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Bechtel Jacobs Company LLC

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November 5, 2009

Mr. Jason Darby
EMWMF Program Manager
U. S. Department of Energy
Oak Ridge Operations Office
P. O. Box 2001
Oak Ridge, Tennessee 37830

Dear Mr. Darby:

Transmittal of the Calculation Package that supports the *Analysis of Performance of the Environmental Management Waste Management Facility Oak Ridge, Tennessee (Based 5-cell design issued 8/14/09)*

Enclosed is the calculation package that supports the *Analysis of Performance of the Environmental Management Waste Management Facility (EMWMF), Oak Ridge, Tennessee (Based 5-cell design issued 8/14/09)* for transmission to the members of the EMWMF Core Team.

If you have any questions regarding this transmittal, please contact me at 241-1268.

Sincerely,

M. J. Williams
Manager of Projects
Waste Transportation and Disposition

MJW:mll

Enclosure: As stated

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Calculation Package
for the
Analysis of Performance of the
Environmental Management Waste Management Facility
Oak Ridge, Tennessee
(Based 5-cell design issued 8/14/09)

Date Issued: September 14, 2009

This document is approved for public release per review by:

BJC ETTP Classification & Information Office

11/5/09
Date

Calculation Package
for the
Analysis of Performance of the
Environmental Management Waste Management Facility
Oak Ridge, Tennessee
(Based 5-cell design issued 8/14/09)

Date Issued: September 14, 2009

Prepared by
Jacobs Engineering Group Inc.
Oak Ridge, Tennessee
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Salt Lake City, Utah

Prepared for
the
U.S. Department of Energy
Office of Environmental Management

BECHTEL JACOBS COMPANY LLC
managing the
Environmental Management Activities at the
East Tennessee Technology Park
Y-12 National Security Complex Oak Ridge National Laboratory

under contract DE-AC05-98OR22700

for the

U.S. DEPARTMENT OF ENERGY

INTRODUCTION

This document presents the results of an assessment of the performance of a build-out of the Environmental Management Waste Management Facility (EMWMF). The EMWMF configuration that was assessed includes the as-constructed Cells 1 through 4, with a groundwater underdrain that was installed beneath Cell 3 during the winter of 2003-2004, and Cell 5, whose proposed design is an *Addendum to Remedial Design Report for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee,* DOE/OR/01-1873&D2/A5/R1.

The total capacity of the EMWMF with 5 cells is about 1.7 million cubic yards. This assessment was conducted to determine the conditions under which the approved Waste Acceptance Criteria (WAC) for the EMWMF found in the *Attainment Plan for Risk/Toxicity-Based Waste Acceptance Criteria at the Oak Ridge Reservation, Oak Ridge, Tennessee* [U.S. Department of Energy (DOE) 2001a], as revised for constituents added up to October 2008, would remain protective of public health and safety for a five-cell disposal facility. For consistency, the methods of analyses and the exposure scenario used to predict the performance of a five-cell disposal facility were identical to those used in the Remedial Investigation and Feasibility Study (RI/FS) and its addendum (DOE 1998a, DOE 1998b) to develop the approved WAC. To take advantage of new information and design changes departing from the conceptual design, the modeling domain and model calibration were updated from those used in the RI/FS and its addendum. It should be noted that this analysis is not intended to justify or propose a change in the approved WAC.

EXPOSURE SCENARIO

The exposure scenario used in the assessment consists of a resident farmer located near the confluence of Bear Creek and Northern Tributary-5 (NT-5). Bear Creek surface water is used for watering livestock and irrigating crops, and drinking water is obtained from a well located near NT-5, between the EMWMF and Bear Creek. This exposure scenario is identical to the exposure scenario used to develop the approved WAC. Figure 1 shows the relative locations of the well, five-cell EMWMF, and Bear Creek and its tributaries used in the RI/FS and addendum analyses.

REVISION OF THE MODEL DOMAIN

The RI/FS performance modeling domain and the larger modeling domain used in this analysis are also shown in Figure 1. Because the EMWMF is being constructed further to the north and east of the conceptual location of the EMWMF, the modeling domain was revised to analyze the EMWMF in its present location. Detailed descriptions of the groundwater modeling domain and associated specific features are given in Appendix B of the *Engineering Feasibility Plan for Groundwater Suppression at the Environmental Management Waste Management Facility, Oak Ridge, Tennessee* [Bechtel Jacobs Company LLC] (BJC 2003). Essential features of the revised modeling domain are:

- The refined model grid is extended north to the top of Pine Ridge (a zero flow groundwater modeling boundary);

- The western groundwater hydraulic head boundary is moved from its previous location in proximity to NT-5 to the west, past NT-6.

Additional changes in the modeling that could influence the projected performance of the EMWMF with an underdrain include:

- A change in the cover design that reduced the rate of infiltration through the waste (DOE 2001b);

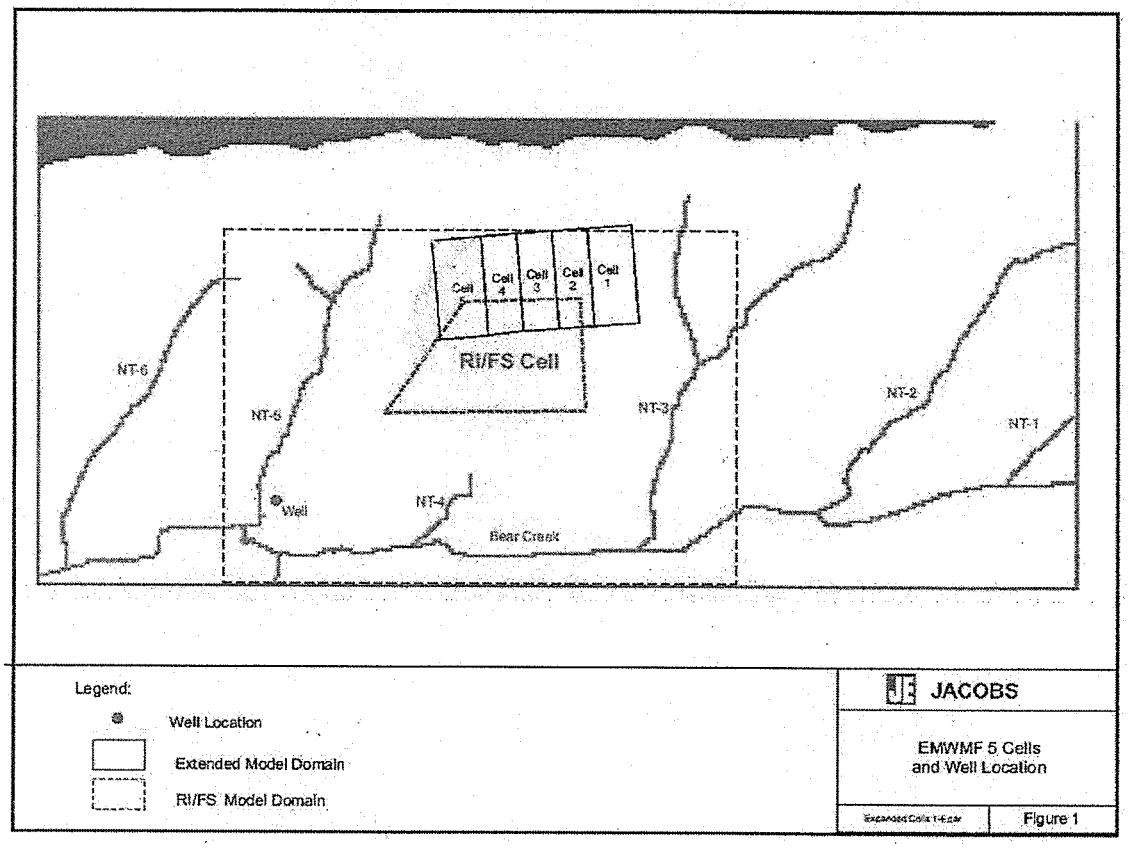

Figure 1. Original modeling domain and the modeling domain used in this analysis, and locations of RI/FS and Addendum disposal facility, EMWMF Cells 1 through 5, and receptor well.

- The addition of an underdrain beneath Cell 3 that was installed in late 2003 and early 2004 (DOE 2003);
- An increase in the total plan area of the EMWMF; and

- Calibration of the groundwater model to newly acquired groundwater and geological data (BJC 2003).

MODELING CONTAMINANT MIGRATION

The following analyses were performed under the assumption that Cells 1 through 5 have been closed and capped:

- The groundwater flow fields were assessed using the MODFLOW groundwater model and the revised modeling domain, adjusted for the proposed build-out of the EMWMF (Cells 1 through 5) and location, including the underdrain. Details of these revisions, the resulting groundwater characteristics, and flow calibration are available in BJC 2003.

- Solute transport calculations were made for movement of contaminants from the disposal facility to the residential well using MT3D.

- Dilution factors (DFs) for Bear Creek and the residential well were calculated using the revised modeling domain for the EMWMF (Cells 1 through 5) with an underdrain beneath Cell 3. The DFs are defined as the ratios of the peak steady-state contaminant concentrations in the Bear Creek water or water continuously pumped (250 gallons per day) from the well to unit contaminant concentrations entering the groundwater beneath the disposal facility.

METHOD OF RISK AND DOSE ASSESSMENT

The projected peak risks and doses in the first 100,000 years after closure from radioactive or hazardous constituents were calculated for consumption of drinking water from a well and using Bear Creek surface water for agricultural purposes with a concentration of contaminants in the waste (source term) of 1 Ci/m^3 (curie per cubic meter) for radioactive constituents and 1 kg/m^3 (kilogram per cubic meter) for toxicological constituents, respectively. Those risks and doses were scaled according to the approved WAC concentrations to determine the risks and doses that could occur if each constituent was present alone in the EMWMF at the WAC concentration. Those risks and doses were then compared to the risk and dose criteria upon which the WAC are based.

The calculations were performed in the following steps:

1. PATHRAE [Rogers and Associates Engineering (RAE) 1995a and RAE 1995b] calculations were performed to determine the equivalent annual water consumption per year for Bear Creek [defined as the Equivalent Uptake (EU)]. This equivalent water consumption corresponds to scaling the use of Bear Creek water for drinking and agricultural purposes to an equivalent annual drinking water ingestion that would give the same annual constituent uptake as calculated to come from all pathways. Since drinking water in the resident farmer exposure scenario will be supplied by a well rather than Bear Creek, the annual drinking water volume of 730 l/yr to be supplied by the well is subtracted from the Bear Creek EU to estimate the effective drinking water ingestion that can be associated with agricultural uses for Bear Creek surface water. The PATHRAE calculations also provide peak concentrations

of contaminants in Bear Creek water corresponding to a unit source term, the corresponding peak doses or risks associated with those concentrations, and the times of occurrence of the peak concentrations.

2. The calculated DFs for Bear Creek and the residential well were used for scaling the constituent concentrations in Bear Creek to corresponding well concentrations. Using the build-out of the EMWMF disposal cell configuration and design, the ratio of the constituent concentrations in the well to those in Bear Creek is $DF_{Well}/DF_{Creek} = 0.00060/0.0035 = 0.17$.

3. The peak effective risk or dose was calculated as the risk or dose due to ingestion of 730 l/yr per year of water drawn from the well, plus the consumption of agricultural products and livestock irrigated or watered with Bear Creek surface water. The latter is calculated by subtracting 730 l/yr of water from the EU for Bear Creek water that is calculated by the PATHRAE computer code. Thus:

Peak Effective Risk or Dose = Peak Bear Creek Risk or Dose x

$$[EU\text{-}730 + (DF_{Well}/DF_{Creek}) \times 730] / EU$$

where DF_{Well} and DF_{Creek} are the dilution factors calculated for the well and the creek, respectively, and the peak Bear Creek risk or dose correspond to ingestion of Bear Creek water at the annual EU rate.

Radioactive Constituents – Risk

The Peak Bear Creek Risk for radioactive constituents is,

Peak Bear Creek Risk = Peak Bear Creek concentration x EU x

Slope Factor x 30 years exposure duration,

where the peak Bear Creek risk is calculated directly by the PATHRAE-RAD computer code using slope factors [Incremental Lifetime Cancer Risk (ILCR) /pCi] obtained from the EPA's *Health Effects Assessment Summary Tables*.

Hazardous Constituents – Risk and Dose

Peak Bear Creek Risk = Peak Bear Creek Lifetime Intake of Carcinogens x

Slope Factor,

Peak Bear Creek Lifetime Intake for Carcinogens =

Peak Bear Creek Concentration x

EU x 30 years exposure duration /

[70 kg body weight x 365 days per year x 70 year life]

and,

Peak Bear Creek Daily Intake (Dose) for Non-Carcinogens =

Peak Bear Creek Concentration x EU /

[70 kg body weight x 365 days per year],

where the peak Bear Creek daily intake for carcinogens is calculated using PATHRAE-HAZ generated data and the formula immediately above.

The peak risks and doses resulting from constituent concentrations in the waste equal to the WAC concentrations were then calculated as follows:

For radioactive constituents:

Peak Effective Risk for constituents in the waste at the WAC level =

$[\text{Peak Effective Risk from a 1 Ci/m}^3\text{ source x WAC}] / 6.25 \times 10^5$

where the WAC are expressed in picuries per gram (pCi/g) and the factor 6.25×10^5 results from unit conversions.

For hazardous constituents:

Peak Effective Risk or Dose for constituents in the waste at the WAC level =

[Peak Effective Risk or Dose from a 1 kg/m^3 source x WAC] / 625

where the WAC are expressed in milligrams per kilogram (mg/kg) and the factor of 625 comes from unit conversions.

MODELING RESULTS FOR THE EMWMF CELLS 1 THROUGH 5 WITH UNDERDRAIN

Peak risk and dose calculations for the EMWMF Cells 1 through 5 with an underdrain using the PATHRAE-RAD and PATHRAE-HAZ environmental pathway analysis computer codes are based on the following input parameters and data, some of which were generated using MODFLOW and MT3D for the extended modeling domain.

Volume-weighted average waste height 50.2 ft = 15.3 m

Effective Cells 1–5 horizontal dimensions = 1,722 ft x 545 ft = 525 m x 166 m

Waste footprint area = 938,490 ft^2 = 87,150 m^2

Waste volume = 47.1 x 10^6 ft^3 = 1.74 x 10^6 cy = 1.3 x 10^6 m^3

Infiltration rate = 0.36 inches/year = 0.91 cm/year

Volume-weighted average distance to Bear Creek or to a drainage feature that gives quick access to Bear Creek = 242 ft = 73.9 m

Creek dilution factor (DF_{Creek}) = 3.5 x 10^{-3}

Well dilution factor (DF_{Well}) = 6.0 x 10^{-4}

The peak risks and doses calculated using the PATHRAE code for Cells 1 through 5 with an underdrain beneath Cell 3, based on unit source terms, are given in Tables 1 and 2 for the radioactive and hazardous constituents, respectively. The PATHRAE input parameters used in these calculations and summaries of output results are given in Attachment 1. Note that the peak doses in Bear Creek in Table 2, as given by PATHRAE, are always higher than their corresponding peak effective doses because the former are calculated based on the assumption that Beak Creek water is used for all purposes. The constituent concentrations in the well are lower than in Bear Creek and, since most of the effective uptake for most constituents is from drinking water (i.e., water from the well), the effective dose is usually considerably lower.

The projected peak risks and doses from the proposed 5-cell EMWMF with the underdrain using the approved WAC as the source terms, and the corresponding criteria used in developing the approved WAC, are given in Tables 3 and 4.

CONCLUSION

If the approved list of WAC constituents that have finite WAC values (given in Revised Table A.1: Analytic WAC Limits, http://bechteljacobs.org/webindex.html#3) are assumed to be in the EMWMF at the maximum allowable concentrations prescribed by their respective WAC, excluding cabazole (see below), the resultant risks and doses to the receptor are summarized in Tables 3 and 4. It can be seen that those risks and doses will not exceed the current WAC criteria for all the constituents.

The analyses that led to the development of the projected WAC in the Table A.1 showed that, for the original 4-cell configuration of the EMWMF, the concentrations of constituents in the creek water and the well water would be approximately the same. Those analyses also demonstrated that, for the vast majority of the constituents, the most of the risks and doses to the receptor comes from drinking well water. Any major reduction in constituent concentrations in the groundwater at the well will greatly reduce projected risks and doses. Groundwater modeling shows that the subsequent addition of an underdrain beneath Cell 3 that diverts much of the

leachate directly to Bear Creek via the remnant of NT-4, as well as the extension of the EMWMF westward, significantly reduces constituent concentrations in the well water.

In doing the calculations for the revised 5-cell EMWMF, all of the WAC in Table A.1 were used except for the WAC for carbazole. It has been recognized that the WAC given for carbazole in Table A.1 is probably too high because the K_d used in its calculation was too high. Consequently, a preliminary revised WAC for carbazole of 5.40E+4 was calculated for the 4-cell EMWMF configuration without an underdrain, employing the data sources and protocols that are presently used to calculate WACs for newly found constituents. This scenario was analyzed to establish the" baseline" WAC for carbazole associated with the original 4-cell design so that it might be used for comparison purposes to current 5-cell design. That carbazole WAC was used in determining projected peak risk shown in Table 4 for that constituent for the current 5-cell design which is below the risk criteria of 1.0E-04.

Table 1. Peak effective risks for the EMWMF for radioactive constituents (risks based on a 1 Ci/m^3 concentration in the waste)

Nuclide	Peak Concentration in Bear Creek (pCi/L)	Ingestion Slope Factor (1/pCi)	Equivalent Uptake (L/yr)	Peak Effective Risk (ILCR)	Time of Projected Peak (yr)
H-3	1.54E+01	7.15E-14	1.17E+03	2.18E-08	220
C-14	1.71E+06	1.03E-12	9.56E+02	2.12E-02	270
Tc-99	1.52E+06	1.40E-12	7.40E+02	1.16E-02	300
I-129	7.94E+05	1.84E-10	8.33E+02	1.19E+00	580
U-233	4.83E+04	4.48E-11	7.38E+02	1.06E-02	30,000
U-234	5.05E+04	4.44E-11	7.38E+02	1.13E-02	30,000
U-235	5.50E+04	4.70E-11	7.38E+02	1.38E-02	34,000
U-236	5.49E+04	4.21E-11	7.38E+02	1.24E-02	31,000
U-238	5.50E+04	6.20E-11	7.38E+02	1.83E-02	34,000
Np-237	3.87E+04	2.95E-10	7.34E+02	1.83E-02	70,000
Pu-239	5.79E+03	3.16E-10	7.33E+02	1.12E-03	64,000
Pu-240	4.54E+01	3.15E-10	7.33E+02	5.01E-07	62,000
Am-241	2.80E-36	3.28E-10	7.34E+02	4.74E-42	55,000

Note: The ratio of the dilution factors DF_{well} to the DF_{creek} is 0.17.

