0E+00	2.9E-03	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
11	Chlorobenzene	0.0E+00	1.3E+00	1	0.0E+00	5.0E-02	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene	0.0E+00	1.3E+00	1	0.0E+00	2.9E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
14	Methylene Chlo	0.0E+00	1.3E+00	1	0.0E+00	8.6E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	1.6E-03	0E+00
15	Styrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroeth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	1.8E-03	0E+00
17	Toluene	0.0E+00	1.3E+00	1	0.0E+00	5.7E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
18	Trichloroethen	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.0E-03	0E+00
19	Vinyl Chloride	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total	0.0E+00	1.3E+00	1	0.0E+00	8.6E-02	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
21	1,4-Dichlorobe	9.7E-09	1.3E+00	1	1.3E-08	2.0E-01	6E-08							9.7E-09	1.1E-01	1	1.1E-09	NA	NA
22	2,4-Dimethylph	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
28	Benzo(a)anthra	1.9E-08	1.3E+00	1	2.5E-08	NA	NA							1.9E-08	1.1E-01	1	2.1E-09	6.1E+00	1E-08
29	Benzo(a)pyrene	2.0E-08	1.3E+00	1	2.6E-08	NA	NA							2.0E-08	1.1E-01	1	2.2E-09	6.1E+00	1E-08
30	Benzo(b)fluora	2.1E-08	1.3E+00	1	2.7E-08	NA	NA							2.1E-08	1.1E-01	1	2.3E-09	6.1E+00	1E-08
31	Benzo(g,h,i)pe	2.0E-08	1.3E+00	1	2.7E-08	NA	NA							2.0E-08	1.1E-01	1	2.2E-09	NA	NA
32	Benzo(k)fluora	1.9E-08	1.3E+00	1	2.5E-08	NA	NA							1.9E-08	1.1E-01	1	2.1E-09	6.1E+00	1E-08
33	Benzoic acid	3.5E-09	1.3E+00	1	4.5E-09	NA	NA							3.5E-09	1.1E-01	1	3.8E-10	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	5.5E-08	1.3E+00	1	7.2E-08	NA	NA							5.5E-08	1.1E-01	1	6.1E-09	NA	NA
36	Butylbenzylpht	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
37	Chrysene	1.9E-08	1.3E+00	1	2.5E-08	NA	NA							1.9E-08	1.1E-01	1	2.1E-09	6.1E+00	1E-08
38	Di-n-butylphth	1.8E-08	1.3E+00	1	2.4E-08	NA	NA							1.8E-08	1.1E-01	1	2.0E-09	NA	NA
39	Di-n-octylphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00	
41	Diethylphthala	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
42	Dimethylphthal	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
43	Fluoranthene	1.9E-08	1.3E+00	1	2.5E-08	NA	NA			1.9E-08	1.1E-01	1	2.1E-09	NA	NA	
44	Fluorene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
45	Indeno(1,2,3-c	2.1E-08	1.3E+00	1	2.7E-08	NA	NA			2.1E-08	1.1E-01	1	2.3E-09	6.1E+00	1E-08	
46	Naphthalene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
47	Phenanthrene	1.1E-08	1.3E+00	1	1.4E-08	NA	NA			1.1E-08	1.1E-01	1	1.2E-09	NA	NA	
48	Phenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
49	Pyrene	1.9E-08	1.3E+00	1	2.5E-08	NA	NA			1.9E-08	1.1E-01	1	2.1E-09	NA	NA	
50	4,4-DDE	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
51	4,4-DDT	1.1E-09	1.3E+00	1	1.4E-09	NA	NA			1.1E-09	1.1E-01	1	1.2E-10	3.4E-01	4E-11	
52	Aldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.7E+01	0E+00	
53	alpha-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00	
54	Aroclor-1248	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
55	beta-BHC	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.8E+00	0E+00	
56	Dieldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.6E+01	0E+00	
57	Endosulfan II	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
58	gamma-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00	
59	Heptachlor	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	4.6E+00	0E+00	
60	Antimony, Tota	8.5E-07	1.3E+00	1	1.1E-06	NA	NA			8.5E-07	1.1E-01	1	9.3E-08	NA	NA	
61	Arsenic, Total	6.9E-08	1.3E+00	1	9.0E-08	NA	NA			6.9E-08	1.1E-01	1	7.6E-09	1.5E+01	1E-07	
62	Barium, Total	9.1E-07	1.3E+00	1	1.2E-06	1.0E-03	1E-03			9.1E-07	1.1E-01	1	1.00E-07	NA	NA	
63	Beryllium, Tot	2.3E-08	1.3E+00	1	3.0E-08	NA	NA			2.3E-08	1.1E-01	1	2.5E-09	8.4E+00	2E-08	
64	Cadmium, Total	2.6E-08	1.3E+00	1	3.4E-08	NA	NA			2.6E-08	1.1E-01	1	2.9E-09	6.3E+00	2E-08	
65	Cadmium, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	6.3E+00	0E+00	
66	Chromium, Tota	2.2E-07	1.3E+00	1	2.9E-07	5.7E-06	5E-02			2.2E-07	1.1E-01	1	2.4E-08	4.2E+01	1E-06	
67	Mercury, Total	3.7E-09	1.3E+00	1	4.8E-09	8.6E-05	6E-05			3.7E-09	1.1E-01	1	4.0E-10	NA	NA	
68	Nickel, Total	2.2E-07	1.3E+00	1	2.9E-07	NA	NA			2.2E-07	1.1E-01	1	2.4E-08	NA	NA	
69	Silver, Total	4.4E-08	1.3E+00	1	5.7E-08	NA	NA			4.4E-08	1.1E-01	1	4.8E-09	NA	NA	
70	Thallium, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	
71	Vanadium, Tota	2.7E-07	1.3E+00	1	3.5E-07	NA	NA			2.7E-07	1.1E-01	1	3.0E-08	NA	NA	
72	Cyanide, Total	7.4E-08	1.3E+00	1	9.7E-08	NA	NA			7.4E-08	1.1E-01	1	8.2E-09	NA	NA	
73	Nitrogen, Nitr	0.0E+00	1.3E+00	1	0.0E+00	NA	NA			0.0E+00	1.1E-01	1	0.0E+00	NA	NA	

RANGE NAME: WS2

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP6
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (D)

EXPOSURE POINT: DOWNWIND (C)
MEDIUM: AIR-VOC'S
ROUTE: INHALATION

HIFs = 1.3E+00
HIFc = 0.0E+00
HIFl = 1.1E-01

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	1.3E+00	1	0.0E+00	3.0E+00	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
3	1,1-Dichloroet	8.3E-05	1.3E+00	1	1.1E-04	NA	NA							8.3E-05	1.1E-01	1	9.1E-06	1.8E-01	2E-06
4	1,2-Dichloroet	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
5	2-Butanone	8.7E-06	1.3E+00	1	1.1E-05	9.0E-01	1E-05							8.7E-06	1.1E-01	1	9.6E-07	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.3E+00	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
7	Acetone	7.3E-05	1.3E+00	1	9.5E-05	NA	NA							7.3E-05	1.1E-01	1	8.0E-06	NA	NA
8	Benzene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
10	Carbon Disulfi	3.0E-05	1.3E+00	1	3.9E-05	2.9E-03	1E-02							3.0E-05	1.1E-01	1	3.3E-06	NA	NA
11	Chlorobenzene	0.0E+00	1.3E+00	1	0.0E+00	5.0E-02	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	8.1E-02	0E+00
13	Ethyl Benzene	3.0E-06	1.3E+00	1	3.9E-06	2.9E-01	1E-05							3.0E-06	1.1E-01	1	3.3E-07	NA	NA
14	Methylene Chlo	6.0E-05	1.3E+00	1	7.8E-05	8.6E-01	9E-05							6.0E-05	1.1E-01	1	6.6E-06	1.6E-03	1E-08
15	Styrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.0E-03	0E+00
16	Tetrachloroeth	2.4E-05	1.3E+00	1	3.1E-05	NA	NA							2.4E-05	1.1E-01	1	2.6E-06	1.8E-03	5E-09
17	Toluene	1.5E-05	1.3E+00	1	2.0E-05	5.7E-01	3E-05							1.5E-05	1.1E-01	1	1.7E-06	NA	NA
18	Trichloroethen	2.3E-05	1.3E+00	1	3.0E-05	NA	NA							2.3E-05	1.1E-01	1	2.5E-06	6.0E-03	2E-08
19	Vinyl Chloride	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	2.9E-01	0E+00
20	Xylenes (Total	1.6E-05	1.3E+00	1	2.1E-05	8.6E-02	2E-04							1.6E-05	1.1E-01	1	1.8E-06	NA	NA
21	1,4-Dichlorobe	0.0E+00	1.3E+00	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
22	2,4-Dimethylph	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluora	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)pe	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
32	Benzo(k)fluora	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
36	Butylbenzylpht	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
37	Chrysene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	1.3E+00	1	0.0E+00	NA	NA							0.0E+00	1.1E-01	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthala	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	1.3E+00	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
63	Beryllium, Tot	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Tota	0.0E+00	1.3E+00	1	0.0E+00	5.7E-06	0E+00	0.0E+00	1.1E-01	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	1.3E+00	1	0.0E+00	8.6E-05	0E+00	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
70	Thallium, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
71	Vanadium, Tota	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.3E+00	1	0.0E+00	NA	NA	0.0E+00	1.1E-01	1	0.0E+00	NA	NA

RANGE NAME: SSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP6
LAST UPDATED: 07/23/92

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT CHILD (D)

SUBCHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 DOWNWIND (C AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (C AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00				
3	1,1-Dichloroet	0.0E+00	1.1E-04				
4	1,2-Dichloroet	0.0E+00	0.0E+00				
5	2-Butanone	0.0E+00	1.1E-05				
6	4-Methyl-2-pen	0.0E+00	0.0E+00				
7	Acetone	0.0E+00	9.5E-05				
8	Benzene	0.0E+00	0.0E+00				
9	Bromodichlorom	0.0E+00	0.0E+00				
10	Carbon Disulfi	0.0E+00	3.9E-05				
11	Chlorobenzene	0.0E+00	0.0E+00				
12	Chloroform	0.0E+00	0.0E+00				
13	Ethyl Benzene	0.0E+00	3.9E-06				
14	Methylene Chlo	0.0E+00	7.8E-05				
15	Styrene	0.0E+00	0.0E+00				
16	Tetrachloroeth	0.0E+00	3.1E-05				
17	Toluene	0.0E+00	2.0E-05				
18	Trichloroethen	0.0E+00	3.0E-05				
19	Vinyl Chloride	0.0E+00	0.0E+00				
20	Xylenes (Total	0.0E+00	2.1E-05				
21	1,4-Dichlorobe	1.3E-08	0.0E+00				
22	2,4-Dimethylph	0.0E+00	0.0E+00				
23	2-Methylnaphth	0.0E+00	0.0E+00				
24	2-Methylphenol	0.0E+00	0.0E+00				
25	Acenaphthene	0.0E+00	0.0E+00				
26	Acenaphthylene	0.0E+00	0.0E+00				
27	Anthracene	0.0E+00	0.0E+00				
28	Benzo(a)anthra	2.5E-08	0.0E+00				
29	Benzo(a)pyrene	2.6E-08	0.0E+00				
30	Benzo(b)fluora	2.7E-08	0.0E+00				
31	Benzo(g,h,i)pe	2.7E-08	0.0E+00				
32	Benzo(k)fluora	2.5E-08	0.0E+00				
33	Benzoic acid	4.5E-09	0.0E+00				
34	Benzyl alcohol	0.0E+00	0.0E+00				
35	bis(2-Ethylhex	7.2E-08	0.0E+00				
36	Butylbenzylpht	0.0E+00	0.0E+00				
37	Chrysene	2.5E-08	0.0E+00				
38	Di-n-butylphth	2.4E-08	0.0E+00				
39	Di-n-octylphth	0.0E+00	0.0E+00				
40	Dibenzo(a,h)an	0.0E+00	0.0E+00				
41	Diethylphthala	0.0E+00	0.0E+00				
42	Dimethylphthal	0.0E+00	0.0E+00				

SUBCHRONIC RISK SUMMARY

FUTURE
RESIDENT CHILD (D)

SUBCHRONIC HAZARD QUOTIENT

	CHEMICAL NAME	SCENARIO 1 DOWNWIND (C AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (C AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
2	1,1-Dichloroet	0E+00	0E+00				
3	1,1-Dichloroet	NA	NA				
4	1,2-Dichloroet	NA	NA				
5	2-Butanone	0E+00	1E-05				
6	4-Methyl-2-pen	0E+00	0E+00				
7	Acetone	NA	NA				
8	Benzene	NA	NA				
9	Bromodichlorom	NA	NA				
10	Carbon Disulfi	0E+00	1E-02				
11	Chlorobenzene	0E+00	0E+00				
12	Chloroform	NA	NA				
13	Ethyl Benzene	0E+00	1E-05				
14	Methylene Chlo	0E+00	9E-05				
15	Styrene	NA	NA				
16	Tetrachloroeth	NA	NA				
17	Toluene	0E+00	3E-05				
18	Trichloroethen	NA	NA				
19	Vinyl Chloride	NA	NA				
20	Xylenes (Total	0E+00	2E-04				
21	1,4-Dichlorobe	6E-08	0E+00				
22	2,4-Dimethylph	NA	NA				
23	2-Methylnaphth	NA	NA				
24	2-Methylphenol	NA	NA				
25	Acenaphthene	NA	NA				
26	Acenaphthylene	NA	NA				
27	Anthracene	NA	NA				
28	Benzo(a)anthra	NA	NA				
29	Benzo(a)pyrene	NA	NA				
30	Benzo(b)fluora	NA	NA				
31	Benzo(g,h,i)pe	NA	NA				
32	Benzo(k)fluora	NA	NA				
33	Benzoic acid	NA	NA				
34	Benzyl alcohol	NA	NA				
35	bis(2-Ethylhex	NA	NA				
36	Butylbenzylpht	NA	NA				
37	Chrysene	NA	NA				
38	Di-n-butylphth	NA	NA				
39	Di-n-octylphth	NA	NA				
40	Dibenzo(a,h)an	NA	NA				
41	Diethylphthala	NA	NA				
42	Dimethylphthal	NA	NA				

43	Fluoranthene	2.5E-08	0.0E+00			NA	NA			
44	Fluorene	0.0E+00	0.0E+00			NA	NA			
45	Indeno(1,2,3-c	2.7E-08	0.0E+00			NA	NA			
46	Naphthalene	0.0E+00	0.0E+00			NA	NA			
47	Phenanthrene	1.4E-08	0.0E+00			NA	NA			
48	Phenol	0.0E+00	0.0E+00			NA	NA			
49	Pyrene	2.5E-08	0.0E+00			NA	NA			
50	4,4-DDE	0.0E+00	0.0E+00			NA	NA			
51	4,4-DDT	1.4E-09	0.0E+00			NA	NA			
52	Aldrin	0.0E+00	0.0E+00			NA	NA			
53	alpha-Chlordan	0.0E+00	0.0E+00			NA	NA			
54	Aroclor-1248	0.0E+00	0.0E+00			NA	NA			
55	beta-BHC	0.0E+00	0.0E+00			NA	NA			
56	Dieldrin	0.0E+00	0.0E+00			NA	NA			
57	Endosulfan II	0.0E+00	0.0E+00			NA	NA			
58	gamma-Chlordan	0.0E+00	0.0E+00			NA	NA			
59	Heptachlor	0.0E+00	0.0E+00			NA	NA			
60	Antimony, Tota	1.1E-06	0.0E+00			NA	NA			
61	Arsenic, Total	9.0E-08	0.0E+00			NA	NA			
62	Barium, Total	1.2E-06	0.0E+00			1E-03	0E+00			
63	Beryllium, Tot	3.0E-08	0.0E+00			NA	NA			
64	Cadmium, Total	3.4E-08	0.0E+00			NA	NA			
65	Cadmium, Total	0.0E+00	0.0E+00			NA	NA			
66	Chromium, Tota	2.9E-07	0.0E+00			5E-02	0E+00			
67	Mercury, Total	4.8E-09	0.0E+00			6E-05	0E+00			
68	Nickel, Total	2.9E-07	0.0E+00			NA	NA			
69	Silver, Total	5.7E-08	0.0E+00			NA	NA			
70	Thallium, Tota	0.0E+00	0.0E+00			NA	NA			
71	Vanadium, Tota	3.5E-07	0.0E+00			NA	NA			
72	Cyanide, Total	9.7E-08	0.0E+00			NA	NA			
73	Nitrogen, Nitr	0.0E+00	0.0E+00			NA	NA			
				PATHWAY SUM (HI)		5E-02	1E-02	0E+00	0E+00	0E+00	0E+00
				POPULATION TOTAL		6E-02					

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 2
FILE NAME: POP6
LAST UPDATED: 07/23/92

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT CHILD (D)

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 DOWNWIND (C AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (C AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	0.0E+00				
3	1,1-Dichloroet	0.0E+00	9.1E-06				
4	1,2-Dichloroet	0.0E+00	0.0E+00				
5	2-Butanone	0.0E+00	9.6E-07				
6	4-Methyl-2-pen	0.0E+00	0.0E+00				
7	Acetone	0.0E+00	8.0E-06				
8	Benzene	0.0E+00	0.0E+00				
9	Bromodichlorom	0.0E+00	0.0E+00				
10	Carbon Disulfi	0.0E+00	3.3E-06				
11	Chlorobenzene	0.0E+00	0.0E+00				
12	Chloroform	0.0E+00	0.0E+00				
13	Ethyl Benzene	0.0E+00	3.3E-07				
14	Methylene Chlo	0.0E+00	6.6E-06				
15	Styrene	0.0E+00	0.0E+00				
16	Tetrachloroeth	0.0E+00	2.6E-06				
17	Toluene	0.0E+00	1.7E-06				
18	Trichloroethen	0.0E+00	2.5E-06				
19	Vinyl Chloride	0.0E+00	0.0E+00				
20	Xylenes (Total	0.0E+00	1.8E-06				
21	1,4-Dichlorobe	1.1E-09	0.0E+00				
22	2,4-Dimethylph	0.0E+00	0.0E+00				
23	2-Methylnaphth	0.0E+00	0.0E+00				
24	2-Methylphenol	0.0E+00	0.0E+00				
25	Acenaphthene	0.0E+00	0.0E+00				
26	Acenaphthylene	0.0E+00	0.0E+00				
27	Anthracene	0.0E+00	0.0E+00				
28	Benzo(a)anthra	2.1E-09	0.0E+00				
29	Benzo(a)pyrene	2.2E-09	0.0E+00				
30	Benzo(b)fluora	2.3E-09	0.0E+00				
31	Benzo(g,h,i)pe	2.2E-09	0.0E+00				
32	Benzo(k)fluora	2.1E-09	0.0E+00				
33	Benzoic acid	3.8E-10	0.0E+00				
34	Benzyl alcohol	0.0E+00	0.0E+00				
35	bis(2-Ethylhex	6.1E-09	0.0E+00				
36	Butylbenzylpht	0.0E+00	0.0E+00				
37	Chrysene	2.1E-09	0.0E+00				
38	Di-n-butylphth	2.0E-09	0.0E+00				
39	Di-n-octylphth	0.0E+00	0.0E+00				
40	Dibenzo(a,h)an	0.0E+00	0.0E+00				
41	Diethylphthala	0.0E+00	0.0E+00				
42	Dimethylphthal	0.0E+00	0.0E+00				

LIFETIME RISK SUMMARY

FUTURE
RESIDENT CHILD (D)

LIFETIME EXCESS CANCER RISK

SCENARIO 1 DOWNWIND (C AIR-PART INHALATION (FROM WS1)	SCENARIO 2 DOWNWIND (C AIR-VOC'S INHALATION (FROM WS2)	SCENARIO 3 0 0 0 (FROM WS3)	SCENARIO 4 0 0 0 (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
NA	NA	0E+00	0E+00	0E+00	0E+00
NA	NA				
0E+00	2E-06				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
0E+00	1E-08				
0E+00	0E+00				
0E+00	5E-09				
NA	NA				
0E+00	2E-08				
0E+00	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
1E-08	0E+00				
1E-08	0E+00				
1E-08	0E+00				
NA	NA				
1E-08	0E+00				
NA	NA				
NA	NA				
NA	NA				
NA	NA				
1E-08	0E+00				
NA	NA				
NA	NA				
0E+00	0E+00				
NA	NA				
NA	NA				

43	Fluoranthene	2.1E-09	0.0E+00							NA	NA						
44	Fluorene	0.0E+00	0.0E+00							NA	NA						
45	Indeno(1,2,3-c	2.3E-09	0.0E+00							1E-08	0E+00						
46	Naphthalene	0.0E+00	0.0E+00							NA	NA						
47	Phenanthrene	1.2E-09	0.0E+00							NA	NA						
48	Phenol	0.0E+00	0.0E+00							NA	NA						
49	Pyrene	2.1E-09	0.0E+00							NA	NA						
50	4,4-DDE	0.0E+00	0.0E+00							NA	NA						
51	4,4-DDT	1.2E-10	0.0E+00							4E-11	0E+00						
52	Aldrin	0.0E+00	0.0E+00							0E+00	0E+00						
53	alpha-Chlordan	0.0E+00	0.0E+00							0E+00	0E+00						
54	Aroclor-1248	0.0E+00	0.0E+00							NA	NA						
55	beta-BHC	0.0E+00	0.0E+00							0E+00	0E+00						
56	Dieldrin	0.0E+00	0.0E+00							0E+00	0E+00						
57	Endosulfan II	0.0E+00	0.0E+00							NA	NA						
58	gamma-Chlordan	0.0E+00	0.0E+00							0E+00	0E+00						
59	Heptachlor	0.0E+00	0.0E+00							0E+00	0E+00						
60	Antimony, Tota	9.3E-08	0.0E+00							NA	NA						
61	Arsenic, Total	7.6E-09	0.0E+00							1E-07	0E+00						
62	Barium, Total	1.00E-07	0.0E+00							NA	NA						
63	Beryllium, Tot	2.5E-09	0.0E+00							2E-08	0E+00						
64	Cadmium, Total	2.9E-09	0.0E+00							2E-08	0E+00						
65	Cadmium, Total	0.0E+00	0.0E+00							0E+00	0E+00						
66	Chromium, Tota	2.4E-08	0.0E+00							1E-06	0E+00						
67	Mercury, Total	4.0E-10	0.0E+00							NA	NA						
68	Nickel, Total	2.4E-08	0.0E+00							NA	NA						
69	Silver, Total	4.8E-09	0.0E+00							NA	NA						
70	Thallium, Tota	0.0E+00	0.0E+00							NA	NA						
71	Vanadium, Tota	3.0E-08	0.0E+00							NA	NA						
72	Cyanide, Total	8.2E-09	0.0E+00							NA	NA						
73	Nitrogen, Nitr	0.0E+00	0.0E+00							NA	NA						
									TOTAL PATHWAY CANCER RISK		1E-06	2E-06	0E+00	0E+00	0E+00	0E+00	
									POPULATION TOTAL EXCESS RISK		3E-06						

RANGE NAME: POPSUM

EXPOSURE SCENARIOS EVALUATED
(GROUPED BY POPULATION)

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: DATA
LAST UPDATED: 07/23/92

POPULATION 1 — NO. OF SCENARIOS = 4

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	WORKSHEET NAME
1	FUTURE	RESIDENT ADULT (SL)	RESIDENCE (S. LF.)	SOIL	ORAL		3.7E-06	1.6E-06	WS1
2			RESIDENCE (S. LF.)	GWATER (D)	ORAL		2.7E-02	1.1E-02	WS2
3			RESIDENCE (S. LF.)	GWATER (D)	DERMAL		2.3E-02	1.0E-02	WS3
4			RESIDENCE (S. LF.)	GWATER (INH, D	INHALATION		5.4E-02	2.2E-02	WS4
5									WS5
6									WS6

POPULATION 2 — NO. OF SCENARIOS = 4

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	RANGE NAME
1	FUTURE	RESIDENT CHILD (SL)	RESIDENCE (S. LF.)	SOIL	ORAL	1.3E-05		1.1E-06	WS1
2			RESIDENCE (S. LF.)	GWATER (D)	ORAL	6.4E-02		5.5E-03	WS2
3			RESIDENCE (S. LF.)	GWATER (D)	DERMAL	1.1E-01		9.3E-02	WS3
4			RESIDENCE (S. LF.)	GWATER (INH, D	INHALATION	1.3E-01		1.1E-02	WS4
5									WS5
6									WS6

RANGE NAME: CTV

LIST OF CHEMICALS OF CONCERN
WITH CTVs AND OTHER CHEMICAL-SPECIFIC DATA

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: DATA
LAST UPDATED: 07/23/92

		ORAL				INHALATION			DERMAL(a)				
NO.	CHEMICAL NAME	RfDs	RfDc	SF	AFo	RfDs	RfDc	SF	RfDs	RfDc	SF	ABS	P
1	1,1,1-Trichlor	9.0E-01	9.0E-02	NA	1.0E+00	3.0E+00	3.0E-01	NA	9.0E-01	9.0E-02	NA	NA	1.7E-02
2	1,1-Dichloroet	1.0E+00	1.0E-01	NA	1.0E+00	1.0E+00	1.0E-01	NA	1.0E+00	1.0E-01	NA	NA	8.9E-03
3	1,1-Dichloroet	9.0E-03	9.0E-03	6.0E-01	1.0E+00	NA	NA	1.8E-01	9.0E-03	9.0E-03	6.0E-01	NA	1.6E-02
4	1,2-Dichloroet	1.0E-01	1.0E-02	NA	1.0E+00	NA	NA	NA	1.0E-01	1.0E-02	NA	NA	1.0E-02
5	2-Butanone	5.0E-01	5.0E-02	NA	1.0E+00	9.0E-01	9.0E-02	NA	5.0E-01	5.0E-02	NA	NA	1.1E-03
6	4-Methyl-2-pen	5.0E-01	5.0E-02	NA	1.0E+00	2.0E-01	2.0E-02	NA	5.0E-01	5.0E-02	NA	NA	2.8E-03
7	Acetone	1.0E+00	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E-01	NA	NA	5.7E-04
8	Benzene	NA	NA	2.9E-02	1.0E+00	NA	NA	2.9E-02	NA	NA	2.9E-02	NA	2.1E-02
9	Bromodichlorom	2.0E-02	2.0E-02	1.3E-01	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	1.3E-01	NA	5.8E-03
10	Carbon Disulfi	1.0E-01	1.0E-01	NA	1.0E+00	2.9E-03	2.9E-03	NA	1.0E-01	1.0E-01	NA	NA	2.4E-02
11	Chlorobenzene	2.0E-01	2.0E-02	NA	1.0E+00	5.0E-02	5.0E-03	NA	2.0E-01	2.0E-02	NA	NA	4.1E-02
12	Chloroform	1.0E-02	1.0E-02	6.1E-03	1.0E+00	NA	NA	8.1E-02	1.0E-02	1.0E-02	6.1E-03	NA	8.9E-03
13	Ethyl Benzene	1.0E+00	1.0E-01	NA	1.0E+00	2.9E-01	2.9E-01	NA	1.0E+00	1.0E-01	NA	NA	7.4E-02
14	Methylene Chlo	6.0E-02	6.0E-02	7.5E-03	1.0E+00	8.6E-01	8.6E-01	1.6E-03	6.0E-02	6.0E-02	7.5E-03	NA	4.5E-03
15	Styrene	2.0E+00	2.0E-01	3.0E-02	1.0E+00	NA	NA	2.0E-03	2.0E+00	2.0E-01	3.0E-02	NA	5.5E-02
16	Tetrachloroeth	1.0E-01	1.0E-02	5.1E-02	1.0E+00	NA	NA	1.8E-03	1.0E-01	1.0E-02	5.1E-02	NA	4.8E-02
17	Toluene	2.0E+00	2.0E-01	NA	1.0E+00	5.7E-01	5.7E-01	NA	2.0E+00	2.0E-01	NA	NA	4.5E-02
18	Trichloroethen	NA	NA	1.1E-02	1.0E+00	NA	NA	6.0E-03	NA	NA	1.1E-02	NA	1.6E-02
19	Vinyl Chloride	NA	NA	1.9E+00	1.0E+00	NA	NA	2.9E-01	NA	NA	1.9E+00	NA	7.0E-03
20	Xylenes (Total	4.0E+00	2.0E+00	NA	1.0E+00	8.6E-02	8.6E-02	NA	4.0E+00	2.0E+00	NA	NA	8.0E-02
21	1,4-Dichlorobe	NA	NA	2.4E-02	1.0E+00	2.0E-01	2.0E-01	NA	NA	NA	2.4E-02	NA	6.2E-02
22	2,4-Dimethylph	2.0E-01	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-01	2.0E-02	NA	NA	1.5E-02
23	2-Methylnaphth	4.0E-02	4.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24	2-Methylphenol	5.0E-01	5.0E-02	NA	1.0E+00	NA	NA	NA	5.0E-01	5.0E-02	NA	NA	1.0E-02
25	Acenaphthene	6.0E-01	6.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
26	Acenaphthylene	6.0E-01	6.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27	Anthracene	3.0E+00	3.0E-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
28	Benzo(a)anthra	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
29	Benzo(a)pyrene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
30	Benzo(b)fluora	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
31	Benzo(g,h,i)pe	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
32	Benzo(k)fluora	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
33	Benzoic acid	4.0E+00	4.0E+00	NA	1.0E+00	NA	NA	NA	4.0E+00	4.0E+00	NA	NA	7.3E-03
34	Benzyl alcohol	1.0E+00	3.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	3.0E-01	NA	NA	2.5E-03
35	bis(2-Ethylhex	2.0E-02	2.0E-02	1.4E-02	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	1.4E-02	NA	3.3E-02
36	Butylbenzylpht	2.0E+00	2.0E-01	NA	1.0E+00	NA	NA	NA	2.0E+00	2.0E-01	NA	NA	2.4E-02
37	Chrysene	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
38	Di-n-butylphth	1.0E+00	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E-01	NA	NA	4.9E-02
39	Di-n-octylphth	2.0E-02	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	NA	NA	7.2E-03
40	Dibenzo(a,h)an	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA
41	Diethylphthala	8.0E+00	8.0E-01	NA	1.0E+00	NA	NA	NA	8.0E+00	8.0E-01	NA	NA	4.8E-03
42	Dimethylphthal	1.0E+00	1.0E+00	NA	1.0E+00	NA	NA	NA	1.0E+00	1.0E+00	NA	NA	1.6E-03
43	Fluoranthene	4.0E-01	4.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
44	Fluorene	4.0E-01	4.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
45	Indeno(1,2,3-c	3.0E-01	3.0E-02	1.2E+01	NA	NA	NA	6.1E+00	NA	NA	NA	NA	NA

46	Naphthalene	4.0E-02	4.0E-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
47	Phenanthrene	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
48	Phenol	6.0E-01	6.0E-01	NA	1.0E+00	NA	NA	NA	6.0E-01	6.0E-01	NA	NA	5.5E-03	
49	Pyrene	3.0E-01	3.0E-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
50	4,4-DDE	NA	NA	3.4E-01	1.0E+00	NA	NA	NA	NA	NA	3.4E-01	NA	2.4E-01	
51	4,4-DDT	5.0E-04	5.0E-04	3.4E-01	1.0E+00	NA	NA	3.4E-01	5.0E-04	5.0E-04	3.4E-01	NA	4.3E-01	
52	Aldrin	3.0E-05	3.0E-05	1.7E+01	1.0E+00	NA	NA	1.7E+01	3.0E-05	3.0E-05	1.7E+01	NA	1.6E-03	
53	alpha-Chlordan	6.0E-05	6.0E-05	1.3E+00	1.0E+00	NA	NA	1.3E+00	6.0E-05	6.0E-05	1.3E+00	NA	8.9E+00	
54	Aroclor-1248	NA	NA	7.7E+00	1.0E+00	NA	NA	NA	NA	NA	7.7E+00	NA	6.6E-01	
55	beta-BHC	NA	NA	1.8E+00	1.0E+00	NA	NA	1.8E+00	NA	NA	1.8E+00	NA	2.1E-02	
56	Dieldrin	5.0E-05	5.0E-05	1.6E+01	1.0E+00	NA	NA	1.6E+01	5.0E-05	5.0E-05	1.6E+01	NA	1.6E-02	
57	Endosulfan II	2.0E-04	5.0E-05	NA	1.0E+00	NA	NA	NA	2.0E-04	5.0E-05	NA	NA	2.3E-03	
58	gamma-Chlordan	6.0E-05	6.0E-05	1.3E+00	1.0E+00	NA	NA	1.3E+00	6.0E-05	6.0E-05	1.3E+00	NA	9.8E-02	
59	Heptachlor	5.0E-04	5.0E-04	4.5E+00	1.0E+00	NA	NA	4.6E+00	5.0E-04	5.0E-04	4.5E+00	NA	1.1E-02	
60	Antimony, Tota	4.0E-04	4.0E-04	NA	5.0E-02	NA	NA	NA	2.0E-05	2.0E-05	NA	NA	1.0E-03	
61	Arsenic, Total	3.0E-04	3.0E-04	1.8E+00	1.0E+00	NA	NA	1.5E+01	3.0E-04	3.0E-04	1.8E+00	NA	1.0E-03	
62	Barium, Total	7.0E-02	7.0E-02	NA	1.0E-01	1.0E-03	1.0E-04	NA	7.0E-03	7.0E-03	NA	NA	1.0E-03	
63	Beryllium, Tot	5.0E-03	5.0E-03	4.3E+00	1.0E-03	NA	NA	8.4E+00	5.0E-06	5.0E-06	4.3E+03	NA	1.0E-03	
64	Cadmium, Total	NA	1.0E-03	NA	6.0E-02	NA	NA	6.3E+00	NA	6.0E-05	NA	NA	1.0E-03	
65	Cadmium, Total	NA	5.0E-04	NA	1.2E-01	NA	NA	6.3E+00	NA	6.0E-05	NA	NA	1.0E-03	
66	Chromium, Tota	2.0E-02	5.0E-03	NA	5.0E-02	5.7E-06	5.7E-07	4.2E+01	1.0E-03	2.5E-04	NA	NA	1.0E-03	
67	Mercury, Total	3.0E-04	3.0E-04	NA	1.5E-01	8.6E-05	8.6E-05	NA	4.5E-05	4.5E-05	NA	NA	1.0E-03	
68	Nickel, Total	2.0E-02	2.0E-02	NA	5.0E-02	NA	NA	NA	1.0E-03	1.0E-03	NA	NA	1.0E-03	
69	Silver, Total	5.0E-03	5.0E-03	NA	5.0E-02	NA	NA	NA	2.5E-04	2.5E-04	NA	NA	1.0E-03	
70	Thallium, Tota	7.0E-04	7.0E-05	NA	5.0E-02	NA	NA	NA	3.5E-05	3.5E-06	NA	NA	1.0E-03	
71	Vanadium, Tota	7.0E-03	7.0E-03	NA	2.0E-02	NA	NA	NA	1.4E-04	1.4E-04	NA	NA	1.0E-03	
72	Cyanide, Total	2.0E-02	2.0E-02	NA	1.0E+00	NA	NA	NA	2.0E-02	2.0E-02	NA	NA	1.0E-03	
73	Nitrogen, Nitr	1.0E-01	1.0E-01	NA	1.0E+00	NA	NA	NA	1.0E-01	1.0E-01	NA	NA	1.0E-03	

RANGE NAME: EPC1

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: RESIDENCE (S. LF.)

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: DATA
LAST UPDATED: 07/23/92

		MEDIUM 1 SOIL			MEDIUM 2 GWATER (D)			MEDIUM 3 GWATER (INH, D)			MEDIUM 4 0			MEDIUM 5 0		
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	11S	11C	11L	12S	12C	12L	13S	13C	13L	14S	14C	14L	15S	15C	15L
1	1,1,1-Trichlor	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
2	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
3	1,1-Dichloroet	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
4	1,2-Dichloroet	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
5	2-Butanone	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03						
6	4-Methyl-2-pen	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03						
7	Acetone	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03						
8	Benzene	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
9	Bromodichlorom	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
10	Carbon Disulfi	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
11	Chlorobenzene	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
12	Chloroform	0.0E+00	0.0E+00	0.0E+00	4.1E-03	4.1E-03	4.1E-03	4.1E-03	4.1E-03	4.1E-03						
13	Ethyl Benzene	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
14	Methylene Chlo	4.0E-03	4.0E-03	4.0E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03	4.9E-03						
15	Styrene	0.0E+00	0.0E+00	0.0E+00	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
16	Tetrachloroeth	5.4E-03	5.4E-03	5.4E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
17	Toluene	8.1E-03	8.1E-03	8.1E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
18	Trichloroethen	4.0E-03	4.0E-03	4.0E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
19	Vinyl Chloride	0.0E+00	0.0E+00	0.0E+00	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03	5.0E-03						
20	Xylenes (Total	2.0E-03	2.0E-03	2.0E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03	4.6E-03						
21	1,4-Dichlorobe	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
22	2,4-Dimethylph	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
23	2-Methylnaphth	1.8E-02	1.8E-02	1.8E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
24	2-Methylphenol	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
25	Acenaphthene	3.1E-01	3.1E-01	3.1E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
26	Acenaphthylene	1.8E+00	1.8E+00	1.8E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
27	Anthracene	1.5E+00	1.5E+00	1.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
28	Benzo(a)anthra	4.5E+00	4.5E+00	4.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
29	Benzo(a)pyrene	2.9E+00	2.9E+00	2.9E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
30	Benzo(b)fluora	8.9E+00	8.9E+00	8.9E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
31	Benzo(g,h,i)pe	1.5E+00	1.5E+00	1.5E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
32	Benzo(k)fluora	4.5E+00	4.5E+00	4.5E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
33	Benzoic acid	0.0E+00	0.0E+00	0.0E+00	2.7E-02	2.7E-02	2.7E-02	0.0E+00	0.0E+00	0.0E+00						
34	Benzyl alcohol	0.0E+00	0.0E+00	0.0E+00	5.4E-03	5.4E-03	5.4E-03	0.0E+00	0.0E+00	0.0E+00						
35	bis(2-Ethylhex	2.3E-01	2.3E-01	2.3E-01	3.0E-03	3.0E-03	3.0E-03	0.0E+00	0.0E+00	0.0E+00						
36	Butylbenzylpht	2.4E-01	2.4E-01	2.4E-01	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
37	Chrysene	6.4E+00	6.4E+00	6.4E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
38	Di-n-butylphth	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
39	Di-n-octylphth	1.4E-01	1.4E-01	1.4E-01	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
40	Dibenzo(a,h)an	7.7E-01	7.7E-01	7.7E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
41	Diethylphthala	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
42	Dimethylphthal	4.2E-02	4.2E-02	4.2E-02	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
43	Fluoranthene	1.1E+01	1.1E+01	1.1E+01	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
44	Fluorene	6.8E-01	6.8E-01	6.8E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00						
45	Indeno(1,2,3-c	2.2E+00	2.2E+00	2.2E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						
46	Naphthalene	1.8E-02	1.8E-02	1.8E-02	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00						

47	Phenanthrene	4.1E+00	4.1E+00	4.1E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00
48	Phenol	0.0E+00	0.0E+00	0.0E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00
49	Pyrene	5.3E+00	5.3E+00	5.3E+00	5.2E-03	5.2E-03	5.2E-03	0.0E+00	0.0E+00	0.0E+00
50	4,4-DDE	4.1E-03	4.1E-03	4.1E-03	5.0E-05	5.0E-05	5.0E-05	0.0E+00	0.0E+00	0.0E+00
51	4,4-DDT	2.9E-02	2.9E-02	2.9E-02	5.0E-05	5.0E-05	5.0E-05	0.0E+00	0.0E+00	0.0E+00
52	Aldrin	0.0E+00	0.0E+00	0.0E+00	2.5E-05	2.5E-05	2.5E-05	0.0E+00	0.0E+00	0.0E+00
53	alpha-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.4E-04	2.4E-04	2.4E-04	0.0E+00	0.0E+00	0.0E+00
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55	beta-BHC	0.0E+00	0.0E+00	0.0E+00	2.5E-05	2.5E-05	2.5E-05	0.0E+00	0.0E+00	0.0E+00
56	Dieldrin	0.0E+00	0.0E+00	0.0E+00	5.0E-05	5.0E-05	5.0E-05	0.0E+00	0.0E+00	0.0E+00
57	Endosulfan II	0.0E+00	0.0E+00	0.0E+00	5.0E-05	5.0E-05	5.0E-05	0.0E+00	0.0E+00	0.0E+00
58	gamma-Chlordan	0.0E+00	0.0E+00	0.0E+00	2.4E-04	2.4E-04	2.4E-04	0.0E+00	0.0E+00	0.0E+00
59	Heptachlor	0.0E+00	0.0E+00	0.0E+00	2.5E-05	2.5E-05	2.5E-05	0.0E+00	0.0E+00	0.0E+00
60	Antimony, Tota	3.0E+00	3.0E+00	3.0E+00	3.5E-02	3.5E-02	3.5E-02	0.0E+00	0.0E+00	0.0E+00
61	Arsenic, Total	6.8E+00	6.8E+00	6.8E+00	6.7E-03	6.7E-03	6.7E-03	0.0E+00	0.0E+00	0.0E+00
62	Barium, Total	7.3E+01	7.3E+01	7.3E+01	2.0E-01	2.0E-01	2.0E-01	0.0E+00	0.0E+00	0.0E+00
63	Beryllium, Tot	5.4E-01	5.4E-01	5.4E-01	2.0E-03	2.0E-03	2.0E-03	0.0E+00	0.0E+00	0.0E+00
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
65	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	2.4E-03	2.4E-03	2.4E-03	0.0E+00	0.0E+00	0.0E+00
66	Chromium, Tota	9.9E+00	9.9E+00	9.9E+00	8.1E-03	8.1E-03	8.1E-03	0.0E+00	0.0E+00	0.0E+00
67	Mercury, Total	2.8E-01	2.8E-01	2.8E-01	1.0E-04	1.0E-04	1.0E-04	0.0E+00	0.0E+00	0.0E+00
68	Nickel, Total	1.3E+01	1.3E+01	1.3E+01	1.4E-02	1.4E-02	1.4E-02	0.0E+00	0.0E+00	0.0E+00
69	Silver, Total	0.0E+00	0.0E+00	0.0E+00	7.9E-03	7.9E-03	7.9E-03	0.0E+00	0.0E+00	0.0E+00
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
71	Vanadium, Tota	1.1E+01	1.1E+01	1.1E+01	1.1E-02	1.1E-02	1.1E-02	0.0E+00	0.0E+00	0.0E+00
72	Cyanide, Total	1.0E+01	1.0E+01	1.0E+01	5.0E-03	5.0E-03	5.0E-03	0.0E+00	0.0E+00	0.0E+00
73	Nitrogen, Nitr	0.0E+00	0.0E+00	0.0E+00	4.8E-01	4.8E-01	4.8E-01	0.0E+00	0.0E+00	0.0E+00

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP1
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: SOIL
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 3.7E-06
HIFl = 1.6E-06

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	0.0E+00	3.7E-06	1	0.0E+00	9.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
2	1,1-Dichloroethane							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
3	1,1-Dichloroethene							0.0E+00	3.7E-06	1	0.0E+00	9.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroethene(total)							0.0E+00	3.7E-06	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
5	2-Butanone							0.0E+00	3.7E-06	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
6	4-Methyl-2-pentanone							0.0E+00	3.7E-06	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
7	Acetone							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
8	Benzene							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	2.9E-02	0E+00
9	Bromodichloromethane							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfide							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
11	Chlorobenzene							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
12	Chloroform							0.0E+00	3.7E-06	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
14	Methylene Chloride							4.0E-03	3.7E-06	1	1.5E-08	6.0E-02	2E-07	4.0E-03	1.6E-06	1	6.4E-09	7.5E-03	5E-11
15	Styrene							0.0E+00	3.7E-06	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroethene							5.4E-03	3.7E-06	1	2.0E-08	1.0E-02	2E-06	5.4E-03	1.6E-06	1	8.6E-09	5.1E-02	4E-10
17	Toluene							8.1E-03	3.7E-06	1	3.0E-08	2.0E-01	1E-07	8.1E-03	1.6E-06	1	1.3E-08	NA	NA
18	Trichloroethene							4.0E-03	3.7E-06	1	1.5E-08	NA	NA	4.0E-03	1.6E-06	1	6.4E-09	1.1E-02	7E-11
19	Vinyl Chloride							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total)							2.0E-03	3.7E-06	1	7.4E-09	2.0E+00	4E-09	2.0E-03	1.6E-06	1	3.2E-09	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylphenol							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							1.8E-02	3.7E-06	1	6.7E-08	4.0E-03	2E-05	1.8E-02	1.6E-06	1	2.9E-08	NA	NA
24	2-Methylphenol							0.0E+00	3.7E-06	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
25	Acenaphthene							3.1E-01	3.7E-06	1	1.1E-06	6.0E-02	2E-05	3.1E-01	1.6E-06	1	5.0E-07	NA	NA
26	Acenaphthylene							1.8E+00	3.7E-06	1	6.8E-06	6.0E-02	1E-04	1.8E+00	1.6E-06	1	3.0E-06	NA	NA
27	Anthracene							1.5E+00	3.7E-06	1	5.5E-06	3.0E-01	2E-05	1.5E+00	1.6E-06	1	2.4E-06	NA	NA
28	Benzo(a)anthracene							4.5E+00	3.7E-06	1	1.7E-05	3.0E-02	6E-04	4.5E+00	1.6E-06	1	7.2E-06	1.2E+01	9E-05
29	Benzo(a)pyrene							2.9E+00	3.7E-06	1	1.1E-05	3.0E-02	4E-04	2.9E+00	1.6E-06	1	4.6E-06	1.2E+01	6E-05
30	Benzo(b)fluoranthene							8.9E+00	3.7E-06	1	3.3E-05	3.0E-02	1E-03	8.9E+00	1.6E-06	1	1.4E-05	1.2E+01	2E-04
31	Benzo(g,h,i)perylene							1.5E+00	3.7E-06	1	5.7E-06	3.0E-02	2E-04	1.5E+00	1.6E-06	1	2.5E-06	NA	NA
32	Benzo(k)fluoranthene							4.5E+00	3.7E-06	1	1.7E-05	3.0E-02	6E-04	4.5E+00	1.6E-06	1	7.2E-06	1.2E+01	9E-05
33	Benzoic acid							0.0E+00	3.7E-06	1	0.0E+00	4.0E+00	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	3.7E-06	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							2.3E-01	3.7E-06	1	8.5E-07	2.0E-02	4E-05	2.3E-01	1.6E-06	1	3.7E-07	1.4E-02	5E-09
36	Butylbenzylphthalate							2.4E-01	3.7E-06	1	8.7E-07	2.0E-01	4E-06	2.4E-01	1.6E-06	1	3.8E-07	NA	NA
37	Chrysene							6.4E+00	3.7E-06	1	2.4E-05	3.0E-02	8E-04	6.4E+00	1.6E-06	1	1.0E-05	1.2E+01	1E-04
38	Di-n-butylphthalate							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							1.4E-01	3.7E-06	1	5.2E-07	2.0E-02	3E-05	1.4E-01	1.6E-06	1	2.2E-07	NA	NA

40	Dibenzo(a,h)anthracene	7.7E-01	3.7E-06	1	2.8E-06	3.0E-02	9E-05	7.7E-01	1.6E-06	1	1.2E-06	1.2E+01	1E-05
41	Diethylphthalate	0.0E+00	3.7E-06	1	0.0E+00	8.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
42	Dimethylphthalate	4.2E-02	3.7E-06	1	1.6E-07	1.0E+00	2E-07	4.2E-02	1.6E-06	1	6.7E-08	NA	NA
43	Fluoranthene	1.1E+01	3.7E-06	1	4.1E-05	4.0E-02	1E-03	1.1E+01	1.6E-06	1	1.8E-05	NA	NA
44	Fluorene	6.8E-01	3.7E-06	1	2.5E-06	4.0E-02	6E-05	6.8E-01	1.6E-06	1	1.1E-06	NA	NA
45	Indeno(1,2,3-cd)pyrene	2.2E+00	3.7E-06	1	8.1E-06	3.0E-02	3E-04	2.2E+00	1.6E-06	1	3.5E-06	1.2E+01	4E-05
46	Naphthalene	1.8E-02	3.7E-06	1	6.7E-08	4.0E-03	2E-05	1.8E-02	1.6E-06	1	2.9E-08	NA	NA
47	Phenanthrene	4.1E+00	3.7E-06	1	1.5E-05	3.0E-02	5E-04	4.1E+00	1.6E-06	1	6.6E-06	NA	NA
48	Phenol	0.0E+00	3.7E-06	1	0.0E+00	6.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
49	Pyrene	5.3E+00	3.7E-06	1	2.0E-05	3.0E-02	7E-04	5.3E+00	1.6E-06	1	8.5E-06	NA	NA
50	4,4-DDE	4.1E-03	3.7E-06	1	1.5E-08	NA	NA	4.1E-03	1.6E-06	1	6.6E-09	3.4E-01	2E-09
51	4,4-DDT	2.9E-02	3.7E-06	1	1.1E-07	5.0E-04	2E-04	2.9E-02	1.6E-06	1	4.6E-08	3.4E-01	2E-08
52	Aldrin	0.0E+00	3.7E-06	1	0.0E+00	3.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	3.7E-06	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	3.7E-06	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	3.7E-06	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	3.7E-06	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	3.7E-06	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Total	3.0E+00	3.7E-06	1	1.1E-05	4.0E-04	3E-02	3.0E+00	1.6E-06	1	4.8E-06	NA	NA
61	Arsenic, Total	6.8E+00	3.7E-06	1	2.5E-05	3.0E-04	8E-02	6.8E+00	1.6E-06	1	1.1E-05	1.8E+00	2E-05
62	Barium, Total	7.3E+01	3.7E-06	1	2.7E-04	7.0E-02	4E-03	7.3E+01	1.6E-06	1	1.2E-04	NA	NA
63	Beryllium, Total	5.4E-01	3.7E-06	1	2.0E-06	5.0E-03	4E-04	5.4E-01	1.6E-06	1	8.7E-07	4.3E+00	4E-06
64	Cadmium, Total (food)	0.0E+00	3.7E-06	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
65	Cadmium, Total (water)	0.0E+00	3.7E-06	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
66	Chromium, Total	9.9E+00	3.7E-06	1	3.7E-05	5.0E-03	7E-03	9.9E+00	1.6E-06	1	1.6E-05	NA	NA
67	Mercury, Total	2.8E-01	3.7E-06	1	1.1E-06	3.0E-04	4E-03	2.8E-01	1.6E-06	1	4.5E-07	NA	NA
68	Nickel, Total	1.3E+01	3.7E-06	1	4.7E-05	2.0E-02	2E-03	1.3E+01	1.6E-06	1	2.0E-05	NA	NA
69	Silver, Total	0.0E+00	3.7E-06	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	3.7E-06	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
71	Vanadium, Total	1.1E+01	3.7E-06	1	4.0E-05	7.0E-03	6E-03	1.1E+01	1.6E-06	1	1.7E-05	NA	NA
72	Cyanide, Total	1.0E+01	3.7E-06	1	3.8E-05	2.0E-02	2E-03	1.0E+01	1.6E-06	1	1.7E-05	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA

RANGE NAME: WS2

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP1
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (D)
ROUTE: ORAL

RIFs = 0.0E+00
RIFc = 2.7E-02
RIFl = 1.1E-02

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	RIFs	1	DIs	RfDS	HQs	Cc	RIFc	1	DIc	RfDC	HQc	Cl	RIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane		0.0E+00		0.0E+00		ERR	4.6E-03	2.7E-02	1	1.2E-04	9.0E-02	1E-03	4.6E-03	1.1E-02	1	5.0E-05	NA	NA
2	1,1-Dichloroethane							4.6E-03	2.7E-02	1	1.2E-04	1.0E-01	1E-03	4.6E-03	1.1E-02	1	5.0E-05	NA	NA
3	1,1-Dichloroethene							4.6E-03	2.7E-02	1	1.2E-04	9.0E-03	1E-02	4.6E-03	1.1E-02	1	5.0E-05	6.0E-01	3E-05
4	1,2-Dichloroethene(total)							4.6E-03	2.7E-02	1	1.2E-04	1.0E-02	1E-02	4.6E-03	1.1E-02	1	5.0E-05	NA	NA
5	2-Butanone							5.0E-03	2.7E-02	1	1.4E-04	5.0E-02	3E-03	5.0E-03	1.1E-02	1	5.5E-05	NA	NA
6	4-Methyl-2-pentanone							5.0E-03	2.7E-02	1	1.4E-04	5.0E-02	3E-03	5.0E-03	1.1E-02	1	5.5E-05	NA	NA
7	Acetone							5.0E-03	2.7E-02	1	1.4E-04	1.0E-01	1E-03	5.0E-03	1.1E-02	1	5.5E-05	NA	NA
8	Benzene							4.6E-03	2.7E-02	1	1.2E-04	NA	NA	4.6E-03	1.1E-02	1	5.0E-05	2.9E-02	1E-06
9	Bromodichloromethane							4.6E-03	2.7E-02	1	1.2E-04	2.0E-02	6E-03	4.6E-03	1.1E-02	1	5.0E-05	1.3E-01	7E-06
10	Carbon Disulfide							4.6E-03	2.7E-02	1	1.2E-04	1.0E-01	1E-03	4.6E-03	1.1E-02	1	5.0E-05	NA	NA
11	Chlorobenzene							4.6E-03	2.7E-02	1	1.2E-04	2.0E-02	6E-03	4.6E-03	1.1E-02	1	5.0E-05	NA	NA
12	Chloroform							4.1E-03	2.7E-02	1	1.1E-04	1.0E-02	1E-02	4.1E-03	1.1E-02	1	4.5E-05	6.1E-03	3E-07
13	Ethyl Benzene							4.6E-03	2.7E-02	1	1.2E-04	1.0E-01	1E-03	4.6E-03	1.1E-02	1	5.0E-05	NA	NA
14	Methylene Chloride							4.9E-03	2.7E-02	1	1.3E-04	6.0E-02	2E-03	4.9E-03	1.1E-02	1	5.4E-05	7.5E-03	4E-07
15	Styrene							4.6E-03	2.7E-02	1	1.2E-04	2.0E-01	6E-04	4.6E-03	1.1E-02	1	5.0E-05	3.0E-02	2E-06
16	Tetrachloroethene							4.6E-03	2.7E-02	1	1.2E-04	1.0E-02	1E-02	4.6E-03	1.1E-02	1	5.0E-05	5.1E-02	3E-06
17	Toluene							4.6E-03	2.7E-02	1	1.2E-04	2.0E-01	6E-04	4.6E-03	1.1E-02	1	5.0E-05	NA	NA
18	Trichloroethene							4.6E-03	2.7E-02	1	1.2E-04	NA	NA	4.6E-03	1.1E-02	1	5.0E-05	1.1E-02	6E-07
19	Vinyl Chloride							5.0E-03	2.7E-02	1	1.4E-04	NA	NA	5.0E-03	1.1E-02	1	5.5E-05	1.9E+00	1E-04
20	Xylenes (Total)							4.6E-03	2.7E-02	1	1.2E-04	2.0E+00	6E-05	4.6E-03	1.1E-02	1	5.0E-05	NA	NA
21	1,4-Dichlorobenzene							5.2E-03	2.7E-02	1	1.4E-04	NA	NA	5.2E-03	1.1E-02	1	5.7E-05	2.4E-02	1E-06
22	2,4-Dimethylphenol							5.2E-03	2.7E-02	1	1.4E-04	2.0E-02	7E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.7E-02	1	0.0E+00	4.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
24	2-Methylphenol							5.2E-03	2.7E-02	1	1.4E-04	5.0E-02	3E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
25	Acenaphthene							0.0E+00	2.7E-02	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
26	Acenaphthylene							5.2E-03	2.7E-02	1	1.4E-04	6.0E-02	2E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
27	Anthracene							0.0E+00	2.7E-02	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	2.7E-02	1	0.0E+00	3.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene							5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	1.2E+01	7E-04
30	Benzo(b)fluoranthene							5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	1.2E+01	7E-04
31	Benzo(g,h,i)perylene							5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
32	Benzo(k)fluoranthene							5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	1.2E+01	7E-04
33	Benzoic acid							2.7E-02	2.7E-02	1	7.2E-04	4.0E+00	2E-04	2.7E-02	1.1E-02	1	2.9E-04	NA	NA
34	Benzyl alcohol							5.4E-03	2.7E-02	1	1.5E-04	3.0E-01	5E-04	5.4E-03	1.1E-02	1	6.0E-05	NA	NA
35	bis(2-Ethylhexyl)phthalate							3.0E-03	2.7E-02	1	8.1E-05	2.0E-02	4E-03	3.0E-03	1.1E-02	1	3.3E-05	1.4E-02	5E-07
36	Butylbenzylphthalate							5.2E-03	2.7E-02	1	1.4E-04	2.0E-01	7E-04	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
37	Chrysene							5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	1.2E+01	7E-04
38	Di-n-butylphthalate							5.2E-03	2.7E-02	1	1.4E-04	1.0E-01	1E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
39	Di-n-octylphthalate							5.2E-03	2.7E-02	1	1.4E-04	2.0E-02	7E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.7E-02	1	0.0E+00	3.0E-[illegible]	0E+00	0.0E+00	1.1E-02	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthalate	5.2E-03	2.7E-02	1	1.4E-04	8.0E-01	2E-04	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
42	Dimethylphthalate	5.2E-03	2.7E-02	1	1.4E-04	1.0E+00	1E-04	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
43	Fluoranthene	5.2E-03	2.7E-02	1	1.4E-04	4.0E-02	4E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
44	Fluorene	0.0E+00	2.7E-02	1	0.0E+00	4.0E-02	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	1.2E+01	7E-04
46	Naphthalene	5.2E-03	2.7E-02	1	1.4E-04	4.0E-03	4E-02	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
47	Phenanthrene	5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
48	Phenol	5.2E-03	2.7E-02	1	1.4E-04	6.0E-01	2E-04	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
49	Pyrene	5.2E-03	2.7E-02	1	1.4E-04	3.0E-02	5E-03	5.2E-03	1.1E-02	1	5.7E-05	NA	NA
50	4,4-DDE	5.0E-05	2.7E-02	1	1.4E-06	NA	NA	5.0E-05	1.1E-02	1	5.5E-07	3.4E-01	2E-07
51	4,4-DDT	5.0E-05	2.7E-02	1	1.4E-06	5.0E-04	3E-03	5.0E-05	1.1E-02	1	5.5E-07	3.4E-01	2E-07
52	Aldrin	2.5E-05	2.7E-02	1	6.8E-07	3.0E-05	2E-02	2.5E-05	1.1E-02	1	2.8E-07	1.7E+01	5E-06
53	alpha-Chlordane	2.4E-04	2.7E-02	1	6.5E-06	6.0E-05	1E-01	2.4E-04	1.1E-02	1	2.7E-06	1.3E+00	3E-06
54	Aroclor-1248	0.0E+00	2.7E-02	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	2.5E-05	2.7E-02	1	6.8E-07	NA	NA	2.5E-05	1.1E-02	1	2.8E-07	1.8E+00	5E-07
56	Dieldrin	5.0E-05	2.7E-02	1	1.4E-06	5.0E-05	3E-02	5.0E-05	1.1E-02	1	5.5E-07	1.6E+01	9E-06
57	Endosulfan II	5.0E-05	2.7E-02	1	1.4E-06	5.0E-05	3E-02	5.0E-05	1.1E-02	1	5.5E-07	NA	NA
58	gamma-Chlordane	2.4E-04	2.7E-02	1	6.5E-06	6.0E-05	1E-01	2.4E-04	1.1E-02	1	2.7E-06	1.3E+00	3E-06
59	Heptachlor	2.5E-05	2.7E-02	1	6.8E-07	5.0E-04	1E-03	2.5E-05	1.1E-02	1	2.8E-07	4.5E+00	1E-06
60	Antimony, Total	3.5E-02	2.7E-02	1	9.5E-04	4.0E-04	2E+00	3.5E-02	1.1E-02	1	3.9E-04	NA	NA
61	Arsenic, Total	6.7E-03	2.7E-02	1	1.8E-04	3.0E-04	6E-01	6.7E-03	1.1E-02	1	7.4E-05	1.8E+00	1E-04
62	Barium, Total	2.0E-01	2.7E-02	1	5.4E-03	7.0E-02	8E-02	2.0E-01	1.1E-02	1	2.2E-03	NA	NA
63	Beryllium, Total	2.0E-03	2.7E-02	1	5.4E-05	5.0E-03	1E-02	2.0E-03	1.1E-02	1	2.2E-05	4.3E+00	9E-05
64	Cadmium, Total (food)	0.0E+00	2.7E-02	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
65	Cadmium, Total (water)	2.4E-03	2.7E-02	1	6.5E-05	5.0E-04	1E-01	2.4E-03	1.1E-02	1	2.6E-05	NA	NA
66	Chromium, Total	8.1E-03	2.7E-02	1	2.2E-04	5.0E-03	4E-02	8.1E-03	1.1E-02	1	8.9E-05	NA	NA
67	Mercury, Total	1.0E-04	2.7E-02	1	2.7E-06	3.0E-04	9E-03	1.0E-04	1.1E-02	1	1.1E-06	NA	NA
68	Nickel, Total	1.4E-02	2.7E-02	1	3.9E-04	2.0E-02	2E-02	1.4E-02	1.1E-02	1	1.6E-04	NA	NA
69	Silver, Total	7.9E-03	2.7E-02	1	2.1E-04	5.0E-03	4E-02	7.9E-03	1.1E-02	1	8.7E-05	NA	NA
70	Thallium, Total	0.0E+00	2.7E-02	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
71	Vanadium, Total	1.1E-02	2.7E-02	1	2.9E-04	7.0E-03	4E-02	1.1E-02	1.1E-02	1	1.2E-04	NA	NA
72	Cyanide, Total	5.0E-03	2.7E-02	1	1.4E-04	2.0E-02	7E-03	5.0E-03	1.1E-02	1	5.5E-05	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	4.8E-01	2.7E-02	1	1.3E-02	1.0E-01	1E-01	4.8E-01	1.1E-02	1	5.3E-03	NA	NA

RANGE NAME: WS3

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP1
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (D)
ROUTE: DERMAL

HIFs = 0.0E+00
HIFc = 2.3E-02
HIFl = 1.0E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	P	DIs	RfDS	HQs	Cc	HIFc	P	DIc	RfDC	HQc	Cl	HIFl	P	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	4.6E-03	2.3E-02	1.7E-02	1.0E-06	9.0E-02	2E-05	4.6E-03	1.0E-02	1.7E-02	7.7E-07	NA	NA
2	1,1-Dichloroethane							4.6E-03	2.3E-02	8.9E-03	9.3E-07	1.0E-01	9E-06	4.6E-03	1.0E-02	8.9E-03	4.1E-07	NA	NA
3	1,1-Dichloroethene							4.6E-03	2.3E-02	1.6E-02	1.7E-06	9.0E-03	2E-04	4.6E-03	1.0E-02	1.6E-02	7.3E-07	6.0E-01	4E-07
4	1,2-Dichloroethene(total)							4.6E-03	2.3E-02	1.0E-02	1.0E-06	1.0E-02	1E-04	4.6E-03	1.0E-02	1.0E-02	4.6E-07	NA	NA
5	2-Butanone							5.0E-03	2.3E-02	1.1E-03	1.3E-07	5.0E-02	3E-06	5.0E-03	1.0E-02	1.1E-03	5.5E-08	NA	NA
6	4-Methyl-2-pentanone							5.0E-03	2.3E-02	2.8E-03	3.2E-07	5.0E-02	6E-06	5.0E-03	1.0E-02	2.8E-03	1.4E-07	NA	NA
7	Acetone							5.0E-03	2.3E-02	5.7E-04	6.6E-08	1.0E-01	7E-07	5.0E-03	1.0E-02	5.7E-04	2.9E-08	NA	NA
8	Benzene							4.6E-03	2.3E-02	2.1E-02	2.2E-06	NA	NA	4.6E-03	1.0E-02	2.1E-02	9.6E-07	2.9E-02	3E-08
9	Bromodichloromethane							4.6E-03	2.3E-02	5.8E-03	6.1E-07	2.0E-02	3E-05	4.6E-03	1.0E-02	5.8E-03	2.6E-07	1.3E-01	3E-08
10	Carbon Disulfide							4.6E-03	2.3E-02	2.4E-02	2.5E-06	1.0E-01	3E-05	4.6E-03	1.0E-02	2.4E-02	1.1E-06	NA	NA
11	Chlorobenzene							4.6E-03	2.3E-02	4.1E-02	4.3E-06	2.0E-02	2E-04	4.6E-03	1.0E-02	4.1E-02	1.9E-06	NA	NA
12	Chloroform							4.1E-03	2.3E-02	8.9E-03	8.4E-07	1.0E-02	8E-05	4.1E-03	1.0E-02	8.9E-03	3.6E-07	6.1E-03	2E-09
13	Ethyl Benzene							4.6E-03	2.3E-02	7.4E-02	7.7E-06	1.0E-01	8E-05	4.6E-03	1.0E-02	7.4E-02	3.4E-06	NA	NA
14	Methylene Chloride							4.9E-03	2.3E-02	4.5E-03	5.1E-07	6.0E-02	8E-06	4.9E-03	1.0E-02	4.5E-03	2.2E-07	7.5E-03	2E-09
15	Styrene							4.6E-03	2.3E-02	5.5E-02	5.8E-06	2.0E-01	3E-05	4.6E-03	1.0E-02	5.5E-02	2.5E-06	3.0E-02	8E-08
16	Tetrachloroethene							4.6E-03	2.3E-02	4.8E-02	5.0E-06	1.0E-02	5E-04	4.6E-03	1.0E-02	4.8E-02	2.2E-06	5.1E-02	1E-07
17	Toluene							4.6E-03	2.3E-02	4.5E-02	4.7E-06	2.0E-01	2E-05	4.6E-03	1.0E-02	4.5E-02	2.0E-06	NA	NA
18	Trichloroethene							4.6E-03	2.3E-02	1.6E-02	1.7E-06	NA	NA	4.6E-03	1.0E-02	1.6E-02	7.3E-07	1.1E-02	8E-09
19	Vinyl Chloride							5.0E-03	2.3E-02	7.0E-03	8.1E-07	NA	NA	5.0E-03	1.0E-02	7.0E-03	3.5E-07	1.9E+00	7E-07
20	Xylenes (Total)							4.6E-03	2.3E-02	8.0E-02	8.4E-06	2.0E+00	4E-06	4.6E-03	1.0E-02	8.0E-02	3.6E-06	NA	NA
21	1,4-Dichlorobenzene							5.2E-03	2.3E-02	6.2E-02	7.4E-06	NA	NA	5.2E-03	1.0E-02	6.2E-02	3.2E-06	2.4E-02	8E-08
22	2,4-Dimethylphenol							5.2E-03	2.3E-02	1.5E-02	1.8E-06	2.0E-02	9E-05	5.2E-03	1.0E-02	1.5E-02	7.8E-07	NA	NA
23	2-Methylnaphthalene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
24	2-Methylphenol							5.2E-03	2.3E-02	1.0E-02	1.2E-06	5.0E-02	2E-05	5.2E-03	1.0E-02	1.0E-02	5.2E-07	NA	NA
25	Acenaphthene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
26	Acenaphthylene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
27	Anthracene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
28	Benzo(a)anthracene							0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
29	Benzo(a)pyrene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
30	Benzo(b)fluoranthene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
31	Benzo(g,h,i)perylene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
32	Benzo(k)fluoranthene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
33	Benzoic acid							2.7E-02	2.3E-02	7.3E-03	4.4E-06	4.0E+00	1E-06	2.7E-02	1.0E-02	7.3E-03	1.9E-06	NA	NA
34	Benzyl alcohol							5.4E-03	2.3E-02	2.5E-03	3.1E-07	3.0E-01	1E-06	5.4E-03	1.0E-02	2.5E-03	1.4E-07	NA	NA
35	bis(2-Ethylhexyl)phthalate							3.0E-03	2.3E-02	3.3E-02	2.3E-06	2.0E-02	1E-04	3.0E-03	1.0E-02	3.3E-02	9.9E-07	1.4E-02	1E-08
36	Butylbenzylphthalate							5.2E-03	2.3E-02	2.4E-02	2.9E-06	2.0E-01	1E-05	5.2E-03	1.0E-02	2.4E-02	1.3E-06	NA	NA
37	Chrysene							5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
38	Di-n-butylphthalate							5.2E-03	2.3E-02	4.9E-02	5.9E-06	1.0E-01	6E-05	5.2E-03	1.0E-02	4.9E-02	2.6E-06	NA	NA
39	Di-n-octylphthalate							5.2E-03	2.3E-02	7.2E-03	8.6E-07	2.0E-02	4E-05	5.2E-03	1.0E-02	7.2E-03	3.8E-07	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	2.3E-02	NA	NA		NA	0.0E+00	1.0E-02	NA	NA	NA	NA
41	Diethylphthalate	5.2E-03	2.3E-02	4.8E-03	5.6E-07	8.0E-01	7E-07	5.2E-03	1.0E-02	4.8E-03	2.5E-07	NA	NA
42	Dimethylphthalate	5.2E-03	2.3E-02	1.6E-03	1.9E-07	1.0E+00	2E-07	5.2E-03	1.0E-02	1.6E-03	8.3E-08	NA	NA
43	Fluoranthene	5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
44	Fluorene	0.0E+00	2.3E-02	NA	NA	NA	NA	0.0E+00	1.0E-02	NA	NA	NA	NA
45	Indeno(1,2,3-cd)pyrene	5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
46	Naphthalene	5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
47	Phenanthrene	5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
48	Phenol	5.2E-03	2.3E-02	5.5E-03	6.6E-07	6.0E-01	1E-06	5.2E-03	1.0E-02	5.5E-03	2.9E-07	NA	NA
49	Pyrene	5.2E-03	2.3E-02	NA	NA	NA	NA	5.2E-03	1.0E-02	NA	NA	NA	NA
50	4,4-DDE	5.0E-05	2.3E-02	2.4E-01	2.8E-07	NA	NA	5.0E-05	1.0E-02	2.4E-01	1.2E-07	3.4E-01	4E-08
51	4,4-DDT	5.0E-05	2.3E-02	4.3E-01	4.9E-07	5.0E-04	1.0E-0	5.0E-05	1.0E-02	4.3E-01	2.2E-07	3.4E-01	7E-08
52	Aldrin	2.5E-05	2.3E-02	1.6E-03	9.2E-10	3.0E-05	3E-05	2.5E-05	1.0E-02	1.6E-03	4.0E-10	1.7E+01	7E-09
53	alpha-Chlordane	2.4E-04	2.3E-02	8.9E+00	4.9E-05	6.0E-05	8E-01	2.4E-04	1.0E-02	8.9E+00	2.2E-05	1.3E+00	3E-05
54	Aroclor-1248	0.0E+00	2.3E-02	6.6E-01	0.0E+00	NA	NA	0.0E+00	1.0E-02	6.6E-01	0.0E+00	7.7E+00	0E+00
55	beta-BHC	2.5E-05	2.3E-02	2.1E-02	1.2E-08	NA	NA	2.5E-05	1.0E-02	2.1E-02	5.3E-09	1.8E+00	9E-09
56	Dieldrin	5.0E-05	2.3E-02	1.6E-02	1.8E-08	5.0E-05	4E-04	5.0E-05	1.0E-02	1.6E-02	8.0E-09	1.6E+01	1E-07
57	Endosulfan II	5.0E-05	2.3E-02	2.3E-03	2.6E-09	5.0E-05	5E-05	5.0E-05	1.0E-02	2.3E-03	1.2E-09	NA	NA
58	gamma-Chlordane	2.4E-04	2.3E-02	9.8E-02	5.4E-07	6.0E-05	9E-03	2.4E-04	1.0E-02	9.8E-02	2.4E-07	1.3E+00	3E-07
59	Heptachlor	2.5E-05	2.3E-02	1.1E-02	6.3E-09	5.0E-04	1E-05	2.5E-05	1.0E-02	1.1E-02	2.8E-09	4.5E+00	1E-08
60	Antimony, Total	3.5E-02	2.3E-02	1.0E-03	8.1E-07	2.0E-05	4E-02	3.5E-02	1.0E-02	1.0E-03	3.5E-07	NA	NA
61	Arsenic, Total	6.7E-03	2.3E-02	1.0E-03	1.6E-07	3.0E-04	5E-04	6.7E-03	1.0E-02	1.0E-03	6.7E-08	1.8E+00	1E-07
62	Barium, Total	2.0E-01	2.3E-02	1.0E-03	4.6E-06	7.0E-03	7E-04	2.0E-01	1.0E-02	1.0E-03	2.0E-06	NA	NA
63	Beryllium, Total	2.0E-03	2.3E-02	1.0E-03	4.6E-08	5.0E-06	9E-03	2.0E-03	1.0E-02	1.0E-03	2.0E-08	4.3E+03	9E-05
64	Cadmium, Total (food)	0.0E+00	2.3E-02	1.0E-03	0.0E+00	6.0E-05	0E+00	0.0E+00	1.0E-02	1.0E-03	0.0E+00	NA	NA
65	Cadmium, Total (water)	2.4E-03	2.3E-02	1.0E-03	5.5E-08	6.0E-05	9E-04	2.4E-03	1.0E-02	1.0E-03	2.4E-08	NA	NA
66	Chromium, Total	8.1E-03	2.3E-02	1.0E-03	1.9E-07	2.5E-04	7E-04	8.1E-03	1.0E-02	1.0E-03	8.1E-08	NA	NA
67	Mercury, Total	1.0E-04	2.3E-02	1.0E-03	2.3E-09	4.5E-05	5E-05	1.0E-04	1.0E-02	1.0E-03	1.0E-09	NA	NA
68	Nickel, Total	1.4E-02	2.3E-02	1.0E-03	3.3E-07	1.0E-03	3E-04	1.4E-02	1.0E-02	1.0E-03	1.4E-07	NA	NA
69	Silver, Total	7.9E-03	2.3E-02	1.0E-03	1.8E-07	2.5E-04	7E-04	7.9E-03	1.0E-02	1.0E-03	7.9E-08	NA	NA
70	Thallium, Total	0.0E+00	2.3E-02	1.0E-03	0.0E+00	3.5E-06	0E+00	0.0E+00	1.0E-02	1.0E-03	0.0E+00	NA	NA
71	Vanadium, Total	1.1E-02	2.3E-02	1.0E-03	2.5E-07	1.4E-04	2E-03	1.1E-02	1.0E-02	1.0E-03	1.1E-07	NA	NA
72	Cyanide, Total	5.0E-03	2.3E-02	1.0E-03	1.2E-07	2.0E-02	6E-06	5.0E-03	1.0E-02	1.0E-03	5.0E-08	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	4.8E-01	2.3E-02	1.0E-03	1.1E-05	1.0E-01	1E-04	4.8E-01	1.0E-02	1.0E-03	4.8E-06	NA	NA

RANGE NAME: WS4

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP1
LAST UPDATED: 07/23/92

LAND USE: FUTURE
POPULATION: RESIDENT ADULT (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (INH, D)
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 5.4E-02
HIFl = 2.2E-02

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichloroethane	0.0E+00			0.0E+00		ERR	4.6E-03	5.4E-02	1	2.5E-04	3.0E-01	8E-04	4.6E-03	2.2E-02	1	1.0E-04	NA	NA
2	1,1-Dichloroethane							4.6E-03	5.4E-02	1	2.5E-04	1.0E-01	2E-03	4.6E-03	2.2E-02	1	1.0E-04	NA	NA
3	1,1-Dichloroethene							4.6E-03	5.4E-02	1	2.5E-04	NA	NA	4.6E-03	2.2E-02	1	1.0E-04	1.8E-01	2E-05
4	1,2-Dichloroethene(total)							4.6E-03	5.4E-02	1	2.5E-04	NA	NA	4.6E-03	2.2E-02	1	1.0E-04	NA	NA
5	2-Butanone							5.0E-03	5.4E-02	1	2.7E-04	9.0E-02	3E-03	5.0E-03	2.2E-02	1	1.1E-04	NA	NA
6	4-Methyl-2-pentanone							5.0E-03	5.4E-02	1	2.7E-04	2.0E-02	1E-02	5.0E-03	2.2E-02	1	1.1E-04	NA	NA
7	Acetone							5.0E-03	5.4E-02	1	2.7E-04	NA	NA	5.0E-03	2.2E-02	1	1.1E-04	NA	NA
8	Benzene							4.6E-03	5.4E-02	1	2.5E-04	NA	NA	4.6E-03	2.2E-02	1	1.0E-04	2.9E-02	3E-06
9	Bromodichloromethane							4.6E-03	5.4E-02	1	2.5E-04	NA	NA	4.6E-03	2.2E-02	1	1.0E-04	NA	NA
10	Carbon Disulfide							4.6E-03	5.4E-02	1	2.5E-04	2.9E-03	8E-02	4.6E-03	2.2E-02	1	1.0E-04	NA	NA
11	Chlorobenzene							4.6E-03	5.4E-02	1	2.5E-04	5.0E-03	5E-02	4.6E-03	2.2E-02	1	1.0E-04	NA	NA
12	Chloroform							4.1E-03	5.4E-02	1	2.2E-04	NA	NA	4.1E-03	2.2E-02	1	9.0E-05	8.1E-02	7E-06
13	Ethyl Benzene							4.6E-03	5.4E-02	1	2.5E-04	2.9E-01	8E-04	4.6E-03	2.2E-02	1	1.0E-04	NA	NA
14	Methylene Chloride							4.9E-03	5.4E-02	1	2.6E-04	8.6E-01	3E-04	4.9E-03	2.2E-02	1	1.1E-04	1.6E-03	2E-07
15	Styrene							4.6E-03	5.4E-02	1	2.5E-04	NA	NA	4.6E-03	2.2E-02	1	1.0E-04	2.0E-03	2E-07
16	Tetrachloroethene							4.6E-03	5.4E-02	1	2.5E-04	NA	NA	4.6E-03	2.2E-02	1	1.0E-04	1.8E-03	2E-07
17	Toluene							4.6E-03	5.4E-02	1	2.5E-04	5.7E-01	4E-04	4.6E-03	2.2E-02	1	1.0E-04	NA	NA
18	Trichloroethene							4.6E-03	5.4E-02	1	2.5E-04	NA	NA	4.6E-03	2.2E-02	1	1.0E-04	6.0E-03	6E-07
19	Vinyl Chloride							5.0E-03	5.4E-02	1	2.7E-04	NA	NA	5.0E-03	2.2E-02	1	1.1E-04	2.9E-01	3E-05
20	Xylenes (Total)							4.6E-03	5.4E-02	1	2.5E-04	8.6E-02	3E-03	4.6E-03	2.2E-02	1	1.0E-04	NA	NA
21	1,4-Dichlorobenzene							0.0E+00	5.4E-02	1	0.0E+00	2.0E-01	0E+00	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
22	2,4-Dimethylphenol							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
23	2-Methylnaphthalene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
24	2-Methylphenol							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
25	Acenaphthene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
26	Acenaphthylene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
27	Anthracene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthracene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluoranthene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)perylene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
32	Benzo(k)fluoranthene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
34	Benzyl alcohol							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
35	bis(2-Ethylhexyl)phthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
36	Butylbenzylphthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
37	Chrysene							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
39	Di-n-octylphthalate							0.0E+00	5.4E-02	1	0.0E+00	NA	NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA

40	Dibenzo(a,h)anthracene	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthalate	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
42	Dimethylphthalate	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
45	Indeno(1,2,3-cd)pyrene	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordane	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
58	gamma-Chlordane	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Total	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	5.4E-02	1	0.0E+00	1.0E-04	0E+00	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
63	Beryllium, Total	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total (food)	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total (water)	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Total	0.0E+00	5.4E-02	1	0.0E+00	5.7E-07	0E+00	0.0E+00	2.2E-02	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	5.4E-02	1	0.0E+00	8.6E-05	0E+00	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
70	Thallium, Total	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
71	Vanadium, Total	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA
73	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0.0E+00	5.4E-02	1	0.0E+00		NA	0.0E+00	2.2E-02	1	0.0E+00	NA	NA

RANGE NAME: CSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP1
LAST UPDATED: 07/23/92

CHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT ADULT (6L)

CHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (D) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (D) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 (FROM WS5)	SCENARIO 6 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	1.2E-04	1.0E-06	2.5E-04	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	1.2E-04	9.3E-07	2.5E-04		
3	1,1-Dichloroet	0.0E+00	1.2E-04	1.7E-06	2.5E-04		
4	1,2-Dichloroet	0.0E+00	1.2E-04	1.0E-06	2.5E-04		
5	2-Butanone	0.0E+00	1.4E-04	1.3E-07	2.7E-04		
6	4-Methyl-2-pen	0.0E+00	1.4E-04	3.2E-07	2.7E-04		
7	Acetone	0.0E+00	1.4E-04	6.6E-09	2.7E-04		
8	Benzene	0.0E+00	1.2E-04	2.2E-06	2.5E-04		
9	Bromodichlorom	0.0E+00	1.2E-04	6.1E-07	2.5E-04		
10	Carbon Disulfi	0.0E+00	1.2E-04	2.5E-06	2.5E-04		
11	Chlorobenzene	0.0E+00	1.2E-04	4.3E-06	2.5E-04		
12	Chloroform	0.0E+00	1.1E-04	8.4E-07	2.2E-04		
13	Ethyl Benzene	0.0E+00	1.2E-04	7.7E-06	2.5E-04		
14	Methylene Chlo	1.5E-08	1.3E-04	5.1E-07	2.6E-04		
15	Styrene	0.0E+00	1.2E-04	5.0E-06	2.5E-04		
16	Tetrachloroeth	2.0E-08	1.2E-04	5.0E-06	2.5E-04		
17	Toluene	3.0E-08	1.2E-04	4.7E-06	2.5E-04		
18	Trichloroethen	1.5E-08	1.2E-04	1.7E-06	2.5E-04		
19	Vinyl Chloride	0.0E+00	1.4E-04	8.1E-07	2.7E-04		
20	Xylenes (Total	7.4E-09	1.2E-04	8.4E-06	2.5E-04		
21	1,4-Dichlorobe	0.0E+00	1.4E-04	7.4E-06	0.0E+00		
22	2,4-Dimethylph	0.0E+00	1.4E-04	1.8E-06	0.0E+00		
23	2-Methylnaphth	6.7E-08	0.0E+00	NA	0.0E+00		
24	2-Methylphenol	0.0E+00	1.4E-04	1.2E-06	0.0E+00		
25	Acenaphthene	1.1E-06	0.0E+00	NA	0.0E+00		
26	Acenaphthylene	6.8E-06	1.4E-04	NA	0.0E+00		
27	Anthracene	5.5E-06	0.0E+00	NA	0.0E+00		
28	Benzo(a)anthra	1.7E-05	*0.0E+00*	NA	*0.0E+00*		
29	Benzo(a)pyrene	1.1E-05	1.4E-04	NA	0.0E+00		
30	Benzo(b)fluora	3.3E-05	1.4E-04	NA	0.0E+00		
31	Benzo(g,h,i)pe	5.7E-06	1.4E-04	NA	0.0E+00		
32	Benzo(k)fluora	1.7E-05	1.4E-04	NA	0.0E+00		
33	Benzoic acid	0.0E+00	7.2E-04	4.4E-06	0.0E+00		
34	Benzyl alcohol	0.0E+00	1.5E-04	3.1E-07	0.0E+00		
35	bis(2-Ethylhex	8.5E-07	8.1E-05	2.3E-06	0.0E+00		
36	Butylbenzylpht	8.7E-07	1.4E-04	2.9E-06	0.0E+00		
37	Chrysene	2.4E-05	1.4E-04	NA	0.0E+00		
38	Di-n-butylphth	0.0E+00	1.4E-04	5.9E-06	0.0E+00		
39	Di-n-octylphth	5.2E-07	1.4E-04	8.6E-07	0.0E+00		
40	Dibenzo(a,h)an	2.8E-06	0.0E+00	NA	0.0E+00		
41	Diethylphthala	0.0E+00	1.4E-04	5.8E-07	0.0E+00		
42	Dimethylphthal	1.6E-07	1.4E-04	1.9E-07	0.0E+00		

CHRONIC RISK SUMMARY

FUTURE
RESIDENT ADULT (6L)

CHRONIC HAZARD QUOTIENT

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (D) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (D) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 (FROM WS5)	SCENARIO 6 0 0 (FROM WS6)
1	1,1,1-Trichlor	0E+00	1E-03	2E-05	8E-04	0E+00	0E+00
2	1,1-Dichloroet	0E+00	1E-03	9E-06	2E-03		
3	1,1-Dichloroet	0E+00	1E-02	2E-04	NA		
4	1,2-Dichloroet	0E+00	1E-02	1E-04	NA		
5	2-Butanone	0E+00	3E-03	3E-06	3E-03		
6	4-Methyl-2-pen	0E+00	3E-03	6E-06	1E-02		
7	Acetone	0E+00	1E-03	7E-07	NA		
8	Benzene	NA	NA	NA	NA		
9	Bromodichlorom	0E+00	6E-03	3E-05	NA		
10	Carbon Disulfi	0E+00	1E-03	3E-05	8E-02		
11	Chlorobenzene	0E+00	6E-03	2E-04	5E-02		
12	Chloroform	0E+00	1E-02	9E-05	NA		
13	Ethyl Benzene	0E+00	1E-03	8E-05	8E-04		
14	Methylene Chlo	2E-07	2E-03	8E-06	3E-04		
15	Styrene	0E+00	6E-04	3E-05	NA		
16	Tetrachloroeth	2E-06	1E-02	5E-04	NA		
17	Toluene	1E-07	6E-04	2E-05	4E-04		
18	Trichloroethen	NA	NA	NA	NA		
19	Vinyl Chloride	NA	NA	NA	NA		
20	Xylenes (Total	4E-09	6E-05	4E-06	3E-03		
21	1,4-Dichlorobe	NA	NA	NA	0E+00		
22	2,4-Dimethylph	0E+00	7E-03	9E-05	NA		
23	2-Methylnaphth	2E-05	0E+00	NA	NA		
24	2-Methylphenol	0E+00	3E-03	2E-05	NA		
25	Acenaphthene	2E-05	0E+00	NA	NA		
26	Acenaphthylene	1E-04	2E-03	NA	NA		
27	Anthracene	2E-05	0E+00	NA	NA		
28	Benzo(a)anthra	6E-04	*0E+00*	NA	NA		
29	Benzo(a)pyrene	4E-04	5E-03	NA	NA		
30	Benzo(b)fluora	1E-03	5E-03	NA	NA		
31	Benzo(g,h,i)pe	2E-04	5E-03	NA	NA		
32	Benzo(k)fluora	6E-04	5E-03	NA	NA		
33	Benzoic acid	0E+00	2E-04	1E-06	NA		
34	Benzyl alcohol	0E+00	5E-04	1E-06	NA		
35	bis(2-Ethylhex	4E-05	4E-03	1E-04	NA		
36	Butylbenzylpht	4E-06	7E-04	1E-05	NA		
37	Chrysene	8E-04	5E-03	NA	NA		
38	Di-n-butylphth	0E+00	1E-03	6E-05	NA		
39	Di-n-octylphth	3E-05	7E-03	4E-05	NA		
40	Dibenzo(a,h)an	9E-05	0E+00	NA	NA		
41	Diethylphthala	0E+00	2E-04	7E-07	NA		
42	Dimethylphthal	2E-07	1E-04	2E-07	NA		

43	Fluoranthene	4.1E-05	1.4E-04	NA	0.0E+00		1E-03	4E-03	NA	NA			
44	Fluorene	2.5E-06	0.0E+00	NA	0.0E+00		6E-05	0E+00	NA	NA			
45	Indeno(1,2,3-c	8.1E-06	1.4E-04	NA	0.0E+00		3E-04	5E-03	NA	NA			
46	Naphthalene	6.7E-08	1.4E-04	NA	0.0E+00		2E-05	4E-02	NA	NA			
47	Phenanthrene	1.5E-05	1.4E-04	NA	0.0E+00		5E-04	5E-03	NA	NA			
48	Phenol	0.0E+00	1.4E-04	6.6E-07	0.0E+00		0E+00	2E-04	1E-06	NA			
49	Pyrene	2.0E-05	1.4E-04	NA	0.0E+00		7E-04	5E-03	NA	NA			
50	4,4-DDE	1.5E-08	1.4E-06	2.8E-07	0.0E+00		NA	NA	NA	NA			
51	4,4-DDT	1.1E-07	1.4E-06	4.9E-07	0.0E+00		2E-04	3E-03	1E-03	NA			
52	Aldrin	0.0E+00	6.8E-07	9.2E-10	0.0E+00		0E+00	2E-02	3E-05	NA			
53	alpha-Chlordan	0.0E+00	6.5E-06	4.9E-05	0.0E+00		0E+00	1E-01	8E-01	NA			
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA			
55	beta-BHC	0.0E+00	6.8E-07	1.2E-08	0.0E+00		NA	NA	NA	NA			
56	Dieldrin	0.0E+00	1.4E-06	1.8E-08	0.0E+00		0E+00	3E-02	4E-04	NA			
57	Endosulfan II	0.0E+00	1.4E-06	2.6E-09	0.0E+00		0E+00	3E-02	5E-05	NA			
58	gamma-Chlordan	0.0E+00	6.5E-06	5.4E-07	0.0E+00		0E+00	1E-01	9E-03	NA			
59	Heptachlor	0.0E+00	6.8E-07	6.3E-09	0.0E+00		0E+00	1E-03	1E-05	NA			
60	Antimony, Tota	1.1E-05	9.5E-04	8.1E-07	0.0E+00		3E-02	2E+00	4E-02	NA			
61	Arsenic, Total	2.5E-05	1.8E-04	1.6E-07	0.0E+00		8E-02	6E-01	5E-04	NA			
62	Barium, Total	2.7E-04	5.4E-03	4.6E-06	0.0E+00		4E-03	8E-02	7E-04	0E+00			
63	Beryllium, Tot	2.0E-06	5.4E-05	4.6E-08	0.0E+00		4E-04	1E-02	9E-03	NA			
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	0E+00	NA			
65	Cadmium, Total	0.0E+00	6.5E-05	5.5E-08	0.0E+00		0E+00	1E-01	9E-04	NA			
66	Chromium, Tota	3.7E-05	2.2E-04	1.9E-07	0.0E+00		7E-03	4E-02	7E-04	0E+00			
67	Mercury, Total	1.1E-06	2.7E-06	2.3E-09	0.0E+00		4E-03	9E-03	5E-05	0E+00			
68	Nickel, Total	4.7E-05	3.9E-04	3.3E-07	0.0E+00		2E-03	2E-02	3E-04	NA			
69	Silver, Total	0.0E+00	2.1E-04	1.8E-07	0.0E+00		0E+00	4E-02	7E-04	NA			
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	0E+00	NA			
71	Vanadium, Tota	4.0E-05	2.9E-04	2.5E-07	0.0E+00		6E-03	4E-02	2E-03	NA			
72	Cyanide, Total	3.8E-05	1.4E-04	1.2E-07	0.0E+00		2E-03	7E-03	6E-06	NA			
73	Nitrogen, Nitr	0.0E+00	1.3E-02	1.1E-05	0.0E+00		0E+00	1E-01	1E-04	NA			
						PATHWAY SUM (HI)	1E-01	4E+00	9E-01	2E-01	0E+00	0E+00	
						POPULATION TOTAL	5E+00						

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP1
LAST UPDATED: 07/23/92

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT ADULT (SL)

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (D) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (D) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	5.0E-05	7.7E-07	1.0E-04	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	5.0E-05	4.1E-07	1.0E-04		
3	1,1-Dichloroet	0.0E+00	5.0E-05	7.3E-07	1.0E-04		
4	1,2-Dichloroet	0.0E+00	5.0E-05	4.6E-07	1.0E-04		
5	2-Butanone	0.0E+00	5.5E-05	5.5E-08	1.1E-04		
6	4-Methyl-2-pen	0.0E+00	5.5E-05	1.4E-07	1.1E-04		
7	Acetone	0.0E+00	5.5E-05	2.9E-08	1.1E-04		
8	Benzene	0.0E+00	5.0E-05	9.6E-07	1.0E-04		
9	Bromodichlorom	0.0E+00	5.0E-05	2.6E-07	1.0E-04		
10	Carbon Disulfi	0.0E+00	5.0E-05	1.1E-06	1.0E-04		
11	Chlorobenzene	0.0E+00	5.0E-05	1.9E-06	1.0E-04		
12	Chloroform	0.0E+00	4.5E-05	3.6E-07	9.0E-05		
13	Ethyl Benzene	0.0E+00	5.0E-05	3.4E-06	1.0E-04		
14	Methylene Chlo	6.4E-09	5.4E-05	2.2E-07	1.1E-04		
15	Styrene	0.0E+00	5.0E-05	2.5E-06	1.0E-04		
16	Tetrachloroeth	8.6E-09	5.0E-05	2.2E-06	1.0E-04		
17	Toluene	1.3E-08	5.0E-05	2.0E-06	1.0E-04		
18	Trichloroethen	6.4E-09	5.0E-05	7.3E-07	1.0E-04		
19	Vinyl Chloride	0.0E+00	5.5E-05	3.5E-07	1.1E-04		
20	Xylenes (Total	3.2E-09	5.0E-05	3.6E-06	1.0E-04		
21	1,4-Dichlorobe	0.0E+00	5.7E-05	3.2E-06	0.0E+00		
22	2,4-Dimethylph	0.0E+00	5.7E-05	7.8E-07	0.0E+00		
23	2-Methylnaphth	2.9E-08	0.0E+00	NA	0.0E+00		
24	2-Methylphenol	0.0E+00	5.7E-05	5.2E-07	0.0E+00		
25	Acenaphthene	5.0E-07	0.0E+00	NA	0.0E+00		
26	Acenaphthylene	3.0E-06	5.7E-05	NA	0.0E+00		
27	Anthracene	2.4E-06	0.0E+00	NA	0.0E+00		
28	Benzo(a)anthra	7.2E-06	0.0E+00	NA	0.0E+00		
29	Benzo(a)pyrene	4.6E-06	5.7E-05	NA	0.0E+00		
30	Benzo(b)fluora	1.4E-05	5.7E-05	NA	0.0E+00		
31	Benzo(g,h,i)pe	2.5E-06	5.7E-05	NA	0.0E+00		
32	Benzo(k)fluora	7.2E-06	5.7E-05	NA	0.0E+00		
33	Benzoic acid	0.0E+00	2.9E-04	1.9E-06	0.0E+00		
34	Benzyl alcohol	0.0E+00	6.0E-05	1.4E-07	0.0E+00		
35	bis(2-Ethylhex	3.7E-07	3.3E-05	9.9E-07	0.0E+00		
36	Butylbenzylpht	3.8E-07	5.7E-05	1.3E-06	0.0E+00		
37	Chrysene	1.0E-05	5.7E-05	NA	0.0E+00		
38	Di-n-butylphth	0.0E+00	5.7E-05	2.6E-06	0.0E+00		
39	Di-n-octylphth	2.2E-07	5.7E-05	3.8E-07	0.0E+00		
40	Dibenzo(a,h)an	1.2E-06	0.0E+00	NA	0.0E+00		
41	Diethylphthala	0.0E+00	5.7E-05	2.5E-07	0.0E+00		
42	Dimethylphthal	6.7E-08	5.7E-05	8.3E-08	0.0E+00		

LIFETIME RISK SUMMARY

FUTURE
RESIDENT ADULT (SL)

LIFETIME EXCESS CANCER RISK

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (D) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (D) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	NA	NA	NA	NA	0E+00	0E+00
2	1,1-Dichloroet	NA	NA	NA	NA		
3	1,1-Dichloroet	0E+00	3E-05	4E-07	2E-05		
4	1,2-Dichloroet	NA	NA	NA	NA		
5	2-Butanone	NA	NA	NA	NA		
6	4-Methyl-2-pen	NA	NA	NA	NA		
7	Acetone	NA	NA	NA	NA		
8	Benzene	0E+00	1E-06	3E-08	3E-06		
9	Bromodichlorom	0E+00	7E-06	3E-08	NA		
10	Carbon Disulfi	NA	NA	NA	NA		
11	Chlorobenzene	NA	NA	NA	NA		
12	Chloroform	0E+00	3E-07	2E-09	7E-06		
13	Ethyl Benzene	NA	NA	NA	NA		
14	Methylene Chlo	5E-11	4E-07	2E-09	2E-07		
15	Styrene	0E+00	2E-06	8E-08	2E-07		
16	Tetrachloroeth	4E-10	3E-06	1E-07	2E-07		
17	Toluene	NA	NA	NA	NA		
18	Trichloroethen	7E-11	6E-07	8E-09	6E-07		
19	Vinyl Chloride	0E+00	1E-04	7E-07	3E-05		
20	Xylenes (Total	NA	NA	NA	NA		
21	1,4-Dichlorobe	0E+00	1E-06	8E-08	NA		
22	2,4-Dimethylph	NA	NA	NA	NA		
23	2-Methylnaphth	NA	NA	NA	NA		
24	2-Methylphenol	NA	NA	NA	NA		
25	Acenaphthene	NA	NA	NA	NA		
26	Acenaphthylene	NA	NA	NA	NA		
27	Anthracene	NA	NA	NA	NA		
28	Benzo(a)anthra	9E-05	0E+00	NA	0E+00		
29	Benzo(a)pyrene	6E-05	7E-04	NA	0E+00		
30	Benzo(b)fluora	2E-04	7E-04	NA	0E+00		
31	Benzo(g,h,i)pe	NA	NA	NA	NA		
32	Benzo(k)fluora	9E-05	7E-04	NA	0E+00		
33	Benzoic acid	NA	NA	NA	NA		
34	Benzyl alcohol	NA	NA	NA	NA		
35	bis(2-Ethylhex	5E-09	5E-07	1E-08	NA		
36	Butylbenzylpht	NA	NA	NA	NA		
37	Chrysene	1E-04	7E-04	NA	0E+00		
38	Di-n-butylphth	NA	NA	NA	NA		
39	Di-n-octylphth	NA	NA	NA	NA		
40	Dibenzo(a,h)an	1E-05	0E+00	NA	0E+00		
41	Diethylphthala	NA	NA	NA	NA		
42	Dimethylphthal	NA	NA	NA	NA		

43	Fluoranthene	1.8E-05	5.7E-05	NA	0.0E+00	NA	NA	NA	NA			
44	Fluorene	1.1E-06	0.0E+00	NA	0.0E+00	NA	NA	NA	NA			
45	Indeno(1,2,3-c	3.5E-06	5.7E-05	NA	0.0E+00	4E-05	7E-04	NA	0E+00			
46	Naphthalene	2.9E-08	5.7E-05	NA	0.0E+00	NA	NA	NA	NA			
47	Phenanthrene	6.6E-06	5.7E-05	NA	0.0E+00	NA	NA	NA	NA			
48	Phenol	0.0E+00	5.7E-05	2.9E-07	0.0E+00	NA	NA	NA	NA			
49	Pyrene	8.5E-06	5.7E-05	NA	0.0E+00	NA	NA	NA	NA			
50	4,4-DDE	6.6E-09	5.5E-07	1.2E-07	0.0E+00	2E-09	2E-07	4E-08	NA			
51	4,4-DDT	4.6E-08	5.5E-07	2.2E-07	0.0E+00	2E-08	2E-07	7E-08	0E+00			
52	Aldrin	0.0E+00	2.8E-07	4.0E-10	0.0E+00	0E+00	5E-06	7E-09	0E+00			
53	alpha-Chlordan	0.0E+00	2.7E-06	2.2E-05	0.0E+00	0E+00	3E-06	3E-05	0E+00			
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	NA			
55	beta-BHC	0.0E+00	2.8E-07	5.3E-09	0.0E+00	0E+00	5E-07	9E-09	0E+00			
56	Dieldrin	0.0E+00	5.5E-07	8.0E-09	0.0E+00	0E+00	9E-06	1E-07	0E+00			
57	Endosulfan II	0.0E+00	5.5E-07	1.2E-09	0.0E+00	NA	NA	NA	NA			
58	gamma-Chlordan	0.0E+00	2.7E-06	2.4E-07	0.0E+00	0E+00	3E-06	3E-07	0E+00			
59	Heptachlor	0.0E+00	2.8E-07	2.8E-09	0.0E+00	0E+00	1E-06	1E-08	0E+00			
60	Antimony, Tota	4.8E-06	3.9E-04	3.5E-07	0.0E+00	NA	NA	NA	NA			
61	Arsenic, Total	1.1E-05	7.4E-05	6.7E-08	0.0E+00	2E-05	1E-04	1E-07	0E+00			
62	Barium, Total	1.2E-04	2.2E-03	2.0E-06	0.0E+00	NA	NA	NA	NA			
63	Beryllium, Tot	8.7E-07	2.2E-05	2.0E-08	0.0E+00	4E-06	9E-05	9E-05	0E+00			
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	0E+00			
65	Cadmium, Total	0.0E+00	2.6E-05	2.4E-08	0.0E+00	NA	NA	NA	0E+00			
66	Chromium, Tota	1.6E-05	8.9E-05	8.1E-08	0.0E+00	NA	NA	NA	0E+00			
67	Mercury, Total	4.5E-07	1.1E-06	1.0E-09	0.0E+00	NA	NA	NA	NA			
68	Nickel, Total	2.0E-05	1.6E-04	1.4E-07	0.0E+00	NA	NA	NA	NA			
69	Silver, Total	0.0E+00	8.7E-05	7.9E-08	0.0E+00	NA	NA	NA	NA			
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA			
71	Vanadium, Tota	1.7E-05	1.2E-04	1.1E-07	0.0E+00	NA	NA	NA	NA			
72	Cyanide, Total	1.7E-05	5.5E-05	5.0E-08	0.0E+00	NA	NA	NA	NA			
73	Nitrogen, Nitr	0.0E+00	5.3E-03	4.8E-06	0.0E+00	NA	NA	NA	NA			
					TOTAL PATHWAY CANCER RISK	6E-04	4E-03	1E-04	6E-05	0E+00	0E+00	
					POPULATION TOTAL EXCESS RISK	5E-03						

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: SOIL
ROUTE: ORAL

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP2
LAST UPDATED: 07/23/92

HIFs = 1.1E-05
HIFc = 0.0E+00
HIFl = 1.1E-06

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	0.0E+00	1.1E-05	1	0.0E+00	9.0E-01	0E+00		0.0E+00		0.0E+00		ERR	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
2	1,1-Dichloroet	0.0E+00	1.1E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
3	1,1-Dichloroet	0.0E+00	1.1E-05	1	0.0E+00	9.0E-03	0E+00							0.0E+00	1.1E-06	1	0.0E+00	6.0E-01	0E+00
4	1,2-Dichloroet	0.0E+00	1.1E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
5	2-Butanone	0.0E+00	1.1E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
6	4-Methyl-2-pen	0.0E+00	1.1E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
7	Acetone	0.0E+00	1.1E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
8	Benzene	0.0E+00	1.1E-05	1	0.0E+00	NA	NA							0.0E+00	1.1E-06	1	0.0E+00	2.9E-02	0E+00
9	Bromodichlorom	0.0E+00	1.1E-05	1	0.0E+00	2.0E-02	0E+00							0.0E+00	1.1E-06	1	0.0E+00	1.3E-01	0E+00
10	Carbon Disulfi	0.0E+00	1.1E-05	1	0.0E+00	1.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
11	Chlorobenzene	0.0E+00	1.1E-05	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
12	Chloroform	0.0E+00	1.1E-05	1	0.0E+00	1.0E-02	0E+00							0.0E+00	1.1E-06	1	0.0E+00	6.1E-03	0E+00
13	Ethyl Benzene	0.0E+00	1.1E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
14	Methylene Chlo	4.0E-03	1.1E-05	1	5.2E-08	6.0E-02	9E-07							4.0E-03	1.1E-06	1	4.4E-09	7.5E-03	3E-11
15	Styrene	0.0E+00	1.1E-05	1	0.0E+00	2.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	3.0E-02	0E+00
16	Tetrachloroeth	5.4E-03	1.1E-05	1	7.0E-08	1.0E-01	7E-07							5.4E-03	1.1E-06	1	5.9E-09	5.1E-02	3E-10
17	Toluene	8.1E-03	1.1E-05	1	1.0E-07	2.0E+00	5E-08							8.1E-03	1.1E-06	1	8.9E-09	NA	NA
18	Trichloroethen	4.0E-03	1.1E-05	1	5.2E-08	NA	NA							4.0E-03	1.1E-06	1	4.4E-09	1.1E-02	5E-11
19	Vinyl Chloride	0.0E+00	1.1E-05	1	0.0E+00	NA	NA							0.0E+00	1.1E-06	1	0.0E+00	1.9E+00	0E+00
20	Xylenes (Total	2.0E-03	1.1E-05	1	2.6E-08	4.0E+00	7E-09							2.0E-03	1.1E-06	1	2.2E-09	NA	NA
21	1,4-Dichlorobe	0.0E+00	1.1E-05	1	0.0E+00	NA	NA							0.0E+00	1.1E-06	1	0.0E+00	2.4E-02	0E+00
22	2,4-Dimethylph	0.0E+00	1.1E-05	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
23	2-Methylnaphth	1.8E-02	1.1E-05	1	2.3E-07	4.0E-02	6E-06							1.8E-02	1.1E-06	1	2.0E-08	NA	NA
24	2-Methylphenol	0.0E+00	1.1E-05	1	0.0E+00	5.0E-01	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
25	Acenaphthene	3.1E-01	1.1E-05	1	4.0E-06	6.0E-01	7E-06							3.1E-01	1.1E-06	1	3.4E-07	NA	NA
26	Acenaphthylene	1.8E+00	1.1E-05	1	2.4E-05	6.0E-01	4E-05							1.8E+00	1.1E-06	1	2.0E-06	NA	NA
27	Anthracene	1.5E+00	1.1E-05	1	1.9E-05	3.0E+00	6E-06							1.5E+00	1.1E-06	1	1.6E-06	NA	NA
28	Benzo(a)anthra	4.5E+00	1.1E-05	1	5.8E-05	3.0E-01	2E-04							4.5E+00	1.1E-06	1	4.9E-06	1.2E+01	6E-05
29	Benzo(a)pyrene	2.9E+00	1.1E-05	1	3.8E-05	3.0E-01	1E-04							2.9E+00	1.1E-06	1	3.2E-06	1.2E+01	4E-05
30	Benzo(b)fluora	8.9E+00	1.1E-05	1	1.2E-04	3.0E-01	4E-04							8.9E+00	1.1E-06	1	9.7E-06	1.2E+01	1E-04
31	Benzo(g,h,i)pe	1.5E+00	1.1E-05	1	2.0E-05	3.0E-01	7E-05							1.5E+00	1.1E-06	1	1.7E-06	NA	NA
32	Benzo(k)fluora	4.5E+00	1.1E-05	1	5.9E-05	3.0E-01	2E-04							4.5E+00	1.1E-06	1	5.0E-06	1.2E+01	6E-05
33	Benzoic acid	0.0E+00	1.1E-05	1	0.0E+00	4.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	1.1E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	2.3E-01	1.1E-05	1	3.0E-06	2.0E-02	1E-04							2.3E-01	1.1E-06	1	2.5E-07	1.4E-02	4E-09
36	Butylbenzylpht	2.4E-01	1.1E-05	1	3.1E-06	2.0E+00	2E-06							2.4E-01	1.1E-06	1	2.6E-07	NA	NA
37	Chrysene	6.4E+00	1.1E-05	1	8.3E-05	3.0E-01	3E-04							6.4E+00	1.1E-06	1	7.1E-06	1.2E+01	8E-05
38	Di-n-butylphth	0.0E+00	1.1E-05	1	0.0E+00	1.0E+00	0E+00							0.0E+00	1.1E-06	1	0.0E+00	NA	NA
39	Di-n-octylphth	1.4E-01	1.1E-05	1	1.8E-06	2.0E-02	9E-05							1.4E-01	1.1E-06	1	1.5E-07	NA	NA

40	Dibenzo(a,h)an	7.7E-01	1.3E-05	1	1.00E-05	3.0E-01	[illegible]-05	7.7E-01	1.1E-06	1	8.5E-07	1.2E+01	1E-05
41	Diethylphthala	0.0E+00	1.3E-05	1	0.0E+00	8.0E+00	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
42	Dimethylphthal	4.2E-02	1.3E-05	1	5.5E-07	1.0E+00	5E-07	4.2E-02	1.1E-06	1	4.6E-08	NA	NA
43	Fluoranthene	1.1E+01	1.3E-05	1	1.4E-04	4.0E-01	4E-04	1.1E+01	1.1E-06	1	1.2E-05	NA	NA
44	Fluorene	6.8E-01	1.3E-05	1	8.8E-06	4.0E-01	2E-05	6.8E-01	1.1E-06	1	7.4E-07	NA	NA
45	Indeno(1,2,3-c	2.2E+00	1.3E-05	1	2.8E-05	3.0E-01	9E-05	2.2E+00	1.1E-06	1	2.4E-06	1.2E+01	3E-05
46	Naphthalene	1.8E-02	1.3E-05	1	2.3E-07	4.0E-02	6E-06	1.8E-02	1.1E-06	1	2.0E-08	NA	NA
47	Phenanthrene	4.1E+00	1.3E-05	1	5.4E-05	3.0E-01	2E-04	4.1E+00	1.1E-06	1	4.6E-06	NA	NA
48	Phenol	0.0E+00	1.3E-05	1	0.0E+00	6.0E-01	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
49	Pyrene	5.3E+00	1.3E-05	1	6.9E-05	3.0E-01	2E-04	5.3E+00	1.1E-06	1	5.8E-06	NA	NA
50	4,4-DDE	4.1E-03	1.3E-05	1	5.3E-08	NA	NA	4.1E-03	1.1E-06	1	4.5E-09	3.4E-01	2E-09
51	4,4-DDT	2.9E-02	1.3E-05	1	3.7E-07	5.0E-04	7E-04	2.9E-02	1.1E-06	1	3.2E-08	3.4E-01	1E-08
52	Aldrin	0.0E+00	1.3E-05	1	0.0E+00	3.0E-05	0E+00	0.0E+00	1.1E-06	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.3E-05	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.1E-06	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.3E-05	1	0.0E+00	NA	NA	0.0E+00	1.1E-06	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	0.0E+00	1.3E-05	1	0.0E+00	NA	NA	0.0E+00	1.1E-06	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.3E-05	1	0.0E+00	5.0E-05	0E+00	0.0E+00	1.1E-06	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.3E-05	1	0.0E+00	2.0E-04	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.3E-05	1	0.0E+00	6.0E-05	0E+00	0.0E+00	1.1E-06	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.3E-05	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.1E-06	1	0.0E+00	4.5E+00	0E+00
60	Antimony, Tota	3.0E+00	1.3E-05	1	3.9E-05	4.0E-04	1.0E-01	3.0E+00	1.1E-06	1	3.3E-06	NA	NA
61	Arsenic, Total	6.8E+00	1.3E-05	1	8.9E-05	3.0E-04	3E-01	6.8E+00	1.1E-06	1	7.5E-06	1.8E+00	1E-05
62	Barium, Total	7.3E+01	1.3E-05	1	9.5E-04	7.0E-02	1E-02	7.3E+01	1.1E-06	1	8.1E-05	NA	NA
63	Beryllium, Tot	5.4E-01	1.3E-05	1	7.0E-06	5.0E-03	1E-03	5.4E-01	1.1E-06	1	6.0E-07	4.3E+00	3E-06
64	Cadmium, Total	0.0E+00	1.3E-05	1	0.0E+00	NA	NA	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
65	Cadmium, Total	0.0E+00	1.3E-05	1	0.0E+00	NA	NA	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
66	Chromium, Tota	9.9E+00	1.3E-05	1	1.3E-04	2.0E-02	6E-03	9.9E+00	1.1E-06	1	1.1E-05	NA	NA
67	Mercury, Total	2.8E-01	1.3E-05	1	3.7E-06	3.0E-04	1E-02	2.8E-01	1.1E-06	1	3.1E-07	NA	NA
68	Nickel, Total	1.3E+01	1.3E-05	1	1.6E-04	2.0E-02	8E-03	1.3E+01	1.1E-06	1	1.4E-05	NA	NA
69	Silver, Total	0.0E+00	1.3E-05	1	0.0E+00	5.0E-03	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
70	Thallium, Tota	0.0E+00	1.3E-05	1	0.0E+00	7.0E-04	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA
71	Vanadium, Tota	1.1E+01	1.3E-05	1	1.4E-04	7.0E-03	2E-02	1.1E+01	1.1E-06	1	1.2E-05	NA	NA
72	Cyanide, Total	1.0E+01	1.3E-05	1	1.3E-04	2.0E-02	7E-03	1.0E+01	1.1E-06	1	1.1E-05	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.3E-05	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.1E-06	1	0.0E+00	NA	NA

RANGE NAME: WS2

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (D)
ROUTE: ORAL

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP2
LAST UPDATED: 07/23/92

HIFs = 6.4E-02
HIFc = 0.0E+00
HIFl = 5.5E-03

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDO	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	4.6E-03	6.4E-02	1	2.9E-04	9.0E-01	3E-04		0.0E+00		0.0E+00		ERR	4.6E-03	5.5E-03	1	2.5E-05	NA	NA
2	1,1-Dichloroet	4.6E-03	6.4E-02	1	2.9E-04	1.0E+00	3E-04							4.6E-03	5.5E-03	1	2.5E-05	NA	NA
3	1,1-Dichloroet	4.6E-03	6.4E-02	1	2.9E-04	9.0E-03	3E-02							4.6E-03	5.5E-03	1	2.5E-05	6.0E-01	2E-05
4	1,2-Dichloroet	4.6E-03	6.4E-02	1	2.9E-04	1.0E-01	3E-03							4.6E-03	5.5E-03	1	2.5E-05	NA	NA
5	2-Butanone	5.0E-03	6.4E-02	1	3.2E-04	5.0E-01	6E-04							5.0E-03	5.5E-03	1	2.8E-05	NA	NA
6	4-Methyl-2-pen	5.0E-03	6.4E-02	1	3.2E-04	5.0E-01	6E-04							5.0E-03	5.5E-03	1	2.8E-05	NA	NA
7	Acetone	5.0E-03	6.4E-02	1	3.2E-04	1.0E+00	3E-04							5.0E-03	5.5E-03	1	2.8E-05	NA	NA
8	Benzene	4.6E-03	6.4E-02	1	2.9E-04	NA	NA							4.6E-03	5.5E-03	1	2.5E-05	2.9E-02	7E-07
9	Bromodichlorom	4.6E-03	6.4E-02	1	2.9E-04	2.0E-02	1E-02							4.6E-03	5.5E-03	1	2.5E-05	1.3E-01	3E-06
10	Carbon Disulfi	4.6E-03	6.4E-02	1	2.9E-04	1.0E-01	3E-03							4.6E-03	5.5E-03	1	2.5E-05	NA	NA
11	Chlorobenzene	4.6E-03	6.4E-02	1	2.9E-04	2.0E-01	1E-03							4.6E-03	5.5E-03	1	2.5E-05	NA	NA
12	Chloroform	4.1E-03	6.4E-02	1	2.6E-04	1.0E-02	3E-02							4.1E-03	5.5E-03	1	2.3E-05	6.1E-03	1E-07
13	Ethyl Benzene	4.6E-03	6.4E-02	1	2.9E-04	1.0E+00	3E-04							4.6E-03	5.5E-03	1	2.5E-05	NA	NA
14	Methylene Chlo	4.9E-03	6.4E-02	1	3.1E-04	6.0E-02	5E-03							4.9E-03	5.5E-03	1	2.7E-05	7.5E-03	2E-07
15	Styrene	4.6E-03	6.4E-02	1	2.9E-04	2.0E+00	1E-04							4.6E-03	5.5E-03	1	2.5E-05	3.0E-02	8E-07
16	Tetrachloroeth	4.6E-03	6.4E-02	1	2.9E-04	1.0E-01	3E-03							4.6E-03	5.5E-03	1	2.5E-05	5.1E-02	1E-06
17	Toluene	4.6E-03	6.4E-02	1	2.9E-04	2.0E+00	1E-04							4.6E-03	5.5E-03	1	2.5E-05	NA	NA
18	Trichloroethen	4.6E-03	6.4E-02	1	2.9E-04	NA	NA							4.6E-03	5.5E-03	1	2.5E-05	1.1E-02	3E-07
19	Vinyl Chloride	5.0E-03	6.4E-02	1	3.2E-04	NA	NA							5.0E-03	5.5E-03	1	2.8E-05	1.9E+00	5E-05
20	Xylenes (Total	4.6E-03	6.4E-02	1	2.9E-04	4.0E+00	7E-05							4.6E-03	5.5E-03	1	2.5E-05	NA	NA
21	1,4-Dichlorobe	5.2E-03	6.4E-02	1	3.3E-04	NA	NA							5.2E-03	5.5E-03	1	2.9E-05	2.4E-02	7E-07
22	2,4-Dimethylph	5.2E-03	6.4E-02	1	3.3E-04	2.0E-01	2E-03							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
23	2-Methylnaphth	0.0E+00	6.4E-02	1	0.0E+00	4.0E-02	0E+00							0.0E+00	5.5E-03	1	0.0E+00	NA	NA
24	2-Methylphenol	5.2E-03	6.4E-02	1	3.3E-04	5.0E-01	7E-04							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
25	Acenaphthene	0.0E+00	6.4E-02	1	0.0E+00	6.0E-01	0E+00							0.0E+00	5.5E-03	1	0.0E+00	NA	NA
26	Acenaphthylene	5.2E-03	6.4E-02	1	3.3E-04	6.0E-01	6E-04							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
27	Anthracene	0.0E+00	6.4E-02	1	0.0E+00	3.0E+00	0E+00							0.0E+00	5.5E-03	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	6.4E-02	1	0.0E+00	3.0E-01	0E+00							0.0E+00	5.5E-03	1	0.0E+00	1.2E+01	0E+00
29	Benzo(a)pyrene	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03							5.2E-03	5.5E-03	1	2.9E-05	1.2E+01	3E-04
30	Benzo(b)fluora	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03							5.2E-03	5.5E-03	1	2.9E-05	1.2E+01	3E-04
31	Benzo(g,h,i)pe	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
32	Benzo(k)fluora	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03							5.2E-03	5.5E-03	1	2.9E-05	1.2E+01	3E-04
33	Benzoic acid	2.7E-02	6.4E-02	1	1.7E-03	4.0E+00	4E-04							2.7E-02	5.5E-03	1	1.5E-04	NA	NA
34	Benzyl alcohol	5.4E-03	6.4E-02	1	3.5E-04	1.0E+00	3E-04							5.4E-03	5.5E-03	1	3.0E-05	NA	NA
35	bis(2-Ethylhex	3.0E-02	6.4E-02	1	1.9E-04	2.0E-02	1.0E-02							3.0E-03	5.5E-03	1	1.7E-05	1.4E-02	2E-07
36	Butylbenzylpht	5.2E-03	6.4E-02	1	3.3E-04	2.0E+00	2E-04							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
37	Chrysene	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03							5.2E-03	5.5E-03	1	2.9E-05	1.2E+01	3E-04
38	Di-n-butylphth	5.2E-03	6.4E-02	1	3.3E-04	1.0E+00	3E-04							5.2E-03	5.5E-03	1	2.9E-05	NA	NA
39	Di-n-octylphth	5.2E-03	6.4E-02	1	3.3E-04	2.0E-02	2E-02							5.2E-03	5.5E-03	1	2.9E-05	NA	NA

40	Dibenzo(a,h)an	0.0E+00	6.4E-02	1	0.0E+00	3.0E-01	0E+00	0.0E+00	5.5E-03	1	0.0E+00	1.2E+01	0E+00
41	Diethylphthala	5.2E-03	6.4E-02	1	3.3E-04	8.0E+00	4E-05	5.2E-03	5.5E-03	1	2.9E-05	NA	NA
42	Dimethylphthal	5.2E-03	6.4E-02	1	3.3E-04	1.0E+00	3E-04	5.2E-03	5.5E-03	1	2.9E-05	NA	NA
43	Fluoranthene	5.2E-03	6.4E-02	1	3.3E-04	4.0E-01	8E-04	5.2E-03	5.5E-03	1	2.9E-05	NA	NA
44	Fluorene	0.0E+00	6.4E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	5.5E-03	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03	5.2E-03	5.5E-03	1	2.9E-05	1.2E+01	3E-04
46	Naphthalene	5.2E-03	6.4E-02	1	3.3E-04	4.0E-02	8E-03	5.2E-03	5.5E-03	1	2.9E-05	NA	NA
47	Phenanthrene	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03	5.2E-03	5.5E-03	1	2.9E-05	NA	NA
48	Phenol	5.2E-03	6.4E-02	1	3.3E-04	6.0E-01	6E-04	5.2E-03	5.5E-03	1	2.9E-05	NA	NA
49	Pyrene	5.2E-03	6.4E-02	1	3.3E-04	3.0E-01	1E-03	5.2E-03	5.5E-03	1	2.9E-05	NA	NA
50	4,4-DDE	5.0E-05	6.4E-02	1	3.2E-06	NA	NA	5.0E-05	5.5E-03	1	2.8E-07	3.4E-01	9E-08
51	4,4-DDT	5.0E-05	6.4E-02	1	3.2E-06	5.0E-04	6E-03	5.0E-05	5.5E-03	1	2.8E-07	3.4E-01	9E-08
52	Aldrin	2.5E-05	6.4E-02	1	1.6E-06	3.0E-05	5E-02	2.5E-05	5.5E-03	1	1.4E-07	1.7E+01	2E-06
53	alpha-Chlordan	2.4E-04	6.4E-02	1	1.5E-05	6.0E-05	3E-01	2.4E-04	5.5E-03	1	1.3E-06	1.3E+00	2E-06
54	Aroclor-1248	0.0E+00	6.4E-02	1	0.0E+00	NA	NA	0.0E+00	5.5E-03	1	0.0E+00	7.7E+00	0E+00
55	beta-BHC	2.5E-05	6.4E-02	1	1.6E-06	NA	NA	2.5E-05	5.5E-03	1	1.4E-07	1.8E+00	2E-07
56	Dieldrin	5.0E-05	6.4E-02	1	3.2E-06	5.0E-05	6E-02	5.0E-05	5.5E-03	1	2.8E-07	1.6E+01	4E-06
57	Endosulfan II	5.0E-05	6.4E-02	1	3.2E-06	2.0E-04	2E-02	5.0E-05	5.5E-03	1	2.8E-07	NA	NA
58	gamma-Chlordan	2.4E-04	6.4E-02	1	1.5E-05	6.0E-05	3E-01	2.4E-04	5.5E-03	1	1.3E-06	1.3E+00	2E-06
59	Heptachlor	2.5E-05	6.4E-02	1	1.6E-06	5.0E-04	3E-03	2.5E-05	5.5E-03	1	1.4E-07	4.5E+00	6E-07
60	Antimony, Tota	3.5E-02	6.4E-02	1	2.2E-03	4.0E-04	6E+00	3.5E-02	5.5E-03	1	1.9E-04	NA	NA
61	Arsenic, Total	6.7E-03	6.4E-02	1	4.3E-04	3.0E-04	1E+00	6.7E-03	5.5E-03	1	3.7E-05	1.8E+00	7E-05
62	Barium, Total	2.0E-01	6.4E-02	1	1.3E-02	7.0E-02	2E-01	2.0E-01	5.5E-03	1	1.1E-03	NA	NA
63	Beryllium, Tot	2.0E-03	6.4E-02	1	1.3E-04	5.0E-03	3E-02	2.0E-03	5.5E-03	1	1.1E-05	4.3E+00	5E-05
64	Cadmium, Total	0.0E+00	6.4E-02	1	0.0E+00	NA	NA	0.0E+00	5.5E-03	1	0.0E+00	NA	NA
65	Cadmium, Total	2.4E-03	6.4E-02	1	1.5E-04	NA	NA	2.4E-03	5.5E-03	1	1.3E-05	NA	NA
66	Chromium, Tota	8.1E-03	6.4E-02	1	5.2E-04	2.0E-02	3E-02	8.1E-03	5.5E-03	1	4.4E-05	NA	NA
67	Mercury, Total	1.0E-04	6.4E-02	1	6.4E-06	3.0E-04	2E-02	1.0E-04	5.5E-03	1	5.5E-07	NA	NA
68	Nickel, Total	1.4E-02	6.4E-02	1	9.2E-04	2.0E-02	5E-02	1.4E-02	5.5E-03	1	7.9E-05	NA	NA
69	Silver, Total	7.9E-03	6.4E-02	1	5.1E-04	5.0E-03	1E-01	7.9E-03	5.5E-03	1	4.4E-05	NA	NA
70	Thallium, Tota	0.0E+00	6.4E-02	1	0.0E+00	7.0E-04	0E+00	0.0E+00	5.5E-03	1	0.0E+00	NA	NA
71	Vanadium, Tota	1.1E-02	6.4E-02	1	7.0E-04	7.0E-03	1.0E-01	1.1E-02	5.5E-03	1	6.0E-05	NA	NA
72	Cyanide, Total	5.0E-03	6.4E-02	1	3.2E-04	2.0E-02	2E-02	5.0E-03	5.5E-03	1	2.8E-05	NA	NA
73	Nitrogen, Nitr	4.8E-01	6.4E-02	1	3.1E-02	1.0E-01	3E-01	4.8E-01	5.5E-03	1	2.6E-03	NA	NA

RANGE NAME: WS3

SITE NAME: NIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP2
LAST UPDATED: 07/23/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (D)
ROUTE: DERMAL

NIFs = 1.1E-01
NIFc = 0.0E+00
NIFl = 9.3E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	NIFs	P	DIs	RfDd	BQs	Cc	NIFc	P	DIc	RfDC	BQc	Cl	NIFl	P	DIl	SF	RISK
1	1,1,1-Trichlor	4.6E-03	1.1E-01	1.7E-02	8.5E-06	9.0E-01	9E-06		0.0E+00		0.0E+00		ERR	4.6E-03	9.3E-02	1.7E-02	7.2E-06	NA	NA
2	1,1-Dichloroet	4.6E-03	1.1E-01	8.9E-03	4.5E-06	1.0E+00	4E-06							4.6E-03	9.3E-02	8.9E-03	3.8E-06	NA	NA
3	1,1-Dichloroet	4.6E-03	1.1E-01	1.6E-02	8.0E-06	9.0E-03	9E-04							4.6E-03	9.3E-02	1.6E-02	6.8E-06	6.0E-01	4E-06
4	1,2-Dichloroet	4.6E-03	1.1E-01	1.0E-02	5.0E-06	1.0E-01	5E-05							4.6E-03	9.3E-02	1.0E-02	4.2E-06	NA	NA
5	2-Butanone	5.0E-03	1.1E-01	1.1E-03	6.1E-07	5.0E-01	1E-06							5.0E-03	9.3E-02	1.1E-03	5.1E-07	NA	NA
6	4-Methyl-2-pen	5.0E-03	1.1E-01	2.8E-03	1.5E-06	5.0E-01	3E-06							5.0E-03	9.3E-02	2.8E-03	1.3E-06	NA	NA
7	Acetone	5.0E-03	1.1E-01	5.7E-04	3.1E-07	1.0E+00	3E-07							5.0E-03	9.3E-02	5.7E-04	2.7E-07	NA	NA
8	Benzene	4.6E-03	1.1E-01	2.1E-02	1.1E-05	NA	NA							4.6E-03	9.3E-02	2.1E-02	8.9E-06	2.9E-02	3E-07
9	Bromodichlorom	4.6E-03	1.1E-01	5.8E-03	2.9E-06	2.0E-02	1E-04							4.6E-03	9.3E-02	5.8E-03	2.5E-06	1.3E-01	3E-07
10	Carbon Disulfi	4.6E-03	1.1E-01	2.4E-02	1.2E-05	1.0E-01	1E-04							4.6E-03	9.3E-02	2.4E-02	1.0E-05	NA	NA
11	Chlorobenzene	4.6E-03	1.1E-01	4.1E-02	2.1E-05	2.0E-01	1E-04							4.6E-03	9.3E-02	4.1E-02	1.7E-05	NA	NA
12	Chloroform	4.1E-03	1.1E-01	8.9E-03	4.0E-06	1.0E-02	4E-04							4.1E-03	9.3E-02	8.9E-03	3.4E-06	6.1E-03	2E-08
13	Ethyl Benzene	4.6E-03	1.1E-01	7.4E-02	3.7E-05	1.0E+00	4E-05							4.6E-03	9.3E-02	7.4E-02	3.1E-05	NA	NA
14	Methylene Chlo	4.9E-03	1.1E-01	4.5E-03	2.4E-06	6.0E-02	4E-05							4.9E-03	9.3E-02	4.5E-03	2.1E-06	7.5E-03	2E-08
15	Styrene	4.6E-03	1.1E-01	5.5E-02	2.8E-05	2.0E+00	1E-05							4.6E-03	9.3E-02	5.5E-02	2.3E-05	3.0E-02	7E-07
16	Tetrachloroeth	4.6E-03	1.1E-01	4.8E-02	2.4E-05	1.0E-01	2E-04							4.6E-03	9.3E-02	4.8E-02	2.0E-05	5.1E-02	1E-06
17	Toluene	4.6E-03	1.1E-01	4.5E-02	2.3E-05	2.0E+00	1E-05							4.6E-03	9.3E-02	4.5E-02	1.9E-05	NA	NA
18	Trichloroethen	4.6E-03	1.1E-01	1.6E-02	8.0E-06	NA	NA							4.6E-03	9.3E-02	1.6E-02	6.8E-06	1.1E-02	7E-08
19	Vinyl Chloride	5.0E-03	1.1E-01	7.0E-03	3.9E-06	NA	NA							5.0E-03	9.3E-02	7.0E-03	3.3E-06	1.9E+00	6E-06
20	Xylenes (Total	4.6E-03	1.1E-01	8.0E-02	4.0E-05	4.0E+00	1E-05							4.6E-03	9.3E-02	8.0E-02	3.4E-05	NA	NA
21	1,4-Dichlorobe	5.2E-03	1.1E-01	6.2E-02	3.6E-05	NA	NA							5.2E-03	9.3E-02	6.2E-02	3.0E-05	2.4E-02	7E-07
22	2,4-Dimethylph	5.2E-03	1.1E-01	1.5E-02	8.6E-06	2.0E-01	4E-05							5.2E-03	9.3E-02	1.5E-02	7.3E-06	NA	NA
23	2-Methylnaphth	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
24	2-Methylphenol	5.2E-03	1.1E-01	1.0E-02	5.7E-06	5.0E-01	1E-05							5.2E-03	9.3E-02	1.0E-02	4.8E-06	NA	NA
25	Acenaphthene	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
26	Acenaphthylene	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
27	Anthracene	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
28	Benzo(a)anthra	0.0E+00	1.1E-01	NA	NA	NA	NA							0.0E+00	9.3E-02	NA	NA	NA	NA
29	Benzo(a)pyrene	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
30	Benzo(b)fluora	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
31	Benzo(g,h,i)pe	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
32	Benzo(k)fluora	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
33	Benzoic acid	2.7E-02	1.1E-01	7.3E-03	2.1E-05	4.0E+00	5E-06							2.7E-02	9.3E-02	7.3E-03	1.8E-05	NA	NA
34	Benzyl alcohol	5.4E-03	1.1E-01	2.5E-03	1.5E-06	1.0E+00	1E-06							5.4E-03	9.3E-02	2.5E-03	1.3E-06	NA	NA
35	bis(2-Ethylhex	3.0E-03	1.1E-01	3.3E-02	1.1E-05	2.0E-02	5E-04							3.0E-03	9.3E-02	3.3E-02	9.2E-06	1.4E-02	1E-07
36	Butylbenzylpht	5.2E-03	1.1E-01	2.4E-02	1.4E-05	2.0E+00	7E-06							5.2E-03	9.3E-02	2.4E-02	1.2E-05	NA	NA
37	Chrysene	5.2E-03	1.1E-01	NA	NA	NA	NA							5.2E-03	9.3E-02	NA	NA	NA	NA
38	Di-n-butylphth	5.2E-03	1.1E-01	4.9E-02	2.8E-05	1.0E+00	3E-05							5.2E-03	9.3E-02	4.9E-02	2.4E-05	NA	NA
39	Di-n-octylphth	5.2E-03	1.1E-01	7.2E-03	4.1E-06	2.0E-02	2E-04							5.2E-03	9.3E-02	7.2E-03	3.5E-06	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.1E-01	NA	NA	NA	NA	0.0E+00	9.3E-02	NA	NA	NA	NA
41	Diethylphthala	5.2E-03	1.1E-01	4.8E-03	2.8E-06	8.0E+00	3E-07	5.2E-03	9.3E-02	4.8E-03	2.3E-06	NA	NA
42	Dimethylphthal	5.2E-03	1.1E-01	1.6E-03	9.2E-07	1.0E+00	9E-07	5.2E-03	9.3E-02	1.6E-03	7.8E-07	NA	NA
43	Fluoranthene	5.2E-03	1.1E-01	NA	NA	NA	NA	5.2E-03	9.3E-02	NA	NA	NA	NA
44	Fluorene	0.0E+00	1.1E-01	NA	NA	NA	NA	0.0E+00	9.3E-02	NA	NA	NA	NA
45	Indeno(1,2,3-c	5.2E-03	1.1E-01	NA	NA	NA	NA	5.2E-03	9.3E-02	NA	NA	NA	NA
46	Naphthalene	5.2E-03	1.1E-01	NA	NA	NA	NA	5.2E-03	9.3E-02	NA	NA	NA	NA
47	Phenanthrene	5.2E-03	1.1E-01	NA	NA	NA	NA	5.2E-03	9.3E-02	NA	NA	NA	NA
48	Phenol	5.2E-03	1.1E-01	5.5E-03	3.2E-06	6.0E-01	5E-06	5.2E-03	9.3E-02	5.5E-03	2.7E-06	NA	NA
49	Pyrene	5.2E-03	1.1E-01	NA	NA	NA	NA	5.2E-03	9.3E-02	NA	NA	NA	NA
50	4,4-DDE	5.0E-05	1.1E-01	2.4E-01	1.3E-06	NA	NA	5.0E-05	9.3E-02	2.4E-01	1.1E-06	3.4E-01	4E-07
51	4,4-DDT	5.0E-05	1.1E-01	4.3E-01	2.4E-06	5.0E-04	5E-03	5.0E-05	9.3E-02	4.3E-01	2.0E-06	3.4E-01	7E-07
52	Aldrin	2.5E-05	1.1E-01	1.6E-03	4.4E-09	3.0E-05	1E-04	2.5E-05	9.3E-02	1.6E-03	3.7E-09	1.7E+01	6E-08
53	alpha-Chlordan	2.4E-04	1.1E-01	8.9E+00	2.4E-04	6.0E-05	4E+00	2.4E-04	9.3E-02	8.9E+00	2.0E-04	1.3E+00	3E-04
54	Aroclor-1248	0.0E+00	1.1E-01	6.6E-01	0.0E+00	NA	NA	0.0E+00	9.3E-02	6.6E-01	0.0E+00	7.7E+00	0E+00
55	beta-BHC	2.5E-05	1.1E-01	2.1E-02	5.8E-08	NA	NA	2.5E-05	9.3E-02	2.1E-02	4.9E-08	1.8E+00	9E-08
56	Dieldrin	5.0E-05	1.1E-01	1.6E-02	8.8E-08	5.0E-05	2E-03	5.0E-05	9.3E-02	1.6E-02	7.4E-08	1.6E+01	1E-06
57	Endosulfan II	5.0E-05	1.1E-01	2.3E-03	1.3E-08	2.0E-04	6E-05	5.0E-05	9.3E-02	2.3E-03	1.1E-08	NA	NA
58	gamma-Chlordan	2.4E-04	1.1E-01	9.8E-02	2.6E-06	6.0E-05	4E-02	2.4E-04	9.3E-02	9.8E-02	2.2E-06	1.3E+00	3E-06
59	Heptachlor	2.5E-05	1.1E-01	1.1E-02	3.0E-08	5.0E-04	6E-05	2.5E-05	9.3E-02	1.1E-02	2.6E-08	4.5E+00	1E-07
60	Antimony, Tota	3.5E-02	1.1E-01	1.0E-03	3.9E-06	2.0E-05	2E-01	3.5E-02	9.3E-02	1.0E-03	3.3E-06	NA	NA
61	Arsenic, Total	6.7E-03	1.1E-01	1.0E-03	7.4E-07	3.0E-04	2E-03	6.7E-03	9.3E-02	1.0E-03	6.3E-07	1.8E+00	1E-06
62	Barium, Total	2.0E-01	1.1E-01	1.0E-03	2.2E-05	7.0E-03	3E-03	2.0E-01	9.3E-02	1.0E-03	1.9E-05	NA	NA
63	Beryllium, Tot	2.0E-03	1.1E-01	1.0E-03	2.2E-07	5.0E-06	4E-02	2.0E-03	9.3E-02	1.0E-03	1.9E-07	4.3E+03	8E-04
64	Cadmium, Total	0.0E+00	1.1E-01	1.0E-03	0.0E+00	NA	NA	0.0E+00	9.3E-02	1.0E-03	0.0E+00	NA	NA
65	Cadmium, Total	2.4E-03	1.1E-01	1.0E-03	2.6E-07	NA	NA	2.4E-03	9.3E-02	1.0E-03	2.2E-07	NA	NA
66	Chromium, Tota	8.1E-03	1.1E-01	1.0E-03	8.9E-07	1.0E-03	9E-04	8.1E-03	9.3E-02	1.0E-03	7.5E-07	NA	NA
67	Mercury, Total	1.0E-04	1.1E-01	1.0E-03	1.1E-08	4.5E-05	2E-04	1.0E-04	9.3E-02	1.0E-03	9.3E-09	NA	NA
68	Nickel, Total	1.4E-02	1.1E-01	1.0E-03	1.6E-06	1.0E-03	2E-03	1.4E-02	9.3E-02	1.0E-03	1.3E-06	NA	NA
69	Silver, Total	7.9E-03	1.1E-01	1.0E-03	8.7E-07	2.5E-04	3E-03	7.9E-03	9.3E-02	1.0E-03	7.4E-07	NA	NA
70	Thallium, Tota	0.0E+00	1.1E-01	1.0E-03	0.0E+00	3.5E-05	0E+00	0.0E+00	9.3E-02	1.0E-03	0.0E+00	NA	NA
71	Vanadium, Tota	1.1E-02	1.1E-01	1.0E-03	1.2E-06	1.4E-04	9E-03	1.1E-02	9.3E-02	1.0E-03	1.0E-06	NA	NA
72	Cyanide, Total	5.0E-03	1.1E-01	1.0E-03	5.5E-07	2.0E-02	3E-05	5.0E-03	9.3E-02	1.0E-03	4.7E-07	NA	NA
73	Nitrogen, Nitr	4.8E-01	1.1E-01	1.0E-03	5.3E-05	1.0E-01	5E-04	4.8E-01	9.3E-02	1.0E-03	4.5E-05	NA	NA

RANGE NAME: WS4

SITE NAME: SIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP2
LAST UPDATED: 07/23/92

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RESIDENT CHILD (SL)

EXPOSURE POINT: RESIDENCE (S. LF.
MEDIUM: GWATER (INH, D)
ROUTE: INHALATION

HIFs = 1.3E-01
HIFc = 0.0E+00
HIFl = 1.1E-02

		SUBCHRONIC						CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	1,1,1-Trichlor	4.6E-03	1.3E-01	1	5.9E-04	3.0E+00	2E-04		0.0E+00		0.0E+00		ERR	4.6E-03	1.1E-02	1	5.0E-05	NA	NA
2	1,1-Dichloroet	4.6E-03	1.3E-01	1	5.9E-04	1.0E+00	6E-04							4.6E-03	1.1E-02	1	5.0E-05	NA	NA
3	1,1-Dichloroet	4.6E-03	1.3E-01	1	5.9E-04	NA	NA							4.6E-03	1.1E-02	1	5.0E-05	1.8E-01	9E-06
4	1,2-Dichloroet	4.6E-03	1.3E-01	1	5.9E-04	NA	NA							4.6E-03	1.1E-02	1	5.0E-05	NA	NA
5	2-Butanone	5.0E-03	1.3E-01	1	6.5E-04	9.0E-01	7E-04							5.0E-03	1.1E-02	1	5.5E-05	NA	NA
6	4-Methyl-2-pen	5.0E-03	1.3E-01	1	6.5E-04	2.0E-01	3E-03							5.0E-03	1.1E-02	1	5.5E-05	NA	NA
7	Acetone	5.0E-03	1.3E-01	1	6.5E-04	NA	NA							5.0E-03	1.1E-02	1	5.5E-05	NA	NA
8	Benzene	4.6E-03	1.3E-01	1	5.9E-04	NA	NA							4.6E-03	1.1E-02	1	5.0E-05	2.9E-02	1E-06
9	Bromodichlorom	4.6E-03	1.3E-01	1	5.9E-04	NA	NA							4.6E-03	1.1E-02	1	5.0E-05	NA	NA
10	Carbon Disulfi	4.6E-03	1.3E-01	1	5.9E-04	2.9E-03	2E-01							4.6E-03	1.1E-02	1	5.0E-05	NA	NA
11	Chlorobenzene	4.6E-03	1.3E-01	1	5.9E-04	5.0E-02	1E-02							4.6E-03	1.1E-02	1	5.0E-05	NA	NA
12	Chloroform	4.1E-03	1.3E-01	1	5.3E-04	NA	NA							4.1E-03	1.1E-02	1	4.5E-05	8.1E-02	4E-06
13	Ethyl Benzene	4.6E-03	1.3E-01	1	5.9E-04	2.9E-01	2E-03							4.6E-03	1.1E-02	1	5.0E-05	NA	NA
14	Methylene Chlo	4.9E-03	1.3E-01	1	6.4E-04	8.6E-01	7E-04							4.9E-03	1.1E-02	1	5.4E-05	1.6E-03	9E-08
15	Styrene	4.6E-03	1.3E-01	1	5.9E-04	NA	NA							4.6E-03	1.1E-02	1	5.0E-05	2.0E-03	1E-07
16	Tetrachloroeth	4.6E-03	1.3E-01	1	5.9E-04	NA	NA							4.6E-03	1.1E-02	1	5.0E-05	1.8E-03	9E-08
17	Toluene	4.6E-03	1.3E-01	1	5.9E-04	5.7E-01	1E-03							4.6E-03	1.1E-02	1	5.0E-05	NA	NA
18	Trichloroethen	4.6E-03	1.3E-01	1	5.9E-04	NA	NA							4.6E-03	1.1E-02	1	5.0E-05	6.0E-03	3E-07
19	Vinyl Chloride	5.0E-03	1.3E-01	1	6.5E-04	NA	NA							5.0E-03	1.1E-02	1	5.5E-05	2.9E-01	2E-05
20	Xylenes (Total	4.6E-03	1.3E-01	1	5.9E-04	8.6E-02	7E-03							4.6E-03	1.1E-02	1	5.0E-05	NA	NA
21	1,4-Dichlorobe	0.0E+00	1.3E-01	1	0.0E+00	2.0E-01	0E+00							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
22	2,4-Dimethylph	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
23	2-Methylnaphth	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
24	2-Methylphenol	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
25	Acenaphthene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
26	Acenaphthylene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
27	Anthracene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
28	Benzo(a)anthra	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
29	Benzo(a)pyrene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
30	Benzo(b)fluora	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
31	Benzo(g,h,i)pe	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
32	Benzo(k)fluora	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
33	Benzoic acid	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
34	Benzyl alcohol	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
35	bis(2-Ethylhex	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
36	Butylbenzylpht	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
37	Chrysene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
38	Di-n-butylphth	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA
39	Di-n-octylphth	0.0E+00	1.3E-01	1	0.0E+00	NA	NA							0.0E+00	1.1E-02	1	0.0E+00	NA	NA

40	Dibenzo(a,h)an	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
41	Diethylphthala	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
42	Dimethylphthal	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
43	Fluoranthene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
44	Fluorene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
45	Indeno(1,2,3-c	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.1E+00	0E+00
46	Naphthalene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
47	Phenanthrene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
48	Phenol	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
49	Pyrene	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
50	4,4-DDE	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
51	4,4-DDT	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	3.4E-01	0E+00
52	Aldrin	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.7E+01	0E+00
53	alpha-Chlordan	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.3E+00	0E+00
54	Aroclor-1248	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
55	beta-BHC	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.8E+00	0E+00
56	Dieldrin	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.6E+01	0E+00
57	Endosulfan II	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
58	gamma-Chlordan	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.3E+00	0E+00
59	Heptachlor	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	4.6E+00	0E+00
60	Antimony, Tota	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
61	Arsenic, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	1.5E+01	0E+00
62	Barium, Total	0.0E+00	1.3E-01	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
63	Beryllium, Tot	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	8.4E+00	0E+00
64	Cadmium, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.3E+00	0E+00
65	Cadmium, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	6.3E+00	0E+00
66	Chromium, Tota	0.0E+00	1.3E-01	1	0.0E+00	5.7E-06	0E+00	0.0E+00	1.1E-02	1	0.0E+00	4.2E+01	0E+00
67	Mercury, Total	0.0E+00	1.3E-01	1	0.0E+00	8.6E-05	0E+00	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
68	Nickel, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
69	Silver, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
70	Thallium, Tota	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
71	Vanadium, Tota	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
72	Cyanide, Total	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA
73	Nitrogen, Nitr	0.0E+00	1.3E-01	1	0.0E+00	NA	NA	0.0E+00	1.1E-02	1	0.0E+00	NA	NA

RANGE NAME: SSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP2
LAST UPDATED: 07/23/92

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT CHILD (SL)

SUBCHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (D) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (D) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	2.9E-04	8.5E-06	5.9E-04	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	2.9E-04	4.5E-06	5.9E-04		
3	1,1-Dichloroet	0.0E+00	2.9E-04	8.0E-06	5.9E-04		
4	1,2-Dichloroet	0.0E+00	2.9E-04	5.0E-06	5.9E-04		
5	2-Butanone	0.0E+00	3.2E-04	6.1E-07	6.5E-04		
6	4-Methyl-2-pen	0.0E+00	3.2E-04	1.5E-06	6.5E-04		
7	Acetone	0.0E+00	3.2E-04	3.1E-07	6.5E-04		
8	Benzene	0.0E+00	2.9E-04	1.1E-05	5.9E-04		
9	Bromodichlorom	0.0E+00	2.9E-04	2.9E-06	5.9E-04		
10	Carbon Disulfi	0.0E+00	2.9E-04	1.2E-05	5.9E-04		
11	Chlorobenzene	0.0E+00	2.9E-04	2.1E-05	5.9E-04		
12	Chloroform	0.0E+00	2.6E-04	4.0E-06	5.3E-04		
13	Ethyl Benzene	0.0E+00	2.9E-04	3.7E-05	5.9E-04		
14	Methylene Chlo	5.2E-08	3.1E-04	2.4E-06	6.4E-04		
15	Styrene	0.0E+00	2.9E-04	2.8E-05	5.9E-04		
16	Tetrachloroeth	7.0E-08	2.9E-04	2.4E-05	5.9E-04		
17	Toluene	1.0E-07	2.9E-04	2.3E-05	5.9E-04		
18	Trichloroethen	5.2E-08	2.9E-04	8.0E-06	5.9E-04		
19	Vinyl Chloride	0.0E+00	3.2E-04	3.9E-06	6.5E-04		
20	Xylenes (Total	2.6E-08	2.9E-04	4.0E-05	5.9E-04		
21	1,4-Dichlorobe	0.0E+00	3.3E-04	3.6E-05	0.0E+00		
22	2,4-Dimethylph	0.0E+00	3.3E-04	8.6E-06	0.0E+00		
23	2-Methylnaphth	2.3E-07	0.0E+00	NA	0.0E+00		
24	2-Methylphenol	0.0E+00	3.3E-04	5.7E-06	0.0E+00		
25	Acenaphthene	4.0E-06	0.0E+00	NA	0.0E+00		
26	Acenaphthylene	2.4E-05	3.3E-04	NA	0.0E+00		
27	Anthracene	1.9E-05	0.0E+00	NA	0.0E+00		
28	Benzo(a)anthra	5.8E-05	0.0E+00	NA	0.0E+00		
29	Benzo(a)pyrene	3.8E-05	3.3E-04	NA	0.0E+00		
30	Benzo(b)fluora	1.2E-04	3.3E-04	NA	0.0E+00		
31	Benzo(g,h,i)pe	2.0E-05	3.3E-04	NA	0.0E+00		
32	Benzo(k)fluora	5.9E-05	3.3E-04	NA	0.0E+00		
33	Benzoic acid	0.0E+00	1.7E-03	2.1E-05	0.0E+00		
34	Benzyl alcohol	0.0E+00	3.5E-04	1.5E-06	0.0E+00		
35	bis(2-Ethylhex	3.0E-06	1.9E-04	1.1E-05	0.0E+00		
36	Butylbenzylpht	3.1E-06	3.3E-04	1.4E-05	0.0E+00		
37	Chrysene	8.3E-05	3.3E-04	NA	0.0E+00		
38	Di-n-butylphth	0.0E+00	3.3E-04	2.8E-05	0.0E+00		
39	Di-n-octylphth	1.8E-06	3.3E-04	4.1E-06	0.0E+00		
40	Dibenzo(a,h)an	1.00E-05	0.0E+00	NA	0.0E+00		
41	Diethylphthala	0.0E+00	3.3E-04	2.8E-06	0.0E+00		
42	Dimethylphthal	5.5E-07	3.3E-04	9.2E-07	0.0E+00		

SUBCHRONIC RISK SUMMARY

FUTURE
RESIDENT CHILD (SL)

SUBCHRONIC HAZARD QUOTIENT

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (D) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (D) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 0 0 (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	1,1,1-Trichlor	0E+00	3E-04	9E-06	2E-04	0E+00	0E+00
2	1,1-Dichloroet	0E+00	3E-04	4E-06	6E-04		
3	1,1-Dichloroet	0E+00	3E-02	9E-04	NA		
4	1,2-Dichloroet	0E+00	3E-03	5E-05	NA		
5	2-Butanone	0E+00	6E-04	1E-06	7E-04		
6	4-Methyl-2-pen	0E+00	6E-04	3E-06	3E-03		
7	Acetone	0E+00	3E-04	3E-07	NA		
8	Benzene	NA	NA	NA	NA		
9	Bromodichlorom	0E+00	1E-02	1E-04	NA		
10	Carbon Disulfi	0E+00	3E-03	1E-04	2E-01		
11	Chlorobenzene	0E+00	1E-03	1E-04	1E-02		
12	Chloroform	0E+00	3E-02	4E-04	NA		
13	Ethyl Benzene	0E+00	3E-04	4E-05	2E-03		
14	Methylene Chlo	9E-07	5E-03	4E-05	7E-04		
15	Styrene	0E+00	1E-04	1E-05	NA		
16	Tetrachloroeth	7E-07	3E-03	2E-04	NA		
17	Toluene	5E-08	1E-04	1E-05	1E-03		
18	Trichloroethen	NA	NA	NA	NA		
19	Vinyl Chloride	NA	NA	NA	NA		
20	Xylenes (Total	6E-09	7E-05	1E-05	7E-03		
21	1,4-Dichlorobe	NA	NA	NA	0E+00		
22	2,4-Dimethylph	0E+00	2E-03	4E-05	NA		
23	2-Methylnaphth	6E-06	0E+00	NA	NA		
24	2-Methylphenol	0E+00	7E-04	1E-05	NA		
25	Acenaphthene	7E-06	0E+00	NA	NA		
26	Acenaphthylene	4E-05	6E-04	NA	NA		
27	Anthracene	6E-06	0E+00	NA	NA		
28	Benzo(a)anthra	2E-04	0E+00	NA	NA		
29	Benzo(a)pyrene	1E-04	1E-03	NA	NA		
30	Benzo(b)fluora	4E-04	1E-03	NA	NA		
31	Benzo(g,h,i)pe	7E-05	1E-03	NA	NA		
32	Benzo(k)fluora	2E-04	1E-03	NA	NA		
33	Benzoic acid	0E+00	4E-04	5E-06	NA		
34	Benzyl alcohol	0E+00	3E-04	1E-06	NA		
35	bis(2-Ethylhex	1E-06	1E-02	5E-04	NA		
36	Butylbenzylpht	2E-06	2E-04	7E-06	NA		
37	Chrysene	3E-04	1E-03	NA	NA		
38	Di-n-butylphth	0E+00	3E-04	3E-05	NA		
39	Di-n-octylphth	9E-05	2E-02	2E-04	NA		
40	Dibenzo(a,h)an	3E-05	0E+00	NA	NA		
41	Diethylphthala	0E+00	4E-05	3E-07	NA		
42	Dimethylphthal	5E-07	3E-04	9E-07	NA		

43 Fluoranthene	1.4E-04	3.3E-04	NA	0.0E+00		4E-04	8E-04	NA	NA	
44 Fluorene	8.8E-06	0.0E+00	NA	0.0E+00		2E-05	0E+00	NA	NA	
45 Indeno(1,2,3-c	2.8E-05	3.3E-04	NA	0.0E+00		9E-05	1E-03	NA	NA	
46 Naphthalene	2.3E-07	3.3E-04	NA	0.0E+00		6E-06	8E-03	NA	NA	
47 Phenanthrene	5.4E-05	3.3E-04	NA	0.0E+00		2E-04	1E-03	NA	NA	
48 Phenol	0.0E+00	3.3E-04	3.2E-06	0.0E+00		0E+00	6E-04	5E-06	NA	
49 Pyrene	6.9E-05	3.3E-04	NA	0.0E+00		2E-04	1E-03	NA	NA	
50 4,4-DDE	5.3E-08	3.2E-06	1.3E-06	0.0E+00		NA	NA	NA	NA	
51 4,4-DDT	3.7E-07	3.2E-06	2.4E-06	0.0E+00		7E-04	6E-03	5E-03	NA	
52 Aldrin	0.0E+00	1.6E-06	4.4E-09	0.0E+00		0E+00	5E-02	1E-04	NA	
53 alpha-Chlordan	0.0E+00	1.5E-05	2.4E-04	0.0E+00		0E+00	3E-01	4E+00	NA	
54 Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA	
55 beta-BHC	0.0E+00	1.6E-06	5.8E-08	0.0E+00		NA	NA	NA	NA	
56 Dieldrin	0.0E+00	3.2E-06	8.8E-08	0.0E+00		0E+00	6E-02	2E-03	NA	
57 Endosulfan II	0.0E+00	3.2E-06	1.3E-08	0.0E+00		0E+00	2E-02	6E-05	NA	
58 gamma-Chlordan	0.0E+00	1.5E-05	2.6E-06	0.0E+00		0E+00	3E-01	4E-02	NA	
59 Heptachlor	0.0E+00	1.6E-06	3.0E-08	0.0E+00		0E+00	3E-03	6E-05	NA	
60 Antimony, Tota	3.9E-05	2.2E-03	3.9E-06	0.0E+00		1E-01	6E+00	2E-01	NA	
61 Arsenic, Total	8.9E-05	4.3E-04	7.4E-07	0.0E+00		3E-01	1E+00	2E-03	NA	
62 Barium, Total	9.5E-04	1.3E-02	2.2E-05	0.0E+00		1E-02	2E-01	3E-03	0E+00	
63 Beryllium, Tot	7.0E-06	1.3E-04	2.2E-07	0.0E+00		1E-03	3E-02	4E-02	NA	
64 Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA	
65 Cadmium, Total	0.0E+00	1.5E-04	2.6E-07	0.0E+00		NA	NA	NA	NA	
66 Chromium, Tota	1.3E-04	5.2E-04	8.9E-07	0.0E+00		6E-03	3E-02	9E-04	0E+00	
67 Mercury, Total	3.7E-06	6.4E-06	1.1E-08	0.0E+00		1E-02	2E-02	2E-04	0E+00	
68 Nickel, Total	1.6E-04	9.2E-04	1.6E-06	0.0E+00		8E-03	5E-02	2E-03	NA	
69 Silver, Total	0.0E+00	5.1E-04	8.7E-07	0.0E+00		0E+00	1E-01	3E-03	NA	
70 Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	0E+00	NA	
71 Vanadium, Tota	1.4E-04	7.0E-04	1.2E-06	0.0E+00		2E-02	1E-01	9E-03	NA	
72 Cyanide, Total	1.3E-04	3.2E-04	5.5E-07	0.0E+00		7E-03	2E-02	3E-05	NA	
73 Nitrogen, Nitr	0.0E+00	3.1E-02	5.3E-05	0.0E+00		0E+00	3E-01	5E-04	NA	
					PATHWAY SUM (HI)	5E-01	9E+00	4E+00	2E-01	0E+00 0E+00
					POPULATION TOTAL	1E+01				

RANGE NAME: LSUM

SITE NAME: HIMCO
OPERABLE UNIT: DISK 3
FILE NAME: POP2
LAST UPDATED: 07/23/92

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT CHILD (SL)

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (D) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (D) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 (FROM WS5)	SCENARIO 6 0 (FROM WS6)
1	1,1,1-Trichlor	0.0E+00	2.5E-05	7.2E-06	5.0E-05	0.0E+00	0.0E+00
2	1,1-Dichloroet	0.0E+00	2.5E-05	3.8E-06	5.0E-05		
3	1,1-Dichloroet	0.0E+00	2.5E-05	6.8E-06	5.0E-05		
4	1,2-Dichloroet	0.0E+00	2.5E-05	4.2E-06	5.0E-05		
5	2-Butanone	0.0E+00	2.8E-05	5.1E-07	5.5E-05		
6	4-Methyl-2-pen	0.0E+00	2.8E-05	1.3E-06	5.5E-05		
7	Acetone	0.0E+00	2.8E-05	2.7E-07	5.5E-05		
8	Benzene	0.0E+00	2.5E-05	8.9E-06	5.0E-05		
9	Bromodichlorom	0.0E+00	2.5E-05	2.5E-06	5.0E-05		
10	Carbon Disulfi	0.0E+00	2.5E-05	1.0E-05	5.0E-05		
11	Chlorobenzene	0.0E+00	2.5E-05	1.7E-05	5.0E-05		
12	Chloroform	0.0E+00	2.3E-05	3.4E-06	4.5E-05		
13	Ethyl Benzene	0.0E+00	2.5E-05	3.1E-05	5.0E-05		
14	Methylene Chlo	4.4E-09	2.7E-05	2.1E-06	5.4E-05		
15	Styrene	0.0E+00	2.5E-05	2.3E-05	5.0E-05		
16	Tetrachloroeth	5.9E-09	2.5E-05	2.0E-05	5.0E-05		
17	Toluene	8.9E-09	2.5E-05	1.9E-05	5.0E-05		
18	Trichloroethen	4.4E-09	2.5E-05	6.8E-06	5.0E-05		
19	Vinyl Chloride	0.0E+00	2.8E-05	3.3E-06	5.5E-05		
20	Xylenes (Total	2.2E-09	2.5E-05	3.4E-05	5.0E-05		
21	1,4-Dichlorobe	0.0E+00	2.9E-05	3.0E-05	0.0E+00		
22	2,4-Dimethylph	0.0E+00	2.9E-05	7.3E-06	0.0E+00		
23	2-Methylnaphth	2.0E-08	0.0E+00	NA	0.0E+00		
24	2-Methylphenol	0.0E+00	2.9E-05	4.8E-06	0.0E+00		
25	Acenaphthene	3.4E-07	0.0E+00	NA	0.0E+00		
26	Acenaphthylene	2.0E-06	2.9E-05	NA	0.0E+00		
27	Anthracene	1.6E-06	0.0E+00	NA	0.0E+00		
28	Benzo(a)anthra	4.9E-06	0.0E+00	NA	0.0E+00		
29	Benzo(a)pyrene	3.2E-06	2.9E-05	NA	0.0E+00		
30	Benzo(b)fluora	9.7E-06	2.9E-05	NA	0.0E+00		
31	Benzo(g,h,i)pe	1.7E-06	2.9E-05	NA	0.0E+00		
32	Benzo(k)fluora	5.0E-06	2.9E-05	NA	0.0E+00		
33	Benzoic acid	0.0E+00	1.5E-04	1.8E-05	0.0E+00		
34	Benzyl alcohol	0.0E+00	3.0E-05	1.3E-06	0.0E+00		
35	bis(2-Ethylhex	2.5E-07	1.7E-05	9.2E-06	0.0E+00		
36	Butylbenzylpht	2.6E-07	2.9E-05	1.2E-05	0.0E+00		
37	Chrysene	7.1E-06	2.9E-05	NA	0.0E+00		
38	Di-n-butylphth	0.0E+00	2.9E-05	2.4E-05	0.0E+00		
39	Di-n-octylphth	1.5E-07	2.9E-05	3.5E-06	0.0E+00		
40	Dibenzo(a,h)an	8.5E-07	0.0E+00	NA	0.0E+00		
41	Diethylphthala	0.0E+00	2.9E-05	2.3E-06	0.0E+00		
42	Dimethylphthal	4.6E-08	2.9E-05	7.8E-07	0.0E+00		

LIFETIME RISK SUMMARY

FUTURE
RESIDENT CHILD (SL)

LIFETIME EXCESS CANCER RISK

	CHEMICAL NAME	SCENARIO 1 RESIDENCE (SOIL ORAL (FROM WS1)	SCENARIO 2 RESIDENCE (GWATER (D) ORAL (FROM WS2)	SCENARIO 3 RESIDENCE (GWATER (D) DERMAL (FROM WS3)	SCENARIO 4 RESIDENCE (GWATER (INH INHALATION (FROM WS4)	SCENARIO 5 0 (FROM WS5)	SCENARIO 6 0 (FROM WS6)
1	1,1,1-Trichlor	NA	NA	NA	NA	0E+00	0E+00
2	1,1-Dichloroet	NA	NA	NA	NA		
3	1,1-Dichloroet	0E+00	2E-05	4E-06	9E-06		
4	1,2-Dichloroet	NA	NA	NA	NA		
5	2-Butanone	NA	NA	NA	NA		
6	4-Methyl-2-pen	NA	NA	NA	NA		
7	Acetone	NA	NA	NA	NA		
8	Benzene	0E+00	7E-07	3E-07	1E-06		
9	Bromodichlorom	0E+00	3E-06	3E-07	NA		
10	Carbon Disulfi	NA	NA	NA	NA		
11	Chlorobenzene	NA	NA	NA	NA		
12	Chloroform	0E+00	1E-07	2E-08	4E-06		
13	Ethyl Benzene	NA	NA	NA	NA		
14	Methylene Chlo	3E-11	2E-07	2E-08	9E-08		
15	Styrene	0E+00	8E-07	7E-07	1E-07		
16	Tetrachloroeth	3E-10	1E-06	1E-06	9E-08		
17	Toluene	NA	NA	NA	NA		
18	Trichloroethen	5E-11	3E-07	7E-08	3E-07		
19	Vinyl Chloride	0E+00	5E-05	6E-06	2E-05		
20	Xylenes (Total	NA	NA	NA	NA		
21	1,4-Dichlorobe	0E+00	7E-07	7E-07	NA		
22	2,4-Dimethylph	NA	NA	NA	NA		
23	2-Methylnaphth	NA	NA	NA	NA		
24	2-Methylphenol	NA	NA	NA	NA		
25	Acenaphthene	NA	NA	NA	NA		
26	Acenaphthylene	NA	NA	NA	NA		
27	Anthracene	NA	NA	NA	NA		
28	Benzo(a)anthra	6E-05	0E+00	NA	0E+00		
29	Benzo(a)pyrene	4E-05	3E-04	NA	0E+00		
30	Benzo(b)fluora	1E-04	3E-04	NA	0E+00		
31	Benzo(g,h,i)pe	NA	NA	NA	NA		
32	Benzo(k)fluora	6E-05	3E-04	NA	0E+00		
33	Benzoic acid	NA	NA	NA	NA		
34	Benzyl alcohol	NA	NA	NA	NA		
35	bis(2-Ethylhex	4E-09	2E-07	1E-07	NA		
36	Butylbenzylpht	NA	NA	NA	NA		
37	Chrysene	8E-05	3E-04	NA	0E+00		
38	Di-n-butylphth	NA	NA	NA	NA		
39	Di-n-octylphth	NA	NA	NA	NA		
40	Dibenzo(a,h)an	1E-05	0E+00	NA	0E+00		
41	Diethylphthala	NA	NA	NA	NA		
42	Dimethylphthal	NA	NA	NA	NA		