Table 2. Peak effective risks and doses for the EMWMF for hazardous constituents (based on a 1 kg/m^3 concentration in the waste)

Constituent	Peak Dose in Bear Creek (mg/kg-day)	Peak Concentration in Bear Creek (mg/L)	Reference Dose (mg/kg-day)	Equivalent Uptake (L/yr)	Slope Factor (1/mg/kg-d)	Peak Effective Risk (ILCR)	Peak Effective Dose (mg/kg-day)
Acenaphthene	*	*	*	*	*	*	*
Acenaphythylene	1.64E-03	5.73E-02	6.00E-02	7.34E+02			2.86E-04
Acetone	3.16E-01	1.10E+01	1.00E-01	7.33E+02			5.45E-02
Aldrin	*	*	*	*	*	*	*
Antimony	3.31E-03	1.15E-01	4.00E-04	7.33E+02			5.71E-04
Aroclor 1221	*	*	*	*	*	*	*
Aroclor 1232	*	*	*	*	*	*	*
Barium	1.15E-03	4.00E-02	7.00E-02	7.37E+02			2.03E-04
Alpha-BHC	8.18E-04	2.85E-02		7.34E+02	6.30E+00	3.86E-04	
Beta-BHC	8.18E-04	2.85E-02		7.33E+02	1.80E+00	1.11E-04	
Delta-BHC	8.18E-04	2.85E-02		7.35E+02	1.80E+00	1.09E-04	
Benzene	3.41E-02	1.19E+00		7.33E+02	2.90E-02	7.32E-05	5.88E-03
Benzoic Acid	3.47E-01	1.21E+01	4.00E+00	7.33E+02			6.02E-02
Benzyl Alcohol	3.38E-01	1.18E+01	3.00E-01	7.33E+02			5.86E-02
Carbazole	1.84E-04	6.40E-03		7.34E+02	2.00E-02	2.75E-07	3.21E-05
Carbon Tetrachloride	2.69E-02	9.37E-01	7.00E-04	7.33E+02	1.30E-01	2.58E-04	4.64E-03
Chlorobenzene	5.08E-02	1.77E+00	2.00E-02	7.33E+02			4.59E-02
Chlordane	*	*	*	*	*	*	*
Chloroform	8.15E-02	2.84E+00	1.00E-02	7.33E+02	6.10E-03	3.67E-05	1.41E-02
Chromium III	6.62E-03	2.17E-01	1.00E+00	7.79E+02			1.46E-03
m-Cresol	2.51E-01	8.76E+00	5.00E-02	7.33E+02			4.37E-02
o-Cresol	1.87E-01	6.52E+00	5.00E-02	7.33E+02			3.26E-02
p-Cresol	2.55E-01	8.88E+00	5.00E-02	7.33E+02			4.44E-02
Cyanide	6.29E-03	2.19E-01	2.00E-02	7.33E+02			1.09E-03
Dibenz[a,h]antracene	*	*	*	*	*	*	*
1-2-Dichlorobenzene	8.16E-03	2.85E-01	9.00E-02	7.33E+02			1.41E-03
1-3-Dichlorobenzene	3.91E-03	1.36E-01	8.90E-02	7.34E+02			6.82E-04

Table 2. Peak effective risks and doses for the EMWMF for hazardous constituents (based on a 1 kg/m^3 concentration in the waste)

Constituent	Peak Dose in Bear Creek (mg/kg-day)	Peak Concentration in Bear Creek (mg/L)	Reference Dose (mg/kg-day)	Equivalent Uptake (L/yr)	Slope Factor (1/mg/kg-d)	Peak Effective Risk (ILCR)	Peak Effective Dose (mg/kg-day)
1-4-Dichlorobenzene	8.30E-03	2.89E-01	2.30E-01	7.33E+02	2.40 E-02	1.48E-05	1.44E-03
Diethyphthalate	1.10E-01	3.84E+00	8.00E-01	7.33E+02			1.90E-02
Dimethylphthalate	2.75E-01	9.58E+00	1.00E+01	7.33E-+02			4.77E-02
Di-n-butylphthalate	4.46E-01	1.41E+01	1.00E-01	8.06E+02			1.10E-01
2,4-Dinitrotoluene	2.45E-02	8.54E-01	2.00E-03	7.33E+02	6.8E-04	1.22E-06	4.22E-03
6-Dinitrotoluene	3.59E-02	1.25E+00	1.00E-03	7.33E+02	6.80E-01	1.81E-03	5.08E-03
Di-N-Octylphthalate	*	*	*	*	*	*	*
Dieldrin	2.10E-03	6.46E-02	5.00E-05	8.29E+02	1.30E+01	3.13-03	5.63E-04
2,4-D	6.96E-02	2.43E+00	1.00E-02	7.33E+02			1.21E-02
DDD	*	*	*	*	*	*	*
DDE	4.60E-06	1.42E-04		8.27E+02	3.40E-01	1.79E-07	1.23E-06
Endosulfan I	4.59E-05	1.60E-03	6.00E-03	7.34E+02			8.01E-06
Endosulfan II	4.59E-05	1.60E-03	6.00E-03	7.34E+02			1.07E-05
Endrin	2.58e-05	8.89E-04	3.00E-04	7.40E+02			4.74E-06
Endrin Aldehyde	2.56E-05	8.89E-04	3.00E-04	7.40E+02			6..20E-06
Endrin Ketone	2.56E-05	8.89E-04	3.00E-04	7.40E+02			6.20E-06
Hexachlorobenzene	6.64E-07	2.20E-05	8.00E-04	7.70E+02	1.60E+00	1.02E-07	1.49E-07
Hexachloroethane	5.11E-03	1.78E-01	1.00E-03	7.34E+02	1.40E-02	5.38E-06	8.97E-04
Heptachlor	1.85E-05	6.40E-04	5.00E-04	7.37E+02	4.50E+00	6.39E-06	3.32E-06
Heptachlor Epoxide	2.17E-05	7.11E-04	1.30E-05	7.79E+02	9.10E+00	2.00E-05	5.15E-06
Isophorone	3.41E-02	1.19E+00	2.00E-01	7.33E+02	9.50E-04	2.40E-06	5.88E-03
Lead	*	*	*	*	*	*	*
Lindane	8.17E-04	2.85E-02	3.00E-04	7.35E+02	1.30E+00	8.04E-05	1.44E-04
Manganese	*	*	*	*	*	*	*
Molybdenum	3.21E-03	1.09E-01	5.00E-03	7.50E+02			5.64E-04
Methylene Chloride	3.59E-01	1.25E+01	6.00E-02	7.33E+02	7.50E-03	2.00E-04	6.07E-02
Methylcyclohexane	1.43E-03	4.98E-02	6.00E-02	7.33E+02			2.48E-04
2-Methylnapthalene	2.56E-03	8.89E-02	4.00E-03	7.33E+02			4.47E-04
Nitrobenzene	2.13E-01	7.43E+00	5.00E-04	7.33E+02			3.71E-02
4-Nitrobenzamine	1.09E-09	3.81E-08	3.00E-03	7.33E+02	2.10E-02	1.71E-12	1.89E-10

Table 2. Peak effective risks and doses for the EMWMF for hazardous constituents (based on a 1 kg/m^3 concentration in the waste)

Constituent	Peak Dose in Bear Creek (mg/kg-day)	Peak Concentration in Bear Creek (mg/L)	Reference Dose (mg/kg-day)	Equivalent Uptake (L/yr)	Slope Factor (1/mg/kg-d)	Peak Effective Risk (ILCR)	Peak Effective Dose (mg/kg-day)
N-nitroso-di-n-propolyamine	1.39E-01	4.84E+00		7.33E+02	7.00E+00	7.18E-02	
N-Nitrosodiphenylamine	3.57E-03	1.24E-01	2.00E-02	7.33E+02	4.90E-03	1.30E-06	6.19E-04
Napthalene	3.31E-03	1.15E-01	3.60E-02	7.33E+02			5.74E-04
2-Nitrophenol	7.31E-02	2.55E+00	6.20E-02	7.33E+02			2.99E-04
4-Nitrophenol	6.14E-02	2.14E+00	6.20E-02	7.33E+02			1.06E-02
Phenol	1.45E-01	5.06E+00	6.00E-01	7.33E+02			2.50E-02
Pyridine	3.72E-01	1.30E+01	1.00E-03	7.33E+02			6.48E-02
Selenium	7.48E-03	1.46E-01	5.00E-03	1.31E+03			4.02E-03
Strontium	5.02E-03	1.62E-01	6.00E-01	7.94E+02			1.18E-03
Tin	2.57E-02	8.31E-01	6.00E-01	7.91E+02			5.99E-03
Tetrachloroethene	8.61E-03	3.00E-01	1.00E-02	7.33E+02	5.20E-02	3.31E-05	1.48E-03
2,3,4,6-Tetrachlorophenol	*	*	*	*	*	*	*
1,2,4-Trichlorbenzene	5.82E-03	2.03E-01	5.00E-02	7.35E+02			1.01E-03
Trichloroethene	2.30E-02	8.01E-01		7.33E+02	1.10E-02	1.87E-05	
2,4,6-Trichlorophenol	8.00E-02	2.79E+00	1.00E-04	7.34E+02	1.10E-02	6.63E-05	1.40E-02
Toluene	1.03E-02	3.59E-01	2.00E-01	7.33E+02			1.78E-03
2,4,5-TP(Silvex)	2.04E-02	7.11E-01	8.00E-03	7.34E+02			3.58E-03
U-233	1.39E-03	4.83E-02	3.00E-03	7.37E+02	See Table 3	See Table 3	2.46E-04
U-234	1.46E-03	5.05E-02	3.00E-03	7.37E+02	See Table 3	See Table 3	2.58E-04
U-235	1.59E-03	5.50E-02	3.00E-03	7.37E+02	See Table 3	See Table 3	2.81E-04
U-236	1.58E-03	5.49E-02	3.00E-03	7.37E+02	See Table 3	See Table 3	2.79E-04
U-238	1.59E-03	5.50E-02	3.00E-03	7.37E+02	See Table 3	See Table 3	2.81E-04
Vanadium	*	*	*	*	*	*	*
Vinyl Chloride	1.20E-01	4.18E+00	3.00E-03	7.33E+02	1.40E+00	6.51E-02	1.08E-01
Xylene(mixture)	1.08E-02	3.77E-01	2.00E-01	7.33E+02			1.87E-03
Acetonitrile	4.01E-01	1.40E+01	6.00E-03	7.33E+02			6.95E-02
Acetophenone	2.55E-01	8.88E+00	1.00E-01	7.33E+02			4.42E-02
Acrolein	3.98E-01	1.39E+01	5.00E-04	7.33E+02			6.90E-02
Acrylonitrile	3.94E-01	1.37E+01	1.00E-03	7.33E+02	5.40E-01	1.58E-02	6.83E-02
Butylbenzene	6.26E-03	2.18E-01	3.80E-02	7.33E+02			2.56E-05
Ethylchloride	3.11E-01	1.08E+01	4.00E-01	7.33E+02	2.90E-03	6.74E-05	5.39E-02
1-Hexanol	3.47E-01	1.21E+01	4.00E-02	7.33E+02			6.02E-02

Table 2. Peak effective risks and doses for the EMWMF for hazardous constituents (based on a 1 kg/m^3 concentration in the waste)

Constituent	Peak Dose in Bear Creek (mg/kg-day)	Peak Concentration in Bear Creek (mg/L)	Reference Dose (mg/kg-day)	Equivalent Uptake (L/yr)	Slope Factor (1/mg/kg-d)	Peak Effective Risk (ILCR)	Peak Effective Dose (mg/kg-day)
2-Hexanone	3.47E-01	1.21E+01	4.00E-02	7.33E+02			6.02E-02
(1-Methylpropl)benzene	3.51E-05	1.22E+01	3.70E-02	7.33E+02			6.12E-06
2,4,6-Trichlorophenol	2.37E-04	8.00E-02	0.00E+00	7.4E+02	1.10E-02	6.63E-05	1.40E-02
Trimethylbenzene (mixed isomers)	5.82E-03	2.03E-01	5.00E-02	7.34E+02			1.02E-03
Dibenzofuran	1.70E-01	5.94E+00	4.00E-03	7.33E+02			2.93E-02
2,4-Dimethylphenol	2.37E-02	8.25E-01	2.00E-02	7.33E+02			4.77E-02
Benzidine	1.12E-02	3.92E-01	3.00E-03	7.33E+02	2.30E+02	1.92E-01	1.94E-03
Methanol	4.00E-01	1.39E+01	5.00E-01	7.33E+02			6.94E-02
Methyl Metacrylate	3.59E-01	1.25E+01	1.4E+00	7.33E+02			6.23E-02
Cumene (Isopropylbenzene)	3.51E-05	1.22E-01	1.00E-01	7.33E+02			6.12E-02
(1-Methyl-propyl)benzene	3.51E-05	1.22E-01	3.70E-02	7.33E+02			6.12E-02
1,2-Dimethyl-enzene	9.95E-05	3.47E-03	2.00E+00	7.33E+02			1.74E-05
1-Methyl-4-(1-(methylethyl)benzene	3.51E-05	1.22E-03	3.70E-02	7.33E+02			6.12E-06
Propylbenzene	3.51E-05	1.22E-03	3.70E-02	7.33E+02			6.12E-06
Bromodichloro-methane	3.09E-01	1.08E+01	2.00E-02	7.33E+02	6.20E-02	1.43E-03	5.36E-02
Bromoform	1.55E-01	5.41E-01	2.00E-02	7.33E+02	7.90E-03	9.11E-05	2.69E-02
Bromomethane	3.43E-01	1.20E+01	1.40E-03	7.33E+02			5.95E-02
Carbon Disulfide	1.20E-01	4.20E+00	1.00E-01	7.33E+02			2.08E-02
Chloromethane	3.42E-01	1.19E+01		7.33E+02	1.30E-02	3.30E-04	5.93E-02
o-Chlorotoluene	3.82E-02	1.33E+00	2.00E-02	7.33E+02			6.64E-03
Dibromochloromethane	2.13E-01	7.42E+00	2.00E-02	7.33E+02	8.40E-02	1.33E-03	3.69E-02
Dichlorodifluoromethane	2.86E-02	9.96E-01	2.00E-01	7.33E+02			4.96E-03
1,2,-cis-Dichloroethylene	5.49E-02	1.92E+00	1.00E-02	7.33E+02			9.52E-03
1,2-trans-Dichloroetylene	2.73E-01	9.50E+00	2.00E-02	7.33E+02			4.73E-02
1,2-Dichloropropane	2.53E-01	8.82E+00		7.33E+02	6.80E-02	1.28E-03	4.39E-02

Table 2. Peak effective risks and doses for the EMWMF for hazardous constituents (based on a 1 kg/m^3 concentration in the waste)

Constituent	Peak Dose in Bear Creek (mg/kg-day)	Peak Concentration in Bear Creek (mg/L)	Reference Dose (mg/kg-day)	Equivalent Uptake (L/yr)	Slope Factor (1/mg/kg-d)	Peak Effective Risk (ILCR)	Peak Effective Dose (mg/kg-day)
Ethylbenzene	1.72E-02	6.01E-01	1.00E-01	7.33E+02			2.98E-03
N-Hexane	9.71E-04	3.38E-02	6.00E-02	7.34E+02			1.69E-04
Methyl Isobutyl Ketone	3.93E-01	1.37E+01	8.00E-02	7.33E+02			6.81E-02
Propylene Glycol	4.00E-01	1.39E+01	5.00E-01	7.33E+02			4.47E-03
Styrene	3.16E-02	1.10E+00	2.00E-01	7.33E+02			5.48E-03
1,1,1,2-Tetrachloroethane	1.09E-01	3.81E+00	3.00E-02	7.33E+02	2.60E-02	2.11E-04	1.89E-02
1,1,2,2-Tetrachloroethane	2.01E-01	7.02E+00	6.00E-02	7.33E+02	2.00E-01	2.99E-03	3.49E-03
Trichlorofluoromethane	1.12E-01	3.91E+00	3.00E-01	7.33E+02			1.94E-02
1,2,3-Trichloropropane	1.80E-01	6.22E+00	6.00E-03	7.40E+02	7.00E+00	9.79E-02	3.26E-02
1,2,4-Trimethylbenzene	5.82E-03	2.03E-01	5.00E-02	7.33E+02			1.01E-03
1,3,5-Trimethylbenzene	4.92E-03	1.71E-01	5.00E-02	7.33E+02			8.53E-04

Note: The ratio of the well dilution factor to the creek dilution factor is 0.17.

* = Constituent not projected to appear within 100,000 years

ILCR = incremental lifetime cancer risk

Table 3. Projected peak risks for EMWMF for radioactive constituents (risks based on contaminant concentrations in the waste equal to the current WAC)

Nuclide	Projected Peak Risk (ILCR)	Risk Criterion (ILCR)	Time of Projected Peak Risk (yr)
H-3	4.44E-09	1.00E-05	220
C-14	4.86E-06	1.00E-05	270
Tc-99	2.34E-06	1.00E-05	300
I-129	4.60E-06*	1.00E-05	580
U-233	2.32E-05	1.00E-04	30,000
U-234	2.40E-05	1.00E-04	30,000
U-235	2.45E-05	1.00E-04	34,000
U-236	2.48E-05	1.00E-04	31,000
U-238	2.58E-05	1.00E-04	34,000
Np-237	2.24E-05	1.00E-04	70,000
Pu-239	7.99E-06	1.00E-04	64,000
Pu-240	5.04E-07	1.00E-04	62,000
Am-241	1.12E-26	1.00E-04	55,000

* = Based on an I-129 WAC of 2.9 pCi/g

ILCR = incremental lifetime cancer risk

Table 4. Projected peak risks and doses for EMWMF for hazardous constituents (risks and doses based on contaminant concentrations in the waste equal to the corresponding current WAC)

Contaminant	Time of Projected Peak (yr)	Projected Peak Risk (ILCR)	Risk Criterion (ILCR)	Projected Peak Dose (mg/kg-day)	Dose Criterion (mg/kg-day)
Acenaphthene	180,000	*	*	*	*
Acenaphthylene	26,000			4.2E-02	1.8E-01
Acetone	450			2.4E-02	1.0E-01
Aldrin	190,000	*	*	*	9.0E-05
Antimony	40.000			1.5E-04	1.2E-03
Aroclor 1221	530,000	*	1.0E-04	*	*
Aroclor1232	100,000		1.0E-04		
Barium	100,000			4.9E-02	7.0E-02
Alpha-BHC	7,700	2.4E-05	1.0E-04		
Beta-BHC	9,300	2.5E-05	1.0E-04		
Delta-BHC	9,300	2.5E-05	1.0E-04		
Benzene	3,100	2.3E-05	1.0E-04		
Benzoic Acid	410			9.5E-01	4.0+00
Benzyl Alcohol	180			1.1E-01	3.0E-01
Carbazole	15,000	2.4E-05	1.0E-04		
Carbon Tetrachloride	3,900	2.3E-05	1.0E-04	4.9E-04	2.1E-03
Chlorobenzene	1,200			2.4E-02	6.0E-02
Chlordane	330,000	*	1.0E-04	*	1.5E-03
Chloroform	1,500	2.4E-06	1.0E-04	2.3E-03	3.0E-02
Chromium III	21,000			3.3E-01	3.0E+00
m-Cresol	670			1.2E-02	5.0E-02
o-Cresol	912			1.2E-02	5.0E-02
p-Cresol	660			1.2E-02	5.0E-02
Cyanide	21,000			1.4E-02	6.0E-02
Dibenz[a,h]anthracene	>1,000,000	*	*	*	*
1-2-Dichlorobenzene	1,900			2.1E-02	2.7E-01
1-3-Dichlorobenzene	34,000			4.5E-02	2.7E-01
1-4-Dichlorobenzene	2,900	2.4E-06	1.0E-04	7.2E-02	9.0E-01
Diethylphthalate	830			1.9E-01	8.0E-01
Dimethylphthalate	610			2.3E+00	1.0E+01
Di-n-butyl-phthalate	400			3.3E-02	1.0E-01
2,4-Dinitrotoluene	2,200	2.0E-09	1.0E-04	4.2E-04	6.0E-03
2,6-Dinitrotoluene	640	2.4E-06	1.0E-05	2.0E-04	1.0E-03
Di-N-Octylphthalate	>1,000,000	*	*	*	*
Dieldrin	57,000	3.6E-05	1.0E-04	5.3E-05	1.5E-04
2,4-D	570			2.3E-03	1.0E-02

Table 4. Projected peak risks and doses for EMWMF for hazardous constituents (risks and doses based on contaminant concentrations in the waste equal to the corresponding current WAC)

Contaminant	Time of Projected Peak (yr)	Projected Peak Risk (ILCR)	Risk Criterion (ILCR)	Projected Peak Dose (mg/kg-day)	Dose Criterion (mg/kg-day)
DDD	180,000	*	*	*	*
DDE	4,000	4.3E-05	1.0E-04		
Endosulfan I	8,900			4.2E-03	1.8E-02
Endosulfan II	26,000			5.7E-03	1.8E-02
Endrin	46,000			2.3E-04	9.0E-04
Endrin Aldehyde	100,000			3.0e-04	9.0E-04
Endrin Ketone	100,000			3.0E-04	9.0E-04
Hexachlorobenzene	210,000	*	*	*	*
Hexachloroethane	7,800	2.4E-05	1.0E-04	7.2E-04	3.0E-03
Heptachlor	93,000	2.5E-05	1.0E-04	3.7E-04	1.5E-03
Heptachlor Epoxide	37,000	3.2E-05	1.0E-04	1.5E-05	3.9E-05
Isophorone	3,100	2.3E-05	1.0E-04	1.4E-01	6.0E-01
Lead	190,000	*	*	*	*
Lindane	15,000	2.3E-05	1.0E-04	2.2E-04	9.0E-04
Manganese	390,000	*	*	*	*
Molybdenum	42,000			3.58E-3	1.5E-02
Methylene Chloride	460	2.3E-06	1.0E-05	1.4E-02	6.0E-02
Methylcyclohexane	401			3.1E-03	1.3E-02
2-Methylnapthalene	13,000			2.3E-03	1.2E-02
Nitrobenzene	576			1.2E-04	5.0E-04
4-Nitrobenzamine	1,000	2.4E-05	1.0E-04	2.1E-04	9.0E-03
N-nitroso-di-n-propolyamine	930	2.2E-06	1.0E-05		
N-Nitrosodiphenylamine	1,700	2.2E-06	1.0E-04	4.8E-03	6.0E-02
Napthalene	8,000			9.2E-03	1.1E-01
2-Nitrophenol	1,800			5.5E-07	1.2E-01
4-Nitrophenol	2,100			9.4E-03	1.2E-01
Phenol	890			1.3E-01	6.0E-01
Pyridine	440			2.3E-04	1.0E-03
Selenium	32,000			1.0E-02	1.5E-02
Strontium	23,000			1.5E-01	1.8E+00
Tin	5,600			2.1E-02	1.8E+00
Tetrachloroethene	12,000	2.3E-05	1.0E-04	6.9E-03	3.0E-02
2,3,4,6-Tetrachlorophenol	480,000	*	*	*	*
1,2,4-Trichlorbenzene	3,300			8.2E-03	3.0E-02
Trichloroethene	4,600	2.3E-05	1.0E-04		
2,4,6-Trichlorophenol	1,600	2.3E-05	1.0E-04	a	3.0E-04

Table 4. Projected peak risks and doses for EMWMF for hazardous constituents (risks and doses based on contaminant concentrations in the waste equal to the corresponding current WAC)

Contaminant	Time of Projected Peak (yr)	Projected Peak Risk (ILCR)	Risk Criterion (ILCR)	Projected Peak Dose (mg/kg-day)	Dose Criterion (mg/kg-day)
Toluene	10,000			1.4E-01	6.0E-01
2,4,5-TP (Silvex)	850			4.5E-04	8.0E-03
U-233	30,000	See Table 2		6.2E-04	3.0E-03
U-234	30,000	See Table 2		62E-04	3.0E-03
U-235	34,000	See Table 2		6.6E-04	3.0E-03
U-236	31,000	See Table 2		6.6E-04	3.0E-03
U-238	34,000	See Table 2		6.8E-04	3.0E-03
Vanadium	190,000	*	*	*	*
Vinyl Chloride	1,100	3.0E-06	1.0E-05	2.6E-04	3.0E-03
Xylene (mixture)	2,200			4.5E-02	6.0E-01
Acetonitrile	410			1.4E-03	6.0E-03
Acetophenone	660			2.3E-02	1.0E-01
Acrolein	410			1.2E-04	5.0E-04
Acrylonitrile	410	2.4E-06	1.0E-05	2.3E-04	1.0E-03
Butylbenzene	3,700			6.0E-04	1.1E-01
Ethylchloride	540	1.9E-06	1.0E-05	9.5E-02	4.0E-01
1-Hexanol	475			9.3E-03	4.0E-02
2-Hexanone	475			9.3E-03	4.0E-02
Trimethylbenzene (mixed isomers)	3,300			3.6E-02	1.5E-01
Dibenzofuran	440,000	*	*	*	*
2,4-Dimethylphenol	5,600			1.9E-02	6.0E-02
Benzidine	12,000	5.0E-05	1.0E-04	3.7E-05	6.0E-02
Methanol	410			1.2E-1	5.0E-01
Methyl Metacrylate	170			3.3E-01	1.4E+00
Cumene (Isopropyl-benzene)	3,800			4.0E-04	3.00E-1
(1-Methyl-propyl)-benzene	3,800			1.5E-05	1.1E-02
1,2-Dimethyl-benzene	1,300			2.1E-03	6.0E-02
1-Methyl-4-(1- methylethyl)-benzene	3,800			1.5E-04	1.1E-01
Propylbenzene	3,800			1.5E-04	1.1E-01
Bromodichloro-methane	400	2.3E-06	1.0E-05	4.7E-03	2.0E-02
Bromoform	830	2.4E-06	1.0E-05	1.5E-02	2.0E-02
Bromomethane	480			3.3E-04	1.4E-03
Carbon Disulfide	700			2.3E-02	1.00E-01
Chloromethane	480			2.5E-02	1.0E-01

Table 4. Projected peak risks and doses for EMWMF for hazardous constituents (risks and doses based on contaminant concentrations in the waste equal to the corresponding current WAC)

Contaminant	Time of Projected Peak (yr)	Projected Peak Risk (ILCR)	Risk Criterion (ILCR)	Projected Peak Dose (mg/kg-day)	Dose Criterion (mg/kg-day)
o-Chlorotoluene	2,200			4.7E-03	2.0E-02
Dibromochloro-methane	800	2.3E-06	1.0E-05	4.7E-03	2.0E-02
Dichlorodifluoro-methane	440			4.8E-02	2.0E-01
1,2,-cis-Dichloroethylene	2,300			2.3E-02	1.0E-01
1,2-trans-Dichloroetylene	620			4.7E-03	2.0E-02
1,2-Dichloropropane	580	2.2E-06	1.0E-05		
Ethylbenzene	1,200			7.0E-02	3.0E-01
N-Hexane	930			1.4E-02	6.0E-03
Methyl Isobutyl Ketone	420			1.9E-01	8.0E-01
Propylene Glycol	410			7.9E-3	1.25E+01
Styrene	4,100			4.2E-01	6.0E-01
1,1,1,2-Tetrachloroethane	970	243E-06	1.0E-05	6.9E-03	3.0E-02
1,1,2,2-Tetrachloroethane	730	1.7E-07	1.0E-05	1.2E-05	6.0E-03
Trichlorofluoro-methane	1,100			2.1E-01	9.0E-01
1,2,3-Trichloropropane	850	2.5E-06	1.0E-05	1.5E-03	6.0E-03
1,2,4-Trimethylbenzene	3,800			3.5E-02	1.5E-01
1,3,5-Trimethylbenzene	,7300			3.5E-02	1.5E-01

ILCR = incremental lifetime cancer risk

* = Constituent not projected to appear within 100,000 years.

a = Both a slope factor and a reference dose exist for this constituent but there is no dose-based WAC for it given in Revised Table A.1: Analytic WAC Limits, http://bechteljacobs.org/webindex.html#3..

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RAE 1995a. *The PATHRAE-RAD Performance Assessment Code for the Land Disposal of Radioactive Wastes*, Rogers and Associates Engineering Corporation, RAE-9500/2-1, Salt Lake City, UT.

RAE 1995b. *The PATHRAE-HAZ Performance Assessment Code for the Land Disposal of Hazardous Chemical Wastes*, Rogers and Associates Engineering Corporation, RAE-9500/2-2, Salt Lake City, UT.

ATTACHMENT 1

PATHRAE ENVIRONMENTAL TRANSPORT ANALYSIS

INPUT AND OUTPUT FOR THE EMWMF

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PATHRAE-RAD(PC)  Version 2.2d  February 1995
   Date:  8-17-2009
   Time: 13:29:52

 W. A. C. - August, 2009  New Proposed Cell 1-5 EMWMF

 *****  Mirror Image of Input Files  *****

 -- Input File:  ABCDEF.DAT
 W. A. C. - August, 2009  New Proposed Cell 1-5 EMWMF
 2,1000.,100000.
 35,0,5
 1,2
 0.,166.,525.,2.23E+5,1.,73.9,0.
 1800.,6.,0.,0.,0.,0.,.315,0.
 20,2,0,1,1
 4.0,15.3,1324061.,-1.,0.,1600.,.40,.705,0.90,1.
 1.0E-7,8000.,.705,0.,1.0E+0, 0.01,0E+0
 240.,5.56E-4,.22,.02,3.0E-4,20.,.01
 4,6.3,.23,0.,1.1E-06,.01,0.,0.,0.,0.,0.
 0,0,0,0,0,0,0
 1,0,0,1
 0.0091,4.6,0.04,4.6,.025,10.,0.00001,1.,0.,.25

 -- Input File:  BRCDCF.DAT
 101,H-3       6.4E-08,  6.4E-08,  0.00E+00,
 102,C-14      2.1E-06,  2.1E-06,  1.88E-09,
 103,K-40      1.9E-05,  1.2E-05,  1.4E-05,
 104,Co-57     1.2E-06,  9.1E-06,  1.34E-05,
 105,Co-60     2.7E-05,  2.2E-04,  2.74E-04,
 106,Sr-90     1.4E-04,  1.3E-03,  3.32E-08,
 107,Nb-95     2.6E-06,  4.5E-06,  7.8E-05,
 108,Tc-99     1.5E-06,  7.5E-06,  6.3E-11,
 109,Cs-134    7.3E-05,  4.6E-05,  1.78E-04,
 110,Cs-137    5.0E-05,  3.2E-05,  6.85E-05,
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111,Ba-133   3.4E-06,  6.9E-06,  4.2E-05,
112,Eu-152   6.5E-06,  2.2E-04,  1.28E-04,
113,Eu-154   9.5E-06,  2.9E-04,  1.39E-04,
114,Eu-155   1.5E-06,  4.1E-05,  6.89E-06,
055,Ra-226   8.6E-03,  7.9E-03,  7.6E-07,
116,Th-228   3.8E-04,  3.1E-01,  2.8E-07,
051,Th-229   4.0E-03,  2.0E+00,  1.0E-05,
036,Th-230   5.5E-04,  3.2E-01,  9.1E-08,
037,Th-232   5.0E-03,  1.6E+00,  6.44E-08,
053,Pa-231   2.5E-02,  1.3E+00,  3.6E-06,
121,U-232    1.31E-03, 1.4E-01,  8.36E-08,
054,U-233    2.89E-04, 1.4E-01,  8.36E-08,
038,U-234    2.83E-04, 1.3E-01,  8.74E-08,
039,U-235    2.67E-04, 1.2E-01,  1.73E-05,
040,U-236    2.69E-04, 1.3E-01,  7.59E-08,
041,U-238    2.7E-04,  1.2E-01,  2.82E-06,
042,Np-237   4.4E-03,  4.9E-01,  3.2E-06,
043,Pu-238   3.2E-03,  3.9E-01,  9.79E-08,
044,Pu-239   3.5E-03,  4.3E-01,  4.29E-08,
045,Pu-240   3.5E-03,  5.1E-01,  8.2E-08,
048,Am-241   3.6E-03,  4.4E-01,  3.21E-06,
132,Cm-243   2.5E-03,  3.1E-01,  1.46E-05,
050,Cm-244   2.0E-03,  2.5E-01,  1.03E-07,
020,I-129    2.8E-04,  1.8E-04,  2.2E-06,
025,Be-10    4.2E-06,  3.5E-04,  0.0E-00

-- Input File:  INVNTRY.DAT
101, 1.23E+01, 1.324E+06,    .0,  .000,      0., 0.,   1.,  H-3
102, 5.73E+03, 1.324E+06,    .0,  .000,      0., 0.,   1.,  C-14
103, 1.28E+09, 1.324E+06,  10.3,  .986,      0., 0.,   1.,  K-40
104, 7.42E-01, 1.324E+06,  24.7,  .125,      0., 0.,   1.,  Co-57
105, 5.27E+00, 1.324E+06,   9.2, 1.253,      0., 0.,   1.,  Co-60
106, 2.86E+01, 1.324E+06,    .0,  .000,      0., 0.,   1.,  Sr-90
107, 9.60E-02, 1.324E+06,  11.6,  .765,      0., 0.,   1.,  Nb-95
108, 2.13E+05, 1.324E+06,  29.2,  .089,      0., 0.,   1.,  Tc-99
109, 2.06E+00, 1.324E+06,  12.1,  .700,      0., 0.,   1.,  Cs-134
110, 3.02E+01, 1.324E+06,  12.8,  .615,      0., 0.,   1.,  Cs-137
111, 1.07E+01, 1.324E+06,  22.2,  .154,      0., 0.,   1.,  Ba-133
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112, 1.36E+01, 1.324E+06,  14.0,  .497,       0., 0.,   1.,  Eu-152
113, 8.80E+00, 1.324E+06,  12.5,  .657,       0., 0.,   1.,  Eu-154
114, 4.96E+00, 1.324E+06,  32.1,  .078,       0., 0.,   1.,  Eu-155
055, 1.60E+03, 1.324E+06,  21.5,  .170,       0., 0.,   1.,  Ra-226
116, 1.91E+00, 1.324E+06,  25.9,  .112,       0., 0.,   1.,  Th-228
051, 7.34E+03, 1.324E+06,  28.8,  .091,       0., 0.,   1.,  Th-229
036, 7.70E+04, 1.324E+06,  30.3,  .084,       0., 0.,   1.,  Th-230
037, 1.40E+10, 1.324E+06,  35.5,  .070,       0., 0.,   1.,  Th-232
053, 3.28E+04, 1.324E+06,  22.8,  .146,       0., 0.,   1.,  Pa-231
121, 7.20E+01, 1.324E+06,  25.7,  .000,       0., 0.,   1.,  U-232
054, 1.59E+05, 1.324E+06,  25.7,  .115,       0., 0.,   1.,  U-233
038, 2.44E+05, 1.324E+06,  35.5,  .070,       0., 0.,   1.,  U-234
039, 7.04E+08, 1.324E+06,  21.6,  .169,       0., 0.,   1.,  U-235
040, 2.34E+07, 1.324E+06,  36.6,  .068,       0., 0.,   1.,  U-236
041, 4.47E+09, 1.324E+06,  12.0,  .718,       0., 0.,   1.,  U-238
042, 2.14E+06, 1.324E+06,  34.9,  .072,       0., 0.,   1.,  Np-237
043, 8.78E+01, 1.324E+06,  45.3,  .055,       0., 0.,   1.,  Pu-238
044, 2.41E+04, 1.324E+06,  25.8,  .113,       0., 0.,   1.,  Pu-239
045, 6.54E+03, 1.324E+06,  46.3,  .054,       0., 0.,   1.,  Pu-240
048, 4.32E+02, 1.324E+06,  43.5,  .057,       0., 0.,   1.,  Am-241
132, 2.85E+01, 1.324E+06,  22.0,  .159,       0., 0.,   1.,  Cm-243
050, 1.81E+01, 1.324E+06,  43.5,  .057,       0., 0.,   1.,  Cm-244
020, 1.60E+07, 1.324E+06,  62.0,  .040, 1.0e-02, 0.,   1.,  I-129
025, 1.60E+07, 1.324E+06,    .0,  .000,       0., 0.,   1.,  Be-10

-- Input File:  RQSITE.DAT
101,-1.99e-1, 0.00E+0, 0.00E+0,  H-3
102,-1.09e+0, 0.00E+0, 0.00E+0,  C-14
103,-3.98e+0, 3.00E+0, 3.00E+1,  K-40
104,-3.97e+6, 8.00E+1, 8.00E+2,  Co-57
105,-3.97e+6, 8.00E+1, 8.00E+2,  Co-60
106,-8.74e+0, 3.00E+0, 3.00E+1,  Sr-90
107,-2.38e+1, 3.79E+1, 3.79E+2,  Nb-95
108,-1.29e+0, 0.00E+0, 0.00E+0,  Tc-99
109,-1.99e+1, 9.69E+1, 9.69E+2,  Cs-134
110,-1.99e+1, 3.00E+2, 3.00E+3,  Cs-137
111,    -55., 5.50E+0, 5.50E+1,  Ba-133
112,-3.78e+0, 4.00E+0, 4.00E+1,  Eu-152
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113,-3.78e+0, 4.00E+0, 4.00E+1,  Eu-154
114,-3.78e+0, 4.00E+0, 4.00E+1,  Eu-155
055,-1.99e+1, 3.00E+2, 3.00E+3,  Ra-226
116,-5.36e+1, 3.00E+2, 3.00E+3,  Th-228
051,-5.36e+1, 3.00E+2, 3.00E+3,  Th-229
036,-5.36e+1, 3.00E+2, 3.00E+3,  Th-230
037,-5.36e+1, 3.00E+2, 3.00E+3,  Th-232
053,-5.47e+1, 4.00E+1, 4.00E+2,  Pa-231
121,-4.00e+1, 7.00E-1, 2.00E+1,  U-232
054,-4.00e+1, 7.00E-1, 2.00E+1,  U-233
038,-4.00e+1, 7.00E-1, 2.00E+1,  U-234
039,-4.00e+1, 7.00E-1, 2.00E+1,  U-235
040,-4.00e+1, 7.00E-1, 2.00E+1,  U-236
041,-4.00e+1, 7.00E-1, 2.00E+1,  U-238
042,-5.56e+1, 4.00E+0, 4.00E+1,  Np-237
043,-5.76e+1, 4.00E+0, 4.00E+1,  Pu-238
044,-5.76e+1, 4.00E+0, 4.00E+1,  Pu-239
045,-5.76e+1, 4.00E+0, 4.00E+1,  Pu-240
048,-5.76e+1, 4.00E+0, 4.00E+1,  Am-241
132,-5.76e+1, 4.00E+0, 4.00E+1,  Cm-243
050,-5.76e+1, 4.00E+0, 4.00E+1,  Cm-244
020,-1.99E-1, 0.00E+0, 1.99E-1,  I-129
025,-8.00E+2, 8.00E+1, 8.00E+2,  Be-10

-- Input File:  UPTAKE.DAT
0.5,    0.2,     1.89
0.67,   0.65,    2.1E-3,    438.,    438.
0.0,    2160.,   24.,      1440.,      1.,   0.83
50.,    6.,      48.,       480.,     48.
.05,   0.0008,   60.,         8.,     50.
14.,     176.,  110.,         0.,     95.,    730., 6.9
H-3               .25, 4.8E+0, 4.8E-1, 1.0E-2,    0., 1.2E-2, 9.0E-1
C-14              .25, 5.5E+0, 5.5E-1, 1.2E-2,    0., 3.1E-2, 4.6E+3
K-40              .25, 3.7E-1, 3.7E-2, 1.0E-2,    0., 1.2E-2, 1.0E+3
Co-57             .25, 9.4E-3, 9.4E-4, 1.0E-3,    0., 1.3E-2, 5.0E+1
Co-60             .25, 9.4E-3, 9.4E-4, 1.0E-3,    0., 1.3E-2, 5.0E+1
Sr-90             .25, 1.7E-2, 1.7E-3, 8.0E-4,    0., 6.0E-4, 3.0E+1
Nb-95             .25, 9.4E-3, 9.4E-4, 2.5E-3,    0., 2.8E-1, 3.0E+4
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Tc-99           .25, 2.5E-1, 2.5E-2, 1.0E-3,   0., 1.0E-4, 1.5E+1
Cs-134          .25, 1.0E-2, 1.0E-3, 1.2E-2,   0., 4.0E-3, 2.0E+3
Cs-137          .25, 1.0E-2, 1.0E-3, 1.2E-2,   0., 4.0E-3, 2.0E+3
Ba-133          .25, 5.0E-3, 5.0E-4, 4.0E-4,   0., 3.2E-3, 4.0E+0
Eu-152          .25, 2.5E-3, 2.5E-4, 5.0E-6,   0., 4.8E-3, 2.5E+1
Eu-154          .25, 2.5E-3, 2.5E-4, 5.0E-6,   0., 4.8E-3, 2.5E+1
Eu-155          .25, 2.5E-3, 2.5E-4, 5.0E-6,   0., 4.8E-3, 2.5E+1
Ra-226          .25, 3.1E-4, 3.1E-5, 8.0E-3,   0., 3.4E-2, 5.0E+1
Th-228          .25, 4.2E-3, 4.2E-4, 5.0E-6,   0., 2.0E-4, 3.0E+1
Th-229          .25, 4.2E-3, 4.2E-4, 5.0E-6,   0., 2.0E-4, 3.0E+1
Th-230          .25, 4.2E-3, 4.2E-4, 5.0E-6,   0., 2.0E-4, 3.0E+1
Th-232          .25, 4.2E-3, 4.2E-4, 5.0E-6,   0., 2.0E-4, 3.0E+1
Pa-231          .25, 2.5E-3, 2.5E-4, 5.0E-6,   0., 8.0E+2, 1.1E+1
U-232           .25, 2.5E-3, 2.5E-4, 5.0E-4,   0., 3.4E-4, 2.0E+0
U-233           .25, 2.5E-3, 2.5E-4, 5.0E-4,   0., 3.4E-4, 2.0E+0
U-234           .25, 2.5E-3, 2.5E-4, 5.0E-4,   0., 3.4E-4, 2.0E+0
U-235           .25, 2.5E-3, 2.5E-4, 5.0E-4,   0., 3.4E-4, 2.0E+0
U-236           .25, 2.5E-3, 2.5E-4, 5.0E-4,   0., 3.4E-4, 2.0E+0
U-238           .25, 2.5E-3, 2.5E-4, 5.0E-4,   0., 3.4E-4, 2.0E+0
Np-237          .25, 2.5E-3, 2.5E-4, 5.0E-6,   0., 2.0E-4, 1.0E+1
Pu-238          .25, 2.5E-4, 2.5E-5, 2.0E-6,   0., 1.4E-5, 3.5E+0
Pu-239          .25, 2.5E-4, 2.5E-5, 2.0E-6,   0., 1.4E-5, 3.5E+0
Pu-240          .25, 2.5E-4, 2.5E-5, 2.0E-6,   0., 1.4E-5, 3.5E+0
Am-241          .25, 2.5E-4, 2.5E-5, 5.0E-6,   0., 2.0E-4, 2.5E+1
Cm-243          .25, 2.5E-3, 2.5E-4, 5.0E-6,   0., 2.0E-4, 2.5E+1
Cm-244          .25, 2.5E-3, 2.5E-4, 5.0E-6,   0., 2.0E-4, 2.5E+1
I-129           .25, 2.0E-2, 2.0E-3, 7.0E-3,   0., 1.0E-2, 4.0E+1
Be-10           .25, 1.0E-2, 2.5E-3, 9.0E-7,   0., 1.0E-2, 1.0E+2
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TOTAL EQUIVALENT UPTAKE FACTORS FOR PATHRAE

NUCLIDE	UT(J,1) RIVER L/YR	UT(J,2) WELL L/YR	UT(J,3) EROSION L/YR	UT(J,4) BATHTUB L/YR	UT(J,5) SPILLAGE L/YR	UT(J,6) FOOD KG/YR
H-3	1.166E+03	1.166E+03	1.172E+03	1.172E+03	1.172E+03	0.000E+00
C-14	9.564E+02	9.564E+02	3.270E+04	3.270E+04	3.270E+04	0.000E+00
K-40	8.639E+02	8.639E+02	7.764E+03	7.765E+03	7.765E+03	1.308E+01
Co-57	8.023E+02	8.023E+02	1.146E+03	1.146E+03	1.146E+03	1.933E-01
Co-60	8.055E+02	8.055E+02	1.150E+03	1.150E+03	1.150E+03	2.120E-01
Sr-90	7.414E+02	7.414E+02	9.484E+02	9.484E+02	9.484E+02	1.056E-01
Nb-95	1.699E+03	1.699E+03	2.007E+05	2.007E+05	2.007E+05	1.850E+00
Tc-99	7.403E+02	7.403E+02	8.438E+02	8.438E+02	8.438E+02	1.469E+00
Cs-134	8.365E+02	8.365E+02	1.461E+04	1.461E+04	1.461E+04	2.702E-01
Cs-137	8.371E+02	8.371E+02	1.464E+04	1.464E+04	1.464E+04	2.778E-01
Ba-133	7.518E+02	7.518E+02	7.794E+02	7.794E+02	7.794E+02	4.490E-02
Eu-152	7.572E+02	7.572E+02	9.296E+02	9.296E+02	9.296E+02	2.623E-02
Eu-154	7.571E+02	7.571E+02	9.296E+02	9.296E+02	9.296E+02	2.614E-02
Eu-155	7.570E+02	7.570E+02	9.294E+02	9.294E+02	9.294E+02	2.595E-02
Th-228	7.337E+02	7.337E+02	9.403E+02	9.403E+02	9.403E+02	1.799E-02
U-232	7.380E+02	7.380E+02	7.518E+02	7.518E+02	7.518E+02	1.356E-02
Cm-243	7.338E+02	7.338E+02	9.063E+02	9.063E+02	9.063E+02	1.118E-02
I-129	8.327E+02	8.327E+02	1.109E+03	1.109E+03	1.109E+03	5.624E-01
Be-10	7.837E+02	7.837E+02	1.474E+03	1.474E+03	1.474E+03	2.267E-01
Th-230	7.338E+02	7.338E+02	9.408E+02	9.410E+02	9.409E+02	1.884E-02
Th-232	7.338E+02	7.338E+02	9.408E+02	9.410E+02	9.409E+02	1.885E-02
U-234	7.380E+02	7.380E+02	7.518E+02	7.518E+02	7.518E+02	1.357E-02
U-235	7.380E+02	7.380E+02	7.518E+02	7.518E+02	7.518E+02	1.357E-02
U-236	7.380E+02	7.380E+02	7.518E+02	7.518E+02	7.518E+02	1.357E-02
U-238	7.380E+02	7.380E+02	7.518E+02	7.518E+02	7.518E+02	1.357E-02
Np-237	7.338E+02	7.338E+02	8.028E+02	8.028E+02	8.028E+02	1.122E-02
Pu-238	7.329E+02	7.329E+02	7.570E+02	7.570E+02	7.570E+02	1.058E-03
Pu-239	7.329E+02	7.329E+02	7.570E+02	7.570E+02	7.570E+02	1.059E-03
Pu-240	7.329E+02	7.329E+02	7.570E+02	7.570E+02	7.570E+02	1.059E-03
Am-241	7.338E+02	7.338E+02	9.063E+02	9.063E+02	9.063E+02	1.121E-03
Cm-244	7.338E+02	7.338E+02	9.063E+02	9.063E+02	9.063E+02	1.116E-02
Th-229	7.338E+02	7.338E+02	9.408E+02	9.408E+02	9.409E+02	1.884E-02

Pa-231	4.076E+06	4.076E+06	4.076E+06	4.077E+06	4.079E+06	2.641E+03
U-233	7.380E+02	7.380E+02	7.518E+02	7.518E+02	7.518E+02	1.357E-02
Ra-226	9.620E+02	9.620E+02	1.307E+03	1.307E+03	1.307E+03	1.901E-02

********** PATHRAE INPUT SUMMARY **********

THERE ARE 80 ISOTOPES IN THE DOSE FACTOR LIBRARY
NUMBER OF TIMES FOR CALCULATION IS 2
YEARS TO BE CALCULATED ARE ...