43	Fluoranthene	1.2E-05	2.9E-05	NA	0.0E+00		NA	NA	NA	NA	
44	Fluorene	7.4E-07	0.0E+00	NA	0.0E+00		NA	NA	NA	NA	
45	Indeno(1,2,3-c	2.4E-06	2.9E-05	NA	0.0E+00		3E-05	3E-04	NA	0E+00	
46	Naphthalene	2.0E-08	2.9E-05	NA	0.0E+00		NA	NA	NA	NA	
47	Phenanthrene	4.6E-06	2.9E-05	NA	0.0E+00		NA	NA	NA	NA	
48	Phenol	0.0E+00	2.9E-05	2.7E-06	0.0E+00		NA	NA	NA	NA	
49	Pyrene	5.9E-06	2.9E-05	NA	0.0E+00		NA	NA	NA	NA	
50	4,4-DDE	4.5E-09	2.8E-07	1.1E-06	0.0E+00		2E-09	9E-08	4E-07	NA	
51	4,4-DDT	3.2E-08	2.8E-07	2.0E-06	0.0E+00		1E-08	9E-08	7E-07	0E+00	
52	Aldrin	0.0E+00	1.4E-07	3.7E-09	0.0E+00		0E+00	2E-06	6E-08	0E+00	
53	alpha-Chlordan	0.0E+00	1.3E-06	2.0E-04	0.0E+00		0E+00	2E-06	3E-04	0E+00	
54	Aroclor-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	0E+00	0E+00	NA	
55	beta-BHC	0.0E+00	1.4E-07	4.9E-08	0.0E+00		0E+00	2E-07	9E-08	0E+00	
56	Dieldrin	0.0E+00	2.8E-07	7.4E-08	0.0E+00		0E+00	4E-06	1E-06	0E+00	
57	Endosulfan II	0.0E+00	2.8E-07	1.1E-08	0.0E+00		NA	NA	NA	NA	
58	gamma-Chlordan	0.0E+00	1.3E-06	2.2E-06	0.0E+00		0E+00	2E-06	3E-06	0E+00	
59	Heptachlor	0.0E+00	1.4E-07	2.6E-08	0.0E+00		0E+00	6E-07	1E-07	0E+00	
60	Antimony, Tota	3.3E-06	1.9E-04	3.3E-06	0.0E+00		NA	NA	NA	NA	
61	Arsenic, Total	7.5E-06	3.7E-05	6.3E-07	0.0E+00		1E-05	7E-05	1E-06	0E+00	
62	Barium, Total	8.1E-05	1.1E-03	1.9E-05	0.0E+00		NA	NA	NA	NA	
63	Beryllium, Tot	6.0E-07	1.1E-05	1.9E-07	0.0E+00		3E-06	5E-05	8E-04	0E+00	
64	Cadmium, Total	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	0E+00	
65	Cadmium, Total	0.0E+00	1.3E-05	2.2E-07	0.0E+00		NA	NA	NA	0E+00	
66	Chromium, Tota	1.1E-05	4.4E-05	7.5E-07	0.0E+00		NA	NA	NA	0E+00	
67	Mercury, Total	3.1E-07	5.5E-07	9.3E-09	0.0E+00		NA	NA	NA	NA	
68	Nickel, Total	1.4E-05	7.9E-05	1.3E-06	0.0E+00		NA	NA	NA	NA	
69	Silver, Total	0.0E+00	4.4E-05	7.4E-07	0.0E+00		NA	NA	NA	NA	
70	Thallium, Tota	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA	
71	Vanadium, Tota	1.2E-05	6.0E-05	1.0E-06	0.0E+00		NA	NA	NA	NA	
72	Cyanide, Total	1.1E-05	2.8E-05	4.7E-07	0.0E+00		NA	NA	NA	NA	
73	Nitrogen, Nitr	0.0E+00	2.6E-03	4.5E-05	0.0E+00		NA	NA	NA	NA	

TOTAL PATHWAY CANCER RISK	4E-04	2E-03	1E-03	3E-05	0E+00	0E+00
POPULATION TOTAL EXCESS RISK	3E-03					

RANGE NAME: POPSUM

EXPOSURE SCENARIOS EVALUATED
(GROUPED BY POPULATION)

SITE NAME: HIMCO DUMP SITE
OPERABLE UNIT: BACKGROUND RISK
FILE NAME: DATA
LAST UPDATED: 09/12/91

POPULATION 1 NO. OF SCENARIOS = 5

	LAND USE	EXPOSED POPULATION	EXPOSURE POINT	EXPOSURE MEDIUM	EXPOSURE ROUTE	HUMAN INTAKE FACTORS HIFs	HIFC	HIF1	WORKSHEET NAME
1	FUTURE	RES. ADULT	HOME(on-site)	GWATER	ORAL		3.5E-02	1.5E-02	WS1
2			HOME(on-site)	AIR(VOC-GW)	INHALATION		7.0E-02	3.0E-02	WS2
3			HOME(on-site)	GWATER	DERMAL		5.9E-02	2.5E-02	WS3
4			HOME(on-site)	SOIL	ORAL		3.7E-06	1.6E-06	WS4
5			HOME(on-site)	SOIL	DERMAL		3.6E-05	1.6E-05	WS5
6									WS6

RANGE NAME: EPC1

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: HOME(on-site)

SITE NAME: HIMCO DUMP SITE
OPERABLE UNIT: BACKGROUND RISK
FILE NAME: DATA
LAST UPDATED: 09/12/91

		MEDIUM 1 GWATER			MEDIUM 2 AIR(VOC-GW)			MEDIUM 3 SOIL			MEDIUM 4 0			MEDIUM 5 0		
		Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl	Cs	Cc	Cl
	CHEMICAL NAME	11S	11C	11L	12S	12C	12L	13S	13C	13L	14S	14C	14L	15S	15C	15L
1	ALUMINUM	6.5E-01	6.5E-01	6.5E-01				5.7E+03	5.7E+03	5.7E+03						
2	ANTIMONY	3.4E-02	3.4E-02	3.4E-02												
3	ARSENIC	3.2E-03	3.2E-03	3.2E-03				2.0E+00	2.0E+00	2.0E+00						
4	BARIUM	9.8E-02	9.8E-02	9.8E-02				6.2E+01	6.2E+01	6.2E+01						
5	BERYLLIUM	2.8E-03	2.8E-03	2.8E-03				6.9E-01	6.9E-01	6.9E-01						
6	CADMIUM(food)															
7	CADMIUM(water)															
8	CHROMIUM	1.6E-02	1.6E-02	1.6E-02				7.1E+00	7.1E+00	7.1E+00						
9	COBALT	6.6E-03	6.6E-03	6.6E-03				3.7E+00	3.7E+00	3.7E+00						
10	IRON	1.2E+00	1.2E+00	1.2E+00				6.7E+03	6.7E+03	6.7E+03						
11	LEAD	3.2E-02	3.2E-02	3.2E-02				8.1E+00	8.1E+00	8.1E+00						
12	MANGANESE	2.8E-01	2.8E-01	2.8E-01				4.2E+02	4.2E+02	4.2E+02						
13	MERCURY															
14	NICKEL							7.5E+00	7.5E+00	7.5E+00						
15	SELENIUM	2.4E-03	2.4E-03	2.4E-03				2.5E-01	2.5E-01	2.5E-01						
16	SILVER	6.5E-03	6.5E-03	6.5E-03												
17	SODIUM	3.6E+01	3.6E+01	3.6E+01												
18	THALLIUM															
19	VANADIUM	9.2E-03	9.2E-03	9.2E-03				1.2E+01	1.2E+01	1.2E+01						
20	ZINC	4.3E-02	4.3E-02	4.3E-02				2.2E+01	2.2E+01	2.2E+01						
21	CYANIDE															
22	1,1,DCA															
23	1,1,DCE															
24	1,1,1,TCA							2.0E-03	2.0E-03	2.0E-03						
25	1,2,DCE															
26	2-BUTANONE															
27	2-HEXANONE															
28	4-METHYL-2-PENT															
29	ACETONE	3.5E-03	3.5E-03	3.5E-03	3.5E-03	3.5E-03	3.5E-03									
30	BENZENE															
31	BROMODICHLORO	3.9E-03	3.9E-03	3.9E-03	3.9E-03	3.9E-03	3.9E-03									
32	CARBON DISULFIDE															
33	CHLOROBENZENE															
34	CHLOROETHANE															
35	CHLOROFORM	3.1E-03	3.1E-03	3.1E-03	3.1E-03	3.1E-03	3.1E-03									
36	ETHYLBENZENE															
37	METHYLENE CHLO	9.5E-03	9.5E-03	9.5E-03	9.5E-03	9.5E-03	9.5E-03									
38	STYRENE															
39	TETRACHLOROETHENE															
40	TOLUENE							8.0E-03	8.0E-03	8.0E-03						
41	TRICHLOROETHEN	2.0E-03	2.0E-03	2.0E-03	2.0E-03	2.0E-03	2.0E-03									
42	XYLENES (total)															
43	1,4,DICHLOROBENZENE							8.0E-02	8.0E-02	8.0E-02						
44	ACENAPHTHENE															
45	ANTHRACENE															
46	BENZO(A)ANTHRACENE															

47	BENZO(A)PYRENE							
48	BENZO(B)FLUORANTHENE							
49	BENZO(K)FLUORANTHENE							
50	BENZO(g,h,i)PERYLENE							
51	BENZOIC ACID							
52	BEHP	1.7E-02	1.7E-02	1.7E-02		5.7E-01	5.7E-01	5.7E-01
53	BUTYLBENZYLPHTHALATE							
54	CHRYSENE							
55	DIBENZ(a,h,)ANTHRACENE							
56	DIETHYLPHTHALATE							
57	DIMETHYLPHTHALATE							
58	Di-n-BUTYLPHTHALATE					1.0E-01	1.0E-01	1.0E-01
59	Di-n-OCTYLPHTH	2.0E-03	2.0E-03	2.0E-03				
60	FLUORANTHENE							
61	FLUORENE							
62	INDENO(1,2,3-cd)PYRENE							
63	PHENANTHRENE							
64	PYRENE							
65	4,4-DDT							
66	AROCLOR-1248							
67	BROMIDE	1.5E-01	1.5E-01	1.5E-01				
68	CHLORIDE	8.0E+01	8.0E+01	8.0E+01				
69	NITROGEN,AMMON	1.0E+01	1.0E+01	1.0E+01				
70	NIRITE/NITRATE	6.9E+00	6.9E+00	6.9E+00				
71	PHOSPHORUS	2.7E-01	2.7E-01	2.7E-01				
72	SULFATE	2.3E+02	2.3E+02	2.3E+02				
73	FREON 113							
74	PHENOBARBITAL							

RANGE NAME: WS1

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO DUMP SITE
OPERABLE UNIT: BACKGROUND RISK
FILE NAME: POP1
LAST UPDATED: 09/12/91

LAND USE: FUTURE
POPULATION: RES. ADULT

EXPOSURE POINT: HOME(on-site)
MEDIUM: GWATER
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 3.5E-02
HIFl = 1.5E-02

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	ALUMINUM		0.0E+00		0.0E+00		ERR	6.5E-01	3.5E-02	1	2.3E-02	NA	NA	6.5E-01	1.5E-02	1	9.8E-03	NA	NA
2	ANTIMONY							3.4E-02	3.5E-02	1	1.2E-03	4.0E-04	3E+00	3.4E-02	1.5E-02	1	5.1E-04	NA	NA
3	ARSENIC							3.2E-03	3.5E-02	1	1.1E-04	1.0E-03	1E-01	3.2E-03	1.5E-02	1	4.8E-05	1.8E+00	9E-05
4	BARIUM							9.8E-02	3.5E-02	1	3.4E-03	5.0E-02	7E-02	9.8E-02	1.5E-02	1	1.5E-03	NA	NA
5	BERYLLIUM							2.8E-03	3.5E-02	1	9.8E-05	5.0E-03	2E-02	2.8E-03	1.5E-02	1	4.2E-05	4.3E+00	2E-04
6	CADMIUM(food)							0.0E+00	3.5E-02	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
7	CADMIUM(water)							0.0E+00	3.5E-02	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
8	CHROMIUM							1.6E-02	3.5E-02	1	5.6E-04	5.0E-03	1E-01	1.6E-02	1.5E-02	1	2.4E-04	NA	NA
9	COBALT							6.6E-03	3.5E-02	1	2.3E-04	NA	NA	6.6E-03	1.5E-02	1	9.9E-05	NA	NA
10	IRON							1.2E+00	3.5E-02	1	4.2E-02	NA	NA	1.2E+00	1.5E-02	1	1.8E-02	NA	NA
11	LEAD							3.2E-02	3.5E-02	1	1.1E-03	NA	NA	3.2E-02	1.5E-02	1	4.8E-04	NA	NA
12	MANGANESE							2.8E-01	3.5E-02	1	9.8E-03	1.0E-01	1.0E-0	2.8E-01	1.5E-02	1	4.2E-03	NA	NA
13	MERCURY							0.0E+00	3.5E-02	1	0.0E+00	3.0E-04	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
14	NICKEL							0.0E+00	3.5E-02	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
15	SELENIUM							2.4E-03	3.5E-02	1	8.4E-05	5.0E-03	2E-02	2.4E-03	1.5E-02	1	3.6E-05	NA	NA
16	SILVER							6.5E-03	3.5E-02	1	2.3E-04	3.0E-03	8E-02	6.5E-03	1.5E-02	1	9.8E-05	NA	NA
17	SODIUM							3.6E+01	3.5E-02	1	1.3E+00	NA	NA	3.6E+01	1.5E-02	1	5.4E-01	NA	NA
18	THALLIUM							0.0E+00	3.5E-02	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
19	VANADIUM							9.2E-03	3.5E-02	1	3.2E-04	7.0E-03	5E-02	9.2E-03	1.5E-02	1	1.4E-04	NA	NA
20	ZINC							4.3E-02	3.5E-02	1	1.5E-03	2.0E-01	8E-03	4.3E-02	1.5E-02	1	6.5E-04	NA	NA
21	CYANIDE							0.0E+00	3.5E-02	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
22	1,1,DCA							0.0E+00	3.5E-02	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
23	1,1,DCE							0.0E+00	3.5E-02	1	0.0E+00	9.0E-03	0E+00	0.0E+00	1.5E-02	1	0.0E+00	6.0E-01	0E+00
24	1,1,1,TCA							0.0E+00	3.5E-02	1	0.0E+00	9.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
25	1,2,DCE							0.0E+00	3.5E-02	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
26	2-BUTANONE							0.0E+00	3.5E-02	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
27	2-HEXANONE							0.0E+00	3.5E-02	1	0.0E+00	NA	NA	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
28	4-METHYL-2-PENT							0.0E+00	3.5E-02	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
29	ACETONE							3.5E-03	3.5E-02	1	1.2E-04	1.0E-01	1E-03	3.5E-03	1.5E-02	1	5.3E-05	NA	NA
30	BENZENE							0.0E+00	3.5E-02	1	0.0E+00	NA	NA	0.0E+00	1.5E-02	1	0.0E+00	2.9E-02	0E+00
31	BROMODICHLORO							3.9E-03	3.5E-02	1	1.4E-04	2.0E-02	7E-03	3.9E-03	1.5E-02	1	5.8E-05	1.3E-01	8E-06
32	CARBON DISULFIDE							0.0E+00	3.5E-02	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
33	CHLOROBENZENE							0.0E+00	3.5E-02	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
34	CHLOROETHANE							0.0E+00	3.5E-02	1	0.0E+00	NA	NA	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
35	CHLOROFORM							3.1E-03	3.5E-02	1	1.1E-04	1.0E-02	1E-02	3.1E-03	1.5E-02	1	4.7E-05	6.1E-03	3E-07
36	ETHYLBENZENE							0.0E+00	3.5E-02	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
37	METHYLENE CHLORIDE							9.5E-03	3.5E-02	1	3.3E-04	6.0E-02	6E-03	9.5E-03	1.5E-02	1	1.4E-04	7.5E-03	1E-06
38	STYRENE							0.0E+00	3.5E-02	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	3.0E-02	0E+00
39	TETRACHLOROETHENE							0.0E+00	3.5E-02	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	5.1E-02	0E+00

40	TOLUENE	0.0E+00	3.5E-02	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
41	TRICHLOROETHENE	2.0E-03	3.5E-02	1	7.0E-05	NA	NA	2.0E-03	1.5E-02	1	3.0E-05	1.1E-02	3E-07
42	XYLENES (total)	0.0E+00	3.5E-02	1	0.0E+00	2.0E+00	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
43	1,4,DICHLOROBENZENE	0.0E+00	3.5E-02	1	0.0E+00	NA	NA	0.0E+00	1.5E-02	1	0.0E+00	2.4E-02	0E+00
44	ACENAPHTHENE	0.0E+00	3.5E-02	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
45	ANTHRACENE	0.0E+00	3.5E-02	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
46	BENZO(A)ANTHRACENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	1.2E+01	0E+00
47	BENZO(A)PYRENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	1.2E+01	0E+00
48	BENZO(B)FLUORANTHENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	1.2E+01	0E+00
49	BENZO(K)FLUORANTHENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	1.2E+01	0E+00
50	BENZO(g,h,i)PERYLENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
51	BENZOIC ACID	0.0E+00	3.5E-02	1	0.0E+00	4.0E+00	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
52	BEHP	1.7E-02	3.5E-02	1	6.0E-04	2.0E-02	3E-02	1.7E-02	1.5E-02	1	2.6E-04	1.4E-02	4E-06
53	BUTYLBENZYLPHTHALATE	0.0E+00	3.5E-02	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
54	CHRYSENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	1.2E+01	0E+00
55	DIBENZ(a,h,)ANTHRACENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	1.2E+01	0E+00
56	DIETHYLPHTHALATE	0.0E+00	3.5E-02	1	0.0E+00	8.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
57	DIMETHYLPHTHALATE	0.0E+00	3.5E-02	1	0.0E+00	1.0E+00	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
58	Di-n-BUTYLPHTHALATE	0.0E+00	3.5E-02	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
59	Di-n-OCTYLPHTHALATE	2.0E-03	3.5E-02	1	7.0E-05	2.0E-02	4E-03	2.0E-03	1.5E-02	1	3.0E-05	NA	NA
60	FLUORANTHENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
61	FLUORENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
62	INDENO(1,2,3-cd)PYRENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	1.2E+01	0E+00
63	PHENANTHRENE	0.0E+00	3.5E-02	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
64	PYRENE	0.0E+00	3.5E-02	1	0.0E+00	3.0E-02	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
65	4,4-DDT	0.0E+00	3.5E-02	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.5E-02	1	0.0E+00	3.4E-01	0E+00
66	AROCLOR-1248	0.0E+00	3.5E-02	1	0.0E+00	NA	NA	0.0E+00	1.5E-02	1	0.0E+00	7.7E+00	0E+00
67	BROMIDE	1.5E-01	3.5E-02	1	5.3E-03	NA	NA	1.5E-01	1.5E-02	1	2.3E-03	NA	NA
68	CHLORIDE	8.0E+01	3.5E-02	1	2.8E+00	NA	NA	8.0E+01	1.5E-02	1	1.2E+00	NA	NA
69	NITROGEN,AMMONIA	1.0E+01	3.5E-02	1	3.5E-01	NA	NA	1.0E+01	1.5E-02	1	1.5E-01	NA	NA
70	NIRITE/NITRATE	6.9E+00	3.5E-02	1	2.4E-01	1.0E-01	2E+00	6.9E+00	1.5E-02	1	1.0E-01	NA	NA
71	PHOSPHORUS	2.7E-01	3.5E-02	1	9.5E-03	NA	NA	2.7E-01	1.5E-02	1	4.1E-03	NA	NA
72	SULFATE	2.3E+02	3.5E-02	1	8.1E+00	NA	NA	2.3E+02	1.5E-02	1	3.5E+00	NA	NA
73	FREON 113	0.0E+00	3.5E-02	1	0.0E+00	3.0E+00	0E+00	0.0E+00	1.5E-02	1	0.0E+00	NA	NA
74	PHENOBARBITAL	0.0E+00	3.5E-02	1	0.0E+00	NA	NA	0.0E+00	1.5E-02	1	0.0E+00	NA	NA

RANGE NAME: WS2

SITE NAME: HIMCO DUMP SITE
OPERABLE UNIT: BACKGROUND RISK
FILE NAME: POP1
LAST UPDATED: 09/12/91

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RES. ADULT

EXPOSURE POINT: HOME(on-site)
MEDIUM: AIR(VOC-GW)
ROUTE: INHALATION

HIFs = 0.0E+00
HIFc = 7.0E-02
HIFl = 3.0E-02

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	ALUMINUM		0.0E+00		0.0E+00		ERR	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
2	ANTIMONY							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
3	ARSENIC							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	1.5E+01	0E+00
4	BARIUM							0.0E+00	7.0E-02	1	0.0E+00	1.0E-04	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
5	BERYLLIUM							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	8.4E+00	0E+00
6	CADMIUM(food)							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	6.3E+00	0E+00
7	CADMIUM(water)							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	6.3E+00	0E+00
8	CHROMIUM							0.0E+00	7.0E-02	1	0.0E+00	5.7E-07	0E+00	0.0E+00	3.0E-02	1	0.0E+00	4.2E+01	0E+00
9	COBALT							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
10	IRON							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
11	LEAD							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
12	MANGANESE							0.0E+00	7.0E-02	1	0.0E+00	1.1E-04	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
13	MERCURY							0.0E+00	7.0E-02	1	0.0E+00	8.6E-05	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
14	NICKEL							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
15	SELENIUM							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
16	SILVER							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
17	SODIUM							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
18	THALLIUM							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
19	VANADIUM							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
20	ZINC							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
21	CYANIDE							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
22	1,1,DCA							0.0E+00	7.0E-02	1	0.0E+00	1.0E-01	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
23	1,1,DCE							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	1.8E-01	0E+00
24	1,1,1,TCA							0.0E+00	7.0E-02	1	0.0E+00	3.0E-01	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
25	1,2,DCE							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
26	2-BUTANONE							0.0E+00	7.0E-02	1	0.0E+00	9.0E-02	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
27	2-HEXANONE							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
28	4-METHYL-2-PENT							0.0E+00	7.0E-02	1	0.0E+00	2.0E-02	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
29	ACETONE							3.5E-03	7.0E-02	1	2.5E-04	NA	NA	3.5E-03	3.0E-02	1	1.1E-04	NA	NA
30	BENZENE							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	2.9E-02	0E+00
31	BROMODICHLORO							3.9E-03	7.0E-02	1	2.7E-04	NA	NA	3.9E-03	3.0E-02	1	1.2E-04	NA	NA
32	CARBON DISULFIDE							0.0E+00	7.0E-02	1	0.0E+00	2.8E-03	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
33	CHLOROBENZENE							0.0E+00	7.0E-02	1	0.0E+00	5.0E-03	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
34	CHLOROETHANE							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
35	CHLOROFORM							3.1E-03	7.0E-02	1	2.2E-04	NA	NA	3.1E-03	3.0E-02	1	9.3E-05	8.1E-02	8E-06
36	ETHYLBENZENE							0.0E+00	7.0E-02	1	0.0E+00	2.9E-01	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
37	METHYLENE CHLORIDE							9.5E-03	7.0E-02	1	6.7E-04	8.6E-01	8E-04	9.5E-03	3.0E-02	1	2.9E-04	1.6E-03	5E-07
38	STYRENE							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	2.0E-03	0E+00
39	TETRACHLOROETHENE							0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	1.8E-03	0E+00

40	TOLUENE	0.0E+00	7.0E-02	1	0.0E+00	5.7E-01	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
41	TRICHLOROETHENE	2.0E-03	7.0E-02	1	1.4E-04	NA	NA	2.0E-03	3.0E-02	1	6.0E-05	6.0E-03	4E-07
42	XYLENES (total)	0.0E+00	7.0E-02	1	0.0E+00	8.6E-02	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
43	1,4,DICHLOROBENZENE	0.0E+00	7.0E-02	1	0.0E+00	2.0E-01	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
44	ACENAPHTHENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
45	ANTHRACENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
46	BENZO(A)ANTHRACENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
47	BENZO(A)PYRENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	6.1E+00	0E+00
48	BENZO(B)FLUORANTHENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
49	BENZO(K)FLUORANTHENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
50	BENZO(g,h,i)PERYLENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
51	BENZOIC ACID	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
52	BEHP	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
53	BUTYLBENZYLPHTHALATE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
54	CHRYSENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
55	DIBENZ(a,h,)ANTHRACENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
56	DIETHYLPHTHALATE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
57	DIMETHYLPHTHALATE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
58	Di-n-BUTYLPHTHALATE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
59	Di-n-OCTYLPHTHALATE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
60	FLUORANTHENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
61	FLUORENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
62	INDENO(1,2,3-cd)PYRENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
63	PHENANTHRENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
64	PYRENE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
65	4,4-DDT	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	3.4E-01	0E+00
66	AROCLOR-1248	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
67	BROMIDE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
68	CHLORIDE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
69	NITROGEN,AMMONIA	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
70	NIRITE/NITRATE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
71	PHOSPHORUS	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
72	SULFATE	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
73	FREON 113	0.0E+00	7.0E-02	1	0.0E+00	7.7E+00	0E+00	0.0E+00	3.0E-02	1	0.0E+00	NA	NA
74	PHENOBARBITAL	0.0E+00	7.0E-02	1	0.0E+00	NA	NA	0.0E+00	3.0E-02	1	0.0E+00	NA	NA

RANGE NAME: WS3

EXPOSURE AND RISK CALCULATION WORKSHEET

SITE NAME: HIMCO DUMP SITE
OPERABLE UNIT: BACKGROUND RISK
FILE NAME: POP1
LAST UPDATED: 09/12/91

LAND USE: FUTURE
POPULATION: RES. ADULT

EXPOSURE POINT: HOME(on-site)
MEDIUM: GWATER
ROUTE: DERMAL

HIFs = 0.0E+00
HIFc = 5.9E-02
HIFl = 2.5E-02

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	P	DIs	RfDS	HQs	Cc	HIFc	P	DIc	RfDC	HQc	Cl	HIFl	P	DIl	SF	RISK
1	ALUMINUM		0.0E+00		0.0E+00		ERR	6.5E-01	5.9E-02	NA	NA	NA	NA	6.5E-01	2.5E-02	NA	NA	NA	NA
2	ANTIMONY							3.4E-02	5.9E-02	1.0E-03	2.0E-06	2.0E-05	1E-01	3.4E-02	2.5E-02	1.0E-03	8.5E-07	NA	NA
3	ARSENIC							3.2E-03	5.9E-02	1.0E-03	1.9E-07	1.0E-03	2E-04	3.2E-03	2.5E-02	1.0E-03	8.0E-08	1.8E+00	1E-07
4	BARIUM							9.8E-02	5.9E-02	1.0E-03	5.8E-06	5.0E-03	1E-03	9.8E-02	2.5E-02	1.0E-03	2.5E-06	NA	NA
5	BERYLLIUM							2.8E-03	5.9E-02	1.0E-03	1.7E-07	5.0E-06	3E-02	2.8E-03	2.5E-02	1.0E-03	7.0E-08	4.3E+03	3E-04
6	CADMIUM(food)							0.0E+00	5.9E-02	1.0E-03	0.0E+00	6.0E-05	0E+00	0.0E+00	2.5E-02	1.0E-03	0.0E+00	NA	NA
7	CADMIUM(water)							0.0E+00	5.9E-02	1.0E-03	0.0E+00	6.0E-05	0E+00	0.0E+00	2.5E-02	1.0E-03	0.0E+00	NA	NA
8	CHROMIUM							1.6E-02	5.9E-02	1.0E-03	9.4E-07	2.5E-04	4E-03	1.6E-02	2.5E-02	1.0E-03	4.0E-07	NA	NA
9	COBALT							6.6E-03	5.9E-02	1.0E-03	3.9E-07	NA	NA	6.6E-03	2.5E-02	1.0E-03	1.7E-07	NA	NA
10	IRON							1.2E+00	5.9E-02	1.0E-03	7.1E-05	NA	NA	1.2E+00	2.5E-02	1.0E-03	3.0E-05	NA	NA
11	LEAD							3.2E-02	5.9E-02	1.0E-03	1.9E-06	NA	NA	3.2E-02	2.5E-02	1.0E-03	8.0E-07	NA	NA
12	MANGANESE							2.8E-01	5.9E-02	1.0E-03	1.7E-05	3.0E-03	6E-03	2.8E-01	2.5E-02	1.0E-03	7.0E-06	NA	NA
13	MERCURY							0.0E+00	5.9E-02	1.0E-03	0.0E+00	4.5E-05	0E+00	0.0E+00	2.5E-02	1.0E-03	0.0E+00	NA	NA
14	NICKEL							0.0E+00	5.9E-02	1.0E-03	0.0E+00	1.0E-03	0E+00	0.0E+00	2.5E-02	1.0E-03	0.0E+00	NA	NA
15	SELENIUM							2.4E-03	5.9E-02	1.0E-03	1.4E-07	3.0E-03	5E-05	2.4E-03	2.5E-02	1.0E-03	6.0E-08	NA	NA
16	SILVER							6.5E-03	5.9E-02	1.0E-03	3.8E-07	1.5E-04	3E-03	6.5E-03	2.5E-02	1.0E-03	1.6E-07	NA	NA
17	SODIUM							3.6E+01	5.9E-02	1.0E-03	2.1E-03	NA	NA	3.6E+01	2.5E-02	1.0E-03	9.0E-04	NA	NA
18	THALLIUM							0.0E+00	5.9E-02	1.0E-03	0.0E+00	3.5E-06	0E+00	0.0E+00	2.5E-02	1.0E-03	0.0E+00	NA	NA
19	VANADIUM							9.2E-03	5.9E-02	1.0E-03	5.4E-07	1.4E-04	4E-03	9.2E-03	2.5E-02	1.0E-03	2.3E-07	NA	NA
20	ZINC							4.3E-02	5.9E-02	1.0E-03	2.5E-06	1.0E-01	3E-05	4.3E-02	2.5E-02	1.0E-03	1.1E-06	NA	NA
21	CYANIDE							0.0E+00	5.9E-02	1.0E-03	0.0E+00	2.0E-02	0E+00	0.0E+00	2.5E-02	1.0E-03	0.0E+00	NA	NA
22	1,1,DCA							0.0E+00	5.9E-02	9.6E-03	0.0E+00	1.0E-01	0E+00	0.0E+00	2.5E-02	9.6E-03	0.0E+00	NA	NA
23	1,1,DCE							0.0E+00	5.9E-02	1.7E-02	0.0E+00	9.0E-03	0E+00	0.0E+00	2.5E-02	1.7E-02	0.0E+00	6.0E-01	0E+00
24	1,1,1,TCA							0.0E+00	5.9E-02	1.1E-02	0.0E+00	9.0E-02	0E+00	0.0E+00	2.5E-02	1.1E-02	0.0E+00	NA	NA
25	1,2,DCE							0.0E+00	5.9E-02	1.9E-03	0.0E+00	1.0E-02	0E+00	0.0E+00	2.5E-02	1.9E-03	0.0E+00	NA	NA
26	2-BUTANONE							0.0E+00	5.9E-02	5.0E-03	0.0E+00	5.0E-02	0E+00	0.0E+00	2.5E-02	5.0E-03	0.0E+00	NA	NA
27	2-HEXANONE							0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
28	4-METHYL-2-PENT							0.0E+00	5.9E-02	3.2E-03	0.0E+00	5.0E-02	0E+00	0.0E+00	2.5E-02	3.2E-03	0.0E+00	NA	NA
29	ACETONE							3.5E-03	5.9E-02	7.5E-04	1.5E-07	1.0E-01	2E-06	3.5E-03	2.5E-02	7.5E-04	6.6E-08	NA	NA
30	BENZENE							0.0E+00	5.9E-02	1.1E-01	0.0E+00	NA	NA	0.0E+00	2.5E-02	1.1E-01	0.0E+00	2.9E-02	0E+00
31	BROMODICHLORO							3.9E-03	5.9E-02	4.5E-03	1.0E-06	2.0E-02	5E-05	3.9E-03	2.5E-02	4.5E-03	4.4E-07	1.3E-01	6E-08
32	CARBON DISULFIDE							0.0E+00	5.9E-02	5.3E-01	0.0E+00	1.0E-01	0E+00	0.0E+00	2.5E-02	5.3E-01	0.0E+00	NA	NA
33	CHLOROBENZENE							0.0E+00	5.9E-02	4.0E-02	0.0E+00	2.0E-02	0E+00	0.0E+00	2.5E-02	4.0E-02	0.0E+00	NA	NA
34	CHLOROETHANE							0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
35	CHLOROFORM							3.1E-03	5.9E-02	9.6E-03	1.8E-06	1.0E-02	2E-04	3.1E-03	2.5E-02	9.6E-03	7.4E-07	6.1E-03	5E-09
36	ETHYLBENZENE							0.0E+00	5.9E-02	1.4E+00	0.0E+00	1.0E-01	0E+00	0.0E+00	2.5E-02	1.4E+00	0.0E+00	NA	NA
37	METHYLENE CHLORIDE							9.5E-03	5.9E-02	5.5E-03	3.1E-06	6.0E-02	5E-05	9.5E-03	2.5E-02	5.5E-03	1.3E-06	7.5E-03	1.0E-0
38	STYRENE							0.0E+00	5.9E-02	6.7E-01	0.0E+00	2.0E-01	0E+00	0.0E+00	2.5E-02	6.7E-01	0.0E+00	3.0E-02	0E+00
39	TETRACHLOROETHENE							0.0E+00	5.9E-02	1.3E-02	0.0E+00	1.0E-02	0E+00	0.0E+00	2.5E-02	1.3E-02	0.0E+00	5.1E-02	0E+00

40	TOLUENE	0.0E+00	5.9E-02	1.0E+00	0.0E+00	2.0E-01	0E+00	0.0E+00	2.5E-02	1.0E+00	0.0E+00	NA	NA
41	TRICHLOROETHENE	2.0E-03	5.9E-02	1.9E-02	2.2E-06	NA	NA	2.0E-03	2.5E-02	1.9E-02	9.5E-07	1.1E-02	1E-08
42	XYLENES (total)	0.0E+00	5.9E-02	8.4E-02	0.0E+00	2.0E+00	0E+00	0.0E+00	2.5E-02	8.4E-02	0.0E+00	NA	NA
43	1,4,DICHLOROBENZENE	0.0E+00	5.9E-02	5.8E-02	0.0E+00	NA	NA	0.0E+00	2.5E-02	5.8E-02	0.0E+00	2.4E-02	0E+00
44	ACENAPHTHENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
45	ANTHRACENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
46	BENZO(A)ANTHRACENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
47	BENZO(A)PYRENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
48	BENZO(B)FLUORANTHENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
49	BENZO(K)FLUORANTHENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
50	BENZO(g,h,i)PERYLENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
51	BENZOIC ACID	0.0E+00	5.9E-02	8.3E-03	0.0E+00	4.0E+00	0E+00	0.0E+00	2.5E-02	8.3E-03	0.0E+00	NA	NA
52	BEHP	1.7E-02	5.9E-02	6.6E-03	6.6E-06	2.0E-02	3E-04	1.7E-02	2.5E-02	6.6E-03	2.8E-06	1.4E-02	4E-08
53	BUTYLBENZYLPHTHALATE	0.0E+00	5.9E-02	4.9E-02	0.0E+00	2.0E-01	0E+00	0.0E+00	2.5E-02	4.9E-02	0.0E+00	NA	NA
54	CHRYSENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
55	DIBENZ(a,h,)ANTHRACENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
56	DIETHYLPHTHALATE	0.0E+00	5.9E-02	1.1E-02	0.0E+00	8.0E-01	0E+00	0.0E+00	2.5E-02	1.1E-02	0.0E+00	NA	NA
57	DIMETHYLPHTHALATE	0.0E+00	5.9E-02	3.5E-03	0.0E+00	1.0E+00	0E+00	0.0E+00	2.5E-02	3.5E-03	0.0E+00	NA	NA
58	Di-n-BUTYLPHTHALATE	0.0E+00	5.9E-02	3.8E-02	0.0E+00	1.0E-01	0E+00	0.0E+00	2.5E-02	3.8E-02	0.0E+00	NA	NA
59	Di-n-OCTYLPHTHALATE	2.0E-03	5.9E-02	6.6E-03	7.8E-07	2.0E-02	4E-05	2.0E-03	2.5E-02	6.6E-03	3.3E-07	NA	NA
60	FLUORANTHENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
61	FLUORENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
62	INDENO(1,2,3-cd)PYRENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
63	PHENANTHRENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
64	PYRENE	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
65	4,4-DDT	0.0E+00	5.9E-02	1.5E-01	0.0E+00	5.0E-04	0E+00	0.0E+00	2.5E-02	1.5E-01	0.0E+00	3.4E-01	0E+00
66	AROCLOR-1248	0.0E+00	5.9E-02	5.3E-01	0.0E+00	NA	NA	0.0E+00	2.5E-02	5.3E-01	0.0E+00	7.7E+00	0E+00
67	BROMIDE	1.5E-01	5.9E-02	NA	NA	NA	NA	1.5E-01	2.5E-02	NA	NA	NA	NA
68	CHLORIDE	8.0E+01	5.9E-02	NA	NA	NA	NA	8.0E+01	2.5E-02	NA	NA	NA	NA
69	NITROGEN,AMMONIA	1.0E+01	5.9E-02	NA	NA	NA	NA	1.0E+01	2.5E-02	NA	NA	NA	NA
70	NIRITE/NITRATE	6.9E+00	5.9E-02	NA	NA	NA	NA	6.9E+00	2.5E-02	NA	NA	NA	NA
71	PHOSPHORUS	2.7E-01	5.9E-02	NA	NA	NA	NA	2.7E-01	2.5E-02	NA	NA	NA	NA
72	SULFATE	2.3E+02	5.9E-02	NA	NA	NA	NA	2.3E+02	2.5E-02	NA	NA	NA	NA
73	FREON 113	0.0E+00	5.9E-02	NA	NA	3.0E+00	NA	0.0E+00	2.5E-02	NA	NA	NA	NA
74	PHENOBARBITAL	0.0E+00	5.9E-02	NA	NA	NA	NA	0.0E+00	2.5E-02	NA	NA	NA	NA

RANGE NAME: WS4

SITE NAME: HIMCO DUMP SITE
OPERABLE UNIT: BACKGROUND RISK
FILE NAME: POP1
LAST UPDATED: 09/12/91

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RES. ADULT

EXPOSURE POINT: HOME(on-site)
MEDIUM: SOIL
ROUTE: ORAL

HIFs = 0.0E+00
HIFc = 3.7E-06
HIFl = 1.6E-06

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	1	DIs	RfDS	HQs	Cc	HIFc	1	DIc	RfDC	HQc	Cl	HIFl	1	DIl	SF	RISK
1	ALUMINUM		0.0E+00		0.0E+00		ERR	5.7E+03	3.7E-06	1	2.1E-02	NA	NA	5.7E+03	1.6E-06	1	9.1E-03	NA	NA
2	ANTIMONY							0.0E+00	3.7E-06	1	0.0E+00	4.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
3	ARSENIC							2.0E+00	3.7E-06	1	7.4E-06	1.0E-03	7E-03	2.0E+00	1.6E-06	1	3.2E-06	1.8E+00	6E-06
4	BARIUM							6.2E+01	3.7E-06	1	2.3E-04	5.0E-02	5E-03	6.2E+01	1.6E-06	1	9.9E-05	NA	NA
5	BERYLLIUM							6.9E-01	3.7E-06	1	2.6E-06	5.0E-03	5E-04	6.9E-01	1.6E-06	1	1.1E-06	4.3E+00	5E-06
6	CADMIUM(food)							0.0E+00	3.7E-06	1	0.0E+00	1.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
7	CADMIUM(water)							0.0E+00	3.7E-06	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
8	CHROMIUM							7.1E+00	3.7E-06	1	2.6E-05	5.0E-03	5E-03	7.1E+00	1.6E-06	1	1.1E-05	NA	NA
9	COBALT							3.7E+00	3.7E-06	1	1.4E-05	NA	NA	3.7E+00	1.6E-06	1	5.9E-06	NA	NA
10	IRON							6.7E+03	3.7E-06	1	2.5E-02	NA	NA	6.7E+03	1.6E-06	1	1.1E-02	NA	NA
11	LEAD							8.1E+00	3.7E-06	1	3.0E-05	NA	NA	8.1E+00	1.6E-06	1	1.3E-05	NA	NA
12	MANGANESE							4.2E+02	3.7E-06	1	1.6E-03	1.0E-01	2E-02	4.2E+02	1.6E-06	1	6.7E-04	NA	NA
13	MERCURY							0.0E+00	3.7E-06	1	0.0E+00	3.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
14	NICKEL							7.5E+00	3.7E-06	1	2.8E-05	2.0E-02	1E-03	7.5E+00	1.6E-06	1	1.2E-05	NA	NA
15	SELENIUM							2.5E-01	3.7E-06	1	9.3E-07	5.0E-03	2E-04	2.5E-01	1.6E-06	1	4.0E-07	NA	NA
16	SILVER							0.0E+00	3.7E-06	1	0.0E+00	3.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
17	SODIUM							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
18	THALLIUM							0.0E+00	3.7E-06	1	0.0E+00	7.0E-05	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
19	VANADIUM							1.2E+01	3.7E-06	1	4.4E-05	7.0E-03	6E-03	1.2E+01	1.6E-06	1	1.9E-05	NA	NA
20	ZINC							2.2E+01	3.7E-06	1	8.1E-05	2.0E-01	4E-04	2.2E+01	1.6E-06	1	3.5E-05	NA	NA
21	CYANIDE							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
22	1,1,DCA							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
23	1,1,DCE							0.0E+00	3.7E-06	1	0.0E+00	9.0E-03	0E+00	0.0E+00	1.6E-06	1	0.0E+00	6.0E-01	0E+00
24	1,1,1,TCA							2.0E-03	3.7E-06	1	7.4E-09	9.0E-02	8E-08	2.0E-03	1.6E-06	1	3.2E-09	NA	NA
25	1,2,DCE							0.0E+00	3.7E-06	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
26	2-BUTANONE							0.0E+00	3.7E-06	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
27	2-HEXANONE							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
28	4-METHYL-2-PENT							0.0E+00	3.7E-06	1	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
29	ACETONE							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
30	BENZENE							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	2.9E-02	0E+00
31	BROMODICHLORO							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.3E-01	0E+00
32	CARBON DISULFIDE							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
33	CHLOROBENZENE							0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
34	CHLOROETHANE							0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
35	CHLOROFORM							0.0E+00	3.7E-06	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	6.1E-03	0E+00
36	ETHYLBENZENE							0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
37	METHYLENE CHLORIDE							0.0E+00	3.7E-06	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	7.5E-03	0E+00
38	STYRENE							0.0E+00	3.7E-06	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	3.0E-02	0E+00
39	TETRACHLOROETHENE							0.0E+00	3.7E-06	1	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	5.1E-02	0E+00

40	TOLUENE	8.0E-03	3.7E-06	1	3.0E-08	2.0E-01	1E-07	8.0E-03	1.6E-06	1	1.3E-08	NA	NA
41	TRICHLOROETHENE	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	1.1E-02	0E+00
42	XYLENES (total)	0.0E+00	3.7E-06	1	0.0E+00	2.0E+00	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
43	1,4,DICHLOROBENZENE	8.0E-02	3.7E-06	1	3.0E-07	NA	NA	8.0E-02	1.6E-06	1	1.3E-07	2.4E-02	3E-09
44	ACENAPHTHENE	0.0E+00	3.7E-06	1	0.0E+00	6.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
45	ANTHRACENE	0.0E+00	3.7E-06	1	0.0E+00	3.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
46	BENZO(A)ANTHRACENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.2E+01	0E+00
47	BENZO(A)PYRENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.2E+01	0E+00
48	BENZO(B)FLUORANTHENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.2E+01	0E+00
49	BENZO(K)FLUORANTHENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.2E+01	0E+00
50	BENZO(g,h,i)PERYLENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
51	BENZOIC ACID	0.0E+00	3.7E-06	1	0.0E+00	4.0E+00	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
52	BEHP	5.7E-01	3.7E-06	1	2.1E-06	2.0E-02	1E-04	5.7E-01	1.6E-06	1	9.1E-07	1.4E-02	1E-08
53	BUTYLBENZYLPHTHALATE	0.0E+00	3.7E-06	1	0.0E+00	2.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
54	CHRYSENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.2E+01	0E+00
55	DIBENZ(a,h,)ANTHRACENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.2E+01	0E+00
56	DIETHYLPHTHALATE	0.0E+00	3.7E-06	1	0.0E+00	8.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
57	DIMETHYLPHTHALATE	0.0E+00	3.7E-06	1	0.0E+00	1.0E+00	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
58	Di-n-BUTYLPHTHALATE	1.0E-01	3.7E-06	1	3.7E-07	1.0E-01	4E-06	1.0E-01	1.6E-06	1	1.6E-07	NA	NA
59	Di-n-OCTYLPHTHALATE	0.0E+00	3.7E-06	1	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
60	FLUORANTHENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
61	FLUORENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
62	INDENO(1,2,3-cd)PYRENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	1.2E+01	0E+00
63	PHENANTHRENE	0.0E+00	3.7E-06	1	0.0E+00	4.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
64	PYRENE	0.0E+00	3.7E-06	1	0.0E+00	3.0E-02	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
65	4,4-DDT	0.0E+00	3.7E-06	1	0.0E+00	5.0E-04	0E+00	0.0E+00	1.6E-06	1	0.0E+00	3.4E-01	0E+00
66	AROCLOR-1248	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	7.7E+00	0E+00
67	BROMIDE	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
68	CHLORIDE	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
69	NITROGEN,AMMONIA	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
70	NIRITE/NITRATE	0.0E+00	3.7E-06	1	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
71	PHOSPHORUS	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
72	SULFATE	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
73	FREON 113	0.0E+00	3.7E-06	1	0.0E+00	3.0E+00	0E+00	0.0E+00	1.6E-06	1	0.0E+00	NA	NA
74	PHENOBARBITAL	0.0E+00	3.7E-06	1	0.0E+00	NA	NA	0.0E+00	1.6E-06	1	0.0E+00	NA	NA

RANGE NAME: WS5

SITE NAME: HIMCO DUMP SITE
OPERABLE UNIT: BACKGROUND RISK
FILE NAME: POP1
LAST UPDATED: 09/12/91

EXPOSURE AND RISK CALCULATION WORKSHEET

LAND USE: FUTURE
POPULATION: RES. ADULT

EXPOSURE POINT: HOME(on-site)
MEDIUM: SOIL
ROUTE: DERMAL

HIFs = 0.0E+00
HIFc = 3.6E-05
HIFl = 1.6E-05

		SUBCHRONIC					CHRONIC						LIFETIME					
	CHEMICAL NAME	Cs	HIFs	ABS	DIs	RfDS	HQs	Cc	HIFc	ABS	DIc	RfDC	HQc	Cl	HIFl	ABS	DIl	SF	RISK
1	ALUMINUM		0.0E+00		0.0E+00		ERR	5.7E+03	3.6E-05	NA	NA	NA	NA	5.7E+03	1.6E-05	NA	NA	NA	NA
2	ANTIMONY							0.0E+00	3.6E-05	NA	NA	2.0E-05	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
3	ARSENIC							2.0E+00	3.6E-05	NA	NA	1.0E-03	NA	2.0E+00	1.6E-05	NA	NA	1.8E+00	NA
4	BARIUM							6.2E+01	3.6E-05	NA	NA	5.0E-03	NA	6.2E+01	1.6E-05	NA	NA	NA	NA
5	BERYLLIUM							6.9E-01	3.6E-05	NA	NA	5.0E-06	NA	6.9E-01	1.6E-05	NA	NA	4.3E+03	NA
6	CADMIUM(food)							0.0E+00	3.6E-05	NA	NA	6.0E-05	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
7	CADMIUM(water)							0.0E+00	3.6E-05	NA	NA	6.0E-05	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
8	CHROMIUM							7.1E+00	3.6E-05	NA	NA	2.5E-04	NA	7.1E+00	1.6E-05	NA	NA	NA	NA
9	COBALT							3.7E+00	3.6E-05	NA	NA	NA	NA	3.7E+00	1.6E-05	NA	NA	NA	NA
10	IRON							6.7E+03	3.6E-05	NA	NA	NA	NA	6.7E+03	1.6E-05	NA	NA	NA	NA
11	LEAD							8.1E+00	3.6E-05	NA	NA	NA	NA	8.1E+00	1.6E-05	NA	NA	NA	NA
12	MANGANESE							4.2E+02	3.6E-05	NA	NA	3.0E-03	NA	4.2E+02	1.6E-05	NA	NA	NA	NA
13	MERCURY							0.0E+00	3.6E-05	NA	NA	4.5E-05	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
14	NICKEL							7.5E+00	3.6E-05	NA	NA	1.0E-03	NA	7.5E+00	1.6E-05	NA	NA	NA	NA
15	SELENIUM							2.5E-01	3.6E-05	NA	NA	3.0E-03	NA	2.5E-01	1.6E-05	NA	NA	NA	NA
16	SILVER							0.0E+00	3.6E-05	NA	NA	1.5E-04	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
17	SODIUM							0.0E+00	3.6E-05	NA	NA	NA	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
18	THALLIUM							0.0E+00	3.6E-05	NA	NA	3.5E-06	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
19	VANADIUM							1.2E+01	3.6E-05	NA	NA	1.4E-04	NA	1.2E+01	1.6E-05	NA	NA	NA	NA
20	ZINC							2.2E+01	3.6E-05	NA	NA	1.0E-01	NA	2.2E+01	1.6E-05	NA	NA	NA	NA
21	CYANIDE							0.0E+00	3.6E-05	NA	NA	2.0E-02	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
22	1,1,DCA							0.0E+00	3.6E-05	2.5E-01	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
23	1,1,DCE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	9.0E-03	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	6.0E-01	0E+00
24	1,1,1,TCA							2.0E-03	3.6E-05	2.5E-01	1.8E-08	9.0E-02	2E-07	2.0E-03	1.6E-05	2.5E-01	8.0E-09	NA	NA
25	1,2,DCE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
26	2-BUTANONE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
27	2-HEXANONE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
28	4-METHYL-2-PENT							0.0E+00	3.6E-05	2.5E-01	0.0E+00	5.0E-02	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
29	ACETONE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
30	BENZENE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	2.5E-01	0.0E+00	2.9E-02	0E+00
31	BROMODICHLORO							0.0E+00	3.6E-05	2.5E-01	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	1.3E-01	0E+00
32	CARBON DISULFIDE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
33	CHLOROBENZENE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
34	CHLOROETHANE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
35	CHLOROFORM							0.0E+00	3.6E-05	2.5E-01	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	6.1E-03	0E+00
36	ETHYLBENZENE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	1.0E-01	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
37	METHYLENE CHLORIDE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	6.0E-02	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	7.5E-03	0E+00
38	STYRENE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	2.0E-01	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	3.0E-02	0E+00
39	TETRACHLOROETHENE							0.0E+00	3.6E-05	2.5E-01	0.0E+00	1.0E-02	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	5.1E-02	0E+00

40	TOLUENE	8.0E-03	3.6E-05	2.5E-01	7.2E-08	2.0E-01	4E-07	8.0E-03	1.6E-05	2.5E-01	3.2E-08	NA	NA
41	TRICHLOROETHENE	0.0E+00	3.6E-05	2.5E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	2.5E-01	0.0E+00	1.1E-02	0E+00
42	XYLENES (total)	0.0E+00	3.6E-05	2.5E-01	0.0E+00	2.0E+00	0E+00	0.0E+00	1.6E-05	2.5E-01	0.0E+00	NA	NA
43	1,4,DICHLOROBENZENE	8.0E-02	3.6E-05	1.0E-01	2.9E-07	NA	NA	8.0E-02	1.6E-05	1.0E-01	1.3E-07	2.4E-02	3E-09
44	ACENAPHTHENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
45	ANTHRACENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
46	BENZO(A)ANTHRACENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
47	BENZO(A)PYRENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
48	BENZO(B)FLUORANTHENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
49	BENZO(K)FLUORANTHENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
50	BENZO(g,h,i)PERYLENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
51	BENZOIC ACID	0.0E+00	3.6E-05	1.0E-01	0.0E+00	4.0E+00	0E+00	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
52	BEHP	5.7E-01	3.6E-05	1.0E-01	2.1E-06	2.0E-02	1E-04	5.7E-01	1.6E-05	1.0E-01	9.1E-07	1.4E-02	1E-08
53	BUTYLBENZYLPHTHALATE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	2.0E-01	0E+00	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
54	CHRYSENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
55	DIBENZ(a,h,)ANTHRACENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
56	DIETHYLPHTHALATE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	8.0E-01	0E+00	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
57	DIMETHYLPHTHALATE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	1.0E+00	0E+00	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
58	Di-n-BUTYLPHTHALATE	1.0E-01	3.6E-05	1.0E-01	3.6E-07	1.0E-01	4E-06	1.0E-01	1.6E-05	1.0E-01	1.6E-07	NA	NA
59	Di-n-OCTYLPHTHALATE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	2.0E-02	0E+00	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
60	FLUORANTHENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
61	FLUORENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
62	INDENO(1,2,3-cd)PYRENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
63	PHENANTHRENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
64	PYRENE	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
65	4,4-DDT	0.0E+00	3.6E-05	1.0E-01	0.0E+00	5.0E-04	0E+00	0.0E+00	1.6E-05	1.0E-01	0.0E+00	3.4E-01	0E+00
66	AROCLOR-1248	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	7.7E+00	0E+00
67	BROMIDE	0.0E+00	3.6E-05	NA	NA	NA	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
68	CHLORIDE	0.0E+00	3.6E-05	NA	NA	NA	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
69	NITROGEN,AMMONIA	0.0E+00	3.6E-05	NA	NA	NA	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
70	NIRITE/NITRATE	0.0E+00	3.6E-05	NA	NA	NA	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
71	PHOSPHORUS	0.0E+00	3.6E-05	NA	NA	NA	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
72	SULFATE	0.0E+00	3.6E-05	NA	NA	NA	NA	0.0E+00	1.6E-05	NA	NA	NA	NA
73	FREON 113	0.0E+00	3.6E-05	1.0E-01	0.0E+00	3.0E+00	0E+00	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA
74	PHENOBARBITAL	0.0E+00	3.6E-05	1.0E-01	0.0E+00	NA	NA	0.0E+00	1.6E-05	1.0E-01	0.0E+00	NA	NA

RANGE NAME: CSUM

SITE NAME: HIMCO DUMP SITE
OPERABLE UNIT: BACKGROUND RISK
FILE NAME: POP1
LAST UPDATED: 09/12/91

CHRONIC EXPOSURE SUMMARY

FUTURE
RES. ADULT

CHRONIC DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 HOME(on-sit GWATER ORAL (FROM WS1)	SCENARIO 2 HOME(on-sit AIR(VOC-GW) INHALATION (FROM WS2)	SCENARIO 3 HOME(on-sit GWATER DERMAL (FROM WS3)	SCENARIO 4 HOME(on-sit SOIL ORAL (FROM WS4)	SCENARIO 5 HOME(on-sit SOIL DERMAL (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	ALUMINUM	2.3E-02	0.0E+00	NA	2.1E-02	NA	0.0E+00
2	ANTIMONY	1.2E-03	0.0E+00	2.0E-06	0.0E+00	NA	
3	ARSENIC	1.1E-04	0.0E+00	1.9E-07	7.4E-06	NA	
4	BARIUM	3.4E-03	0.0E+00	5.8E-06	2.3E-04	NA	
5	BERYLLIUM	9.8E-05	0.0E+00	1.7E-07	2.6E-06	NA	
6	CADMIUM(food)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	
7	CADMIUM(water)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	
8	CHROMIUM	5.6E-04	0.0E+00	9.4E-07	2.6E-05	NA	
9	COBALT	2.3E-04	0.0E+00	3.9E-07	1.4E-05	NA	
10	IRON	4.2E-02	0.0E+00	7.1E-05	2.5E-02	NA	
11	LEAD	1.1E-03	0.0E+00	1.9E-06	3.0E-05	NA	
12	MANGANESE	9.8E-03	0.0E+00	1.7E-05	1.6E-03	NA	
13	MERCURY	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	
14	NICKEL	0.0E+00	0.0E+00	0.0E+00	2.8E-05	NA	
15	SELENIUM	8.4E-05	0.0E+00	1.4E-07	9.3E-07	NA	
16	SILVER	2.3E-04	0.0E+00	3.8E-07	0.0E+00	NA	
17	SODIUM	1.3E+00	0.0E+00	2.1E-03	0.0E+00	NA	
18	THALLIUM	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	
19	VANADIUM	3.2E-04	0.0E+00	5.4E-07	4.4E-05	NA	
20	ZINC	1.5E-03	0.0E+00	2.5E-06	8.1E-05	NA	
21	CYANIDE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	
22	1,1,DCA	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
23	1,1,DCE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
24	1,1,1,TCA	0.0E+00	0.0E+00	0.0E+00	7.4E-09	1.8E-08	
25	1,2,DCE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
26	2-BUTANONE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
27	2-HEXANONE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	
28	4-METHYL-2-PEN	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
29	ACETONE	1.2E-04	2.5E-04	1.5E-07	0.0E+00	0.0E+00	
30	BENZENE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
31	BROMODICHLORO	1.4E-04	2.7E-04	1.0E-06	0.0E+00	0.0E+00	
32	CARBON DISULFI	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
33	CHLOROBENZENE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
34	CHLOROETHANE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	
35	CHLOROFORM	1.1E-04	2.2E-04	1.8E-06	0.0E+00	0.0E+00	
36	ETHYLBENZENE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
37	METHYLENE CHLO	3.3E-04	6.7E-04	3.1E-06	0.0E+00	0.0E+00	
38	STYRENE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
39	TETRACHLOROETH	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
40	TOLUENE	0.0E+00	0.0E+00	0.0E+00	3.0E-08	7.2E-08	
41	TRICHLOROETHEN	7.0E-05	1.4E-04	2.2E-06	0.0E+00	0.0E+00	
42	XYLENES (total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	

CHRONIC RISK SUMMARY

FUTURE
RES. ADULT

CHRONIC HAZARD QUOTIENT

SCENARIO 1 HOME(on-sit GWATER ORAL (FROM WS1)	SCENARIO 2 HOME(on-sit AIR(VOC-GW) INHALATION (FROM WS2)	SCENARIO 3 HOME(on-sit GWATER DERMAL (FROM WS3)	SCENARIO 4 HOME(on-sit SOIL ORAL (FROM WS4)	SCENARIO 5 HOME(on-sit SOIL DERMAL (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
NA	NA	NA	NA	NA	0E+00
3E+00	NA	1E-01	0E+00	NA	
1E-01	NA	2E-04	7E-03	NA	
7E-02	0E+00	1E-03	5E-03	NA	
2E-02	NA	3E-02	5E-04	NA	
0E+00	NA	0E+00	0E+00	NA	
0E+00	NA	0E+00	0E+00	NA	
1E-01	0E+00	4E-03	5E-03	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
1E-01	0E+00	6E-03	2E-02	NA	
0E+00	0E+00	0E+00	0E+00	NA	
0E+00	NA	0E+00	1E-03	NA	
2E-02	NA	5E-05	2E-04	NA	
8E-02	NA	3E-03	0E+00	NA	
NA	NA	NA	NA	NA	
0E+00	NA	0E+00	0E+00	NA	
5E-02	NA	4E-03	6E-03	NA	
8E-03	NA	3E-05	4E-04	NA	
0E+00	NA	0E+00	0E+00	NA	
0E+00	0E+00	0E+00	0E+00	0E+00	
0E+00	NA	0E+00	0E+00	0E+00	
0E+00	0E+00	0E+00	8E-08	2E-07	
0E+00	NA	0E+00	0E+00	0E+00	
0E+00	0E+00	0E+00	0E+00	0E+00	
NA	NA	NA	NA	NA	
0E+00	0E+00	0E+00	0E+00	0E+00	
1E-03	NA	2E-06	0E+00	0E+00	
NA	NA	NA	NA	NA	
7E-03	NA	5E-05	0E+00	0E+00	
0E+00	0E+00	0E+00	0E+00	0E+00	
0E+00	0E+00	0E+00	0E+00	0E+00	
NA	NA	NA	NA	NA	
1E-02	NA	2E-04	0E+00	0E+00	
0E+00	0E+00	0E+00	0E+00	0E+00	
6E-03	8E-04	5E-05	0E+00	0E+00	
0E+00	NA	0E+00	0E+00	0E+00	
0E+00	NA	0E+00	0E+00	0E+00	
0E+00	0E+00	0E+00	1E-07	4E-07	
NA	NA	NA	NA	NA	
0E+00	0E+00	0E+00	0E+00	0E+00	

43	1,4,DICHLOROBE	0.0E+00	0.0E+00	0.0E+00	3.0E-07	2.9E-07		NA	0E+00	NA	NA	NA
44	ACENAPHTHENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
45	ANTHRACENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
46	BENZO(A)ANTHRA	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
47	BENZO(A)PYRENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
48	BENZO(B)FLUORA	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
49	BENZO(K)FLUORA	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
50	BENZO(g,h,i)PE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
51	BENZOIC ACID	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	0E+00	0E+00	0E+00
52	BEHP	6.0E-04	0.0E+00	6.6E-06	2.1E-06	2.1E-06		3E-02	NA	3E-04	1E-04	1E-04
53	BUTYLBENZYLPHT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	0E+00	0E+00	0E+00
54	CHRYSENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
55	DIBENZ(a,h,)AN	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
56	DIETHYLPHTHALA	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	0E+00	0E+00	0E+00
57	DIMETHYLPHTHAL	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	0E+00	0E+00	0E+00
58	Di-n-BUTYLPHTH	0.0E+00	0.0E+00	0.0E+00	3.7E-07	3.6E-07		0E+00	NA	0E+00	4E-06	4E-06
59	Di-n-OCTYLPHTH	7.0E-05	0.0E+00	7.8E-07	0.0E+00	0.0E+00		4E-03	NA	4E-05	0E+00	0E+00
60	FLUORANTHENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
61	FLUORENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
62	INDENO(1,2,3-c	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
63	PHENANTHRENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
64	PYRENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	NA	NA	0E+00	NA
65	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00		0E+00	NA	0E+00	0E+00	0E+00
66	AROCLOR-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00		NA	NA	NA	NA	NA
67	BROMIDE	5.3E-03	0.0E+00	NA	0.0E+00	NA		NA	NA	NA	NA	NA
68	CHLORIDE	2.8E+00	0.0E+00	NA	0.0E+00	NA		NA	NA	NA	NA	NA
69	NITROGEN,AMMON	3.5E-01	0.0E+00	NA	0.0E+00	NA		NA	NA	NA	NA	NA
70	NIRITE/NITRATE	2.4E-01	0.0E+00	NA	0.0E+00	NA		2E+00	NA	NA	0E+00	NA
71	PHOSPHORUS	9.5E-03	0.0E+00	NA	0.0E+00	NA		NA	NA	NA	NA	NA
72	SULFATE	8.1E+00	0.0E+00	NA	0.0E+00	NA		NA	NA	NA	NA	NA
73	FREON 113	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		0E+00	0E+00	NA	0E+00	0E+00
74	PHENOBARBITAL	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00		NA	NA	NA	NA	NA
							PATHWAY SUM (HI)	6E+00	8E-04	1E-01	5E-02	1E-04	0E+00
							POPULATION TOTAL	6E+00					

RANGE NAME: LSUM

SITE NAME: HIMCO DUMP SITE
OPERABLE UNIT: BACKGROUND RISK
FILE NAME: POP1
LAST UPDATED: 09/12/91

LIFETIME EXPOSURE SUMMARY

FUTURE
RES. ADULT

LIFETIME AVERAGE DAILY INTAKE (mg/kg/day)

	CHEMICAL NAME	SCENARIO 1 HOME(on-sit GWATER ORAL (FROM WS1)	SCENARIO 2 HOME(on-sit AIR(VOC-GW) INHALATION (FROM WS2)	SCENARIO 3 HOME(on-sit GWATER DERMAL (FROM WS3)	SCENARIO 4 HOME(on-sit SOIL ORAL (FROM WS4)	SCENARIO 5 HOME(on-sit SOIL DERMAL (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
1	ALUMINUM	9.8E-03	0.0E+00	NA	9.1E-03	NA	0.0E+00
2	ANTIMONY	5.1E-04	0.0E+00	8.5E-07	0.0E+00	NA	
3	ARSENIC	4.8E-05	0.0E+00	8.0E-08	3.2E-06	NA	
4	BARIUM	1.5E-03	0.0E+00	2.5E-06	9.9E-05	NA	
5	BERYLLIUM	4.2E-05	0.0E+00	7.0E-08	1.1E-06	NA	
6	CADMIUM(food)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	
7	CADMIUM(water)	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	
8	CHROMIUM	2.4E-04	0.0E+00	4.0E-07	1.1E-05	NA	
9	COBALT	9.9E-05	0.0E+00	1.7E-07	5.9E-06	NA	
10	IRON	1.8E-02	0.0E+00	3.0E-05	1.1E-02	NA	
11	LEAD	4.8E-04	0.0E+00	8.0E-07	1.3E-05	NA	
12	MANGANESE	4.2E-03	0.0E+00	7.0E-06	6.7E-04	NA	
13	MERCURY	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	
14	NICKEL	0.0E+00	0.0E+00	0.0E+00	1.2E-05	NA	
15	SELENIUM	3.6E-05	0.0E+00	6.0E-08	4.0E-07	NA	
16	SILVER	9.8E-05	0.0E+00	1.6E-07	0.0E+00	NA	
17	SODIUM	5.4E-01	0.0E+00	9.0E-04	0.0E+00	NA	
18	THALLIUM	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	
19	VANADIUM	1.4E-04	0.0E+00	2.3E-07	1.9E-05	NA	
20	ZINC	6.5E-04	0.0E+00	1.1E-06	3.5E-05	NA	
21	CYANIDE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	
22	1,1,DCA	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
23	1,1,DCE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
24	1,1,1,TCA	0.0E+00	0.0E+00	0.0E+00	3.2E-09	8.0E-09	
25	1,2,DCE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
26	2-BUTANONE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
27	2-HEXANONE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	
28	4-METHYL-2-PEN	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
29	ACETONE	5.3E-05	1.1E-04	6.6E-08	0.0E+00	0.0E+00	
30	BENZENE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
31	BROMODICHLORO	5.8E-05	1.2E-04	4.4E-07	0.0E+00	0.0E+00	
32	CARBON DISULFI	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
33	CHLOROBENZENE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
34	CHLOROETHANE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	
35	CHLOROFORM	4.7E-05	9.3E-05	7.4E-07	0.0E+00	0.0E+00	
36	ETHYLBENZENE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
37	METHYLENE CHLO	1.4E-04	2.9E-04	1.3E-06	0.0E+00	0.0E+00	
38	STYRENE	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
39	TETRACHLOROETH	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	
40	TOLUENE	0.0E+00	0.0E+00	0.0E+00	1.3E-08	3.2E-08	
41	TRICHLOROETHEN	3.0E-05	6.0E-05	9.5E-07	0.0E+00	0.0E+00	
42	XYLENES (total	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	

LIFETIME RISK SUMMARY

FUTURE
RES. ADULT

LIFETIME EXCESS CANCER RISK

SCENARIO 1 HOME(on-sit GWATER ORAL (FROM WS1)	SCENARIO 2 HOME(on-sit AIR(VOC-GW) INHALATION (FROM WS2)	SCENARIO 3 HOME(on-sit GWATER DERMAL (FROM WS3)	SCENARIO 4 HOME(on-sit SOIL ORAL (FROM WS4)	SCENARIO 5 HOME(on-sit SOIL DERMAL (FROM WS5)	SCENARIO 6 0 0 0 (FROM WS6)
NA	NA	NA	NA	NA	0E+00
NA	NA	NA	NA	NA	
9E-05	0E+00	1E-07	6E-06	NA	
NA	NA	NA	NA	NA	
2E-04	0E+00	3E-04	5E-06	NA	
NA	0E+00	NA	NA	NA	
NA	0E+00	NA	NA	NA	
NA	0E+00	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
0E+00	0E+00	0E+00	0E+00	0E+00	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
0E+00	0E+00	0E+00	0E+00	0E+00	
8E-06	NA	6E-08	0E+00	0E+00	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
NA	NA	NA	NA	NA	
3E-07	8E-06	5E-09	0E+00	0E+00	
NA	NA	NA	NA	NA	
1E-06	5E-07	1E-08	0E+00	0E+00	
0E+00	0E+00	0E+00	0E+00	0E+00	
0E+00	0E+00	0E+00	0E+00	0E+00	
NA	NA	NA	NA	NA	
3E-07	4E-07	1E-08	0E+00	0E+00	
NA	NA	NA	NA	NA	

43	1,4,DICHLOROBE	0.0E+00	0.0E+00	0.0E+00	1.3E-07	1.3E-07	0E+00	NA	0E+00	3E-09	3E-09	
44	ACENAPHTHENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
45	ANTHRACENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
46	BENZO(A)ANTHRA	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0E+00	NA	NA	0E+00	NA	
47	BENZO(A)PYRENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0E+00	0E+00	NA	0E+00	NA	
48	BENZO(B)FLUORA	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0E+00	NA	NA	0E+00	NA	
49	BENZO(K)FLUORA	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0E+00	NA	NA	0E+00	NA	
50	BENZO(g,h,i)PE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
51	BENZOIC ACID	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
52	BEHP	2.6E-04	0.0E+00	2.8E-06	9.1E-07	9.1E-07	4E-06	NA	4E-08	1E-08	1E-08	
53	BUTYLBENZYLPHT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
54	CHRYSENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0E+00	NA	NA	0E+00	NA	
55	DIBENZ(a,h,)AN	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0E+00	NA	NA	0E+00	NA	
56	DIETHYLPHTHALA	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
57	DIMETHYLPHTHAL	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
58	Di-n-BUTYLPHTH	0.0E+00	0.0E+00	0.0E+00	1.6E-07	1.6E-07	NA	NA	NA	NA	NA	
59	Di-n-OCTYLPHTH	3.0E-05	0.0E+00	3.3E-07	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
60	FLUORANTHENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
61	FLUORENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
62	INDENO(1,2,3-c	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	0E+00	NA	NA	0E+00	NA	
63	PHENANTHRENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
64	PYRENE	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
65	4,4-DDT	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	
66	AROCLOR-1248	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0E+00	NA	0E+00	0E+00	0E+00	
67	BROMIDE	2.3E-03	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA	
68	CHLORIDE	1.2E+00	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA	
69	NITROGEN,AMMON	1.5E-01	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA	
70	NIRITE/NITRATE	1.0E-01	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA	
71	PHOSPHORUS	4.1E-03	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA	
72	SULFATE	3.5E+00	0.0E+00	NA	0.0E+00	NA	NA	NA	NA	NA	NA	
73	FREON 113	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	
74	PHENOBARBITAL	0.0E+00	0.0E+00	NA	0.0E+00	0.0E+00	NA	NA	NA	NA	NA	

TOTAL PATHWAY CANCER RISK	3E-04	9E-06	3E-04	1E-05	1E-08	0E+00
POPULATION TOTAL EXCESS RISK	6E-04					

APPENDIX 6

EXPANDED TOXICITY SUMMARIES

This appendix contains expanded toxicity summaries for those chemicals that may contribute significant risks above a level of concern at the Himco Dump site.

Section	Chemical	Page Number
1.0	Antimony	A6-3
2.0	Arsenic	A6-4
3.0	Barium	A6-8
4.0	Beryllium	A6-10
5.0	Cadmium	A6-12
6.0	Chromium	A6-15
7.0	Cyanide	A6-18
8.0	Lead	A6-19
9.0	Mercury	A6-21
10.0	Nitrate/Nitrite	A6-25
11.0	Polycyclic Aromatic Hydrocarbons	A6-27
12.0	Vanadium	A6-32

1.0 ANTIMONY

1.1 Noncarcinogenic Effects

Both human occupational and animal studies provide evidence for respiratory effects by antimony compounds following inhalation exposure. Pneumoconiosis has been observed in humans exposed by acute and chronic inhalation to antimony at atmospheric concentrations ranging from 0.08 to 75 mg/m^3 (USEPA 1980). Occupational exposures of 2.15 mg/m^3 antimony as antimony trisulfide have produced increased blood pressure and altered EKG readings in humans (ATSDR 1990). In animals, increased macrophage proliferation and activity, myocardial pulmonary fibrosis and certain types of pneumonia have been observed after inhalation exposure to antimony at concentrations typically ranging from 45 to 125 mg/m^3 (USEPA 1980). To date, the USEPA has not determined an RfC for inhalation of antimony (USEPA 1992).

Oral administration of therapeutic doses of antimony to humans has been associated with nausea, vomiting, skin rashes, myocardial symptoms and hepatic necrosis following ingestion of doses typically ranging from 0.4 to 2.1 mg/kg/day (USEPA 1980). Consistent with observations in humans, animal studies have yielded data showing myocardial damage from oral ingestion of high doses of antimony. A decreased hypotensive response and decreased maternal weight gain have been noted in rats following subchronic oral doses as low as 0.075 mg/kg/day (ATSDR 1990). Schroeder et al. (1970) reported that rats exposed to 5 ppm (0.35 mg/kg/day) of potassium antimony tartrate via drinking water had significantly shortened lifespans, significantly lower glucose levels and significant variations in serum cholesterol levels. This study was the basis on which USEPA (1992) derived a chronic oral RfD of 4E-04 mg/kg/day. A LOAEL of 0.35 mg/kg/day and an uncertainty factor of 1,000 (to account for interspecies and intraspecies variability and the use of a LOAEL) were used to derive the oral RfD. Confidence in the chosen study is rated as low because only one species and one dose level were used, no no-observed-effect level (NOEL) was determined and gross pathology and histopathology were not well described (USEPA 1992).

1.2 Carcinogenic Effects

There is insufficient evidence to determine the carcinogenicity of antimony. Inhalation studies with 4.2 to 36 mg/m^3 antimony trioxide in rats provided only qualitative evidence of lung cancer (USEPA 1980). Other inhalation studies using 3.8 to 4.2 mg/m^3 antimony were negative for carcinogenicity in rats and pigs (ATSDR 1990). Schroeder et al. (1970) administered 5 ppm of potassium antimony tartrate in drinking water to rats from weaning until natural death and concluded antimony was not tumorigenic. Antimony has not been evaluated by the USEPA for evidence of carcinogenic potential (USEPA 1992).

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2.0 ARSENIC

Arsenic toxicity depends upon its chemical form. In general, compounds containing As(+3) (arsenites) have somewhat higher acute toxicity than compounds as As(+5) (arsenates) (ATSDR 1991, USEPA 1984). Readily soluble arsenic compounds tend to be somewhat more toxic than poorly soluble forms. However, conversions in valence state and solubility may occur both in the environment and in the body (USEPA 1988), so oxidation state is usually not a critical consideration in evaluating the toxicity of arsenic compounds.

2.1 Noncarcinogenic Effects

Inhalation exposure to arsenic compounds in air can produce skin changes, vascular injury and gastrointestinal irritation, but the effects are usually very mild. The chief effect is usually irritation to the skin and mucous membranes of the eyes, nose and throat (ATSDR 1991). Occupational exposure levels producing these effects range from 0.05 to 0.5 mg/m^3 (ATSDR 1991). For example, skin darkening and corns have been noted in workers who were exposed chronically to airborne levels of about 0.4 mg/m^3 (Perry et al. 1948), while levels of 0.1 to 0.2 mg/m^3 have been reported to cause mild skin irritation (Pinto and McGill 1953). Blom et al. (1985) concluded the risk of neurological effects is minimal at exposure levels of 0.05 mg/m^3, and ATSDR (1991) has estimated that the effects of arsenic in air are minor at exposure levels of 0.1 to 1 mg/m^3. In mice, exposure to 0.5 to 0.9 mg/m^3 produced injury to alveolar macrophages (ATSDR 1991). The USEPA has not developed an inhalation RfC for arsenic (USEPA 1992).

Oral exposure to high doses of arsenic produces marked irritation of the gastrointestinal tract, leading to nausea and vomiting. Symptoms of chronic ingestion of lower levels of arsenic often begin with a vague weakness and nausea. As exposure continues, symptoms become more characteristic and include diarrhea, vomiting, decreased blood cell formation, injury to blood vessels, damage to kidney and liver and impaired nerve function that leads to "pins and needles" sensations in the hands and feet. The most diagnostic sign of chronic arsenic exposure is an unusual pattern of skin abnormalities, including dark and white spots and a pattern of small "corns," especially on the palms and soles (ATSDR 1991)

The average daily intake of arsenic that produces these effects varies from person to person. In a large epidemiological study, Tseng et al. (1968) reported skin and vascular lesions in humans exposed to 0.014 mg/kg/day or more arsenic through the drinking water in Taiwan. These effects were not observed in a control population ingesting 0.0008 mg/kg/day.

The USEPA and the NOAEL of 0.0008 mg/kg/day for skin and vascular lesions (Tseng et al., 1968) to derive an oral RfD of 3.0E-04 mg/kg/day (USEPA 1991). The NOAEL was divided by an uncertainty factor of 3 to account for a lack of reliable data on reproductive effects and the possibility that sensitive human subgroups may not have been identified. Confidence in the RfD is rated medium. A higher rating was not given due to uncertainties in dose estimates and other problems in the epidemiological data base (USEPA 1991).

2.2 Carcinogenic Effects

Lung Cancer

There have been a number of epidemiological studies in humans which indicate that chronic inhalation exposure to arsenic is associated with increased risk of lung cancer (USEPA 1984, ATSDR 1991). As with many epidemiological studies, confounding factors such as smoking and exposure to other lung carcinogens may complicate data interpretation, but the consistent findings among studies constitute convincing evidence that arsenic does increase lung cancer incidence. Increased lung cancer risk has been reported most frequently in smelter workers exposed to predominantly As(+3) (e.g., Lee and Fraumeni 1969). Increased incidence of lung cancer also has been reported in worker populations exposed mainly to As(+5) (Ott et al. 1974). Based on the combined results of five separate risk estimates at two separate smelter facilities, the USEPA 1992 has calculated a geometric-mean unit risk of 4.29E-3 $(mg/m^3)^{-1}$ corresponding to an inhalation slope factor of 15 $(mg/kg/day)^{-1}$.

Skin Cancer

There is strong evidence from a number of human studies that oral exposure to arsenic increases the risk of skin cancer (USEPA 1984, ATSDR 1991). The most common type of cancer is squamous cell carcinoma, which appears to develop from some skin corns. In addition, basal cell carcinoma may also occur, typically arising from cells not associated with the corns. Although these cancers may be easily removed, they can be painful and disfiguring and can be fatal if left untreated.

The amount of arsenic ingestion that leads to skin cancer is controversial. Based on a study of skin cancer incidence in Taiwanese residents exposed mostly to As(+3) in drinking water (Tseng et al. 1968, USEPA 1984), the USEPA has calculated a unit risk of 5E-5 $(\mu g/L)^{-1}$ corresponding to an oral slope factor of 1.75 $(mg/kg/day)^{-1}$ (USEPA 1991). This study has been criticized on several grounds, including uncertainty about exposure levels, possible effects of poor nutrition in the exposed population, potential exposure to other substances besides arsenic and lack of blinding in the examiners.

Consequently, some quantitative uncertainty exists in the cancer potency factor derived from the Tseng data. Nevertheless, these criticisms do not challenge the fundamental conclusion that arsenic ingestion is associated with increased risk of skin cancer, and the Tseng study is considered to be the best study currently available for quantitative estimation of skin cancer risk (USEPA 1988).

Other Cancers

Although the evidence is limited, there are some reports which indicate that chronic oral arsenic exposure may increase risk of internal cancers, including cancer of the liver, bladder and lung (Chen et al. 1985, 1986, 1988a, 1988b). This is supported by limited evidence that inhalation exposure may also increase risk of gastrointestinal, renal or bladder cancers (Lee-Feldstein 1983, Enterline and Marsh 1982a).