1000.00100000.00

THERE ARE 35 ISOTOPES IN THE INVENTORY FILE
THE VALUE OF IFLAG IS 0
NUMBER OF PATHWAYS IS 5

	PATHWAY	TYPE OF USAGE FOR UPTAKE FACTORS
1	GROUNDWATER TO RIVER	2
0	3X,I2,2X,A22,6X,I2))□□	0
0	3X,I2,2X,A22,6X,I2))□□	0
0	3X,I2,2X,A22,6X,I2))□□	0
0	3X,I2,2X,A22,6X,I2))□□	0

TIME OF OPERATION OF WASTE FACILITY IN YEARS	0.
LENGTH OF REPOSITORY (M)	166.
WIDTH OF REPOSITORY (M)	525.
RIVER FLOW RATE (M**3/YR)	2.23E+05
STREAM FLOW RATE (M**3/YR)	1.00E+00
DISTANCE TO RIVER (M)	74.
OPERATIONAL SPILLAGE FRACTION	0.00E+00
DENSITY OF AQUIFER (KG/M**3)	1800.
LONGITUDINAL DISPERSIVITY (M)	6.00E+00
LATERAL DISPERSION COEFFICIENT -- Y AXIS (M**2/YR)	0.00E+00
NUMBER OF MESH POINTS FOR DISPERSION CALCULATION	20

FLAG FOR GAMMA PATHWAY OPTIONS	2
FLAG FOR GAMMA BUILDUP CALCULATION	0
FLAG FOR ATMOSPHERIC PATHWAY	0
COVER THICKNESS OVER WASTE (M)	4.00
THICKNESS OF WASTE IN PITS (M)	15.30
TOTAL WASTE VOLUME (M**3)	1.324E+06
DISTANCE TO WELL -- X COORDINATE (M)	-1.
DISTANCE TO WELL -- Y COORDINATE (M)	0.
DENSITY OF WASTE (KG/M**3)	1600.
FRACTION OF FOOD CONSUMED THAT IS GROWN ON SITE	.400
FRACTION OF YEAR SPENT IN DIRECT RADIATION FIELD	.705
DEPTH OF PLANT ROOT ZONE (M)	.900
AREAL DENSITY OF PLANTS (KG/M**2)	1.000
AVERAGE DUST LOADING IN AIR (KG/M**3)	1.00E-07
ANNUAL ADULT BREATHING RATE (M**3/YR)	8000.
FRACTION OF YEAR EXPOSED TO DUST	.705
CANISTER LIFETIME (YEARS)	0.
INVENTORY SCALING FACTOR	1.00E+00
HEIGHT OF ROOMS IN RECLAIMER HOUSE (CM)	240.
AIR CHANGE RATE IN RECLAIMER HOUSE (CHANGES/SEC)	5.56E-04
RADON EMANATING POWER OF THE WASTE	2.20E-01
DIFFUSION COEFF. OF RADON IN WASTE (CM**2/SEC)	2.00E-02
DIFFUSION COEFF. OF RN IN CONCRETE (CM**2/SEC)	3.00E-04
THICKNESS OF CONCRETE SLAB FLOOR (CM)	20.0
DIFFUSION COEFF. OF RADON IN COVER (CM**2/SEC)	1.00E-02
ATMOSPHERIC STABILITY CLASS	4
AVERAGE WIND SPEED (M/S)	6.30
FRACTION OF TIME WIND BLOWS TOWARD RECEPTOR	.2300
RECEPTOR DISTANCE FOR ATMOSPHERIC PATHWAY (M)	.0
DUST RESUSPENSION RATE FOR OFFSITE TRANSPORT (M**3/S)	1.10E-06
DEPOSITION VELOCITY (M/S)	.0100
STACK HEIGHT (M)	.0
STACK INSIDE DIAMETER (M)	.00

STACK GAS VELOCITY (M/S)		.0
HEAT EMISSION RATE FROM BURNING (CAL/S)		0.00E+00
DECAY CHAIN FLAGS	0 0 0 0 0 0	0
FLAG FOR INPUT SUMMARY PRINTOUT		1
FLAG FOR DIRECTION OF TRENCH FILLING		0
FLAG FOR GROUNDWATER PATHWAY OPTIONS		1
AMOUNT OF WATER PERCOLATING THROUGH WASTE ANNUALLY (M)		9.10E-03
DEGREE OF SOIL SATURATION		1.000
RESIDUAL SOIL SATURATION		.000
PERMEABILITY OF VERTICAL ZONE (M/YR)		.32
SOIL NUMBER		.000
POROSITY OF AQUIFER		.04
POROSITY OF UNSATURATED ZONE		.25
DISTANCE FROM AQUIFER TO WASTE (M)		4.6
AVERAGE VERTICAL GROUNDWATER VELOCITY (M/YR)		2.50E-02
HORIZONTAL VELOCITY OF AQUIFER (M/YR)		4.6
LENGTH OF PERFORATED WELL CASING (M)		10.000
SURFACE EROSION RATE (M/YR)		1.000E-05
LEACH RATE SCALING FACTOR		1.000E+00
ANNUAL RUNOFF OF PRECIPITATION (M)		0.00E+00

***** PEAK CONCENTRATIONS AND TIMES FOR PATHWAY 1 *****
***** RIVER AT 73.9 M *****

NUCLIDE	PEAK CONCENTRATION (CI/M**3)	PEAK TIME (YR)	AVERAGE DOSE AT PEAK TIME (MREM/YR)	AVERAGE RISK AT PEAK TIME (HE/YR)
H-3	1.54E-08	215.8	1.15E-03	3.21E-10
C-14	1.71E-03	273.2	3.44E+03	9.63E-04
K-40	5.33E-04	51763.0	8.75E+03	2.45E-03
Co-57		> 1000000.0		
Co-60		> 1000000.0		
Tc-99	1.52E-03	301.5	1.69E+03	4.74E-04
Cs-134		> 1000000.0		
Cs-137		> 1000000.0		
Th-228		> 1000000.0		
I-129	7.94E-04	580.8	1.85E+05	5.19E-02
Be-10		> 1000000.0		
Th-230		> 1000000.0		
Th-232		> 1000000.0		
U-234	5.05E-05	29624.8	1.05E+04	2.95E-03
U-235	5.50E-05	34039.3	1.08E+04	3.03E-03
U-236	5.49E-05	30635.4	1.09E+04	3.05E-03
U-238	5.50E-05	34039.3	1.10E+04	3.07E-03
Np-237	3.87E-05	69869.4	1.25E+05	3.50E-02
Pu-239	5.79E-06	64202.0	1.48E+04	4.16E-03
Pu-240	4.54E-08	61790.8	1.16E+02	3.26E-05
Am-241	2.80E-45	55383.1	7.40E-36	2.07E-42
Th-229		> 1000000.0		
Pa-231	8.18E-11	598843.5	8.33E+03	2.33E-03
U-233	4.83E-05	29518.5	1.03E+04	2.88E-03
Ra-226		> 1000000.0		

PATHWAY 1
GROUNDWATER TO RIVER

********* NUCLIDE DOSES (mrem/yr) ********

NUCLIDE/TIME	1000.	100000.
H-3	0.0E+00	0.0E+00
C-14	3.2E+03	0.0E+00
K-40	0.0E+00	0.0E+00
Co-57	0.0E+00	0.0E+00
Co-60	0.0E+00	0.0E+00
Sr-90	0.0E+00	0.0E+00
Nb-95	0.0E+00	0.0E+00
Tc-99	1.7E+03	0.0E+00
Cs-134	0.0E+00	0.0E+00
Cs-137	0.0E+00	0.0E+00
Ba-133	0.0E+00	0.0E+00
Eu-152	0.0E+00	0.0E+00
Eu-154	0.0E+00	0.0E+00
Eu-155	0.0E+00	0.0E+00
Th-228	0.0E+00	0.0E+00
U-232	0.0E+00	0.0E+00
Cm-243	0.0E+00	0.0E+00
I-129	1.9E+05	0.0E+00
Be-10	0.0E+00	0.0E+00
Th-230	0.0E+00	0.0E+00
Th-232	0.0E+00	0.0E+00
U-234	0.0E+00	8.6E+03
U-235	0.0E+00	1.1E+04
U-236	0.0E+00	1.1E+04
U-238	0.0E+00	1.1E+04
Np-237	0.0E+00	1.2E+05
Pu-238	0.0E+00	0.0E+00
Pu-239	0.0E+00	5.5E+03
Pu-240	0.0E+00	2.4E+00

Am-241	0.0E+00	0.0E+00
Cm-244	0.0E+00	0.0E+00
Th-229	0.0E+00	0.0E+00
Pa-231	0.0E+00	0.0E+00
U-233	0.0E+00	7.6E+03
Ra-226	0.0E+00	0.0E+00

NUCLIDE CONCENTRATIONS IN RIVER (Ci/m**3)

NUCLIDE/TIME	1000.	100000.
H-3	0.0E+00	0.0E+00
C-14	1.6E-03	0.0E+00
K-40	0.0E+00	0.0E+00
Co-57	0.0E+00	0.0E+00
Co-60	0.0E+00	0.0E+00
Sr-90	0.0E+00	0.0E+00
Nb-95	0.0E+00	0.0E+00
Tc-99	1.5E-03	0.0E+00
Cs-134	0.0E+00	0.0E+00
Cs-137	0.0E+00	0.0E+00
Ba-133	0.0E+00	0.0E+00
Eu-152	0.0E+00	0.0E+00
Eu-154	0.0E+00	0.0E+00
Eu-155	0.0E+00	0.0E+00
Th-228	0.0E+00	0.0E+00
U-232	0.0E+00	0.0E+00
Cm-243	0.0E+00	0.0E+00
I-129	7.9E-04	0.0E+00
Be-10	0.0E+00	0.0E+00
Th-230	0.0E+00	0.0E+00
Th-232	0.0E+00	0.0E+00
U-234	0.0E+00	4.1E-05
U-235	0.0E+00	5.5E-05
U-236	0.0E+00	5.5E-05
U-238	0.0E+00	5.5E-05
Np-237	0.0E+00	3.8E-05
Pu-238	0.0E+00	0.0E+00

Pu-239	0.0E+00	2.2E-06
Pu-240	0.0E+00	9.5E-10
Am-241	0.0E+00	0.0E+00
Cm-244	0.0E+00	0.0E+00
Th-229	0.0E+00	0.0E+00
Pa-231	0.0E+00	0.0E+00
U-233	0.0E+00	3.6E-05
Ra-226	0.0E+00	0.0E+00

PATHRAE-HAZ(PC) Version 2.2d February 1995
Date: 8-12-2009
Time: 10:36:31

W. A. C. - August, 2009 New Proposed Cell 1-5 EMWMF

TOTAL EQUIVALENT UPTAKE FACTORS FOR PATHRAE

CONTAMINANT	UT(J,1) RIVER L/YR	UT(J,2) WELL L/YR	UT(J,3) EROSION L/YR	UT(J,4) BATHTUB L/YR	UT(J,5) SPILLAGE L/YR	UT(J,6) FOOD KG/YR
Acenaphthene	7.365E+02	7.365E+02	8.326E+03	8.327E+03	8.327E+03	6.144E-01
Acetone	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	5.480E+01
Anthracene	7.374E+02	7.374E+02	9.707E+03	9.708E+03	9.708E+03	2.612E-01
Aluminum	7.418E+02	7.418E+02	7.418E+02	7.419E+02	7.419E+02	2.601E-02
Antimony	7.332E+02	7.332E+02	1.423E+03	1.423E+03	1.423E+03	2.153E-01
Arochlors-1242	7.351E+02	7.351E+02	6.048E+03	6.048E+03	6.048E+03	7.641E-01
Arochlors-1254	9.154E+02	9.154E+02	1.458E+05	1.458E+05	1.458E+05	6.409E-01
Arochlors-1248	8.493E+02	8.493E+02	1.043E+05	1.044E+05	1.044E+05	5.277E+00
Arochlors-1260	3.005E+03	3.005E+03	1.038E+06	1.038E+06	1.038E+06	1.638E+00
Arsenic	7.434E+02	7.434E+02	7.434E+02	7.434E+02	7.434E+02	2.779E-01
Barium	7.372E+02	7.372E+02	7.648E+02	7.649E+02	7.649E+02	5.213E-01
Benzene	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	2.450E+00
BenzoAanthracene	8.270E+02	8.270E+02	9.053E+04	9.055E+04	9.053E+04	5.224E-01
Beryllium	7.379E+02	7.379E+02	1.428E+03	1.428E+03	1.428E+03	5.537E-02
Bis2ethylhexapht	7.474E+02	7.474E+02	2.214E+04	2.216E+04	2.214E+04	4.300E-01
Butylbenzylphtha	7.738E+02	7.738E+02	2.214E+04	2.216E+04	2.214E+04	4.300E-01
Cadmium	7.418E+02	7.418E+02	2.122E+03	2.127E+03	2.126E+03	3.450E+00
Calcium	8.102E+02	8.102E+02	8.091E+02	8.102E+02	8.102E+02	7.822E-01
Carbazole	7.340E+02	7.340E+02	3.839E+03	3.839E+03	3.839E+03	1.081E+00
Carbontetchl	7.329E+02	7.329E+02	7.329E+02	7.329E+02	7.329E+02	1.231E+00
Chloroform	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	2.955E+00
Chromium III	7.787E+02	7.787E+02	2.159E+03	2.159E+03	2.159E+03	6.445E-01
Chromium VI	7.787E+02	7.787E+02	2.159E+03	2.160E+03	2.160E+03	6.445E-01

Cobalt	7.415E+02	7.415E+02	7.414E+02	7.415E+02	7.415E+02	5.922E-02
Copper	7.891E+02	7.891E+02	3.527E+05	3.527E+05	3.527E+05	1.471E+01
Benzobflranthene	9.600E+02	9.600E+02	1.735E+05	1.735E+05	1.735E+05	6.631E-01
BenzoKflranthene	1.898E+03	1.898E+03	6.022E+05	6.022E+05	6.022E+05	1.255E+00
Benzoghiperylene	1.459E+03	1.459E+03	4.224E+05	4.224E+05	4.224E+05	1.028E+00
Benzo(a)pyrene	9.600E+02	9.600E+02	1.735E+05	1.735E+05	1.735E+05	6.631E-01
Dibenzoahanthrac	1.898E+03	1.898E+03	6.022E+05	6.023E+05	6.022E+05	1.255E+00
Dibenzofuran	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
Dieldrin	8.286E+02	8.286E+02	8.284E+02	8.287E+02	8.287E+02	2.459E+00
Dinbutylphthalat	8.061E+02	8.061E+02	8.061E+02	8.061E+02	8.061E+02	1.249E-01
Dinoctylphthalat	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
24-dinitrotoluen	7.328E+02	7.328E+02	8.639E+02	8.639E+02	8.639E+02	1.097E+01
Fluoranthene	7.474E+02	7.474E+02	2.214E+04	2.214E+04	2.214E+04	4.300E-01
Flourene	7.374E+02	7.374E+02	9.707E+03	9.708E+03	9.708E+03	5.888E-01
2-Hexanone	7.328E+02	7.328E+02	7.797E+02	7.797E+02	7.797E+02	2.488E+00
Indeno123cdpyren	1.459E+03	1.459E+03	4.224E+05	4.224E+05	4.224E+05	1.028E+00
Iron	8.349E+02	8.349E+02	2.215E+03	2.216E+03	2.216E+03	3.067E-01
Isophorone	7.329E+02	7.329E+02	7.328E+02	7.329E+02	7.329E+02	2.030E+00
Lead	7.369E+02	7.369E+02	2.807E+03	2.807E+03	2.807E+03	4.682E-01
Lithium	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
Magnesium	8.097E+02	8.097E+02	7.863E+02	8.097E+02	8.082E+02	1.693E+01
Manganese	7.355E+02	7.355E+02	3.496E+03	3.498E+03	3.498E+03	3.346E+00
Mercury	7.870E+02	7.870E+02	7.687E+03	7.723E+03	7.720E+03	1.814E+01
Methchloride	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
2Methylnaphthale	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
Naphthalene	7.332E+02	7.332E+02	2.044E+03	2.044E+03	2.044E+03	1.981E+00
Nickel	8.702E+02	8.702E+02	1.560E+03	1.582E+03	1.578E+03	6.350E+00
NnitroNpropyl	7.328E+02	7.328E+02	7.797E+02	7.797E+02	7.797E+02	2.488E+01
Pentachloropheno	7.635E+02	7.635E+02	7.630E+02	7.635E+02	7.634E+02	1.361E-01
Phenanthrene	7.405E+02	7.405E+02	1.316E+04	1.316E+04	1.316E+04	4.928E-01
Phenol	7.328E+02	7.328E+02	7.887E+02	7.887E+02	7.887E+02	2.150E+01
Potassium	8.653E+02	8.653E+02	7.764E+03	7.765E+03	7.765E+03	1.308E+01
Pyrene	7.474E+02	7.474E+02	2.214E+04	2.214E+04	2.214E+04	4.300E-01
Selenium	1.312E+03	1.312E+03	1.312E+03	1.316E+03	1.316E+03	7.577E+01
Silver	7.484E+02	7.484E+02	7.829E+02	7.949E+02	7.941E+02	8.253E+00
Sodium	1.253E+03	1.253E+03	1.390E+03	1.391E+03	1.391E+03	2.686E+01
Strontium	7.941E+02	7.941E+02	7.931E+02	7.941E+02	7.941E+02	2.096E+01
Tetrachloroethen	7.329E+02	7.329E+02	7.329E+02	7.329E+02	7.329E+02	1.273E+00

Thallium	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
Tin	7.907E+02	7.907E+02	2.149E+04	2.149E+04	2.149E+04	1.895E+01
Toluene	7.330E+02	7.330E+02	7.329E+02	7.330E+02	7.330E+02	1.106E+00
Trichloroethene	7.329E+02	7.329E+02	7.329E+02	7.329E+02	7.329E+02	1.735E+00
U-232	7.371E+02	7.371E+02	8.061E+02	8.061E+02	8.061E+02	1.200E-01
U-233	7.371E+02	7.371E+02	8.061E+02	8.061E+02	8.061E+02	1.201E-01
U-234	7.371E+02	7.371E+02	8.061E+02	8.061E+02	8.061E+02	1.201E-01
U-235	7.371E+02	7.371E+02	8.061E+02	8.061E+02	8.061E+02	1.201E-01
U-236	7.371E+02	7.371E+02	8.061E+02	8.061E+02	8.061E+02	1.201E-01
U-238	7.371E+02	7.371E+02	8.061E+02	8.061E+02	8.061E+02	1.201E-01
Vanadium	7.457E+02	7.457E+02	8.147E+02	8.147E+02	8.147E+02	4.151E-02
Zinc	1.312E+03	1.312E+03	8.212E+03	8.693E+03	8.619E+03	1.500E+02
Zirconium	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
12378PeCDF	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
23478PeCDF	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
OCDD	1.107E+05	1.107E+05	1.943E+07	1.943E+07	1.943E+07	8.416E+00
OCDF	1.107E+05	1.107E+05	1.943E+07	1.943E+07	1.943E+07	8.416E+00
1234678HpCDD	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
1234678HpCDF	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
123478HxCDF	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
12378HxCDD	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
123678HxCDD	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
123789HxCDD	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
2378TCDD	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
2378TCDF	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	0.000E+00
Hexachloroethene	7.342E+02	7.342E+02	4.460E+03	4.460E+03	4.460E+03	1.673E+00
124Trichlorb	7.339E+02	7.339E+02	7.339E+02	7.343E+02	7.343E+02	8.070E+01
Molybdenum	7.498E+02	7.498E+02	7.498E+02	7.498E+02	7.498E+02	3.254E+00
Strontium	7.931E+02	7.931E+02	7.931E+02	7.931E+02	7.931E+02	2.096E+01
Acenaphthylene	7.337E+02	7.337E+02	7.337E+02	7.342E+02	7.342E+02	1.201E+00
benzidine	7.328E+02	7.328E+02	7.328E+02	7.333E+02	7.333E+02	2.825E+01
Chlordane	7.905E+02	7.905E+02	7.905E+02	7.908E+02	7.908E+02	4.617E-01
MethylPropylB	7.334E+02	7.334E+02	7.334E+02	7.334E+02	7.334E+02	1.525E+00
124TriMethylB	7.333E+02	7.333E+02	7.333E+02	7.333E+02	7.333E+02	1.777E+00
135TriMethylB	7.333E+02	7.333E+02	7.333E+02	7.333E+02	7.333E+02	1.690E+00
MethylEthylB	7.334E+02	7.334E+02	7.334E+02	7.334E+02	7.334E+02	1.525E+00
ButylB	7.334E+02	7.334E+02	7.334E+02	7.334E+02	7.334E+02	1.525E+00
12DiMethylB	7.330E+02	7.330E+02	7.330E+02	7.330E+02	7.330E+02	2.566E+00

PropylB	7.334E+02	7.334E+02	7.334E+02	7.334E+02	7.334E+02	1.525E+00
Aldrin	7.330E+02	7.330E+02	7.330E+02	7.340E+02	7.340E+02	2.940E+00
Aroclor1016	8.347E+02	8.347E+02	8.347E+02	8.395E+02	8.372E+02	4.287E-01
Aroclor1221	7.351E+02	7.351E+02	7.351E+02	7.354E+02	7.354E+02	7.641E-01
Aroclor1232	7.331E+02	7.331E+02	7.331E+02	7.332E+02	7.332E+02	2.273E+00
DDD	8.493E+02	8.493E+02	8.493E+02	8.494E+02	8.494E+02	5.277E-01
DDE	8.270E+02	8.270E+02	8.270E+02	8.270E+02	8.270E+02	5.224E-01
DDT	1.149E+03	1.149E+03	1.149E+03	1.153E+03	1.152E+03	8.345E-01
Alpha-BHC	7.342E+02	7.342E+02	7.342E+02	7.343E+02	7.343E+02	9.609E-01
Beta-BHC	7.346E+02	7.346E+02	7.346E+02	7.346E+02	7.346E+02	8.399E-01
Delta-BHC	7.329E+02	7.329E+02	7.329E+02	7.330E+02	7.330E+02	3.820E+00
Acenaphthylene	7.337E+02	7.337E+02	7.337E+02	7.338E+02	7.338E+02	1.201E+00
Benzoic Acid	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.266E+01
Dibenzofuran	7.352E+02	7.352E+02	7.352E+02	7.357E+02	7.357E+02	7.206E-01
Diethylphth	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	5.498E+00
24-Dimethylphe	7.328E+02	7.328E+02	7.328E+02	7.329E+02	7.329E+02	7.604E+00
Dimethylphth	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.898E+01
2Methylnaptha	7.342E+02	7.342E+02	7.342E+02	7.343E+02	7.343E+02	9.609E-01
2346Tetrachlor	7.351E+02	7.351E+02	7.351E+02	7.357E+02	7.357E+02	7.641E-01
Benzyl Alcohol	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	3.668E+01
Acentonitrile	7.329E+02	7.329E+02	7.329E+02	7.329E+02	7.329E+02	2.529E+02
Acrolien	7.329E+02	7.329E+02	7.328E+02	7.329E+02	7.329E+02	1.813E+02
Acylonitrle	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.138E+02
Bromodichloro	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	9.708E+00
Bromoform	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	6.340E+00
Bromometh	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	3.246E+01
CarbonDiS	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	8.445E+00
Chlorometh	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	4.637E+01
0-ChloroTu	7.332E+02	7.333E+02	7.332E+02	7.333E+02	7.333E+02	1.775E+00
Cumene	7.334E+02	7.334E+02	7.334E+02	7.335E+02	7.335E+02	1.525E+00
Dibromochloro	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	8.445E+00
Dichlorodiflo	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	8.445E+00
12cisDichloro	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.266E+01
12transDichl	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	8.431E+01
12Dichlprop	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.097E+01
Ethylbenz	7.330E+02	7.330E+02	7.330E+02	7.330E+02	7.330E+02	2.605E+00
Nhexane	7.342E+02	7.342E+02	7.342E+02	7.342E+02	7.342E+02	9.609E-01
MethylIso	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	3.246E+01

MethChoride	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	2.825E+01
PropGlycol	7.334E+02	7.334E+02	7.332E+02	7.334E+02	7.334E+02	1.560E+03
Styrene	7.329E+02	7.329E+02	7.329E+02	7.330E+02	7.330E+02	3.358E+00
1112Tetra	7.330E+02	7.330E+02	7.330E+02	7.330E+02	7.330E+02	2.940E+00
1122Tetra	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	6.340E+00
TriChloFlo	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	5.498E+00
123TriChlopr	7.400E+02	7.400E+02	7.400E+02	7.400E+02	7.400E+02	4.928E-01
Trimethbenz	7.339E+02	7.339E+02	7.339E+02	7.339E+02	7.339E+02	1.077E+00
135Trimeth	7.333E+02	7.333E+02	7.333E+02	7.333E+02	7.333E+02	1.690E+00
oXylene	7.331E+02	7.331E+02	7.331E+02	7.331E+02	7.331E+02	2.273E+00
acetophenone	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.645E+01
Ethylchlorid	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	2.488E+01
2Hexanone	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	2.488E+01
Methonal	7.330E+02	7.330E+02	7.329E+02	7.330E+02	7.330E+02	4.637E+02
MMetacrylate	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	2.825E+01
Chlorobenzene	7.329E+02	7.329E+02	9.468E+02	9.468E+02	9.468E+02	3.820E+00
Cyanide	7.328E+02	7.328E+02	7.570E+02	7.582E+02	7.582E+02	3.668E+01
Dibenz[a,h]	1.898E+03	1.898E+03	1.941E+03	1.955E+03	1.949E+03	1.255E+00
26Dinitrotoluene	7.328E+02	7.328E+02	7.756E+02	7.756E+02	7.756E+02	1.645E+01
DiNOctylphtalate	2.962E+05	2.962E+05	2.961E+05	2.968E+05	2.962E+05	1.308E+01
Endosulfan	7.334E+02	7.334E+02	3.661E+04	3.661E+04	3.661E+04	1.444E+00
4Nitrobenzenamin	7.328E+02	7.328E+02	7.357E+03	7.357E+03	7.357E+03	2.867E+01
4Nitrophenol	7.328E+02	7.328E+02	2.872E+03	2.872E+03	2.872E+03	1.266E+01
NNitrosodiphen	7.330E+02	7.330E+02	7.696E+02	7.696E+02	7.696E+02	2.605E+00
Xylene	7.332E+02	7.332E+02	1.113E+03	1.113E+03	1.113E+03	1.981E+00
12Dichloro	7.332E+02	7.333E+02	1.334E+03	1.334E+03	1.334E+03	1.775E+00
13Dichloro	7.335E+02	7.335E+02	1.424E+03	1.424E+03	1.424E+03	1.362E+00
14Dichloro	7.332E+02	7.332E+02	1.347E+03	1.347E+03	1.347E+03	1.775E+00
Methylcyclo	7.329E+02	7.329E+02	1.561E+03	1.561E+03	1.561E+03	3.526E+00
Benzo[g,h,i]	1.459E+03	1.459E+03	1.459E+03	1.476E+03	1.466E+03	1.028E+00
MethylChlor	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	4.637E+01
2MethylNap	7.342E+02	7.342E+02	7.342E+02	7.343E+02	7.343E+02	9.609E-01
2Nitrophenol	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.519E+01
Aroclor1268	3.005E+03	3.005E+03	3.005E+03	3.097E+03	3.020E+03	1.638E+00
EndosulfanII	7.334E+02	7.334E+02	7.334E+02	7.334E+02	7.334E+02	1.444E+00
Aldehyde	7.400E+02	7.400E+02	7.400E+02	7.401E+02	7.401E+02	4.928E-01
Ketone	7.400E+02	7.400E+02	7.400E+02	7.401E+02	7.401E+02	4.928E-01
Chlorobenzene	7.329E+02	7.329E+02	7.329E+02	7.329E+02	7.329E+02	3.820E+00

Vinyl Chloride	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	2.488E+01
o-cresol	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.266E+01
m-cresol	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.097E+01
p-cresol	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.266E+01
14Dichlorobenzen	7.332E+02	7.332E+02	7.332E+02	7.333E+02	7.333E+02	1.775E+00
Hexachlorobenzen	7.695E+02	7.695E+02	7.695E+02	7.696E+02	7.696E+02	4.244E-01
Hexachlorobutadn	7.444E+02	7.444E+02	7.444E+02	7.444E+02	7.444E+02	4.397E-01
Hexachloroethane	7.342E+02	7.342E+02	7.342E+02	7.343E+02	7.343E+02	9.609E-01
Nitrobenzene	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	1.434E+01
246-Trichlorphnl	7.337E+02	7.337E+02	7.337E+02	7.337E+02	7.337E+02	1.201E+00
Pyridine	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	2.825E+01
24-D	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	5.498E+00
245-TP (Silvex)	7.342E+02	7.342E+02	7.342E+02	7.342E+02	7.342E+02	9.609E-01
Chlordane	7.905E+02	7.905E+02	7.905E+02	7.907E+02	7.907E+02	4.617E-01
Endrin	7.400E+02	7.400E+02	7.400E+02	7.401E+02	7.401E+02	4.928E-01
Heptachlor	7.365E+02	7.365E+02	7.365E+02	7.366E+02	7.366E+02	6.144E-01
Heptachlor epoxd	7.789E+02	7.789E+02	7.789E+02	7.789E+02	7.789E+02	4.365E-01
Lindane	7.337E+02	7.337E+02	7.337E+02	7.338E+02	7.338E+02	1.201E+00
Methoxychlor	7.374E+02	7.374E+02	7.374E+02	7.377E+02	7.377E+02	5.888E-01
Toxaphene	7.444E+02	7.444E+02	7.444E+02	7.447E+02	7.447E+02	4.397E-01
Lithium	9.237E+02	9.237E+02	9.237E+02	9.249E+02	9.249E+02	1.200E+00
124trimethylb	7.339E+02	7.339E+02	7.339E+02	7.339E+02	7.339E+02	1.077E+00
1hexanol	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	2.488E+01
2hexanone	7.328E+02	7.328E+02	7.328E+02	7.328E+02	7.328E+02	2.488E+01
butylbenzene	7.334E+02	7.334E+02	7.334E+02	7.334E+02	7.334E+02	1.525E+00

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**********  Image of Input Files  **********

 -- Input File:  ABCDEF.DAT
 W. A. C. - August, 2009   New Proposed Cell 1-5 EMWMF
 202,0,5
 1,2
 0.,166.,525.,2.23E+5,1.,73.9,0.
 1800.,6.,0.,0.,0.,0.,.315,0.
 20,2,0,1,1
 4.0,15.3,1324061.,-1.,0.,1600.,.40,.705,0.90,1.
 1.0E-7,8000.,.705,0.,1.0E+0, 0.01,0E+0
 240.,5.56E-4,.22,.02,3.0E-4,20.,.01
 4,6.3,.23,0.,1.1E-06,.01,0.,0.,0.,0.,0.
 0,0,0,0,0,0,0
 1,0,0,1
 0.0091,4.6,0.04,4.6,.025,10.,0.00001,1.,0.,.25

 -- Input File:  BRCDCF.DAT
 501,Acenaphthene           0., 6.0E-01,      0.,      0.
 502,Acetone                0., 1.0E-01,      0.,      0.
 503,Anthracene             0., 3.0E-01,      0.,      0.
 504,Aluminum               0., 4.0e-04,      0.,      0.
 505,Antimony               0., 4.0E-04,      0.,      0.
 506,Arochlors-1242        7.7,      0.,      0.,      0.
 507,Arochlors-1254         0., 2.0E-05,      0.,      0.
 508,Arochlors-1248        7.7,      0.,      0.,      0.
 509,Arochlors-1260        7.7,      0.,      0.,      0.
 510,Arsenic           1.5E+00, 3.0E-04,      0.,      0.
 511,Barium                 0., 7.0E-02,      0.,      0.
 512,Benzene           2.9e-02,      0.,      0.,      0.
 513,BenzoAanthracene  7.3E-01,      0.,      0.,      0.
 514,Beryllium         4.3E+00, 5.0E-03,      0.,      0.
 515,Bis2ethylhexapht  1.4E-02, 2.0E-02,      0.,      0.
 516,Butylbenzylphtha       0., 2.0E-01,      0.,      0.
 517,Cadmium                0., 5.0E-04,      0.,      0.
 518,Calcium                0.,      0.,      0.,      0.
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519,Carbazole          2.0E-02,      0.,      0.,      0.
520,Carbontetchl       1.3E-01, 7.0e-04,      0.,      0.
521,Chloroform         6.1E-03, 1.0e-02,      0.,      0.
522,Chromium III            0., 1.0e+00,      0.,      0.
523,Chromium VI             0., 5.0E-03,      0.,      0.
524,Cobalt                  0., 6.0e-02,      0.,      0.
525,Copper                  0., 3.7e-02,      0.,      0.
526,Benzobflranthene   7.3E-01,      0.,      0.,      0.
527,BenzoKflranthene   7.3E-02,      0.,      0.,      0.
528,Benzoghiperylene        0.,      0.,      0.,      0.
529,Benzo(a)pyrene     7.3E+00,      0.,      0.,      0.
530,Dibenzoahanthrac   7.3E+00,      0.,      0.,      0.
531,Dibenzofuran            0., 4.0e-03,      0.,      0.
532,Dieldrin           1.3E+01, 5.0e-05,      0.,      0.
533,Dinbutylphthalat        0., 1.0e-01,      0.,      0.
534,Dinoctylphthalat        0.,      0.,      0.,      0.
535,24-dinitrotoluen   6.8E-04, 2.0E-03,      0.,      0.
536,Fluoranthene            0., 4.0E-02,      0.,      0.
537,Flourene                0., 4.0E-02,      0.,      0.
538,2-Hexanone              0.,      0.,      0.,      0.
539,Indeno123cdpyren   7.3E-01,      0.,      0.,      0.
540,Iron                    0., 8.6E-03,      0.,      0.
541,Isophorone         9.5E-04, 2.0e-01,      0.,      0.
542,Lead                    0., 1.4E-03,      0.,      0.
543,Lithium                 0., 2.0e-02,      0.,      0.
544,Magnesium               0.,      0.,      0.,      0.
545,Manganese               0., 4.7E-02,      0.,      0.
546,Mercury                 0., 3.0E-04,      0.,      0.
547,Methchloride       7.5E-03, 6.0e-02,      0.,      0.
548,2Methylnaphthale   1.43e-2, 6.0e-02,      0.,      0.
549,Naphthalene             0., 3.6E-02,      0.,      0.
550,Nickel                  0., 2.0e-02,      0.,      0.
551,NnitroNpropyl      7.0E+00,      0.,      0.,      0.
552,Pentachloropheno   1.2E-01, 3.0e-02,      0.,      0.
553,Phenanthrene       1.15E+1,      0.,      0.,      0.
554,Phenol                  0., 6.0E-01,      0.,      0.
555,Potassium               0.,      0.,      0.,      0.
556,Pyrene                  0., 3.0E-02,      0.,      0.
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557,Selenium                0., 5.0E-03,      0.,      0.
558,Silver                  0., 5.0E-03,      0.,      0.
559,Sodium                  0.,      0.,      0.,      0.
560,Strontium               0., 6.0e-01,      0.,      0.
561,Tetrachloroethen  5.2E-02, 1.0e-02,      0.,      0.
562,Thallium                0., 8.0e-05,      0.,      0.
563,Tin                     0., 6.0E-01,      0.,      0.
564,Toluene                 0., 2.0e-01,      0.,      0.
565,Trichloroethene   1.1E-02,      0.,      0.,      0.
566,U-232                   0., 3.0E-03,      0.,      0.
567,U-233                   0., 3.0E-03,      0.,      0.
568,U-234                   0., 3.0E-03,      0.,      0.
569,U-235                   0., 3.0E-03,      0.,      0.
570,U-236                   0., 3.0E-03,      0.,      0.
571,U-238                   0., 3.0E-03,      0.,      0.
572,Vanadium                0., 7.0E-03,      0.,      0.
573,Zinc                    0., 3.0E-01,      0.,      0.
574,Zirconium               0., 3.5e-02,      0.,      0.
575,12378PeCDF        7.5e+04,      0.,      0.,      0.
576,23478PeCDF        7.5e+03,      0.,      0.,      0.
577,OCDD              1.5e+02,      0.,      0.,      0.
578,OCDF              1.5e+02,      0.,      0.,      0.
579,1234678HpCDD      1.5e+03,      0.,      0.,      0.
580,1234678HpCDF      1.5e+03,      0.,      0.,      0.
581,123478HxCDF       1.5e+04,      0.,      0.,      0.
582,12378HxCDD        1.5e+04,      0.,      0.,      0.
583,123678HxCDD       1.5e+04,      0.,      0.,      0.
584,123789HxCDD       1.5e+04,      0.,      0.,      0.
585,2378TCDD          1.5e+04,      0.,      0.,      0.
586,2378TCDF          1.5e+04,      0.,      0.,      0.
590,Hexachloroethene  1.4e-02, 1.0e-03,      0.,      0.
591,Trichlorobenzene       0., 1.0e-02,      0.,      0.
592,124Trichlorb      0.00e+00,5.0e-02,      0.,      0.
593,Molybdenum        0.00e+0, 5.0E-03,      0.,      0.
594,Strontium         0.00E+0, 6.0e-01,      0.,      0.
595,Acenaphthylene    0.00e+0, 0.00e+0,      0.,      0.
596,benzidine         2.3E+02, 3.0e-03,      0.,      0.
597,Chlordane         3.5E-01, 5.0E-04,      0.,      0.
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619,MethylPropylB      0., 3.7e-02,       0.,       0.
620,124TriMethylB     0., 5.0e-02,       0.,       0.
621,135TriMethylB     0., 5.0e-02,       0.,       0.
622,MethylEthylB      0., 3.7e-02,       0.,       0.
623,ButylB            0., 3.7E-02,       0.,       0.
624,12DiMethylB       0., 2.0e+00,       0.,       0.
625,PropylB           0., 3.7e-02,       0.,       0.
626,Aldrin             1.7E+01, 3.0e-05,       0.,       0.
627,Aroclor1016       4.0E-01, 7.0e-05,       0.,       0.
628,Aroclor1221       4.0E-01,       0.,       0.,       0.
629,Aroclor1232       4.0E-01,       0.,       0.,       0.
630,DDD               2.4E-01,       0.,       0.,       0.
631,DDE               3.4E-01,       0.,       0.,       0.
632,DDT               3.4E-01, 5.0E-04,       0.,       0.
633,Alpha-BHC         6.3E+00,       0.,       0.,       0.
634,Beta-BHC          1.8E+00,       0.,       0.,       0.
635,Delta-BHC         1.8E+00,       0.,       0.,       0.
636,Acenaphthylene          0., 6.0e-02,       0.,       0.
637,Benzoic Acid          0., 4.0e+00,       0.,       0.
638,Dibenzofuran          0., 4.0e-03,       0.,       0.
639,Diethylphth           0., 8.0e-01,       0.,       0.
640,24-Dimethylphe        0., 2.0e-02,       0.,       0.
641,Dimethylphth          0., 1.0E+01,       0.,       0.
642,2Methylnaptha         0., 4.0e-03,       0.,       0.
643,2346Tetrachlor        0., 3.0e-02,       0.,       0.
644,Benzyl Alcohol        0., 3.0e-01,       0.,       0.
645,Acentonitrile          0., 6.0e-03       0.,       0.
646,Acrolien              0., 5.0e-04       0.,       0.
647,Acylonitrle       5.4E-01, 1.0E-03,       0.,       0.
648,Bromodichloro     6.2E-02, 2.0E-02,       0.,       0.
649,Bromoform         7.9E-03, 2.0E-02,       0.,       0.
650,Bromometh             0., 1.4E-03,       0.,       0.
651,CarbonDiS            0., 1.0E-01,       0.,       0.
652,Chlorometh       1.3E-02,       0.,       0.,       0.
653,0-ChloroTu           0., 2.0E-02,       0.,       0.
654,Cumene               0., 1.0E-01,       0.,       0.
655,Dibromochloro    8.4E-02, 2.0E-02,       0.,       0.
656,Dichlorodiflo        0., 2.0e-01,       0.,       0.
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657,12cisDichloro          0., 1.0e-02,      0.,      0.
658,12transDichl           0., 2.0E-02,      0.,      0.
659,12Dichlprop      6.8E-02,      0.,      0.,      0.
660,Ethylbenz              0., 1.0E-01,      0.,      0.
661,Nhexane                0., 6.0e-02,      0.,      0.
662,MethylIso              0., 8.0e-02,      0.,      0.
664,PropGlycol             0., 5.0e-01,      0.,      0.
665,Styrene                0., 2.0e-01,      0.,      0.
666,1112Tetra        2.6E-02, 3.0e-02,      0.,      0.
667,1122Tetra        2.0E-01, 6.0e-02,      0.,      0.
668,TriChloFlo             0., 3.0E-01,      0.,      0.
669,123TriChlopr     7.0E+00, 6.0e-03,      0.,      0.
670,Trimethbenz            0., 5.0e-02,      0.,      0.
671,135Trimeth             0., 5.0e-02,      0.,      0.
672,oXylene                0., 2.0e+00,      0.,      0.
673,acetophenone           0., 1.0e-01,      0.,      0.
674,Ethylchlorid     2.9E-03, 4.0E-01,      0.,      0.
675,2Hexanone              0., 4.0e-02,      0.,      0.
676,Methonal               0., 5.0e-01,      0.,      0.
677,MMetacrylate          0., 1.40e+00,      0.,      0.
678,Chlorobenzene          0., 2.0e-02,      0.,      0.
679,Cyanide                0., 2.0e-02,      0.,      0.
680,Dibenz[a,h]      7.3e+00,      0.,      0.,      0.
682,26Dinitrotoluene 6.8e-01, 1.0e-03,      0.,      0.
683,DiNOctylphtalate       0., 4.0e-02,      0.,      0.
684,Endosulfan             0., 6.0e-03,      0.,      0.
685,4Nitrobenzenamin 2.1E-02, 3.0e-03,      0.,      0.
686,4Nitrophenol           0., 6.2e-02,      0.,      0.
687,NNitrosodiphen   4.9e-03, 2.0e-02,      0.,      0.
688,Xylene                 0., 2.0e-01,      0.,      0.
689,12Dichloro.            0., 9.0e-02,      0.,      0.
690,13Dichloro             0., 8.9e-02,      0.,      0.
691,14Dichloro       2.4e-02, 2.3e-01,       0.,      0.
692,Methylcyclo            0., 6.0e-02,      0.,      0.
693,Benzo[g,h,i]     7.30E+00,       0.,      0.,      0.
694,MethylChlor       1.3E-02,       0.,      0.,      0.
695,2MethylNap             0., 4.00E-03,     0.,      0.
696,2Nitrophenol           0., 6.20E-02,     0.,      0.
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697,Aroclor1268        7.7E+00,     0.,       0.,     0.
698,EndosulfanII            0., 6.0e-03,       0.,     0.
699,Aldehyde                0., 3.0E-04,       0.,     0.
700,Ketone                  0., 3.0e-04,       0.,     0.
701,Chlorobenzene           0., 2.0e-02,       0.,     0.
702,Vinyl Chloride     1.4e+00, 3.0e-03,       0.,     0.
703,o-cresol                0., 5.0e-02,       0.,     0.
704,m-cresol                0., 5.0e-02,       0.,     0.
705,p-cresol                0., 5.0e-03,       0.,     0.
706,14Dichlorobenzen   2.4e-02, 2.3E-01,       0.,     0.
707,Hexachlorobenzen   1.6e+00, 8.0e-04,       0.,     0.
708,Hexachlorobutadn   7.8e-02, 2.0e-04,       0.,     0.
709,Hexachloroethane   1.4e-02, 1.0e-03,       0.,     0.
710,Nitrobenzene            0., 5.0e-04,       0.,     0.
711,246-Trichlorphnl   1.1e-02,     0.,       0.,     0.
712,Pyridine                0., 1.0e-03,       0.,     0.
713,24-D                    0., 1.0e-02,       0.,     0.
714,245-TP (Silvex)         0., 8.0e-03,       0.,     0.
715,Chlordane          3.5e-01, 5.0e-04,       0.,     0.
716,Endrin                  0., 3.0e-04,       0.,     0.
717,Heptachlor          4.5e+0, 5.0e-04,       0.,     0.
718,Heptachlor epoxd    9.1e+0, 1.3e-05,       0.,     0.
719,Lindane             1.3e+0, 3.0e-04,       0.,     0.
720,Methoxychlor            0., 5.0e-03,       0.,     0.
721,Toxaphene           1.1e+0,     0.,        0.,     0.
722,Lithium                 0., 2.0E-02,       0.,     0.
723,124trimethylb           0., 5.0e-02,       0.,     0.
724,1hexanol                0., 4.0E-02,       0.,     0.
725,2hexanone               0., 4.0E-02,       0.,     0.
726,butylbenzene            0., 3.8E-02,       0.,     0.