Threshold Versus Nonthreshold Model of Arsenic Carcinogenicity

Most carcinogens are considered to act through a nonthreshold mechanism whereby no dose except zero is without risk of cancer. Some researchers have suggested that low doses of arsenic may be partially detoxified by *in vivo* methylation, possibly leading to a threshold dose below which cancer will not occur (Marcus and Rispin 1988). Although there are data which are consistent with this view, the USEPA has reviewed the available information (USEPA 1992) and has concluded that the data are insufficient at present to establish that there is a threshold for arsenic-induced cancer.

2.3 Beneficial Effects

Several studies in animals suggest that low levels of arsenic in the diet may be beneficial for reproduction and normal postnatal development (Schwartz 1977, Anke et al. 1978, 1987, Uthus et al. 1983). However, these studies were not well controlled, and some researchers believe the data are not adequate to show that arsenic is beneficial (Solomons 1984, Hindmarsh and McCurdy 1986). The USEPA (1988) has reviewed the evidence and concluded that the essentiality of low levels of arsenic in animals has not been established but is plausible.

If arsenic is beneficial or essential in animals, it is also likely to be so for humans. Based on the animal data, the estimated beneficial dose for humans is approximately 10 to 50 µg/day (USEPA 1988). This level of arsenic intake is usually provided in a normal diet, and no cases of arsenic deficiency in humans have been reported (ATSDR 1991).

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3.0 BARIUM

3.1 Noncarcinogenic Effects

Inhalation exposure to barium has not been extensively studied. One chronic human study was located which indicated the development of a benign pneumoconiosis (baritosis) in several factory workers exposed to barium dusts (ATSDR 1990). However, exposures were not well quantified. Guinea pigs exposed to 0.06 mg/m^3 barium exhibited bronchoconstriction, increased blood pressure and cardiac irregularities (ATSDR 1990). Pulmonary lesions, altered hematological parameters and decreased body weights were observed in rats following inhalation of 3.6 mg/m^3 barium (ATSDR 1990). Exposure of rats to airborne concentrations of 0.8 to 25 mg/m^3 barium for 4 hr/day for four to six months results in a number of adverse effects on body weight, liver function and reproductive parameters (Tarasenko et al. 1977). Based on this study, a chronic inhalation RfD of 1E-4 mg/kg-day has been calculated by USEPA (USEPA 1991). The LOAEL was adjusted for human breathing volume and body weight, and was divided by an uncertainty factor of 1,000 to account for interspecies and intraspecies variability, use of a LOAEL, and for the subchronic exposure duration. This value has not been verified by a USEPA workgroup and is not available in IRIS (USEPA 1991).

Barium ion (Ba^{+2}) interferes with normal potassium ion fluxes in most cells, especially electrically active cells such as nerve and muscle. Ingestion of barium salts may cause acute stimulation of the gastrointestinal muscles, resulting in salivation, nausea, vomiting and diarrhea. Skeletal and cardiac muscles are also stimulated, producing tingling, weakness, hypertension, arrhythmias and electrocardiogram abnormalities (USEPA 1984c, 1987a). Severe cases may be fatal.

The most sensitive index of chronic oral exposure to barium appears to be hypertension (USEPA 1985). In a 10-week study, Wones et al. (1990) did not observe any significant effects on hematological parameters or the cardiovascular system of 11 human subjects following ingestion of 0.21 mg/kg/day barium in the drinking water. Brenniman and Levy (1984) did not detect any significant effects on blood pressure in humans chronically ingesting less than 0.2 mg/kg/day in water. Increased blood pressure has been reported in rats ingesting doses of 0.5 mg/kg/day or higher (Perry et al. 1983). Tardiff et al. (1980) exposed rats to barium at up to 31.5 mg/kg/day for up to 13 weeks with no conclusive signs of barium toxicity observed; however, blood pressure was not measured. The USEPA used the NOAEL of 0.21 mg/kg/day based on the chronic and subchronic human studies by Brenniman and Levy (1984) and Wones et al. (1990) to derive a chronic oral RfD of 7E-2 mg/kg/day (USEPA 1992). The NOAEL was divided by an uncertainty factor of only 3 to account for the subchronic exposure duration of the Wones eat al. 1990 study, since it is supported by the chronic study by Brenniman and Levy (1984). Confidence in the RfD is rated medium since it is supported by more than one human study (USEPA 1991b).

3.2 Carcinogenic Effects

No studies were located describing carcinogenic effects of barium. Two animal studies did not detect any increased tumor incidence following lifetime oral exposure to 0.7 or 0.95 mg/kg/day barium (ATSDR 1990). Barium has not been evaluated by USEPA for human carcinogenic potential (USEPA 1992).

3.3 References

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4.0 BERYLLIUM

4.1 Noncarcinogenic Effects

The lung is the main target organ for toxicity following inhalation exposure to beryllium. Exposure to particulate beryllium oxide or to soluble beryllium compounds can result in acute chemical pneumonitis. Chronic exposure to insoluble forms can lead to chronic beryllium disease (berylliosis) in which granulomas develop in the lung. Concentrations of beryllium in the workplace associated with these effects are usually greater than 2 $\mu g/m^3$ (ATSDR 1991). Therefore, the Occupational Safety and Health Administration (OSHA) has set a standard of 2 $\mu g/m^3$ beryllium in the workplace (USEPA 1987).

In animals, the toxic response in the lung following inhalation exposure to beryllium and its compounds is much the same as it is in humans. Exposure to 40 to 4,300 $\mu g/m^3$ beryllium aerosol for 14 to 100 days has produced pulmonary pneumonitis in several animal species. A high mortality rate was noted at the higher concentrations (ATSDR 1991). Reeves et al. (1967) noted inflammatory and proliferative changes in the lungs of rats exposed to 34 $\mu g/m^3$ for 72 weeks. Adverse effects occur in animals at the lowest exposures and because berylliosis may occur in humans at exposure levels lower than the chronic animal LOAEL of 34 $\mu g/m^3$ (Reeves et al. 1967). The USEPA has not developed an inhalation RfC for beryllium due to insufficient data.

Only limited data exist on the effects of oral exposure to beryllium. Subchronic oral doses of 4.4 mg/kg/day produced a number of pathological disturbances in the lungs of rats, including a harder, more opaque appearance and increased enzyme activities (ATSDR 1991). Schroeder and Mitchener (1975) did not observe any adverse noncarcinogenic effects in rats given 5 ppm (0.54 mg/kg/day) beryllium in the drinking water for life, although the lungs were not examined. The USEPA used this study to derive an oral RfD of 5E-3 mg/kg/day (USEPA 1992). The NOAEL of 0.54 mg/kg/day was divided by an uncertainty factor of 100 to account for interspecies and intraspecies variability. Confidence in this value is rated low since only one dose was tested and the data base was considered to be of low to medium quality (USEPA 1992).

4.2 Carcinogenic Effects

Wagoner et al. (1980) conducted an epidemiological study on cancer incidence in 2,000 workers employed in beryllium processing activities. Increased mortality from lung cancer was observed. Expected lung cancer deaths (adjusted for smoking) were estimated to range from 13 to 14, in comparison to the 20 observed. Considerable uncertainty existed in the workplace beryllium concentration and the actual duration of exposure. Pulmonary carcinomas have been observed in rats and monkeys following exposures as low as 36 $\mu g/m^3$ (ATSDR 1991). The USEPA, recognizing the inadequate and limited data base, has calculated a slope factor of 8.4 $(mg/kg\text{-}day)^{-1}$ for beryllium by the inhalation route based on the human study by Wagoner et al. (1980) (USEPA 1992).

Evidence for the carcinogenicity of beryllium by the oral route comes from a single drinking water study in rats. Schroeder and Mitchener (1975) reported an elevated incidence of gross tumors in male rats exposed to 5 ppm beryllium in water when all tumor sites were combined. The USEPA used this study as the basis for an oral slope factor of 4.3 $(mg/kg\text{-}day)^{-1}$ (USEPA 1992). Beryllium is classified as a B2 carcinogenic, probable human carcinogen (USEPA 1992).

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5.0 CADMIUM

5.1 Noncarcinogenic Effects

Acute inhalation exposures to 9 to 50 mg/m^3 cadmium for one to five hours have produced fatalities in humans. Lower concentrations of 0.2 to 0.5 mg/m^3 can produce mild reversible signs of metal fume fever (ATSDR 1989). A large number of epidemiological studies have reported renal, pulmonary and hematological effects associated with chronic occupational exposures to cadmium. Air concentrations typically ranging from 0.020 to 0.270 mg/m^3 have produced tubular protinuria, kidney lesions, emphysema and anemic in chronically exposed workers (Bonnell 1955, Kjellstrom et al., 1977; Lauwerys et al. 1974); Materne et al. 1975; Tsuchiya 1967). Based on the review of several epidemiological studies, the World Health Organization (WHO 1980) estimated a 20-year exposure NOAEL of 0.007 mg/m^3 for cadmium. In animals, lung fibrosis and emphysema have been reported in rats and rabbits after subchronic exposure to 0.3 and 5 mg/m^3 cadmium, respectively (ATSDR 1989).

The USEPA is currently reviewing an inhalation RfC for cadmium and is listed as pending (USEPA 1992). The ATSDR has derived an inhalation Minimal Risk Level (MRL) of 7E-4 mg/m^3 (ATSDR 1989). This value is based on the estimated NOAEL of 7E-3 mg/m^3 (WHO 1980) for renal effects in humans, and was divided by an uncertainty factor of 10 to account for intrahuman variability (ATSDR 1989).

Acute oral dose of 20 to 130 mg/kg cadmium have been reported to be lethal to humans. Doses as low as 0.04 can produce gastrointestinal distress in humans. As with inhalation exposures, the kidney is the primary target for ingested cadmium. The renal sensitivity to cadmium stems from its ability to accumulate to high concentrations at the renal cortex, impairing renal function. The chief sign is proteinuria, but severe cases can produce electrolyte imbalance and demineralization of the bone (ATSDR 1990). Post-mortem and *in vivo* measurements are in agreement with a critical concentration of 200 µg cadmium/wet weight renal cortex, above which is associated with significant proteinuria (ATSDR 1980). In Japan, Yemagata and Shigematsu (1970) estimated a LOAEL of 0.008 mg/kg/day for proteinuria and bone disorders from intake of cadmium in rice. In mice and rats, subchronic and chronic oral administration of cadmium at doses typically ranging from 0.1 to 5 mg/kg/day have resulted in a variety of effects including a suppression of the immune system, increased mortality, decreased reproduction, developmental effects, bone mineral changes, hypertension and damage to the kidney and heart (ATSDR 1989). Liver changes were reported in rabbits following doses of 0.013 mg/kg/day for 200 days (Stowe et al. 1972).

The USEPA has calculated an oral RfD of 5E-4 and 1E-3 mg/kg/day for cadmium in water and food, respectively (USEPA 1992). The USEPA derived NOAELs of 0.005 (water) and 0.01 (food) mg/kg/day for cadmium based on a toxicokinetic model that assures 2.5% absorption from food, 5% absorption from water, 0.01% elimination of cadmium body burden/day and the critical value of 200 µg cadmium/gram wet weight renal cortex (USEPA 1985a). The NOAELs were divided by an uncertainty factor of 10 to account for intrahuman variability. Confidence in these values is rated high since they are based on data from numerous human and animal studies, and the model includes all relevant pharmacokinetic parameters (USEPA 1992).

5.2 Carcinogenic Effects

Epidemiological studies have revealed limited evidence for an excess risk of lung cancer in cadmium-exposed workers. Thun et al. (1985) reported a two-fold excess risk of lung cancer in cadmium smelter workers exposed to 170 to 2,500 $\mu g/m^3$ for six months or more. Several other studies have also indicated increased risks for lung cancer or prostate cancer. However, these studies are limited due to a small number of cases and exposure to other chemicals. In rats, inhalation of 12.5 to 50 $\mu g/m^3$ for 18 months produced a dose-dependent increase in lung tumors (Takenaka et al. 1983). Intratracheal instillation studies have also reported increased tumor incidences in the mammary gland and prostate in rats (ATSDR 1989; USEPA 1985b). The USEPA (1992) has calculated an inhalation unit risk of 1.8E-3 $(\mu g/m^3)^{-1}$ corresponding to a slope factor of 6.3E+0 $(mg/kg/day)^{-1}$ based on the lung cancer data in smelter workers (Thun et al. 1985). Although the use of animal data would result in a higher (and therefore, more conservative) slope factor, USEPA concluded it was more appropriate to use the data from Thun et al. (1985) to avoid complications due to species variation and type of exposure (cadmium salt versus cadmium fume or oxide).

Mortality studies in humans and carcinogenicity studies in animals have not detected any increased cancer incidences following oral exposure to cadmium (ATSDR 1989; USEPA 1985b). The USEPA has not derived an oral slope factor for cadmium (USEPA 1992).

5.3 Beneficial Effects

Animals fed low-cadmium diets were reported to have depressed growth, impaired reproduction and other effects (NAS 1989). The Food and Nutrition Board considers the evidence for cadmium essentiality to be weak, and if they exist, are probably met by the typical daily intake of 0.0004 mg/kg/day in the diet (ATSDR 1989; NAS 1989).

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6.0 CHROMIUM

Chromium exists in the environment mainly as salts of Cr(III) and as oxy-compounds of Cr (VI). The toxicity of Cr(III) is less than for Cr(VI), so these two forms are discussed separately.

6.1 Noncarcinogenic Effects

Chromium (III)

Data concerning the toxicity of inhaled Cr(III) in humans were not located. Little data are available describing adverse effects in animals following inhalation exposures to Cr(III). Johansson et al. (1986) reported a decrease in phagocytic activity in macrophages in rabbits exposed via inhalation at 600 $\mu g/m^3$ Cr(III) [$Cr(NO_3)_3$] for four to six weeks. ATSDR (1989) considers this value to be a LOAEL for intermediate Cr(III) exposure. There is no inhalation RfD for Cr(III) at this time (USEPA 1992).

Data concerning the toxicity of ingested Cr(III) in humans were not located. Oral exposures to Cr(III) compounds are not associated with significant toxicity except at vary high doses. In rats, acute oral LD_{50} values range from 600 to 2,600 mg Cr(III)/kg. Chronic exposure of rats to water containing 25 mg Cr(III)/L (2.4 mg/kg/day) for one year resulted in no detectable adverse effects (USEPA 1985, 1987). No treatment related effects were reported for rats exposed to doses up to 1,468 mg Cr(III)/day in the diet for two years (Ivankovic and Preussmann 1975). However, in the subchronic portion of this study, the dose level of 1,468 mg/kg/day for 90 days produced decreased liver and spleen weights in rats. The chronic NOAEL of 1,468 mg/kg/day was used to derive an oral RfD of 1E+0 mg/kg/day (USEPA 1992). The NOAEL was divided by an uncertainty factor of 100 to account for interspecies and intraspecies variability, and an additional modifying factor of ten was used to account for uncertainty in the NOAEL since the same value was reported as a LOAEL in the 90-day study. Confidence is rated low due to lack of experimental protocol in the critical study and a lack of supporting data (USEPA 1992).

Chromium (VI)

The respiratory tract is a target of intermediate and chronic inhalation exposure to chromium. Many cases of nasal mucosal ulceration and nasal septal perforation have been reported in persons occupationally exposed to Cr (VI). Lindberg and Hedenstierna (1983) reported that evidence of adverse nasal effects were found at mean exposure levels of 2 to 200 $\mu g/m^3$ Cr (VI) but not at <1 $\mu g/m^3$ Cr (VI). That a concentration of about 2 $\mu g/m^3$ is an effect level is supported by the Kuperman (1964) study which reported nasal irritation in sensitive individuals at a concentration of 2.5 to 4 $\mu g/m^3$. Because the nasal effects observed in the Lindberg and Hedenstierna (1983) study at concentrations <0.2 $\mu g/m^3$ were mild and no effects were observed at <1 $\mu g/m^3$, a concentration of 1 $\mu g/m^3$ is considered a NOAEL for nasal effects (ATSDR 1989). In animals, respiratory tract effects such as nasal mucosa perforation, granulomata of the lungs, bronchial epithelial necrosis and alveolar proteinosis have been reported in several species following exposures typically

ranging from 1,600 to 4,300 µg/m^3 Cr(VI). Immune system depression was apparent in rats after exposure to 200 µg/m^3 Cr(VI) for 90 days (ATSDR 1989). Using the LOAEL of 0.002 mg/m^3 as described by Lindberg and Hedenstierna (1983), USEPA (1991) derived a chronic inhalation of RfC of 2E-6 (5.7E-07 mg/kg/day). The LOAEL was adjusted for continuous exposures divided by an uncertainty factor of 300 to account for interhuman variability, use of a LOAEL and the subchronic duration of the study. This value has been verified and its input in IRIS is pending (USEPA 1991).

By the oral route, Cr (VI) is somewhat more toxic than Cr(III), with an oral LD_{50} (as $Na_2Cr_2O_7$) in rats of 20 mg/kg. However, detrimental effects from long-term ingestion of low levels of Cr(VI) have not been observed (USEPA 1987, 1985). Chronic ingestion of water containing 1 mg/L of Cr(VI) over a three-year period did not produce any adverse health effects in a Long Island family drinking from a private well (USEPA 1985). Nausea was the only effect observed in an individual consuming a 10 ppm solution of Cr(VI) for 15 days (ATSDR 1989). No adverse health effects were observed in rats following the ingestion of Cr(VI) in drinking water at 14.4 mg/kg-day for 60 days (USEPA 1985). Female dogs administered potassium chromate (K_2CrO_4) in their drinking water at 11.2 mg Cr(VI)/L for four years showed no abnormalities in physical condition, food consumption or growth rate. Sprague-Dawley rats administered water containing K_2CrO_4 at concentrations up to 25 mg Cr(VI)/L (2.4 mg/kg/day) for one year exhibited no pathologic effects (MacKenzie et al. 1958). This study in rats was used to calculate a chronic oral RfD of 5.0E-03 for Cr(VI) (USEPA 1992). The NOAEL of 2.4 mg/kg/day was divided by an uncertainty factor of 100 to account for interspecies an intraspecies variability. Confidence in this value rate is low due to the small number of animals used and parameters measured in the critical study, and the supporting studies are also of low quality (USEPA 1992).

6.2 Carcinogenic Effects

Chromium (III)

No evidence has been reported that Cr(III) is carcinogenic following either inhalation or ingestion (ATSDR 1989). Chromium (III) has not been evaluated by EPA for human carcinogenic potential (USEPA 1992).

Chromium (VI)

Results of several epidemiologic studies consistently link inhalation of Cr (VI) to increased incidences of lung tumors (USEPA 1992). Some of these studies, however, did not attempt to determine between exposures to Cr III or Cr VI but there is sufficient evidence in other occupational studies to attribute the carcinogenic potential to Cr (VI).

Sufficient animal data also exist to conclude that Cr (VI) is carcinogenic by a number of routes (intramuscular injection site tumors, intrapleural implant site tumors, intrabronchial implantation site tumors and subcutaneous injection site sarcomas (USEPA 1992)).

Chromium (VI) has been assigned a weight-of-evidence classification of A (a human carcinogen) by the inhalation route (USEPA 1992). An inhalation unit risk of $1.2E-2$ $(\mu g/m^3)^{-1}$ corresponding to a slope factor of 4.1E+01 $(mg/kg\text{-}day)^{-1}$ was calculated by USEPA from available epidemiological studies that indicate a dose-response relationship between Cr(VI) and lung cancer. There is no convincing evidence that oral exposure to Cr(VI) is carcinogenic (USEPA 1987).

6.3 Beneficial Effects

Chromium (III) produces beneficial effects when administered to animals fed a chromium deficient diet. Beneficial effects include enhanced glucose uptake, decreased blood cholesterol levels and increased life span. An estimated safe and adequate human intake for Cr(III) of 50 to 200 µg/day has been calculated by the National Academy of Sciences (NAS 1989). The average daily intake of chromium in the U.S. is about 60 to 100 µg/day, mostly in food.

6.4 References

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7.0 CYANIDE

7.1 Noncarcinogenic Effects

Cyanide is a general cellular poison which acts by binding in place of oxygen to heme-containing enzymes. In particular, cyanide binds to mitochondrial cytochrome oxidase, thereby blocking the cell's ability to oxidize metabolites and generate energy. Many tissues are affected by exposure to cyanide, but the nervous system is usually the most sensitive. Symptoms of acute cyanide toxicity include a dry burning throat, suffusing warmth, rapid breathing, gasping, tremors and convulsions.

7.1.1 Inhalation Exposure

Information on the effects of inhalation exposure to cyanide is limited. Concentrations of 100 to 500 ppm in air are fatal to humans within 10 to 60 minutes (Hartung 1981). Chronic exposure of humans to cyanide in the workplace has been associated with thyroid abnormalities (El Ghawabi et al. 1975) and increased incidence of nonspecific symptoms such as headache and nausea (Blanc et al. 1985). The USEPA has not determined an RfC or RfD for inhalation exposure to cyanide (USEPA 1991b).

7.1.2 Oral Exposure

The fatal oral dose in humans ranges from 0.5 to 2.9 mg CN/kg (USEPA 1987). However, dose-response data are lacking on nonlethal effects of oral exposure in humans. In rats, a two-year dietary study did not detect any significant adverse health effects at doses up to 10.8 mg CN/kg-day (Howard and Hazal 1955). In another study, rats consuming 30 mg CN/kg-day for one year had myelin and thyroid degeneration as well as weight loss (Philbrick et al. 1979). Based upon the NOAEL of 10.8 mg CN/kg-day from the Howard and Hazal study, the USEPA has calculated a chronic oral RfD for cyanide of 2E-2 mg/kg-day. The NOAEL was divided by an uncertainty factor of 100 to account for interspecies and intraspecies variation, and by a modifying factor of 5 to account for the apparent tolerance to cyanide observed when administered with food. The USEPA has medium confidence in this value (USEPA 1991b). The RfD is also considered to be suitable for evaluating subchronic oral exposure to cyanide (USEPA 1991a).

7.2 Carcinogenic Effects

No human or animal data were located regarding the carcinogenic potential of cyanide (ATSDR 1988). The USEPA (1991b) has assigned cyanide a weight-of-evidence classification of D (not classifiable) based on the fact that pertinent information regarding potential carcinogenic effects of cyanide were not located in the available literature.

7.3 References

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8.0 LEAD

8.1 Noncarcinogenic Effects

Lead is a heavy metal that produces a number of adverse health effects in humans. Acute and subacute poisoning generally occurs only after ingestion of large doses of lead (in excess of 1,000 mg/day) (NAS 1977). Encephalopathy is typically the most significant clinical manifestation, sometimes occurring

quite suddenly. Signs of developing central nervous system impairment include apathy, stupor, hyperirritability, depression, headache and tremor. Other tissues that may be injured include the gastrointestinal tract, the liver, the kidneys and red blood cells (USEPA 1986).

Instances of short-term lead poisonings in humans are now rather rare, and most health concerns center around chronic low-level exposure. Lead is retained strongly in exposed humans, and lead toxicity is cumulative. One of the characteristic effects of chronic lead exposure is hypochromic microcytic anemia, stemming from lead-induced inhibition of heme biosynthesis and a decrease in erythrocyte lifespan. Heme synthesis is inhibited not only in erythrocytes but in other tissues as well, and several key heme-containing enzymes (e.g., those required to synthesize vitamin D) show decreased activity following lead exposure (USEPA 1986).

Chronic exposure also results in impairment of the nervous system. Many studies have shown that animals and humans are most sensitive to the effects of lead during the time of nervous system development. Thus, the fetus, infants and young children are particularly vulnerable. Symptoms of nervous system damage range from subtle decreases in intelligence and scores on neurological tests to frank encephalopathy. Effects on the nervous system are generally considered to be irreversible (USEPA 1986). Additionally, lead exposure during pregnancy may result in decreased size and growth of the infant and may increase the chances of premature birth or other complications during pregnancy (USEPA 1986).

Recent studies have focused attention on the cardiovascular system as a target for lead. Epidemiological data from the United States reveal a strong correlation between blood pressure and the level of lead in the blood. Although the changes in blood pressure associated with moderate lead exposures are small, the increased risk of stroke or heart attack make this an effect of concern (USEPA 1986).

It is currently difficult to identify what degree of lead exposure, if any, can be considered safe. Most studies in humans do not involve measurement of actual exposure; instead, exposure is judged by measurement of blood lead (PbB) values. Subtle signs of lead-induced effects begin to be apparent at around 10 µg/dL or even lower, with effects becoming clearer by 3,040 µg/dL. Frank clinical signs of lead toxicity are usually apparent at blood lead levels of 80,100 µg/dL. Of special concern is the claim by several researchers that some of the effects of lead (neurobehavioral effects, heme synthesis, fetal development) do not have a threshold value (USEPA 1986).

The daily exposure to lead that produces these PbB levels cannot presently be calculated with a high degree of certainty, but it seems likely that inhalation or ingestion of only small amounts of lead per day could be of concern. Based on this, the USEPA (1988) has established a Maximum Contaminant Level Goal (MCLG) of zero for lead in drinking water. Although there is no agreed upon PbB level considered to be "safe," the USEPA has identified the range of 10 to 15 µg/dL as a range of concern for effects that warrant avoidance. USEPA has also developed a bickinetic model that predicts

the expected distribution of PbB values in populations of children exposed to various lead sources (USEPA 1989). USEPA has decided it is inappropriate to derive an RfD because some effects occur at levels so low as to be essentially without a threshold (USEPA 1992).

8.2 Carcinogenic Effects

Studies in animals indicate that chronic oral exposure to very high doses of lead salts may cause an increased frequency of tumors of the kidney (USEPA 1986). However, there is only limited evidence that lead is carcinogenic in humans, and the noncarcinogenic effects on the nervous system and on hematopoiesis are usually considered to be the most important and sensitive endpoints of lead toxicity (USEPA 1988). USEPA has classified lead as a Group B2, probably human carcinogen, based on sufficient information from animal studies with inadequate information on humans (USEPA 1992). However, slope factors for inhalation or oral exposure to lead have not been developed.

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9.0 MERCURY

The type and severity of effects from mercury ingestion are dependent on the form in which it is administered (organic versus inorganic). Therefore, these two forms will be addressed separately, below.

9.1 Noncarcinogenic Effects

Inorganic mercury (inhalation) - A few fatalities have occurred following exposure to high (unspecified air concentrations of inorganic mercury. Death was attributed to a loss of respiratory function due to extensive pulmonary tissue damage (edema, pneumonia and epithelial desquamation). Workers exposed

to concentrations of 1 to 44 mg/m^3 inorganic mercury have developed chest pains, dyspnea, cough, hemoptysis, impaired pulmonary function and pneumonitis. One study reported a significant negative association between diastolic blood pressure and inorganic mercury exposure in humans. However, other studies reported an increase in blood pressure following acute exposures. Gastrointestinal symptoms such as nausea, vomiting, diarrhea, gingivitis and mercurial stomatitis are also associated with the inhalation of inorganic mercury vapor. Human case studies have revealed that the inhalation of inorganic mercury can produce mild hepatic effects (biochemical changes) and renal effects (increased creatinine excretion, proteinuria, hematuria and degeneration of the convoluted tubules). Concentrations of 1.0 mg/m^3 have produced erythematous and pruritic skin rashes, burning eyes and conjunctivitis. Short-term exposures to 44 mg/m^3 produce long lasting feelings of irritability, a lack of ambition and a lack of sexual desire.

Other neurological symptoms such as tremors, erethism, decreased motor functions, slowed peripheral nerve conduction, impaired reflexes, headaches, and abnormal EEGs are also associated with exposure to inhaled inorganic mercury (ATSDR 1989). A few human case studies also suggest that prenatal exposure to mercury vapor can produce menstrual alterations and increased spontaneous abortions (ATSDR 1989).

Workers at chlor-alkali factories are chronically exposed to inorganic mercury vapor. Renal effects occur at concentrations of approximately 0.1 mg/m^3. The first symptoms are mild (such as proteinuria) and are reversible. More severe damage is indicated by glomerular dysfunction, nephrotic syndrom and edema. These effects usually subside a few months after the exposure ceases. Workers exposed to inorganic mercury vapor typically complain of muscle pain, burning feet, muscle cramps, and develop a yellow haze on their lenses. Neurotoxicity (as evidenced by tremors, erethism, decreased nerve conduction velocity, impaired performance and psychomotor skills) is the critical effect for inhalation exposure to inorganic mercury (Fawer et al. 1983; Piikivi and Tolonen 1989; Piikivi and Hanninen 1989; Piikivi 1989). These studies identified a NOAEL of 0.009 mg/m^3 for neurological effects of inorganic mercury.

In rats and rabbits, histopathological changes of the kidney have been reported following subchronic inhalation exposures to 0.9 to 3 mg/m^3 inorganic mercury. Necrosis of the kidney, liver and heart has also been observed in rabbits after inhalation of 0.9 to 6 mg/m^3 mercury. The same dose range has also produced neurological effects including tremors and histopathological changes and necrosis of the brain. Pigeons exhibited abnormal behavior after subchronic exposure to 17 mg/m^3 (ATSDR 1989).

The USEPA has derived an inhalation administered RfC of 3E-4 mg/m^3 for inorganic mercury (USEPA 1991a). This value is based on the NOAEL of 0.009 mg/m^3 for neurological effects in humans as described by several studies (Fawer et al. 1983; Piikivi and Tolonen 1989; Piikivi and Hanninen 1989; Piikivi 1989). The NOAEL was divided by an uncertainty factor of 30 to derive the RfC. This RfC value has been verified by a USEPA workgroup, and IRIS input is pending.

Organic mercury (inhalation) - Human fatalities have been reported following exposure concentrations as low as 1 mg/m^3 diethyl mercury for 4 to 5 months (ATSDR 1989). There is limited evidence that inhalation exposure of rats to 0.5 to 2.5 mg/m^3 inorganic mercury to rats can cause a decrease in the number of living fetuses and an increase in the number of congenital malformations and resorptions (ATSDR 1989). The USEPA has not derived an inhalation RfC or RfD for organic mercury (USEPA 1991b).

Inorganic mercury (ingestion) - Oral doses of 29 to 50 mg/kg of inorganic mercury have produced fatalities in humans. Death is attributed to shock, cardiovascular collapse, renal failure and severe gastrointestinal damage. Therapeutic administration of mercury salts (for its diuretic and antiseptic properties) has resulted in nephrotic syndrome (albuminuria, hypoalbuminemia, edema and hypercholesterolemia) after a single dose of 21.4 mg/kg. Renal failure and neurological effects, including a decreased brain weight and a decreased cerebellar cell number, were reported in two human case studies involving the consumption of 3.4 mg/kg/day mercurous chloride for 6 to 25 years in the form of a laxative pill (ATSDR 1989).

In animals, subchronic oral exposure to inorganic mercury has produced effects on the renal, immunological and neurological systems. Degenerative changes to the neurons of the dorsal route ganglia and cerebellar granule cells accompainied by ataxia, sensory loss and decreased body weight were noted in rats given oral doses of 0.8 mg/kg/day mercury as mercurous chloride for 1 to 11 weeks. A suppression of the lymphoproliferative response has been reported in mice following ingestion of 2.1 mg/kg/day for 7 weeks. Several oral and parental studies on Brown-Norway rats identify 0.3 mg/kg/day as the LOAEL for the renal effects (glomerulonephritis) of inorganic mercury (Druet et al. 1978; Bernaudin et al. 1981; and Andres 1984). There is sufficient evidence to indicate that the renal damage is mediated through an immune-type mechanism (ATSDR 1989). Pregnant hamsters given a single dose of 31.4 mg/kg inorganic mercury had an increased percentage of fetal resorptions compared to unexposed hamsters (ATSDR 1989).

The USEPA has derived an oral administered RfD of 3E-4 mg/kg/day for inorganic mercury (USEPA 1991a,c). This value is based on the LOAEL of 0.3 mg/kg/day for renal effects in Brown-Norway rats identified by several studies (Druet et al. 1978; Bernaudin et al. 1981; Andres 1984). The LOAEL was divided by an uncertainty factor of 1,000 (10 for interspecies variability, 10 for intrahuman variability, and 10 for the use of a LOAEL) to derive the RfD. This RfD has been verified by a USEPA workgroup, however, its input into IRIS is still pending (USEPA 1991a).

Organic mercury (ingestion) - The nervous system is the primary target for the effects of orally administered organic mercury. In addition, organic mercury can also produce effects on the renal and cardiovascular systems. Estimated doses, based on tissue concentrations in human fatality cases, range from 10 to 60 mg/kg/day. Abnormal renal function (polyuria, polydypsia and albuminuria) were reported in humans following ingestion of ethyl mercury.

Consumption of methylmercury in contaminated fish or grain has produced a variety of neurological symptoms in humans, including tingling extremities, impaired senses, slurred speech, incoordination, weakness, memory loss, depression, insomnia and death due to central nervous system failure (ATSDR 1989).

In rats, renal effects (tubular damage, fibrosis and inflammation) have been reported after oral exposure to 0.08 to 0.84 mg/kg/day organic mercury for 1 to 12 weeks, and at 0.015 mg/kg/day for chronic exposures. An increase in systolic blood pressure was noted in rats given 0.4 mg/kg/day organic mercury by gavage for 3 to 4 weeks. Animal studies have revealed that methyl mercury is a more potent neurotoxin than inorganic mercury. Neurological effects (degenerative changes, particularly in the cerebellum, behavioral changes, depressed dopamine synthesis) were reported in cats and mice at doses ranging from 0.015 to 0.8 mg/kg/day, and in rats at doses ranging from 0.7 to 3.2 mg/kg/day organic mercury (ATSDR 1989). Impaired spatial vision, reduced visual sensitivity, intention tremors, somesthetic impairment and incoordination were noted in monkeys given 0.04 to 0.48 mg/kg/day for 3 to 4 years (ATSDR 1989). Developmental effects including fetal eye anomalies, neurotoxicity, and behavioral changes have been reported in the offspring of rats exposed to doses of 0.008 to 0.25 mg/kg/day organic mercury during gestation. Signs of fetotoxicity, fetal death and decreased male fertility have been noted in mice and rats at doses ranging from 1 to 5 mg/kg/day organic mercury (ATSDR 1989).

The USEPA has not derived an oral RfD for organic mercury (ATSDR 1991b).

9.2 Carcinogenic Effects

Data concerning the carcinogenicity of inhaled or ingested mercury (organic or inorganic) in humans were not located in the literature cited in the reference section. Limited animal studies do not indicate any carcinogenic effect for mercury. The USEPA has classified mercury as Group D, not classifiable as to human carcinogenicity (USEPA 1991b).

9.3 Beneficial Effects

The Food and Nutrition Board does not recognize mercury as an essential trace mineral, and no recommended dietary allowance has been established (FNB, 1989).

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10.0 NITRATE/NITRITE

Nitrate and nitrite are naturally occurring inorganic ions. Nitrate can be converted to nitrite in the body, particularly by bacteria in the alimentary canal. Therefore, the effects of these two ions are discussed together.

10.1 Noncarcinogenic Effects

Data concerning the toxicity of inhaled nitrate or nitrite in humans or animals were not located.

Studies in humans and animals indicate that the chief adverse effect of nitrate and nitrite is the production of methemoglobinemia. Nitrate must first be converted to nitrite to produce this effect. Nitrite oxidizes the Fe^{+2} form of iron in hemoglobin to Fe^{+3}, forming methemoglobin. Methemoglobin can not bind oxygen normally, therefore the oxygen-carrying capacity of the blood is reduced. Typical blood levels of methemoglobin range from 0.5 to 2%. Levels below 10% are not associated with any adverse effects. Levels above 10% may result in cyanosis whereas levels as high as 25% can produce weakness, rapid pulse and tachypnea (USEPA 1991).

Infants appear to be particulary sensitive to the methemoglobin-forming effects of nitrate. This sensitivity is due to a higher pH in the stomach of infants which allows for a larger bacteria population (USEPA 1990). Bosch et al. (1950) evaluated 139 cases of cyanosis in children (8 days to 5 months old) caused by nitrate contaminated wells. All wells contained greater than 10 mg/L nitrate-nitrogen. In 214 cases of infantile methemoglobinemia, Walton et al. (1951) reported all were due to consumption of water with levels of 11 mg/L or more nitrate-nitrogen. Based on estimates of accidental exposures, older children and adults require doses of 8 to 12 mg/kg nitrite-nitrogen to produce methemoglobinemia (USEPA 1990). Two epidemiological studies reported an increased risk of birth defects (2.3 to 2.8) in subpopulations with elevated levels of nitrate in the drinking water (5 to 15 mg/L and 1.3 to 26 ppm) (USEPA 1990).

In rats, oral doses of 40 to 80 mg/kg/day nitrate or nitrite-nitrogen resulted in methemoglobinemia. Pregnant rats may be more susceptible since a single dose of 0.5 to 6 mg/kg nitrite-nitrogen was sufficient to produce up to 60% methemoglobin (USEPA 1990). Altered thyroid weight and function has been observed in rats and pigs at higher doses of nitrate-nitrogen. Nitrite has also produced a reduction in life span and damage to the liver, lung, spleen, kidney and adrenals of mice or rats (USEPA 1990). In general, doses of 2 to 10 mg/kg/day nitrite-nitrogen did not result in ay developmental or reproductive effects in animals. However, higher doses (12 to 90 mg/kg/day nitrite-nitrogen) have resulted in decreased reproduction and sperm abnormalities in the parents, and increased mortality, decreased body weight, liver and spleen damage and anemia in their offspring. A few studies have noted behavioral changes in the offspring at doses as low as 1.7 mg/kg/day nitrate-nitrogen or 2.5 mg/kg/day nitrite-nitrogen (USEPA 1990).

The USEPA has calculated an oral RfD of 1.6E+0 mg/kg/day for nitrate-nitrogen and 1E-1 mg/kg/day for nitrite-nitrogen (USEPA 1991). These values are based on the NOAEL of 10 mg/L nitrate-nitrogen for infantile methemoglobinemia as reported by Bosch et al. (1950) and Walton (1951). The NOAEL was adjusted for daily water intake (0.64-1 L) and infant body weight (4 to 10 kg). The use of an uncertainty factor was not necessary since the critical studies identified the NOAEL in the most sensitive human subpopulation, however, a modifying factor of 10 was used for nitrite-nitrogen to account for the direct toxicity of nitrite. Confidence in these values is rated high since there are a large number of good supporting human and animal studies (USEPA 1991).

10.2 Carcinogenic Effects

By themselves, studies on the carcinogenicity of nitrate or nitrite have been negative or equivocal. The primary reason for concern regarding carcinogenicity lies in the ability of the nitrite to react with secondary and tertiary amines (commonly found in the diet) to form carcinogenic nitroamines. A number of animal studies have shown that nitrite, when fed concurrently with a nitrosatable amine, yields an increased incidence of tumors in a number of tissues including the lungs, esophagus, stomach, tongue, nasal cavity and liver (USEPA 1990). A carcinogenicity assessment is currently listed as pending in IRIS (USEPA 1991).

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11.0 POLYCYCLIC AROMATIC HYDROCARBONS

Polycyclic or polynuclear aromatic hydrocarbons (PAHs) are a broad class of related compounds characterized by the presence of two or more fused aromatic rings. Individual PAHs vary considerably in their chemical structure, and differences in toxicity or potency exist among different compounds.

11.1 Noncarcinogenic Effects

Data on noncancer effects in humans following exposure to PAHs are mainly limited to obsevations following exposures to naphthalene. Based on case studies in infants, children, and adults, the primary health effect of naphthalene appears to be hemolytic anemia (ATSDR 1990a). This effect has been noted following inhalation, oral and dermal exposures, but dose response data are not available. Other noncancer effect of naphthalene which have been reported in humans exposed by the oral and/or inhalation routes include gastrointestinal distress, confusion, jaundice, renal disease and cataracts (ATSDR 1990a). Direct dermal contact with napthalene may cause regressive venucae (Cottini and Mazzone 1939, Rhoads et al. 1954).

Based on case reports of infants, children and adults, hemolytic anemia is the primary health concern for humans exposed to naphthalene (ATSDR 1990). This effect has been reported following exposure by inhalation, ingestion and dermal absorption, but dose response data were not available.

In animals, hemolytic effects were not observed in rats or mice exposed to naphthalene (Shopp et al. 1984) but were observed in dogs (Zuelzer and Apt 1949). Hepatic effects, including increased liver weight and enzyme activity, were reported in rats administered naphthalene at orally at doses of 1,000 mg/kg-day (Rao and Pandya 1981). Plasterer et al. (1985) reported a decrease in the number of live pups per litter in mice dosed with 300 mg/kg-day naphthalene in corn oil during pregnancy. Cataracts were observed in rabbits

and rats after oral administration of naphthalene at 1,000 mg/kg-day (Yamauchi et al. 1986, Rossa and Pau 1988). In a subchronic (90-day) oral study in rats, NTP (1980) identified a NOAEL for naphthalene of 35.7 mg/kg-day. This value is strongly supported by a NOAEL of 41 mg/kg-day identified in a chronic oral exposure study in rats (Schmahl 1955). Based on the NOAEL of 35.7, the USEPA has derived an oral RfD for naphthalene of 4E-03. This was calculated using an uncertainty factor of 10,000. Confidence in the value is considered to be medium (IRIS 1991).

The USEPA has derived oral RfD values for several other PAHs based on 90-day studies in mice (USEPA 1988, 1989b, 1989c, 1989d, 1989e). The effects noted included hepatotoxicity (300 mg/kg/day of acenaphthene), nephropathy (250 mg/kg/day of fluoranthene or 125 mg/kg/day of pyrene) and hematological effects (250 mg/kg/day of fluorene). No effects were reported following doses of up to 1,000 mg/kg/day of anthracene (USEPA 1989b, 1989c, 1989d, 1989e, 1988). The oral RfD values derived for these PAHs are listed below, along with their corresponding NOAEL/LOAEL values, uncertainty factors, confidence and references. An uncertainty factor of 3,000 was used to account for inter- and intraspecies variability, less-than-lifetime exposure and the lack of toxicity data in a second species. Confidence in these values was rated low.

Chemical	NOAEL, mg/kg-day	UF	RfD, mg/kg-day	Confidence	Study
Naphthalene	35.7	10,000	4E-3	--	NTP 1980
Acenaphthene	175	3,000	6E-2	low	EPA 1989
Anthracene	1,000	3,000	3E-1	low	EPA 1989
Fluoranthene	125	3,000	4E-2	low	EPA 1988
Fluorene	125	3,000	4E-2	low	EPA 1989
Pyrene	75	3,000	3E-2	low	EPA 1989

In order to estimate noncancer risks from other PAHs, it is necessary to extrapolate from the values above. On the basis of structural similarities, the RfD for acenaphthene can be applied to acenaphthylene, the RfD for naphthalene can be applied to 2-methylnaphthalene, and the RfD for pyrene can be applied to all PAHs which contain 3 or more rings, for which toxicity information is lacking.

11.2 Carcinogenic Effects

There is substantial evidence from animal and human studies that many PAHs are carcinogenic. Human data are derived mainly from studies of workers exposed to coke-oven emissions, tars, soots and oils, which contain a mixture of PAHs. The main exposure route in these workers is inhalation, and the main effect is increased incidence of lung cancer (Mazumdar et al. 1975, Redmond et al. 1976). This is supported by several studies in animals, where an increased incidence of respiratory tract tumors occurred following chronic inhalation exposure to benzo(a)pyrene or mixtures of PAHs (Thyssen et al. 1981, Dahl et al. 1985).

Cancer has not been reported in humans following oral exposure to PAHs, but a number of studies in animals indicate that ingestion of benzo(a)pyrene or other PAHs can lead to tumors of the stomach (Neal and Ridgon 1967, Snell and Stewart 1962). There are also a number of animal studies which demonstrate repeated dermal contact with benzo(a)pyrene or other PAHs leads to increased incidence of skin tumors (ATSDR 1987, 1990b).

Based on these studies, it appears that the greatest risk of carcinogenic effect from PAHs is at the point of contact, i.e., lung cancer following inhalation exposure, stomach cancer following oral exposure and skin cancer following dermal exposure. This is probably because the PAHs are readily metabolized at the point of contact and that metabolic intermediates are responsible for the carcinogenic response (ATSDR 1990a).

It is important to stress that not all PAHs have been found to be carcinogenic. The PAHs which have been ranked as probable human carcinogens (Group B2) by the USEPA include:

Benzo(a)anthracene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene
Dibenz(a,h)anthracene
Indeno(1,2,3-cd)pyrene
Chrysene

All other PAHs have been ranked as Group D (not classifiable as to human carcinogenicity) or have not yet been classified. However, it should be noted that certain aminated or nitrosylated derivatives of some of the noncarcinogenic PAHs are carcinogenic (e.g., 2-aminofluorene, 2-naphthylamine, 1-nitropyrene).

Data are too limited to permit quantitative evaluation of cancer risk for any of the PAHs except benzo(a)pyrene. For benzo(a)pyrene, the USEPA proposed cancer slope factors of 1.15E+01 $(mg/kg\text{-}day)^{-1}$ and 6.1E+00 $(mg/kg\text{-}day)^{-1}$ for the oral and inhalation routes, respectively (USEPA 1991), based on a chronic benzo(a)pyrene feeding study in rats (Neal and Rigdon 1967) and a chronic benzo(a)pyrene inhalation study in hamsters (Thyssen et al. 1981). These values are not yet verified and are currently undergoing review by a USEPA workgroup (USEPA 1991).

In general, there are two approaches by which cancer risk can be estimated for carcinogenic PAHs which lack slope factors. The most conservative approach (which was used in this risk assessment) is simply to assume that all such PAHs are as potent as benzo(a)pyrene. An alternative approach is to assign a relative potency factor (RPF) to each carcinogenic PAH, based on *in vivo* and *in vitro* structure-activity relationship studies (Chu and Chen 1983, USEPA 1989f). By the second approach, benzo(a)fluoranthene and dibenzo(a,h)anthracene are judged to be as potent as benzo(a)pyrene (RPF=1). Benzo(a)anthracene, benzo(k)fluoranthene, indeno(1,2,3-cd)pyrene and chrysene were all determined to be about 1% as potent as benzo(a)pyrene (RPF = 0.01).

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12.0 VANADIUM

12.1 Noncarcinogenic Effects

Most reported cases of acute vanadium toxicity resulted from inhalation of vanadium fumes, with effects that are apparently limited to the irritative actions on the respiratory epithelium. This effect has been observed in humans exposed to concentrations of approximately 0.1 mg/m^3, but were not noted at concentrations of 0.06 mg/m^3 (ATSDR 1990). In most of these cases, exposure is not solely due to vanadium, and hence, the effects cannot be clearly attributed to vanadium. In the case of Zenz et al. (1962), however, workers developed adverse effects within 24 hours of initial exposure as a result of processing (pelletizing) purified vanadium pentoxide. The clinical picture consisted of burning eyes, sore throat, dry cough and wheezing rales. Rales lasted three to seven days, and cough persisted for up to two weeks. No effects were recorded which were not clearly associated with irritation of the respiratory or conjunctival epithelium. Williams (1952) described similar respiratory complaints in eight men exposed to vanadium dusts while cleaning oil-fixed boilers. Additional symptoms included listlessness, pallor and "low spirits."

"Green-tongue" is an apparent effect due to vanadium exposure (Williams 1952, Vintinner et al. 1955). Musk and Tees (1982) reported the occurrence of asthma, respiratory symptoms and green discoloration of the tongue in four men working in a vanadium pentoxide refinery. The two men with most recent exposures also displayed bronchial hyperactivity to histamine. The authors concluded from their findings that vanadium may be an asthmogen. In animals, the lungs appear to be the primary target for inhaled vanadium. At the respective concentrations of 2.5 and 4.7 mg/m^3, monkeys displayed an increased pulmonary resistance and rats developed alveolar proteinosis (ATSDR 1990).

Data on actual exposure levels leading to these effects in humans are inadequate and no inhalation RfDs have been determined by USEPA (USEPA 1992).

Studies employing clinical administration of vanadium to produce lower cholesterol levels also provide data on adverse effects. Oral administration of vanadium (diammonium vanado-tartrate) has been shown to cause gastro-intestinal effects at doses of 75 to 125 mg/day in humans (Somerville and Davies 1962, Dimond et al. 1963). At a dose of 50 mg/day or more, a purple-green tint on the tongue was observed by Dimond et al. (1963). Curran et al. (1959) observed no signs of vanadium toxicity when it was administered to healthy males at 100 to 125 mg/day. Comparison of the results of Curran (1959) with those of Somerville and Davies (1962), whose patients had ischemic heart disease, xanthomatosis tendinosum or hypercholesterolemia at the start of the treatment, suggests that humans who are ill may be more sensitive to vanadium than healthy people.

Several animal studies indicate vanadium is acutely toxic (Ballotta 1931). In rabbits, a dose of 1.1 mg/kg-day administered by gavage for one month was harmless, but higher doses (up to 5.5 mg/kg/day) exerted adverse effects on the vasomotor and respiratory centers of the nervous system, accompanied by

hyperemia in the encephalon, lungs, kidney and intestine. In rats, Franke and Moxon (1937) reported reduced weight gains and diarrhea when 2.0 mg/kg/day $NaVO_3$ was administered in the diet for 100 days. No effects were noted by Stokinger et al. (1953) in rats consuming 0.89 mg/kg/day vanadium pentaoxide. Schroeder and Balassa (1967) found that a daily dose of 0.50 mg/kg/day $VOSO_4$ for a lifetime produced no toxicity in mice. No effects were noted by Stokinger et al. (1953) in rats consuming 0.89 mg/kg/day vanadium pentoxide. Schroeder et al. (1970) showed that a daily dose of 0.7 mg/kg/day vanadium (2.24 mg/kg/day vanadyl sulfate) produced no toxic effects in rats after lifetime exposure. The USEPA has derived oral RfDs of 7E-3, 2E-2 and 9E-3 mg/kg/day, based on the NOAEL values of 0.7, 2.24 and 0.9 mg/kg/day (Schroeder et al. 1979; Stokinger et al. 1953) for vanadium, vanadium sulfate and vanadium pentoxide, respectively (USEPA 1991, 1992). The NOAELs were divided by an uncertainty factor of 100 to account for inter- and intraspecies variability. The RfD for vanadium pentoxide has been verified by a USEPA workgroup, and the verification of the other two is currently listed as pending. Confidence in the vanadium pentoxide RfD is rated low due to a lack of information in the critical study and a lack of supporting data (USEPA 1992).

12.2 Carcinogenic Effects

No information on the carcinogenicity of vanadium was located. Three animal studies, however, concluded that vanadium was not carcinogenic. Schroeder and Balassa (1967) administered vanadium to mice in drinking water (5 ppm) from weaning to natural death. Significantly fewer spontaneous tumors were observed. Schroeder et al. (1970) repeated the experiment with rats obtaining similar results. Stoner et al. (1976) investigated the induction of lung adenomas in mice with repeated injections of vanadium over a three-week period (dose level up to 120 mg/kg/mouse). The results were negative.

The USEPA has not assigned a weight-of-evidence classification to vanadium.

12.3 Beneficial Effects

Vanadium deficiencies have been produced in two or more animal species (FNB 1989). Deficiency symptoms included decrease in perinatal survival, growth, hematocrit, plasma cholestrol and lipids, and phospholipids in the liver (Shils and Young 1988). This suggests that there may be essential functions for vanadium in animals, and perhaps in humans. On the basis of available information, however, a human requirement cannot be defined (NAS 1989).

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APPENDIX E2

ECOLOGICAL ASSESSMENT

Submitted to

SEC Donohue Inc.
111 North Canal Street, Suite 305
Chicago, IL 60606

Attention: Dr. Mehdi Geraminegad, Site Manager (2 copies)

TR-1107-44A

BASELINE RISK ASSESSMENT - ENVIRONMENTAL EVALUATION

RI/FS Support for the Himco Dump Site

Prepared Under

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LIST OF ACRONYMS

AWQC	Ambient Water Quality Criteria
BTAG	Biological Technical Assistance Group
CLP	Contract Laboratory Program
CRDL	Contract Required Detection Limit
ER-L	Effects Range-Low
FIT	Field Investigation Team
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
NPL	National Priorities List
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
RAS	Routine Analytical Services
RI	Remedial Investigation
TAL	Target Analyte List
TCL	Target Compound List
TIC	Tentatively Identified Compound
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey

EXECUTIVE SUMMARY

Introduction and Background

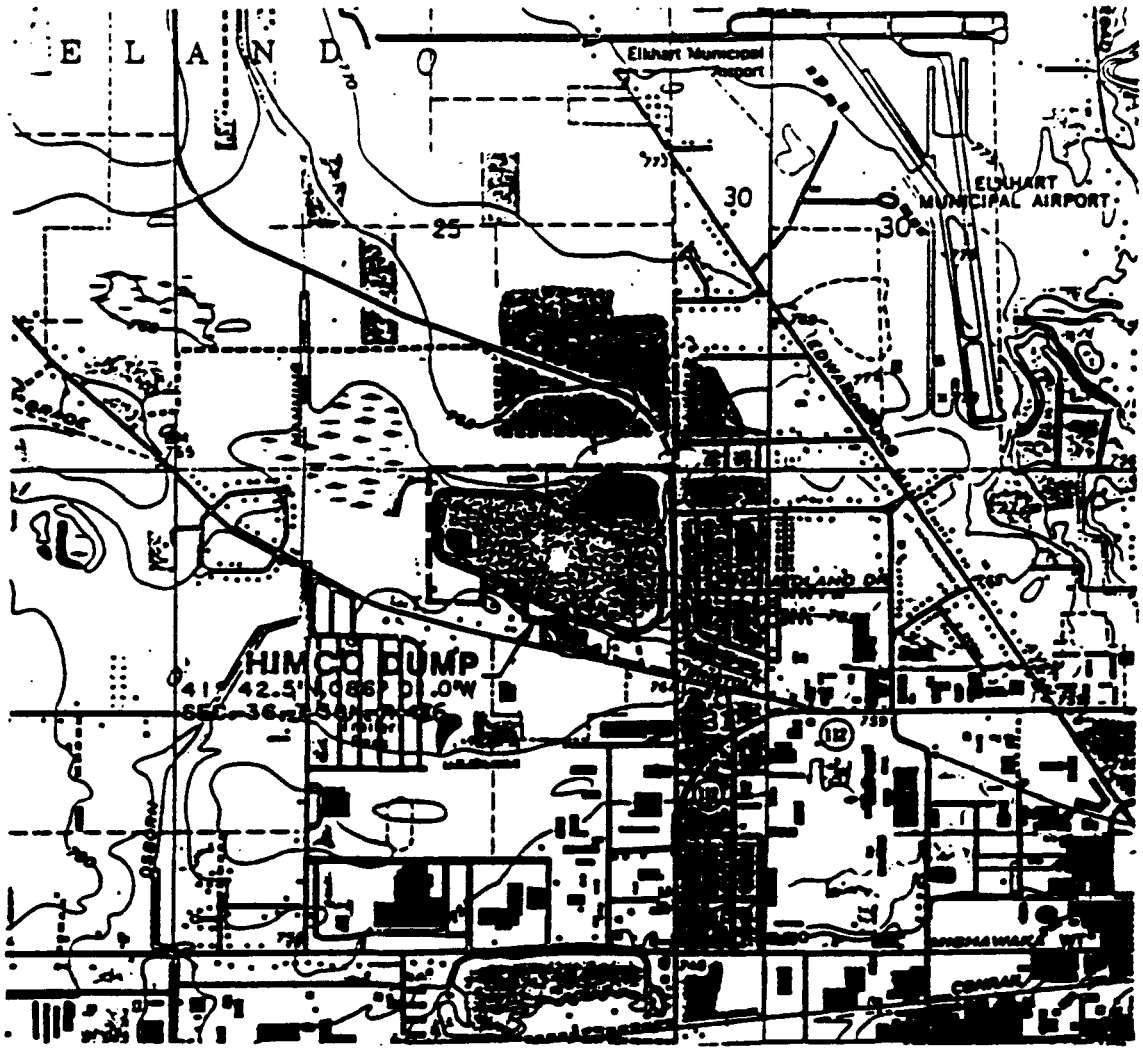
This report provides an ecological assessment for the Himco Dump site in Elkhart, Indiana. The Himco Dump site (site) is a closed landfill located at County Road 10 and Nappanee Street Extension in the city of Elkhart, Indiana (Figure ES-1). The site is approximately 50 acres and is bordered by roads and residences on the south and east sides and tree lines and surface water bodies on the north and west sides (Figure ES-2). The central area of the site contains the landfill (dump), which is covered with a surface layer of sand and an underlying layer of calcium sulfate, both of which vary in thickness across the site.

A small wetland area occurs on the east edge of the site between a 30-foot deep quarry pit pond in the northeast corner of the site and the landfill. Two smaller and shallower ponds occur on the west end of the site (Figure ES-3).

Numerous piles of concrete and asphalt waste material occur over the eastern half of the landfill. A biphasic, red-brown leachate containing approximately 48 percent toluene by weight in the organic phase and a number of other volatile organic compounds has been observed in a leachate sample from the southwest corner of the landfill. Seventy-one 55-gallon drums were removed from this area in May 1992. A gray-black leachate is also present below surface in other areas of the landfill. The area south of the landfill and north of County Road 10 contains scattered piles of rubble, asphalt, concrete and metal debris, but no calcium sulfate.

The Himco Dump site was privately operated by Himco Waste Away Services, Inc. and used as a landfill between 1960 and 1976 (SEC Donohue 1992). The landfill was constructed with no liner, leachate or gas recovery system in the central area of the site, which was originally a marsh and grassland. Wastes were placed directly onto the ground surface or into five trenches, each 10- to 15-feet deep, located in the eastern quarter of the site (SEC Donohue 1992). The trenches were also used for burning of paper wastes. Wastes were covered daily with sandy soil from the quarry pit, on-site excavated ponds or other locations from the periphery of the site. Wastes consisted primarily of calcium sulfate (from a pharmaceutical source) with lesser amounts of other pharmaceutical, industrial, construction and household wastes (SEC Donohue 1992). The landfill was operated until 1976 when it was closed and covered with calcium sulfate and sand.

In 1984, a USEPA field investigation team conducted a site inspection of the dump and determined that groundwater was impacted by metals and volatile and semivolatile chemicals. At the time of the site inspections, leachate seeps were observed but not characterized. In 1988, the Himco Dump site was proposed for the National Priorities List (NPL) and was designated a final NPL site in February, 1990.



SOURCE: USGS 7.5 MIN. QUAD ELKHART, INDIANA, 1961
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FIGURE ES-1 SITE LOCATION MAP HIMCO DUMP SITE, ELKHART, INDIANA

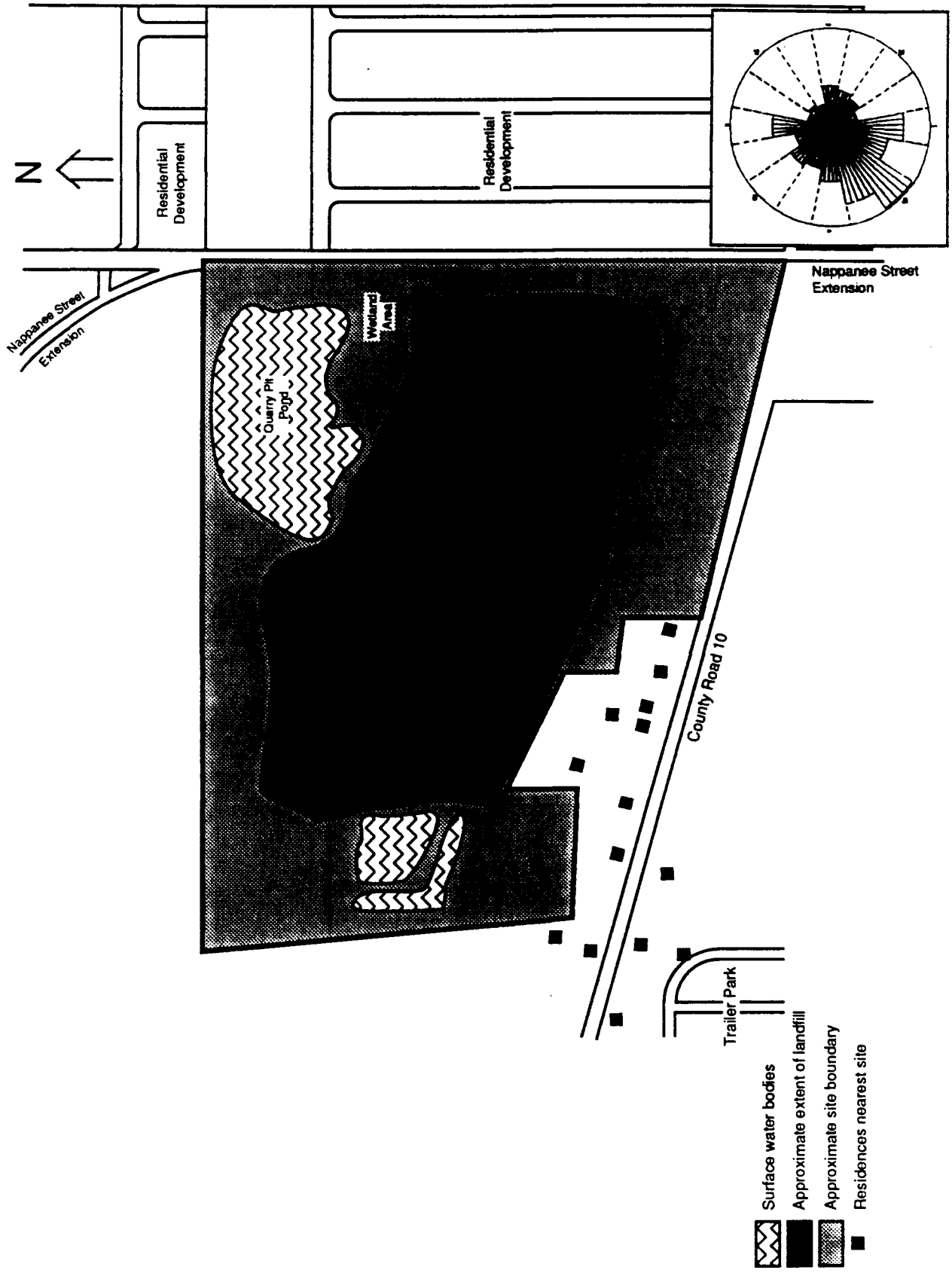


FIGURE ES-2 FEATURES OF THE HIMCO SITE

Ecological Inventory

The plant communities present on the Himco Dump site (Figure ES-3) include wet and dry prairie assemblages containing over 100 native species of plants. These communities are regionally significant, since the next largest prairie community (Bristol Prairie Nature Preserve) is 10 miles away. Conditions on the landfill cap may also favor establishment of the state-listed Michaux's stitchwort, but its presence has not been confirmed.

The Indiana bat, star-nosed mole and badger are the only wildlife species of concern at this site. The site may provide suboptimal summer habitat for the Indiana bat. Habitat conditions at the site are likely to be suitable for the star-nosed mole, badger and other wildlife characteristic of the surrounding area.

Aquatic communities in the ponds on site appear similar to those present in a nearby control pond. A small (less than one acre) wetland is present along the east end of the site between the quarry pond and the landfill which may qualify as a jurisdictional wetland. Although no surface streams drain the site, the St. Joseph River is located two miles to the south and contains a diverse fishery.

Contaminants of Ecological Concern

A large number of chemicals were detected at least once in soil, surface water or sediment (Table ES-1) and are considered as contaminants of potential ecological concern. Elevated levels of contaminants of potential ecological concern may represent hazards to exposed organisms due to toxic effects. Eighteen of the contaminants present in site soils at elevated levels are generally considered toxic. These include nine inorganic and nine organic compounds and PAHs. Inorganic contaminants known to be toxic include:

- Antimony
- Arsenic
- Copper
- Cyanide
- Lead
- Mercury
- Selenium
- Silver
- Zinc

Copper, selenium and zinc are essential nutrients, but may become toxic at high dose levels.

Organic compounds known or suspected to be toxic that are present in soils at levels greater than background include:

- bis(2-ethylhexyl)phthalate
- Carbazole
- 4,4-DDT

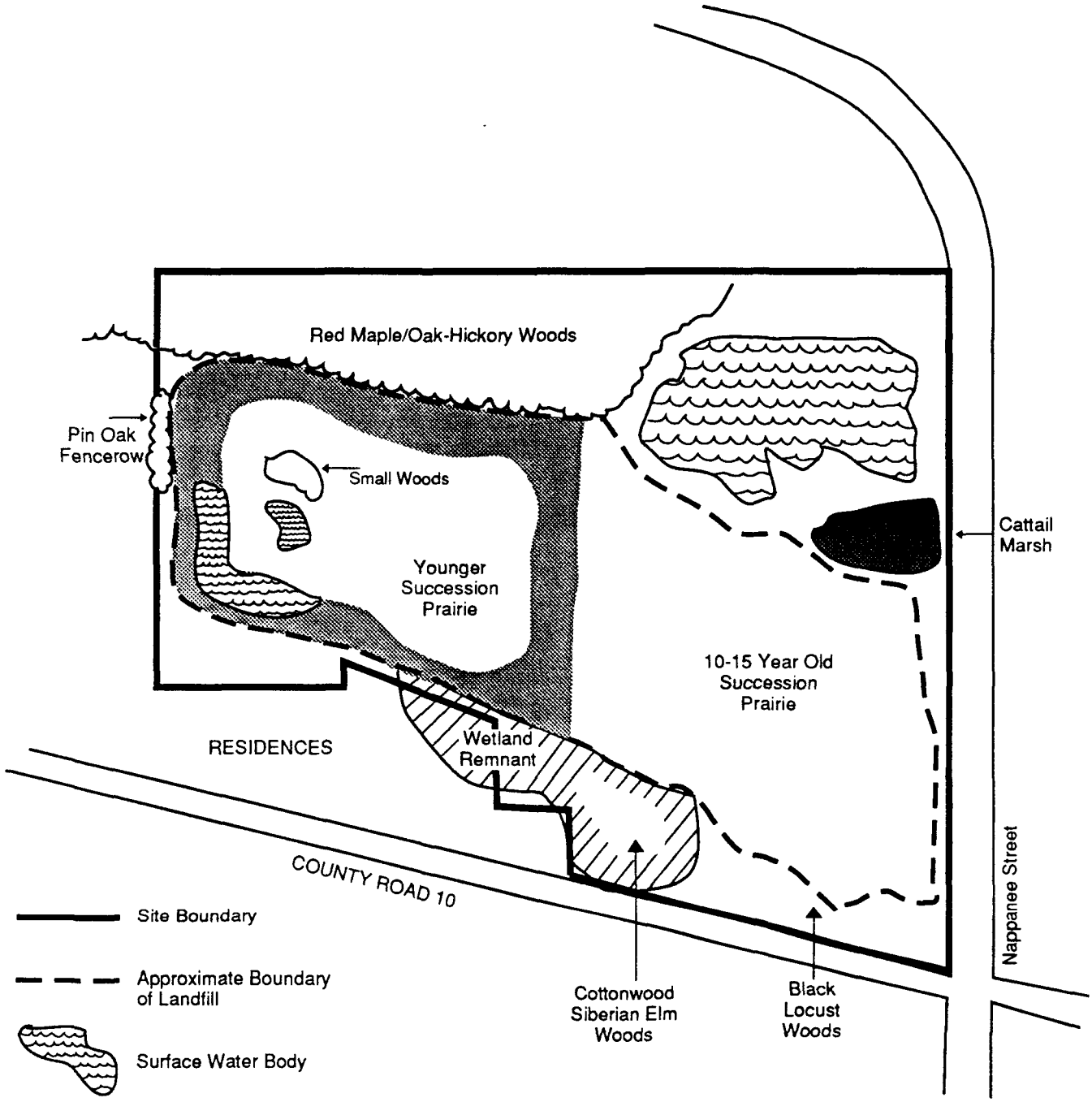


FIGURE ES-3 PLANT COMMUNITY MAP

TABLE ES-1 CONTAMINANTS OF POTENTIAL ECOLOGICAL CONCERN

Fraction	Chemical	Frequency of Detection		
		Soil	Surface Water	Sediment
Volatiles	1,1,1-Trichloroethane	0/56	0/16	1/18
	1,1-Dichloroethene	1/56	0/18	0/18
	2-Butanone	7/46	0/11	3/18
	4-Methyl-2-pentanone	0/56	1/18	0/18
	Acetone	18/56	4/18	2/18
	Benzene	1/56	0/18	0/18
	Carbon disulfide	2/56	2/18	2/18
	Chloroform	0/56	0/18	1/18
	Ethylbenzene	3/56	4/18	0/18
	Methylene Chloride	12/56	2/18	1/18
	Styrene	1/56	0/18	0/18
	Tetrachloroethene	1/56	0/18	1/18
	Toluene	21/56	0/18	0/18
	Trichloroethene	2/56	0/18	1/18
	Xylenes (Total)	5/56	5/18	1/18
Semivolatiles	1,4-Dichlorobenzene	6/54	0/18	0/18
	2-Methylnaphthalene	1/54	0/18	0/18
	Acenaphthene	4/55	0/18	0/18
	Acenaphthylene	2/56	0/18	0/18
	Anthracene	5/56	0/18	0/18
	Benzo(a)anthracene	8/56	0/18	0/18
	Benzo(a)pyrene	8/56	0/18	0/18
	Benzo(b)fluoranthene	9/56	0/18	0/18
	Benzo(g,h,i)perylene	5/54	0/18	0/18
	Benzo(k)fluoranthene	9/56	0/18	0/18
	Benzoic acid	1/39	0/12	2/12
	bis(2-Ethylhexyl)phthalate	32/54	0/18	8/18
	Butylbenzylphthalate	1/54	0/18	0/18
	Carbazole	3/17	0/6	0/6
	Chrysene	9/56	0/18	0/18
	Di-n-butylphthalate	10/56	0/18	1/18
	Di-n-octylphthalate	1/54	0/18	0/18
	Dibenzo(a,h)anthracene	4/56	0/18	0/18
	Dibenzofuran	3/56	0/18	0/18
	Diethylphthalate	0/54	0/18	1/18
	Dimethylphthalate	1/54	0/18	0/18
	Fluoranthene	10/56	0/18	0/18
	Fluorene	4/56	0/18	0/18
	Indeno(1,2,3-cd)pyrene	7/56	0/18	0/18
	Naphthalene	2/55	0/18	0/18
	Phenanthrene	8/56	0/18	0/18
	Pyrene	10/56	0/18	0/18

continued-

Table ES-1 - continued

Fraction	Chemical	Frequency of Detection		
		Soil	Surface Water	Sediment
Pesticides	4,4-DDE	1/56	0/15	0/18
	4,4-DDT	2/56	0/15	0/18
	Aroclor-1248	0/56	0/15	1/18
Inorganics	Aluminum, Dissolved	0/0	6/6	0/0
	Aluminum, Total	52/56	18/18	18/18
	Antimony, Total	25/56	0/18	1/18
	Arsenic, Dissolved	0/0	1/6	0/0
	Arsenic, Total	43/56	8/18	18/18
	Barium, Dissolved	0/0	6/6	0/0
	Barium, Total	47/56	18/18	18/18
	Beryllium, Total	28/56	0/18	6/18
	Cadmium, Dissolved	0/0	1/6	0/0
	Cadmium, Total	1/56	0/18	0/18
	Calcium, Dissolved	0/0	6/6	0/0
	Calcium, Total	56/56	18/18	18/18
	Chromium, Total	44/56	2/18	18/18
	Cobalt, Total	41/56	0/18	15/18
	Copper, Total	51/56	1/18	18/18
	Iron, Dissolved	0/0	6/6	0/0
	Iron, Total	55/56	18/18	18/18
	Lead, Dissolved	0/0	3/6	0/0
	Lead, Total	51/56	12/18	18/18
	Magnesium, Dissolved	0/0	6/6	0/0
	Magnesium, Total	51/56	18/18	18/18
	Manganese, Dissolved	0/0	6/6	0/0
	Manganese, Total	54/56	18/18	18/18
	Mercury, Total	6/56	0/18	0/18
	Nickel, Dissolved	0/0	2/6	0/0
	Nickel, Total	36/56	2/18	17/18
	Potassium, Dissolved	0/0	6/6	0/0
	Potassium, Total	36/56	18/18	18/18
	Selenium, Dissolved	0/0	2/6	0/0
	Selenium, Total	12/56	0/18	11/18
	Silver, Total	5/50	1/18	1/18
	Sodium, Dissolved	0/0	6/6	0/0
	Sodium, Total	30/56	18/18	18/18
	Thallium, Total	0/54	1/18	1/12
	Vanadium, Dissolved	0/0	3/6	0/0
	Vanadium, Total	49/56	1/18	18/18
	Zinc, Dissolved	0/0	6/6	0/0
	Zinc, Total	45/56	12/18	18/18
	Cyanide, Total	6/56	0/18	0/18

continued-

Table ES-1 - continued

Fraction	Chemical	Frequency of Detection		
		Soil	Surface Water	Sediment
Other	Bromide, Dissolved	0/0	3/12	0/0
	Chloride, Cl	0/0	12/12	0/0
	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0/0	7/12	0/0
	Sulfate, SO4	0/0	12/12	0/0
	TP (Total Phosphorus)	0/0	12/12	0/0

- Dibenzofuran
- 1,4-Dichlorobenzene
- Di-N-butylphthalate
- Ethylbenzene
- PAHs
- Toluene
- Xylenes (total)

Inorganic chemicals present in site surface waters that may pose hazards to exposed organisms due to toxicity include:

- Arsenic
- Chromium
- Carbon disulfide
- Nickel
- Zinc

Chromium is also an essential nutrient, but may become toxic at high dose levels.

Chemicals present in sediment that may pose hazards to exposed organisms due to toxicity include:

- Acetone
- Aroclor 1248
- Bis(2-ethylhexyl)phthalate
- Selenium
- Thallium

Potential exposures of ecological concern are summarized in Table ES-2.

Conclusions

The Himco Dump site is unusual in that conditions on a large area of the site support unique wet and dry prairie plant communities and large numbers of native plant species. This situation is most likely related to the nutrient-poor calcium sulfate and sand cover and historically rich sources of native plant seeds. These communities have a higher ecological value than the highly disturbed communities in surrounding areas that are dominated by non-native plant species.

While toxic chemicals are present in soil in the areas where the prairie communities are located, measured concentrations are unlikely to pose adverse impacts to resident species of plants and animals. Burrowing species of small mammals are likely to experience the highest exposures in these and other areas of the site.

The largest variety and highest concentrations of contaminants of ecological concern occur in the south/southeast area of the site. The greatest hazard to resident organisms occurs in this area of the site. This area is highly disturbed and unlikely to support populations of ecologically significant plant and animal populations. Small mammals are likely to inhabit and may be exposed to contaminants in this area.

TABLE ES-2 BIOCONCENTRATION FACTORS FOR CONTAMINANTS OF POTENTIAL ECOLOGICAL CONCERN IN SURFACE WATER AND SEDIMENT

Chemical	BCF	Species	Source
Volatile Organics			
1,1,1-Trichloroethane	9	Lepomis macrochirus	(a)
2-Butanone	NA[b]		
4-Methyl-2-pentanone	NA		
Acetone	NA		
Carbon disulfide	NA		
Chloroform	6	Lepomis macrochirus	(a)
Ethylbenzene	NA		
Methylene Chloride	NA		
Tetrachloroethene	49	Lepomis macrochirus	(a)
Trichloroethene	NA		
Xylenes (Total)	NA		
Semivolatile Organics			
Benzoic acid	NA		
bis(2-Ethylhexyl)phthalate	20-80	Asellus brevicaudum	(a)
	3,100	Chironomus plumosus	(a)
	5,200	Daphnia magna	(a)
	116-13,600	Gamarus pseudolimnaeus	(a)
	2,300	Hexagenia bilineata	(a)
Di-n-butylphthalate	6,600	Chironomus plumosus	(a)
	5,000	Daphnia magna	(a)
	6,500	Gamarus pseudolimnaeus	(a)
	1,900	Hexagenia bilineata	(a)
	2,700	Ischnura verticalis	(a)
	5,000	Palaemonetes kadiakensis	(a)
Diethylphthalate	117	Lepomis macrochirus	(a)
Pesticides/PCBs			
Aroclor-1248	72,950	"Fish"	(a)
Inorganics			
Aluminum	NA		
Antimony	ND[c]		(d)
Arsenic	350	Geometric mean[e]	(d)

continued-

(a) USEPA 1987a.
(b) Not available.
(c) No data.
(d) USEPA 1989c.
(e) Species used to calculate mean not identified in reference.

Table ES-2 - continued

Chemical	BCF	Species	Source
Inorganics - continued			
Barium	NA		
Beryllium	ND		(d)
Cadmium	326	Geometric mean	(d)
Calcium	NA		
Chromium III	127	Geometric mean	(d)
Chromium VI	155	Geometric mean	(d)
Cobalt	NA		
Copper	1,183	Geometric mean	(d)
Iron	NA		
Lead	179	Geometric mean	(d)
Magnesium	NA		
Manganese	NA		
Nickel	50	Geometric mean	(d)
Potassium	NA		
Selenium	ND		(d)
Silver	ND		(d)
Sodium	ND		(d)
Thallium	15	Geometric mean	(d)
Vanadium	NA		
Zinc	578	Geometric mean	(d)
Cyanide	NA		
Other			
Bromide	NA		
Chloride	NA		
Nitrogen, Nitrate	NA		
+ Nitrite (NO2 + NO3)	NA		
Sulfate	NA		
Phosphorus	NA		

Other areas of the site are unlikely to pose a significant threat of adverse effects to exposed organisms. Ponds on site contain a number of toxic chemicals, but only at concentrations slightly elevated over those in a background control pond. Aquatic life in these ponds is not significantly reduced relative to the background location. The aquatic and wetland communities on site are not likely to represent ecological resources of regional importance due to their small size. Off-site ecological resources, including fish populations in the St. Joseph River, are not exposed to contaminant releases that could result in adverse impacts.

Habitat conditions on site may support three species of special concern, the badger, star-nosed mole and Michaux's stitchwort. Threats to these organisms posed by exposure to contaminants of ecological concern are possible, but unlikely, if individuals occur on site.

Recommendations

1. Because of their regional significance, the prairie communities at this site should be given careful consideration. Efforts should be made to preserve them during remediation.

2. Additional site surveys should be conducted to determine whether the badger, star-nosed mole, Michaux's stitchwort or other species of special concern are present on site. Surveys should be conducted at a time of year when resident populations or transient individuals are most likely to be observed.

1.0 INTRODUCTION

This report provides an environmental evaluation (ecological assessment) for the Himco Dump site in Elkhart, Indiana. It is based on personal observations, discussions with scientists that have visited the site, survey results and documents available through May, 1992. This assessment supplements the remedial investigation (RI) report (SEC Donohue 1992) and human health evaluation report (Life Systems 1992) prepared for this Superfund site.

1.1 Objectives of the Ecological Assessment

The objectives of this report are as follows:

1. Characterize the biological resources of the site and adjacent habitats.

2. Identify actual and potential impacts associated with release of hazardous substances from the site.

3. Provide sufficient information for the USEPA Region V Superfund Biological Technical Assistance Group (BTAG) to determine the need for additional data collection, e.g., tissue sampling and toxicity tests of soils, sediments and surface water.

The first objective will be met by summarizing and discussing findings of studies conducted at the site and published information on ecological conditions of the area of northern Indiana where the site is located.

The second objective will be met by performing a retrospective ecological assessment (USEPA 1991) according to current U.S. Environmental Protection Agency (USEPA) guidance (USEPA 1991, 1989a,b). For purposes of this report, this is defined as using information from existing studies to characterize ecological impacts and potential risks that may have resulted from past landfilling and other waste management activities at the Himco Dump site.

The third objective will be met by the results of the ecological assessment and recommendations developed from those results.

1.2 Scope of the Ecological Assessment

The scope of this assessment is limited to characterizing the environmental setting, including an ecological inventory and identifying impacts and potential risks associated with release of hazardous substance from the site. The scope of the assessment does not include the following:

- Bioassays, toxicity testing, biomarker studies or tissue sampling
- An evaluation of ecological impacts of remedial alternatives
- Establishment of clean-up goals and remedial action objectives for ecological resources

1.3 Organization of This Report

Including the Executive Summary and this Introduction, this report includes ten sections and seven appendices. Section 2.0 describes the site and history of activities. An ecological inventory is provided for the site in section 3.0. Section 4.0 provides an analysis of site contamination and identifies contaminants of potential ecological concern. Section 5.0 provides an exposure assessment for ecological resources potentially exposed to contaminants at the site. Section 6.0 provides a summary of ecotoxicological properties of contaminants of ecological concern. Section 7.0 characterizes impacts and potential risks to ecological resources. Section 8.0 summarizes uncertainties in the assessment. Section 9.0 provides conclusions and recommendations and Section 10.0 provides references used in the ecological assessment.

Appendix 1 contains a plant survey report for the site. Appendix 2 contains a report of a survey of birds and mammals for the site. Appendix 3 contains a letter of coordination from the Bloomington Field Office of the U.S. Fish and Wildlife Service. Appendix 4 contains an aquatic macroinvertebrate survey for surface waters on site. Appendix 5 contains results of a retrieval from the Indiana Natural Heritage Program databank. Appendix 6 contains summary tables for environmental monitoring data collected during the RI. Appendix 7 provides summaries of environmental monitoring data for subareas of the site which have unique ecological features.

2.0 SITE DESCRIPTION AND HISTORY

2.1 Site Description

The Himco Dump site (site) is a closed landfill located at County Road 10 and Nappanee Street Extension in the city of Elkhart, Indiana (Figure 2-1). The site is approximately 50 acres and is bordered by roads and residences on the south and east sides and tree lines and surface water bodies on the north and west sides (Figure 2-2). The central area of the site contains the landfill (dump), which is covered with a surface layer of sand and an underlying layer of calcium sulfate, both of which vary in thickness across the site.

A small wetland area occurs on the east edge of the site between a 30-foot deep quarry pit pond in the northeast corner of the site and the landfill (SEC Donohue 1992). The two smaller and shallower ponds on the west end of the site (Figure 2-2) are named by their shape and size, L-pond and small pond.

Numerous piles of concrete and asphalt waste material occur over the eastern half of the landfill (SEC Donohue 1992). A biphasic, red-brown leachate containing approximately 48 percent toluene by weight in the organic phase and a number of other volatile organic compounds has been observed in a leachate sample from the southwest corner of the landfill. In May 1992, seventy-one 55-gallon drums were removed from this area. A gray-black leachate is also present below surface in other areas of the landfill (SEC Donohue 1992). The area south of the landfill and north of County Road 10 contains scattered piles of rubble, asphalt, concrete and metal debris, but no calcium sulfate (SEC Donohue 1992).

Land use in areas surrounding the site is agricultural, residential and light industrial (SEC Donohue 1992).

2.2 Site History

The Himco Dump site was privately operated by Himco Waste Away Services, Inc. and used as a landfill between 1960 and 1976 (SEC Donohue 1992). The landfill was constructed with no liner, leachate or gas recovery system. The central area of the site was originally a marsh and grassland. Wastes were placed directly onto the ground surface or into five trenches, each 10- to 15-feet deep, located in the eastern quarter of the site (SEC Donohue 1992). The trenches were also used for burning of paper wastes. Wastes were covered daily with sandy soil from the quarry pit, on-site excavated ponds or other locations from the periphery of the site. Wastes consisted primarily of calcium sulfate (from a pharmaceutical source) with lesser amounts of other pharmaceutical, industrial, construction and household wastes (SEC Donohue 1992). The landfill was operated until 1976 when it was closed and covered with calcium sulfate and sand.

In 1984, a USEPA field investigation team (FIT) conducted a site inspection of the dump and determined that groundwater was impacted by metals and volatile and semivolatile organic chemicals. At the time of the site inspections, leachate seeps were observed but not characterized. In 1988, the Himco Dump site was proposed for the National Priorities List (NPL) and was designated a final NPL site in February, 1990.

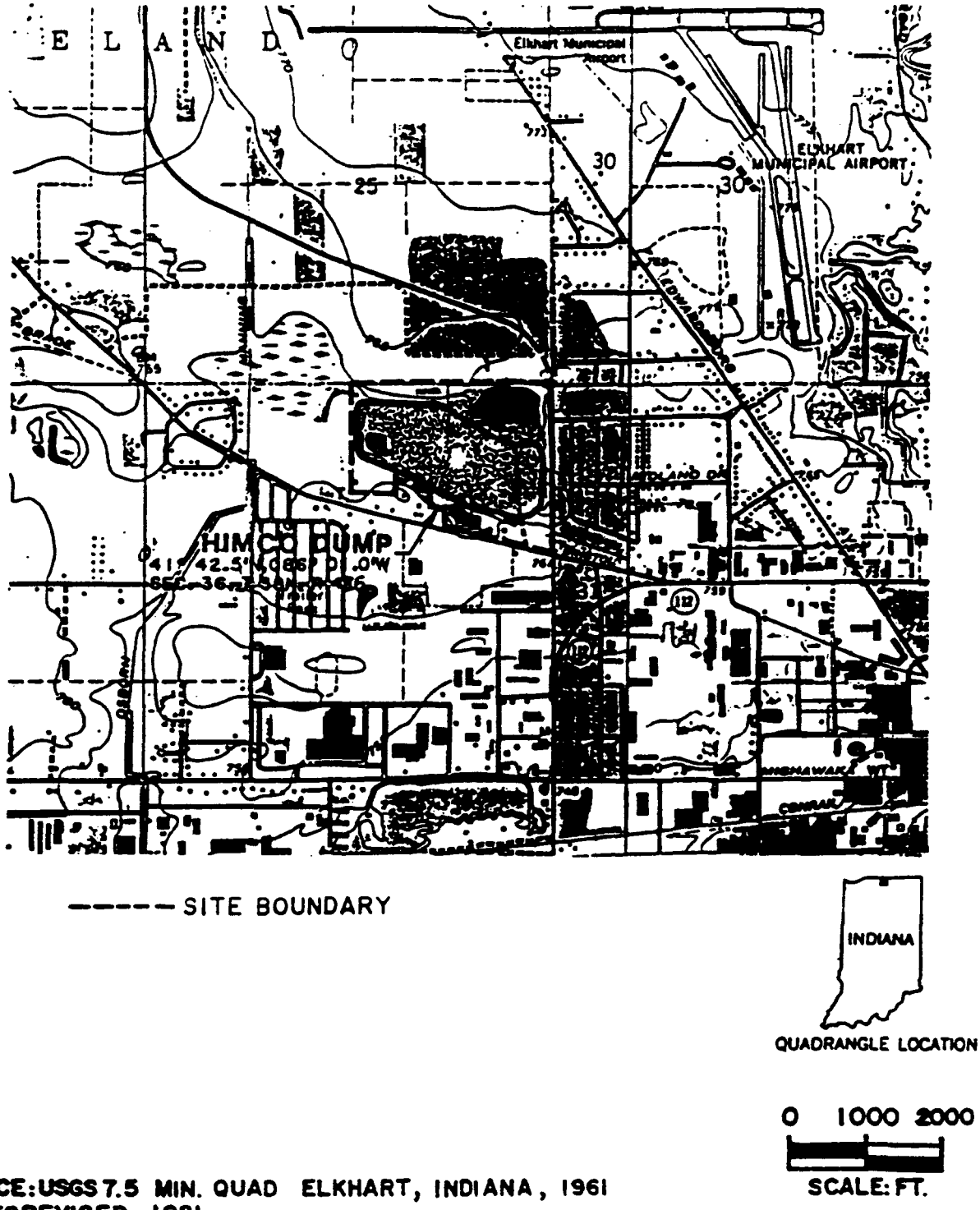


FIGURE 2-1 SITE LOCATION MAP HIMCO DUMP SITE ELKHART, INDIANA

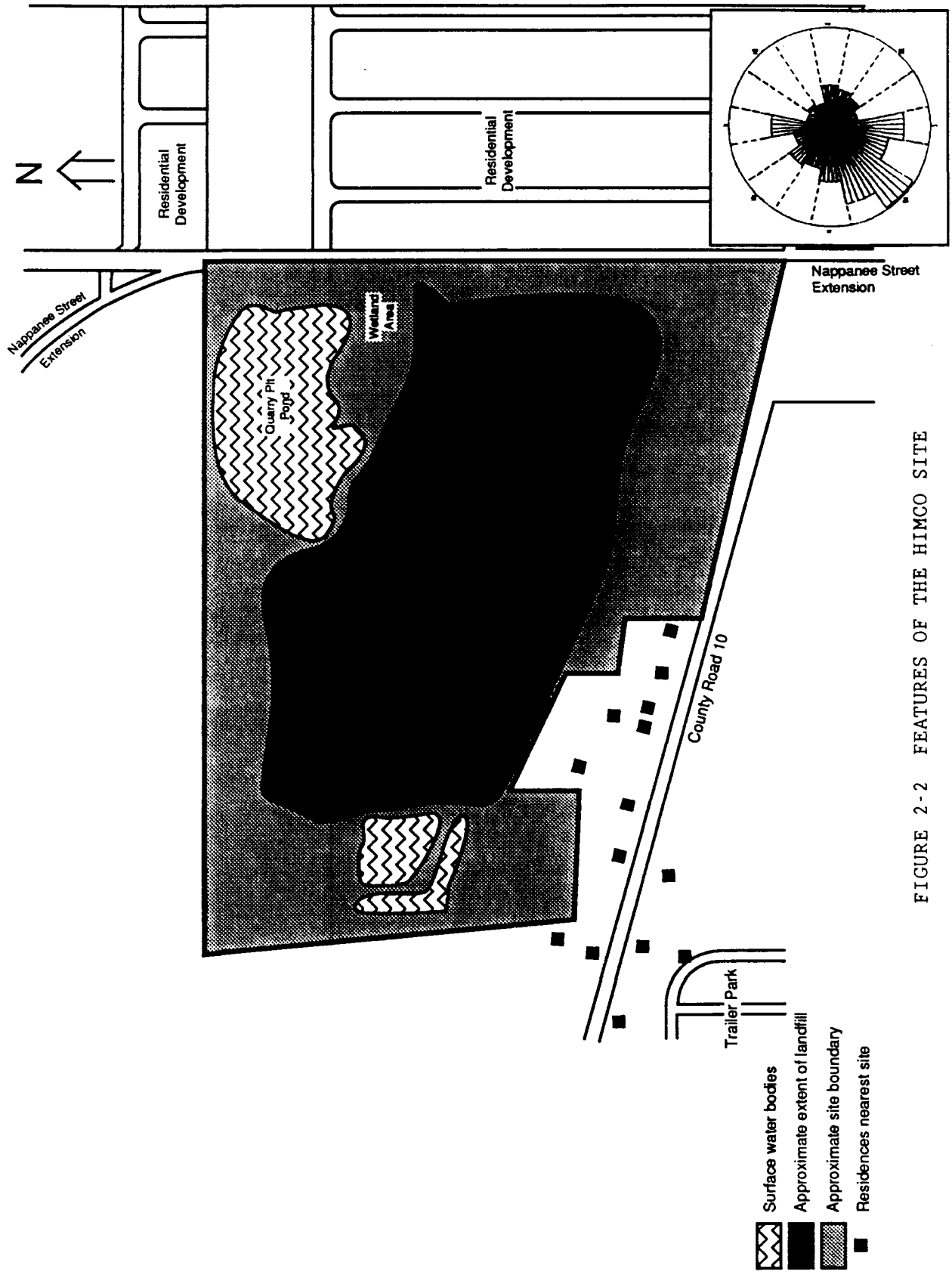


FIGURE 2-2 FEATURES OF THE HIMCO SITE

3.0 ECOLOGICAL INVENTORY

The following ecological surveys are available for the ecological assessment of the Himco Dump site:

- Plant survey on 09/16/91 (Appendix 1)
- Bird and mammal survey on 09/16/91 (Appendix 2)
- Aquatic macroinvertebrate survey on 10/30/91 (Appendix 3)
- Wetlands assessment and identification (Donohue 1991b)
- Wetlands delineation (Donohue 1991a)

A June, 1991 retrieval from the Indiana Natural Heritage Program's databank (Appendix 4) provides information on the endangered, threatened or rare species and high quality natural communities and natural areas within a two-mile radius of the site. A letter report provided by the Bloomington Field Office of the U.S. Fish and Wildlife Service (Appendix 5) also provides important information regarding ecological resources potentially present on the site and in surrounding areas. Information in these sources is used to develop a qualitative inventory of ecological resources in the following sections.

3.1 Terrestrial Plant Communities

Vegetation in Elkhart County was historically dominated by upland oak forests with small patches of beech forests and prairie grasslands (Mumford and Whitaker 1982). Original vegetation at the Himco Dump site (O'Brien 1991) is likely to have consisted of the following plant communities:

- Wet to dry sand prairie
- Open woodland, with oak and hickory in well-drained soil and pin oak, black gum and red maple in poorly-drained soil
- Peaty wetland, gradually sloping from saturated soil to open water

The prairie and woodland communities are discussed in this section. Wetlands are discussed in section 3.2.

3.1.1 Prairie Vegetation On Site

The most significant terrestrial vegetation on the Himco Dump site consists of prairie plant communities. Two adjacent prairie areas are present on site (Figure 3-1), differing in the amount of time since disturbance. The younger prairie area is located over the western half of the landfill, while a 10- to 15-year older prairie is present on the eastern half of the landfill. Although the native prairie plant species are fairly similar in the two areas, the trees and shrubs in the older prairie area are generally larger. Numerous non-native and native weedy species have invaded both areas (O'Brien 1991).

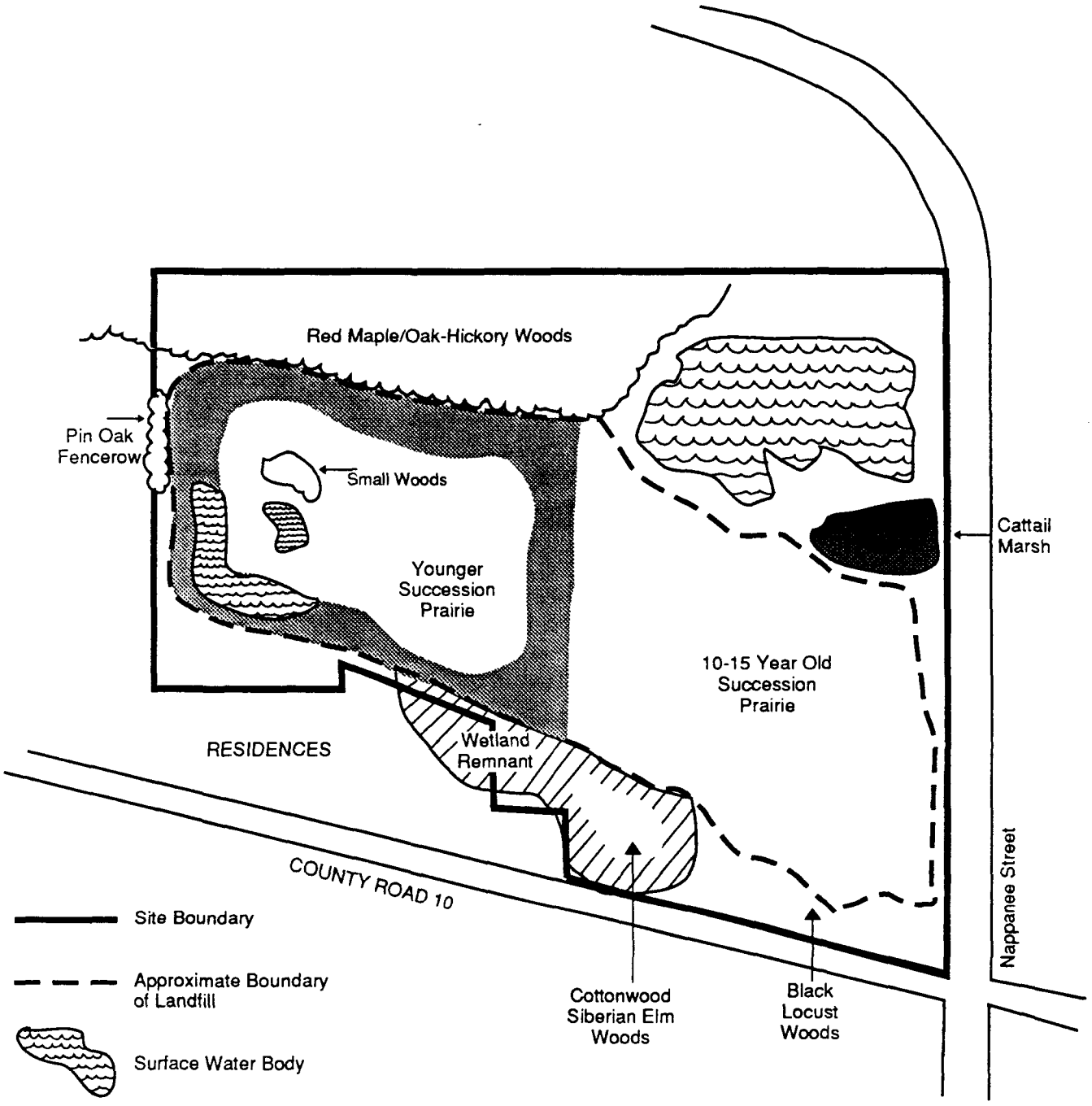


FIGURE 3-1 PLANT COMMUNITY MAP

Dry sand prairie communities dominate these areas. Valuable native plant species in these communities include:

- Big bluestem (Andropogon gerardii)
- Little bluestem (Andropogon scoparius)
- Butterfly weed (Asclepias tuberosa)
- White wild indigo (Baptesia leucantha)
- Sand coreopsis (Coreopsis lanceolata)
- Tall coreopsis (Coreopsis tripteris)
- Common bugseed (Corispermum hyssopifolium)
- Sand sedge (Cyperus filiculmis)
- Showy tick trefoil (Desmodium canadense)
- Canada tall rye (Elymus canadensis)
- Woodland sunflower (Helianthus divaricatus)
- Oblong sunflower (Helianthus hirsuitus)
- Round-headed bush clover (Lespedeza capitata)
- Hairy bush clover (Lespedeza hirta)
- Rough blazing star (Liatris aspera)
- Scribner's panic grass (Panicum oligosanthes scribnarium)
- Black chokeberry (Pyrus melanocarpa)
- Shining sumac (Rhus copallina latifolia)
- Pasture rose (Rosa carolina)
- Old field goldenrod (Solidago nemoralis)
- Rough goldenrod (Solidago rugosa)
- Early low blueberry (Vaccinium angustifolium laevifolium)
- Fall witch grass (Leptoloma cognatum)
- Purple love grass (Eragrostis spectabalis)

Although it was not observed during the plant community survey, habitat conditions may be suitable in the dry sand prairie areas for growth of the state-listed Michaux's stitchwort (Arenaria stricta) (O'Brien 1991).

Wet sand prairie communities are limited to small patches in wetter areas of the site (O'Brien 1991). Plant species characteristic of these areas include the following:

- Flat-top aster (Aster umbellatus)
- Gray dogwood (Cornus racemosa)
- Red-osier dogwood (Cornus stolonifera)
- Common boneset (Eupatorium perfoliatum)
- Common rush (Juncus effusus solutus)
- Deer-tongue grass (Panicum clandestinum)
- Black chokeberry (Pyrus melanocarpa)
- Swamp dewberry (Rubus hispidus obovalis)
- Pussy willow (Salix discolor)
- Blue-leaved willow (Salix glaucophylloides glaucophylla)
- Steeplebush (Spirea tomentosa rosea)
- Blue vervain (Verbena hastata)

3.1.2 Woodland Plant Communities On Site

Woodland plant communities are located in areas of the site that have not been excavated and filled. These include the following communities:

- A large woods located in the northwest area of the site
- A wooded fencerow on the far west end of the site
- A small woods north of the small pond
- A cottonwood-Siberian elm woods in the southern area of the site between the landfill and County Road 10
- A locust woods in the southeast corner of the site.

The woods located in the northwest area of the site contains large maple, oak and hickory trees (O'Brien 1991). This area is characterized by well-drained upland soil. Flowering dogwood, wild black cherry, red elm and sassafras are the most common small trees in this woods. Glossy buckthorn (Rhamnus frangula) is the dominant non-native small tree present in this area. An understory of herbs is also present. Additional species of small trees, shrubs and herbs are present along the edge of the woods next to the prairie vegetation on site.

The fencerow along the west end of the site contains pin oak, red oak, white oak and black gum (Nyssa sylvatica) (O'Brien 1991).

The small woods north of the small pond includes pin oak, red oak, black gum and sassafras.

The cottonwood-Siberian elm woods and the locust woods have no value as native plant habitat due the high percentage of non-native species.

3.1.3 Overall Rating of Terrestrial Vegetation

Over 100 species of native plant species are present on the Himco Dump site (O'Brien 1991) (Appendix 1). Using numerical values for the native plant species a Natural Area Rating Index of 43, which qualifies it as lower quality natural area with regional importance (Appendix 1). The high rating is due primarily to the presence of 70 high quality native plant species with rating coefficients between 3 and 10. Most old field or successional areas contain plant species with lower rating coefficients and do not qualify as natural areas.

No very rare or state endangered plant species were observed at the site. These would have raised the rating index of the site to a higher level.

The two major factors favoring development and maintenance of the high percentage of native species are superior seed sources and the low fertility of the sand and calcium sulfate landfill cap, which gives native prairie species a competitive advantage over weedy species (O'Brien 1991).

3.1.4 Plant Communities in Nearby Areas

Most areas surrounding the Himco Dump site are developed and contain vegetation typical of residential, agricultural and industrial land use. An old field community is present south of the site on the other side of County Road 10 (O'Brien 1991). This old field community differs significantly in vegetation composition from vegetation on the Himco Dump site. Non-native species dominate this area due to higher fertility compared to the Himco Dump site. The quality of vegetation at this off-site location was not rated due to the high percentage of non-native species.

Other successional old fields nearby are dominated by broom sedge and crabgrass (O'Brien 1991).

3.2 Wetlands

Wetlands associated with the Himco Dump site include the following:

- A wetland located between the quarry pit pond and the landfill
- Small patches of wet sand prairie in low-lying areas associated with the landfill
- Narrow bands around the edges of the excavated ponds

The wetland located between the quarry pit pond and the landfill has been formally surveyed three times. It was identified as the only potential jurisdictional wetland on the site during a wetlands assessment and identification survey conducted in October, 1990 (Donohue 1991b). A wetlands delineation of the area was conducted in October, 1991, during which the area of the wetland was established as less than one-half acre (Donohue 1991a). It was also included in the plant community survey performed in September, 1991 (O'Brien 1991).

This wetland is dominated by narrow-leaf cattail (Typha angustifolia) and willow (Salix sp.) (Donohue 1991a). Other plant species identified in this wetland include the following:

- Sedges (Carex sp.)
- Rough horsetail (Equisetum hyemale)
- Giant goldenrod (Solidago gigantea)
- New England aster (Aster novae-angliae)
- Other goldenrod species (Solidago spp.)
- Other aster species (Aster spp.)

Additional species were identified in this area during the plant community survey, including common boneset (Eupatorium perfoliatum), purple false foxglove (Gerardia sp.) and pussy willow (Salix discolor).

The plant species present in the small areas of wet sand prairie are summarized in Section 3.1.1. The wetland vegetation around the ponds include the following species (O'Brien 1991):

- Scouring rush (Equisetum sp.)
- Cattail (Typha sp.)
- Sandbar willow (Salix interior)
- Black willow (Salix nigra)

3.3 Wildlife

A qualitative survey of wildlife present at the Himco Dump site was performed on September 16, 1991 (Miller 1991) (Appendix 2). The few wildlife species observed during the survey included animals typical of the land use in the area. These included the following species:

- Blue jay (Cyanocitta cristata)
- Cardinal (Cardinalis cardinalis)
- Robin (Turdus migratorius)
- American goldfinch (Carduelis tristis)
- Northern flicker (Colaptes auratus)

Deer tracks were common throughout the site. Four individuals of a shorebird and one small mammal were observed during the survey, but could not be identified.

An analysis of habitat structure and quality on the Himco Dump site indicates that habitats are present that could support 21 resident and 8 transient species of mammals (Appendix 2, Table 2). A similar analysis indicates that conditions on site could meet some or all of the habitat requirements of 51 species of birds known to breed in Elkhart County (Appendix 2, Table 3).

The ponds on the site could attract migratory waterfowl, including mallards (Anas platyrynchos), black ducks (Anas rubripes) and northern pintails (Anas acuta) (Hudak 1990, Appendix 3).

3.4 Aquatic Communities

Aquatic habitats are represented on the Himco Dump site by three excavated ponds. The gravel pit (quarry) pond in the northeast area of the site was formed as a result of excavation of material for the landfill cover. The two small ponds on the west end of the landfill (L-pond and small pond) were excavated for fill material (SEC Donohue 1992) and for fishing (Steiner 1991, Appendix 4). The small pond is too shallow to support fish, but bass and bluegill have been observed in the L-pond and the gravel pit pond (Steiner 1991).

Sampling for a comparative analysis of macroinvertebrate communities in ponds on site with the community in a control pond 0.9 miles off site was performed in September, 1991 (Appendix 4). Results of the survey indicate that the macroinvertebrate communities in ponds on site are similar to the community in the control pond. The preponderance of predator organisms in samples of macroinvertebrates suggests that a balance exists in predator and prey populations in the ponds. Large quantities of decaying organic matter from aquatic macrophytes growing along the edges of the ponds and leaves from surrounding vegetation blown into the ponds provides the food base for these communities.

No surface streams drain the site, but hydrogeological data indicate that groundwater from the site discharges to the St. Joseph River, which is approximately two miles south of the site (SEC Donohue 1992). The St. Joseph River and its tributaries support diverse fish communities, including brown trout (Salmo trutta) and rainbow trout (Salmo gairdneri) (Hudak 1990, Appendix 3). The States of Indiana and Michigan have developed a trout and salmon stocking program for the St. Joseph River in the river reach downstream of the site (Hudak 1990, Appendix 3).

3.5 Endangered and Threatened Species

Elkhart County contains no critical habitat for any endangered species (Hudak 1990, Appendix 3). However, the site is within the range of the Federally endangered Indiana bat (Myotis sodalis) (Hudak 1990, Appendix 3). It is also in the range of two Federal candidate species, the Kankakee globe-mallow (Illiamna remota) and bog bluegrass (Poa paludigena).

The optimal habitat for the Indiana bat is a wooded stream corridor, where it forages for lepidoptera and aquatic insects (Hudak 1990, Appendix 3; USFWS 1983). Although suitable food organisms are likely to be available, this type of habitat is not present at the Himco Dump site. Therefore, this species is unlikely to occur over the site. Riparian forests serve as suboptimal habitat for this species (USFWS 1983). The woods along the north edge of the site may represent this type of habitat. The Indiana bat winters in caves (USFWS 1983), a geological formation not present on or near the site. It migrates to summer habitats, so it is not necessarily restricted to the habitat near its hibernaculum.

Known locations of populations of the two Federal candidate plant species are too far from the site to be impacted (Hudak 1990, Appendix 3). The Kankakee globe-mallow occurs in prairies and railroad grades with suitable habitats (Hudak 1990, Appendix 3). This species may occur on the landfill cover, but was not observed during the plant community survey (O'Brien 1991, Appendix 1).

The state-threatened badger (Taxidea taxus) was observed within two miles of the site in 1989 (Martin 1991, Appendix 5). It was not observed during the wildlife survey of the site.

State-listed sedges (Rhynchospora macrostachya, Scirpus smithii, Eleocharis robbinsii and Fuirena pumila) and the state-listed purple bladderwort (Utricularia purpurea) are not expected to occur on site due to absence of peaty-type wetland habitat conditions (O'Brien 1991, Appendix 1). The state-listed Michaux's stitchwort (Arenaria stricta) may occur in the dry sand prairie habitat on the landfill, but it was not observed during the plant community survey (O'Brien 1991, Appendix 1).

3.6 Summary of Ecological Inventory

The plant communities present on the Himco Dump site include wet and dry prairie assemblages containing over 100 native species of plants. These communities are regionally significant, since the next largest prairie community (Bristol Prairie Nature Preserve) is 10 miles away (O'Brien 1991, Appendix 1). Conditions on the landfill cap may also favor establishment of

the state-listed Michaux's stitchwort, but its presence has not been confirmed.

The Indiana bat, star-nosed mole and badger are the only wildlife species of concern at this site. The site may provide suboptimal summer habitat for the Indiana bat. Habitat conditions at the site are likely to be suitable for the badger, star-nosed mole and other wildlife characteristic of the surrounding area.

Aquatic communities in the ponds on site appear similar to those present in a nearby control pond. A small (less than one acre) wetland is present along the east end of the site between the quarry pond and the landfill which has characteristics of a jurisdictional wetland. Although no surface streams drain the site, the St. Joseph River is located two miles to the south and contains a diverse fishery.

4.0 CONTAMINANT ANALYSIS

Chemicals present at the site as a result of historical waste disposal activities may pose direct or indirect toxic effects to exposed organisms. These effects may lead to ecological impacts at the population, community and ecosystem levels. For purposes of this assessment, chemicals with these characteristics are referred to as contaminants of ecological concern. This section identifies contaminants of potential ecological concern from results of sampling and analysis conducted as part of the RI for the Himco Dump site. Contaminants of ecological concern are identified in Section 6.0.

4.1 Summary of Sampling Activities

Sampling prior to the RI focused on groundwater contamination at the site (SEC Donohue 1992). Surface water, sediment, soil and groundwater monitoring and other types of site characterization data were collected in two phases for the RI (Table 4-1). Sample locations are shown in Figures 4-1 and 4-2. Phase I sampling was performed from October 1990 through February 1991, and Phase II sampling was conducted from September 1991 to November 1991 (SEC Donohue 1992). Details of the sampling effort are provided in the RI Report (SEC Donohue 1992). The following sections provide a brief summary of the sampling effort.

4.1.1 Soil

A series of surficial soil samples (GS01...GS12) were collected in November 1990 from depths as shallow as 3 to 9 inches and as deep as 8 to 16 inches from the existing landfill cover. Depth varied dependent upon the thickness of the overlying topsoil and sand cover. This cover material was removed prior to sampling at each location. Soil was also sampled when six shallow observation wells were installed on or adjacent to the site in November 1990. Samples (GT01...GT06) were taken at two-foot intervals from the surface to a maximum depth of 16 feet and correspond to well numbers WT101 through WT106. All samples were analyzed for the inorganic analytes on the Target Analyte List (TAL) and the compounds on the Target Compound List (TCL) including volatiles and semivolatiles, polychlorinated biphenyls (PCBs) and pesticides by Contract Laboratory Program (CLP) Routine Analytical Services (RAS). Selected samples were analyzed for grain size and other geotechnical analyses.

During Phase II additional surficial soil samples (HS01...HS09) were taken along the dirt bike trail, near the L-shaped pond and in the area south of the landfill cap. Two soil samples (at 2 feet and 6 feet) were also taken in the area southeast of the landfill (Trench 3) and were analyzed for all TCL/TAL analytes.

Nineteen soil samples (WS01...WS19) were taken in both phases from the areas suspected (at the time of sampling) to be wetlands. Six samples were from the area surrounding the two small surface water bodies, four from the area north of County Road 10 and nine from the area adjacent to the quarry pit pond. Samples were composited typically from 0 to 18 inches at each location. Samples were analyzed by RAS for TCL and TAL chemicals.

TABLE 4-1 SUMMARY OF RI SAMPLES - PHASE I AND II

Medium	Number of Phase I Samples	Number of Phase II Samples	Total Number of Samples
Landfill Cap/Misc. Soil	12	11	23
Wetland Soil	16	3	19
Soil Sample from Soil Boring - Chemical	30	3	33
Surface Water	12	9	21
Sediment	12	9	21
Leachate	0	4	4
Monitoring Wells	36	19	55
Residential Wells	8	0	8

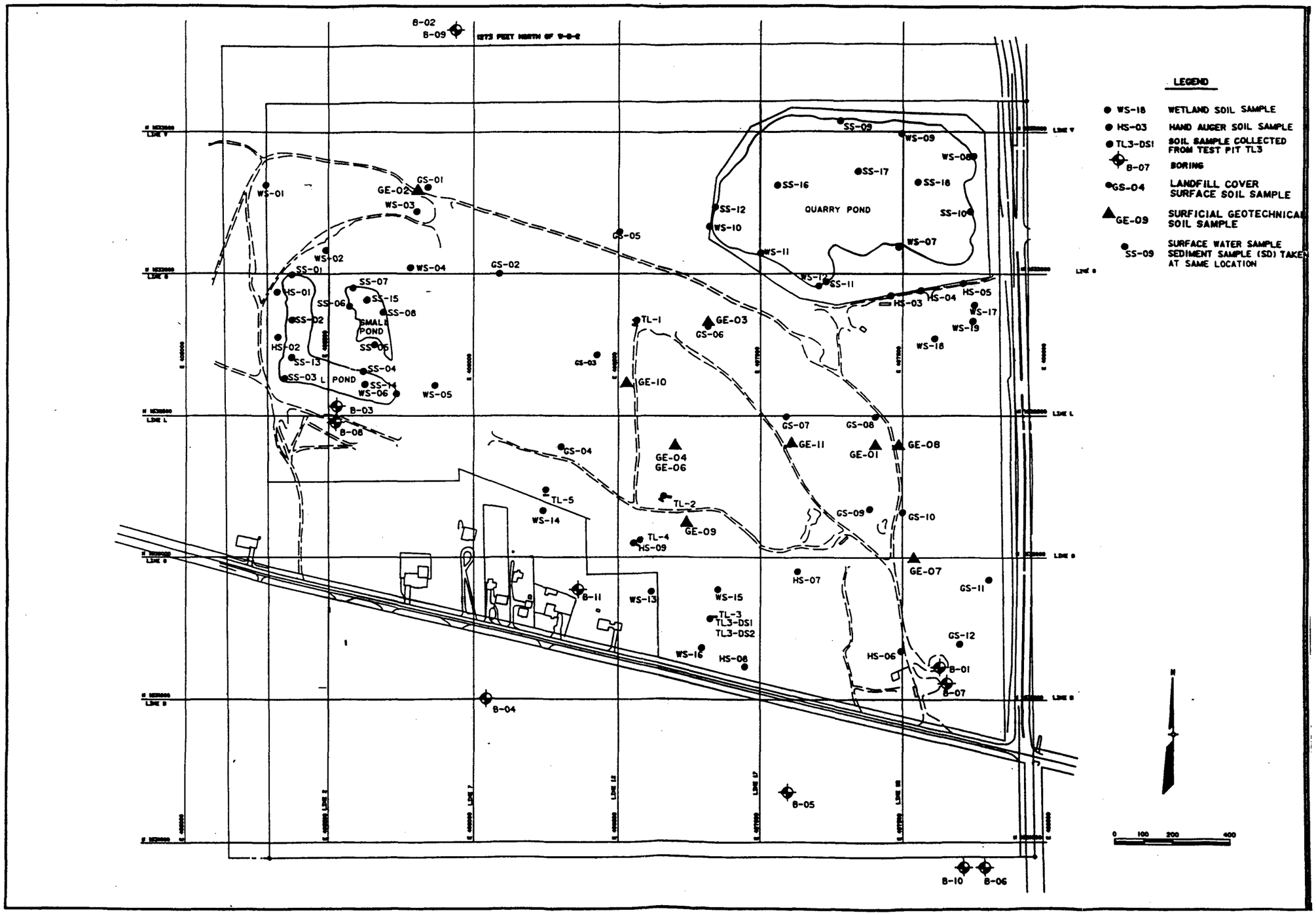


FIGURE 4-1 REMEDIAL INVESTIGATION SAMPLING LOCATIONS

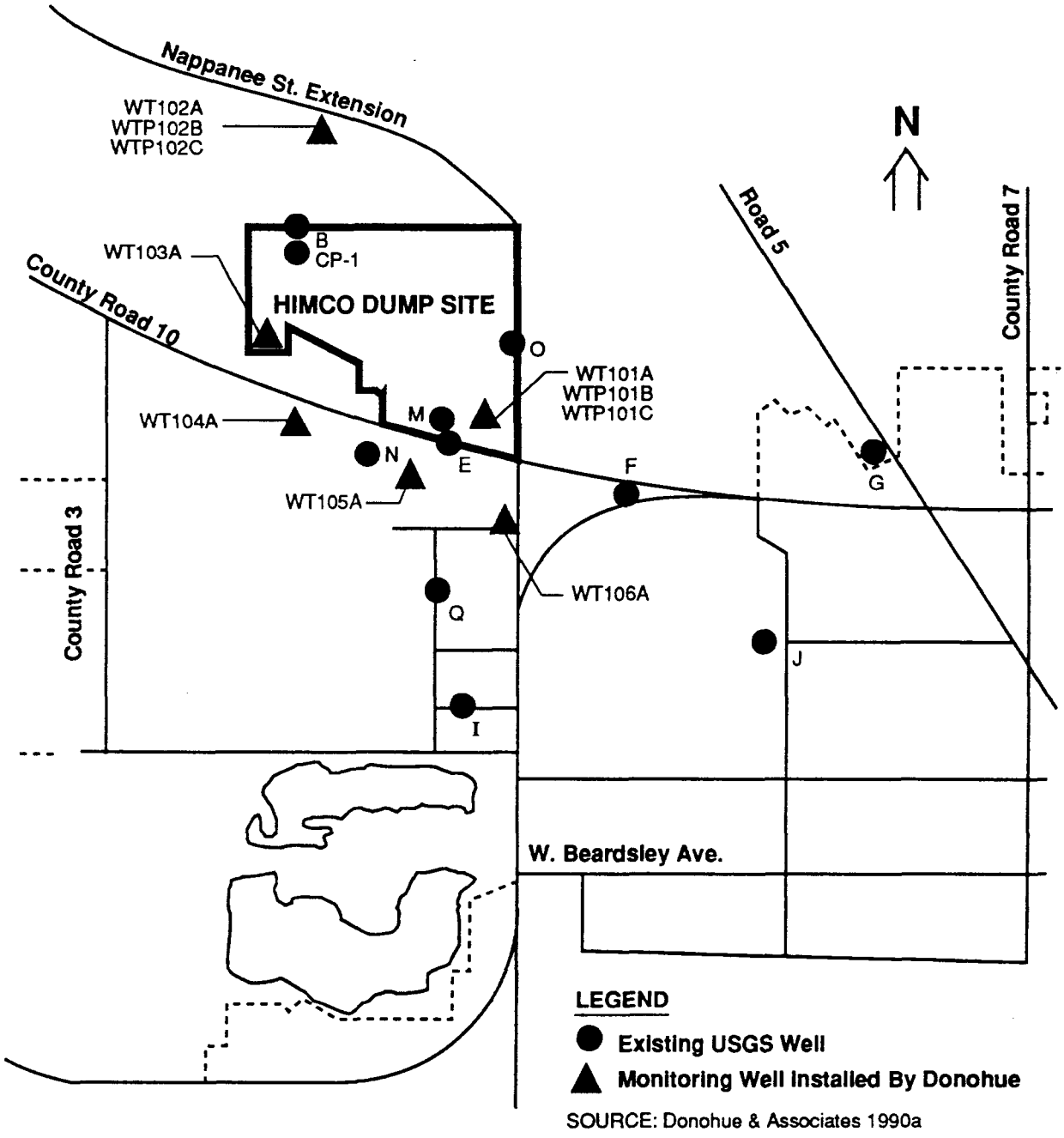


FIGURE 4-2 GROUNDWATER WELL LOCATIONS

4.1.2 Groundwater

A total of 34 groundwater wells were sampled during the RI. The locations of these wells are indicated on Figure 4-2. The wells sampled included 11 wells installed during the RI and 23 U.S. Geological Survey (USGS) wells installed in 1977 and 1979. During both phases, wells were analyzed for the analytes on the TCL/TAL, bromide and additional water quality parameters.

4.1.3 Trenching/Leachate Collection

Thirty-three test pits (approximately twenty-five feet long) were excavated to a maximum depth of approximately 15 feet (unless the water table was reached first) either on the landfill cover (Phase I) or in the area south of the landfill cover (Phase II). The excavation uncovered several crushed drums and drum lids, scrap metal grips, sheet metal, refrigerator condensers and other miscellaneous metallic items. After information on the wastes observed in the pits was collected, the pits were backfilled. During Phase II leachate sampled were collected from Trenches 1 through 5. These samples were analyzed for TAL/TCL analytes and water quality parameters.

4.1.4 Surface Water and Sediment Sampling

A total of 18 surface water and sediment samples were collected from the three ponds on site. During Phase I, twelve locations were sampled. The locations were selected so that each north, south, east and west shoreline was sampled. The surface water samples were collected prior to the sediment samples and on different days. Sediment samples were collected at the same locations as the surface water samples, approximately 2 to 3 feet offshore and at water depths from 0 to 2 feet. All samples were analyzed for all TAL and TCL chemicals by RAS. Water quality parameters were also determined for all surface water samples. During Phase II, nine surface water and sediment samples were collected, six from the three on-site ponds and three samples from a background pond located approximately two miles north of the site.

4.1.5 Waste Mass Gas Survey

A waste mass gas survey was completed to characterize the extent and degree of contamination on site. Twelve soil cover locations on site were sampled at 2- to 3-foot depths. The survey detected compounds indicative of disposal of aerosol cans (1,1,2-trichloroethane and 1,2,2-trifluoroethane), solvents (methylene chloride, acetone, benzene, toluene and 1,1,1-trichloroethane) and landfill gas (carbon disulfide).

4.2 Data Evaluation

All analyses of data collected during the RI sampling were reviewed and validated by USEPA, according to procedures described in (USEPA 1988a,b). During this effort, USEPA reviewed data qualifiers as reported by the

laboratory, reviewed quality control information and concluded whether the data were usable. As a result, the following decisions were made regarding the data:

- Chemicals which were analyzed for but were not detected were reported with a "U." These sample results, including those qualified with a "UJ," were used as nondetects.

- Any concentration values for organics or inorganics deviating in minor ways from CLP requirements for holding times, analytical, spikes, duplicates or other quality control parameters were considered estimated values and were reported with a "J." These values were used as if they were unqualified.

- Any inorganic concentration values reported as less than the contract required detection limit (CRDL) but greater than the instrument detection limit were qualified with a "B." These values were used as if they were unqualified.

- Any detected value for an organic chemical which was also detected in the associated blank was qualified with a "B." The sample value was compared to the blank value according to USEPA (1988b) procedures.

- All values qualified with an "R," indicating sample results rejected during validation, were removed from the data set and not used.

4.3 Contaminants of Potential Ecological Concern

A wide variety of chemicals were detected in environmental samples collected from the Himco Dump site (SEC Donohue 1992). They are summarized in Appendix 6. Table 4-2 provides a summary of chemicals detected in at least one environmental sample from the Himco Dump site. Chemicals in this table that occur in environmental media potentially contacted by ecological resources are contaminants of potential ecological concern. An additional grouping of sample results was performed to reflect contamination in the diverse ecological habitats present at the Himco Dump site. Statistical summaries for the location selected as the background control site and the following subareas of the site are presented in Appendix 7:

- L-pond (surface water and sediment)
- Small pond (surface water and sediment)
- Quarry pond (surface water and sediment)
- Soil from the dirt bike trail
- Soil from the young prairie area of the site
- Soil from the 10- to 15-year-old prairie
- Soil from the vicinity of the quarry pond

TABLE 4-2 CHEMICALS DETECTED AT LEAST ONCE - HIMCO DUMP SITE

FRACTION	CHEMICAL	SOIL		GROUNDWATER		SURFACE WATER		SEDIMENT		TRENCH LEACHATE		ALL MEDIA	
		Hits	Total	Hits	Total	Hits	Total	Hits	Total	Hits	Total	Hits	Total
VOLATILES	1,1,1-Trichloroethane	0	56	3	39	0	16	1	18	2	3	6	132
	1,1-Dichloroethane	0	56	3	39	0	18	0	18	3	3	6	134
	1,1-Dichloroethene	1	56	0	39	0	18	0	18	0	3	1	134
	1,2-Dichloroethene(total)	0	56	4	39	0	18	0	18	2	3	6	134
	2-Butanone	7	46	0	39	0	11	3	18	3	4	13	118
	2-Hexanone	0	56	2	39	0	18	0	18	2	5	4	136
	4-Methyl-2-pentanone	0	56	0	39	1	18	0	18	4	5	5	136
	Acetone	18	56	4	39	4	18	2	18	2	4	30	135
	Benzene	1	56	5	39	0	18	0	18	2	3	8	134
	Bromodichloromethane	0	56	1	39	0	18	0	18	0	3	1	134
	Carbon Disulfide	2	56	1	39	2	18	2	18	2	3	9	134
	Chlorobenzene	0	56	1	39	0	18	0	18	0	3	1	134
	Chloroethane	0	56	3	39	0	18	0	18	1	3	4	134
	Chloroform	0	56	3	39	0	18	1	18	1	3	5	134
	Ethyl Benzene	3	56	0	39	4	18	0	18	3	4	10	135
	Methylene Chloride	12	56	7	39	2	18	1	18	2	4	24	135
	Styrene	1	56	0	39	0	18	0	18	1	3	2	134
	Tetrachloroethene	1	56	0	39	0	18	1	18	1	3	3	134
	Toluene	21	56	0	39	0	18	0	18	4	5	25	136
	Trichloroethene	2	56	3	39	0	18	1	18	3	3	9	134
	Vinyl Chloride	0	56	0	28	0	18	0	18	2	3	2	123
	Xylenes (Total)	5	56	0	39	5	18	1	18	4	5	15	136
SEMIVOLATILES	1,4-Dichlorobenzene	6	54	0	39	0	18	0	18	0	3	6	132
	2,4-Dimethylphenol	0	54	0	39	0	18	0	18	2	5	2	134
	2-Methylnaphthalene	1	54	0	39	0	18	0	18	0	3	1	132
	2-Methylphenol	0	54	0	39	0	18	0	18	2	5	2	134
	4-Methylphenol	0	54	0	39	0	18	0	18	2	5	2	134
	Acenaphthene	4	55	0	39	0	18	0	18	0	3	4	133
	Acenaphthylene	2	56	0	39	0	18	0	18	1	3	3	134
	Anthracene	5	56	0	39	0	18	0	18	0	3	5	134
	Benzo(a)anthracene	8	56	0	39	0	18	0	18	0	3	8	134
	Benzo(a)pyrene	8	56	0	39	0	18	0	18	1	3	9	134
	Benzo(b)fluoranthene	9	56	0	39	0	18	0	18	1	3	10	134
	Benzo(g,h,i)perylene	5	54	0	39	0	18	0	18	1	3	6	132
	Benzo(k)fluoranthene	9	56	0	39	0	18	0	18	1	3	10	134
	Benzoic acid	1	39	0	26	0	12	2	12	1	2	4	91
	Benzyl alcohol	0	39	0	26	0	12	0	12	1	2	1	91
	bis(2-Ethylhexyl)phthalate	32	54	10	39	0	18	8	18	2	4	52	133
	Butylbenzylphthalate	1	54	1	39	0	18	0	18	0	3	2	132
	Carbazole	3	17	0	12	0	6	0	6	0	1	3	42
	Chrysene	9	56	0	39	0	18	0	18	1	3	10	134
	Di-n-butylphthalate	10	56	0	39	0	18	1	18	0	3	11	134
	Di-n-octylphthalate	1	54	1	39	0	18	0	18	0	3	2	132
	Dibenzo(a,h)anthracene	4	56	0	39	0	18	0	18	0	3	4	134
	Dibenzofuran	3	56	0	39	0	18	0	18	0	3	3	134
	Diethylphthalate	0	54	3	39	0	18	1	18	1	4	5	133
	Dimethylphthalate	1	54	1	39	0	18	0	18	0	3	2	132
	Fluoranthene	10	56	0	39	0	18	0	18	1	3	11	134
	Fluorene	4	56	0	39	0	18	0	18	0	3	4	134
	Indeno(1,2,3-cd)pyrene	7	56	0	39	0	18	0	18	1	3	8	134
	Naphthalene	2	55	0	39	0	18	0	18	2	3	4	133

Table 4-2 - continued

FRACTION	CHEMICAL	SOIL		GROUNDWATER		SURFACE WATER		SEDIMENT		TRENCH LEACHATE		ALL MEDIA	
		Hits	Total	Hits	Total	Hits	Total	Hits	Total	Hits	Total	Hits	Total
	Phenanthrene	8	56	0	39	0	18	0	18	1	3	9	134
	Phenol	0	54	1	39	0	18	0	18	6	9	7	138
	Pyrene	10	56	0	39	0	18	0	18	1	3	11	134
PESTICIDES	4,4-DDE	1	56	0	38	0	15	0	18	0	5	1	132
	4,4-DDT	2	56	0	38	0	15	0	18	1	5	3	132
	Aldrin	0	56	0	38	0	15	0	18	2	5	2	132
	alpha-BHC	0	56	0	38	0	15	0	18	1	5	1	132
	alpha-Chlordane	0	56	0	38	0	15	0	18	1	5	1	132
	Aroclor-1248	0	56	0	38	0	15	1	18	0	5	1	132
	beta-BHC	0	56	0	38	0	15	0	18	2	5	2	132
	Dieldrin	0	56	0	38	0	15	0	18	1	5	1	132
	Endosulfan II	0	56	0	38	0	15	0	18	2	5	2	132
	gamma-Chlordane	0	56	0	38	0	15	0	18	2	5	2	132
	Heptachlor	0	56	0	38	0	15	0	18	2	5	2	132
INORGANICS	Aluminum, Dissolved			14	38	6	6					20	44
	Aluminum, Total	52	56	29	38	18	18	18	18	0	4	117	134
	Antimony, Dissolved			9	38	0	6					9	44
	Antimony, Total	25	56	10	38	0	18	1	18	2	4	38	134
	Arsenic, Dissolved			18	38	1	6					19	44
	Arsenic, Total	43	56	21	38	8	18	18	18	1	4	91	134
	Barium, Dissolved			36	38	6	6					42	44
	Barium, Total	47	56	37	38	18	18	18	18	0	4	120	134
	Beryllium, Dissolved			3	38	0	6					3	44
	Beryllium, Total	28	56	6	38	0	18	6	18	0	4	40	134
	Cadmium, Dissolved			1	38	1	6					2	44
	Cadmium, Total	1	56	4	38	0	18	0	18	2	4	7	134
	Calcium, Dissolved			38	38	6	6					44	44
	Calcium, Total	56	56	38	38	18	18	18	18	2	4	132	134
	Chromium, Dissolved			6	38	0	6					6	44
	Chromium, Total	44	56	15	38	2	18	18	18	4	4	83	134
	Cobalt, Dissolved			5	38	0	6					5	44
	Cobalt, Total	41	56	11	38	0	18	15	18	2	4	69	134
	Copper, Dissolved			7	38	0	6					7	44
	Copper, Total	51	56	21	38	1	18	18	18	0	4	91	134
	Iron, Dissolved			28	38	6	6					34	44
	Iron, Total	55	56	37	38	18	18	18	18	2	4	130	134
	Lead, Dissolved			15	34	3	6					18	40
	Lead, Total	51	56	18	36	12	18	18	18	2	4	101	132
	Magnesium, Dissolved			38	38	6	6					44	44
	Magnesium, Total	51	56	38	38	18	18	18	18	0	4	125	134
	Manganese, Dissolved			36	38	6	6					42	44
	Manganese, Total	54	56	38	38	18	18	18	18	0	4	128	134
	Mercury, Dissolved			2	38	0	6					2	44
	Mercury, Total	6	56	4	38	0	18	0	18	0	3	10	133
	Nickel, Dissolved			2	38	2	6					4	44
	Nickel, Total	36	56	9	38	2	18	17	18	1	1	65	131
	Potassium, Dissolved			35	38	6	6					41	44
	Potassium, Total	36	56	32	38	18	18	18	18	1	1	105	131
	Selenium, Dissolved			4	38	2	6					6	44
	Selenium, Total	12	56	9	38	0	18	11	18	0	1	32	131

Table 4-2 - continued

FRACTION	CHEMICAL	SOIL		GROUNDWATER		SURFACE WATER		SEDIMENT		TRENCH LEACHATE		ALL MEDIA	
		Hits	Total	Hits	Total	Hits	Total	Hits	Total	Hits	Total	Hits	Total
	Silver, Dissolved			5	38	0	6					5	44
	Silver, Total	5	50	8	38	1	18	1	18	0	1	15	125
	Sodium, Dissolved			38	38	6	6					44	44
	Sodium, Total	30	56	38	38	18	18	18	18	2	4	106	134
	Thallium, Total	0	54	0	38	1	18	1	12	0	4	2	126
	Vanadium, Dissolved			11	38	3	6					14	44
	Vanadium, Total	49	56	13	38	1	18	18	18	3	4	84	134
	Zinc, Dissolved			18	38	6	6					24	44
	Zinc, Total	45	56	23	38	12	18	18	18	0	4	98	134
	Cyanide, Total	6	56	0	30	0	18	0	18	2	4	8	126
OTHER	Bromide, Dissolved			20	26	3	12			3	4	26	42
	Chloride, Cl			25	25	12	12			4	4	41	41
	Nitrogen, Ammonia (NH3)			19	26	0	12			4	4	23	42
	Nitrogen, Nitrate + Nitrite (NO2 + NO3)			3	11	7	12					10	23
	Sulfate, SO4			22	25	12	12			0	4	34	41
	TP (Total Phosphorus)			11	12	12	12			2	2	25	26

- Soil from the wetland between the quarry pond and landfill
- Soil from the south/southeast area of the site

A number of tentatively identified compounds (TICs) were reported (Table A6-6). For TICs the identities of these chemicals assigned by the laboratory may be inaccurate. The concentrations reported are highly uncertain. In general, TICs are not evaluated quantitatively. Eliminating TICs from the evaluation is a source of some uncertainty in the assessment.

A large number of chemicals were analyzed for but not detected in any samples on site (Table 4-3). These are not considered contaminants of potential ecological concern.

In summary, only chemicals detected at least once in soil, surface water or sediment (Table 4-4) are considered as contaminants of potential ecological concern.

TABLE 4-3 CHEMICALS NOT DETECTED IN ANY SAMPLE COLLECTED AT THE HIMCO DUMP SITE

VOLATILES

1,1,2-Trichloroethane
1,1,2,2-Tetrachloroethane
1,2-Dichloroethane
1,2-Dichloropropane
1,3-Dichloropropene-cis
1,3-Dichloropropene-trans
Bromoform
Bromomethane
Carbon tetrachloride
Chloromethane
Dibromochloromethane
Vinyl acetate

PESTICIDES/PCB'S

4,4'-DDD
delta-BHC
Endosulfan I
Endosulfan sulfate
Endrin
Endrin ketone
gamma-BHC
Heptachlor epoxide
Methoxychlor
Toxaphene

SEMIVOLATILES

1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
1,3-Dichlorobenzene
2-Chloronaphthalene
2-Chlorophenol
2-Nitroaniline
2-Nitrophenol
2,4-Dichlorophenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,6-Dinitrotoluene
3-Nitroaniline
3,3'-Dichlorobenzidine
4-Bromophenylphenylether
4-Chloro-3-methylphenol
4-Chloroaniline
4-Chlorophenyl-phenyl ether
4-Nitroaniline
4-Nitrophenol
4,6-Dinitro-2-methylphenol
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl)ether
bis(2-Chloroisopropyl)ether
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachoroethane
Isophorone
Nitrobenzene
N-Nitroso-di-n-dipropylamine
N-Nitrosodiphenylamine
Pentachlorophenol

OTHERS

Acrolein
Acrylonitrile

TABLE 4-4 CONTAMINANTS OF POTENTIAL ECOLOGICAL CONCERN

Fraction	Chemical	Frequency of Detection		
		Soil	Surface Water	Sediment
Volatiles	1,1,1-Trichloroethane	0/56	0/16	1/18
	1,1-Dichloroethene	1/56	0/18	0/18
	2-Butanone	7/46	0/11	3/18
	4-Methyl-2-pentanone	0/56	1/18	0/18
	Acetone	18/56	4/18	2/18
	Benzene	1/56	0/18	0/18
	Carbon disulfide	2/56	2/18	2/18
	Chloroform	0/56	0/18	1/18
	Ethylbenzene	3/56	4/18	0/18
	Methylene chloride	12/56	2/18	1/18
	Styrene	1/56	0/18	0/18
	Tetrachloroethene	1/56	0/18	1/18
	Toluene	21/56	0/18	0/18
	Trichloroethene	2/56	0/18	1/18
	Xylenes (Total)	5/56	5/18	1/18
Semivolatiles	1,4-Dichlorobenzene	6/54	0/18	0/18
	2-Methylnaphthalene	1/54	0/18	0/18
	Acenaphthene	4/55	0/18	0/18
	Acenaphthylene	2/56	0/18	0/18
	Anthracene	5/56	0/18	0/18
	Benzo(a)anthracene	8/56	0/18	0/18
	Benzo(a)pyrene	8/56	0/18	0/18
	Benzo(b)fluoranthene	9/56	0/18	0/18
	Benzo(g,h,i)perylene	5/54	0/18	0/18
	Benzo(k)fluoranthene	9/56	0/18	0/18
	Benzoic acid	1/39	0/12	2/12
	bis(2-Ethylhexyl)phthalate	32/54	0/18	8/18
	Butylbenzylphthalate	1/54	0/18	0/18
	Carbazole	3/17	0/6	0/6
	Chrysene	9/56	0/18	0/18
	Di-n-butylphthalate	10/56	0/18	1/18
	Di-n-octylphthalate	1/54	0/18	0/18
	Dibenzo(a,h)anthracene	4/56	0/18	0/18
	Dibenzofuran	3/56	0/18	0/18
	Diethylphthalate	0/54	0/18	1/18
	Dimethylphthalate	1/54	0/18	0/18
	Fluoranthene	10/56	0/18	0/18
	Fluorene	4/56	0/18	0/18
	Indeno(1,2,3-cd)pyrene	7/56	0/18	0/18
	Naphthalene	2/55	0/18	0/18
	Phenanthrene	8/56	0/18	0/18
	Pyrene	10/56	0/18	0/18

continued-

Table 4-4 - continued

Fraction	Chemical	Frequency of Detection		
		Soil	Surface Water	Sediment
Pesticides	4,4-DDE	1/56	0/15	0/18
	4,4-DDT	2/56	0/15	0/18
	Aroclor-1248	0/56	0/15	1/18
Inorganics	Aluminum, Dissolved	0/0	6/6	0/0
	Aluminum, Total	52/56	18/18	18/18
	Antimony, Total	25/56	0/18	1/18
	Arsenic, Dissolved	0/0	1/6	0/0
	Arsenic, Total	43/56	8/18	18/18
	Barium, Dissolved	0/0	6/6	0/0
	Barium, Total	47/56	18/18	18/18
	Beryllium, Total	28/56	0/18	6/18
	Cadmium, Dissolved	0/0	1/6	0/0
	Cadmium, Total	1/56	0/18	0/18
	Calcium, Dissolved	0/0	6/6	0/0
	Calcium, Total	56/56	18/18	18/18
	Chromium, Total	44/56	2/18	18/18
	Cobalt, Total	41/56	0/18	15/18
	Copper, Total	51/56	1/18	18/18
	Iron, Dissolved	0/0	6/6	0/0
	Iron, Total	55/56	18/18	18/18
	Lead, Dissolved	0/0	3/6	0/0
	Lead, Total	51/56	12/18	18/18
	Magnesium, Dissolved	0/0	6/6	0/0
	Magnesium, Total	51/56	18/18	18/18
	Manganese, Dissolved	0/0	6/6	0/0
	Manganese, Total	54/56	18/18	18/18
	Mercury, Total	6/56	0/18	0/18
	Nickel, Dissolved	0/0	2/6	0/0
	Nickel, Total	36/56	2/18	17/18
	Potassium, Dissolved	0/0	6/6	0/0
	Potassium, Total	36/56	18/18	18/18
	Selenium, Dissolved	0/0	2/6	0/0
	Selenium, Total	12/56	0/18	11/18
	Silver, Total	5/50	1/18	1/18
	Sodium, Dissolved	0/0	6/6	0/0
	Sodium, Total	30/56	18/18	18/18
	Thallium, Total	0/54	1/18	1/12
	Vanadium, Dissolved	0/0	3/6	0/0
	Vanadium, Total	49/56	1/18	18/18
	Zinc, Dissolved	0/0	6/6	0/0
	Zinc, Total	45/56	12/18	18/18
	Cyanide, Total	6/56	0/18	0/18

continued-

- Soil in the vicinity of the quarry pond
- Soil in the wetland between the quarry pond and landfill
- Soil in the south/southeast area of the site

Summary statistics for exposure point concentrations at these locations are provided in Appendix 7. Sample locations used to prepare tables in Appendix 7 are listed in Table 5-1. Summary statistics in Appendix 7 are based on soil concentrations from 0 to 6-foot depths.

The contaminants of potential concern which are of greatest interest for exposure and risk assessment are those which are present in the six areas at concentrations that are higher than background and are detected in at least one sample location (Table 5-2). A factor of two times background is generally used to identify elevated concentrations in site samples. When a chemical is not detected in background, the maximum nondetect value is used in the comparison. Use of this simple selection criterion for screening chemicals provides consistency and avoids complexities associated with application of a statistical approach to a large number of chemicals (each with a different underlying distribution), a relatively small number of background samples and a high frequency of nondetected values in the dataset. Chemicals identified by this procedure have the greatest potential to cause adverse impacts to exposed ecological resources. These chemicals are identified in soil, surface water and sediment in the following sections. Aroclor 1248 in L-Pond sediment was retained due to its known toxicity.

On-Site Soil

Calcium, copper, magnesium, potassium and zinc are present in site media at concentration elevated over background, but are essential nutrients for plant and animal growth. Calcium is present in soil at all locations at levels significantly above background concentrations. Copper is highest in soil in the south/southeast area of the site, with high levels in soil in the two prairie areas. Magnesium is present at the highest soil concentrations in the young prairie area of the site, with very high levels present in soils in other areas of the site. Potassium is highest in soils in the south/southeast area of the site and in the young prairie soil area. Zinc concentration is highest in soils in the south/southeast area of the site.

The concentration of antimony in soil is highest in the two prairie locations, and also higher than background in quarry soil. Arsenic, barium, cyanide, lead and mercury concentrations are only elevated in soil in the south/southeast area of the site. Soil concentrations of selenium are only elevated in the young prairie area and silver concentrations are elevated only in the 10- to 15-year-old prairie.

Organic contaminants are only elevated in soil in the two prairie areas and the south/southeast area of the site. Bis(2-ethylhexyl)phthalate, di-n-butylphthalate and toluene are elevated in the young prairie area and 1,4-dichlorobenzene is elevated in the 10- to 15-year-old prairie area. Dibenzofuran, 4,4-DDT, ethylbenzene, toluene, total xylenes and polycyclic aromatic hydrocarbons (PAHs) are elevated in soils in the south/southeast area

TABLE 5-1 SAMPLE LOCATIONS SELECTED TO CALCULATE EXPOSURE POINT CONCENTRATIONS

Location	Medium	Sampling Locations (Sample ID)
L-Pond	Surface Water	SS-01, SS-02, SS-03, SS-04, SS-13, SS-14
	Sediment	SD-01, SD-02, SD-03, SD-04, SD-13, SD-14
Small Pond	Surface Water	SS-05, SS-06, SS-07, SS-08, SS-15
	Sediment	SD-05, SD-06, SD-07, SD-08, SD-15
Quarry Pond	Surface Water	SS-09, SS-10, SS-11, SS-12, SS-16, SS-17, SS-18
	Sediment	SD-09, SD-10, SD-11, SD-12, SD-16, SD-17, SD-18
Dirt Bike Path	Soil	HS-03, HS-04, HS-05
Young Prairie	Soil	HDGT-03A, HDGT-03B, HDGT-03C, GS-01, GS-02, GS-03, GS-04, GS-05, HS-01, HS-02, WS-01, WS-02, WS-03, WS-04, WS-05, WS-06
10- to 15-Year-Old Prairie	Soil	GS-06, GS-07, GS-08, GS-09, GS-10, GS-11, GS-12
Wetland	Soil	WS-17, WS-18, WS-19
Quarry	Soil	WS-07, WS-08, WS-09, WS-10, WS-11, WS-12
South/Southeast Area	Soil	HDGT-01A, HDGT-01B, HDGT-01C, HS-06, HS-07, HS-08, HS-09, TL-3-DS1, TL-3-DS2, WS-13, WS-14, WS-15, WS-16
Background	Soil	HDGT-02A, HDGT-02B, HDGT-02C, HDGT-04A, HDGT-04B, HDGT-04C, HDGT-05B, HDGT-06A HDGT-06C
Background	Surface Water	SS-19, SS-20, SS-21
Background	Sediment	SD-19, SD-20, SD-21

TABLE 5-2 FREQUENCY OF DETECTION BY MEDIUM AND LOCATION FOR CHEMICALS PRESENT AT CONCENTRATIONS ABOVE BACKGROUND[a]

Chemical	L-Pond		Small Pond		Quarry Pond		Soil					
	SW	Sed.	SW	Sed.	SW	Sed.	Dirt-Bike Trail	Young Prairie	10-15 Yr. Prairie	Quarry	Wetland	S/SE Area
Acetone				2/5[b]								
Antimony								7/16[e]	6/7[e]			
Aroclor 1248		1/6										
Arsenic			1/1:2/5									13/13
Barium			1/1:5/5		3/3:7/7							13/13
Bis(2-ethylhexyl)phthalate								13/16				
Calcium	2/2:6/6		1/1:5/5		3/3:7/7		3/3	16/16	7/7	6/6	3/3	13/13
Carbazole[c]												3/6
Carbon disulfide		1/6										
Chromium					1/7 Tot.							
Copper								14/16	4/7			13/13
Cyanide												5/13
4,4-DDT												2/13[e]
Dibenzofuran												3/13[e]
1,4-Dichlorobenzene									2/7			
Di-N-butylphthalate								4/16				
Ethylbenzene												1/13
Iron	2/2:6/6		1/1:5/5									
Lead												13/13
Magnesium								15/16		6/6	3/3	13/13
Manganese			1/1:5/5		3/3:7/7							
Mercury												5/13
Methylene chloride					2/7							
Nickel	1/2 Diss.[e]											
PAHs[d]												Variable
Potassium	2/2:6/6		1/1:5/5		3/3:7/7			9/16				12/13
Selenium						6/7		3/16				
Silver									3/7			
Thallium		1/4										
Toluene								6/16				5/13
Xylenes (total)												2/13[e]
Zinc	2/2:4/6		1/1:4/5		3/3:4/7			11/16				13/13

(a) Concentration in medium on site equal to or greater than two times background.
(b) Number of detected concentrations (not number of samples above background) over number of analyses. Pairs separated by colons are dissolved:total.
(c) Not analyzed for in background.
(d) Polycyclic aromatic hydrocarbons.
(e) Not detected in background. Maximum nondetect limits was used for comparison.

of the site. Highest PAH concentrations are associated with samples TL3DS1-01, TL3DS2-01, WS16-01, WS15-01 and WS13-01. Carbazole was detected in soil in the south/southeast area of the site and was not analyzed for in background soil samples.

On-Site Surface Water and Sediment

Except for calcium and potassium, no patterns are obvious in elevated concentrations of contaminants of potential concern in surface water and sediment in ponds on site. Calcium, iron, nickel, potassium and zinc are elevated in L-pond surface water. In addition, thallium, Aroclor 1248 and carbon disulfide were each detected in different L-pond sediment samples.

Arsenic, barium, calcium, iron, manganese, nickel and potassium are elevated above background levels in small-pond surface water, although none of these chemicals appear to be elevated in sediment above background levels. Only acetone and bis(2-ethylhexyl)phthalate are elevated in small pond sediment above background levels.

Arsenic, calcium, chromium, manganese, methylene chloride, potassium and zinc are elevated in quarry pond surface water. Only selenium appears elevated in quarry pond sediment.

Sulfate was not measured in the background pond, but is elevated in ponds on site relative to concentrations in surface water at other reference sites (Table 5-3). Sulfate concentrations are lowest in the small pond and highest in the L-pond. Concentrations in these ponds range from approximately three to five times concentrations in reference sites in Indiana, and five to 15 times the average surface water concentration from North America. Sulfate is the predominant form of naturally-occurring sulfur under aerobic conditions in surface waters (Manahan 1991, Wetzel 1975). The origin of the elevated sulfate concentrations are most likely due to the calcium sulfate cap on the landfill and not atmospheric sources (e.g., acid precipitation).

Off-Site Locations

Surface water, sediment and soil concentrations for contaminants of potential ecological concern are not available at any off-site location except for the background control locations. Groundwater containing contaminants of potential ecological concern have not reached the St. Joseph River (SEC Donohue 1992). Therefore, only on-site exposures can be evaluated at this site.

5.3 Activity Patterns, Species Abundances and Chemical Intakes

Characterization of activity patterns and species abundance at exposure points beyond that provided in Section 3.0 is not possible for all the potential ecological receptors (Table 5-4) at this site. Calculation of doses and intakes for specific populations are also beyond the scope of this assessment. However, the relative magnitude of the potential exposures can be subjectively ranked from high to very low based on potential exposure frequency, duration and degree of contact with contaminated media during exposure (Table 5-4).

TABLE 5-3 SURFACE WATER CONCENTRATIONS OF SULFATE IN HIMCO DUMP SITE PONDS AND REFERENCE WATER BODIES

Location	Concentration, mg/L Average	Maximum
L-Pond	148	155
Small Pond	99	155
Quarry Pond	124	130
Hard Water Lakes in Northeast Indiana[a]	37.9[b]	--[c]
Hypereutrophic Lake, Indiana[a]	34.7[b]	--
Lake Erie[d]	9.3[b]	--
North America[a]	20	--

(a) Wetzel (1975).
(b) Representative Value.
(c) Not Reported.
(d) Reid (1961).

TABLE 5-4 EXPOSURE SCENARIOS FOR ECOLOGICAL POPULATIONS

Exposure Point	Exposed Population	Exposure Activity	Relative Potential Magnitude of Exposure
L-Pond, Small Pond and Quarry Pond	Benthic invertebrates	Direct uptake, feeding	High
	Fish	Direct uptake, feeding	High
	Phytoplankton	Direct update	High
	Zooplankton	Direct uptake, feeding	High
	Resident shorebirds	Ingestion of water, soil and sediment; feeding	Low to Moderate
	Migratory waterfowl	Ingestion of water, soil and sediment; feeding	Very low
	Terrestrial wildlife (Including avian predators)	Ingestion of water, soil and sediment; feeding	Low to Moderate
	Aquatic macrophytes	Direct uptake	High
	Aquatic organisms exposed to runoff from watershed	Direct uptake, feeding	Low to Moderate
Terrestrial Locations	Terrestrial plants	Growth in contaminated soil; uptake	High
	Terrestrial invertebrates and wildlife (Including burrowing animals, soil invertebrates avian predators, e.g., eagles)	Ingestion of contaminated water and soil; direct contact with contaminated soil; consumption of contaminated plants and animals	Very Low to High
Wetland	Wetland vegetation exposed to runoff and contaminated soil	Direct uptake	Moderate to High

Aquatic organisms, vascular plants, terminal predators and burrowing animals (e.g., earthworms, crayfish, moles, woodchucks) are likely to receive the highest exposures to contaminants of potential ecological concern. Resident wildlife, which spends less than a lifetime on site, are likely to receive low to moderate exposures to site contaminants. Small mammals whose home range is contained entirely on site are likely to receive a proportionately greater exposure than larger mammals and birds that may spend a fraction of their time on site throughout the year or on a seasonal basis. Migratory waterfowl are likely to receive the lowest exposure to contaminated media on site.

It is assumed, for purposes of this exposure assessment, that organisms occurring near sample locations in the nine areas selected as exposure points are likely to be exposed to the contaminant concentrations summarized in Appendix 7. The values in Appendix 7 represent exposure point concentrations for direct exposure to contaminated media in subareas of the site.

Bioavailability of contaminants in soil, surface water (i.e., measurements of total metals) and sediment is a major uncertainty in interpreting bulk concentration estimates. High concentrations of calcium in soil may reduce bioavailability of other metals to terrestrial plants (Barber 1984, Miller and Donahue 1990).

Indirect exposure to contaminated media may occur as a result of bioaccumulation and food chain transfer. Food chain transfer may occur in aquatic and terrestrial ecosystems and is associated with both plant- and decomposer-based food chains. Bioaccumulation in aquatic organisms includes direct uptake from water and uptake through ingestion of contaminated food organisms. Direct uptake is referred to as bioconcentration. Bioconcentration factors are used to express uptake by aquatic organisms. Representative values for contaminants of potential ecological concern and aquatic species observed or potentially present in surface waters at the Himco Dump site are provided in Table 5-5. Contribution to bioaccumulation by ingestion of contaminated organisms is species- and food chain-specific and cannot be estimated with the information available for this site.

Uptake by terrestrial plants exposed to contaminants in soil and dust deposited on leaves may also contribute to food chain transfer in terrestrial communities. Root concentration factors for metals detected in surface soils vary widely (Table 5-6). Uptake is dependent on site characteristics and exposed species (Bodek et al. 1988), therefore, it is not possible to evaluate plant uptake quantitatively at this site.

Table 4-4 - continued

Fraction	Chemical	Frequency of Detection		
		Soil	Surface Water	Sediment
Other	Bromide, Dissolved	0/0	3/12	0/0
	Chloride, Cl	0/0	12/12	0/0
	Nitrogen, Nitrate + Nitrite (NO2 + NO3)	0/0	7/12	0/0
	Sulfate, SO4	0/0	12/12	0/0
	TP (Total Phosphorus)	0/0	12/12	0/0

5.0 EXPOSURE ASSESSMENT

5.1 Approach

An ecological exposure assessment involves estimating the magnitude, frequency and duration of exposures of ecosystem components to contaminants of ecological concern and analyzing uncertainties associated with exposure estimates (USEPA 1991, 1989a). Exposure is the contact of a chemical agent with the outer boundary (skin, lung surface, etc.) of an organism.

An exposure assessment involves the following steps (USEPA 1991):

- Source characterization
- Fate and transport analysis
- Identification of exposure routes
- Estimation of exposure point concentrations
- Characterization of activity patterns and species abundances at exposure points
- Estimation of chemical intakes

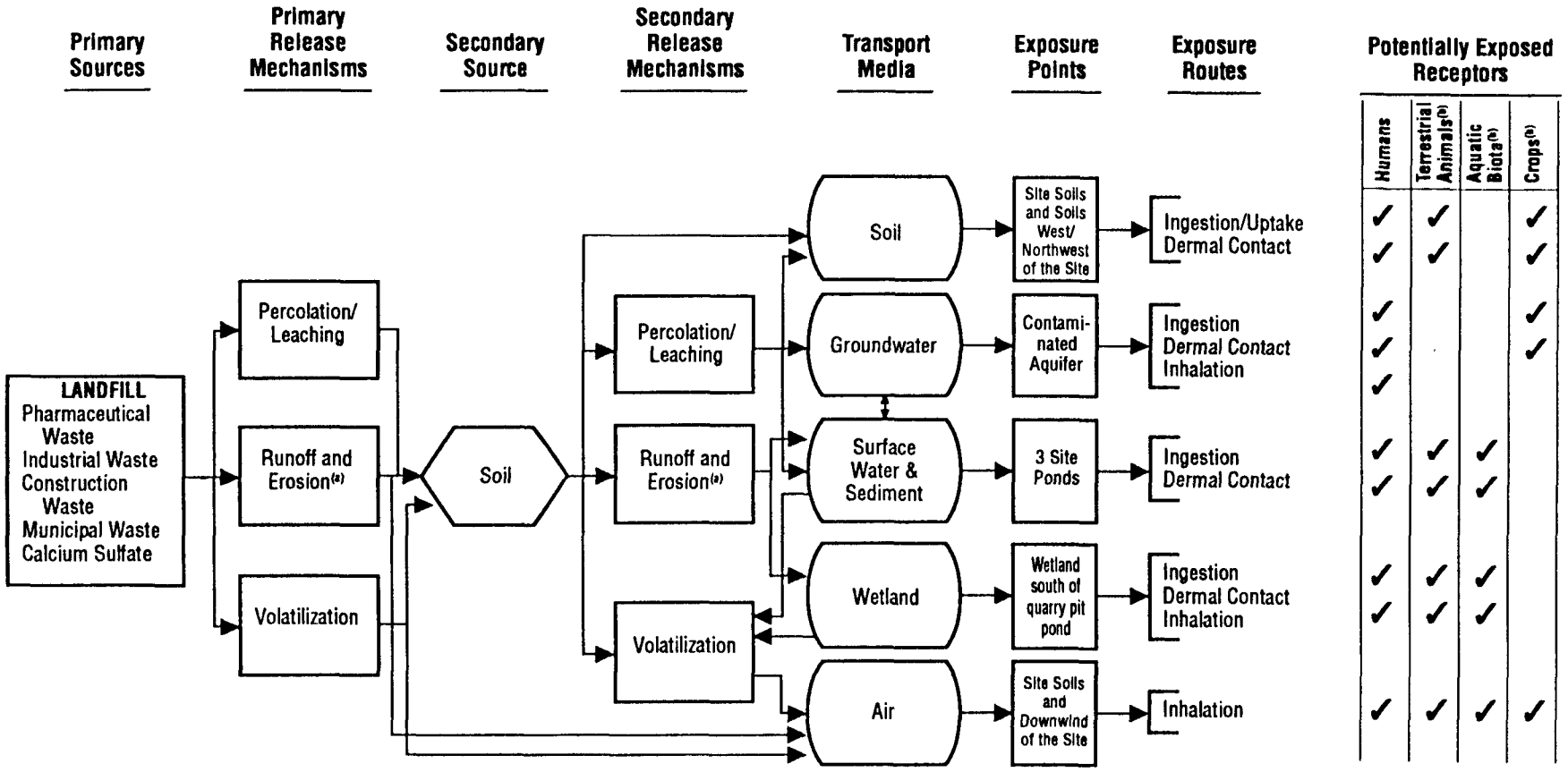
Source characterization involves estimating the magnitude and patterns of chemical releases to the environment. Fate and transport analysis involves developing estimates or measuring the spatial and temporal patterns of movement of chemicals through environmental media (air, soil and water), as well as biotic and abiotic transformations. Identification of exposure routes refers to determining the relative importance of ingestion, dermal/surface contact and inhalation/respiration as principal routes of exposure. Estimation of exposure point concentrations involves identification of exposure points and estimation of concentrations in environmental media at those locations. Characterization of activity patterns and species abundance is necessary for developing species- and endpoint-specific exposure estimates.

The first three steps have been completed and are discussed in the RI (SEC Donohue 1992) and the human health evaluation (Life Systems 1992) reports for the Himco Dump site. Results are summarized as a conceptual site model (Figure 5-1). This section expands an information provided in the conceptual site model.

5.2 Estimation of Exposure Concentrations

Exposure points at the Himco Dump site have been defined by matching the location of site samples (Section 4.0) with the ecological features of the site (Section 3.0). Exposure points for this ecological assessment are defined as follows:

- L-pond (surface water and sediment)
- Small pond (surface water and sediment)
- Quarry pond (surface water and sediment)
- Soil at the dirt bike trail
- Soil in the young prairie area of the site
- Soil in the 10- to 15-year-old prairie



(a) Includes wind erosion and mechanical (e.g. vehicular) erosion.
(b) Terrestrial animals, aquatic biota and crops may be secondary or tertiary sources for human receptors.

FIGURE 5-1 CONCEPTUAL SITE MODEL

TABLE 5-5 BIOCONCENTRATION FACTORS FOR CONTAMINANTS OF POTENTIAL ECOLOGICAL CONCERN IN SURFACE WATER AND SEDIMENT

Chemical	BCF	Species	Source
Volatile Organics			
1,1,1-Trichloroethane	9	Lepomis macrochirus	(a)
2-Butanone	NA[b]		
4-Methyl-2-pentanone	NA		
Acetone	NA		
Carbon disulfide	NA		
Chloroform	6	Lepomis macrochirus	(a)
Ethylbenzene	NA		
Methylene chloride	NA		
Tetrachloroethene	49	Lepomis macrochirus	(a)
Trichloroethene	NA		
Xylenes (Total)	NA		
Semivolatile Organics			
Benzoic acid	NA		
bis(2-Ethylhexyl)phthalate	20-80	Asellus brevicaudum	(a)
	3,100	Chironomus plumosus	(a)
	5,200	Daphnia magna	(a)
	116-13,600	Gamarus pseudolimnaeus	(a)
	2,300	Hexagenia bilineata	(a)
Di-n-butylphthalate	6,600	Chironomus plumosus	(a)
	5,000	Daphnia magna	(a)
	6,500	Gamarus pseudolimnaeus	(a)
	1,900	Hexagenia bilineata	(a)
	2,700	Ischnura verticalis	(a)
	5,000	Palaemonetes kadiakensis	(a)
Diethylphthalate	117	Lepomis macrochirus	(a)
Pesticides/PCBs			
Aroclor-1248	72,950	"Fish"	(a)
Inorganics			
Aluminum	NA		
Antimony	ND[c]		(d)
Arsenic	350	Geometric mean[e]	(d)

continued-

(a) USEPA 1987a.
(b) Not available.
(c) No data.
(d) USEPA 1989c.
(e) Species used to calculate mean not identified in reference.

Table 5-5 - continued

Chemical	BCF	Species	Source
Inorganics - continued			
Barium	NA		
Beryllium	ND		(d)
Cadmium	326	Geometric mean	(d)
Calcium	NA		
Chromium III	127	Geometric mean	(d)
Chromium VI	155	Geometric mean	(d)
Cobalt	NA		
Copper	1,183	Geometric mean	(d)
Iron	NA		
Lead	179	Geometric mean	(d)
Magnesium	NA		
Manganese	NA		
Nickel	50	Geometric mean	(d)
Potassium	NA		
Selenium	ND		(d)
Silver	ND		(d)
Sodium	ND		(d)
Thallium	15	Geometric mean	(d)
Vanadium	NA		
Zinc	578	Geometric mean	(d)
Cyanide	NA		
Other			
Bromide	NA		
Chloride	NA		
Nitrogen, Nitrate	NA		
+ Nitrite (NO2 + NO3)	NA		
Sulfate	NA		
Phosphorus	NA		

TABLE 5-6 SOIL-TO-PLANT CONCENTRATION FACTORS FOR METALS[a]

Metal	Vegetative Portion	Nonvegetative (Reproductive) Portion
Aluminum	0.004	0.00065
Antimony	0.2	0.03
Arsenic	0.04	0.006
Barium	0.15	0.015
Beryllium	0.01	0.0015
Cadmium	0.55	0.15
Calcium	3.5	0.35
Chromium	0.0075	0.0045
Cobalt	0.02	0.007
Copper	0.4	0.25
Iron	0.004	0.001
Lead	0.045	0.009
Magnesium	1	0.55
Manganese	0.25	0.05
Mercury	0.9	0.2
Nickel	0.06	0.06
Phosphorus	3.5	3.5
Potassium	1	0.55
Selenium	0.025	0.025
Silver	0.4	0.1
Sodium	0.075	0.055
Thallium	0.004	0.0004
Vanadium	0.0055	0.003
Zinc	15	0.9

(a) Source: Bodek et al. (1988). Data for food crops and feed plants.