-- Input File:  INVNTRY.DAT
501, 1.00e+10,1.324E+06,    0.,    0., 3.42e0 , 0.,  Acenaphthene
502, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Acetone
503, 1.00E+10,1.324E+06,    0.,    0., 4.5E-02, 0.,  Anthracene
504, 1.00E+10,1.324E+06,    0.,    0.,      0., 0.,  Aluminum
505, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Antimony
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506, 1.00e+10,1.324E+06,    0.,    0., 3.10e-2, 0.,  Arochlors-1242
507, 1.00e+10,1.324E+06,    0.,    0., 3.10e-2, 0.,  Arochlors-1254
508, 1.00e+10,1.324E+06,    0.,    0., 3.10e-2, 0.,  Arochlors-1248
509, 1.00e+10,1.324E+06,    0.,    0., 3.10e-2, 0.,  Arochlors-1260
510, 1.00E+10,1.324E+06,    0.,    0.,      0., 0.,  Arsenic
511, 1.00E+10,1.324E+06,    0.,    0.,      0., 0.,  Barium
512, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Benzene
513, 1.00e+10,1.324E+06,    0.,    0., 5.70e-3, 0.,  BenzoAanthracene
514, 1.00E+10,1.324E+06,    0.,    0.,      0., 0.,  Beryllium
515, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Bis2ethylhexapht
516, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Butylbenzylphtha
517, 1.00E+10,1.324E+06,    0.,    0.,      0., 0.,  Cadmium
518, 1.00E+10,1.324E+06,    0.,    0.,      0., 0.,  Calcium
519, 1.00e+10,1.324E+06,    0.,    0., 1.8E+00, 0.,  Carbazole
520, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Carbontetchl
521, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Chloroform
522, 1.00E+10,1.324E+06,    0.,    0.,      0., 0.,  Chromium III
523, 1.00E+10,1.324E+06,    0.,    0.,      0., 0.,  Chromium VI
524, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Cobalt
525, 1.00E+10,1.324E+06,    0.,    0.,      0., 0.,  Copper
526, 1.00E+10,1.324E+06,    0.,    0., 1.4e-02, 0.,  Benzobflranthene
527, 1.00E+10,1.324E+06,    0.,    0., 4.3E-03, 0.,  BenzoKflranthene
528, 1.00E+10,1.324E+06,    0.,    0., 7.0e-04, 0.,  Benzoghiperylene
529, 1.00E+10,1.324E+06,    0.,    0., 1.2E-03, 0.,  Benzo(a)pyrene
530, 1.00e+10,1.324E+06,    0.,    0., 5.0e-04, 0.,  Dibenzoahanthrac
531, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Dibenzofuran
532, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Dieldrin
533, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Dinbutylphthalat
534, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  Dinoctylphthalat
535, 1.00e+10,1.324E+06,    0.,    0., 2.4e+02, 0.,  24-dinitrotoluen
536, 1.00E+10,1.324E+06,    0.,    0., 2.61e-1, 0.,  Fluoranthene
537, 1.00e+10,1.324E+06,    0.,    0., 1.69e+0, 0.,  Flourene
538, 1.00e+10,1.324E+06,    0.,    0.,      0., 0.,  2-Hexanone
539, 1.00e+10,1.324E+06,    0.,    0., 5.3e-04, 0.,  Indeno123cdpyren
540, 1.00E+10,1.324E+06,    0.,    0.,      0., 0.,  Iron
541, 1.00e+10,1.324E+6,     0.,    0.,      0., 0.,  Isophorone
542, 1.00E+10,1.324E+6,     0.,    0.,      0., 0.,  Lead
543, 1.00E+10,1.324E+6,     0.,    0.,      0., 0.,  Lithium
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544, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Magnesium
545, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Manganese
546, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  Mercury
547, 1.00e+10,1.324E+6,     0.,    0., 1.30E+04, 0.,  Methchloride
548, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  2Methylnaphthale
549, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Naphthalene
550, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Nickel
551, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  NnitroNpropyl
552, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  Pentachloropheno
553, 1.00E+10,1.324E+6,     0.,     0., 1.0E+00, 0.,  Phenanthrene
554, 1.00E+10,1.324E+6,     0.,     0., 9.3e+04, 0.,  Phenol
555, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Potassium
556, 1.00E+10,1.324E+6,     0.,     0., 1.32E-1, 0.,  Pyrene
557, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Selenium
558, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Silver
559, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Sodium
560, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Strontium
561, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  Tetrachloroethen
562, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Thallium
563, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Tin
564, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  Toluene
565, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  Trichloroethene
566, 7.20E+01,1.324E+6,     0.,     0.,       0., 0.,  U-232
567, 1.59E+05,1.324E+6,     0.,     0.,       0., 0.,  U-233
568, 2.44E+05,1.324E+6,     0.,     0.,       0., 0.,  U-234
569, 7.04E+08,1.324E+6,     0.,     0.,       0., 0.,  U-235
570, 2.34E+07,1.324E+6,     0.,     0.,       0., 0.,  U-236
571, 4.47E+09,1.324E+6,     0.,     0.,       0., 0.,  U-238
572, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Vanadium
573, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Zinc
574, 1.00E+10,1.324E+6,     0.,     0.,       0., 0.,  Zirconium
575, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  12378PeCDF
576, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  23478PeCDF
577, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  OCDD
578, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  OCDF
579, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  1234678HpCDD
580, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  1234678HpCDF
581, 1.00e+10,1.324E+6,     0.,     0.,       0., 0.,  123478HxCDF
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582, 1.00e+10,1.324E+6,     0.,    0.,      0., 0.,  12378HxCDD
583, 1.00e+10,1.324E+6,     0.,    0.,      0., 0.,  123678HxCDD
584, 1.00e+10,1.324E+6,     0.,    0.,      0., 0.,  123789HxCDD
585, 1.00e+10,1.324E+6,     0.,    0.,      0., 0.,  2378TCDD
586, 1.00e+10,1.324E+6,     0.,    0.,      0., 0.,  2378TCDF
590, 1.00e+10,1.324E+6,     0.,    0., 8.6e+01, 0.,  Hexachlorethene
591, 1.00e+10,1.324E+6,     0.,    0., 3.0e+02, 0.,  Trichlorobenzene
592, 1.00E+10,1.324E+06,    0.,    0., 5.7e+01, 0.,  124Trichlorb
593, 1.00E+10,1.324E+06,    0.,    0.,7.66E+04, 0.,  Molybdenum
594, 1.00E+10,1.324E+06,    0.,    0., 0.00E+00, 0.,  Strontium
595, 1.00E+10,1.324E+06,    0.,    0., 1.61E+01, 0.,  Acenaphthylene
592, 1.00E+10,1.324E+06,    0.,    0., 3.22E+02, 0.,  benzidine
598, 1.00E+10,1.324E+06,    0.,    0.,     0.056, 0.,  Chlordane
619, 1.00E+10,1.324E+06,    0.,    0., 6.10e+01, 0., MethylPropylB
620, 1.00E+10,1.324E+06,    0.,    0., 5.70e+01, 0., 124TriMethylB
621, 1.00E+10,1.324E+06,    0.,    0., 2.00e+01, 0., 135TriMethylB
622, 1.00E+10,1.324E+06,    0.,    0., 6.10e+01, 0., MethylEthylB
623, 1.00E+10,1.324E+06,    0.,    0., 6.10e+01, 0., ButylB
624, 1.00E+10,1.324E+06,    0.,    0., 2.20e+02, 0., 12DiMethylB
625, 1.00E+10,1.324E+06,    0.,    0., 6.10e+01, 0., PropylB
626, 1.00E+10,1.324E+06,    0.,    0.,    0.017, 0.,  Aldrin
627, 1.00E+10,1.324E+06,    0.,    0.,    0.27, 0.,  Aroclor1016
628, 1.00E+10,1.324E+06,    0.,    0.,     4.83, 0.,  Aroclor1221
629, 1.00E+10,1.324E+06     0.,    0.,     0.09, 0.,  DDD
631, 1.00E+10,1.324E+06,    0.,    0.,     0.04, 0.,  DDE
632, 1.00E+10,1.324E+06,    0.,    0.,   0.0055, 0.,  DDT
633, 1.00E+10,1.324E+06,    0.,    0.,       8., 0.,  Alpha-BHC
634, 1.00E+10,1.324E+06,    0.,    0.,       8., 0.,  Beta-BHC
635, 1.00E+10,1.324E+06,    0.,    0.,       8., 0.,  Delta-BHC
636, 1.00E+10,1.324E+06,    0.,    0., 1.61e+01, 0.,  Acenaphthylene
637, 1.00E+10,1.324E+06,    0.,    0., 3.40e+03, 0.,  Benzolic Acid
638, 1.00E+10,1.324E+06,    0.,    0.,  3.1e+00, 0.,  Dibenzofuran
639, 1.00E+10,1.324E+06,    0.,    0., 1.08e+03, 0.,  Diethylphth
640, 1.00E+10,1.324E+06,    0.,    0., 7.87e+03, 0.,  24-Dimethylphe
641, 1.00E+10,1.324E+06,    0.,    0.,  4.0e+03, 0.,  Dimethylphth
642, 1.00E+10,1.324E+06,    0.,    0., 2.46e+01, 0.,  2Methylnaptha
643, 1.00E+10,1.324E+06,    0.,    0.,  2.3e+01, 0.,  2346Tetrachlor
644, 1.00E+10,1.324E+06,    0.,    0., 4.29e+04, 0.,  Benzyl Alcohol
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645, 1.00E+10,1.324E+06,    0.,    0., 1.00E+06, 0.,  Acentonitrile
646, 1.00E+10,1.324E+06,    0.,    0., .12E+05,  0.,  Acrolien
647, 1.00E+10,1.324E+06,    0.,    0., 7.45E+04,  0., Acylonitrle
648, 1.00E+10,1.324E+06,    0.,    0., 3.03E+03,  0., Bromodichloro
649, 1.00E+10,1.324E+06,    0.,    0.,  .10E+03,  0., Bromoform
650, 1.00E+10,1.324E+06,    0.,    0.,  .52E+04,  0., Bromometh
651, 1.00E+10,1.324E+06,    0.,    0., 1.18E+03,  0., CarbonDiS
652, 1.00E+10,1.324E+06,    0.,    0., 5.32E+03,  0., Chlorometh
653, 1.00E+10,1.324E+06,    0.,    0., 3.74E+02,  0., 0-ChloroTu
654, 1.00E+10,1.324E+06,    0.,    0., 6.13E+01,  0., Cumene
655, 1.00E+10,1.324E+06,    0.,    0., 2.70E+03,  0., Dibromochloro
656, 1.00E+10,1.324E+06,    0.,    0., 2.80E+02,  0., Dichlorodiflo
657, 1.00E+10,1.324E+06,    0.,    0., 3.50E+03,  0., 12cisDichloro
658, 1.00E+10,1.324E+06,    0.,    0., 3.50E+03,  0., 12transDichl
659, 1.00E+10,1.324E+06,    0.,    0., 2.80E+03,  0., 12Dichlprop
660, 1.00E+10,1.324E+06,    0.,    0., 1.69E+02,  0., Ethylbenz
661, 1.00E+10,1.324E+06,    0.,    0., 9.50E+00,  0., Nhexane
662, 1.00E+10,1.324E+06,    0.,    0., 1.90E+04,  0., MethylIso
664, 1.00E+10,1.324E+06,    0.,    0., 1.00E+06,  0., PropGlycol
665, 1.00E+10,1.324E+06,    0.,    0., 3.10E+02,  0., Styrene
666, 1.00E+10,1.324E+06,    0.,    0., 1.07E+03,  0., 1112Tetra
667, 1.00E+10,1.324E+06,    0.,    0., 2.87E+03,  0., 1122Tetra
668, 1.00E+10,1.324E+06,    0.,    0., 1.10E+03,  0., TriChloFlo
669, 1.00E+10,1.324E+06,    0.,    0., 1.75E+03,  0., 123TriChlopr
670, 1.00E+10,1.324E+06,    0.,    0., 5.70E+01,  0., Trimethbenz
671, 1.00E+10,1.324E+06,    0.,    0., 4.82E+01,  0., 135Trimeth
672, 1.00E+10,1.324E+06,    0.,    0., 1.06E+02,  0., oXylene
673, 1.00E+10,1.324E+06,    0.,    0., 6.13E+03,  0., acetophenone
674, 1.00E+10,1.324E+06,    0.,    0., 6.70E+03,  0., Ethylchlorid
675, 1.00E+10,1.324E+06,    0.,    0., 1.75E+04,  0., 2Hexanone
676, 1.00E+10,1.324E+06,    0.,    0., 1.00E+06,  0., Methonal
677, 1.00E+10,1.324E+06,    0.,    0., 1.50e+04, 0.,  MMetacrylate
678, 1.00E+10,1.324E+06,    0.,    0., 4.98e+02, 0.,  Chlorobenzene
679, 1.00E+10,1.324E+06,    0.,    0., 1.00e+06, 0.,  Cyanide
680, 1.00E+10,1.324E+06,    0.,    0., 1.03e-03, 0.,  Dibenz[a,h]
682, 1.00E+10,1.324E+06,    0.,    0., 3.52e+02, 0.,  26Dinitrotoluene
683, 1.00E+10,1.324E+06,    0.,    0., 2.00e-02, 0.,  DiNOctylphtalate
684, 1.00E+10,1.324E+06,    0.,    0., 4.50e-01, 0.,  Endosulfan
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685, 1.00E+10,1.324E+06,    0.,    0., 1.07e-05, 0.,  4Nitrobenzenamin
686, 1.00E+10,1.324E+06,    0.,    0., 1.16e+04, 0.,  4Nitrophenol
687, 1.00E+10,1.324E+06,    0.,    0., 3.50e+01, 0.,  NNitrosodiphen
688, 1.00E+10,1.324E+06,    0.,    0., 1.06E+02, 0.,  Xylene
689, 1.00E+10,1.324E+06,    0.,    0., 8.00E+01, 0.,  12Dichloro
690, 1.00E+10,1.324E+06,    0.,    0., 1.25E+02, 0.,  13Dichloro
691, 1.00E+10,1.324E+06,    0.,    0., 8.13E+01, 0.,  14Dichloro
692, 1.00E+10,1.324E+06,    0.,    0., 1.40E+01, 0.,  Methylcyclo
693, 1.00E+10,1.324E+06,    0.,    0.,  2.6E-04, 0.,  Benzo[g,h,i]
694, 1.00E+10,1.324E+06,    0.,    0.,  5.3E+03, 0.,  MethylChlor
695, 1.00E+10,1.324E+06,    0.,    0.,  2.5E+01, 0.,  2MethylNap
696, 1.00E+10,1.324E+06,    0.,    0.,  2.5E+03, 0.,  2Nitrophenol
697, 1.00E+10,1.324E+06,    0.,    0.,     0.45, 0.,  EndosufanII
698, 1.00E+10,1.324E+06,    0.,    0.,    0.031, 0.,  Aroclor1268
699, 1.00E+10,1.324E+06,    0.,    0.,     0.25, 0.,  Aldehyde
700, 1.00E+10,1.324E+06,    0.,    0.,     0.25, 0.,  Ketone
701, 1.00E+10,1.324E+06,    0.,    0., 4.98e+02, 0.,  Chlorobenzene
702, 1.00E+10,1.324E+06,    0.,    0.,  8.8e+03, 0.,  Vinyl Chloride
703, 1.00E+10,1.324E+06,    0.,    0., 2.59e+04, 0.,  o-cresol
704, 1.00E+10,1.324E+06,    0.,    0., 2.27e+04, 0.,  m-cresol
705, 1.00E+10,1.324E+06,    0.,    0., 2.15e+04, 0.,  p-cresol
706, 1.00E+10,1.324E+06,    0.,    0., 8.13e+01, 0.,  14Dichlorobenzen
707, 1.00E+10,1.324E+06,    0.,    0.,  6.2e-03, 0.,  Hexachlorobenzen
708, 1.00E+10,1.324E+06,    0.,    0.,  3.2e+00, 0.,  Hexachlorobutadn
709, 1.00E+10,1.324E+06,    0.,    0.,  5.0e+01, 0.,  Hexachloroethane
710, 1.00E+10,1.324E+06,    0.,    0., 2.09e+03, 0.,  Nitrobenzene
711, 1.00E+10,1.324E+06,    0.,    0.,  8.0e+02, 0.,  246-Trichlorophnl
712, 1.00E+10,1.324E+06,    0.,    0.,  1.0e+06, 0.,  Pyridine
713, 1.00E+10,1.324E+06,    0.,    0., 6.82e+02, 0.,  24-D
714, 1.00E+10,1.324E+06,    0.,    0.,  2.0e+02, 0.,  245-TP (Silvex)
715, 1.00E+10,1.324E+06,    0.,    0.,  5.6e-02, 0.,  Chlordane
716, 1.00E+10,1.324E+06,    0.,    0.,  2.5e-01, 0.,  Endrin
717, 1.00E+10,1.324E+06,    0.,    0.,  1.8e-01, 0.,  Heptachlor
718, 1.00E+10,1.324E+06,    0.,    0.,  2.0e-01, 0.,  Heptachlor epoxd
719, 1.00E+10,1.324E+06,    0.,    0.,  8.0e+00, 0.,  Lindane
720, 1.00E+10,1.324E+06,    0.,    0.,  1.0e-01, 0.,  Methoxychlor
721, 1.00E+10,1.324E+06,    0.,    0.,  5.5e-01, 0.,  Toxaphene
722, 1.00E+10,1.324E+06,    0.,    0., 1.76e+05, 0.,  Lithium
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723, 1.00E+10,1.324E+06,    0.,    0., 5.70e+01, 0.,  124trimethylb
724, 1.00E+10,1.324E+06,    0.,    0., 5.90e+03, 0.,  1hexanol
725, 1.00E+10,1.324E+06,    0.,    0., 5.90e+03, 0.,  2hexanone
726, 1.00E+10,1.324E+06,    0.,    0., 6.13E+01, 0.,  butylbenzene


-- Input File:  RQSITE.DAT
501,   -92.,   9.2,   92.,  Acenaphthene
502, -0.044,    0., 0.044,  Acetone
503,  -280.,  28.0,  280.,  Anthracene
504,  -353.,  35.3,  353.,  Aluminum
505,   -19.,   1.9,   19.,  Antimony
506,  -130.,  13.0,  130.,  Arochlors-1242
507,-11000.,1100.,11000.,  Arochlors-1254
508, -5600., 560., 5600.,  Arochlors-1248
509, -1.3e5, 1.3e4, 1.3e5,  Arochlors-1260
510,   -29.,   1.9,   19.,  Arsenic
511,   -55.,   5.5,   55.,  Barium
512,   -1.7,    0.,   1.7,  Benzene
513, -2.8e4, 2.8e3, 2.8e4,  BenzoAanthracene
514, -1.4e3, 1.4e2, 1.4e3,  Beryllium
515, -2.0e6, 2.0e4, 2.0e6,  Bis2ethylhexapht
516, -2.0E6,    0., 2.0e6,  Butylbenzylphtha
517,  -420.,  42.0,  420.,  Cadmium
518,  -400.,    0.,  400.,  Calcium
519, -6.78.,  .678, 6.78.,  Carbazole
520,   -2.2,    0.,   2.2,  Carbontetchl
521,  -0.62,    0.,  0.62,  Chloroform
522,   -10.,   1.0,   10.,  Chromium III
523,  -560.,  56.,  560.,  Chromium VI
524,-3.97e6,    0.,  800.,  Cobalt
525,  -30.0,  .419,  4.19,  Copper
526, -1.1e4, 1.1e3, 1.1e4,  Benzobflranthene
527, -1.1e4, 1.1e3, 1.1e4,  BenzoKflranthene
528, -1.1e4, 1.1e4, 1.1e5,  Benzoghiperylene
529, -1.1e5, 1.1e4, 1.1e5,  Benzo(a)pyrene
530, -6.6e4, 6.6e3, 6.6e4,  Dibenzoahanthrac
531,  0.001,    0.,    0.,  Dibenzofuran
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532,   -34.,    0.,   34.,  Dieldrin
533, -1.E-6,    0., 1.E-6,  Dinbutylphthalat
534, -7.2e7,    0., 7.2e7,  Dinoctylphthalat
535,   -0.9,   0.09,   0.9,  24-dinitrotoluen
536,  -760.,  76.,  760.,  Fluoranthene
537,  -150.,  15.,  150.,  Flourene
538,   -0.3,    0.,   0.3,  2-Hexanone
539, -3.2e4, 3.2e3, 3.2e4,  Indeno123cdpyren
540, -1000., 100., 1000.,  Iron
541,   -1.7,    0.,   1.7,  Isophorone
542,  -100.,  10.,  100.,  Lead
543,   -0.8,    0.,   0.8,  Lithium
544,  -400.,    0.,  400.,  Magnesium
545,  -200.,  20.,  200.,  Manganese
546,  -580.,  58.,  580.,  Mercury
547, -2010.,    0., 2010.,  Methchloride
548,   -90.,    0.,   90.,  2Methylnaphthale
549,   -19.,   1.9,   19.,  Naphthalene
550, -1000., 100., 1000.,  Nickel
551,   -0.3,   0.03,   0.3,  NnitroNpropyl
552, -1100.,    0., 1100.,  Pentachloropheno
553,  -280.,    0.,  280.,  Phenanthrene
554,  -0.28,  0.028,  0.28,  Phenol
555,  -3.98,    0.,  30.0,  Potassium
556,  -760.,  76.,  760.,  Pyrene
557,   -15.,   1.5,   15.,  Selenium
558,  -420.,  42.,  420.,  Silver
559,   -10.,    0.,   10.,  Sodium
560,  -13.5,    0.,  13.5,  Strontium
561,   -7.2,    0.,   7.2,  Tetrachloroethen
562,     1.,    0.,    0.,  Thallium
563,   -2.5,  .25,   2.5,  Tin
564,    -6.,    0.,    6.,  Toluene
565,   -2.6,    0.,   2.6,  Trichloroethene
566,  -40.0,   0.7,  20.0,  U-232
567,  -40.0,   0.7,  20.0,  U-233
568,  -40.0,   0.7,  20.0,  U-234
569,  -40.0,   0.7,  20.0,  U-235
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570,  -40.0,    0.7,  20.0,  U-236
571,  -40.0,    0.7,  20.0,  U-238
572,  -100.,   10.,   100.,  Vanadium
573,  -940.,   94.,   940.,  Zinc
574,   -50.,    0.,    50.,  Zirconium
575,     1.,    0.,     0.,  12378PeCDF
576,     1.,    0.,     0.,  23478PeCDF
577,     1.,    0.,     0.,  OCDD
578,     1.,    0.,     0.,  OCDF
579,     1.,    0.,     0.,  1234678HpCDD
580,     1.,    0.,     0.,  1234678HpCDF
581,-1.40e6,    0.,1.40e6,  123478HxCDF
582,-1.46e6,    0.,1.46e6,  12378HxCDD
583,-1.46e6,    0.,1.46e6,  123678HxCDD
584,-1.46e6,    0.,1.46e6,  123789HxCDD
585,-1.50e6,    0.,1.50e6,  2378TCDD
586,     1.,    0.,     0.,  2378TCDF
590,  -0.08,  0.008,  0.08,  Hexachloroethene
591,  -0.49,  0.049,  0.49,  Trichlorobenzene
592,   -1.44, 0.144, 1.44,  124Trichlorb
593,    -20.0,   2.0, 20.0,  Molybdenum
594,   -0.07, 0.007, 0.07,  Strontium
595,   -122.,  12.2, 122.,  Acenaphthylene
596,   -5.48, 0.548, 5.48,  benzidine
597, -173.,   17.3, 173.,   Chlordane
619, -1.65,  0.165,   1.65, MethylPropylB
620, -1.40,  0.140,   1.40, 124TriMethylB
621, -3.34,  0.340,   3.34, 135TriMethylB
622, -1.65,  0.165,   1.65, MethylEthylB
623, -1.65,  0.165,   1.65, BuytlB
624, -0.48,  0.048,   0.48, 12DiMethylB
625, -1.65,  0.165,   1.65, PropylB
626  -97.4,  9.74,  97.4,   Aldrin
627, -3600., 3600.,3600.,   Aroclor1016
628, -120.,  120., 120.,    Aroclor1221
629, -15.0,  15.0, 15.0,    Aroclor1232
630, -91.6,  9.16,  91.6,   DDD
631,  -1.73,  .173, 1.73,   DDE
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632,  -1350.,135., 1350.,   DDT
633,  -3.52, .352,  3.52,   Alpha-BHC
634,  -4.28, .428,  4.28,   Beta-BHC
635,  -4.28, .428,  4.28,   Delta-BHC
636   -12.2,  1.22, 12.2,   Acenaphthylene
637,  -.0012, .00012,.0012, Benzoic Acid
638,  -226.,  22.6, 226.,   Dibenzofuran
639,  -.252, .0252, .252,   Diethylphth
640,  -2.52, .252,  2.52,   24-Dimethlphe
641, -.0742, .00742, .0742, Dimethylphth
642,  -5.94,  .594,  5.94,  2Methylnaptha
643,  -249.,  24.9, 249.,   2346Tetrachlor
644,  -.0313,.00313, .0313, Benzyl Alcohol
645, -0.00154,.000154,.00154,  Acentonitrile
646, -0.00278, .000278, .00278,  Acrolien
647, -0.00444,0.000444,0.00444,  Acylonitrle
648, -0.0108,   0.00108, 0.0108, Bromodichloro
649, -0.252,    0.0252,   0.252, Bromoform
650, -0.0283,  0.00283,  0.0283, Bromometh
651, -0.10300, 0.01030, 0.1030,  CarbonDiS
652, -0.0286,  0.00286,  0.0286, Chlorometh
653, -0.886,    0.0886,   0.886, 0-ChloroTu
654, -1.65,      0.165,   1.65, Cumene
655,  -0.1410,  0.01410,  0.1410, Dibromochloro
656,  -0.01370, 0.00137,  0.0137, Dichlorodiflo
657,  -0.9960,  0.09960,  0.9960, 12cisDichloro
658,  -0.0760,  0.00760,  0.0760, 12transDichl
659,  -0.0940,  0.00940,  0.0940, 12Dichlprop
660,  -0.4080,  0.04080,  0.4080, Ethylbenz
661,  -0.298,    0.0298,   0.298, Nhexane
662,  -0.0047,  0.00047,  0.0047, MethylIso
664,  -0.002,    0.0002,   0.002, PropGlycol
665,  -1.82,      0.182,    1.82, Styrene
666,  -0.318,    0.0318,   0.318, 1112Tetra
667,  -0.158,    0.0156,   0.156, 1122Tetra
668,  -0.268,    0.0268,   0.268, TriChloFlo
669,  -0.161,    0.0161,   0.161, 123TriChlopr
670,  -1.44,      0.144,    1.44, Trimethbenz
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671,  -3.34,       0.334,     3.34, 135Trimeth
672,  -0.482,     0.0462,    0.462, oXylene
673,  -.0924,     .00924,    .0924, acetophenone
674,  -0.0475,   0.00475,   0.0475, Ethylchlorid
675,  -0.026,     0.0026,    0.026, 2Hexanone
676,  -0.002,     0.0002,    0.002, Methonal
677,   -0.020,    0.0020,   0.020,  MMetacrylate
678,  -0.4800,     0.048,    0.48,  Chlorobenzene
679,  -9.9,          0.99,     9.9,  Cyanide
680,  -3580.0,     358.0, 3580.0,   Dibenz[a,h]
682,  -0.0839,   0.00839, 0.0839,   26Dinitrotoluene
683,  -1810000.0,181000.0,1810000.0, DiNOctylphtalate
684,  -4.08,       0.408,    4.08,  Endosulfan
685,  -0.344,     0.0344,    0.344, 4Nitrobenzenamin
686,  -0.874,     0.0874,    0.874, 4Nitrophenol
687,  -0.654,     0.0654,    0.654, NNitrosodiphen
688,  -.886,      0.0886,     .886, Xylene
689,  -0.758,     0.0758,    0.758, 12Dichloro
690,  -16.06,      1.606,    16.06, 13Dichloro
691,  -1.232,     0.1232,    1.232, 14DiChloro
692,  -.199,          0.,       0., Methylcyclo
693, -5.4e+3,   5.4e+2,     5.4E+3, Benzo[g,h,i]
694, -2.8E-2,   2.8e-3,     2.8e-2, MethylChlor
695, -6.0e+0,   6.0e-1,     6.0e+0, 2MethylNap
696, -7.1e-1,    7.1e-2,    7.1e-1, 2Nitrophenol
697,-1.30E+05, 1.30E+05, 1.30E+05, Aroclor1268
698,-4.08E+00, 4.08E+00, 4.08E-01, EndosulfanII
699,-2.16E+01, 2.16E+01, 2.16E+00, Aldehyde
700,-2.16E+01, 2.16E+01, 2.16E+00, Ketone
701,   -.438,     .0438,     .438,   Chlorobenzene
702,   -.372,    .0372,      .372,   Vinyl Chloride
703,  -.182,     .0182,      .182,   o-cresol
704,  -.0956,     .00956, .0956,     m-cresol
705,  -.0922,      .00922, .0922,    p-cresol
706,  -1.232,    .1232,    1.232,   14Dichlorobenzen
707,  -110.,      11.,      110.,   Hexachlorobenzen
708,  -9.35,     0.935,     9.35,   Hexachlorobutadn
709,  -3.56,      .356,     3.56,   Hexachloroethane
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710,  -.129,    .0129,    .129,   Nitrobenzene
711,  -.636,    .0636,    .636,   246-Trichlorophnl
712,  -.0138,  .00138,   .0138,   Pyridine
713,  -.0588,   .00588,  .0588,   24-D
714,  -.1608,  .01608,   .1608,   245-TP (Silvex)
715,  -102.6,    10.26,  102.6,   Chlordane
716,  -21.6,     2.16,    21.6,   Endrin
717,  -48.0,    4.8,      48.0,   Heptachlor
718,  -17.3,    1.73,     17.3,   Heptachlor epoxd
719,  -6.76,     0.676,   6.76,   Lindane
720,  -160.,     16.,     160.,   Methoxychlor
721,  -198.6,    19.86,  198.6,   Toxaphene
722,  -300.,      30.,    300.,   Lithium
723,   -1.440,   0.1440,  1.440,  124trimethylb
724,   -0.026,   0.0026,  0.026,  1hexanol
725,   -0.026,   0.0026,  0.026,  2hexanone
726,   -1.630,   0.1630,  1.630,  butylbenzene

-- Input File:  UPTAKE.DAT
0.5,   0.2,    1.89
0.67,  0.65,   2.1E-3,   438.,   438.
0.0,   2160.,  24.,     1440.,     1.,  0.83
50.,   6.,     48.,      480.,    48.
.05,  0.0008,  60.,        8.,    50.
14.,    176., 110.,        0.,    95.,   730., 6.9
Acenaphthene     .25, 1.2e-1, 1.2e-2, 1.6e-4,   0., 5.0e-4, 1.1e+3
Acetone          .25, 1.3e+1, 1.3e+0, 1.5E-8,   0., 1.5E-8, 1.5E-8
Anthracene       .25, 1.1e-1, 1.1E-3, 2.0E-4,   0., 6.3e-4, 1.3e+3
Aluminum         .25, 4.0e-3, 4.0e-4, 2.0E-4,   0., 1.5e-3, 0.0e+0
Antimony         .25, 5.0e-2, 5.0e-3, 2.5e-5,   0., 4.0e-5, 1.0e+2
Arochlors-1242   .25, 1.6e-1, 1.6e-2, 9.9e-5,   0., 3.1e-4, 7.7e+2
Arochlors-1254   .25, 1.3e-2, 1.3e-3, 7.9e-3,   0., 2.5e-2, 2.1e+4
Arochlors-1248   .25, 1.6e-1, 1.6e-2, 5.0e-3,   0., 1.6e-2, 1.5e+4
Arochlors-1260   .25, 2.9e-3, 2.9e-4, 9.9e-2,   0., 3.1e-1, 1.5e+5
Arsenic          .25, 4.0e-2, 4.0E-3, 6.0E-5,   0., 2.0e-3, 0.0e+0
Barium           .25, 1.0e-1, 1.0E-2, 4.8E-4,   0., 2.0e-4, 4.0e+0
Benzene          .25, 5.8E-1, 5.8E-2, 3.3E-6,   0., 3.3E-6, 3.3E-6
BenzoAanthracene .25, 1.9e-2, 1.9E-3, 4.0E-3,   0., 1.3e-2, 1.3e+4
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Beryllium	.25,	1.0e-2,	1.0E-3,	9.0e-7,	0.,	1.0e-3,	1.0e+2
Bis2ethylhexapht	.25,	5.5e-2,	5.5e-3,	6.3e-4,	0.,	2.0e-3,	3.1e+3
Butylbenzylphtha	.25,	5.5e-2,	5.5e-3,	6.3e-4,	0.,	2.0e-3,	3.1e+3
Cadmium	.25,	5.5e-1,	5.5E-2,	1.0e-3,	0.,	4.0e-4,	2.0E+2
Calcium	.25,	3.6e-2,	3.6E-3,	8.0e-3,	0.,	4.0E-3,	0.0e+0
Carbazole	.25,	2.4e-1,	2.4e-2,	5.0e-5,	0.,	1.6e-4,	4.5e+2
Carbontetchl	.25,	2.9e-1,	2.9e-2,	1.1e-5,	0.,	1.1e-5,	1.1e-5
Chloroform	.25,	7.0e-1,	7.0e-2,	2.3e-6,	0.,	2.3e-6,	2.3e-6
Chromium III	.25,	4.0e-2,	4.0E-3,	1.0e-5,	0.,	9.0e-3,	2.0e+2
Chromium VI	.25,	4.0e-2,	4.0E-3,	1.0e-5,	0.,	9.0e-3,	2.0e+2
Cobalt	.25,	9.4e-3,	9.4e-4,	5.0e-4,	0.,	1.0e-3,	0.
Copper	.25,	8.0e-1,	8.0E-2,	1.5e-3,	0.,	9.0E-3,	5.1e+4
Benzobflranthene	.25,	1.1e-2,	1.1e-3,	9.9e-3,	0.,	3.1e-2,	2.5e+4
BenzoKflranthene	.25,	4.3e-3,	4.3E-4,	5.0e-2,	0.,	1.6e-1,	8.7e+4
Benzoghiperylene	.25,	5.6e-3,	5.6e-4,	3.1e-2,	0.,	1.0e-1,	6.1e+4
Benzo(a)pyrene	.25,	1.1e-2,	1.1E-3,	9.9e-3,	0.,	3.1e-2,	2.5e+4
Dibenzoahanthrac	.25,	4.3e-3,	4.3e-4,	5.0e-2,	0.,	1.6e-1,	8.7e+4
Dibenzofuran	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
Dieldrin	.25,	9.2e-2,	9.2e-3,	7.9e-3,	0.,	7.9e-3,	7.9e-3
Dinbutylphthalat	.25,	5.6e-3,	5.6e-4,	3.2e-3,	0.,	1.0e-2,	0.0e+0
Dinoctylphthalat	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
24-dinitrotoluen	.25,	2.6e+0,	2.6e-1,	7.9e-7,	0.,	2.5e-6,	1.9e+1
Fluoranthene	.25,	5.5e-2,	5.5E-3,	6.3e-4,	0.,	2.0e-3,	3.1e+3
Flourene	.25,	1.1e-1,	1.1e-2,	2.0e-4,	0.,	6.3e-4,	1.3e+3
2-Hexanone	.25,	5.9e-1,	5.9e-2,	2.0e-7,	0.,	6.3e-7,	6.8e+0
Indeno123cdpyren	.25,	5.6e-3,	5.6e-4,	3.1e-2,	0.,	1.0e-1,	6.1e+4
Iron	.25,	1.0e-2,	1.0e-3,	3.0e-5,	0.,	2.0e-2,	2.0e+2
Isophorone	.25,	4.8E-1,	4.8E-2,	4.6e-6,	0.,	4.6e-6,	4.6e-6
Lead	.25,	9.0e-2,	9.0e-3,	3.0e-4,	0.,	4.0e-4,	3.0e+2
Lithium	.25,	0.,	0.,	0.,	0.,	0.,	0.
Magnesium	.25,	1.0e+0,	1.0e-1,	4.0e-3,	0.,	5.0e-3,	0.0e+0
Manganese	.25,	6.8e-1,	6.8E-2,	3.0e-5,	0.,	5.0e-4,	4.0e+2
Mercury	.25,	1.0e+0,	1.0e-1,	4.7e-4,	0.,	1.0e-2,	1.0e+3
MethChoride	.25,	6.7e+0,	6.7e-1,	1.6e-7,	0.,	5.0e-7,	0.0e+0
2Methylnaphthale	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
Naphthalene	.25,	4.6e-1,	4.6E-2,	1.6e-5,	0.,	5.0e-5,	1.9e+2
Nickel	.25,	1.8e-1,	1.8E-2,	1.6e-2,	0.,	5.0e-3,	1.0e+2
NnitroNpropyl	.25,	5.9e+0,	5.9e-1,	2.0e-7,	0.,	6.3e-7,	6.8e+0

Pentachloropheno	.25,	1.2E-2,	1.2E-3,	2.5e-3,	0.,	2.5e-3,	2.5e-3
Phenanthrene	.25,	8.2E-2,	8.2E-3,	3.1e-4,	0.,	1.0e-3,	1.8e+3
Phenol	.25,	5.1E+0,	5.1E-1,	2.5e-7,	0.,	7.9e-7,	8.1e+0
Potassium	.25,	3.7E-1,	3.7E-2,	1.0E-2,	0.,	1.2E-2,	1.0E+3
Pyrene	.25,	5.5e-2,	5.5E-3,	6.3e-4,	0.,	2.0e-3,	3.1e+3
Selenium	.25,	5.0e-1,	5.0e-2,	1.0e-2,	0.,	1.0e-1,	0.0e+0
Silver	.25,	1.0e+0,	1.0E-1,	5.0e-5,	0.,	3.0e-3,	5.0e+0
Sodium	.25,	2.0e-1,	2.0E-2,	1.6e-2,	0.,	8.0e-2,	2.0e+1
Strontium	.25,	1.1E+0,	1.1E-1,	2.8E-3,	0.,	8.0e-3,	0.0E+0
Tetrachloroethen	.25,	3.0e-1,	3.0e-2,	1.0e-5,	0.,	1.0e-5,	1.0e-5
Thallium	.25,	0.,	0.,	0.,	0.,	0.,	0.
Tin	.25,	1.0e+0,	1.0E-1,	1.0e-3,	0.,	1.0e-2,	3.0e+3
Toluene	.25,	2.6e-1,	2.6e-2,	1.3e-5,	0.,	1.3e-5,	1.3e-5
Trichloroethene	.25,	4.1e-1,	4.1e-2,	6.0e-6,	0.,	6.0e-6,	6.0e-6
U-232	.25,	2.3e-2,	2.3E-3,	4.0e-4,	0.,	3.0e-4,	1.0e+1
U-233	.25,	2.3e-2,	2.3E-3,	4.0e-4,	0.,	3.0e-4,	1.0e+1
U-234	.25,	2.3e-2,	2.3E-3,	4.0e-4,	0.,	3.0e-4,	1.0e+1
U-235	.25,	2.3e-2,	2.3E-3,	4.0e-4,	0.,	3.0e-4,	1.0e+1
U-236	.25,	2.3e-2,	2.3E-3,	4.0e-4,	0.,	3.0e-4,	1.0e+1
U-238	.25,	2.3e-2,	2.3E-3,	4.0e-4,	0.,	3.0e-4,	1.0e+1
Vanadium	.25,	5.5e-3,	5.5E-4,	2.0e-5,	0.,	2.5e-3,	1.0e+1
Zinc	.25,	9.9e-1,	9.9E-2,	1.0e-2,	0.,	1.0e-1,	1.0e+3
Zirconium	.25,	0.,	0.,	0.,	0.,	0.,	0.
12378PeCDF	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
23478PeCDF	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
OCDD	.25,	3.1e-4,	3.1e-5,	4.8e+0,	0.,	1.5e+1,	2.8e+6
OCDF	.25,	3.1e-4,	3.1e-5,	4.8e+0,	0.,	1.5e+1,	2.8e+6
1234678HpCDD	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
1234678HpCDF	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
123478HxCDF	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
12378HxCDD	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
123678HxCDD	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
123789HxCDD	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
2378TCDD	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
2378TCDF	.25,	0.0e+0,	0.0e+0,	0.0e+0,	0.,	0.0e+0,	0.0e+0
Hexachloroethene	.25,	2.0e-1,	4.3e-2,	6.3e-5,	0.,	2.0e-4,	5.4e+2
Trichlorobenzene	.25,	1.8e-1,	3.7e-2,	7.9e-5,	0.,	2.5e-4,	6.5e+2
124Trichlorb	.25,	2.44e-1,	2.44e+0,	4.8e-5,	0.,	1.5e-04,	0.0e+0