6.0 HAZARD ASSESSMENT

An ecological hazard assessment consists of hazard identification and a stress-response assessment (USEPA 1991). Hazard identification is the characterization of endpoints relevant to stresses imposed on ecological receptors. A stress-response assessment characterizes the relationship between a measured chemical exposure concentration and the incidence of an adverse impact or effect related to a chosen endpoint. Species and endpoint sensitivities, acute and chronic dose-response relationships and taxonomic, endpoint-to-endpoint and lab-to-field extrapolations are important considerations in ecological hazard assessment.

The hazard assessment for this ecological assessment identifies ecological endpoints and provides ecotoxicity (stress-response) information for the contaminants of potential ecological concern at the Himco Dump site.

6.1 Ecological Endpoints

A variety of potential ecological hazards related to chemical contamination exists at the Himco Dump site. These can be arranged hierarchically, with direct impacts to exposed organisms at the bottom and indirect adverse effects accumulating at higher levels of ecological organization at the top.

Potential adverse impacts to individual organisms exposed to contaminants of potential ecological concern include the following:

- Direct toxicity (reduced survival)
- Sublethal effects (physiological changes, reduced growth and reproduction, tissue anomalies, etc.)
- Changes in behavior (home range, site avoidance, etc.) due to presence of contaminants on site
- Increased susceptibility to predation and disease as a result of sublethal effects of exposure

Higher level indirect effects that may result from adverse impacts at the individual level include the following:

- Adverse changes in population characteristics of resident species
- Adverse changes in species composition, species diversity and food web complexity
- Reduced biomass and productivity

The primary source of potential adverse impacts associated with these endpoints are toxic contaminants of potential ecological concern that are present in site media at concentrations elevated above background. These are discussed in the following sections.

6.2 Terrestrial Ecotoxicity

Elevated levels of contaminants of potential ecological concern may represent hazards to exposed organisms due to toxic effects. Eighteen of the contaminants present in site soils at elevated levels are generally considered

toxic. These include nine inorganic and nine organic compounds and PAHs. Inorganic contaminants known to be toxic include:

- Antimony
- Arsenic
- Copper
- Cyanide
- Lead
- Mercury
- Selenium
- Silver
- Zinc

Copper, selenium and zinc are essential nutrients for plants and animals, but may become toxic at high dose levels.

Organic compounds known or suspected to be toxic that are present in soils at levels greater than background include:

- bis(2-ethylhexyl)phthalate
- Carbazole
- 4,4-DDT
- Dibenzofuran
- 1,4-Dichlorobenzene
- Di-N-butylphthalate
- Ethylbenzene
- PAHs
- Toluene
- Xylenes (total)

Toxicity benchmark concentrations are not available for evaluating potential hazards to organisms exposed to chemicals elevated above background at this site.

6.3 Aquatic Ecotoxicity

Inorganic chemicals present in site surface waters that may pose hazards to exposed organisms due to toxicity (Table 6-1) include:

- Arsenic
- Chromium
- Carbon disulfide
- Nickel
- Zinc

Aquatic toxicity data for carbon disulfide could not be located for this study. Chromium is also an essential nutrient, but may become toxic at high dose levels. Sulfate is also an essential nutrient that is elevated in surface waters on site, but elevated concentrations are not likely to present a hazard to exposed organisms (Bodek et al., 1988, Manahan 1991). Sulfate is widely used by microorganisms and plants as a source of sulfur for amino acid and protein synthesis. It is also used as a terminal electron acceptor by sulfate-reducing bacteria (Desulfovibrio) (Stanier et al., 1976, Lehnigner

TABLE 6-1 POTENTIAL TOXIC EFFECTS TO AQUATIC LIFE AT THE HIMCO DUMP SITE

Chemical	Conc., ug/L[(a)]	Hardness, mg/L CaCO3	Effect	Common Name	Scientific Name	Source
Arsenic	48.0	-	14-day EC50	Green alga	Selenastrum capricornutum	(USEPA 1985a)
	40.0	-	EC50 (death/deformity)	Narrow-mouthed toad	Gastrophryne carolinensis	(USEPA 1985a)
Chromium (VI)	32.3	45	Acute LC50	Cladoceran	Simocephalus vetulus	(USEPA 1985b)
	25-64	45	Chronic toxicity	Cladoceran	Ceriodaphnia reticulata	(USEPA 1985b)
	15.3-24.2	45	Acute LC50	Cladoceran	Daphnia magna	(USEPA 1985b)
	13.9-28.5	45	Chronic toxicity	Cladoceran	Simocephalus vetulus	(USEPA 1985b)
	10.0	-	Growth reduction	Green alga	Chlamydomonas reinhardi	(USEPA 1985b)
	<10	45	Chronic toxicity	Cladoceran	Daphnia magna	(USEPA 1985b)
	4.7-8.0	45	Chronic toxicity	Cladoceran	Simocephalus vetulus	(USEPA 1985b)
	4.7-8.0	45	Chronic toxicity	Cladoceran	Daphnia pulex	(USEPA 1985b)
	<2.5	45	Chronic toxicity	Cladoceran	Daphnia magna	(USEPA 1985b)
	2.0	-	Incipient inhibition	Blue-green alga	Microcystis aeruginosa	(USEPA 1985b)
	0.1	-	Incipient inhibition	Protozoan	Chilomonas paramecium	(USEPA 1985b)
Nickel	10.0	40	Abundance reduction	Bacterium	Serratia marcescens	(USEPA 1986)
	5-10	-	Chronic toxicity	Cladoceran	Daphnia magna (1st, 3rd, 4th generations)	(USEPA 1986)
	5.0	-	Incipient inhibition	Blue-green alga	Microcystis aeruginosa	(USEPA 1986)
	5.0	40	Abundance reduction	Bacterium	Aeromonas sobria, Bacillus brevis and B. cereus	(USEPA 1986)
	<5	-	Chronic toxicity	Cladoceran	Daphnia magna (2nd generation)	(USEPA 1986)
	2.5	-	Incipient inhibition	Bacterium	Pseudomonas putida	(USEPA 1986)
	2-8.6	87-99	Phytoplankton community diversity/composition changes		Diatoms, other algae	(USEPA 1986)

continued-

(a) Data are for concentration values in the range observed at this site.

Table 6-1 - continued

Chemical	Conc., ug/L[a]	Hardness, mg/L CaCO3	Effect	Common Name	Scientific Name	Source
Zinc	36.8	47	LC50	Midge	Tanytarsus dissimilis (embryo to third instar)	(USEPA 1987b)
	32.0	45	Acute LC50	Cladoceran	Ceriodaphnia reticulata	(USEPA 1987b)
	30.0	-	Incipient growth Inhibition	Green alga	Selenastrum capricornutum	(USEPA 1987b)
	15.0		Reduced primary productivity	Plankton mixed species		(USEPA 1987b)
	14.0		LC50 at 30 degrees	Cladoceran	Daphnia magna (3-5 days)	(USEPA 1987b)
	10.0	195	EC50 death and deformity	Narrow-mouthed toad (embryo, larvae)	Gastrophryne carolinensis	(USEPA 1987b)
	5.0	-	LC50 at 30 degrees	Cladoceran	Daphnia magna (adult)	(USEPA 1987b)

1978). While sulfate is generally considered nontoxic (Bodek et al., 1988, Manahan 1991), microorganisms reduce sulfate to hydrogen sulfide, which can be toxic. Hydrogen sulfide is also important in the formation of insoluble metal sulfides in sediments and the mobilization of phosphate (Wetzel 1975).

Elevated sulfate levels in surface water may inhibit molybdate assimilation by planktonic algae and bacteria (Howarth et al., 1988). Molybdenum is involved in nitrogen fixation, an important factor in pond productivity. The high levels of organic debris in Himco Dump ponds and adaptations of organisms in their planktonic communities are likely to offset the effects of elevated sulfate on molybdate assimilation.

Chemicals present in sediment that may pose hazards to exposed organisms due to toxicity include:

- Acetone
- Aroclor 1248
- Bis(2-ethylhexyl)phthalate
- Selenium
- Thallium

Two types of benchmark concentrations are available for screening surface water and sediment data for potential ecological hazards. These are Federal ambient water quality criteria (AWQC) and sediment benchmark concentrations developed by the National Oceanic and Atmospheric Administration (NOAA) for estuarine and marine organisms (NOAA 1991). The effects range-low (ER-L) is a sediment concentration representing the lower 10 percentile of the range of sediment concentrations over which aquatic life effects have been observed at sites with chemically-contaminated sediments (NOAA 1991). The AWQC and ER-L values are related to chemical-specific hazard and can be used to evaluate the potential risk of adverse ecological effects.

Brief summaries of the ecotoxicity of these chemicals is provided in the following paragraphs. Summaries focus on toxicity data and benchmark concentrations for evaluating adverse environmental effects appropriate to the environmental media in which concentrations of a chemical are elevated over background. Where possible, benchmark concentrations were compared to site concentrations (Section 7.0).

Acetone

Acetone was detected at elevated concentrations (49 μg/kg) in sediment in the small pond. Acetone is a common solvent with relatively low toxicity to aquatic organisms (Clement Associates 1985). The threshold concentration for immobilization of Daphnia magna exceeds 9 g/L. Acetone is even less toxic to fish. The LC_{50} for sunfish is 14.2 g/L (Clement Associates 1985). An LD_{100} of 3 mL/L within three days of exposure was reported for Asellus aquaticus (HSDB 1992). The 48 hour LD_{100} for Gammarus fossarum was higher at 10 mL/L (HSDB 1992).

Antimony

Antimony was detected at elevated concentrations in soil at a number of locations on site. No information on the toxicity to wildlife or domestic animals was available (Clement Associates 1985). An inhalation study in laboratory rats indicated that antimony trioxide may produce liver and lung tumors. Animal toxicity studies indicated functional changes in electrocardiogram patterns and histopathological evidence of myocardial structural damage. Various antimony compounds (antimony trioxide, antimony trichloride and antimony pentachloride) may be mutagenic (Clement Associates 1985).

Aroclor 1248

Arolor 1248 was detected in one sediment sample in the L-pond at a concentration below background detection limits. Polychlorinated biphenyls are toxic to aquatic invertebrate species, with a reported seven-day LC_{50} of 1 ug/L (Clement Associates 1985). An ER-L has been estimated to be 50 ug/kg for total PCBs (Long and Morgan 1991).

Arsenic

Arsenic was detected at elevated concentrations in the small pond surface water and in soil in the south/southeast area of the site. Arsenic occurs in inorganic (III and V) and organic forms in surface water. Inorganic forms tend to be more toxic to aquatic life than organic forms. Arsenic III is acutely toxic to adult and juvenile freshwater aquatic organisms at levels of 812 ug/L and 40 ug/L, respectively, in laboratory studies (Clement Associates 1985). Organic forms of arsenic are less toxic to aquatic organisms (Clement Associates 1985). The toxicity of arsenic does not appear to increase significantly under chronic exposure conditions (Clement Associates 1985).

Arsenic appears to have a number of toxic effects in exposed terrestrial animals. Teratogenic, fetotoxic and embryotoxic effects have been reported in several animal species exposed to arsenic compounds (Clement Associates 1985).

Other toxic effects include chromosome damage, hyperemia and edema of the gastrointestinal tract, hemorrhage of the cardiac serosal surfaces and peritoneum and pulmonary congestion and edema (Clement Associates 1985).

Federal AWQC are available for arsenic for protection of freshwater aquatic life. The 4-day average (chronic) criterion value is 190 ug/L and the 1-hour (acute) value is 360 ug/L.

Bis(2-ethylhexyl)phthalate

This chemical was detected at elevated concentrations in soil samples from the young prairie area of the site. Bis(2-ethylhexyl)phthalate has a relatively low toxicity in freshwater. The acute median effect concentration for Daphnia magna ranged from 1,000 to 11,100 ug/L (Clement Associates 1985). However, reproductive impairment occurs in Daphnia magna at concentrations as low as 3 ug/L. The LC_{50} concentrations for the midge, scud and bluegill exceeded 18,000 ug/L, 32,000 ug/L and 770,000 ug/L, respectively, all of which exceed

the water solubility of the chemical (Clement Associates 1985). Therefore, bis(2-ethylhexyl)phthalate may have toxic effects in chronically exposed freshwater aquatic life, but is unlikely to pose a hazard to aquatic life under acute exposure conditions.

Rats and mice exposed to bis(2-ethylhexyl)phthalate by the oral route have been reported to experience increased incidences of hepatocellular carcinomas or neoplastic nodules (Clement Associates 1985). Oral exposure results in teratogenic, fetotoxic and other reproductive effects, including testicular changes, in rats and mice. The oral LD_{50} in rats is 31 g/kg, indicating acute toxicity is low. Chronic exposure to high levels of the chemical by the oral route cause increased liver and kidney weight and retardation in growth in laboratory animals (Clement Associates 1985). Toxicity by the dermal route has not been observed (Clement Associates 1985).

Carbazole

Carbazole was detected in soil from the south/southeast area of the site. Oral LD_{50} values for rats exposed to 3-amino-9-ethyl-carbazole and 3-amino-9-ethyl-carbazole hydrochloride are 144 mg/kg and 234 mg/kg, respectively (RTECS 1983).

Carbon Disulfide

Carbon disulfide was detected in one sediment and two surface water samples in the L-pond. Carbon disulfide is a natural product of anaerobic biodegradation (HSDB 1992). Sediment toxicity data were not available on carbon disulfide for preparation of this report.

Chromium

Chromium was detected in one surface water sample from the quarry pond at an elevated concentration. Chromium occurs primarily in two inorganic forms in surface water, chromium III and chromium VI. Laboratory bioassays involving freshwater fish indicate that chromium III is more acutely toxic than chromium VI, while chromium VI is more toxic under chronic exposure conditions (Clement Associates 1985).

Ambient water quality criteria are available for chromium for protection of aquatic life. The criteria for chromium III are a function of water hardness, as follows:

$$AWQCc\ (Cr\ III) = \exp\ (0.819 \times (\ln\ hardness) + 1.561) \quad (1)$$

$$AWQCa\ (Cr\ III) = \exp\ (0.819 \times (\ln\ hardness) + 3.688) \quad (2)$$

where:

AWQCc (Cr III)	=	Chronic (4-day average) AWQC for chromium III (ug/L)
AWQCa (Cr III)	=	Acute (1-hour average) AWQC for chromium III (ug/L)
exp	=	Exponential (base e)
hardness	=	Calcium carbonate hardness (mg/L $CaCO_3$)
ln	=	Natural logarithm

Copper

Copper was detected at elevated concentrations in soil. Although no information was available on toxic effects in wildlife, copper toxicity has been demonstrated in sheep and swine. Acute poisoning occurs in sheep at a dose of approximately 200 mg/kg (Clement Associates 1985). Copper salts act directly on the gastrointestinal tract causing gastroenteritis, shock and death. Chronic exposure to excess copper causes absorption and accumulation of copper in the liver (Clement Associates 1985). A sudden, acute hemolytic crisis may develop under these exposure conditions. A copper intake of 1.5 g/day over a period of 30 days is fatal in many breeds of sheep (Clement Associates 1985).

A dietary dose of 250 mg/kg copper causes toxicosis with hypochromic microcytic anemia, jaundice and marked increases in liver and serum copper levels in swine, unless zinc and iron levels are increased (Clement Associates 1985). Once removed from the diet, copper is rapidly eliminated in swine (Clement Associates 1985).

Cyanide

Cyanide was detected at elevated concentrations in soil from the south/southeast area of the site. Cyanide includes hydrogen cyanide and its salts. Hydrogen cyanide and simple cyanide salts are highly toxic by all routes (Clement Associates 1985). The toxic effect of cyanide is due to inhibition of the electron transport system in oxidative phosphorylation, which makes it acutely toxic to most forms of life. It also produces chromosome breaks in the bean plant, Vicia fabae (Clement Associates 1985). Livestock death has been reported from exposure to high levels of cyanide leaching from a drum disposal site (Clement Associates 1985).

4,4-DDT

This organochlorine pesticide was detected at elevated concentrations in soil from the south/southeast area of the site. It has a wide range of toxic effects in animals and is well known for its adverse effects on reproduction in predatory birds, shorebirds and song birds. It produces reduced fertility, reduced offspring growth and fetal mortality (Clement Associates 1985). In most cases, these adverse effects are a result of exposure to the pesticide bioconcentrated in the adipose tissue of food organisms.

This pesticide causes chromosome damage and induces microsomal enzymes. The latter effect probably alters metabolism of steroid hormones and exogenous chemicals (Clement Associates 1985). Hypertrophy of parenchymal cells and increased fat deposition in the liver have also been reported. Seizures, decreased aggression and decreased conditional reflexes from exposure to DDT

are related to its effects on the central nervous system. This pesticide causes liver tumors, lung tumors and lymphomas in mice. The oral LD_{50} in rats has been reported as low as 113 mg/kg. The oral LD_{50} is generally higher in other animals (Clement Associates 1985).

Dibenzofuran

This chemical was detected at elevated concentrations in soil from the south/southeast area of the site. No toxicity data were located for this chemical for this report.

1,4-Dichlorobenzene

This chemical was detected at elevated concentrations in soil from the 10- to 15-year-old prairie area of the site. Dichlorobenzene is reported to cause mutagenic and clastogenic activity in some plant test systems (Clement Associates 1985). It causes eye and upper respiratory tract irritation, central nervous system depression and liver and kidney damage in experimental animals exposed by the inhalation route. An inhalation LC_{20} has been reported for rats at exposure concentrations of 4,900 mg/m^3 and an exposure period of seven hours (Clement Associates 1985). Toxic effects were not observed in several species of experimental animals exposed daily for seven hours at exposure concentrations of up to 560 mg/m^3 for up to seven months (Clement Associates 1985).

Exposure by the oral route stimulates the liver microsomal enzyme systems and produces cumulative toxicity in experimental animals (Clement Associates 1985). In rats, the oral LD_{50} is 500 mg/kg, and a chronic intake of 188 mg/kg/day causes liver and kidney damage. A chronic oral intake of 0.01 to 0.1 mg/kg/day increases prothrombin time, alters conditioned reflexes and enzyme activities and produces changes in the hematopoietic system of rats (Clement Associates 1985).

Di-n-butylphthalate

This chemical was detected at elevated concentrations in soil from the young prairie area of the site. Di-n-butylphthalate causes reproductive effects in laboratory mammals exposed at high doses by the oral route (RTECS 1983). The LD_{50} for rats by the oral route is 8,000 $\mu g/kg$ and 5,282 $\mu g/kg$ for mice (RTECS 1983).

Ethylbenzene

This chemical was detected at elevated concentrations in soil from the south/southeast area of the site. Rabbits exposed by the inhalation route for seven hours per day for six months to ethylbenzene at a concentration of 600 ppm (2,610 mg/m^3) experienced histopathologic changes in testes (Clement Associates 1985). Rats and guinea pigs showed slight changes in liver and kidney weights under these exposure conditions. None of these effects were observed at concentrations of 400 ppm. Slight changes in liver and kidney weights were observed in rats fed 408 and 600 mg/kg/day ethylbenzene for six months (Clement Associates 1985).

Lead

This chemical was detected at elevated concentrations in soil from the south/southeast area of the site. Lead poisoning has been reported in a variety of domestic animals (Clement Associates 1985). Lead causes a number of adverse effects in experimental animals (Clement Associates 1985), including:

- Tumors in the kidney
- Toxic effects on conception, pregnancy and the fetus
- Toxic effects in the brain, central and peripheral nervous systems, kidneys and hematopoietic system
- Toxic effects on the immune system

Mercury

This chemical was detected at elevated concentrations in soil from the south/southeast area of the site. Mercury occurs in inorganic and organic forms, the organic forms generally showing greater toxicity. Methylmercury causes embryotoxicity and teratogenicity in a variety of experimental animals (Clement Associates 1985). Experimental animals exposed to organic mercury compounds experience toxic effects in the gonads, heart, liver, pancreas and gastrointestinal tract. The endocrine, immunocompetent and central nervous systems are also involved (Clement Associates 1985).

Oral LD_{50} values for soluble mercuric salts range from 20 to 60 mg/kg (Clement Associates 1985). Mercuric chloride causes teratogenicity. Mercurous compounds are less toxic by the oral route. Chronic exposure to inorganic mercury compounds affects the central nervous system causing behavioral and neurological disturbances (Clement Associates 1985).

Methylene Chloride

This chemical was detected at elevated concentrations in surface water in the quarry pond. Methylene chloride is relative nontoxic to freshwater aquatic organisms. Acute toxicity in Daphnia magna, the fathead minnow and the bluegill are associated with concentrations of 224,000 ug/L, 193,000 ug/L and 224,000 ug/L, respectively (Clement Associates 1985). The 96-hour EC_{50} for freshwater algae exceeded the highest concentration tested, 662,000 ug/L (Clement Associates 1985).

Nickel

This chemical was detected at an elevated concentration (10 μg/L) in surface water in the L-pond and the small pond. Toxicity of nickel to aquatic organisms depends on water hardness, with higher toxicity in softer water. Acute toxicity ranges from 510 ug/L for Daphnia magna to 46,200 ug/L for the banded killifish at similar hardness levels (Clement Associates 1985). Chronic toxicity is also highly variable, with a chronic value of 14.8 ug/L for Daphnia magna in soft water and 530 ug/L for the fathead minnow in hard water (Clement Associates 1985). Exposure to nickel reduces growth at concentrations as low as 100 ug/L (Clement Associates 1985). The ER-L for nickel is 30 mg/kg (Long and Morgan 1991).

Federal AWQC are available for nickel for protection of freshwater aquatic life. The criteria are a function of water hardness, as follows:

$$AWQCc\ (Ni) = \exp\ (0.846 \times (\ln \text{hardness}) + 1.1645) \quad (3)$$

$$AWQCa\ (Ni) = \exp\ (0.846 \times (\ln \text{hardness}) + 3.3612) \quad (4)$$

where:

AWQCc (Ni)	=	Chronic (4-day average) AWQC for nickel (ug/L)
AWQCa (Ni)	=	Acute (1-hour average) AWQC for nickel (ug/L)
exp	=	Exponential (base e)
hardness	=	Calcium carbonate hardness (mg/L $CaCO_3$)
ln	=	Natural logarithm

PAHs

This group of chemicals was detected in soil from the south/southeast area of the site. The primary adverse effects of PAHs involve local and systemic carcinogenicity by various routes (Clement Associates 1985). Tumors are produced in the forestomach in mice exposed by the oral route. Skin carcinomas are produced in mice in skin painting experiments. Lung tumors have been observed in hamsters and mice exposed to PAHs. A variety of other noncarcinogenic effects have been observed in experimental animals exposed to carcinogenic PAHs (Clement Associates 1985), including:

- Destruction of sebaceous glands, hyperplasia, hyperkeratosis and ulceration following application to mouse skin
- Immunosuppressive effects
- Hemolymphatic changes in the lymph nodes of rats following subcutaneous injections.

Selenium

This chemical was detected at elevated concentrations in quarry pond sediment and in young prairie soil. Although selenium is an essential nutrient, toxic effects occur when required levels are exceeded. Plants accumulate selenium to high levels. Animals chronically exposed to 3 to 25 mg/kg selenium in the diet experience "alkali" disease, a condition recognized by lack of vitality, loss of hair, sterility, hoof deformity, lameness, anemia and fatty necrosis of the liver (Clement Associates 1985). Livestock consuming 100 to 1,000 mg/kg selenium experience a variety of acute toxic effects, including vision impairment, weakness of limbs and respiratory failure. Consumption of plants containing 400 to 800 mg/kg selenium has resulted in death of hogs, sheep and calves (Clement Associates 1985).

The LD_{50} in rats exposed to sodium selenite by the oral route is 10 mg/kg. Acute effects include brain damage, hemorrhages in the digestive tract and degeneration of liver, kidneys and myocardia (Clement Associates 1985).

An ER-L has not been developed for selenium contamination in sediment (Long and Morgan 1991).

Silver

This chemical was detected at elevated concentrations in soil in the 10-15-year-old prairie area of the site. Excess silver in the diet of dogs, sheep, pigs, chicks, turkey poults and ducklings induces selenium, vitamin E and copper deficiency symptoms, even though these nutrients are adequate in the diet, silver can aggravate symptoms if one or more of these nutrients is below required levels in the diet (Clement Associates 1985).

Thallium

This chemical was detected at an elevated concentration in one sediment sample from the L-pond. Thallium produces chronic toxicity in freshwater aquatic organisms at concentrations as low as 40 ug/L and acute toxicity at levels as low as 1,400 ug/L (Clement Associates 1985). No information was located on toxicity associated with exposure of aquatic organisms to thallium in sediments. Although it was not elevated in surface water, thallium does have a bioconcentration factor in the range 100,000 to 150,000 in freshwater aquatic organisms (Clement Associates 1985).

An ER-L has not been developed for thallium contamination in sediment (Long and Morgan 1991).

Toluene

Toluene was detected at elevated concentrations in soil in the young prairie area and south/southeast areas of the site. An increase in embryonic lethality was observed in mice exposed to toluene at an oral dose of 260 mg/kg (Clement Associates 1985). Fetal weight decreased at a dose of 434 mg/kg and the incidence of cleft palate increased at doses as low as 867 mg/kg (Clement Associates 1985). The oral LD_{50} in rats is 5,000 mg/kg, and the inhalation LC_{LO} (the lowest concentration reported to have caused death) is 15,000 mg/m^3 (Clement Associates 1985). Cerebellar degeneration and irreversible encephalopathy occur in mammals exposed chronically to high concentrations by the inhalation route (Clement Associates 1985). Toluene suppresses metabolism of styrene and benzene in rats (Clement Associates 1985).

Xylenes (total)

Xylenes were detected at elevated concentrations in soil in the south/southeast area of the site. Xylenes have been observed to cause fetotoxicity in rats and mice (Clement Associates 1985). The oral LD_{50} in rats is 5,000 mg/kg (Clement Associates 1985).

Zinc

Zinc was detected at elevated concentrations in surface water and soil in the 10- to 15-year-old prairie and south/southeast areas of this site. It is an essential element required for protein synthesis, enzyme function and carbohydrate metabolism (Clement Associates 1985). However, growth

retardation, hypochromic anemia and defective mineralization of bone occurred in rats fed a diet containing 0.25% zinc (Clement Associates 1985). Excessive intake of zinc may cause deficiency of copper and result in anemia, even though copper is adequate in the diet (Clement Associates 1985).

Zinc may be necessary for the growth of tumors in animals exposed to carcinogens. Tumor growth is slower in zinc-deficient laboratory animals, although animals may be more susceptible to induction of cancer.

The ER-L for zinc in sediment is 120 mg/kg (Long and Morgan 1991). Acute toxicity in freshwater organisms occurs over concentrations that range from 90 to 58,100 ug/L (Clement Associates 1985). Chronic toxicity in freshwater organisms has been observed over the range 47 to 852 ug/L. The alga Selanastrum capricornutum exhibited toxic effects at 30 ug/L (Clement Associates 1985).

Federal AWQC are available for zinc for protection of freshwater aquatic life. The criteria are a function of water hardness, as follows:

$$AWQCc\ (Zn) = \exp\ (0.8473 \times (\ln \text{hardness}) + 0.7614) \quad (5)$$

$$AWQCa\ (Zn) = \exp\ (0.8473 \times (\ln \text{hardness}) + 0.8604) \quad (6)$$

where:

AWQCc (Zn)	=	Chronic (4-day average) AWQC for zinc (ug/L)
AWQCa (Zn)	=	Acute (1-hour average) AWQC for zinc (ug/L)
exp	=	Exponential (base e)
hardness	=	Calcium carbonate hardness (mg/L $CaCO_3$)
ln	=	Natural logarithm

7.0 CHARACTERIZATION OF IMPACTS AND RISKS

Risk and impact characterization are accomplished for this site by comparing exposure levels at the site to levels known to be toxic. This is possible for aquatic environments due to the availability of the following toxicity or effects benchmark concentrations:

- Federal ambient water quality criteria for protection of aquatic life
- Laboratory toxicity bioassay data for aquatic organisms
- Effects Range-Low (ER-Ls) values for organisms potentially exposed to sediment

Ecological risk and impact characterization methods for soil are not well developed and may result in an overestimate of risk at sites like this one where contamination is relatively low. Therefore, major emphasis in this section is placed on characterizing potential impacts to aquatic organisms inhabiting the ponds on site.

7.1 Terrestrial Resources

Soil contamination in the south/south east area of the site appears to present the greatest exposures to terrestrial organisms due to the presence of 4,4-DDT, PAHs, metals and other contaminants. This area is characterized by non-native soils (SEC Donohue 1992). Plant communities in this area of the site are dominated by non-native species, with little value as plant habitat and limited value as wildlife habitat. They may accumulate contaminants of ecological concern to levels that may pose a threat to organisms that feed on vegetation in this area of the site.

This area of the site is most susceptible to direct human disturbance and disturbance from traffic on highways on the south and east. Wildlife similar to that in surrounding areas is likely to inhabit this area. Small mammals with small home ranges are likely to be at greatest risk, especially those that burrow. Birds, arboreal mammals (e.g., squirrels) and larger mammals with larger home ranges, and transient individuals are unlikely to receive sufficient exposure to experience adverse health impacts or population-level impacts from short-term exposure to contaminants present in this area of the site. This area of the site is probably physically too small to support enough individuals of any species to pose population-level threats.

In general, contaminants of ecological concern detected in soil in the higher quality prairie communities on the landfill cap are not as toxic as those detected in the south/southeast area of the site. The presence of high quality native plant species may indicate low toxicity of soils in these areas. The proportion of burrowing small mammals and the larger area of these plant community types suggest that a larger population of more sensitive species may be exposed in these areas. Raptors are likely to be more active in this area of the site and may be exposed to higher intakes of some chemicals due to higher proportion of prey from this area, although the sparse vegetation is unlikely to support large populations of small mammals.

Soils around quarry pond and along the dirt bike path are limited in area, contain few contaminants of ecological concern and present the lowest threat to terrestrial wildlife.

In spite of the fact that potential impacts to terrestrial organisms have not been fully characterized, elevated soil contaminant levels are unlikely to be a concern at this site due to generally low levels and wide distribution of contamination.

7.2 Aquatic Resources

Concentrations of contaminants in surface water and sediment are only slightly elevated above concentrations in the background pond. Ambient water quality criteria for contaminants of ecological concern in ponds on site are not exceeded by any measured values (Table 7-1). A comparison of measured surface water concentrations to laboratory toxicity benchmark concentrations (Table 7-2) indicates a potential for limited adverse impacts to aquatic organisms, e.g., water fleas (cladocerans), midges, protozoans, algae and bacteria. This comparison must be viewed with caution due to the significant uncertainties associated with extrapolating laboratory toxicity test results to field situations (USEPA 1989a, 1989b). Concentrations of metals in surface waters are clearly in the lowest range of positive toxicity results in laboratory bioassays (USEPA 1985a, 1985b, 1986, 1987b).

The ER-L for zinc is not exceeded in any of the pond sediment samples (Table 7-2). The single detected concentration of Aroclor 1248 (95 ug/kg) in the L-pond exceeds the ER-L (50 ug/kg) for total PCBs, suggesting a possible, but not probable impact on benthic organisms exposed to sediments. Although the maximum concentrations for lead and zinc in quarry pond sediment exceed ER-Ls (Table 7-3), average concentrations are similar to concentrations in background pond sediment. However, aquatic communities in the L-pond and the quarry pond are similar to the community in the background control pond, suggesting a demonstrable impact is not present in either of the ponds. Therefore, it is unlikely that the limited aquatic resources at this site are currently impacted by site contamination.

Available monitoring data do not indicate that a groundwater contaminant plume has migrated from the site to the St. Joseph River (SEC Donohue 1992). Therefore, it is unlikely that this site is impacting aquatic communities in that river.

7.3 Wetlands

No toxic contaminants of ecological concern were detected in soil in the wetland at the east end of the site. Therefore, there are no data to indicate that this wetland is currently impacted by contamination at this site. Contaminated runoff during a major flooding episode may carry contamination into the wetland in the future. The risk of buildup of toxic levels of contaminants in wetland soils under this future hypothetical scenario is not likely to be significant.

TABLE 7-1 MEASURED VALUES (ug/L) AND U.S. ENVIRONMENTAL PROTECTION AGENCY AMBIENT WATER QUALITY CRITERIA FOR CONTAMINANTS OF ECOLOGICAL CONCERN PRESENT IN SURFACE WATER AT CONCENTRATIONS ABOVE BACKGROUND[a]

				Arsenic			Chromium III			Nickel			Zinc		
Location	Measurement	Value	CaCO3 Hardness, mg/L	Measured Value	Chronic Criterion (4-d avg)	Acute Criterion (1-hr avg)	Measured Value	Chronic Criterion (4-d avg)	Acute Criterion (1-hr avg)	Measured Value	Chronic Criterion (4-d avg)	Acute Criterion (1-hr avg)	Measured Value	Chronic Criterion (4-d avg)	Acute Criterion (1-hr avg)
L-Pond	Total	Max.	277.5	NE[b]	NA[c]	NA	NE	360.0	2055.0	ND[d]	312.5	2004.2	36.0	224.1	243.7
		Avg.	267.5	NE	NA	NA	NE	349.3	1994.1	ND	302.9	1943.0	19.0	217.2	236.2
		Min.	249.8	NE	NA	NA	NE	330.3	1885.4	ND	285.9	1833.6	5.6	205.0	222.9
	Dissolved	Max.	252.7	NE	NA	NA	ND	333.4	1903.3	10.0	288.7	1851.6	NE	207.0	225.1
		Avg.	249.8	NE	NA	NA	ND	330.3	1885.4	10.0	285.9	1833.6	NE	205.0	222.9
		Min.	247.0	NE	NA	NA	ND	327.2	1868.1	10.0	283.2	1816.2	NE	203.0	220.8
Small Pond	Total	Max.	216.3	4.7	190	360	ND	293.5	1675.7	ND	253.1	1623.3	15	181.4	197.3
		Avg.	199.5	4.5	190	360	ND	274.7	1568.3	ND	236.4	1516.0	9.3	169.4	184.2
		Min.	164.0	4.2	190	360	ND	234.0	1335.8	ND	200.3	1284.4	6.0	143.5	156.0
	Dissolved	Max.	183.9	4.5	190	360	ND	257.0	1467.1	NE	220.6	1415.1	16.0	158.1	171.9
		Avg.	183.9	4.5	190	360	ND	257.0	1467.1	NE	220.6	1415.1	16.0	158.1	171.9
		Min.	183.9	4.5	190	360	ND	257.0	1467.1	NE	220.6	1415.1	16.0	158.1	171.9
Quarry Pond	Total	Max.	274.6	NE	NA	NA	29	356.9	2037.4	NE	309.7	1986.5	38	222.1	241.5
		Avg.	267.5	NE	NA	NA	29	349.3	1994.1	NE	302.9	1943.0	18	217.2	236.2
		Min.	262.2	NE	NA	NA	29	343.6	1961.7	NE	297.9	1910.3	6.6	213.5	232.2
	Dissolved	Max.	272.2	NE	NA	NA	ND	354.3	2022.8	ND	307.4	1971.8	NE	220.4	239.7
		Avg.	271.5	NE	NA	NA	ND	353.6	2018.5	ND	306.8	1967.5	NE	219.9	239.2
		Min.	270.6	NE	NA	NA	ND	352.6	2013.0	ND	305.9	1962.0	NE	219.3	238.5

(a) Source: USEPA 1987b, 1986, 1985a and 1985b.
(b) Not Evaluated.
(c) Not Available.
(d) Not Detected.

TABLE 7-2 COMPARISON OF MEASURED SURFACE WATER CONCENTRATIONS TO TOXIC EFFECTS CONCENTRATIONS FOR AQUATIC LIFE

Chemical	Conc., ug/L	Hardness, mg/L CaCO3	Effect	Common Name	Scientific Name	Source
Arsenic	48.0	-	14-day EC50	Green alga	Selenastrum capricornutum	(USEPA 1985a)
	40.0	-	EC50 (death/deformity)	Narrow-mouthed toad	Gastrophryne carolinensis	(USEPA 1985a)
	4.7	SMALL POND: MAXIMUM DETECTED CONCENTRATION OF TOTAL ARSENIC				
	4.5	SMALL POND: AVERAGE DETECTED CONCENTRATION OF TOTAL ARSENIC				
	4.5	SMALL POND: ONLY DETECTED CONCENTRATION OF DISSOLVED ARSENIC				
	2.9	L-POND: MAXIMUM DETECTED CONCENTRATION OF TOTAL ARSENIC				
	2.6	QUARRY POND: MAXIMUM CONCENTRATION OF TOTAL ARSENIC				
	2.4	QUARRY POND: AVERAGE CONCENTRATION OF TOTAL ARSENIC				
	2.0	L-POND: AVERAGE DETECTED CONCENTRATION OF TOTAL ARSENIC				
Chromium (VI)	32.3	45	Acute LC50	Cladoceran	Simocephalus vetulus	(USEPA 1985b)
	29.0	QUARRY POND: ONLY DETECTED CONCENTRATION				
	25-64	45	Chronic toxicity	Cladoceran	Ceriodaphnia reticulata	(USEPA 1985b)
	15.3-24.2	45	Acute LC50	Cladoceran	Daphnia magna	(USEPA 1985b)
	13.9-28.5	45	Chronic toxicity	Cladoceran	Simocephalus vetulus	(USEPA 1985b)
	10.0	-	Growth reduction	Green alga	Chlamydomonas reinhardi	(USEPA 1985b)
	<10	45	Chronic toxicity	Cladoceran	Daphnia magna	(USEPA 1985b)
	6.1	L-POND: ONLY DETECTED CONCENTRATION				
	4.7-8.0	45	Chronic toxicity	Cladoceran	Simocephalus vetulus	(USEPA 1985b)
	4.7-8.0	45	Chronic toxicity	Cladoceran	Daphnia pulex	(USEPA 1985b)
	<2.5	45	Chronic toxicity	Cladoceran	Daphnia magna	(USEPA 1985b)
	2.0	-	Incipient inhibition	Blue-green alga	Microcystis aeruginosa	(USEPA 1985b)
	0.1	-	Incipient inhibition	Protozoan	Chilomonas paramecium	(USEPA 1985b)
		SMALL POND: NOT DETECTED				
Nickel	10.0	40	Abundance reduction	Bacterium	Serratia marcescens	(USEPA 1986)
	10.0	L-POND: ONLY DETECTED CONCENTRATION				
	10.0	QUARRY POND: MAXIMUM CONCENTRATION				
	8.9	QUARRY POND: AVERAGE CONCENTRATION				
	6.5	SMALL-POND: ONLY DETECTED CONCENTRATION				

continued-

Table 7-2 - continued

Chemical	Conc., ug/L	Hardness, mg/L CaCO3	Effect	Common Name	Scientific Name	Source
	5-10	-	Chronic toxicity	Cladoceran	Daphnia magna (1st, 3rd, 4th generations)	(USEPA 1986)
	5.0	-	Incipient inhibition	Blue-green alga	Microcystis aeruginosa	(USEPA 1986)
	5.0	40	Abundance reduction	Bacterium	Aeromonas sobria, Bacillus brevis and B. cereus	(USEPA 1986)
	<5	-	Chronic toxicity	Cladoceran	Daphnia magna (2nd generation)	(USEPA 1986)
	2.5	-	Incipient inhibition	Bacterium	Pseudomonas putida	(USEPA 1986)
	2-8.6	87-99	Phytoplankton community diversity/composition changes		Diatoms, other algae	(USEPA 1986)
Zinc	36.8	47	LC50	Midge	Tanytarsus dissimilis (embryo to third instar)	(USEPA 1987b)
	36.0	L-POND:	MAXIMUM CONCENTRATION			
	32.0	45	Acute LC50	Cladoceran	Ceriodaphnia reticulata	(USEPA 1987b)
	30.0	_	Incipient growth Inhibition	Green alga	Selenastrum capricornutum	(USEPA 1987b)
	19.0	L-POND:	AVERAGE CONCENTRATION			
	15.0		Reduced primary productivity	Plankton mixed species		(USEPA 1987b)
	15.0	SMALL POND:	MAXIMUM CONCENTRATION			
	14.0		LC50 at 30 degrees	Cladoceran	Daphnia magna (3-5 days)	(USEPA 1987b)
	10.0	195	EC50 death and deformity	Narrow-mouthed toad (embryo, larvae)	Gastrophryne carolinensis	(USEPA 1987b)
	9.9	QUARRY POND:	MAXIMUM CONCENTRATION			
	9.3	SMALL POND:	AVERAGE CONCENTRATION			
	9.1	QUARRY POND:	AVERAGE CONCENTRATION			
	5.0	-	LC50 at 30 degrees	Cladoceran	Daphnia magna (adult)	(USEPA 1987b)

TABLE 7-3 COMPARISON BETWEEN SEDIMENT CONCENTRATIONS AND EFFECTS BENCHMARK CONCENTRATIONS

Location	Chemical	Concentration[a] Site Average	Site Maximum	ER-L
L-Pond	Aroclor 1248	95	95	50
	Arsenic	2.4	6.2	33
	Chromium	5.6	13	80
	Copper	7.4	30	70
	Lead	6.3	20	35
	Nickel	8.5	20	30
	Zinc	20	57	12
Small Pond	Arsenic	1.8	2.1	33
	Chromium	4.0	6.2	80
	Copper	3.2	5.6	70
	Lead	2.7	3.4	35
	Nickel	3.7	6.8	30
	Zinc	8.7	12	120
Quarry Pond	Arsenic	11	22	33
	Chromium	11	21	80
	Copper	20	44	70
	Lead	19	50	35
	Nickel	16	35	30
	Zinc	47	98	120

(a) Concentrations are in mg/kg for metals and μg/kg for Aroclor 1248.

7.4 Threatened and Endangered Species

Although it was not observed during the plant community survey, the state-listed Michaux's stitchwort (Arenaria stricta) may occur in the prairie community on the landfill cap. Information regarding toxic effects of contaminants of ecological concern at this site are not available for this species. Therefore, the risk of this species being present on site and impacted by site contamination cannot be evaluated.

A similar concern exists for the Kankakee globe-mallow and bog bluegrass, two Federal candidate species whose distribution range includes Elkhart County.

Two burrowing animals, the badger (threatened) and the star-nosed mole (special concern) have not been observed, but may be present on the site. The mole prefers wetland and moist area with dense cover. Contaminated areas in the south area of the site may represent marginal habitat for this species. The landfill area of the site may represent marginal to good habitat for badgers. Buried waste material in this area could pose a potentially unacceptable threat to large burrowing animals capable of digging deep burrows. Direct contact with industrial wastes, hospital wastes and landfill gases (SEC Donohue 1992) would pose the greatest hazard to an exposed animal.

Other animal species of special concern identified in Appendix 2 (e.g., the Indiana bat) are either highly unlikely to be present on site or are likely to experience insignificant risks from exposures to site contaminants.

8.0 SUMMARY OF UNCERTAINTIES

In addition to the qualitative nature of this assessment, the areas of greatest uncertainty related to data on this site include the following:

- Lack of information on the distribution and abundance of resident populations or individuals of threatened or endangered species on site.
- Large numbers of "estimated" values (J-qualified) for concentrations of organic contaminants of ecological concern in site media.
- Lack of information on the bioavailability of site contaminants to exposed organisms.
- Limited information of dose-response relationships and toxicity of contaminants of ecological concern to plant and animal species present at this site.
- Tentatively identified compounds not evaluated as contaminants of potential ecological concern.

The first factor tends to make the assessment less than conservative, by having to assume the organisms are not present on site. The next three factors tend to make the assessment more conservative by forcing the following assumptions: the chemicals were measured accurately and are present at the reported concentrations; the chemicals are 100 percent bioavailable to exposed organisms and the chemicals are toxic to potentially exposed organisms on site. The exclusion of tentatively identified compounds is likely to lead to an underestimate of risk at this site.

9.0 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

The Himco Dump site is unusual in that conditions on a large area of the site support unique wet and dry prairie plant communities and large numbers of native plant species. This situation is most likely related to the nutrient-poor calcium sulfate and sand cover and historically rich sources of native plant seeds. These communities have a higher ecological value than the highly disturbed communities in surrounding areas that are dominated by non-native plant species.

While toxic chemicals are present in soil in the areas where the prairie communities are located, measured concentrations are unlikely to pose adverse impacts to resident species of plants and animals. Burrowing species of small mammals are likely to experience the highest exposures in these and other areas of the site.

The largest variety and highest concentrations of contaminants of ecological concern occur in the south/southeast area of the site. The greatest hazard to resident organisms occurs in this area of the site. This area is highly disturbed and unlikely to support populations of ecologically significant plant and animal populations. Small mammals are likely to inhabit and may be exposed to contaminants in this area.

Other areas of the site are unlikely to pose a significant threat of adverse effects to exposed organisms. Ponds on site contain a number of toxic chemicals, but only at concentrations slightly elevated over those in a background control pond. Aquatic life in these ponds is not significantly reduced relative to the background location. The aquatic and wetland communities on site are not likely to represent ecological resources of regional importance due to their small size. Off-site ecological resources, including fish populations in the St. Joseph River, are not exposed to contaminant releases that could result in adverse impacts.

Habitat conditions on site may support three species of special concern, the badger, star-nosed mole and Michaux's stitchwort. Threats to these organisms posed by exposure to contaminants of ecological concern are possible, but unlikely, if individuals occur on site.

9.2 Recommendations

1. Because of their regional significance, the prairie communities at this site should be given careful consideration. Efforts should be made to preserve them during remediation.

2. Additional site surveys should be conducted to determine whether the badger, star-nosed mole, Michaux's stitchwort or other species of special concern are present on site. Surveys should be conducted at a time of year when resident populations or transient individuals are most likely to be observed.

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APPENDIX 1

PLANT COMMUNITY ASSESSMENT FOR THE HIMCO DUMP SITE

PLANT COMMUNITY ASSESSMENT

for the

HIMCO DUMP SITE

in Elkhart, Indiana

Prepared for ICAIR, Life Systems, Inc.

Prepared by:

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Interpretation of the Plant Species List

The plant survey of September 16, 1991 at the HIMCO dump site turned up 45 non-native plant species and 102 native plant species. The non-native species are mostly of Eurasian origin, though a few are from further west or south in the United States.

To evaluate the site's native plants, a natural area rating system developed by Swink and Wilhelm in Plants of the Chicago Region was used. [Due to the time it takes to travel to Elkhart County from Chicago more than the difference in vegetation, Elkhart County is not included in this plant ecology and taxonomy reference book. Northwest Indiana up to St. Joseph County (the county just east of Elkhart County) is included in this book.] The **Natural Area Rating Index** is an objective system devised to rate the quality of open land regarding its native character. Swink and Wilhelm have assigned a numerical rating coefficient to each native plant which reflects its fidelity to presettlement quality natural areas. The Natural Area Rating Index is calculated by adding the numerical rating coefficients of all plant species present and dividing this sum by the number of native plants present.

Very little of the land in the Chicago region still has the native plants that were present before settlement. Only 0.02 percent of the land of the Chicago region rates in the 50's and higher--qualifying as good natural area according to Swink and Wilhelm. Rural areas generally have even less natural area because farming and grazing have so completely obliterated them.

The Natural Area Rating Index of the HIMCO dump site is 43. Swink and Wilhelm make the following statement on page 857: "If the Natural Area Rating Index of a given area is 35 or 40, one can be relatively certain that there is sufficient native character to be of rather profound environmental importance in terms of a regional natural area perspective." The HIMCO site does qualify as a lower quality natural area, whereas most old field or successional areas do not.

It is surprising that a site as highly disturbed as this one should rate as a natural area at all. Obviously, the HIMCO site had superior seed sources and conditions for reestablishment of native flora than the average old field. Three important factors are likely: (1) the woods, fencerows, or other spots not excavated and filled were refugia; (2) native seed and propagules came in with the final sand cover; and (3) the infertility of the final cover gave the native prairie plants a competitive advantage over the weedy plants which normally take over.

A closer look at the 102 native plant species shows that 22 are weedy natives with numerical rating coefficients of 0 and 1; 10 are only slightly less weedy with a rating coefficient of 2; and the remaining 70 are good native species with rating coefficients of 3

thru 10. No plant species with the rating coefficients of 15 or 20 were seen. These ratings are for very rare plants such as state-endangered ones.

Plant Communities Present

Before European settlement the HIMCO site had at least three plant communities: (1) wetland, probably peaty and gradually sloped from saturated soil to open water; (2) sand prairie, probably ranging from wet to dry; and (3) open woodland with oak and hickory in well-drained soil and pin oak, black gum, and red maple in somewhat poorly-drained soil. Nearly annual fire played an important part in keeping the landscape open and the plant and wildlife species numerous and diverse.

(1) The original high quality, peaty-type of wetland which may well have harbored the state-listed **Rhynchospora macrostachya**, **Scirpus smithii**, **Eleocharis robbinsii**, **Fuirena pumila**, (all in sedge family) and **Utricularia purpurea** (purple bladderwort) is no longer at the HIMCO site. The highest quality wetland now present is in little patches of wet sand prairie with species like **Aster umbellatus** (flat-top aster), **Cornus racemosa** (gray dogwood), **Cornus stolonifera** (red-osier dogwood), **Eupatorium perfoliatum** (common boneset), **Juncus effusus solutus** (common rush), **Panicum clandestinum** (deer-tongue grass), **Pyrus melanocarpa** (black chokeberry), **Rubus hispidus obovalis** (swamp dewberry), **Salix discolor** (pussy willow), **Salix glaucophylloides glaucophylla** (blue-leaved willow), **Spirea tomentosa rosea** (steeplebush), and **Verbena hastata** (blue vervain) which are all OBL and FACW (strongly wetland) species according to the National List of Plant Species that Occur in Wetlands.

Less diverse wetland occurs in a narrow band around the steep-sided excavated ponds and gravel pit. This wetland has **Equisetum** sp. (scouring rush), cattail, **Salix interior** (sandbar willow), and **Salix nigra** (black willow). The cattail marsh wetland south of the gravel pit is apparently not very diverse either--**Equisetum** sp. (scouring rush), **Eupatorium perfoliatum** (common boneset), **Gerardia** sp. (purple false foxglove), and **Salix discolor** (pussy willow) were seen there. Lest there be any confusion, the area labeled "wetland remnant" on the south part of the HIMCO site map is not wetland any more.

(2) The prairie plant community is represented by the little wet sand prairie spots described above and a considerable amount of dry sand prairie. On the Plant Community Map, there are two adjacent prairie areas which are separate because of the different amounts of time they have been left alone. Though the prairie grasses, wildflowers and low shrubs are about the same in both areas, the invading trees and shrubs are larger on the older successional side.

The prairie areas are certainly contaminated by plenty of non-native and weedy native plant species. Wet sand prairie has **Phalaris arundinacea** (reed canary grass) and the dryer prairie has **Bromus inermis** (smooth brome grass) as the worst weed. Tree and shrub invasion by **Populus deltoides** (eastern cottonwood), **Populus tremuloides** (quaking aspen), **Rhus glabra** (smooth sumac) and **Rhus typhina** (staghorn sumac), and the non-natives such as **Ulmus pumila** (Siberian elm), **Morus alba** (mulberry), and **Rhamnus frangula** (glossy buckthorn) is well under way.

The dry to mesic sand prairie has many good native plant species: **Andropogon gerardii** (big bluestem), **Andropogon scoparius** (little bluestem), **Asclepias tuberosa** (butterfly weed), **Baptesia leucantha** (white wild indigo), **Coreopsis lanceolata** (sand coreopsis), **Coreopsis tripteris** (tall coreopsis), **Corispermum hyssopifolium** (common bugseed), **Cyperus filiculmis** (sand sedge), **Desmodium canadense** (showy tick trefoil), **Elymus canadensis** (Canada wild rye), **Helianthus divaricatus** (woodland sunflower), **Helianthus hirsuitus** (oblong sunflower), **Lespedeza capitata** (round-headed bush clover), **Lespedeza hirta** (hairy bush clover), **Liatris aspera** (rough blazing star), **Panicum oligosanthes scribnarium** (Scribner's panic grass), **Pyrus melanocarpa** (black chokeberry), **Rhus copallina latifolia** (shining sumac), **Rosa carolina** (pasture rose), **Solidago nemoralis** (old field goldenrod), **Solidago rugosa** (rough goldenrod), and **Vaccinium angustifolium laevifolium** (early low blueberry). It is possible though not probable, that the rare, state-listed **Arenaria stricta** (Michaux's stitchwort) is in the dry sand prairie.

In especially sterile parts of the dry sand prairie areas, the non-native **Aristida basiramea** (fork-tipped 3 awn grass), and native **Leptoloma cognatum** (fall witch grass), **Panicum oligosanthes scribnarium**, and **Eragrostis spectabalis** (purple love grass) form the only ground cover. The non-native grasses **Triodea flava** and **Andropogon virginicus** (broom sedge) are also prominent in the prairie areas.

(3) The woodland plant communities have not been excavated and filled like the rest of the HIMCO site. Lack of fire has been the most important reason for their decline in diversity, a problem which has occurred in all the prairie-related, open woodlands of the Midwest. The formerly open woodlands just do not have the seedbank or ability to succeed into a climax eastern beech-maple forest.

The pin oak fencerow on the far west end of the site also has red maple, Nyssa sylvatica (black gum), and white oak. The small woods north of the smallest fish pond has pin oak, red oak, sassafrass, and black gum.

The large woods covering the northwest 2/3 of the HIMCO site ranges from silver maple to red maple to pin oak, red oak, and shagbark hickory. Red elm, flowering dogwood, wild black cherry, sassafrass, and the non-native **Rhamnus frangula** (glossy buckthorn) are the small trees present. Herbs in this woods include

Botrychium virginianum (rattlesnake fern), **Carex pensylvanica** (Pennsylvania sedge) **Osmunda claytoniana** (interrupted fern), **Osmunda regalis** (royal fern), **Pteridium aquilinum latiusculum** (bracken fern), **Rubus hispidus obovalis** (swamp dewberry), and **Smilacina racemosa** (feathery false solomon's seal). The woodland edge next to the prairie areas has various tree and shrub species such as **Populus grandidentata** (big-tooth aspen), **Viburnum lentago** (nannyberry), **Sambucus canadensis** (elderberry), blue-leaved and pussy willows, smooth sumac, quaking aspen, and the non-native glossy buckthorn. Rough goldenrod and deer-tongue grass are fairly common along this edge.

The cottonwood-Siberian elm woods of the "wetland remnant" and the black locust woods labeled on the Plant Community Map have no value as native plant habitat.

Comparison of HIMCO Site to Other Successional Old Field

The HIMCO site as discussed on page one is far superior to the average old field. It qualifies as a natural area. Though it is definitely not of nature preserve quality, it has significant native vegetation, particularly the prairie species which are not as common in Elkhart as further west.

According to Tom Post, Biologist with the Indiana Division of Nature Preserves, the only prairie near Elkhart is the 10 acre Bristol Prairie Nature Preserve 10 miles east and a few spots on railroad rights-of-way. Certainly there is little likelihood of finding any prairie within a mile of the HIMCO site.

A quick look at the old field across Bristol Ave, south of the HIMCO site provided a clue that not all old fields turn out like the HIMCO site. The woods were filled with prickly **Rubus occidentalis** (black raspberry) and the open area with an unbroken cover of the non-native **Bromus inermis** (smooth brome grass), weedy shrubs and trees and prickly **Rubus allegheniensis** (common blackberry). This old field probably was not infertile enough for prairie species to have much of a chance to dominate the weedy competition. No prairie grasses were present but there were a couple plants of butterfly weed, showy tick trefoil, oblong sunflower, and early goldenrod.

There was an abandoned railroad nearby but it was found to have been abandoned 30 years ago and was completely reabsorbed into the farms. Several very early successional old fields were seen along nearby county roads with nothing more than the non-native crabgrass and broom sedge.

Stressed Vegetation

The only stressed vegetation noticed was the Salix discolor (pussy willow) shrub in the cattail marsh south of the gravel pit that looked pretty chewed up by insects. Some early low blueberry leaves from the older prairie area also looked chewed up. Shrub and tree leaves in sandy areas often do seem to be pretty chewed up by fall, so this probably is not significant. The prairie grasses and wildflowers looked quite healthy. The trees in the woods looked fine except the lower branches of the oaks were dead from shade-pruning due to lack of fire.

Effect of Remediation Work

It is obvious that a clay cap over the site would permanently cover the native vegetation and it would not restore itself. The continued invasion of shrubs and trees that occurs with continued lack of fire might well eliminate the native prairie vegetation eventually anyway. If the site were to not require a clay cap and the vegetation able to remain as is, the site should ideally be exposed to controlled fire nearly annually to maintain its diversity.

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PLANT SPECIES LIST
HIMCO SITE

9-16-91

Rating Coefficient	Scientific Name	Common Name
0	Acer negundo	Box elder
7	Acer rubrum	Red maple
0	Acer saccharinum	Silver maple
non-native	Achillea millefolium	Yarrow
non-native	Agropyron repens	Quack grass
non-native	Agrostis alba	Redtop
0	Ambrosia artemisiifolia elatior	Common ragweed
4	Andropogon gerardii	Big bluestem grass
5	Andropogon scoparius	Little bluestem grass
non-native	Andropogon virginicus	Broom sedge
native	Apocynum species	Dogbane
non-native	Aristida basiramea	Fork-tipped 3-awn grass
0	Asclepias syriaca	Common milkweed
10	Asclepias tuberosa	Butterfly weed
1	Asclepias verticillata	Whorled milkweed
1	Aster pilosus	Hairy aster
10	Aster umbellatus	Flat-top aster
8	Baptesia leucantha	White wild indigo
non-native	Berteroa incana	Hoary alyssum
6	Botrychium virginianum	Rattlesnake fern
non-native	Bromus inermis	Smooth brome grass
non-native	Bromus tectorum	Downy brome grass
3	Carex brevior	a sedge
5	Carex pensylvanica	Early sedge
5	Carya ovata	Shagbark hickory
non-native	Catalpa speciosa	Hairy catalpa
0	Cenchrus longispinus	Sandbur
non-native	Centaurea maculosa	Spotted knapweed
non-native	Cirsium vulgare	Bull thistle
7	Coreopsis lanceolata	Sand coreopsis
5	Coreopsis tripteris	Tall coreopsis
8	Corispermum hyssopifolium	Common bugseed
10	Cornus florida	Flowering dogwood
1	Cornus racemosa	Gray dogwood
6	Cornus stolonifera	Red-osier dogwood
native	Crataegus species	Hawthorn
non-native	Croton glandulosus septentrionalis	Sand croton
5	Cyperus filiculmis	Sand sedge

PLANT SPECIES LIST (Continued)
HIMCO SITE
9-16-91

Rating Coefficient	Scientific Name	Common Name
non-native	Daucus carota	Queen Anne's lace
4	Desmodium canadense	Showy tick trefoil
non-native	Digitaria sanguinalis	Hairy crab grass
non-native	Diodea teres setifera	Buttonweed
non-native	Eleagnus umbellata	Cardinal bush
non-native	Eleusine indica	Yard grass
4	Elymus canadensis	Canada wild rye
4	Equisetum hymale affine	Tall scouring rush
non-native	Eragrostis megastachya	Stink grass
3	Eragrostis spectabalis	Purple love grass
6	Eupatorium perfoliatum	Common boneset
1	Eupatorium serotinum	Late boneset
2	Euphorbia corollata	Flowering spurge
non-native	Euphorbia maculata	Nodding spurge
non-native	Festuca elatior	Meadow fescue
7	Gerardia species	Purple false foxglove
2	Gnaphalium obtusifolium	Old field balsam
5	Helianthus divaricatus	Woodland sunflower
5	Helianthus hirsutus	Oblong sunflower
9	Ilex verticillata	Winterberry
5	Juglans nigra	Black walnut
7	Juncus effusus solutus	Common rush
2	Juniperus virginiana crebra	Red cedar
0	Lepidium virginicum	Common peppergrass
3	Leptoloma cognatum	Fall witch grass
4	Lespedeza capitata	Round-headed bush clover
6	Lespedeza hirta	Hairy bush clover
6	Liatris aspera	Rough blazing star
non-native	Ligustrum vulgare	Common privet
non-native	Linaria vulgaris	Butter-and-eggs
non-native	Lonicera (hybrid)	Bush honeysuckle
non-native	Maclura pomifera	Osage orange
non-native	Melilotus species	Sweet clover
non-native	Mentha spicata	Spearmint
non-native	Mirabilis nyctaginea	Wild four o'clock
non-native	Mollugo verticillata	Carpet weed
non-native	Morus alba	Mulberry
non-native	Nepeta cataria	Catnip

PLANT SPECIES LIST (Continued)
HIMCO SITE
9-10-91

Rating Coefficient	Scientific Name	Common Name
8	Nyssa sylvatica	Black or sour gum
1	Oenothera biennis	Common evening primrose
7	Osmunda claytoniana	Interrupted fern
8	Osmunda regalis spectabalis	Royal fern
0	Oxalis europea	Tall wood sorrel
7	Panicum clandestinum	Deer-tongue grass
7	Panicum oligosanthes scribnarium	Scribner's panic grass
5	Panicum virgatum	Switch grass
0	Phalaris arundinacea	Reed canary grass
non-native	Phleum pratense	Timothy
3	Physalis heterophylla	Clammy ground cherry
2	Phytolacca americana	Pokeweed
non-native	Plantago lanceolata	English plantain
10	Platanus occidentalis	Sycamore
non-native	Poa compressa	Canada blue grass
non-native	Poa pratensis	Kentucky bluegrass
0	Polansia graveolens	Clammy weed
0	Polygonum pensylvanicum laevigatum	Pennsylvania knotweed
2	Polygonum scandens	Climbing false buckwheat
2	Populus deltoides	Eastern cottonwood
6	Populus grandidentata	Large-toothed aspen
4	Populus tremuloides	Quaking aspen
non-native	Potentilla recta	Sulfur cinquefoil
4	Potentilla simplex	Common cinquefoil
1	Prunus serotina	Wild black cherry
5	Pteridium aquilinum latiusculum	Bracken fern
7	Pyrus melanocarpa	Black chokeberry
?	Pyrus species	Native or ornamental crab
4	Quercus alba	White oak
8	Quercus palustris	Pin oak
7	Quercus rubra	Red oak
6	Quercus velutina	Black oak
non-native	Rhamnus frangula	Glossy buckthorn
0	Rhus copallina latifolia	Shining or winged sumac
1	Rhus glabra	Smooth sumac
1	Rhus radicans	Poison ivy
3	Rhus typhina	Staghorn sumac
non-native	Robinia pseudoacacia	Black locust

PLANT SPECIES LIST (Continued)
HIMCO SITE
9-16-91

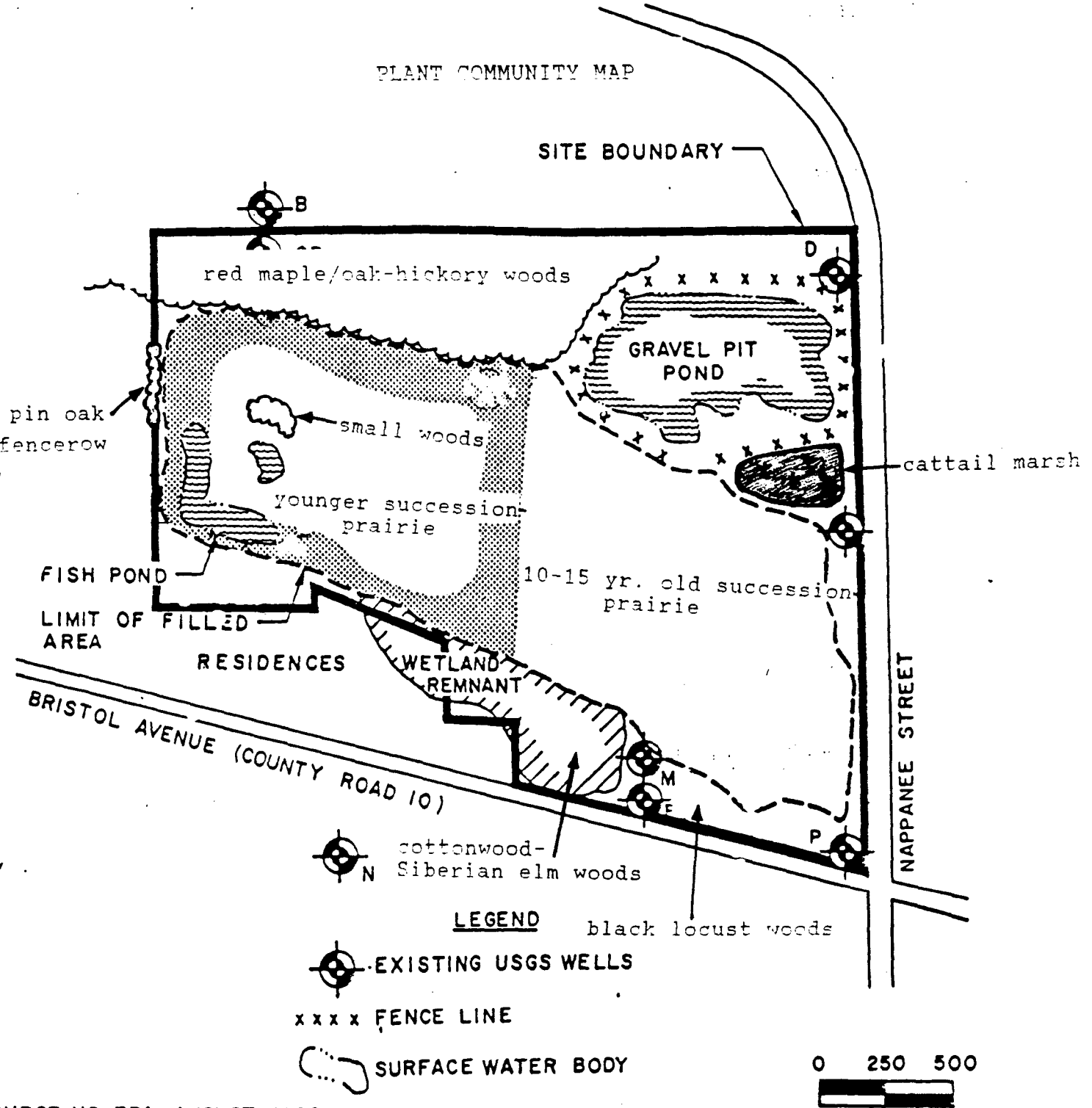
Rating Coefficient	Scientific Name	Common Name
5	Rosa carolina	Pasture rose
non-native	Rosa multiflora	Multiflora rose
3	Rubus allegheniensis	Common blackberry
4	Rubus flagellaris	Common dewberry
9	Rubus hispidus obovalis	Swamp dewberry
2	Salix discolor	Pussy willow
7	Salix glaucophylloides glaucophylla	Blue-leaved willow
1	Salix interior	Sandbar willow
4	Salix nigra	Black willow
1	Sambucus canadensis	Elderberry
non-native	Saponaria officinalis	Bouncing bet
0	Sassafras albidum	Sassafrass
non-native	Setaria glauca	Yellow foxtail
2	Smilacina racemosa	Feathery false solomon's seal
non-native	Solanum carolinense	Horse nettle
1	Solidago altissima	Tall goldenrod
4	Solidago graminifolia media	Smooth grass-leaved goldenrc
4	Solidago nemoralis	Old field goldenrod
6	Solidago rugosa	Rough goldenrod
0	Spirea tomentosa rosea	Steeple bush
non-native	Triodea flava	False redtop
2	Typha angustifolia	Narrow-leaved cattail
1	Typha latifolia	Broad-leaved cattail
non-native	Ulmus pumila	Siberian elm
4	Ulmus rubra	Slippery elm
2	Urtica procera	Tall nettle
5	Vaccinium angustifolium laevifolium	Early low blueberry
non-native	Verbascum blattaria	Moth mullien
non-native	Verbascum thapsus	Common mullien
4	Verbena hastata	Blue vervain
4	Verbena stricta	Hoary vervain
5	Vernonia species	Ironweed
5	Viburnum lentago	Nannyberry
4	Vitis riparia	Riverbank grape

PLANT SPECIES LIST
COMPARISON SITE *

9-16-91

Rating Coefficient	Scientific Name	Common Name
10	Asclepias tuberosa	Butterfly weed
1	Aster pilosus	Hairy aster
non-native	Berteroa incana	Hoary alyssum
non-native	Bromus inermis	Smooth brome grass
3	Celtis occidentalis	Hackberry
4	Desmodium canadense	Showy tick trefoil
5	Helianthus hirsutus	Oblong sunflower
5	Juglans nigra	Black walnut
3	Leptoloma cognatum	Fall witch grass
non-native	Lonicera (hybrid)	Bush honeysuckle
non-native	Morus alba	Mulberry
1	Prunus serotina	Wild black cherry
non-native	Pyrus malus	Apple
7	Quercus rubra	Red oak
6	Quercus velutina	Black oak
1	Rhus glabra	Smooth sumac
non-native	Rosa multiflora	Multiflora rose
3	Rubus allegheniensis	Common blackberry
2	Rubus occidentalis	Black raspberry
5	Solidago juncea	Early goldenrod

* From old field across Bristol Ave. next to Himco Site.



SOURCE: US EPA, AUGUST, 1986

Donohue

20026

FEBRUARY, 1990

Engineers • Architects • Scientists

EXISTING SITE FEATURES

HIMCO DUMP SITE
ELKHART COUNTY, INDIANA

N

FIGURE 2-2

CHECKLIST OF THE FLORA OF THE CHICAGO REGION

Gerould Wilhelm, Floyd Swink, and Linda Wetstein
The Morton Arboretum
Lisle, Illinois 60532

September 1, 1991

The following is a checklist of vascular plants of the 22-county Chicago region as defined by Swink & Wilhelm (1979). It is not intended to be a complete list, although all of the known native species are included. Several hundred rare weeds have been omitted from this version of the list for space limitations. Weeds, those species considered non-native to the region, are rendered in ALL CAPS. Nomenclature follows Swink & Wilhelm.

Each species is preceded by a 5-7 letter acronym which is used in the preparation of field inventories and transect sampling. Generally, the acronym is constructed from the first three letters of the genus, the first two of the epithet, and the first one of any recognized variety. The acronym is followed by the coefficient of conservatism (0-10 = weedy-conservative, 15 or 20 = rare or endangered), as given by Swink & Wilhelm, and defined in detail by Wilhelm & Ladd (1988). Each species is followed by its coefficient of wetness (-5 = wet, 0 = facultative, 5 = dry) and corresponding National Wetland Category (Reed 1988). Wetland categories shown in [] either were not given by Reed, or were sufficiently unsuitable for the Chicago region as to warrent an *ad hoc* change.

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ABUTH	-1	ABUTILON THEOPHRASTI	4	FACU-	AGRALP	6	Agrostis alba palustris	-3	FACW
ACAGR	7	Acalypha gracilens	5	UPL	AGRHY	1	Agrostis hyemalis	1	FAC-
ACARH	0	Acalypha rhomboidea	3	FACU	AGRPE	1	Agrostis perennans	1	FAC-
ACAVI	5	Acalypha virginica	3	FACU	AGRSC	5	Agrostis scabra	0	FAC
ACEGI	0	ACER GINNALA	5	UPL	AILAL	1	AILANTHUS ALTISSIMA	5	[UPL]
ACENE	0	Acer negundo	-2	FACW-	AIRCA	0	AIRA CARYOPHYLLEA	3	FACU
ACENI	5	Acer nigrum	5	UPL	AJURE	0	AJUGA REPTANS	5	UPL
ACEPL	-1	ACER PLATANOIDES	5	UPL	ALEFA	10	Aletris farinosa	0	FAC
ACERU	7	Acer rubrum	0	FAC	ALISU	4	Alisma subcordatum	-5	OBL
ACESAI	0	Acer saccharinum	-3	FACW	ALITR	4	Alisma triviale	-5	OBL
ACESAU	5	Acer saccharum	3	FACU	ALLOF	-3	ALLIARIA OFFICINALIS	0	FAC
ACHMI	1	ACHILLEA MILLEFOLIUM	3	FACU	ALLCA	1	Allium canadense	3	FACU
ACNAL	0	Acnida altissima	-5	OBL	ALLCE	6	Allium cernuum	5	UPL
ACNTA	1	ACNIDA TAMARISCINA	-5	OBL	ALLMU	2	ALLIUM MUTABILE	5	UPL
ACOCA	7	Acorus calamus	-5	OBL	ALLST	20	Allium stellatum	5	UPL
ACTPA	7	Actaea pachypoda	5	UPL	ALLTR	7	Allium tricoccum	2	FACU+
ACTRU	10	Actaea rubra	5	UPL	ALLTRB	6	Allium tricoccum burdickii	2	FACU+
ACTHE	20	Actinea herbacea	5	UPL	ALLVI	0	ALLIUM VINEALE	3	FACU
ACTAL	5	Actinomeris alternifolia	-3	FACW	ALNGL	2	ALNUS GLUTINOSA	-2	FACW-
ADIPE	15	Adiantum pedatum	1	FAC-	ALNRUA	8	Alnus rugosa americana	-5	OBL
ADLFU	20	Adlumia fungosa	5	UPL	ALNSE	15	Alnus serrulata	-5	OBL
AEGPO	-2	AEGOPODIUM PODAGRARIA	0	FAC	ALOAE	6	Alopecurus aequalis	-5	OBL
AESGL	3	Aesculus glabra	-1	FAC+	ALOCA	0	ALOPECURUS CAROLINIANUS	-3	FACW
AGANE	5	Agastache nepetoides	3	FACU	ALOGE	0	ALOPECURUS GENICULATUS	-5	OBL
AGASC	5	Agastache scrophulariaefolia	5	UPL	ALOPR	0	ALOPECURUS PRATENSIS	-3	FACW
AGOCU	20	Agoseris cuspidata	5	UPL	ALTRO	0	ALTHAEA ROSEA	5	UPL
AGRGR	2	Agrimonia gryposepala	2	FACU+	AMAAL	0	AMARANTHUS ALBUS	3	FACU
AGRPA	8	Agrimonia parviflora	-1	FAC+	AMACR	0	AMARANTHUS CRUENTUS	5	UPL
AGRPU	5	Agrimonia pubescens	5	UPL	AMAGR	0	AMARANTHUS GRAECIZANS	5	UPL
AGRRO	15	Agrimonia rostellata	3	FACU	AMAHY	-1	AMARANTHUS HYBRIDUS	5	UPL
AGRRE	-2	AGROPYRON REPENS	3	FACU	AMAPA	0	AMARANTHUS PALMERI	3	FACU
AGRTR	8	Agropyron trachycaulum	0	FAC	AMAPO	-1	AMARANTHUS POWELLII	5	UPL
AGRTRU	8	Agropyron trachycaulum unilaterale	3	FACU	AMARE	-1	AMARANTHUS RETROFLEXUS	2	FACU+
AGRAL	1	AGROSTIS ALBA	-3	FACW	AMBARE	0	Ambrosia artemisiifolia elatior	3	FACU

APPENDIX 2

BIRD AND MAMMAL SURVEY FOR THE HIMCO DUMP SITE

FINAL REPORT: Work Assignment No. 201522

ECOLOGICAL ASSESSMENT FOR HIMCO DUMP SITE - ELKHART, INDIANA

Prepared by: Brian K. Miller, Certified Wildlife Biologist
7925 E 700 S
Lafayette, IN 47905

I visited the Himco dump site in Elkhart, Indiana on 16 September, 1991. The entire area was surveyed by vehicle and by walking the perimeter on public roads. All birds, mammals, and animal sign encountered during the site visit were recorded. The existing habitat conditions and vegetative cover was examined and characterized into six general habitat types (ponds - open water; wetland; woods; prior cropped - early successional vegetation approximately 3-6 years old; revegetated surface - early successional vegetation approximately 10-15 years old; and shrub - early successional woody vegetation) identified on Figure 1.

During the site visit, six bird species and one mammal species were observed (Table 1). In addition, numerous white-tailed deer (Odocoileus virginianus) tracks were found throughout the area.

Table 1. Wildlife species observed during the Himco dump site visit in Elkhart Indiana on 16 September, 1991.

Common Name	Scientific Name	# Observed
Blue Jay	Cyanocitta cristata	6
Cardinal	Cardinalis cardinalis	2
Robin	Turdus migratorius	1
American Gold Finch	Spinus tristis	1
Northern Flicker	Colaptes auratus	4
unidentified shorebird		4
unidentified small mammal		1

The habitat structure in the six general habitat types (Figure 1) appeared similar to what is found in the same habitat types on adjacent sites. Therefore, it is reasonable to expect the same mammal species to occur on the Himco dump site as exist on adjacent sites with similar habitat (Table 2).

Table 2. Mammal species expected to occur on the Himco dump site in Elkhart, Indiana based on habitat quality and structure and occurrence of these species in similar habitat on adjacent sites.

Habitat Type	Common Name	Scientific Name
RESIDENT		
Woods	short-tailed shrew	Blarina brevicauda
	white-footed mouse	Peromyscus leucopus
	eastern chipmunk	Tamias striatus
	eastern fox squirrel	Sciurus niger
	eastern gray squirrel	Sciurus carolinensis
	red squirrel	Tamiasciurus hudsonicus
Prior Cropped and Revegetated Surface - early successional vegetation with poor to fair vegetative ground cover density	deer mouse	Peromyscus maniculatus
	praire vole	Microtus ochrogaster
	13 lined ground squirrel	Citellus tridecemlineatus
	house mouse	Mus musculus Linnaeus
	badger	Taxidea taxus
	woodchuck	Marmota monax
	eastern mole	Scalopus aquaticus
	eastern cottontail	Sylvilagus floridanus
	least shrew	Cryptotis parva
Wetland and moist areas with dense vegetative cover	meadow vole	Microtus pennsylvanicus
	star-nosed mole	Condylura cristata
	masked shrew	Sorex cinerius
	meadow jumping mouse	Zapus hudsonius
	eastern cottontail	Sylvilagus floridanus
	masked shrew	Sorex cinereus
TRANSIENT		
Ponds	mink	Mustela vison
Throughout area	white-tailed deer	Odocoileus virginianus
	red fox	Vulpes fulva
	gray fox	Urocyon cinereoargenteus
	coyote	Canis latrans
	raccoon	Procyon lotor
	opossum	Didelphis marsupialis
	striped skunk	Mephitis mephitis

The Indiana Breeding Bird Atlas Project documents bird species with known breeding activity by county throughout Indiana. It is reasonable to expect bird species known to breed in Elkhart County to occur on the Himco dump site if their habitat requirements exist on the site. I have compiled a list of all bird species with confirmed breeding activity in Elkhart County (Indiana Breeding Bird Atlas; John Castrale, Indiana Department of Natural Resources, pers. commun., September, 1991) which could meet part or all of their habitat requirements on the Himco dump site (Table 3).

Table 3. Bird species expected to occur on the Himco dump site in Elkhart, Indiana based on habitat quality and structure and confirmed breeding activity of these species in similar habitat on adjacent sites (Indiana Breeding Bird Atlas; John Castrale, Indiana Department of Natural Resources, pers. commun., September 1991).

Habitat	Common Name	Scientific Name
Aquatic		
	great blue heron	Ardea herodias
	green-backed heron	Butorides striatus
	spotted sandpiper	Actitis macularia
Entire area		
	red-tailed hawk	Buteo jamaicensis
	American kestrel	Falco sparverius
	Cooper's hawk	Accipiter cooperii
	Cedar waxwing	Bombycilla cedrorum
	European starling	Sturnus vulgaris
	northern cardinal	Cardinalis cardinalis
	common grackle	Quiscalus quiscula
	brown-headed cowbird	Molothrus ater
	common nighthawk	Chordeiles minor
Open grassland/ shrub habitat		
	killdeer	Charadrius vociferus
	mourning dove	Zenaidura macroura
	northern flicker	Colaptes auratus
	eastern kingbird	Tyrannus tyrannus
	horned lark	Eremophila alpestris
	tree swallow	Tachycineta bicolor
	blue jay	Cyanocitta cristata
	black-capped chickadee	Parus atricapillus
	American robin	Turdus migratorius
	gray catbird	Dumetella carolinensis
	northern mockingbird	Mimus polyglottos
	brown thrasher	Toxostoma rufum
	yellow warbler	Dendroica petechia
	rose-breasted grosbeak	Pheucticus ludovicianus
	indigo bunting	Passerina cyanea

Table 3 (con't.)

Habitat	Common Name	Scientific Name
	dickcissel	Spiza americana
	rufous-sided towhee	Pipilo erythrophthalmus
	field sparrow	Spizella pusilla
	vesper sparrow	Pooecetes gramineus
	savannah sparrow	Passerculus sandwichensis
	grasshopper sparrow	Ammodramus savannarum
	song sparrow	Melospiza melodia
	red-winged blackbird	Agelaius phoeniceus
	eastern meadowlark	Sturnella magna
	house finch	Carpodacus mexicanus
	American goldfinch	Spinus tristis
	house sparrow	Passer domesticus
Wooded		
	eastern screech-owl	Otus asio
	great horned owl	Bubo virginianus
	red-headed woodpecker	Melanerpeserythro-cephalus
	red-bellied woodpecker	Centurus carolinus
	downy woodpecker	Dendrocopos pubescens
	hairy woodpecker	Dendrocopos villosus
	American woodcock	Philohela minor
	white-breasted nuthatch	Sitta carolinensis
Transient/ Use aquatic area		
	Canada goose	Branta canadensis
	wood duck	Aix sponsa
	mallard	Anas platyrhynchos
	blue-winged teal	Anas discors

The contamination at the Himco dump site could pose a danger to wildlife species in three cases.

1) Burrowing species such as woodchuck, badger, thirteenlined ground squirrel, and eastern mole could be exposed to contaminants when burrowing beneath the topsoil.

2) Herbivores could be exposed to contaminants if the plants growing on the site absorb some of the chemicals through their roots. Some of the native prairie plants that occur there have root systems which can extend four - six feet beneath the soil surface.

3) Insectivorous bird and mammal species could be exposed to contaminants if the insects, worms, and invertebrates they consume contain levels of harmful substances. Several of these invertebrate species spend part of their life cycle beneath the soil surface.

Distinctive Fauna

Distinctive fauna of the Northern Lakes Natural Region "include spotted turtle (Clemmys guttata), Massasauga rattlesnake (Sistrurus catenatus), Blanding's turtle (Emydoidea blandingi), star-nosed mole (Condylura cristata), cisco (Coregonus artedii), Marsh wren (Cistothorus palustris), swamp sparrow (Melospiza georgiana) and sandhill crane (Grus canadensis)" (Homoya et. al 1985:253).

Based on habitat requirements and known range, the two distinctive mammal species most likely to occur on the site are the badger (threatened) and star-nosed mole (special concern). Both are burrowing species and could be exposed to contaminants if they existed on the site. If the endangered Indiana bat (Myotis sodalis) occurred on the site, it would be transient in nature feeding on insects from the air.

Three bird species of "Special Concern" Cooper's hawk (Accipiter cooperii), Dickcissel (Spiza americana), and Grasshopper Sparrow (Ammodramus savannarum) are confirmed breeders in Elkhart County. [No threatened or endangered bird species are confirmed breeders in this county.] The dickcissel and grasshopper sparrow can be found in grassy open habitats similar to what occurs on the Himco dump site. The most likely means of exposure to hazardous substances these birds could encounter would be through contaminated plant seeds or insects consumed. If the cooper's hawk exists on the area, it is most likely transient in nature and would probably have limited exposure to hazardous substances through the consumption of contaminated prey species.

Conclusion

The wildlife species occurring at the Himco dump site appear to be comparable to what could be found in similar habitats in surrounding areas. However, this site is unique in that it provides the largest block of early successional habitat within the immediate area. This site extends early successional wildlife habitat and the associated wildlife species into an urban area.

The primary concern in my mind is the health hazards posed to humans and wildlife species by contaminants deposited at the site. Any habitat benefits this site may provide is precluded by the dangers it may pose to the species that exist there. Therefore, steps should be taken to control and contain all contamination at the site. Once health risks to humans and wildlife species are eliminated, the area in its present habitat condition could provide suitable habitat for the wildlife species listed above and nonconsumptive outdoor recreational opportunities (eg. bird watching, hiking, photography, biking, and jogging) to the Elkhart community (Grafton et. al 1990).

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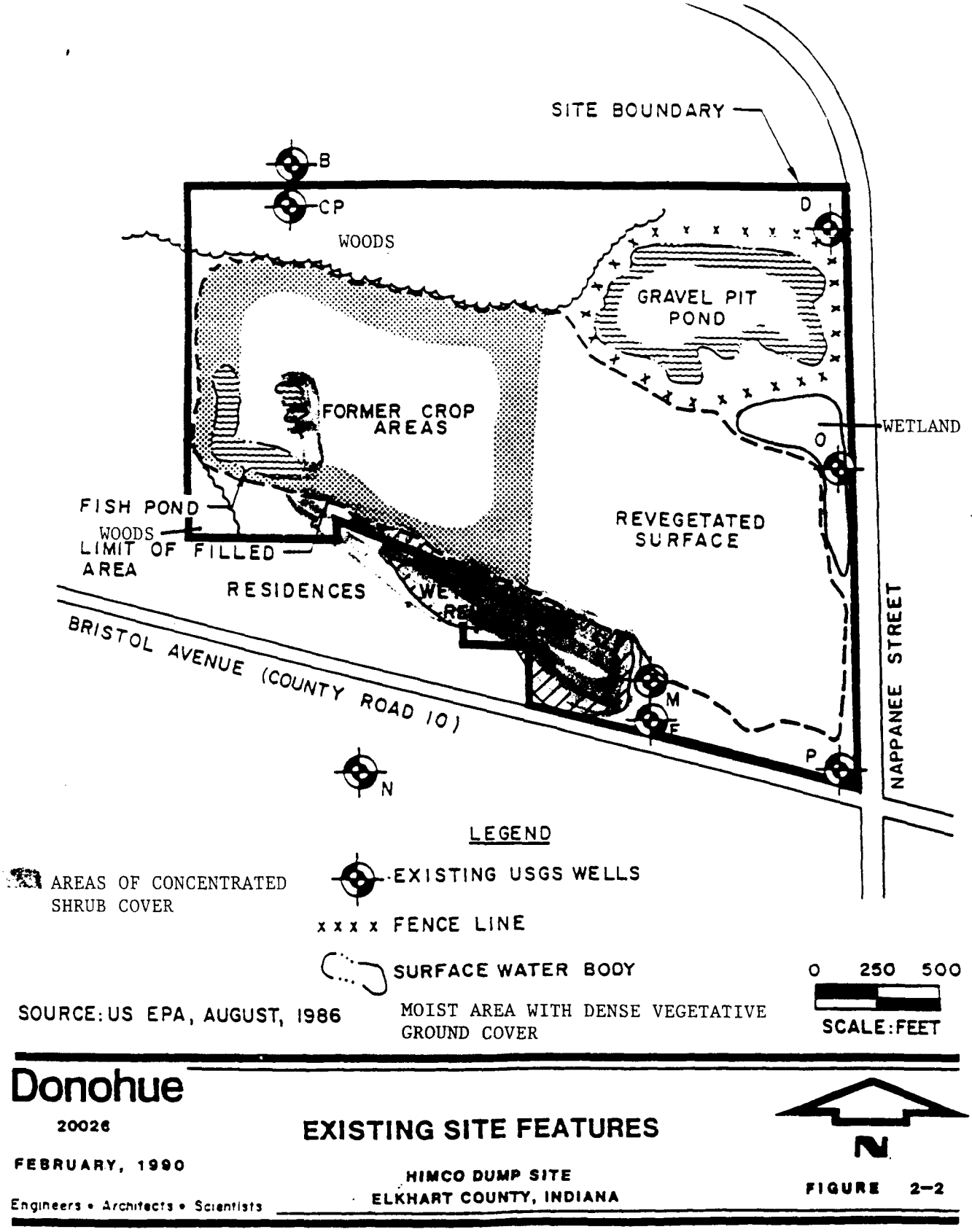

Figure 1. Existing habitat conditions and vegetative structure at the Himco dump site, Elkhart, Indiana on 16 September, 1991.

APPENDIX 3

U.S. FISH AND WILDLIFE SERVICE COORDINATION LETTER

United States Department of the Interior

FISH AND WILDLIFE SERVICE
BLOOMINGTON FIELD OFFICE (ES)
718 North Walnut Street
Bloomington, Indiana 47401
(812)334-4261
January 29, 1990

IN REPLY REFER TO:

Ms. Donna L. Studniarz
Life Systems, Inc.
24755 Highpoint Road
Cleveland, Ohio 44122

Dear Ms. Studniarz:

This responds to your letter dated January 15, 1990 requesting infbrmation regarding federal trustee resources; specifically, endangered species, migratory waterfowl, and federal lands. You also requested that we address our potential concerns regarding impacts to wetlands and surface waters within a 3-mile radius of the Himco Landfill site, located in Elkhart, Elkhart County, Indiana (T38N, R4E, Sec. 36).

The U. S. Fish and Wildlife Service (Service) will be involved with the Himco site in the capacity of Federal Natural Resource Trustees pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended, the National Contingency Plan (NPC), and Executive Order 12580 (Superfund Implementation). The Service has an interest in not only this site, but all actual and potential hazardous waste sites. The U. S. Environmental Protection Agency (Agency) has continuing responsibilities under CERCLA, the Endangered Species Act, and the Fish and Wildlife Coordination Act, to inform the Service of remedial activities as they develop.

The Service has an interest in the Nation's wetlands. The value of wetlands is becoming increasingly recognized at the national level. Executive Order 11990 (Protection of Wetlands), and the 1986 Emergency Wetlands Resources Act direct federal agencies to preserve and enhance the natural and beneficial values of wetlands. In addition, on February 7, 1989, President George Bush re-dedicated the Nation to this goal. Migratory waterfowl are intrinsically connected to the Nation's wetlands.

Pursuant to our trustee responsibilities, we are providing the requested information to ensure that our concerns are addressed in the preparation of Hazard Ranking System (HRS) reports, remedial investigation/feasibility studies (RI/FS), remedial action plans, records of decision (ROD), and other materials, with respect to impacts to trustee resources. In addition, it is our responsibility to provide you with essential information that will allow EPA to fulfill its responsibilities under the law.

As discussed in your conversation with Robin Nims, this site is located approximately 1.5 miles northwest of another hazardous waste site; the Main Street Well Field, also in Elkhart, Indiana.

Similar to the Main Street Well Field, our records indicate the site is within the range of the federally endangered Indiana bat (Myotis sodalis), and 2 federal candidate species; the Kankakee globe-mallow (Illiamna remota) and Bog bluegrass (Poa paludigena).

The Indiana bat forages for insects primarily over wooded stream corridors such as Christiana Creek. Several other surface water features are within a 3 mile radius of the site. Christiana Creek is a tributary of the St. Joseph River, and empties into the river approximately 0.5 mile downstream.

The Kankakee globe-mallow is found in prairies and along suitable railroad grade. The only record of collection in Indiana was in Elkhart County in 1979. The collection site was in the southern portion of the county near New Paris, and will not be affected by this site. Bog bluegrass has been collected north of the site near Mud Lake, however, this species will not be affected by the site either. There is no critical habitat for any of the endangered species located in Elkhart County.

A review of the National Wetland Inventory maps for the Osceola and Elkhart quadrangles indicates numerous wetlands radiating in all directions from the site (attached). The wetlands could attract migratory waterfowl such as mallards (Anas platyhynchos), black ducks (Anas rubripes), and northern pintails (Anas acuta). These and other national and regional species of special emphasis could be directly impacted by exposure to contaminated water and/or ingestion of contaminated food resources.

The St. Joseph River and its tributaries in the vicinity of the site support diverse fish communities. Fisheries surveys conducted by the Indiana Department of Natural Resources (IDNR) for the St. Joseph River (1979), and the Elkhart River (1985) verified the presence of 53 species of fish including brown trout (Salmo trutta) and rainbow trout (Salmo gairdneri) from the St. Joseph River.

The States of Indiana and Michigan have a cooperative agreement to establish and maintain high quality trout and salmon fishing in the St. Joseph River. The St. Joseph River Trout and Salmon Plan (IDNR, no date), covers 63 miles of the river from Berrien County, Michigan to Mishawaka Dam in Indiana. The Twin Branch Fish Hatchery in Mishawaka was constructed as part of the plan, with a projected goal of producing 225,000 steelheads and 425,000 chinook salmon (Oncorhynchus kisutch) annually for a total of 42,000 pounds of fish each year. These fish are under federal jurisdiction pursuant to the Anadromous Fish Conservation Act (16 U. S. C. 757a 757f; 79 Stat. 1125) as amended. It is possible that contaminants migrating downstream of the site could potentially expose these fish to risk.

The wildlife species indigenous to the area are too numerous to list and would vary depending upon habitat type. Forested stream corridors and wetland areas provide quality habitat for an assortment of wildlife species. We would expect these areas to be used by many species of songbirds, raptors, small mammals, reptiles, and amphibians.

Our records indicate no national parks, national wildlife refuges, Indian reservations, or other lands owned by the Department of Interior exist within a 3 mile radius of the site.

Based on information from the Phase I Remedial Investigation report for the Main Street Well Field, the Himco Landfill site was allegedly suspected of contaminating the well-field. Apparently, as a result, the landfill was closed in 1977, and capped with sand and topsoil. The primary contaminant of concern at the well-field site is trichloroethylene (TCE). Presumably, once groundwater investigations to characterize the extent of groundwater contamination, and the direction of the groundwater flow and contaminant plume at the Himco site are completed, this allegation will be clarified. We have limited information available regarding the closure of the landfill in 1977. We would be interested in knowing if the closure plan included monitoring wells and a leachate collection and treatment system.

In order for the Service to adequately address specific contaminant-related concerns at the Himco site, it is necessary to know what the contaminants of concern are at the site. Hopefully, this information will be/has been generated by waste characterization studies at the site. However, regardless of the class(es) of contaminants on the site, our primary general concern would be off-site migration of contaminants via surface run-off, ground water and various other means into wetland areas, both palustrine and riverine, within the project area.

Contamination of wetlands has the potential to adversely impact migratory waterfowl. The severity of the impacts are variable, depending upon types of contaminants present, and can be either direct (ingestion or contact with contaminated materials), or indirect (food chain mechanisms). Impacts to fish communities are also of potential concern.

In your January 11, 1990 conversation with Ms. Nims, you indicated some concern regarding wetlands within the landfill property boundaries. According to the National Wetland Inventory map, there are 5 wetland areas located on-site ranging in size from less than 1 acre to approximately 7 acres. The U. S. Army Corps of Engineers (Corps) has jurisdiction over wetlands equal to or greater than 1 acre in size, generally. If these wetlands no longer exist on the site it may be necessary to contact the Corps for a jurisdictional determination, and also to determine if the wetlands have been illegally filled.

The EPA Remedial Project Manager for the site, Mr. Robert Lance, contacted our office on January 16, 1990, to discuss Service involvement at the site. We indicated that we would attend the Biological Technical Assistance Group (BTAG) meeting, and make technical recommendations on the draft work plan. It is assumed that the draft work plan will include sampling strategies for surface waters and sediments, especially in on-site and adjacent wetlands (both open water and palustrine), as well as the lacustrine and riverine habitats to the south of the site within the 2-mile radius boundary.

Our office coordinates with the State of Indiana on many environmental projects. The State has 2 co-trustees sharing state natural resource trustee responsibilities; the Indiana Department of Environmental Management (IDEM), and the Indiana Department of Natural Resources (IDNR). At the present time both trustee positions are being held by interim appointees; Mr. Gary Doxtater of the IDNR, and Mr. Reggie Baker of IDEM. We will notify both of our initial involvement at this site by copy

of this letter. We suggest however, that you contact them directly to request similar information regarding state trustee natural resources potentially at risk of

contaminant exposure at the Himco site. We also suggest that they, or their representatives be invited to participate on the BTAG committee. Their mailing addresses are attached for future reference.

We are attaching the requested organizational charts for your use. Included are a national chart, regional chart, and a list of Service Field Offices with names, addresses and telephone numbers. Also included is an abbreviated list of State agencies within Region 3 that may be of assistance for work on other projects.

Our endangered species comments for this site constitute informal consultation only, and are not intended to fulfill the requirement of Section 7 of the Endangered Species Act of 1973, as amended. If as a result of further consultation, a "no effect" determination is made regarding endangered species, that determination should be revisited after 1 year for new information, or newly-listed species.

We appreciate the opportunity to assist in the early identification of potential areas of mutual concern, and look forward to working with BTAG on the Himco Site. If you have any questions regarding this letter please contact Robin Nims of my staff at (812) 334-4269.

Sincerely yours,

David C. Hudak

David C. Hudak
Supervisor

cc: Regional Environmental Officer, Chicago, IL
Steve Ostradka (5HS-10), USEPA, Chicago, IL
Bob Lance (5HS-11), USEPA, Chicago, IL
Reggie Baker, IDEM, Superfund Site Management Section, Indianapolis, IN
Gary Doxtater, IDNR, Indianapolis, IN

Regional Director, FWS, Twin Cities, MN (FWE-SE, EC)

APPENDIX 4

AQUATIC MACROINVERTEBRATE SURVEY FOR HIMCO DUMP SITE

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
ENVIRONMENTAL SERVICES DIVISION
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605

5SCRL

MEMORANDUM

DATE: October 30, 1991

SUBJECT: Qualitative Analysis of the Aquatic Macroinvertebrate Population for the Himco Dump Superfund Site

FROM: Chick Steiner, Team Leader
Biology Team, Central Regional Laboratory

TO: Robert Lance, RPM, Himco Dump Superfund Site

On September 20, 1991, I visited the Himco site to assist with a qualitative evaluation of the aquatic macroinvertebrate population. Sediment sampling for the site had already been completed, by the contractor, earlier that week. They had little success in finding any macroinvertebrates, with the exception of one chironomid larvae. Bill Schaefer, of Donahue, served as my site guide and helped with the sample collections on the day of my site visit.

Site Overview

The site had three surface water bodies within it's boundaries. It was my understanding that the two smaller ponds were constructed for fishing by a previous owner, and that the largest pond had resulted from some form of a quarrying operation. An additional pond, off site, served as a "control" pond.

The habitats of all the ponds was basically similar. The bottom substrates were composed of medium to course sand and contained a great deal of decaying organic matter. This was particularly true of the two smaller on-site ponds, which exhibited a noticeable hydrogen sulfide smell in the sediments. All the ponds, including the control pond, had large standing crops of aquatic macrophytes. The yearly cycle of the macrophytes was responsible for the major portion of the decaying organic matter in the sediments. However, there may be some minor influence on all the ponds from allochthonous material.

Sampling Overview

A small soil auger was used to collect the samples from the margins of the ponds. While this sampling gear was not the best (i.e. An Ekman dredge on a pole would have been a better choice), it was sufficient to collect enough sediment and vegetative material for qualitative analysis.

Sample Results and Discussion

The relative size of the immature stages of some of the organisms collected made field identification, even to the family level, tenuous. Therefore, all specimens were transported to the CRL for verification. Table 1 identifies, by sample site; the family name of the organism, the functional feeding group, and the relative tolerance of the organism.

Dragonfly nymphs (Coenagrionidae) and damselfly nymphs (Lebelludidae) were common to all the sampling sites, as were Physidae and Gammaridae. Other common families were taken at some sites but not all sites. Many families which should have been encountered, were not represented at all. This anomaly is probably the result of the limited sampling effort, rather than the true absence of these common groups.

The tolerance values encountered ranged from one example of a very intolerant organism (tolerance value of 1) to several examples of most tolerant organisms (TV of 10), with many intermediate tolerance organisms also occurring. This is typical of balanced pond habitat, were micro-habitats do occur. Of note is the high tolerance values for the true sediment dwelling organisms (i.e. Tubificidae, Sphaeriidae and Chironomidae). This is not an unusual occurrence, but this situation may have been further exacerbated by the composition of the sediments: sand being unfavorable for colonization; and elevated hydrogen sulfide, from plant decomposition, being toxic to all but the most tolerant organisms. Most of the organisms captured were inhabitants of the aquatic macrophyte layer.

It is felt that the restricted sampling effort and the less than optimum sampling gear only allowed the capture of small number of the macroinvertebrate families which are present in these ponds. This statement is supported by the preponderance of predator organisms present in the samples. If predators are present in large numbers then it follows sufficient prey organisms must also be present for the predators to feed on.

Table 1 - Summary of Aquatic Macroinvertebrate Families for the HIMCO site.

Family Name	Functional Feeding Group	Tolerance Value	Sample Site 1	2	3	4
Siphlonuridae	P or GC	7	X	X		
Leptoceridae	GC	4				X
Libellulidae	P	9	X	X	X	X
Coenagrionidae	P	9	X	X	X	X
Gomphidae	P	1		X		
Chironomidae	FC	10	X	X		
Physidae	Sc	8	X	X	X	X
Lymneidae	Sc	6		X		
Tubificidae	GC	10		X		
Gammaridae	Sh	4	X	X	X	X
Gyrinidae		4			X	
Sphaeriidae	FC	8				X

Functional Feeding Group
- P = Predator
- FC = Filtering Collector
- GC = Gathering Collector
- Sc = Scrapper
- Sh = Shredder

Tolerance Value - 1 (least tolerant) to 10 (most tolerant).

Site Location
1. = L-Pond
2. = Small pond adjacent to L-Pond
3. = Quarry Pond
4. = Control Pond

Another observation made was that all ponds, except the small pond adjacent to the L-pond appeared to have good populations of fish. The presents of bass and bluegill, both higher trophic level consumers, indicate sufficient prey species from lower trophic levels to support these top carnivores of these aquatic habitats. The small pond did not contain these fish because of it's shallow bowl, resulting in the water and top sediment layer freezing solid almost every winter. This would preclude the establishment of a permanent fish population.

Summary

Based on the evaluation of the qualitative macroinvertebrate samples and on-site observations, there does not appear to be any significant differences between any of the Himco site ponds or between the site ponds and the control pond.

cc. Charles Elly
Chi Tang

APPENDIX 5

INDIANA NATURAL HERITAGE PROGRAM DATABANK RETRIEVAL
FOR HIMCO DUMP SITE

INDIANA DEPARTMENT OF NATURAL RESOURCES PATRICK R. RALSTON, DIRECTOR

Division of Nature Preserves
605 B State Office Building
Indianapolis, Indiana 46204
317-232-4052

June 13, 1991

Michael J. Kangas
Life Systems, Inc.
24755 Highpoint Road
Cleveland, Ohio 44122

Dear Mr. Kangas:

I am responding to your request for information on the endangered, threatened, or rare (ETR) species and high quality natural communities and natural areas documented from a radius of 2 miles from the Himco Superfund Site in Elkhart, Indiana (Northeast quarter of Section 36, Township 38 North, Range 4 East). The Indiana Natural Heritage Program's databank has been checked and enclosed you will find a list of special features in the vicinity of the site, and their locations. Please note that the state threatened badger (Taxidea taxus) was observed in the area in 1989.

The information I am providing does not preclude the requirement for further consultation with the U.S. Fish and Wildlife Service as required under Section 7 of the Endangered Species Act of 1973. You should contact the Service at their Bloomington, Indiana office.

U.S. Fish and Wildlife Service
718 North Walnut
Bloomington, Indiana 47401
(812)334-4261

At some point, you may need to contact the Department of Natural Resources' Environmental Review Coordinator so that other divisions within the department have the opportunity to review your proposal. For more information, please contact:

Patrick R. Ralston, Director
Department of Natural Resources
attn: Steve Jose
Environmental Review Coordinator
402 W. Washington Street, Room 271
Indianapolis, IN 46204
(317)232-4070

For more information on the Land and Water Conservation Fund sites, please contact:

Division of Outdoor Recreation
402 W. Washington Street, Room 271
Indianapolis, IN 46204
attn: LWCF program
(317)232-4070

Please note that the Indiana Natural Heritage Program relies on the observations of many individuals for our data. In most cases, the information is not the result of comprehensive field surveys conducted at particular sites. Therefore, our statement that there are no documented significant natural features at a site should not be interpreted to mean that the site does not support special plants or animals.

Due to the dynamic nature and sensitivity of the data, this information should not be used for any project other than that for which it was originally intended. It may be necessary for you to request updated material from us in order to base your planning decisions on the most current information.

I have enclosed an invoice for $45.00 to cover the cost of the request.

Thank you for contacting the Indiana Natural Heritage Program. You may reach me at (317)232-4052 if you have any questions or need additional information.

Sincerely,

Michelle L. Martin

Michelle L. Martin
Indiana Natural Heritage Program

enclosures: invoice
data sheet

18 JUN 1991

ENDANGERED, THREATENED, AND RARE SPECIES AND HIGH QUALITY
NATURAL COMMUNITIES AND NATURAL AREAS DOCUMENTED WITHIN
A TWO MILE RADIUS OF THE HIMCO SUPERFUND SITE IN ELKHART, INDIANA

Species Name	Common Name	State Stat	Fed Stat	Townrange Sec	Date
OSCEOLA QUADRANGLE					
ARENARIA STRICTA	MICHAUX'S STITCHWORT	ST		on high bluff along St. Joseph River, 1 mile east of the county line	1945-06
TAXIDEA TAXUS	BADGER	ST		038N004E 28	1989-08
LAND AND WATER CONSERVATION FUND SITE #0257A				T37N R4E S11 NEQ	
Just outside of the area of interest -					
SCOT LAKE NATURAL AREA (T38N R4E S13 NEQ NEQ & S12 SEQ SEQ):					
FUIRENA PUMILA	DWARF UMBRELLA-SEDGE	SE		038N004E 13 NEQ NEQ	1984-08
RHYNCHOSPORA MACROSTACHYA	TALL BEAKED-RUSH	SR		038N004E 13 NEQ NEQ	1984-08
SCIRPUS SMITHII	SMITH'S BULRUSH	SR		038N004E 13 NEQ NEQ	1984-08
WETLAND - FLAT MUCK	MUCK FLAT			038N004E 13 NEQ NEQ	1984-10
ELKHART COUNTY NOTABLE AREA (T38N R4E S13 NWQ & S12 SWQ & S11 SEQ):					
ELEOCHARIS ROBBINSII	ROBBINS SPIKERUSH	SR		038N004E 13 SEQ NWQ	1985-07
RHYNCHOSPORA MACROSTACHYA	TALL BEAKED-RUSH	SR		038N004E 13 SEQ NWQ	1985-07
UTRICULARIA PURPUREA	PURPLE BLADDERWORT	SR		038N004E 13 SEQ NWQ	1985-07
WETLAND - FLAT MUCK	MUCK FLAT			038N004E 13 SEQ NWQ	1985-07
ELKHART QUADRANGLE					
LAND AND WATER CONSERVATION FUND SITE #0283, 0441				T38N R5E S32 SEQ SEQ & T37N R5E S5 NEQ NEQ	
LAND AND WATER CONSERVATION FUND SITE #0257B				T37N R5E S5 SEQ NEQ	

STATE: SX=extirpated, SE=endangered, ST=threatened, SR=rare, SSC=special concern
FEDERAL: LE=endangered, LT=threatened, C2=under review, may warrant listing, 3C=delisted

'91 JUN 18 P2:13
LIFE SYSTEMS

APPENDIX 6

SUMMARY OF SITE MONITORING DATA

TABLE		PAGE
A6-1	Summary of Frequency of Detection and Range of Concentration of Chemicals in Soils and Groundwater	A6-2
A6-2	Summary of Frequency of Detection and Range of Concentration of Chemicals in Surface Water and Sediment	A6-6
A6-3	Summary of Frequency of Detection and Range of Concentration of Chemicals in Background Soil and Groundwater Samples . .	A6-10
A6-4	Summary of Frequency of Detection and Range of Concentration of Chemicals in Background Surface Water and Sediment Samples	A6-14
A6-5	Summary of Frequency of Detection and Range of Concentration of Chemicals in Trench Leachate Samples	A6-18
A6-6	Tentatively Identified Compounds Identified in Site Samples	A6-22

TABLE A6-1 SUMMARY OF FREQUENCY OF DETECTION AND RANGE OF CONCENTRATION OF CHEMICALS IN SOILS AND GROUNDWATER

		SOIL SAMPLES						GROUNDWATER SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)	
CLASS	CHEMICAL	Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
VOLATILES	1,1,1-Trichloroethane	0	56			3.0E-03	4.0E-02	3	39	1.0E-03	8.0E-03	2.5E-03	1.0E-02
	1,1,2,2-Tetrachloroethane	0	56			3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	1,1,2-Trichloroethane	0	56			3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	1,1-Dichloroethane	0	56			3.0E-03	4.0E-02	3	39	3.0E-03	3.0E-03	2.5E-03	1.0E-02
	1,1-Dichloroethene	1	56	5.0E-03	5.0E-03	3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	1,2-Dichloroethane	0	56			3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	1,2-Dichloroethene(total)	0	56			3.0E-03	4.0E-02	4	39	5.0E-03	6.0E-03	2.5E-03	1.0E-02
	1,2-Dichloropropane	0	56			3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	2-Butanone	7	46	2.0E-03	2.1E-02	5.0E-03	3.2E-02	0	39			5.0E-03	1.0E-02
	2-Hexanone	0	56			5.0E-03	4.0E-02	2	39	7.0E-04	7.0E-04	5.0E-03	1.0E-02
	4-Methyl-2-pentanone	0	56			5.0E-03	4.0E-02	0	39			5.0E-03	1.0E-02
	Acetone	18	56	8.0E-03	1.4E-01	5.0E-03	2.8E-02	4	39	9.0E-03	2.7E-01	1.0E-03	1.7E-02
	Benzene	1	56	2.5E-02	2.5E-02	3.0E-03	1.3E-02	5	39	1.0E-03	3.0E-03	2.5E-03	1.0E-02
	Bromodichloromethane	0	56			3.0E-03	4.0E-02	1	39	7.0E-04	7.0E-04	2.5E-03	1.0E-02
	Bromoform	0	56			3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	Bromomethane	0	56			5.0E-03	4.0E-02	0	28			5.0E-03	1.0E-02
	Carbon Disulfide	2	56	1.9E-03	4.0E-03	3.0E-03	8.0E-02	1	39	1.0E-03	1.0E-03	2.5E-03	1.0E-02
	Carbon Tetrachloride	0	56			3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	Chlorobenzene	0	56			3.0E-03	4.0E-02	1	39	1.7E-03	1.7E-03	2.5E-03	1.0E-02
	Chloroethane	0	56			5.0E-03	4.0E-02	3	39	2.0E-03	1.5E-02	5.0E-03	1.0E-02
	Chloroform	0	56			3.0E-03	4.0E-02	3	39	1.8E-03	6.0E-03	1.0E-03	1.0E-02
	Chloromethane	0	56			5.0E-03	4.0E-02	0	28			5.0E-03	1.0E-02
	cis-1,3-Dichloropropene	0	56			3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	Dibromochloromethane	0	56			3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	Ethyl Benzene	3	56	7.0E-04	8.1E-02	3.0E-03	1.3E-02	0	39			2.5E-03	1.0E-02
	Methylene Chloride	12	56	3.0E-03	1.6E-02	3.5E-03	4.0E-02	7	39	1.0E-03	3.0E-03	5.0E-03	1.0E-02
	Styrene	1	56	8.0E-04	8.0E-04	3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	Tetrachloroethene	1	56	6.0E-03	6.0E-03	3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	Toluene	21	56	1.0E-03	3.1E-02	3.0E-03	2.0E-02	0	39			2.5E-03	1.0E-02
	trans-1,3-Dichloropropene	0	56			3.0E-03	4.0E-02	0	39			2.5E-03	1.0E-02
	Trichloroethene	2	56	9.0E-04	4.0E-03	3.0E-03	4.0E-02	3	39	6.0E-04	4.2E-02	2.5E-03	1.0E-02
	Vinyl Acetate	0	39			5.8E-03	1.8E-02	0	26			5.0E-03	1.0E-02
	Vinyl Chloride	0	56			5.0E-03	4.0E-02	0	28			5.0E-03	1.0E-02
	Xylenes (Total)	5	56	7.0E-04	1.1E-01	3.0E-03	1.3E-02	0	39			2.5E-03	1.0E-02
SEMIVOLATILES	1,2,4-Trichlorobenzene	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	1,2-Dichlorobenzene	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	1,3-Dichlorobenzene	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	1,4-Dichlorobenzene	6	54	1.0E-01	2.1E-01	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	2,4,5-Trichlorophenol	0	54			4.1E-01	5.2E+00	0	39			1.3E-02	5.4E-02
	2,4,6-Trichlorophenol	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	2,4-Dichlorophenol	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	2,4-Dimethylphenol	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	2,4-Dinitrophenol	0	54			4.1E-01	5.2E+00	0	39			1.3E-02	5.4E-02
	2,4-Dinitrotoluene	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	2,6-Dinitrotoluene	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	2-Chloronaphthalene	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	2-Chlorophenol	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	2-Methylnaphthalene	1	54	1.8E-02	1.8E-02	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	2-Methylphenol	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02

Table A6-1 - continued

CLASS	CHEMICAL	SOIL SAMPLES						GROUNDWATER SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	2-Nitroaniline	0	54			4.1E-01	5.2E+00	0	39			1.3E-02	5.4E-02
	2-Nitrophenol	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	3,3-Dichlorobenzidine	0	54			1.7E-01	2.2E+00	0	39			5.0E-03	2.2E-02
	3-Nitroaniline	0	54			4.1E-01	5.2E+00	0	39			1.3E-02	5.4E-02
	4,6-Dinitro-2-methylphenol	0	54			4.1E-01	5.2E+00	0	39			1.3E-02	5.4E-02
	4-Bromophenyl-phenylether	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	4-Chloro-3-methylphenol	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	4-Chloroaniline	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	4-Chlorophenyl-phenyl ether	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	4-Methylphenol	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	4-Nitroaniline	0	54			4.1E-01	5.2E+00	0	39			1.3E-02	5.4E-02
	4-Nitrophenol	0	54			4.1E-01	5.2E+00	0	39			1.3E-02	5.4E-02
	Acenaphthene	4	55	5.9E-02	8.3E-01	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Acenaphthylene	2	56	5.2E+00	7.7E+00	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Anthracene	5	56	8.2E-02	4.2E+00	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Benzo(a)anthracene	8	56	2.3E-02	1.3E+01	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Benzo(a)pyrene	8	56	1.2E-01	7.6E+00	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Benzo(b)fluoranthene	9	56	5.8E-02	2.6E+01	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Benzo(g,h,i)perylene	5	54	2.5E-01	3.5E+00	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Benzo(k)fluoranthene	9	56	7.3E-02	1.5E+01	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Benzoic acid	1	39	7.5E-02	7.5E-02	9.5E-01	5.2E+00	0	26			2.5E-02	5.4E-02
	Benzyl alcohol	0	39			2.0E-01	1.1E+00	0	26			5.0E-03	1.1E-02
	bis(2-Chloroethoxy) methane	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	bis(2-Chloroethyl) ether	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	bis(2-Chloroisopropyl) ether	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	bis(2-Ethylhexyl)phthalate	32	54	1.8E-02	7.8E+00	1.7E-01	1.1E+00	10	39	2.0E-03	1.1E-01	5.0E-03	1.1E-02
	Butylbenzylphthalate	1	54	2.4E-01	2.4E-01	1.7E-01	1.1E+00	1	39	1.1E-02	1.1E-02	5.0E-03	1.1E-02
	Carbazole	3	17	3.6E-02	9.0E-01	1.7E-01	3.9E-01	0	12			5.0E-03	1.0E-02
	Chrysene	9	56	1.3E-01	1.9E+01	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Di-n-butylphthalate	10	56	8.6E-02	4.9E-01	1.7E-01	9.5E+00	0	39			5.0E-03	1.1E-02
	Di-n-octylphthalate	1	54	1.4E-01	1.4E-01	1.7E-01	1.1E+00	1	39	6.5E-03	6.5E-03	5.0E-03	1.1E-02
	Dibenzo(a,h)anthracene	4	56	9.4E-02	2.2E+00	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Dibenzofuran	3	56	2.3E-02	1.7E+00	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Diethylphthalate	0	54			1.7E-01	1.1E+00	3	39	2.0E-03	3.6E-02	5.0E-03	1.1E-02
	Dimethylphthalate	1	54	4.2E-02	4.2E-02	1.7E-01	1.1E+00	1	39	7.0E-03	7.0E-03	5.0E-03	1.1E-02
	Fluoranthene	10	56	1.7E-02	3.3E+01	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Fluorene	4	56	4.3E-02	1.6E+00	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Hexachlorobenzene	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Hexachlorobutadiene	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Hexachlorocyclopentadiene	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Hexachloroethane	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Indeno(1,2,3-cd)pyrene	7	56	2.3E-01	4.2E+00	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Isophorone	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	N-Nitrosodinpropylamine	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	N-nitrosodiphenylamine	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Naphthalene	2	55	1.8E-02	4.0E+00	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Nitrobenzene	0	54			1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Pentachlorophenol	0	54			4.1E-01	5.2E+00	0	39			1.3E-02	5.4E-02
	Phenanthrene	8	56	4.2E-02	1.2E+01	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
	Phenol	0	54			1.7E-01	1.1E+00	1	39	2.0E-03	2.0E-03	5.0E-03	1.1E-02

Table A6-1 - continued

CLASS	CHEMICAL	SOIL SAMPLES						GROUNDWATER SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	Copper, Total	51	56	1.3E+00	2.3E+02	9.6E-01	1.7E+00	21	38	3.7E-03	1.4E-01	2.0E-03	6.0E-03
	Iron, Dissolved							28	38	6.2E-02	2.5E+01	5.0E-03	4.5E-02
	Iron, Total	55	56	9.8E+00	1.3E+04	4.5E+00	4.5E+00	37	38	1.2E-01	7.9E+01	8.4E-02	8.4E-02
	Lead, Dissolved							15	34	1.1E-03	7.3E-03	5.0E-04	2.0E-02
	Lead, Total	51	56	5.0E-01	2.5E+02	3.1E-01	1.6E+00	18	36	1.1E-03	2.1E-01	5.0E-04	2.0E-02
	Magnesium, Dissolved							38	38	3.0E+00	4.2E+01		
	Magnesium, Total	51	56	1.5E+01	2.4E+04	1.8E+02	2.0E+02	38	38	3.5E+00	7.8E+01		
	Manganese, Dissolved							36	38	4.2E-03	2.7E+00	1.0E-03	1.3E-03
	Manganese, Total	54	56	1.3E+00	5.6E+02	1.2E+00	1.3E+00	38	38	8.5E-03	3.6E+00		
	Mercury, Dissolved							2	38	2.0E-04	2.0E-04	1.0E-04	2.0E-04
	Mercury, Total	6	56	1.3E-01	5.4E-01	4.0E-02	1.7E-01	4	38	2.0E-04	6.0E-04	1.0E-04	2.0E-04
	Nickel, Dissolved							2	38	1.1E-02	7.9E-02	3.0E-03	2.5E-02
	Nickel, Total	36	56	2.4E+00	2.2E+01	2.9E+00	9.1E+00	9	38	7.1E-03	1.1E-01	3.0E-03	2.5E-02
	Potassium, Dissolved							35	38	4.8E-01	2.9E+01	6.1E-01	1.6E+00
	Potassium, Total	36	56	8.7E+01	6.8E+02	5.4E+01	2.5E+02	32	38	5.8E-01	2.9E+01	3.8E-01	1.8E+00
	Selenium, Dissolved							4	38	2.1E-03	3.9E-03	2.0E-03	4.0E-03
	Selenium, Total	12	56	2.3E-01	1.4E+00	1.2E-01	4.9E+00	9	38	2.0E-03	3.3E-02	1.0E-03	4.0E-03
	Silver, Dissolved							5	38	8.8E-03	1.1E-02	1.0E-03	1.0E-02
	Silver, Total	5	50	3.6E-01	2.8E+00	3.5E-01	1.3E+00	8	38	6.9E-03	1.8E-02	1.0E-03	9.2E-03
	Sodium, Dissolved							38	38	1.9E+00	9.1E+01		
	Sodium, Total	30	56	2.1E+01	9.9E+01	1.7E+01	1.8E+02	38	38	2.0E+00	9.1E+01		
	Thallium, Dissolved							0	38			1.5E-03	5.0E-03
	Thallium, Total	0	54			1.0E-01	3.3E+00	0	38			1.0E-03	1.0E-02
	Vanadium, Dissolved							11	38	4.5E-03	1.3E-02	1.0E-03	1.5E-02
	Vanadium, Total	49	56	1.5E+00	1.9E+01	6.3E-01	3.0E+00	13	38	4.7E-03	1.1E-01	1.0E-03	1.2E-02
	Zinc, Dissolved							18	38	6.1E-03	1.4E+00	3.0E-03	1.4E-02
	Zinc, Total	45	56	1.7E+00	2.8E+02	3.1E-01	2.6E+00	23	38	6.8E-03	1.4E+01	3.0E-03	1.4E-02
	Cyanide, Total	6	56	1.3E+00	2.4E+01	1.1E-01	6.0E+00	0	30			5.0E-03	4.0E-02
OTHER	Bromide, Dissolved							20	26	7.5E-02	3.5E+00	5.0E-02	1.0E-01
	Chloride, Cl							25	25	2.9E+00	2.6E+02		
	Nitrogen, Ammonia (NH3)							19	26	1.1E-01	3.0E+01	4.0E+01	4.0E+01
	Nitrogen, Nitrate + Nitrite (NO2 + NO3)							3	11	1.4E-01	1.6E+00	2.0E+01	4.0E+01
	Sulfate, SO4							22	25	5.9E+00	8.1E+02	4.5E+01	4.5E+01
	TP (Total Phosphorus)							11	12	9.0E-02	4.0E-01	1.0E+01	1.0E+01

Table A6-1 - continued

CLASS	CHEMICAL	SOIL SAMPLES						GROUNDWATER SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	Pyrene	10	56	3.5E-02	1.5E+01	1.7E-01	1.1E+00	0	39			5.0E-03	1.1E-02
PESTICIDES	4,4-DDD	0	56			1.7E-03	5.2E-02	0	38			5.0E-05	1.1E-04
	4,4-DDE	1	56	4.1E-03	4.1E-03	1.7E-03	5.2E-02	0	38			5.0E-05	1.0E-03
	4,4-DDT	2	56	1.2E-02	6.4E-02	1.7E-03	5.2E-02	0	38			5.0E-05	1.1E-04
	Aldrin	0	56			9.0E-04	2.6E-02	0	38			2.5E-05	5.3E-05
	alpha-BHC	0	56			9.0E-04	2.6E-02	0	38			2.5E-05	5.3E-05
	alpha-Chlordane	0	56			9.0E-04	2.6E-01	0	38			2.5E-05	5.3E-04
	Aroclor-1016	0	56			1.7E-02	3.5E-01	0	38			2.5E-04	1.0E-03
	Aroclor-1221	0	56			3.5E-02	7.2E-01	0	38			2.5E-04	2.0E-03
	Aroclor-1232	0	56			1.7E-02	3.5E-01	0	38			2.5E-04	1.0E-03
	Aroclor-1242	0	56			1.7E-02	3.5E-01	0	38			2.5E-04	1.0E-03
	Aroclor-1248	0	56			1.7E-02	3.5E-01	0	38			2.5E-04	1.0E-03
	Aroclor-1254	0	56			1.7E-02	5.2E-01	0	38			5.0E-04	1.1E-03
	Aroclor-1260	0	56			1.7E-02	5.2E-01	0	38			5.0E-04	1.1E-03
	beta-BHC	0	56			9.0E-04	2.6E-02	0	38			2.5E-05	5.3E-05
	delta-BHC	0	56			9.0E-04	2.6E-02	0	38			2.5E-05	5.3E-05
	Dieldrin	0	56			1.7E-03	5.2E-02	0	38			5.0E-05	1.0E-03
	Endosulfan I	0	56			9.0E-04	2.6E-02	0	38			2.5E-05	5.0E-04
	Endosulfan II	0	56			1.7E-03	5.2E-02	0	38			5.0E-05	1.1E-04
	Endosulfan sulfate	0	56			1.7E-03	5.2E-02	0	38			5.0E-05	1.1E-04
	Endrin	0	56			1.7E-03	5.2E-02	0	38			5.0E-05	1.0E-03
	Endrin aldehyde	0	17			1.7E-03	3.5E-02	0	13			5.0E-05	1.0E-04
	Endrin ketone	0	56			1.7E-03	5.2E-02	0	38			5.0E-05	1.1E-04
	gamma-BHC (lindane)	0	56			9.0E-04	2.6E-02	0	38			2.5E-05	5.3E-05
	gamma-Chlordane	0	56			9.0E-04	2.6E-01	0	38			2.5E-05	5.3E-04
	Heptachlor	0	56			9.0E-04	2.6E-02	0	38			2.5E-05	5.3E-05
	Heptachlor epoxide	0	56			9.0E-04	2.6E-02	0	38			2.5E-05	5.0E-04
	Methoxychlor	0	56			9.0E-03	2.6E-01	0	38			2.5E-04	5.3E-04
	Toxaphene	0	56			9.0E-02	1.8E+00	0	38			5.0E-04	5.0E-03
INORGANICS	Aluminum, Dissolved							14	38	1.8E-02	1.2E+00	1.8E-02	8.8E-02
	Aluminum, Total	52	56	9.7E+00	6.8E+03	9.0E+00	1.0E+01	29	38	2.9E-02	1.1E+02	1.8E-02	9.1E-02
	Antimony, Dissolved							9	38	2.3E-02	6.0E-02	6.5E-03	3.7E-02
	Antimony, Total	25	56	1.5E+00	4.7E+01	1.9E+00	1.2E+01	10	38	3.2E-02	6.3E-02	6.5E-03	3.7E-02
	Arsenic, Dissolved							18	38	1.7E-03	1.6E-02	5.0E-04	3.0E-03
	Arsenic, Total	43	56	4.7E-01	1.3E+01	1.6E-01	9.8E-01	21	38	1.0E-03	5.5E-02	5.0E-04	3.0E-03
	Barium, Dissolved							36	38	7.4E-03	5.1E-01	4.3E-03	2.2E-02
	Barium, Total	47	56	1.3E+00	1.0E+02	2.6E+00	7.3E+00	37	38	8.2E-03	5.1E-01	2.2E-02	2.2E-02
	Beryllium, Dissolved							3	38	2.8E-03	1.3E-02	5.0E-04	3.0E-03
	Beryllium, Total	28	56	2.0E-01	9.1E-01	1.1E-01	3.3E-01	6	38	1.2E-03	5.4E-03	5.0E-04	3.0E-03
	Cadmium, Dissolved							1	38	7.0E-03	7.0E-03	5.0E-04	5.0E-03
	Cadmium, Total	1	56	1.1E+00	1.1E+00	2.1E-01	1.6E+00	4	38	1.3E-03	3.0E-03	5.0E-04	5.0E-03
	Calcium, Dissolved							38	38	1.4E+01	2.2E+02		
	Calcium, Total	56	56	2.5E+02	3.0E+05			38	38	1.6E+01	3.6E+02		
	Chromium, Dissolved							6	38	2.1E-03	2.1E-01	1.0E-03	6.0E-03
	Chromium, Total	44	56	1.1E+00	1.6E+01	7.5E-01	2.2E+00	15	38	1.6E-03	3.5E-01	2.0E-03	6.0E-03
	Cobalt, Dissolved							5	38	3.0E-03	1.7E-02	1.5E-03	1.6E-02
	Cobalt, Total	41	56	1.3E+00	5.7E+00	9.5E-01	2.3E+00	11	38	3.1E-03	2.9E-02	1.5E-03	1.2E-02
	Copper, Dissolved							7	38	3.5E-03	1.7E-02	1.5E-03	6.0E-03

TABLE A6-2 SUMMARY OF FREQUENCY OF DETECTION AND RANGE OF CONCENTRATION OF CHEMICALS IN SURFACE WATER AND SEDIMENT

		SURFACE WATER SAMPLES						SEDIMENT SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
CLASS	CHEMICAL	Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
VOLATILES	1,1,1-Trichloroethane	0	16			2.5E-03	1.0E-02	1	18	1.0E-03	1.0E-03	3.0E-03	3.2E-02
	1,1,2,2-Tetrachloroethane	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	1,1,2-Trichloroethane	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	1,1-Dichloroethane	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	1,1-Dichloroethene	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	1,2-Dichloroethane	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	1,2-Dichloroethene(total)	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	1,2-Dichloropropane	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	2-Butanone	0	11			5.0E-03	1.0E-02	3	18	8.0E-03	2.7E-02	3.8E-03	2.5E-02
	2-Hexanone	0	18			5.0E-03	1.0E-02	0	18			6.0E-03	3.2E-02
	4-Methyl-2-pentanone	1	18	3.0E-03	3.0E-03	5.0E-03	1.0E-02	0	18			6.0E-03	3.2E-02
	Acetone	4	18	3.0E-03	5.0E-03	5.0E-03	1.0E-02	2	18	2.1E-02	4.9E-02	6.0E-03	1.1E-01
	Benzene	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	Bromodichloromethane	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	Bromoform	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	Bromomethane	0	18			5.0E-03	1.0E-02	0	18			6.0E-03	3.2E-02
	Carbon Disulfide	2	18	4.0E-03	4.0E-03	2.5E-03	1.0E-02	2	18	8.5E-03	2.7E-02	3.0E-03	3.2E-02
	Carbon Tetrachloride	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	Chlorobenzene	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	Chloroethane	0	18			5.0E-03	1.0E-02	0	18			6.0E-03	3.2E-02
	Chloroform	0	18			2.5E-03	1.0E-02	1	18	7.0E-04	7.0E-04	3.0E-03	3.2E-02
	Chloromethane	0	18			5.0E-03	1.0E-02	0	18			6.0E-03	3.2E-02
	cis-1,3-Dichloropropene	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	Dibromochloromethane	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	Ethyl Benzene	4	18	1.0E-03	2.3E-03	2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	Methylene Chloride	2	18	6.0E-03	7.5E-02	5.0E-03	6.1E-02	1	18	2.0E-03	2.0E-03	3.0E-03	3.2E-02
	Styrene	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	Tetrachloroethene	0	18			2.5E-03	1.0E-02	1	18	1.0E-03	1.0E-03	3.0E-03	3.2E-02
	Toluene	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	trans-1,3-Dichloropropene	0	18			2.5E-03	1.0E-02	0	18			3.0E-03	3.2E-02
	Trichloroethene	0	18			2.5E-03	1.0E-02	1	18	2.0E-03	2.0E-03	3.8E-03	3.2E-02
	Vinyl Acetate	0	2			5.0E-03	1.0E-02	0	12			6.0E-03	1.7E-02
	Vinyl Chloride	0	18			5.0E-03	1.0E-02	0	18			6.0E-03	3.2E-02
	Xylenes (Total)	5	18	2.0E-03	6.0E-03	2.5E-03	1.0E-02	1	18	1.0E-03	1.0E-03	3.0E-03	3.2E-02
SEMIVOLATILES	1,2,4-Trichlorobenzene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	1,2-Dichlorobenzene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	1,3-Dichlorobenzene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	1,4-Dichlorobenzene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	2,4,5-Trichlorophenol	0	18			1.3E-02	5.0E-02	0	18			4.9E-01	4.3E+00
	2,4,6-Trichlorophenol	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	2,4-Dichlorophenol	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	2,4-Dimethylphenol	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	2,4-Dinitrophenol	0	18			1.3E-02	5.0E-02	0	18			4.9E-01	4.3E+00
	2,4-Dinitrotoluene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	2,6-Dinitrotoluene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	2-Chloronaphthalene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	2-Chlorophenol	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	2-Methylnaphthalene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	2-Methylphenol	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00

Table A6-2 - continued

CLASS	CHEMICAL	SURFACE WATER SAMPLES						SEDIMENT SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	2-Nitroaniline	0	18			1.3E-02	5.0E-02	0	18			4.9E-01	4.3E+00
	2-Nitrophenol	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	3,3-Dichlorobenzidine	0	18			5.0E-03	2.0E-02	0	18			2.0E-01	1.8E+00
	3-Nitroaniline	0	17			1.3E-02	5.0E-02	0	18			4.9E-01	4.3E+00
	4,6-Dinitro-2-methylphenol	0	18			1.3E-02	5.0E-02	0	18			4.9E-01	4.3E+00
	4-Bromophenyl-phenylether	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	4-Chloro-3-methylphenol	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	4-Chloroaniline	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	4-Chlorophenyl-phenyl ether	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	4-Methylphenol	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	4-Nitroaniline	0	17			1.3E-02	5.0E-02	0	18			4.9E-01	4.3E+00
	4-Nitrophenol	0	18			1.3E-02	5.0E-02	0	18			4.9E-01	4.3E+00
	Acenaphthene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Acenaphthylene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Anthracene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Benzo(a)anthracene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Benzo(a)pyrene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Benzo(b)fluoranthene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Benzo(g,h,i)perylene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Benzo(k)fluoranthene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Benzoic acid	0	12			2.5E-02	5.0E-02	2	12	9.3E-02	1.9E-01	9.8E-01	4.3E+00
	Benzyl alcohol	0	12			5.0E-03	1.0E-02	0	12			2.0E-01	8.8E-01
	bis(2-Chloroethoxy) methane	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	bis(2-Chloroethyl) ether	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	bis(2-Chloroisopropyl) ether	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	bis(2-Ethylhexyl)phthalate	0	18			5.0E-03	1.0E-02	8	18	4.6E-02	5.4E-01	2.0E-01	8.8E-01
	Butylbenzylphthalate	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Carbazole	0	6			5.0E-03	1.0E-02	0	6			2.0E-01	1.1E+00
	Chrysene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Di-n-butylphthalate	0	18			5.0E-03	1.0E-02	1	18	7.6E-02	7.6E-02	2.0E-01	1.1E+00
	Di-n-octylphthalate	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Dibenzo(a,h)anthracene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Dibenzofuran	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Diethylphthalate	0	18			5.0E-03	1.0E-02	1	18	2.3E-01	2.3E-01	2.0E-01	1.1E+00
	Dimethylphthalate	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Fluoranthene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Fluorene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Hexachlorobenzene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Hexachlorobutadiene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Hexachlorocyclopentadiene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Hexachloroethane	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Indeno(1,2,3-cd)pyrene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Isophorone	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	N-Nitrosodinpropylamine	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	N-nitrosodiphenylamine	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Naphthalene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Nitrobenzene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Pentachlorophenol	0	18			1.3E-02	5.0E-02	0	18			4.9E-01	4.3E+00
	Phenanthrene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
	Phenol	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00

Table A6-2 - continued

CLASS	CHEMICAL	SURFACE WATER SAMPLES						SEDIMENT SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	Pyrene	0	18			5.0E-03	1.0E-02	0	18			2.0E-01	1.1E+00
PESTICIDES	4,4-DDD	0	15			5.0E-05	1.0E-04	0	18			2.0E-03	4.3E-02
	4,4-DDE	0	15			5.0E-05	1.0E-04	0	18			2.0E-03	4.3E-02
	4,4-DDT	0	15			5.0E-05	1.0E-04	0	18			2.0E-03	4.3E-02
	Aldrin	0	15			2.5E-05	5.0E-05	0	18			1.1E-03	2.1E-02
	alpha-BHC	0	15			2.5E-05	5.0E-05	0	18			1.1E-03	2.1E-02
	alpha-Chlordane	0	15			2.5E-05	5.0E-04	0	18			1.1E-03	2.1E-01
	Aroclor-1016	0	15			2.5E-04	1.0E-03	0	18			2.0E-02	2.1E-01
	Aroclor-1221	0	15			2.5E-04	2.0E-03	0	18			4.1E-02	2.2E-01
	Aroclor-1232	0	15			2.5E-04	1.0E-03	0	18			2.0E-02	2.1E-01
	Aroclor-1242	0	15			2.5E-04	1.0E-03	0	18			2.0E-02	2.1E-01
	Aroclor-1248	0	15			2.5E-04	1.0E-03	1	18	9.5E-02	9.5E-02	2.0E-02	2.1E-01
	Aroclor-1254	0	15			5.0E-04	1.0E-03	0	18			2.0E-02	4.3E-01
	Aroclor-1260	0	15			5.0E-04	1.0E-03	0	18			2.0E-02	4.3E-01
	beta-BHC	0	15			2.5E-05	5.0E-05	0	18			1.1E-03	2.1E-02
	delta-BHC	0	15			2.5E-05	5.0E-05	0	18			1.1E-03	2.1E-02
	Dieldrin	0	15			5.0E-05	1.0E-04	0	18			2.0E-03	4.3E-02
	Endosulfan I	0	15			2.5E-05	5.0E-05	0	18			1.1E-03	2.1E-02
	Endosulfan II	0	15			5.0E-05	1.0E-04	0	18			2.0E-03	4.3E-02
	Endosulfan sulfate	0	15			5.0E-05	1.0E-04	0	18			2.0E-03	4.3E-02
	Endrin	0	15			5.0E-05	1.0E-04	0	18			2.0E-03	4.3E-02
	Endrin aldehyde	0	6			5.0E-05	1.0E-04	0	6			2.0E-03	1.1E-02
	Endrin ketone	0	15			5.0E-05	1.0E-04	0	18			2.0E-03	4.3E-02
	gamma-BHC (lindane)	0	15			2.5E-05	5.0E-05	0	18			1.1E-03	2.1E-02
	gamma-Chlordane	0	15			2.5E-05	5.0E-04	0	18			1.1E-03	2.1E-01
	Heptachlor	0	15			2.5E-05	5.0E-05	0	18			1.1E-03	2.1E-02
	Heptachlor epoxide	0	15			2.5E-05	5.0E-05	0	18			1.1E-03	2.1E-02
	Methoxychlor	0	15			2.5E-04	5.0E-04	0	18			1.1E-02	2.1E-01
	Toxaphene	0	15			5.0E-04	5.0E-03	0	18			9.8E-02	5.5E-01
INORGANICS	Aluminum, Dissolved	6	6	2.2E-02	4.2E-02								
	Aluminum, Total	18	18	3.1E-02	4.8E-01			18	18	9.6E+02	1.8E+04		
	Antimony, Dissolved	0	6			7.0E-03	1.4E-02						
	Antimony, Total	0	18			1.2E-02	4.7E-02	1	18	3.0E+01	3.0E+01	3.2E+00	2.7E+01
	Arsenic, Dissolved	1	6	4.5E-03	4.5E-03	2.0E-03	2.0E-03						
	Arsenic, Total	8	18	1.8E-03	4.7E-03	2.0E-03	2.0E-03	18	18	9.0E-01	2.2E+01		
	Barium, Dissolved	6	6	2.8E-02	5.6E-02								
	Barium, Total	18	18	2.9E-02	6.2E-02			18	18	3.9E+00	1.3E+02		
	Beryllium, Dissolved	0	6			5.0E-04	1.0E-03						
	Beryllium, Total	0	18			5.0E-04	1.0E-03	6	18	3.9E-01	1.2E+00	1.1E-01	2.8E-01
	Cadmium, Dissolved	1	6	8.0E-04	8.0E-04	1.0E-03	1.0E-03						
	Cadmium, Total	0	18			1.5E-03	3.0E-03	0	18			3.2E-01	1.7E+00
	Calcium, Dissolved	6	6	5.2E+01	7.4E+01								
	Calcium, Total	18	18	5.1E+01	7.8E+01			18	18	2.1E+02	1.2E+05		
	Chromium, Dissolved	0	6			1.0E-03	2.0E-03						
	Chromium, Total	2	18	6.1E-03	2.9E-02	3.0E-03	6.0E-03	18	18	1.7E+00	2.1E+01		
	Cobalt, Dissolved	0	6			1.0E-03	2.0E-03						
	Cobalt, Total	0	18			2.0E-03	8.0E-03	15	18	2.0E+00	2.0E+01	7.5E-01	1.6E+00
	Copper, Dissolved	0	6			1.0E-03	2.0E-03						

Table A6-2 - continued

CLASS	CHEMICAL	SURFACE WATER SAMPLES						SEDIMENT SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	Copper, Total	1	18	4.1E-03	4.1E-03	1.5E-03	5.0E-03	18	18	1.4E+00	4.4E+01		
	Iron, Dissolved	6	6	7.4E-03	2.1E-01								
	Iron, Total	18	18	1.8E-02	5.1E+00			18	18	1.4E+03	3.2E+04		
	Lead, Dissolved	3	6	1.6E-03	2.4E-03	2.0E-03	2.0E-03						
	Lead, Total	12	18	1.8E-03	3.6E-03	1.0E-03	2.0E-03	18	18	1.6E+00	5.0E+01		
	Magnesium, Dissolved	6	6	1.3E+01	2.1E+01								
	Magnesium, Total	18	18	8.9E+00	2.2E+01			18	18	3.9E+02	1.8E+04		
	Manganese, Dissolved	6	6	1.2E-03	1.4E-01								
	Manganese, Total	18	18	5.8E-03	1.7E-01			18	18	1.3E+01	1.2E+03		
	Mercury, Dissolved	0	6			1.0E-04	2.0E-04						
	Mercury, Total	0	18			1.0E-04	2.0E-04	0	18			5.0E-02	2.6E-01
	Nickel, Dissolved	2	6	6.5E-03	1.0E-02	5.0E-03	5.0E-03						
	Nickel, Total	2	18	7.5E-03	1.0E-02	3.0E-03	9.0E-03	17	18	1.3E+00	3.5E+01	2.1E+00	2.1E+00
	Potassium, Dissolved	6	6	1.4E+00	1.9E+00								
	Potassium, Total	18	18	1.4E+00	3.6E+00			18	18	8.2E+01	1.2E+03		
	Selenium, Dissolved	2	6	4.0E-03	4.3E-03	4.0E-03	4.0E-03						
	Selenium, Total	0	18			1.5E-03	4.0E-03	11	18	4.9E-01	7.4E+00	6.5E-01	2.1E+00
	Silver, Dissolved	0	6			2.5E-03	5.0E-03						
	Silver, Total	1	18	4.2E-03	4.2E-03	2.0E-03	5.0E-03	1	18	1.1E+00	1.1E+00	4.7E-01	2.3E+00
	Sodium, Dissolved	6	6	7.9E+00	1.3E+01								
	Sodium, Total	18	18	7.5E+00	1.3E+01			18	18	1.8E+01	2.6E+02		
	Thallium, Dissolved	0	6			5.0E-04	5.0E-03						
	Thallium, Total	1	18	1.3E-03	1.3E-03	5.0E-04	2.0E-03	1	12	1.1E+01	1.1E+01	3.2E-01	8.7E-01
	Vanadium, Dissolved	3	6	1.7E-03	2.1E-03	2.0E-03	2.0E-03						
	Vanadium, Total	1	18	3.5E-03	3.5E-03	1.5E-03	5.0E-03	18	18	2.7E+00	3.5E+01		
	Zinc, Dissolved	6	6	7.9E-03	1.6E-02								
	Zinc, Total	12	18	5.5E-03	3.8E-02	3.5E-03	7.0E-03	18	18	5.7E+00	9.8E+01		
	Cyanide, Total	0	18			5.0E-03	1.0E-02	0	18			6.0E-01	1.4E+01
OTHER	Bromide, Dissolved	3	12	1.0E-01	1.0E-01	5.0E-02	1.0E-01						
	Chloride, Cl	12	12	1.9E+01	3.8E+01								
	Nitrogen, Ammonia (NH3)	0	12			5.0E-02	1.0E-01						
	Nitrogen, Nitrate + Nitrite	7	12	1.7E-01	7.6E-01	1.0E-01	8.4E-01						
	Sulfate, SO4	12	12	4.2E+01	1.6E+02								
	TP (Total Phosphorus)	12	12	2.0E-02	8.0E-02								

TABLE A6-3 SUMMARY OF FREQUENCY OF DETECTION AND RANGE OF CONCENTRATION OF CHEMICALS IN BACKGROUND SOIL AND GROUNDWATER SAMPLES

		BACKGROUND SOIL SAMPLES						BACKGROUND GROUNDWATER SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)	
CLASS	CHEMICAL	Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
VOLATILES	1,1,1-Trichloroethane	2	20	2.0E-03	3.0E-03	2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	1,1,2,2-Tetrachloroethane	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	1,1,2-Trichloroethane	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	1,1-Dichloroethane	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	1,1-Dichloroethene	7	20	3.8E-03	1.3E-02	5.0E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	1,2-Dichloroethane	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	1,2-Dichloroethene(total)	1	20	1.0E-03	1.0E-03	2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	1,2-Dichloropropane	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	2-Butanone	0	12			1.1E-02	5.7E-02	0	14			1.0E-02	1.0E-02
	2-Hexanone	0	20			5.5E-03	5.7E-02	0	14			1.0E-02	1.0E-02
	4-Methyl-2-pentanone	0	20			5.5E-03	5.7E-02	0	14			1.0E-02	1.0E-02
	Acetone	11	20	9.0E-03	9.5E-01	1.1E-02	3.1E-02	2	14	2.0E-03	2.7E-02	1.0E-02	1.2E-02
	Benzene	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	Bromodichloromethane	0	20			2.5E-03	2.8E-02	4	14	2.0E-03	7.0E-03	5.0E-03	1.0E-02
	Bromoform	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	Bromomethane	0	20			5.5E-03	5.7E-02	0	11			1.0E-02	1.0E-02
	Carbon Disulfide	1	20	3.0E-02	3.0E-02	2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	Carbon Tetrachloride	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	Chlorobenzene	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	Chloroethane	0	20			5.5E-03	5.7E-02	0	14			1.0E-02	1.0E-02
	Chloroform	0	20			2.5E-03	2.8E-02	3	14	4.0E-03	2.6E-02	5.0E-03	1.0E-02
	Chloromethane	0	20			5.5E-03	5.7E-02	1	11	5.0E-03	5.0E-03	1.0E-02	1.0E-02
	cis-1,3-Dichloropropene	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	Dibromochloromethane	0	20			2.5E-03	2.8E-02	3	14	2.0E-03	5.0E-03	5.0E-03	1.0E-02
	Ethyl Benzene	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	Methylene Chloride	4	20	3.0E-03	5.5E-02	3.0E-03	1.5E-02	3	14	1.0E-03	1.9E-02	5.0E-03	1.0E-02
	Styrene	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	Tetrachloroethene	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	Toluene	9	20	2.0E-03	4.3E-02	5.0E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	trans-1,3-Dichloropropene	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
	Trichloroethene	0	20			2.5E-03	2.8E-02	1	14	2.0E-03	2.0E-03	5.0E-03	1.0E-02
	Vinyl Acetate	0	20			5.5E-03	5.7E-02	0	8			1.0E-02	1.0E-02
	Vinyl Chloride	0	20			5.5E-03	5.7E-02	0	11			1.0E-02	1.0E-02
	Xylenes (Total)	0	20			2.5E-03	2.8E-02	0	14			5.0E-03	1.0E-02
SEMIVOLATILES	1,2,4-Trichlorobenzene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	1,2-Dichlorobenzene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	1,3-Dichlorobenzene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	1,4-Dichlorobenzene	5	20	7.5E-02	1.1E-01	2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	2,4,5-Trichlorophenol	0	20			1.3E+00	3.8E+00	0	12			2.5E-02	5.0E-02
	2,4,6-Trichlorophenol	0	20			2.7E-01	7.8E-01	0	12			1.0E-02	1.0E-02
	2,4-Dichlorophenol	0	20			2.7E-01	7.8E-01	0	12			1.0E-02	1.0E-02
	2,4-Dimethylphenol	0	20			2.7E-01	7.8E-01	0	12			1.0E-02	1.0E-02
	2,4-Dinitrophenol	0	20			1.3E+00	3.8E+00	0	12			2.5E-02	5.0E-02
	2,4-Dinitrotoluene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	2,6-Dinitrotoluene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	2-Chloronaphthalene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	2-Chlorophenol	0	20			2.7E-01	7.8E-01	0	12			1.0E-02	1.0E-02
	2-Methylnaphthalene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	2-Methylphenol	0	20			2.7E-01	7.8E-01	0	12			1.0E-02	1.0E-02

Table A6-3 - continued

CLASS	CHEMICAL	BACKGROUND SOIL SAMPLES						BACKGROUND GROUNDWATER SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	2-Nitroaniline	0	20			1.3E+00	3.8E+00	0	14			2.5E-02	5.0E-02
	2-Nitrophenol	0	20			2.7E-01	7.8E-01	0	12			1.0E-02	1.0E-02
	3,3-Dichlorobenzidine	0	20			5.3E-01	1.6E+00	0	14			1.0E-02	2.0E-02
	3-Nitroaniline	0	20			1.3E+00	3.8E+00	0	14			2.5E-02	5.0E-02
	4,6-Dinitro-2-methylphenol	0	20			1.3E+00	3.8E+00	0	12			2.5E-02	5.0E-02
	4-Bromophenyl-phenylether	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	4-Chloro-3-methylphenol	0	20			2.7E-01	7.8E-01	0	12			1.0E-02	1.0E-02
	4-Chloroaniline	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	4-Chlorophenyl-phenyl ether	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	4-Methylphenol	0	20			2.7E-01	7.8E-01	0	12			1.0E-02	1.0E-02
	4-Nitroaniline	0	20			1.3E+00	3.8E+00	0	14			2.5E-02	5.0E-02
	4-Nitrophenol	0	20			1.3E+00	3.8E+00	0	12			2.5E-02	5.0E-02
	Acenaphthene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Acenaphthylene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Anthracene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Benzo(a)anthracene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Benzo(a)pyrene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Benzo(b)fluoranthene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Benzo(g,h,i)perylene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Benzo(k)fluoranthene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Benzoic acid	0	20			1.3E+00	3.8E+00	0	8			5.0E-02	5.0E-02
	Benzyl alcohol	0	20			2.7E-01	7.8E-01	0	8			1.0E-02	1.0E-02
	bis(2-Chloroethoxy) methane	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	bis(2-Chloroethyl) ether	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	bis(2-Chloroisopropyl) ether	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	bis(2-Ethylhexyl)phthalate	15	20	3.8E-02	4.0E+00	2.7E-01	4.0E-01	5	14	3.0E-03	3.2E-02	1.0E-02	1.0E-02
	Butylbenzylphthalate	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Carbazole							0	6			1.0E-02	1.0E-02
	Chrysene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Di-n-butylphthalate	4	20	9.2E-02	1.3E-01	2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Di-n-octylphthalate	0	20			2.7E-01	7.8E-01	1	14	2.0E-03	2.0E-03	1.0E-02	1.0E-02
	Dibenzo(a,h)anthracene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Dibenzofuran	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Diethylphthalate	1	20	1.4E-01	1.4E-01	2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Dimethylphthalate	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Fluoranthene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Fluorene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Hexachlorobenzene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Hexachlorobutadiene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Hexachlorocyclopentadiene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Hexachloroethane	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Indeno(1,2,3-cd)pyrene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Isophorone	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	N-Nitrosodinpropylamine	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	N-nitrosodiphenylamine	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Naphthalene	0	20			2.7E-01	7.8E-01	1	14	2.0E-03	2.0E-03	1.0E-02	1.0E-02
	Nitrobenzene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Pentachlorophenol	0	20			1.3E+00	3.8E+00	0	12			2.5E-02	5.0E-02
	Phenanthrene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
	Phenol	0	20			2.7E-01	7.8E-01	0	12			1.0E-02	1.0E-02

Table A6-3 - continued

CLASS	CHEMICAL	BACKGROUND SOIL SAMPLES						BACKGROUND GROUNDWATER SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	Pyrene	0	20			2.7E-01	7.8E-01	0	14			1.0E-02	1.0E-02
PESTICIDES	4,4-DDD	0	20			1.3E-02	3.8E-02	0	14			1.0E-04	1.1E-04
	4,4-DDE	0	20			1.3E-02	3.8E-02	0	14			1.0E-04	1.1E-04
	4,4-DDT	0	20			1.3E-02	3.8E-02	0	14			1.0E-04	1.1E-04
	Aldrin	0	20			6.4E-03	1.9E-02	0	14			5.0E-05	5.3E-05
	alpha-BHC	0	20			6.4E-03	1.9E-02	0	14			5.0E-05	5.3E-05
	alpha-Chlordane	0	20			6.4E-02	1.9E-01	0	14			5.0E-05	5.3E-04
	Aroclor-1016	0	20			6.4E-02	1.9E-01	0	14			5.0E-04	1.0E-03
	Aroclor-1221	0	20			6.4E-02	1.9E-01	0	14			5.0E-04	2.0E-03
	Aroclor-1232	0	20			6.4E-02	1.9E-01	0	14			5.0E-04	1.0E-03
	Aroclor-1242	0	20			6.4E-02	1.9E-01	0	14			5.0E-04	1.0E-03
	Aroclor-1248	0	20			6.4E-02	1.9E-01	0	14			5.0E-04	1.0E-03
	Aroclor-1254	0	20			1.3E-01	3.8E-01	0	14			1.0E-03	1.1E-03
	Aroclor-1260	0	20			1.3E-01	3.8E-01	0	14			1.0E-03	1.1E-03
	beta-BHC	0	20			6.4E-03	1.9E-02	0	14			5.0E-05	5.3E-05
	delta-BHC	0	20			6.4E-03	1.9E-02	0	14			5.0E-05	5.3E-05
	Dieldrin	0	20			1.3E-02	3.8E-02	0	14			1.0E-04	1.1E-04
	Endosulfan I	0	20			6.4E-03	1.9E-02	0	14			5.0E-05	5.3E-05
	Endosulfan II	0	20			1.3E-02	3.8E-02	0	14			1.0E-04	1.1E-04
	Endosulfan sulfate	0	20			1.3E-02	3.8E-02	0	14			1.0E-04	1.1E-04
	Endrin	0	20			1.3E-02	3.8E-02	0	14			1.0E-04	1.1E-04
	Endrin aldehyde							0	6			1.0E-04	1.0E-04
	Endrin ketone	0	20			1.3E-02	3.8E-02	0	14			1.0E-04	1.1E-04
	gamma-BHC (lindane)	0	20			6.4E-03	1.9E-02	0	14			5.0E-05	5.3E-05
	gamma-Chlordane	0	20			6.4E-02	1.9E-01	0	14			5.0E-05	5.3E-04
	Heptachlor	0	20			6.4E-03	1.9E-02	0	14			5.0E-05	5.3E-05
	Heptachlor epoxide	0	20			6.4E-03	1.9E-02	0	14			5.0E-05	5.3E-05
	Methoxychlor	0	20			6.4E-02	1.9E-01	0	14			5.0E-04	5.3E-04
	Toxaphene	0	20			1.3E-01	3.8E-01	0	14			1.0E-03	5.0E-03
INORGANICS	Aluminum, Dissolved							7	14	3.6E-02	1.7E-01	2.5E-02	3.6E-02
	Aluminum, Total	20	20	4.0E+02	5.7E+03			13	14	3.3E-02	6.9E+00	2.5E-02	2.5E-02
	Antimony, Dissolved							3	14	1.4E-02	6.3E-02	1.3E-02	3.7E-02
	Antimony, Total	3	20	5.3E+00	6.6E+00	3.7E+00	1.1E+01	2	14	3.6E-02	4.9E-02	1.3E-02	3.7E-02
	Arsenic, Dissolved							1	14	1.1E-03	1.1E-03	2.0E-03	3.0E-03
	Arsenic, Total	17	20	2.8E-01	5.6E+00	2.3E-01	4.3E-01	3	14	4.0E-03	5.8E-03	1.0E-03	3.0E-03
	Barium, Dissolved							14	14	2.0E-02	1.1E-01		
	Barium, Total	20	20	2.4E+00	6.2E+01			14	14	2.3E-02	1.2E-01		
	Beryllium, Dissolved							0	14			1.0E-03	3.0E-03
	Beryllium, Total	9	20	2.7E-01	7.1E-01	2.1E-01	4.7E-01	3	14	1.2E-03	4.5E-03	1.0E-03	3.0E-03
	Cadmium, Dissolved							0	14			1.0E-03	5.0E-03
	Cadmium, Total	0	20			4.4E-01	1.2E+00	0	14			1.0E-03	5.0E-03
	Calcium, Dissolved							14	14	5.2E+01	2.2E+02		
	Calcium, Total	20	20	1.6E+02	1.2E+05			14	14	5.1E+01	2.1E+02		
	Chromium, Dissolved							0	14			2.0E-03	6.0E-03
	Chromium, Total	19	20	2.1E+00	6.7E+01	1.6E+00	1.6E+00	5	14	2.8E-03	2.5E-02	2.0E-03	6.0E-03
	Cobalt, Dissolved							0	14			3.0E-03	1.2E-02
	Cobalt, Total	15	20	1.7E+00	4.5E+00	1.4E+00	1.5E+00	2	14	7.3E-03	2.5E-02	3.0E-03	1.3E-02
	Copper, Dissolved							3	14	4.9E-03	4.9E-03	3.0E-03	6.0E-03

Table A6-3 - continued

CLASS	CHEMICAL	BACKGROUND SOIL SAMPLES						BACKGROUND GROUNDWATER SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	Copper, Total	20	20	2.5E+00	5.8E+00			9	14	4.8E-03	3.2E-02	6.0E-03	6.0E-03
	Iron, Dissolved							10	14	3.0E-02	5.1E-01	1.0E-02	1.5E-02
	Iron, Total	20	20	1.4E+03	8.4E+03			13	14	5.7E-02	1.7E+01	1.5E-02	1.5E-02
	Lead, Dissolved							3	12	1.2E-03	1.9E-03	1.0E-03	2.0E-02
	Lead, Total	20	20	1.1E+00	8.1E+00			8	13	1.2E-03	9.1E-02	1.0E-03	2.0E-02
	Magnesium, Dissolved							14	14	9.8E+00	4.2E+01		
	Magnesium, Total	20	20	4.2E+02	1.1E+04			14	14	1.1E+01	4.1E+01		
	Manganese, Dissolved							14	14	2.1E-03	4.4E-01		
	Manganese, Total	20	20	2.5E+01	4.2E+02			14	14	9.2E-03	1.9E+00		
	Mercury, Dissolved							0	14			2.0E-04	2.0E-04
	Mercury, Total	0	20			4.0E-02	2.2E-01	0	14			2.0E-04	2.0E-04
	Nickel, Dissolved							0	14			6.0E-03	2.5E-02
	Nickel, Total	12	20	3.8E+00	3.6E+01	3.7E+00	4.2E+00	1	14	4.8E-02	4.8E-02	6.0E-03	2.5E-02
	Potassium, Dissolved							11	14	9.0E-01	2.3E+00	7.2E-01	9.6E-01
	Potassium, Total	16	20	8.2E+01	3.0E+02	7.9E+01	1.7E+02	13	14	7.6E-01	2.1E+00	9.4E-01	9.4E-01
	Selenium, Dissolved							1	14	2.3E-03	2.3E-03	2.0E-03	2.0E-02
	Selenium, Total	4	20	1.9E-01	3.9E-01	2.1E-01	2.4E-01	2	14	2.4E-03	3.1E-03	2.0E-03	4.0E-03
	Silver, Dissolved							2	14	9.8E-03	1.2E-02	2.0E-03	7.0E-03
	Silver, Total	0	20			3.8E-01	9.3E-01	2	14	7.7E-03	9.0E-03	2.0E-03	7.0E-03
	Sodium, Dissolved							14	14	3.0E+00	5.2E+01		
	Sodium, Total	3	20	5.4E+01	8.7E+01	3.8E+01	1.3E+02	14	14	3.2E+00	5.1E+01		
	Thallium, Dissolved							0	14			3.0E-03	5.0E-03
	Thallium, Total	0	20			3.3E-01	9.5E-01	0	14			3.0E-03	1.0E-02
	Vanadium, Dissolved							3	14	2.1E-03	1.3E-02	2.0E-03	8.9E-03
	Vanadium, Total	20	20	1.8E+00	1.4E+01			4	14	7.5E-03	2.7E-02	2.0E-03	8.5E-03
	Zinc, Dissolved							7	14	4.9E-03	7.0E-02	6.0E-03	1.0E-02
	Zinc, Total	20	20	4.5E+00	2.2E+01			10	14	7.4E-03	7.9E-02	6.0E-03	9.0E-03
	Cyanide, Total	1	20	2.0E-01	2.0E-01	1.6E-01	3.0E+00	0	13			1.0E-02	1.0E-02
OTHER	Bromide, Dissolved							5	9	1.0E-01	2.0E-01	1.0E-01	1.0E-01
	Chloride, Cl							7	7	5.9E+00	1.2E+02		
	Nitrogen, Ammonia (NH3)							5	8	1.0E-01	4.0E-01	4.0E+01	4.0E+01
	Nitrogen, Nitrate + Nitrite (NO2 + NO3)							1	4	6.9E+00	6.9E+00	4.0E+01	4.0E+01
	Sulfate, SO4							6	7	3.5E+01	4.3E+02	4.4E+01	4.4E+01
	TP (Total Phosphorus)							2	2	1.2E-01	2.7E-01		

TABLE A6-4 SUMMARY OF FREQUENCY OF DETECTION AND RANGE OF CONCENTRATION OF CHEMICALS IN BACKGROUND SURFACE WATER AND SEDIMENT SAMPLES

		BACKGROUND SURFACE WATER SAMPLES						BACKGROUND SEDIMENT SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
CLASS	CHEMICAL	Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
VOLATILES	1,1,1-Trichloroethane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	1,1,2,2-Tetrachloroethane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	1,1,2-Trichloroethane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	1,1-Dichloroethane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	1,1-Dichloroethene	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	1,2-Dichloroethane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	1,2-Dichloroethene(total)	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	1,2-Dichloropropane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	2-Butanone	0	3			5.0E-03	1.0E-02	2	3	8.0E-03	2.8E-02	1.9E-02	1.9E-02
	2-Hexanone	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	4-Methyl-2-pentanone	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Acetone	2	3	4.5E-03	5.0E-03	1.0E-02	1.0E-02	1	3	1.8E-02	1.8E-02	4.6E-02	1.1E-01
	Benzene	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Bromodichloromethane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Bromoform	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Bromomethane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Carbon Disulfide	0	3			5.0E-03	1.0E-02	1	3	1.0E-02	1.0E-02	1.6E-02	1.9E-02
	Carbon Tetrachloride	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Chlorobenzene	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Chloroethane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Chloroform	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Chloromethane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	cis-1,3-Dichloropropene	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Dibromochloromethane	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Ethyl Benzene	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Methylene Chloride	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Styrene	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Tetrachloroethene	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Toluene	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	trans-1,3-Dichloropropene	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Trichloroethene	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Vinyl Chloride	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
	Xylenes (Total)	0	3			5.0E-03	1.0E-02	0	3			1.6E-02	3.0E-02
SEMIVOLATILES	1,2,4-Trichlorobenzene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	1,2-Dichlorobenzene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	1,3-Dichlorobenzene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	1,4-Dichlorobenzene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	2,4,5-Trichlorophenol	0	3			1.3E-02	2.5E-02	0	3			1.3E+00	2.4E+00
	2,4,6-Trichlorophenol	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	2,4-Dichlorophenol	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	2,4-Dimethylphenol	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	2,4-Dinitrophenol	0	3			1.3E-02	2.5E-02	0	3			1.3E+00	2.4E+00
	2,4-Dinitrotoluene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	2,6-Dinitrotoluene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	2-Chloronaphthalene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	2-Chlorophenol	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	2-Methylnaphthalene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	2-Methylphenol	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	2-Nitroaniline	0	3			1.3E-02	2.5E-02	0	3			1.3E+00	2.4E+00

Table A6-4 - continued

CLASS	CHEMICAL	BACKGROUND SURFACE WATER SAMPLES						BACKGROUND SEDIMENT SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	2-Nitrophenol	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	3,3-Dichlorobenzidine	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	3-Nitroaniline	0	1			2.5E-02	2.5E-02	0	3			1.3E+00	2.4E+00
	4,6-Dinitro-2-methylphenol	0	3			1.3E-02	2.5E-02	0	3			1.3E+00	2.4E+00
	4-Bromophenyl-phenylether	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	4-Chloro-3-methylphenol	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	4-Chloroaniline	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	4-Chlorophenyl-phenyl ether	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	4-Methylphenol	0	3			5.0E-03	1.0E-02	1	3	3.5E-01	3.5E-01	6.2E-01	1.0E+00
	4-Nitroaniline	0	3			1.3E-02	2.5E-02	0	3			1.3E+00	2.4E+00
	4-Nitrophenol	0	3			1.3E-02	2.5E-02	0	3			1.3E+00	2.4E+00
	Acenaphthene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Acenaphthylene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Anthracene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Benzo(a)anthracene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Benzo(a)pyrene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Benzo(b)fluoranthene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Benzo(g,h,i)perylene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Benzo(k)fluoranthene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	bis(2-Chloroethoxy) methane	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	bis(2-Chloroethyl) ether	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	bis(2-Chloroisopropyl) ether	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	bis(2-Ethylhexyl)phthalate	2	3	7.0E-04	3.5E-03	1.0E-02	1.0E-02	0	3			5.4E-01	1.0E+00
	Butylbenzylphthalate	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Carbazole	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Chrysene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Di-n-butylphthalate	2	3	6.0E-04	7.5E-04	1.0E-02	1.0E-02	0	3			5.4E-01	1.0E+00
	Di-n-octylphthalate	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Dibenzo(a,h)anthracene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Dibenzofuran	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Diethylphthalate	0	3			5.0E-03	1.0E-02	1	3	1.4E-01	1.4E-01	5.4E-01	1.0E+00
	Dimethylphthalate	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Fluoranthene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Fluorene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Hexachlorobenzene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Hexachlorobutadiene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Hexachlorocyclopentadiene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Hexachloroethane	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Indeno(1,2,3-cd)pyrene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Isophorone	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	N-Nitrosodinpropylamine	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	N-nitrosodiphenylamine	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Naphthalene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Nitrobenzene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Pentachlorophenol	0	3			1.3E-02	2.5E-02	0	3			1.3E+00	2.4E+00
	Phenanthrene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Phenol	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
	Pyrene	0	3			5.0E-03	1.0E-02	0	3			5.4E-01	1.0E+00
PESTICIDES	4,4-DDD	0	3			5.0E-05	1.0E-04	0	3			5.4E-03	1.0E-02

Table A6-4 - continued

CLASS	CHEMICAL	BACKGROUND SURFACE WATER SAMPLES						BACKGROUND SEDIMENT SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	4,4-DDE	0	3			5.0E-05	1.0E-04	0	3			5.4E-03	1.0E-02
	4,4-DDT	0	3			5.0E-05	1.0E-04	0	3			5.4E-03	1.0E-02
	Aldrin	0	3			2.5E-05	5.0E-05	0	3			2.8E-03	5.2E-03
	alpha-BHC	0	3			2.5E-05	5.0E-05	0	3			2.8E-03	5.2E-03
	alpha-Chlordane	0	3			2.5E-05	5.0E-05	0	3			2.8E-03	5.2E-03
	Aroclor-1016	0	3			5.0E-04	1.0E-03	0	3			5.4E-02	1.0E-01
	Aroclor-1221	0	3			1.0E-03	2.0E-03	0	3			1.1E-01	2.0E-01
	Aroclor-1232	0	3			5.0E-04	1.0E-03	0	3			5.4E-02	1.0E-01
	Aroclor-1242	0	3			5.0E-04	1.0E-03	0	3			5.4E-02	1.0E-01
	Aroclor-1248	0	3			5.0E-04	1.0E-03	0	3			5.4E-02	1.0E-01
	Aroclor-1254	0	3			5.0E-04	1.0E-03	0	3			5.4E-02	1.0E-01
	Aroclor-1260	0	3			5.0E-04	1.0E-03	0	3			5.4E-02	1.0E-01
	beta-BHC	0	3			2.5E-05	5.0E-05	0	3			2.8E-03	5.2E-03
	delta-BHC	0	3			2.5E-05	5.0E-05	0	3			2.8E-03	5.2E-03
	Dieldrin	0	3			5.0E-05	1.0E-04	0	3			5.4E-03	1.0E-02
	Endosulfan I	0	3			2.5E-05	5.0E-05	0	3			2.8E-03	5.2E-03
	Endosulfan II	0	3			5.0E-05	1.0E-04	0	3			5.4E-03	1.0E-02
	Endosulfan sulfate	0	3			5.0E-05	1.0E-04	0	3			5.4E-03	1.0E-02
	Endrin	0	3			5.0E-05	1.0E-04	0	3			5.4E-03	1.0E-02
	Endrin aldehyde	0	3			5.0E-05	1.0E-04	0	3			5.4E-03	1.0E-02
	Endrin ketone	0	3			5.0E-05	1.0E-04	0	3			5.4E-03	1.0E-02
	gamma-BHC (lindane)	0	3			2.5E-05	5.0E-05	0	3			2.8E-03	5.2E-03
	gamma-Chlordane	0	3			2.5E-05	5.0E-05	0	3			2.8E-03	5.2E-03
	Heptachlor	0	3			2.5E-05	5.0E-05	0	3			2.8E-03	5.2E-03
	Heptachlor epoxide	0	3			2.5E-05	5.0E-05	0	3			2.8E-03	5.2E-03
	Methoxychlor	0	3			2.5E-04	5.0E-04	0	3			2.8E-02	5.2E-02
	Toxaphene	0	3			2.5E-03	5.0E-03	0	3			2.8E-01	5.2E-01
INORGANICS	Aluminum, Dissolved	3	3	2.6E-02	2.8E-02								
	Aluminum, Total	3	3	5.5E-02	8.6E-01			3	3	4.4E+03	1.5E+04		
	Antimony, Dissolved	0	3			7.0E-03	1.4E-02						
	Antimony, Total	0	3			2.4E-02	4.7E-02	0	3			1.6E+01	3.1E+01
	Arsenic, Dissolved	2	3	1.9E-03	2.4E-03	2.0E-03	2.0E-03						
	Arsenic, Total	0	3			1.0E-03	2.0E-03	3	3	4.2E+00	2.1E+01		
	Barium, Dissolved	3	3	8.3E-03	1.8E-02								
	Barium, Total	3	3	6.5E-03	1.8E-02			3	3	3.2E+01	1.2E+02		
	Beryllium, Dissolved	0	3			5.0E-04	1.0E-03						
	Beryllium, Total	0	3			5.0E-04	1.0E-03	3	3	4.5E-01	1.1E+00		
	Cadmium, Dissolved	1	3	1.2E-03	1.2E-03	5.0E-04	1.0E-03						
	Cadmium, Total	0	3			1.5E-03	3.0E-03	0	3			1.0E+00	2.0E+00
	Calcium, Dissolved	3	3	1.0E+01	2.3E+01								
	Calcium, Total	3	3	1.1E+01	2.3E+01			3	3	2.2E+04	7.3E+04		
	Chromium, Dissolved	0	3			1.0E-03	2.0E-03						
	Chromium, Total	0	3			3.0E-03	6.0E-03	3	3	6.8E+00	1.5E+01		
	Cobalt, Dissolved	0	3			1.0E-03	2.0E-03						
	Cobalt, Total	0	3			4.0E-03	8.0E-03	2	3	7.3E+00	1.8E+01	2.7E+00	2.7E+00
	Copper, Dissolved	0	3			1.0E-03	2.0E-03						
	Copper, Total	0	3			2.5E-03	5.0E-03	3	3	1.4E+01	2.8E+01		
	Iron, Dissolved	3	3	1.1E-02	6.7E-02								
	Iron, Total	3	3	1.9E-02	1.8E-01			3	3	8.6E+03	2.5E+04		

Table A6-4 - continued

CLASS	CHEMICAL	BACKGROUND SURFACE WATER SAMPLES						BACKGROUND SEDIMENT SAMPLES					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	Lead, Dissolved	2	3	1.7E-03	2.1E-03	2.0E-03	2.0E-03						
	Lead, Total	0	3			1.0E-03	2.0E-03	3	3	1.0E+01	3.4E+01		
	Magnesium, Dissolved	3	3	8.0E+00	1.6E+01								
	Magnesium, Total	3	3	8.1E+00	1.6E+01			3	3	3.8E+03	9.4E+03		
	Manganese, Dissolved	2	3	1.8E-03	1.9E-03	5.0E-04	5.0E-04						
	Manganese, Total	3	3	1.8E-02	5.3E-02			3	3	1.5E+02	7.0E+02		
	Mercury, Dissolved	0	3			1.0E-04	2.0E-04						
	Mercury, Total	0	3			1.0E-04	2.0E-04	0	3			1.5E-01	3.0E-01
	Nickel, Dissolved	0	3			2.5E-03	5.0E-03						
	Nickel, Total	0	3			4.5E-03	9.0E-03	3	3	4.9E+00	2.6E+01		
	Potassium, Dissolved	3	3	3.7E-01	7.6E-01								
	Potassium, Total	3	3	4.1E-01	9.6E-01			3	3	3.0E+02	7.4E+02		
	Selenium, Dissolved	0	3			2.0E-03	4.0E-03						
	Selenium, Total	0	3			2.0E-03	4.0E-03	0	3			1.3E+00	2.7E+00
	Silver, Dissolved	0	3			2.5E-03	5.0E-03						
	Silver, Total	0	3			2.0E-03	4.0E-03	0	3			1.3E+00	2.6E+00
	Sodium, Dissolved	3	3	9.0E+00	1.8E+01								
	Sodium, Total	3	3	9.3E+00	1.8E+01			3	3	9.0E+01	2.4E+02		
	Thallium, Dissolved	0	3			5.0E-04	1.0E-03						
	Thallium, Total	0	3			5.0E-04	1.0E-03	1	1	4.3E-01	4.3E-01		
	Vanadium, Dissolved	2	3	1.7E-03	2.0E-03	2.0E-03	2.0E-03						
	Vanadium, Total	0	3			2.5E-03	5.0E-03	3	3	1.0E+01	2.8E+01		
	Zinc, Dissolved	3	3	7.2E-03	8.9E-03								
	Zinc, Total	1	3	7.4E-03	7.4E-03	7.0E-03	7.0E-03	3	3	2.3E+01	7.7E+01		
	Cyanide, Total	0	3			5.0E-03	1.0E-02	0	3			8.1E+00	1.7E+01

TABLE A6-5 SUMMARY OF FREQUENCY OF DETECTION AND RANGE OF CONCENTRATION OF CHEMICALS IN TRENCH LEACHATE SAMPLES

		LIQUID FRACTION						SOLID FRACTION					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
CLASS	CHEMICAL	Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
VOLATILES	1,1,1-Trichloroethane	2	3	7.5E-03	5.2E-01	1.0E-02	1.0E-02						
	1,1,2,2-Tetrachloroethane	0	3			5.0E-03	1.0E-01						
	1,1,2-Trichloroethane	0	3			5.0E-03	1.0E-01						
	1,1-Dichloroethane	3	3	5.0E-03	2.2E-01								
	1,1-Dichloroethene	0	3			5.0E-03	1.0E-01						
	1,2-Dichloroethane	0	3			5.0E-03	1.0E-01						
	1,2-Dichloroethene(total)	2	3	6.6E-02	4.1E-01	5.0E-03	5.0E-03						
	1,2-Dichloropropane	0	3			5.0E-03	1.0E-01						
	2-Butanone	2	3	1.3E-02	4.2E-01	5.0E-03	5.0E-03	1	1	4.1E+03	4.1E+03		
	2-Hexanone	0	3			5.0E-03	1.0E-01	2	2	5.7E+02	2.9E+04		
	4-Methyl-2-pentanone	2	3	9.0E-03	1.1E-01	5.0E-03	5.0E-03	2	2	4.1E+02	1.7E+04		
	Acetone	1	3	1.3E+00	1.3E+00	5.0E-03	2.3E-01	1	1	3.0E+02	3.0E+02		
	Benzene	2	3	3.2E-02	9.7E-02	5.0E-03	5.0E-03						
	Bromodichloromethane	0	3			5.0E-03	1.0E-01						
	Bromoform	0	3			5.0E-03	1.0E-01						
	Bromomethane	0	3			5.0E-03	1.0E-01						
	Carbon Disulfide	2	3	4.0E-03	1.3E-01	5.0E-03	5.0E-03						
	Carbon Tetrachloride	0	3			5.0E-03	1.0E-01						
	Chlorobenzene	0	3			5.0E-03	1.0E-01						
	Chloroethane	1	3	3.0E-03	3.0E-03	5.0E-03	1.0E-01						
	Chloroform	1	3	7.6E-02	7.6E-02	5.0E-03	1.0E-02						
	Chloromethane	0	3			5.0E-03	1.0E-01						
	cis-1,3-Dichloropropene	0	3			5.0E-03	1.0E-01						
	Dibromochloromethane	0	3			5.0E-03	1.0E-01						
	Ethyl Benzene	2	3	1.5E-01	6.4E-01	5.0E-03	5.0E-03	1	1	6.4E+03	6.4E+03		
	Methylene Chloride	1	3	5.5E-01	5.5E-01	5.0E-03	2.0E-02	1	1	2.6E+02	2.6E+02		
	Styrene	1	3	3.0E-03	3.0E-03	5.0E-03	1.0E-01						
	Tetrachloroethene	1	3	4.8E-02	4.8E-02	5.0E-03	1.0E-02						
	Toluene	2	3	6.3E-02	1.1E+00	5.0E-03	5.0E-03	2	2	8.5E+02	4.8E+05		
	trans-1,3-Dichloropropene	0	3			5.0E-03	1.0E-01						
	Trichloroethene	3	3	1.1E-02	5.5E-01								
	Vinyl Chloride	2	3	1.6E-02	4.7E-02	5.0E-03	5.0E-03						
	Xylenes (Total)	2	3	2.0E-01	3.3E-01	5.0E-03	5.0E-03	2	2	7.7E+01	4.4E+04		
SEMIVOLATILES	1,2,4-Trichlorobenzene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	1,2-Dichlorobenzene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	1,3-Dichlorobenzene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	1,4-Dichlorobenzene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	2,4,5-Trichlorophenol	0	1			2.5E-02	2.5E-02	0	2			9.1E+01	2.5E+03
	2,4,6-Trichlorophenol	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	2,4-Dichlorophenol	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	2,4-Dimethylphenol	2	3	1.0E-02	8.4E-02	1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	2,4-Dinitrophenol	0	1			2.5E-02	2.5E-02	0	2			9.1E+01	2.5E+03
	2,4-Dinitrotoluene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	2,6-Dinitrotoluene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	2-Chloronaphthalene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	2-Chlorophenol	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	2-Methylnaphthalene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	2-Methylphenol	2	3	1.0E-02	4.4E-01	1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	2-Nitroaniline	0	1			2.5E-02	2.5E-02	0	2			9.1E+01	2.5E+03

Table A6-5 - continued

CLASS	CHEMICAL	LIQUID FRACTION						SOLID FRACTION					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	2-Nitrophenol	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	3,3-Dichlorobenzidine	0	1			1.0E-02	1.0E-02	0	2			3.6E+01	1.0E+03
	3-Nitroaniline	0	1			2.5E-02	2.5E-02	0	2			9.1E+01	2.5E+03
	4,6-Dinitro-2-methylphenol	0	1			2.5E-02	2.5E-02	0	2			9.1E+01	2.5E+03
	4-Bromophenyl-phenylether	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	4-Chloro-3-methylphenol	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	4-Chloroaniline	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	4-Chlorophenyl-phenyl ether	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	4-Methylphenol	2	3	1.4E-01	4.2E+00	1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	4-Nitroaniline	0	1			2.5E-02	2.5E-02	0	2			9.1E+01	2.5E+03
	4-Nitrophenol	0	1			2.5E-02	2.5E-02	0	2			9.1E+01	2.5E+03
	Acenaphthene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Acenaphthylene	1	1	1.0E-03	1.0E-03			0	2			1.8E+01	5.0E+02
	Anthracene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Benzo(a)anthracene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Benzo(a)pyrene	1	1	4.0E-03	4.0E-03			0	2			1.8E+01	5.0E+02
	Benzo(b)fluoranthene	1	1	6.0E-03	6.0E-03			0	2			1.8E+01	5.0E+02
	Benzo(g,h,i)perylene	1	1	2.0E-03	2.0E-03			0	2			1.8E+01	5.0E+02
	Benzo(k)fluoranthene	1	1	2.0E-03	2.0E-03			0	2			1.8E+01	5.0E+02
	Benzoic acid							1	2	9.0E+00	9.0E+00	2.5E+03	2.5E+03
	Benzyl alcohol							1	2	1.1E+01	1.1E+01	5.0E+02	5.0E+02
	bis(2-Chloroethoxy) methane	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	bis(2-Chloroethyl) ether	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	bis(2-Chloroisopropyl) ether	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	bis(2-Ethylhexyl)phthalate	1	2	2.2E-02	2.2E-02	1.0E-02	1.0E-02	1	2	1.8E+02	1.8E+02	1.8E+01	1.8E+01
	Butylbenzylphthalate	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Carbazole	0	1			1.0E-02	1.0E-02						
	Chrysene	1	1	4.0E-03	4.0E-03			0	2			1.8E+01	5.0E+02
	Di-n-butylphthalate	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Di-n-octylphthalate	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Dibenzo(a,h)anthracene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Dibenzofuran	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Diethylphthalate	1	2	4.9E-02	4.9E-02	1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Dimethylphthalate	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Fluoranthene	1	1	6.0E-03	6.0E-03			0	2			1.8E+01	5.0E+02
	Fluorene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Hexachlorobenzene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Hexachlorobutadiene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Hexachlorocyclopentadiene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Hexachloroethane	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Indeno(1,2,3-cd)pyrene	1	1	2.0E-03	2.0E-03			0	2			1.8E+01	5.0E+02
	Isophorone	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	N-Nitrosodinpropylamine	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	N-nitrosodiphenylamine	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Naphthalene	1	1	3.0E-03	3.0E-03			1	2	4.5E+01	4.5E+01	1.8E+01	1.8E+01
	Nitrobenzene	0	1			1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Pentachlorophenol	0	1			2.5E-02	2.5E-02	0	2			9.1E+01	2.5E+03
	Phenanthrene	1	1	6.0E-03	6.0E-03			0	2			1.8E+01	5.0E+02
	Phenol	6	7	6.8E-03	6.6E+00	1.0E-02	1.0E-02	0	2			1.8E+01	5.0E+02
	Pyrene	1	1	6.0E-03	6.0E-03			0	2			1.8E+01	5.0E+02

Table A6-5 - continued

CLASS	CHEMICAL	LIQUID FRACTION						SOLID FRACTION					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	Decachlorobiphenyl							0	2			1.8E+02	5.0E+03
	Dichlorobiphenyl							0	2			9.1E+01	2.5E+03
	Heptachlorobiphenyl							0	2			9.1E+01	2.5E+03
	Hexachlorobiphenyl							0	2			9.1E+01	2.5E+03
	Monochlorobiphenyl							0	2			9.1E+01	2.5E+03
	Nonachlorobiphenyl							0	2			1.8E+02	5.0E+03
	Octachlorobiphenyl							0	2			1.8E+02	5.0E+03
	Pentachlorobiphenyl							0	2			9.1E+01	2.5E+03
	Tetrachlorobiphenyl							0	2			9.1E+01	2.5E+03
	Trichlorobiphenyl							0	2			9.1E+01	2.5E+03
PESTICIDES	4,4-DDD	0	3			5.0E-05	1.0E-03	0	2			1.8E+01	5.0E+02
	4,4-DDE	0	3			5.0E-05	1.0E-03	0	2			1.8E+01	5.0E+02
	4,4-DDT	1	3	2.9E-04	2.9E-04	5.0E-05	1.0E-03	0	2			1.8E+01	5.0E+02
	Aldrin	2	3	1.2E-04	1.3E-04	2.5E-05	2.5E-05	0	2			1.8E+01	5.0E+02
	alpha-BHC	1	3	1.7E-05	1.7E-05	2.5E-05	5.0E-04	0	2			1.8E+01	5.0E+02
	alpha-Chlordane	1	3	2.2E-04	2.2E-04	2.5E-05	5.0E-04	0	2			1.8E+01	5.0E+02
	Aroclor-1016	0	3			5.0E-04	1.0E-02	0	2			9.2E+00	9.6E+00
	Aroclor-1221	0	3			1.0E-03	2.0E-02	0	2			9.2E+00	9.6E+00
	Aroclor-1232	0	3			5.0E-04	1.0E-02	0	2			9.2E+00	9.6E+00
	Aroclor-1242	0	3			5.0E-04	1.0E-02	0	2			9.2E+00	9.6E+00
	Aroclor-1248	0	3			5.0E-04	1.0E-02	0	2			9.2E+00	9.6E+00
	Aroclor-1254	0	3			5.0E-04	1.0E-02	0	2			9.2E+00	9.6E+00
	Aroclor-1260	0	3			5.0E-04	1.0E-02	0	2			9.2E+00	9.6E+00
	beta-BHC	2	3	6.8E-05	9.7E-05	2.5E-05	2.5E-05	0	2			1.8E+01	5.0E+02
	delta-BHC	0	3			2.5E-05	5.0E-04	0	2			1.8E+01	5.0E+02
	Dieldrin	1	3	7.3E-05	7.3E-05	5.0E-05	1.0E-03	0	2			1.8E+01	5.0E+02
	Endosulfan I	0	3			2.5E-05	5.0E-04	0	2			1.8E+01	5.0E+02
	Endosulfan II	2	3	4.8E-05	1.7E-04	5.0E-05	5.0E-05	0	2			1.8E+01	5.0E+02
	Endosulfan sulfate	0	3			5.0E-05	1.0E-03	0	2			1.8E+01	5.0E+02
	Endrin	0	3			5.0E-05	1.0E-03	0	2			1.8E+01	5.0E+02
	Endrin aldehyde	0	3			5.0E-05	1.0E-03						
	Endrin ketone	0	3			5.0E-05	1.0E-03	0	2			1.8E+01	5.0E+02
	gamma-BHC (lindane)	0	3			2.5E-05	5.0E-04	0	2			1.8E+01	5.0E+02
	gamma-Chlordane	2	3	2.8E-05	2.9E-05	2.5E-05	2.5E-05	0	2			1.8E+01	5.0E+02
	Heptachlor	2	3	2.3E-05	1.2E-04	2.5E-05	2.5E-05	0	2			1.8E+01	5.0E+02
	Heptachlor epoxide	0	3			2.5E-05	5.0E-04	0	2			1.8E+01	5.0E+02
	Methoxychlor	0	3			2.5E-04	5.0E-03	0	2			1.8E+01	5.0E+02
	Toxaphene	0	3			2.5E-03	5.0E-02	0	2			4.6E+01	4.8E+01
INORGANICS	Aluminum, Total	0	4			4.2E+02	4.2E+02						
	Antimony, Total	2	4	6.8E-02	1.1E+01	9.6E+00	1.1E+01						
	Arsenic, Total	1	4	1.7E-02	1.7E-02	5.0E+00	5.6E+00						
	Barium, Total	0	4			1.9E+01	1.9E+01						
	Beryllium, Total	0	4			5.0E-04	8.0E+00						
	Cadmium, Total	2	4	3.8E-03	2.5E+00	1.2E+00	1.3E+00						
	Calcium, Total	2	4	1.7E+03	2.1E+03	1.6E+03	1.6E+03						
	Chromium, Total	4	4	3.2E-02	1.0E+01								
	Cobalt, Total	2	4	1.3E-02	3.3E+00	2.4E+00	2.7E+00						
	Copper, Total	0	4			1.3E+01	1.3E+01						

Table A6-5 - continued

CLASS	CHEMICAL	LIQUID FRACTION						SOLID FRACTION					
		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/L)		RANGE OF NON-DETECTED VALUES (mg/L)		FREQ. OF DETECTION		RANGE OF DETECTED VALUES (mg/kg)		RANGE OF NON-DETECTED VALUES (mg/kg)	
		Hits	Total	Min	Max	Min	Max	Hits	Total	Min	Max	Min	Max
	Iron, Total	2	4	2.5E+02	2.7E+02	1.5E+02	1.5E+02						
	Lead, Total	2	4	4.4E-01	2.8E+01	1.4E+01	1.5E+01						
	Magnesium, Total	0	4			2.1E+02	2.1E+02						
	Manganese, Total	0	4			8.0E-01	1.7E+01						
	Mercury, Total	0	3			1.6E+00	1.6E+00						
	Nickel, Total	1	1	5.1E-02	5.1E-02								
	Potassium, Total	1	1	2.7E+01	2.7E+01								
	Selenium, Total	0	1			1.0E-03	1.0E-03						
	Silver, Total	0	1			1.0E-03	1.0E-03						
	Sodium, Total	2	4	8.2E+01	4.2E+02	8.0E+01	9.0E+01						
	Thallium, Total	0	4			1.0E-03	2.2E+00						
	Vanadium, Total	3	4	3.1E-02	4.5E+00	1.8E+00	1.8E+00						
	Zinc, Total	0	4			5.8E+02	5.8E+02						
	Cyanide, Total	2	4	9.8E-02	4.8E+01	1.0E+01	1.0E+01						
OTHER	Bromide, Dissolved	3	4	4.8E-01	3.3E+00	2.0E+02	2.0E+02						
	Chloride, Cl	4	4	1.8E+01	7.0E+01								
	Nitrogen, Ammonia (NH3)	4	4	1.6E+01	1.8E+02								
	Sulfate, SO4	0	4			3.9E+03	3.9E+03						
	TP (Total Phosphorus)	2	2	8.9E+00	9.3E+00								

TABLE A6-6 TENTATIVELY IDENTIFIED COMPOUNDS IDENTIFIED IN SITE SAMPLES

CHEMICAL NAME	NUMBER	RANGE MIN. (mg/kg)	RANGE MAX. (mg/kg)
.GAMMA.-SITOSTEROL	3	0.4	3.8
1,12-DODECANEDIOL	1	0.54	0.54
1,2-CYCLOHEXANEDIOL	2	4.1	4.7
15-OCTADECENAL	1	1.1	1.1
17-OCTADECENAL	1	1	1
1H-INDENE, 2,3-DIHYDRO-1,6-D	1	0.017	0.017
2-CYCLOHEXEN-1-ONE	6	1.3	4.4
2-CYCLOPENTEN-1-0NE, 2-METHYL	1	2.6	2.6
2-ETHOXYETHYL ACETATE	3	400	5300
2-PENTANONE, 4-HYDROXY-4-MET	2	29	31
2-PENTANONE,4-HYDROXY-4-METHYL	20	15	70
2-PROPANOL	7	0.0084	0.2
2-PROPANONE, 1-METHOXY-	2	0.029	0.072
3-CYCLOHEXEN-1-01	1	0.81	0.81
3-HEXENE-2,3-DIONE	1	1.7	1.7
3-HEXENE-2,5-DIONE	22	0.41	1.9
4-HYDROCY-4-METHYL-2-PENTANONE	1	33	33
4-HYDROXY-4-METHYL-2-PENTANONE	38	7	62
5-(2-PROPENYL)-1,3-BENZODIOXOL	1	0.4	0.4
9-HEXADECANOIC ACID	1	0.2	0.2
9-HEXADECENOIC ACID	6	1.02	4.2
BENZALDEHYDE	1	1.1	1.1
BENZENE, (1-METHYLETHYL)-	1	0.023	0.023
BENZENE, 1,1'-ETHYLIDENEBIS[	1	0.34	0.34
BENZENE, 1-ETHYL-2-METHYL-	1	0.039	0.039
BENZENE, 1-ETHYL-3-METHYL-	1	0.29	0.29
BENZENE, CYCLOHEXYL	1	0.81	0.81
BENZENE, CYCLOHEXYL-	3	0.35	0.85
BENZENE, METHYL-	2	0.5	0.7
BENZO[B]THIOPHENE	1	0.057	0.057
BENZO[C]THIOPHENE, 1,3-DIHYDRO	1	0.014	0.014
BENZO[C]THIOPNENE, 1,3-DIHYD	1	0.01	0.01
BENZO[J]FLUORANTHENE	2	1.9	3.6
CHOLESTANOL (VAN)	1	2.6	2.6
CHOLESTEROL	3	2.2	3.2
CYCLOHEXANE, BUTYL-	1	460	460
CYCLOHEXANE, PROPYL-	1	760	760
CYCLOHEXANOL, 4-CHLORO-, TRANS	1	43	43
CYCLOHEXANONE	2	310	490
CYCLOHEXENE, 3-CHLORO-	1	0.72	0.72
CYCLOPENTENE, 1-ETHYL-	1	1.8	1.8
CYCLOPROPANE, 1-CHLORO-2-ETHYL	1	0.45	0.45
DECANE	1	3200	3200
DOCOSANOIC ACID	1	1.34	1.34
DODECANE	1	410	410
DODECANOIC ACID	8	0.22	57
ERGOST-22-EN-3-OL, (3.ALPHA.	1	2.6	2.6
ERGOST-22-EN-3-ONE, (5.BETA.	1	1.84	1.84
ERGOST-5-EN-3-OL, (3.BETA.)-	2	1.06	1.12
ETHANE, 1,1,2,2-TETRACHLORO-	1	0.48	0.48
ETHANE, 1,1,2-TRICHLORO-1,2,	1	0.005	0.005
ETHANE, 1,1,2-TRICHLORO-1,2,2	2	0.034	0.045
ETHANE, 1,1,2-TRICHLORO-1,2,2-	8	0.006	0.03
ETHANETHIOIC ACID, S,S'-[THI	1	0.76	0.76
ETHANOL	3	0.0096	0.051
ETHANOL, 2-(2-ETHOXYETHOXY)-	5	0.076	0.14
HEXADECANOIC ACID	16	0.058	3.4
MOLECULAR SULFUR	5	0.24	3.4
NAPHTHALENE	1	0.7	0.7
NAPTHALENE	1	0.47	0.47
NONANAL	1	0.0082	0.0082
NONANE	1	2000	2000
OCTADECANAL	2	1.3	1.6
OCTADECANOIC ACID	3	0.36	1.44

Table A6-6 - continued

CHEMICAL NAME	NUMBER	RANGE MIN. (mg/kg)	RANGE MAX. (mg/kg)
PHENANTHRENE, 1-METHYL-7-(1-	2	0.35	0.6
PHENOL, 2,4-BIS(1,1-DIMETHYL	5	0.074	0.146
PROPANOIC ACID, 2-METHYL-, B	1	9000	9000
STIGMASTEROL	3	1.1	1.68
SULFUR, MOL.	1	3.3	3.3
SULFUR, MOL. (S8)	17	0.25	16
TETRADECANOIC ACID	5	0.138	0.54
UNDECANE	1	2400	2400

Table A6-6 - continued

CHEMICAL NAME	NUMBER	RANGE MIN. (mg/L)	RANGE MAX. (mg/L)
1,1,2-TRICHLORO-1,2,2-TRIFLUOR	3	0.008	0.013
1-BUTANOL	2	0.01	0.02
1-BUTENE	1	0.008	0.008
1-PENTENE, 4,4-DIMETHYL-	1	0.02	0.02
1-PROPENE, 2-METHYL-	2	0.005	0.006
2-PROPANOL	4	0.006	0.08
CHOLESTEROL	2	0.008	0.012
CYCLOHEXANE, BROMO-	4	0.002	0.005
CYCLOHEXANOL	5	0.003	0.028
CYCLOTRISILOXANE, HEXAMETHYL	1	0.008	0.008
DECANOIC ACID	1	0.003	0.003
DODECANOIC ACID	1	0.011	0.011
ETHANE, 1,1'-OXYBIS-	1	0.03	0.03
ETHANE, 1,1,2-TRICHLORO-1,2,2	1	0.07	0.07
ETHANE, 1,1,2-TRICHLORO-1,2,2,	1	0.06	0.06
ETHANE, 1,1,2-TRICHOLOR-1,2,2-	1	0.09	0.09
ETHANOL, 2-CHLORO-, PHOSPHAT	1	0.002	0.002
ETHANOL, 2-CHLORO-, PHOSPHATE	2	0.02	0.2
ETHANOL, 2-CHLORO-,PHOSPHAT	1	0.003	0.003
ETHYL ETHER	11	0.007	0.11
ETHYL ETHER (8CI)	7	0.006	0.01
HEXADECANOIC ACID	1	0.005	0.005
HEXANE	13	0.004	0.005
HEXANOIC ACID, 6-AMINO-	1	0.2	0.2
METHANE, CHLOROFLUORO-	2	0.009	0.01
METHANE, DICHLOROFLUORO-	9	0.006	0.06
METHANE, TRICHLOROFLUORO-	1	0.67	0.67
METHANE,THIOBIS-	1	0.024	0.024
NONANOIC ACID	1	0.012	0.012
OCTADECANOIC ACID, 2-METHYLP	6	0.01	0.031
OCTANETHIOIC ACID, S-HEXYL E	1	0.4	0.4
OCTANOIC ACID	1	0.005	0.005
PHENOL, 4,4'-BUTYLIDENEBIS[2	1	0.2	0.2
PROPANE, BROMOTRIFLUORO-	1	0.016	0.016
PROPANOIC ACID, 2-METHYL-, B	1	0.03	0.03
SULFUR, MOL. (S8)	3	0.003	0.46
SULFUR, MOL. (S8) (8CI9CI)	6	0.006	0.09
TETRADECANOIC ACID	1	0.006	0.006
TETRADECANOIC ACID, 1-METHYL	1	0.003	0.003
THIOCYANIC ACID, 4-HYDROXYPH	1	0.064	0.064
[1,1'-BIPHENYL]-2-OL	1	0.091	0.091

APPENDIX 7

SUMMARY OF SITE MONITORING DATA USED TO SELECT CHEMICALS OF ECOLOGICAL CONCERN

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	BACKGROUND POND SURFACE WATER							L-POND SURFACE WATER						
	FREQ. OF DETECT.		RANGE OF DETECTS (mg/L)			RANGE OF NON-DETECTS (mg/L)		FREQ. OF DETECT.		RANGE OF DETECTS (mg/L)			RANGE OF NON-DETECTS (mg/L)	
CHEMNAME	Hits	Total	Min	Avg	Max	Min	Max	Hits	Total	Min	Avg	Max	Min	Max
Acetone	2	3	0.0045	0.0048	0.0050	0.010	0.010	1	6	0.0030	0.0030	0.0030	0.010	0.010
Carbon Disulfide	0	3				0.010	0.010	2	6	0.0040	0.0040	0.0040	0.0050	0.010
Ethyl Benzene	0	3				0.010	0.010	2	6	0.0020	0.0021	0.0023	0.0050	0.010
Xylenes (Total)	0	3				0.010	0.010	3	6	0.0020	0.0040	0.0060	0.0050	0.010
bis(2-Ethylhexyl)phthalate	2	3	0.00070	0.0021	0.0035	0.010	0.010	0	6				0.010	0.010
Di-n-butylphthalate	2	3	0.00060	0.00068	0.00075	0.010	0.010	0	6				0.010	0.010
Aluminum, Dissolved	3	3	0.026	0.027	0.028			2	2	0.022	0.025	0.028		
Aluminum, Total	3	3	0.055	0.42	0.86			6	6	0.031	0.050	0.075		
Arsenic, Dissolved	2	3	0.0019	0.0022	0.0024	0.0020	0.0020	0	2				0.0020	0.0020
Arsenic, Total	0	3				0.0020	0.0020	2	6	0.0018	0.0024	0.0029	0.0020	0.0020
Barium, Dissolved	3	3	0.0083	0.014	0.018			2	2	0.028	0.028	0.028		
Barium, Total	3	3	0.0065	0.014	0.018			6	6	0.031	0.032	0.033		
Cadmium, Dissolved	1	3	0.0012	0.0012	0.0012	0.0010	0.0010	0	2				0.0010	0.0010
Calcium, Dissolved	3	3	10	18	23			2	2	67	68	69		
Calcium, Total	3	3	11	18	23			6	6	68	74	78		
Chromium, Total	0	3				0.0060	0.0060	1	6	0.0061	0.0061	0.0061	0.0060	0.0060
Iron, Dissolved	3	3	0.011	0.033	0.067			2	2	0.012	0.012	0.013		
Iron, Total	3	3	0.019	0.084	0.18			6	6	0.02	0.14	0.41		
Lead, Dissolved	2	3	0.0017	0.0019	0.0021	0.0020	0.0020	0	2				0.0020	0.0020
Lead, Total	0	3				0.0020	0.0020	3	6	0.0018	0.0026	0.0036	0.0020	0.0020
Magnesium, Dissolved	3	3	8.02	13	16			2	2	19	20	20		
Magnesium, Total	3	3	8.11	14	16			6	6	20	20	20		
Manganese, Dissolved	2	3	0.0018	0.0019	0.0019	0.0010	0.0010	2	2	0.0013	0.0013	0.0013		
Manganese, Total	3	3	0.018	0.031	0.053			6	6	0.0082	0.021	0.042		
Nickel, Dissolved	0	3				0.0050	0.0050	1	2	0.010	0.010	0.010	0.0050	0.0050
Potassium, Dissolved	3	3	0.37	0.62	0.76			2	2	1.44	1.44	1.44		
Potassium, Total	3	3	0.41	0.74	0.96			6	6	1.36	1.47	1.57		
Selenium, Dissolved	0	3				0.0040	0.0040	1	2	0.0040	0.0040	0.0040	0.0040	0.0040
Silver, Total	0	3				0.0040	0.0040	1	6	0.0042	0.0042	0.0042	0.0040	0.0050
Sodium, Dissolved	3	3	9.01	15	18			2	2	12	12	12		
Sodium, Total	3	3	9.27	15	18			6	6	10	11	12		
Thallium, Total	0	3				0.0010	0.0010	1	6	0.0013	0.0013	0.0013	0.0010	0.0020
Vanadium, Dissolved	2	3	0.0017	0.0018	0.0020	0.0020	0.0020	1	2	0.0021	0.0021	0.0021	0.0020	0.0020
Zinc, Dissolved	3	3	0.0072	0.0079	0.0089			2	2	0.0092	0.0092	0.0092		
Zinc, Total	1	3	0.0074	0.0074	0.0074	0.0070	0.0070	4	6	0.0056	0.019	0.036	0.0070	0.0070
Chloride, Cl								4	4	22	27	38		
Nitrogen, Nitrate + Nitrite (NO2 + NO3)								4	4	0.17	0.21	0.31		
Sulfate, SO4								4	4	145	148	155		
TP (Total Phosphorus)								4	4	0.020	0.025	0.030		

CHEMNAME	BACKGROUND POND SURFACE WATER							SMALL POND SURFACE WATER						
	FREQ. OF DETECT.		RANGE OF DETECTS (mg/L)			RANGE OF NON-DETECTS (mg/L)		FREQ. OF DETECT.		RANGE OF DETECTS (mg/L)			RANGE OF NON-DETECTS (mg/L)	
	Hits	Total	Min	Avg	Max	Min	Max	Hits	Total	Min	Avg	Max	Min	Max
4-Methyl-2-pentanone	0	3				0.010	0.010	1	5	0.0030	0.0030	0.0030	0.010	0.010
Acetone	2	3	0.0045	0.0048	0.0050	0.010	0.010	1	5	0.0050	0.0050	0.0050	0.010	0.010
Ethyl Benzene	0	3				0.010	0.010	2	5	0.0010	0.0010	0.0010	0.0050	0.010
Xylenes (Total)	0	3				0.010	0.010	2	5	0.0040	0.0045	0.0050	0.0050	0.010
bis(2-Ethylhexyl)phthalate	2	3	0.00070	0.0021	0.0035	0.010	0.010	0	5				0.010	0.010
Di-n-butylphthalate	2	3	0.00060	0.00068	0.00075	0.010	0.010	0	5				0.010	0.010
Aluminum, Dissolved	3	3	0.026	0.027	0.028			1	1	0.028	0.028	0.028		
Aluminum, Total	3	3	0.055	0.42	0.86			5	5	0.064	0.15	0.48		
Arsenic, Dissolved	2	3	0.0019	0.0022	0.0024	0.0020	0.0020	1	1	0.0045	0.0045	0.0045		
Arsenic, Total	0	3				0.0020	0.0020	2	5	0.0042	0.0045	0.0047	0.0020	0.0020
Barium, Dissolved	3	3	0.0083	0.014	0.018			1	1	0.056	0.056	0.056		
Barium, Total	3	3	0.0065	0.014	0.018			5	5	0.029	0.036	0.047		
Cadmium, Dissolved	1	3	0.0012	0.0012	0.0012	0.0010	0.0010	1	1	0.00080	0.00080	0.00080		
Calcium, Dissolved	3	3	10	18	23			1	1	52	52	52		
Calcium, Total	3	3	11	18	23			5	5	51	60	66		
Copper, Total	0	3				0.0050	0.0050	1	5	0.0041	0.0041	0.0041	0.0030	0.0030
Iron, Dissolved	3	3	0.011	0.033	0.067			1	1	0.21	0.21	0.21		
Iron, Total	3	3	0.019	0.084	0.18			5	5	0.78	1.75	5.08		
Lead, Dissolved	2	3	0.0017	0.0019	0.0021	0.0020	0.0020	1	1	0.0016	0.0016	0.0016		
Lead, Total	0	3				0.0020	0.0020	4	5	0.0022	0.0026	0.0033	0.0020	0.0020
Magnesium, Dissolved	3	3	8.02	13	16			1	1	13	13	13		
Magnesium, Total	3	3	8.11	14	16			5	5	8.90	12	13		
Manganese, Dissolved	2	3	0.0018	0.0019	0.0019	0.0010	0.0010	1	1	0.14	0.14	0.14		
Manganese, Total	3	3	0.018	0.031	0.053			5	5	0.032	0.077	0.17		
Nickel, Dissolved	0	3				0.0050	0.0050	1	1	0.0065	0.0065	0.0065		
Potassium, Dissolved	3	3	0.37	0.62	0.76			1	1	1.92	1.92	1.92		
Potassium, Total	3	3	0.41	0.74	0.96			5	5	1.90	2.67	3.60		
Selenium, Dissolved	0	3				0.0040	0.0040	1	1	0.0043	0.0043	0.0043		
Sodium, Dissolved	3	3	9.01	15	18			1	1	7.93	7.93	7.93		
Sodium, Total	3	3	9.27	15	18			5	5	7.50	9.27	11		
Vanadium, Dissolved	2	3	0.0017	0.0018	0.0020	0.0020	0.0020	1	1	0.0017	0.0017	0.0017		
Vanadium, Total	0	3				0.0050	0.0050	1	5	0.0035	0.0035	0.0035	0.0030	0.0050
Zinc, Dissolved	3	3	0.0072	0.0079	0.0089			1	1	0.016	0.016	0.016		
Zinc, Total	1	3	0.0074	0.0074	0.0074	0.0070	0.0070	4	5	0.006	0.0093	0.015	0.0070	0.0070
Chloride, Cl								4	4	19	21	21		
Sulfate, SO4								4	4	42	99	155		
TP (Total Phosphorus)								4	4	0.040	0.063	0.080		

	BACKGROUND POND SURFACE WATER							QUARRY SURFACE WATER						
	FREQ. OF DETECT.		RANGE OF DETECTS (mg/L)			RANGE OF NON-DETECTS (mg/L)		FREQ. OF DETECT.		RANGE OF DETECTS (mg/L)			RANGE OF NON-DETECTS (mg/L)	
CHEMNAME	Hits	Total	Min	Avg	Max	Min	Max	Hits	Total	Min	Avg	Max	Min	Max
Acetone	2	3	0.0045	0.0048	0.0050	0.010	0.010	2	7	0.0040	0.0040	0.0040	0.010	0.010
Methylene Chloride	0	3				0.010	0.010	2	7	0.0060	0.041	0.075	0.010	0.010
bis(2-Ethylhexyl)phthalate	2	3	0.00070	0.0021	0.0035	0.010	0.010	0	7				0.010	0.010
Di-n-butylphthalate	2	3	0.00060	0.00068	0.00075	0.010	0.010	0	7				0.010	0.010
Aluminum, Dissolved	3	3	0.026	0.027	0.028			3	3	0.025	0.032	0.042		
Aluminum, Total	3	3	0.055	0.42	0.86			7	7	0.035	0.052	0.074		
Arsenic, Dissolved	2	3	0.0019	0.0022	0.0024	0.0020	0.0020	0	3				0.0020	0.0020
Arsenic, Total	0	3				0.0020	0.0020	4	7	0.0023	0.0024	0.0026	0.0020	0.0020
Barium, Dissolved	3	3	0.0083	0.014	0.018			3	3	0.049	0.051	0.054		
Barium, Total	3	3	0.0065	0.014	0.018			7	7	0.051	0.054	0.062		
Cadmium, Dissolved	1	3	0.0012	0.0012	0.0012	0.0010	0.0010	0	3				0.0010	0.0010
Calcium, Dissolved	3	3	10	18	23			3	3	73	74	74		
Calcium, Total	3	3	11	18	23			7	7	71	72	75		
Chromium, Total	0	3				0.0060	0.0060	1	7	0.029	0.029	0.029	0.0060	0.0060
Iron, Dissolved	3	3	0.011	0.033	0.067			3	3	0.0074	0.019	0.037		
Iron, Total	3	3	0.019	0.084	0.18			7	7	0.018	0.099	0.30		
Lead, Dissolved	2	3	0.0017	0.0019	0.0021	0.0020	0.0020	2	3	0.0021	0.0023	0.0024	0.0020	0.0020
Lead, Total	0	3				0.0020	0.0020	5	7	0.0020	0.0024	0.0026	0.0020	0.0020
Magnesium, Dissolved	3	3	8.02	13	16			3	3	21	21	21		
Magnesium, Total	3	3	8.11	14	16			7	7	21	21	22		
Manganese, Dissolved	2	3	0.0018	0.0019	0.0019	0.0010	0.0010	3	3	0.0012	0.0027	0.0057		
Manganese, Total	3	3	0.018	0.031	0.053			7	7	0.0058	0.0310	0.0575		
Nickel, Total	0	3				0.0090	0.0090	2	7	0.0075	0.0089	0.010	0.0060	0.0090
Potassium, Dissolved	3	3	0.37	0.62	0.76			3	3	1.40	1.42	1.46		
Potassium, Total	3	3	0.41	0.74	0.96			7	7	1.44	1.49	1.54		
Sodium, Dissolved	3	3	9.01	15	18			3	3	13	13	13		
Sodium, Total	3	3	9.27	15	18			7	7	12	12	13		
Vanadium, Dissolved	2	3	0.0017	0.0018	0.0020	0.0020	0.0020	1	3	0.0020	0.0020	0.0020	0.0020	0.0020
Zinc, Dissolved	3	3	0.0072	0.0079	0.0089			3	3	0.0079	0.0091	0.0099		
Zinc, Total	1	3	0.0074	0.0074	0.0074	0.0070	0.0070	4	7	0.0066	0.018	0.038	0.0070	0.0070
Bromide, Dissolved								3	4	0.10	0.10	0.10	0.10	0.10
Chloride, Cl								4	4	33	33	34		
Nitrogen, Nitrate + Nitrite (NO2 + NO3)								3	4	0.69	0.71	0.76	0.84	0.84
Sulfate, SO4								4	4	120	124	130		
TP (Total Phosphorus)								4	4	0.020	0.020	0.020		

	BACKGROUND POND SEDIMENT							L-POND SEDIMENT						
	FREQ. OF DETECT.		RANGE OF DETECTS (mg/kg)			RANGE OF NON-DETECTS (mg/kg)		FREQ. OF DETECT.		RANGE OF DETECTS (mg/kg)			RANGE OF NON-DETECTS (mg/kg)	
CHEMNAME	Hits	Total	Min	Avg	Max	Min	Max	Hits	Total	Min	Avg	Max	Min	Max
1,1,1-Trichloroethane	0	3				0.016	0.030	1	6	0.0010	0.0010	0.0010	0.0060	0.031
2-Butanone	2	3	0.0080	0.018	0.028	0.019	0.019	1	6	0.012	0.012	0.012	0.012	0.013
Acetone	1	3	0.018	0.018	0.018	0.046	0.11	0	6				0.012	0.11
Carbon Disulfide	1	3	0.010	0.010	0.010	0.016	0.019	1	6	0.027	0.027	0.027	0.0060	0.012
Tetrachloroethene	0	3				0.016	0.030	1	6	0.0010	0.0010	0.0010	0.0060	0.031
Trichloroethene	0	3				0.016	0.030	1	6	0.0020	0.0020	0.0020	0.0060	0.031
4-Methylphenol	1	3	0.35	0.35	0.35	0.62	1.00	0	6				0.39	1.00
bis(2-Ethylhexyl)phthalate	0	3				0.54	1.00	3	6	0.046	0.18	0.39	0.40	0.42
Di-n-butylphthalate	0	3				0.54	1.00	1	6	0.076	0.076	0.076	0.39	1.00
Diethylphthalate	1	3	0.14	0.14	0.14	0.54	1.00	1	6	0.23	0.23	0.23	0.39	0.42
Aroclor-1248	0	3				0.054	0.10	1	6	0.095	0.095	0.095	0.041	0.11
Aluminum	3	3	4380	10560	14900			6	6	980	2408	7190		
Arsenic	3	3	4.20	11	21			6	6	0.90	2.37	6.20		
Barium	3	3	32	75	119			6	6	4.20	18	81		
Beryllium	3	3	0.45	0.77	1.10			1	6	1.20	1.20	1.20	0.20	0.24
Calcium	3	3	21500	43533	72800			6	6	6090	39723	124000		
Chromium	3	3	6.80	12	15			6	6	1.70	5.57	13		
Cobalt	2	3	7.30	13	18	2.70	2.70	6	6	2.00	4.60	12		
Copper	3	3	14	19	28			6	6	2.20	7.44	30		
Iron	3	3	8550	16983	25400			6	6	2500	6013	17000		
Lead	3	3	10	23	34			6	6	1.60	6.27	20		
Magnesium	3	3	3830	6417	9370			6	6	3520	7975	13600		
Manganese	3	3	147	376	703			6	6	34	101	266		
Nickel	3	3	4.90	14	26			5	6	3.10	8.46	20	2.10	2.10
Potassium	3	3	298	586	738			6	6	132	238	682		
Selenium	0	3				1.30	2.70	2	6	0.51	0.66	0.81	0.65	2.10
Sodium	3	3	90	156	242			6	6	33	59	138		
Thallium	1	1	0.43	0.43	0.43			1	4	11	11	11	0.65	0.69
Vanadium	3	3	10	22	28			6	6	3.30	7.03	20		
Zinc	3	3	23	52	77			6	6	9.90	20	57		

CHEMNAME	BACKGROUND POND SEDIMENT							SMALL POND SEDIMENT						
	FREQ. OF DETECT.		RANGE OF DETECTS (mg/kg)			RANGE OF NON-DETECTS (mg/kg)		FREQ. OF DETECT.		RANGE OF DETECTS (mg/kg)			RANGE OF NON-DETECTS (mg/kg)	
	Hits	Total	Min	Avg	Max	Min	Max	Hits	Total	Min	Avg	Max	Min	Max
2-Butanone	2	3	0.0080	0.018	0.028	0.019	0.019	0	5				0.0080	0.013
Acetone	1	3	0.018	0.018	0.018	0.046	0.11	2	5	0.021	0.035	0.049	0.012	0.032
Carbon Disulfide	1	3	0.010	0.010	0.010	0.016	0.019	1	5	0.0085	0.0085	0.0085	0.0060	0.0080
Chloroform	0	3				0.016	0.030	1	5	0.00070	0.00070	0.00070	0.0060	0.012
Methylene Chloride	0	3				0.016	0.030	1	5	0.0020	0.0020	0.0020	0.010	0.017
Xylenes (Total)	0	3				0.016	0.030	1	5	0.0010	0.0010	0.0010	0.0060	0.012
4-Methylphenol	1	3	0.35	0.35	0.35	0.62	1.00	0	5				0.41	0.88
bis(2-Ethylhexyl)phthalate	0	3				0.54	1.00	1	5	0.13	0.13	0.13	0.44	0.88
Diethylphthalate	1	3	0.14	0.14	0.14	0.54	1.00	0	5				0.41	0.88
Aluminum	3	3	4380	10560	14900			5	5	995	1398	1660		
Arsenic	3	3	4.20	11	21			5	5	1.50	1.75	2.10		
Barium	3	3	32	75	119			5	5	4.00	6.77	12		
Beryllium	3	3	0.45	0.77	1.10			1	5	0.40	0.40	0.40	0.21	0.23
Calcium	3	3	21500	43533	72800			5	5	207	10576	22000		
Chromium	3	3	6.80	12	15			5	5	2.30	4.01	6.20		
Cobalt	2	3	7.30	13	18	2.70	2.70	3	5	2.10	2.87	4.20	1.50	1.60
Copper	3	3	14	19	28			5	5	1.60	3.23	5.55		
Iron	3	3	8550	16983	25400			5	5	1400	3226	4600		
Lead	3	3	10	23	34			5	5	2.10	2.67	3.45		
Magnesium	3	3	3830	6417	9370			5	5	389	3151	6560		
Manganese	3	3	147	376	703			5	5	13	39	60		
Nickel	3	3	4.90	14	26			5	5	1.50	3.69	6.75		
Potassium	3	3	298	586	738			5	5	82	128	205		
Selenium	0	3				1.30	2.70	3	5	0.71	0.74	0.79	0.70	0.70
Silver	0	3				1.30	2.60	1	5	1.10	1.10	1.10	0.95	1.10
Sodium	3	3	90	156	242			5	5	18	40	77		
Thallium	1	1	0.43	0.43	0.43			0	4				0.65	0.70
Vanadium	3	3	10	22	28			5	5	2.80	5.30	7.80		
Zinc	3	3	23	52	77			5	5	5.70	8.72	12		

CHEMNAME	BACKGROUND POND SEDIMENT							QUARRY SEDIMENT						
	FREQ. OF DETECT.		RANGE OF DETECTS (mg/kg)			RANGE OF NON-DETECTS (mg/kg)		FREQ. OF DETECT.		RANGE OF DETECTS (mg/kg)			RANGE OF NON-DETECTS (mg/kg)	
	Hits	Total	Min	Avg	Max	Min	Max	Hits	Total	Min	Avg	Max	Min	Max
2-Butanone	2	3	0.0080	0.018	0.028	0.019	0.019	2	7	0.0080	0.018	0.027	0.0075	0.025
Acetone	1	3	0.018	0.018	0.018	0.046	0.11	0	7				0.015	0.11
Carbon Disulfide	1	3	0.010	0.010	0.010	0.016	0.019	0	7				0.0075	0.032
4-Methylphenol	1	3	0.35	0.35	0.35	0.62	1.00	0	7				0.63	1.10
Benzoic acid								2	4	0.093	0.14	0.19	3.75	4.00
bis(2-Ethylhexyl)phthalate	0	3				0.54	1.00	4	7	0.18	0.33	0.54	0.83	0.86
Diethylphthalate	1	3	0.14	0.14	0.14	0.54	1.00	0	7				0.63	1.10
Aluminum	3	3	4380	10560	14900			7	7	955	8434	18100		
Antimony	0	3				16	31	1	7	30	30	30	5.40	27
Arsenic	3	3	4.20	11	21			7	7	1.70	11	22		
Barium	3	3	32	75	119			7	7	3.90	56	131		
Beryllium	3	3	0.45	0.77	1.10			4	7	0.39	0.90	1.20	0.18	0.28
Cadmium	0	3				1.00	2.00	0	7				0.54	1.70
Calcium	3	3	21500	43533	72800			7	7	14800	40398	83100		
Chromium	3	3	6.80	12	15			7	7	2.55	11	21		
Cobalt	2	3	7.30	13	18	2.70	2.70	6	7	2.10	11	20	1.50	1.50
Copper	3	3	14	19	28			7	7	1.35	20	44		
Iron	3	3	8550	16983	25400			7	7	2125	17266	31900		
Lead	3	3	10	23	34			7	7	1.70	19	50		
Magnesium	3	3	3830	6417	9370			7	7	3260	10237	17700		
Manganese	3	3	147	376	703			7	7	35	571	1240		
Nickel	3	3	4.90	14	26			7	7	1.33	16	35		
Potassium	3	3	298	586	738			7	7	87	551	1180		
Selenium	0	3				1.30	2.70	6	7	0.49	3.49	7.40	0.73	0.73
Silver	0	3				1.30	2.60	0	7				0.90	2.30
Sodium	3	3	90	156	242			7	7	32	119	264		
Thallium	1	1	0.43	0.43	0.43			0	4				0.55	0.87
Vanadium	3	3	10	22	28			7	7	2.65	18	35		
Zinc	3	3	23	52	77			7	7	7.30	47	98		

CHEMICAL	BACKGROUND SOIL							DIRT BIKE SOIL						
	FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)		FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)	
	Hits	Total	Min	Avg	Max	Min	Max	Hit	Total	Min	Avg	Max	Min	Max
1,1,1-Trichloroethane	1	9	0.0020	0.0020	0.0020	0.0050	0.027	0	3				0.010	0.011
1,1-Dichloroethene	3	9	0.0038	0.0039	0.0040	0.0050	0.027	0	3				0.010	0.011
Acetone	4	9	0.0090	0.21	0.78	0.011	0.011	0	3				0.010	0.011
Carbon Disulfide	1	9	0.030	0.030	0.030	0.0050	0.0060	0	3				0.010	0.011
Methylene Chloride	2	9	0.0030	0.029	0.055	0.0050	0.011	0	3				0.010	0.011
Toluene	4	9	0.0020	0.0036	0.0080	0.0050	0.027	0	3				0.010	0.011
1,4-Dichlorobenzene	3	9	0.075	0.079	0.081	0.35	0.74	0	3				0.34	0.35
bis(2-Ethylhexyl)phthalate	8	9	0.038	0.20	0.57	0.54	0.54	0	3				0.34	0.35
Di-n-butylphthalate	2	9	0.10	0.12	0.13	0.34	0.54	0	3				0.34	0.35
Aluminum	9	9	1880	4255	5720			3	3	984	1158	1480		
Arsenic	9	9	0.56	2.02	5.60			3	3	1.40	1.72	2.10		
Barium	9	9	11	27	62			3	3	4.00	5.33	7.20		
Beryllium	7	9	0.27	0.50	0.71	0.42	0.45	2	3	0.20	0.23	0.26	0.21	0.21
Calcium	9	9	162	419	736			3	3	29750	32817	34800		
Chromium	9	9	4.50	7.20	11			3	3	1.80	2.83	4.10		
Cobalt	8	9	1.70	2.95	4.50	1.40	1.40	3	3	1.50	2.20	2.60		
Copper	9	9	3.40	4.52	5.80			3	3	1.60	2.77	3.80		
Iron	9	9	2620	5807	8390			3	3	3085	3865	4880		
Lead	9	9	2.50	5.12	8.10			3	3	2.15	2.55	3.30		
Magnesium	9	9	421	827	1570			3	3	6200	7837	9210		
Manganese	9	9	25	165	421			3	3	78	100	142		
Nickel	7	9	5.20	7.86	11	3.70	4.10	3	3	3.25	4.35	6.20		
Potassium	9	9	115	199	263			3	3	94	122	140		
Selenium	4	9	0.19	0.27	0.39	0.21	0.23	0	3				0.80	0.81
Sodium	0	9				38	118	3	3	38	43	49		
Vanadium	9	9	4.10	10	14			3	3	3.60	4.12	5.00		
Zinc	9	9	6.60	13	22			3	3	1.70	4.97	11		

SUMMARY OF BACKGROUND SOIL VS. YOUNG PRAIRIE SOIL

CHEMICAL	BACKGROUND SOIL							YOUNG PRAIRIE SOIL						
	FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)		FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)	
	Hits	Total	Min	Avg	Max	Min	Max	Hit	Total	Min	Avg	Max	Min	Max
1,1,1-Trichloroethane	1	9	0.0020	0.0020	0.0020	0.0050	0.027	0	16				0.0050	0.010
1,1-Dichloroethene	3	9	0.0038	0.0039	0.0040	0.0050	0.027	0	16				0.0050	0.010
2-Butanone	0	3				0.011	0.053	1	12	0.0030	0.0030	0.003	0.010	0.016
Acetone	4	9	0.0090	0.21	0.78	0.011	0.011	5	16	0.0080	0.066	0.14	0.011	0.039
Carbon Disulfide	1	9	0.030	0.030	0.030	0.0050	0.006	1	16	0.0019	0.0019	0.0019	0.0050	0.010
Ethyl Benzene	0	9				0.0050	0.027	2	16	0.00070	0.0014	0.002	0.0050	0.010
Methylene Chloride	2	9	0.0030	0.029	0.055	0.0050	0.011	3	16	0.0030	0.0075	0.016	0.0050	0.023
Styrene	0	9				0.0050	0.027	1	16	0.0008	0.00080	0.00080	0.0050	0.010
Toluene	4	9	0.0020	0.0036	0.0080	0.0050	0.027	6	16	0.0020	0.0082	0.031	0.0060	0.010
Xylenes (Total)	0	9				0.0050	0.027	3	16	0.00070	0.0034	0.0055	0.0050	0.010
1,4-Dichlorobenzene	3	9	0.075	0.079	0.081	0.35	0.74	2	16	0.10	0.11	0.11	0.34	1.10
Benzo(a)anthracene	0	9				0.34	0.74	1	16	0.28	0.28	0.28	0.34	1.10
Benzo(a)pyrene	0	9				0.34	0.74	1	16	0.43	0.43	0.43	0.34	1.10
Benzo(b)fluoranthene	0	9				0.34	0.74	2	16	0.058	0.359	0.66	0.34	1.10
Benzo(g,h,i)perylene	0	9				0.34	0.74	1	16	0.56	0.56	0.56	0.34	1.10
Benzo(k)fluoranthene	0	9				0.34	0.74	2	16	0.073	0.22	0.36	0.34	1.10
Benzoic acid	0	9				1.60	3.60	1	14	0.075	0.075	0.075	1.70	5.20
bis(2-Ethylhexyl)phthalate	8	9	0.038	0.20	0.57	0.54	0.54	13	16	0.047	0.86	7.80	0.75	0.85
Chrysene	0	9				0.34	0.74	2	16	0.24	0.30	0.36	0.34	1.10
Di-n-butylphthalate	2	9	0.10	0.12	0.13	0.34	0.54	4	16	0.092	0.21	0.49	0.35	1.10
Fluoranthene	0	9				0.34	0.74	2	16	0.10	0.22	0.33	0.34	1.10
Indeno(1,2,3-cd)pyrene	0	9				0.34	0.74	1	16	0.62	0.62	0.62	0.34	1.10
Phenanthrene	0	9				0.34	0.74	1	16	0.19	0.19	0.19	0.34	1.10
Pyrene	0	9				0.34	0.74	2	16	0.095	0.20	0.31	0.34	1.10
Aluminum	9	9	1880	4255	5720			13	16	12	2587	6780	9.30	10
Antimony	0	9				4.70	10	7	16	7.70	15	40	7.40	11.10
Arsenic	9	9	0.56	2.02	5.60			10	16	0.47	1.67	3.10	0.30	0.67
Barium	9	9	11	27	62			14	16	1.30	12	40	5.20	7.30
Beryllium	7	9	0.27	0.50	0.71	0.42	0.45	12	16	0.28	0.66	0.91	0.20	0.25
Cadmium	0	9				0.63	1.10	1	16	1.10	1.10	1.10	0.61	1.60
Calcium	9	9	162	419	736			16	16	360	105187	301000		
Chromium	9	9	4.50	7.20	11			11	16	1.80	5.53	12	1.70	2.25
Cobalt	8	9	1.70	2.95	4.50	1.40	1.40	10	16	1.28	2.51	4.10	1.70	2.30
Copper	9	9	3.40	4.52	5.80			14	16	1.60	7.64	33.9	0.96	1.70
Iron	9	9	2620	5807	8390			16	16	9.80	2900	7780		
Lead	9	9	2.50	5.12	8.10			15	16	0.64	3.71	13	0.62	0.62
Magnesium	9	9	421	827	1570			15	16	15	3722	23800	197	197
Manganese	9	9	25	165	421			16	16	1.30	46	119		
Nickel	7	9	5.20	7.86	11	3.70	4.10	8	16	2.70	5.41	8.70	3.60	5.80
Potassium	9	9	115	199	263			9	16	133	276	569	102	238
Selenium	4	9	0.19	0.27	0.39	0.21	0.23	3	16	0.36	0.71	1.40	0.21	0.89
Sodium	0	9				38	118	3	16	30	41	48	54	180
Vanadium	9	9	4.10	10	14			14	16	1.50	6.65	19	1.60	3.00
Zinc	9	9	6.60	13	22			11	16	4.40	15	51	2.00	2.60

CHEMICAL	BACKGROUND SOIL							10-15 YEAR PRAIRIE SOIL						
	FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)		FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)	
	Hits	Total	Min	Avg	Max	Min	Max	Hit	Total	Min	Avg	Max	Min	Max
1,1,1-Trichloroethane	1	9	0.0020	0.0020	0.0020	0.0050	0.027	0	7				0.0070	0.0080
1,1-Dichloroethene	3	9	0.0038	0.0039	0.0040	0.0050	0.027	1	7	0.0050	0.0050	0.0050	0.0070	0.0080
Acetone	4	9	0.0090	0.21	0.78	0.011	0.011	2	7	0.012	0.013	0.015	0.014	0.018
Carbon Disulfide	1	9	0.030	0.030	0.030	0.0050	0.0060	0	7				0.0070	0.0080
Methylene Chloride	2	9	0.0030	0.029	0.055	0.0050	0.011	2	7	0.0030	0.0035	0.0040	0.0070	0.0080
Toluene	4	9	0.0020	0.0036	0.0080	0.0050	0.027	3	7	0.0020	0.0034	0.0050	0.0070	0.0080
1,4-Dichlorobenzene	3	9	0.075	0.079	0.081	0.35	0.74	2	7	0.12	0.17	0.21	0.51	1.10
bis(2-Ethylhexyl)phthalate	8	9	0.038	0.20	0.57	0.54	0.54	5	7	0.18	0.37	0.64	0.96	1.10
Di-n-butylphthalate	2	9	0.10	0.12	0.13	0.34	0.54	1	7	0.15	0.15	0.15	0.51	1.10
Aluminum	9	9	1880	4255	5720			6	7	9.70	120	266	9.00	9.00
Antimony	0	9				4.70	10	6	7	14	31	47	8.30	8.30
Arsenic	9	9	0.56	2.02	5.60			0	7				0.61	0.98
Barium	9	9	11	27	62			3	7	2.50	3.40	4.00	6.70	7.10
Beryllium	7	9	0.27	0.50	0.71	0.42	0.45	0	7				0.28	0.33
Calcium	9	9	162	419	736			7	7	226000	265643	294500		
Chromium	9	9	4.50	7.20	11			0	7				1.40	1.60
Cobalt	8	9	1.70	2.95	4.50	1.40	1.40	0	7				2.00	2.30
Copper	9	9	3.40	4.52	5.80			4	7	1.90	9.14	19	1.50	1.60
Iron	9	9	2620	5807	8390			6	7	21	121	298	4.50	4.50
Lead	9	9	2.50	5.12	8.10			3	7	0.50	0.98	1.70	0.31	1.60
Magnesium	9	9	421	827	1570			3	7	15	30	50	180	190
Manganese	9	9	25	165	421			5	7	1.70	2.97	4.70	1.20	1.30
Nickel	7	9	5.20	7.86	11	3.70	4.10	0	7				5.20	9.10
Potassium	9	9	115	199	263			0	7				217	248
Selenium	4	9	0.19	0.27	0.39	0.21	0.23	0	7				0.32	4.90
Silver	0	9				0.63	0.91	3	7	1.90	2.42	2.80	0.91	0.97
Sodium	0	9				38	118	3	7	27	46	78	164	174
Vanadium	9	9	4.10	10	14			2	7	1.60	2.25	2.90	1.25	2.90
Zinc	9	9	6.60	13	22			1	7	2.90	2.90	2.90	0.57	1.90

CHEMICAL	BACKGROUND SOIL							QUARRY SOIL						
	FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)		FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)	
	Hits	Total	Min	Avg	Max	Min	Max	Hit	Total	Min	Avg	Max	Min	Max
1,1,1-Trichloroethane	1	9	0.0020	0.0020	0.0020	0.0050	0.027	0	6				0.0060	0.0090
1,1-Dichloroethene	3	9	0.0038	0.0039	0.0040	0.0050	0.027	0	6				0.0060	0.0090
2-Butanone	0	3				0.011	0.053	3	6	0.0040	0.0053	0.0080	0.0060	0.0080
Acetone	4	9	0.0090	0.21	0.78	0.011	0.011	1	6	0.037	0.037	0.037	0.012	0.024
Carbon Disulfide	1	9	0.030	0.030	0.030	0.0050	0.0060	0	6				0.0060	0.080
Methylene Chloride	2	9	0.0030	0.029	0.055	0.0050	0.011	0	6				0.0070	0.010
Toluene	4	9	0.0020	0.0036	0.0080	0.0050	0.027	0	6				0.0060	0.0090
1,4-Dichlorobenzene	3	9	0.075	0.079	0.081	0.35	0.74	0	6				0.78	0.81
bis(2-Ethylhexyl)phthalate	8	9	0.038	0.20	0.57	0.54	0.54	0	6				0.78	0.81
Di-n-butylphthalate	2	9	0.10	0.12	0.13	0.34	0.54	0	6				0.78	0.81
Aluminum	9	9	1880	4255	5720			6	6	1380	1890	2690		
Antimony	0	9				4.70	10	2	6	12	13	14	10	12
Arsenic	9	9	0.56	2.02	5.60			6	6	0.60	1.36	1.70		
Barium	9	9	11	27	62			5	6	5.80	8.76	11	5.00	5.00
Beryllium	7	9	0.27	0.50	0.71	0.42	0.45	4	6	0.32	0.56	0.83	0.23	0.24
Calcium	9	9	162	419	736			6	6	15600	31833	47700		
Chromium	9	9	4.50	7.20	11			6	6	2.90	6.38	13		
Cobalt	8	9	1.70	2.95	4.50	1.40	1.40	6	6	2.00	2.47	2.70		
Copper	9	9	3.40	4.52	5.80			6	6	1.80	4.02	5.90		
Iron	9	9	2620	5807	8390			6	6	3690	4317	4920		
Lead	9	9	2.50	5.12	8.10			6	6	2.00	2.73	3.50		
Magnesium	9	9	421	827	1570			6	6	4695	8051	11500		
Manganese	9	9	25	165	421			6	6	47.25	93.01	178.00		
Nickel	7	9	5.20	7.86	11	3.70	4.10	5	6	4.70	5.73	8.00	4.10	4.10
Potassium	9	9	115	199	263			3	6	208	229	252	162	173
Selenium	4	9	0.19	0.27	0.39	0.21	0.23	2	6	0.23	0.25	0.27	0.22	0.24
Vanadium	9	9	4.10	10	14			6	6	5.40	6.58	8.10		
Zinc	9	9	6.60	13	22			6	6	7.60	9.53	11		

CHEMICAL	BACKGROUND SOIL							WETLAND SOIL						
	FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)		FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)	
	Hits	Total	Min	Avg	Max	Min	Max	Hit	Total	Min	Avg	Max	Min	Max
1,1,1-Trichloroethane	1	9	0.0020	0.0020	0.0020	0.0050	0.027	0	3				0.011	0.012
1,1-Dichloroethene	3	9	0.0038	0.0039	0.0040	0.0050	0.027	0	3				0.011	0.012
Acetone	4	9	0.0090	0.21	0.78	0.011	0.011	1	3	0.031	0.031	0.031	0.012	0.028
Carbon Disulfide	1	9	0.030	0.030	0.030	0.0050	0.0060	0	3				0.011	0.012
Methylene Chloride	2	9	0.0030	0.029	0.055	0.0050	0.011	3	3	0.0030	0.0033	0.0040		
Toluene	4	9	0.0020	0.0036	0.0080	0.0050	0.027	1	3	0.0030	0.0030	0.0030	0.011	0.012
1,4-Dichlorobenzene	3	9	0.075	0.079	0.081	0.35	0.74	0	3				0.35	0.39
bis(2-Ethylhexyl)phthalate	8	9	0.038	0.20	0.57	0.54	0.54	2	3	0.018	0.044	0.070	0.35	0.35
Di-n-butylphthalate	2	9	0.10	0.12	0.13	0.34	0.54	0	3				0.35	0.39
Aluminum	9	9	1880	4255	5720			3	3	960	1343	1620		
Antimony	0	9				4.70	10	2	3	3.10	3.40	3.70	1.90	1.90
Arsenic	9	9	0.56	2.02	5.60			3	3	0.92	1.54	2.10		
Barium	9	9	11	27	62			3	3	3.10	5.40	7.50		
Beryllium	7	9	0.27	0.50	0.71	0.42	0.45	0	3				0.21	0.23
Calcium	9	9	162	419	736			3	3	380	26560	49100		
Chromium	9	9	4.50	7.20	11			3	3	1.10	2.53	3.60		
Cobalt	8	9	1.70	2.95	4.50	1.40	1.40	3	3	1.50	2.77	3.80		
Copper	9	9	3.40	4.52	5.80			3	3	2.50	3.83	5.20		
Iron	9	9	2620	5807	8390			3	3	2810	3977	4930		
Lead	9	9	2.50	5.12	8.10			3	3	2.50	2.63	2.80		
Magnesium	9	9	421	827	1570			3	3	790	5343	8450		
Manganese	9	9	25	165	421			3	3	69	82	97		
Nickel	7	9	5.20	7.86	11	3.70	4.10	3	3	2.40	6.23	11		
Potassium	9	9	115	199	263			3	3	100	177	247		
Selenium	4	9	0.19	0.27	0.39	0.21	0.23	1	3	0.42	0.42	0.42	0.41	0.46
Silver	0	9				0.63	0.91	1	3	0.49	0.49	0.49	0.42	0.43
Sodium	0	9				38	118	3	3	48	53	55		
Vanadium	9	9	4.10	10	14			3	3	4.60	5.37	5.80		
Zinc	9	9	6.60	13	22			3	3	9.60	13	15		

CHEMICAL	BACKGROUND SOIL							SOUTH/SOUTHEAST SOIL						
	FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)		FREQ. OF DETECT.		RANGE OF DETECTION (mg/kg)			RANGE OF NON-DETECTION (mg/kg)	
	Hits	Total	Min	Avg	Max	Min	Max	Hit	Total	Min	Avg	Max	Min	Max
1,1,1-Trichloroethane	1	9	0.0020	0.0020	0.0020	0.0050	0.027	0	13				0.0050	0.040
1,1-Dichloroethene	3	9	0.0038	0.0039	0.0040	0.0050	0.027	0	13				0.0050	0.040
2-Butanone	0	3				0.011	0.053	1	13	0.021	0.021	0.021	0.0060	0.023
Acetone	4	9	0.0090	0.21	0.78	0.011	0.011	2	13	0.029	0.053	0.077	0.010	0.022
Benzene	0	9				0.0050	0.027	1	13	0.025	0.025	0.025	0.0050	0.013
Carbon Disulfide	1	9	0.030	0.030	0.030	0.0050	0.006	1	13	0.0040	0.0040	0.0040	0.0050	0.040
Ethyl Benzene	0	9				0.0050	0.027	1	13	0.081	0.081	0.081	0.0050	0.013
Methylene Chloride	2	9	0.0030	0.029	0.055	0.0050	0.011	1	13	0.0040	0.0040	0.0040	0.0050	0.040
Tetrachloroethene	0	9				0.0050	0.027	1	13	0.0060	0.0060	0.0060	0.0050	0.040
Toluene	4	9	0.0020	0.0036	0.0080	0.0050	0.027	5	13	0.0020	0.011	0.028	0.0050	0.020
Trichloroethene	0	9				0.0050	0.027	2	13	0.00090	0.0025	0.0040	0.0050	0.040
Xylenes (Total)	0	9				0.0050	0.027	2	13	0.0020	0.056	0.11	0.0050	0.013
1,4-Dichlorobenzene	3	9	0.075	0.079	0.081	0.35	0.74	0	11				0.34	0.83
2-Methylnaphthalene	0	9				0.34	0.74	1	11	0.018	0.018	0.018	0.34	0.83
Acenaphthene	0	9				0.34	0.74	4	12	0.059	0.33	0.83	0.34	0.83
Acenaphthylene	0	9				0.34	0.74	2	13	5.20	6.45	7.70	0.34	0.83
Anthracene	0	9				0.34	0.74	5	13	0.082	1.69	4.20	0.34	0.83
Benzo(a)anthracene	0	9				0.34	0.74	7	13	0.023	4.17	13	0.34	0.73
Benzo(a)pyrene	0	9				0.34	0.74	7	13	0.12	2.12	7.60	0.34	0.73
Benzo(b)fluoranthene	0	9				0.34	0.74	7	13	0.074	7.68	26	0.34	0.73
Benzo(g,h,i)perylene	0	9				0.34	0.74	4	11	0.25	1.35	3.50	0.34	0.73
Benzo(k)fluoranthene	0	9				0.34	0.74	7	13	0.14	4.51	15	0.34	0.73
bis(2-Ethylhexyl)phthalate	8	9	0.038	0.20	0.57	0.54	0.535	7	11	0.095	0.17	0.26	0.35	0.69
Butylbenzylphthalate	0	9				0.34	0.74	1	11	0.24	0.24	0.24	0.35	0.83
Carbazole	0							3	6	0.036	0.47	0.90	0.34	0.43
Chrysene	0	9				0.34	0.74	7	13	0.13	5.38	19	0.34	0.73
Di-n-butylphthalate	2	9	0.10	0.12	0.13	0.34	0.535	3	13	0.086	0.12	0.14	0.34	9.50
Di-n-octylphthalate	0	9				0.34	0.74	1	11	0.14	0.14	0.14	0.35	0.83
Dibenzo(a,h)anthracene	0	9				0.34	0.74	4	13	0.094	1.16	2.20	0.34	0.83
Dibenzofuran	0	9				0.34	0.74	3	13	0.023	0.91	1.70	0.34	0.83
Dimethylphthalate	0	9				0.34	0.74	1	11	0.042	0.042	0.042	0.35	0.83
Fluoranthene	0	9				0.34	0.74	8	13	0.017	8.22	33	0.35	0.73
Fluorene	0	9				0.34	0.74	4	13	0.043	0.60	1.60	0.34	0.83
Indeno(1,2,3-cd)pyrene	0	9				0.34	0.74	6	13	0.23	1.95	4.20	0.34	0.73
Naphthalene	0	9				0.34	0.74	2	12	0.018	2.01	4.00	0.34	0.83
Phenanthrene	0	9				0.34	0.74	7	13	0.042	3.29	12	0.34	0.73
Pyrene	0	9				0.34	0.74	8	13	0.035	3.26	15	0.35	0.73
4,4-DDE	0	9				0.016	0.036	1	13	0.0041	0.0041	0.0041	0.0034	0.040
4,4-DDT	0	9				0.016	0.036	2	13	0.012	0.038	0.064	0.0034	0.036
Aluminum	9	9	1880	4255	5720			13	13	2820	3904	5720		
Antimony	0	9				4.70	10.1	4	13	3.00	6.05	8.50	6.20	12
Arsenic	9	9	0.56	2.02	5.6			13	13	1.40	4.44	12.5		
Barium	9	9	11	27	62			13	13	13	45	101		
Beryllium	7	9	0.27	0.50	0.71	0.42	0.45	9	13	0.31	0.47	0.67	0.21	0.22
Calcium	9	9	162	419	736			13	13	418	14447	46200		
Chromium	9	9	4.50	7.20	11			13	13	4.30	7.42	15.5		
Cobalt	8	9	1.70	2.95	4.50	1.40	1.4	12	13	1.70	3.49	5.3	1.70	1.70
Copper	9	9	3.40	4.52	5.80			13	13	1.30	57	229		
Iron	9	9	2620	5807	8390			13	13	4290	8116	13000		
Lead	9	9	2.50	5.12	8.10			13	13	2.10	56	245		
Magnesium	9	9	421	827	1570			13	13	407	3579	14000		

Manganese	9	9	25	165	421			13	13	31	231	561		
Mercury	0	9				0.050	0.22	5	13	0.13	0.32	0.54	0.090	0.12
Nickel	7	9	5.20	7.86	11	3.70	4.1	11	13	3.80	9.18	22	5.90	6.00
Potassium	9	9	115	199	263			12	13	87	298	678	161	161
Selenium	4	9	0.19	0.27	0.39	0.21	0.23	6	13	0.48	0.67	0.75	0.62	0.97
Sodium	0	9				38	118	12	13	21	55	99	17	17
Vanadium	9	9	4.10	10	14			13	13	5.70	10	15		
Zinc	9	9	6.60	13	22			13	13	7.40	87	276		
Cyanide	0	9				0.16	2.70	5	13	1.30	11	24	1.10	6.00