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Molybdenum        .25, 4.0e-1, 4.0e-2, 1.7e-3,   0., 1.0e-03,0.0e+0
Strontium         .25, 1.1e+0, 1.1e-1, 2.8e-3,   0., 8.0e-03,0.0e+0
Acenaphthylene    .25, 2.7e-1, 2.7e-2, 4.0e-5,   0., 1.3e-04,0.0e+0
benzidine         .25, 6.7e+0, 6.7e-1, 1.6e-7,   0., 5.0e-7, 0.0e+0
Chlordane         .25, 2.5E-2, 2.5E-3, 2.5E-3,   0., 7.9E-3, 0.0e+0
MethylPropylB     .25, 3.5e-1, 3.5e-2, 2.5e-5,   0., 7.9e-5, 0.0e+0
124TriMethylB     .25, 4.1e-1, 4.1e-2, 2.1e-5,   0., 6.6e-5, 0.0e+0
135TriMethylB     .25, 3.9e-1, 3.9e-2, 2.1e-5,   0., 6.6e-5, 0.0e+0
MethylEthylB      .25, 3.5e-1, 3.5e-2, 2.5e-5,   0., 7.9e-5, 0.0e+0
ButylB            .25, 3.5e-1, 3.5e-2, 2.5e-5,   0., 7.9e-5, 0.0e+0
12DiMethylB       .25, 6.0e-1, 6.0e-2, 1.1e-5,   0., 3.4e-5, 0.0e+0
PropylB           .25, 3.5e-1, 3.5e-2, 2.5e-5,   0., 7.9e-5, 0.0e+0
Aldrin            .25, 6.9e-1, 6.9e-2, 7.9e-6,   0., 2.5e-5, 0.0e+0
Aroclor1016       .25, 1.4e-2, 1.4e-3, 6.3e-7,   0., 2.0e-2, 0.0e+0
Aroclor1221       .25, 1.6e-1, 1.6e-2, 9.9e-5,   0., 3.1e-4, 0.0e+0
Aroclor1232       .25, 5.3e-1, 5.3e-2, 1.3e-5,   0., 4.0e-5, 0.0e+0
DDD               .25, 1.6e-2, 1.6e-3, 5.0e-3,   0., 1.6e-2, 0.0e+0
DDE               .25, 1.9e-2, 1.9e-3, 4.0e-3,   0., 1.3e-2, 0.0e+0
DDT               .25, 7.8e-3, 7.8e-4, 1.8e-2,   0., 5.7e-2, 0.0e+0
Alpha-BHC         .25, 2.1e-1, 2.1e-2, 6.3e-5,   0., 2.0e-4, 0.0e+0
Beta-BHC          .25, 1.8e-1, 1.8e-2, 7.9e-5,   0., 2.5e-4, 0.0e+0
Delta-BHC         .25, 9.0e-1, 9.0e-2, 5.0e-6,   0., 1.6e-5, 0.0e+0
Acenaphthylene    .25, 2.7e-1, 2.7e-2, 4.0e-5,   0., 1.3e-4, 0.0e+0
Benzoic Acid      .25, 3.0e+0, 3.0e-1, 6.3e-7,   0., 2.0e-6, 0.0e+0
Dibenzofuran      .25, 1.5e-1, 1.5e-2, 1.0e-4,   0., 3.3e-4, 0.0e+0
Diethylphth       .25, 1.3e+0, 1.3e-1, 2.5e-6,   0., 7.9e-6, 0.0e+0
24-Dimethylphe    .25, 1.8e+0, 1.8e-1, 1.6e-6,   0., 5.0e-6, 0.0e+0
Dimethylphth      .25, 4.5e+0, 4.5e-1, 3.1e-7,   0., 1.0e-6, 0.0e+0
2Methylnaptha     .25, 2.1e-1, 2.1e-2, 6.3e-5,   0., 2.0e-4, 0.0e+0
2346Tetrachlor    .25, 1.6e-1, 1.6e-2, 9.9e-5,   0., 3.1e-4, 0.0e+0
Benzyl Alcohol    .25, 8.7e+0, 8.7e-1, 9.9e-8,   0., 3.1e-7, 0.0e+0
Acentonitrile     .25, 6.0e+1, 6.0e+0,  3.6e-9,   0., 1.1e-8, 0.0e+0
Acrolien          .25, 4.3e+1, 4.3e+0,  6.3e-9,   0., 2.0e-8, 0.0e+0
Acylonitrle       .25, 2.7e+1, 2.7e+0,  1.4e-8,   0., 4.4e-8, 0.0e+0
Bromodichloro     .25, 2.3e+0, 2.3e-1,  9.9e-7,   0., 3.1e-6, 0.0e+0
Bromoform         .25, 1.5E+0, 1.5e-1,  2.0e-6,   0., 6.3e-6, 0.0e+0
Bromometh         .25, 7.7E+0, 7.7e-1,  1.3e-7,   0., 4.0e-7, 0.0e+0
CarbonDiS         .25, 2.0e+0, 2.0e-1,  1.3e-6,   0., 4.0e-6, 0.0e+0
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Chlorometh          .25, 1.1e+1, 1.1e+0,  6.4e-8,   0., 2.0e-7, 0.0e+0
0-ChloroTu          .25, 4.1E-1, 4.1e-2,  2.0e-5,   0., 6.3e-5, 0.0e+0
Cumene              .25, 3.5E-1, 3.5e-2,  2.5e-5,   0., 7.9e-5, 0.0e+0
Dibromochloro       .25, 2.0E+0, 2.0e-1,  1.3e-6,   0., 4.0e-6, 0.0e+0
Dichlorodiflo       .25, 2.0E+0, 2.0e-1,  1.3e-6,   0., 4.0e-6, 0.0e+0
12cisDichloro       .25, 3.0e+0, 3.0e-1,  6.3e-7,   0., 2.0e-6, 0.0e+0
12transDichl        .25, 2.0e+1, 2.0e+0,  2.4e-8,   0., 7.5e-8, 0.0e+0
12Dichlprop         .25, 2.6e+0, 2.6e-1,  7.9e-7,   0., 2.5e-6, 0.0e+0
Ethylbenz           .25, 6.1e-1, 6.1e-2,  9.9e-6,   0., 3.1e-5, 0.0e+0
Nhexane             .25, 2.1e-1, 2.1e-2,  6.3e-5,   0., 2.0e-4, 0.0e+0
MethylIso           .25, 7.7e+0, 7.7e-1,  1.3e-7,   0., 4.0e-7, 0.0e+0
PropGlycol          .25, 3.7e+2, 3.7e+1,  1.6e-10,  0., 5.0e-10, 0.0e+0
Styrene             .25, 7.9e-1, 7.9e-2,  6.3e-6,   0., 2.0e-5, 0.0e+0
1112Tetra           .25, 6.9e-1, 6.9e-2,  7.9e-6,   0., 2.5e-5, 0.0e+0
1122Tetra           .25, 1.5e+0, 1.5e-1,  2.0e-6,   0., 6.3e-6, 0.0e+0
TriChloFlo          .25, 1.3e+0, 1.3e-1,  2.5e-6,   0., 7.9e-6, 0.0e+0
123TriChlopr        .25, 8.2e-2, 8.2e-3,  3.1e-4,   0., 1.0e-3, 0.0e+0
Trimethbenz         .25, 2.4e-1, 2.4e-2,  4.8e-5,   0., 1.5e-4, 0.0e+0
135Trimeth          .25, 3.9e-1, 3.9e-2,  2.1e-5,   0., 6.6e-5, 0.0e+0
oXylene             .25, 5.3e-1, 5.3e-2,  1.3e-5,   0., 4.0e-5, 0.0e+0
acetophenone        .25, 3.9e+0, 3.9e-1,  4.0e-7,   0., 1.3e-6, 0.0e+0
Ethylchlorid        .25, 5.9e+0, 5.9e-1,  2.0e-7,   0., 6.3e-7, 0.0e+0
2Hexanone           .25, 5.9e+0, 5.9e-1,  2.0e-7,   0., 6.3e-7, 0.0e+0
Methonal            .25, 1.1E+2, 1.1e+1,  1.3E-9,   0., 4.2E-9, 0.0e+0
MMetacrylate         .25, 6.7e+0, 6.7e-1, 1.6e-7,   0., 5.0e-7, 0.0e+0
Chlorobenzene       .25, 9.0e-1, 9.0e-2, 5.0e-6,   0., 1.6e-5, 3.1e+1
Cyanide             .25, 8.7e+0, 8.7e-1, 9.9e-8,   0., 3.1e-7, 3.5e+0
Dibenz[a,h]         .25, 4.3e-3, 4.3e-4, 5.0e-2,   0., 1.6e-1, 6.3e+0
26Dinitrotoluene .25, 3.9e+0, 3.9e-1, 4.0e-7,   0., 1.3e-6, 6.2e+0
DiNOctylphtalate .25, 1.8e-4, 1.8e-5, 1.3e+1,   0., 4.0e+1, 8.9e+1
Endosulfan          .25, 3.3e-1, 3.3e-2, 2.8e-5,   0., 8.9e-5, 5.2e+3
4Nitrobenzenamin .25, 6.8e+0, 6.8e-1, 2.0e-7,   0., 6.2e-7, 9.6e+2
4Nitrophenol        .25, 3.0e-0, 3.0e-1, 6.3e-7,   0., 2.0e-6, 3.1e+2
NNitrosodiphen      .25, 6.1e-1, 6.1e-2, 9.9e-6,   0., 3.0e-5, 5.3e+0
Xylene              .25, 4.6e-1, 4.6e-2, 1.6e-5,   0., 5.0e-5, 5.5e+1
12Dichloro          .25, 4.1e-1, 4.1e-2, 2.0e-5,   0., 6.3e-5, 8.7e+1
13Dichloro          .25, 3.1e-1, 3.1e-2, 3.1e-5,   0., 1.0e-4, 1.0e+2
14Dichloro          .25, 4.1e-1, 4.1e-2, 2.0e-5,   0., 6.3e-5, 8.9e+1
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Methylcyclo      .25, 8.3e-1, 8.3e-2, 5.7e-6,   0., 1.8e-5, 1.2e+2
Benzo[g,h,i]     .25, 5.6e-3, 5.6e-4, 3.1e-2,   0., 1.0e-1,  0.
MethylChlor      .25, 1.1e+1, 1.1e+0, 6.4e-8,   0., 2.0e-7,  0.
2MethylNap       .25, 2.1e-1, 2.1e-2, 6.3e-5,   0., 2.0e-4,  0.
Aroclor1268      .25, 2.9e-3, 2.9e-4, 9.9e-2,   0., 3.1e-1, 0.0e+0
EndosulfanII     .25, 3.3e-1, 3.3e-2, 2.8e-5,   0., 8.9e-5, 0.0e+0
Aldehyde         .25, 8.2e-2, 8.2e-3, 3.1e-4,   0., 1.0e-3, 0.0e+0
Ketone           .25, 8.2e-2, 8.2e-3, 3.1e-4,   0., 1.0e-3, 0.0e+0
Chlorobenzene    .25, 9.0e-1, 9.0e-2, 5.0e-6,   0., 1.6e-5, 0.0e+0
Vinyl Chloride   .25, 5.9e+0, 5.9e-1, 2.0e-7,   0., 6.3e-7, 0.0e+0
o-cresol         .25, 3.0e+0, 3.0e-1, 6.3e-7,   0., 2.0e-6, 0.0e+0
m-cresol         .25, 2.6e+0, 2.6e-1, 7.9e-7,   0., 2.5e-6, 0.0e+0
p-cresol         .25, 3.0e+0, 3.0e-1, 6.3e-7,   0., 2.0e-6, 0.0e+0
14Dichlorobenzen .25, 4.1e-1, 4.1e-2, 2.0e-5,   0., 6.3e-5, 0.0e+0
Hexachlorobenzen .25, 3.2e-2, 3.2e-3, 1.6e-3,   0., 5.0e-3, 0.0e+0
Hexachlorobutadn .25, 6.2e-2, 6.2e-3, 5.0e-4,   0., 1.6e-3, 0.0e+0
Hexachloroethane .25, 2.1e-1, 2.1e-2, 6.3e-5,   0., 2.0e-4, 0.0e+0
Nitrobenzene     .25, 3.4e+0, 3.4e-1, 5.0e-7,   0., 1.6e-6, 0.0e+0
246-Trichlorphnl .25, 2.7e-1, 2.7e-2, 4.0e-5,   0., 1.3e-4, 0.0e+0
Pyridine         .25, 6.7e+0, 6.7e-1, 1.6e-7,   0., 5.0e-7, 0.0e+0
24-D             .25, 1.3e+0, 1.3e-1, 2.5e-6,   0., 7.9e-6, 0.0e+0
245-TP (Silvex)  .25, 2.1e-1, 2.1e-2, 6.3e-5,   0., 2.0e-4, 0.0e+0
Chlordane        .25, 2.5e-2, 2.5e-3, 2.5e-3,   0., 7.9e-3, 0.0e+0
Endrin           .25, 8.2e-2, 8.2e-3, 3.1e-4,   0., 1.0e-3, 0.0e+0
Heptachlor       .25, 1.2e-1, 1.2e-2, 1.6e-4,   0., 5.0e-4, 0.0e+0
Heptachlor epoxd .25, 2.8e-2, 2.8e-3, 2.0e-3,   0., 6.3e-3, 0.0e+0
Lindane          .25, 2.7e-1, 2.7e-2, 4.0e-5,   0., 1.3e-4, 0.0e+0
Methoxychlor     .25, 1.1e-1, 1.1e-2, 2.0e-4,   0., 6.3e-4, 0.0e+0
Toxaphene        .25, 6.2e-2, 6.2e-3, 5.0e-4,   0., 1.6e-3, 0.0e+0
Lithium          .25, 2.5e-2, 2.5e-3, 2.0e-2,   0., 1.0e-2, 0.0e+0
124trimethylb    .25, 2.4e-1, 2.4e-2, 4.8e-5,   0., 1.5e-4, 0.0e+0
1hexanol         .25, 5.9e+0, 5.9e-1, 2.0e-7,   0., 6.3e-7, 0.0e+0
2hexanone        .25, 5.9e+0, 5.9e-1, 2.0e-7,   0., 6.3e-7, 0.0e+0
butylbenzene     .25, 3.5e-1, 3.5e-2, 2.5e-5,   0., 7.9e-5, 0.0e+0
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THERE ARE 202 CONTAMINANTS IN THE RISK FACTOR LIBRARY
NUMBER OF TIMES FOR CALCULATION IS 2
YEARS TO BE CALCULATED ARE ...

1000.00100000.00

THERE ARE 47 CONTAMINANTS IN THE INVENTORY FILE
THE VALUE OF IFLAG IS 0
NUMBER OF PATHWAYS IS 5

	PATHWAY	TYPE OF USAGE FOR UPTAKE FACTORS
1	GROUNDWATER TO RIVER	2
0	3X,I2,2X,A22,6X,I2))□□	0
0	3X,I2,2X,A22,6X,I2))□□	0
0	3X,I2,2X,A22,6X,I2))□□	0
0	3X,I2,2X,A22,6X,I2))□□	0

TIME OF OPERATION OF WASTE FACILITY IN YEARS	0.
LENGTH OF REPOSITORY (M)	166.
WIDTH OF REPOSITORY (M)	525.
RIVER FLOW RATE (M**3/YR)	2.23E+05
STREAM FLOW RATE (M**3/YR)	1.00E+00
DISTANCE TO RIVER (M)	74.
OPERATIONAL SPILLAGE FRACTION	0.00E+00
DENSITY OF AQUIFER (KG/M**3)	1800.
LONGITUDINAL DISPERSIVITY (M)	6.00E+00
LATERAL DISPERSION COEFFICIENT -- Y AXIS (M**2/YR)	0.00E+00
NUMBER OF MESH POINTS FOR DISPERSION CALCULATION	20
FLAG FOR ATMOSPHERIC PATHWAY	0
COVER THICKNESS OVER WASTE (M)	4.00
THICKNESS OF WASTE IN PITS (M)	15.30
TOTAL WASTE VOLUME (M**3)	1.324E+00

DISTANCE TO WELL -- X COORDINATE (M)	-1.
DISTANCE TO WELL -- Y COORDINATE (M)	0.
DENSITY OF WASTE (KG/M**3)	1600.
FRACTION OF FOOD CONSUMED THAT IS GROWN ON SITE	.400
FRACTION OF YEAR CONTAMINANTS CONTACT SKIN	.705
AREA OF SKIN IN CONTACT WITH CONTAMINANTS (M**2)	.0100
DEPTH OF PLANT ROOT ZONE (M)	.900
AREAL DENSITY OF PLANTS (KG/M**2)	1.000
AVERAGE DUST LOADING IN AIR (KG/M**3)	1.00E-07
ANNUAL ADULT BREATHING RATE (M**3/YR)	8000.
FRACTION OF YEAR EXPOSED TO DUST	.705
CANISTER LIFETIME (YEARS)	0.
INVENTORY SCALING FACTOR	1.00E+00
HEIGHT OF ROOMS IN RECLAIMER HOUSE (CM)	240.
AIR CHANGE RATE IN RECLAIMER HOUSE (CHANGES/SEC)	5.56E-04
ATMOSPHERIC STABILITY CLASS	4
AVERAGE WIND SPEED (M/S)	6.30
FRACTION OF TIME WIND BLOWS TOWARD RECEPTOR	.2300
RECEPTOR DISTANCE FOR ATMOSPHERIC PATHWAY (M)	.0
DUST RESUSPENSION RATE FOR OFFSITE TRANSPORT (M**3/S)	1.10E-06
DEPOSITION VELOCITY (M/S)	.0100
STACK HEIGHT (M)	.0
STACK INSIDE DIAMETER (M)	.00
STACK GAS VELOCITY (M/S)	.0
HEAT EMISSION RATE FROM BURNING (CAL/S)	0.00E+00
FLAGS FOR DEGRADATION SERIES 0 0 0 0 0 0 0	
FLAG FOR INPUT SUMMARY PRINTOUT	1
FLAG FOR DIRECTION OF TRENCH FILLING	0
FLAG FOR GROUNDWATER PATHWAY OPTIONS	1
AMOUNT OF WATER PERCOLATING THROUGH WASTE ANNUALLY (M)	9.10E-03
DEGREE OF SOIL SATURATION	1.000
RESIDUAL SOIL SATURATION	.000

PERMEABILITY OF VERTICAL ZONE (M/YR)	.32
SOIL NUMBER	.000
POROSITY OF AQUIFER	.04
POROSITY OF UNSATURATED ZONE	.25
DISTANCE FROM AQUIFER TO WASTE (M)	4.6
AVERAGE VERTICAL GROUNDWATER VELOCITY (M/YR)	2.50E-02
HORIZONTAL VELOCITY OF AQUIFER (M/YR)	4.60E+00
LENGTH OF PERFORATED WELL CASING (M)	10.000
SURFACE EROSION RATE (M/YR)	1.000E-05
LEACH RATE SCALING FACTOR	1.000E+00
ANNUAL RUNOFF OF PRECIPITATION (M)	0.00E+00

***** PEAK CONCENTRATIONS AND TIMES FOR PATHWAY 1 *****
***** RIVER AT 73.9 M *****

CONTAMINANT	PEAK CONCENTRATION (MG/L)	PEAK TIME (YR)	AVERAGE DOSE AT PEAK TIME (MG/KG-DAY)	AVERAGE RISK AT PEAK TIME (HE/LIFE)	FRACTION OF ADI
Acenaphthene	1.22E-02	177522.2	3.51E-04	0.00E+00	5.84E-04
Acetone	1.10E+01	453.7	3.16E-01	0.00E+00	3.16E+00
Anthracene	1.60E-04	539720.4	4.62E-06	0.00E+00	1.54E-05
Aluminum	6.25E-03	680361.1	1.81E-04	0.00E+00	4.54E-01
Antimony	1.15E-01	40234.3	3.31E-03	0.00E+00	8.27E+00
Arochlors-1242	1.10E-04	250732.5	3.17E-06	2.44E-05	0.00E+00
Arochlors-1254		> 1000000.0			
Arochlors-1248		> 1000000.0			
Arochlors-1260		> 1000000.0			
Arsenic	7.57E-02	40234.3	2.20E-03	3.30E-03	7.34E+00
Barium	4.00E-02	106238.6	1.15E-03	0.00E+00	1.65E-02
Benzene	1.19E+00	3066.4	3.41E-02	9.89E-04	0.00E+00
BenzoAanthracene		> 1000000.0			
Beryllium		> 1000000.0			
Bis2ethylhexapht		> 1000000.0			
Butylbenzylphtha		> 1000000.0			
Cadmium	5.25E-03	809442.4	1.53E-04	0.00E+00	3.05E-01
Calcium	5.52E-03	662651.2	1.75E-04	0.00E+00	0.00E+00
Carbazole	6.40E-03	14551.2	1.84E-04	3.68E-06	0.00E+00
Carbontetchl	9.37E-01	3894.4	2.69E-02	3.49E-03	3.84E+01
Chloroform	2.84E+00	1533.5	8.15E-02	4.97E-04	8.15E+00
Chromium III	2.17E-01	21318.8	6.62E-03	0.00E+00	6.62E-03
Chromium VI	3.94E-03	1079164.4	1.20E-04	0.00E+00	2.40E-02
Cobalt		> 1000000.0			
Copper	7.32E-02	9107.7	2.26E-03	0.00E+00	6.11E-02
Benzobflranthene		> 1000000.0			
BenzoKflranthene		> 1000000.0			
Benzoghiperylene		> 1000000.0			
Benzo(a)pyrene		> 1000000.0			
Dibenzoahanthrac		> 1000000.0			
Dibenzofuran	5.94E+00	401.9	1.70E-01	0.00E+00	4.26E+01

Dieldrin	6.46E-02	56555.2	2.10E-03	2.72E-02	4.19E+01
Dinbutylphthalat	1.41E+01	401.9	4.46E-01	0.00E+00	4.46E+00
Dinoctylphthalat		> 1000000.0			
24-dinitrotoluen	8.54E-01	2193.0	2.45E-02	1.66E-05	1.22E+01
Fluoranthene		> 1000000.0			
Flourene	6.01E-03	289264.2	1.73E-04	0.00E+00	4.34E-03
2-Hexanone	4.84E+00	897.6	1.39E-01	0.00E+00	0.00E+00
Indeno123cdpyren		> 1000000.0			
Iron		> 1000000.0			
Isophorone	1.19E+00	3066.4	3.41E-02	3.24E-05	1.71E-01
Lead	2.20E-02	192934.9	6.36E-04	0.00E+00	4.54E-01
Lithium	2.31E+00	1576.0	6.62E-02	0.00E+00	3.31E+00
Magnesium	5.52E-03	662651.2	1.75E-04	0.00E+00	0.00E+00
Manganese	1.10E-02	385593.5	3.17E-04	0.00E+00	6.75E-03
Mercury	3.80E-03	1117696.1	1.17E-04	0.00E+00	3.91E-01
MethChoride	1.25E+01	458.0	3.59E-01	2.69E-03	5.99E+00
2Methylnaphthale	2.45E-02	149291.2	7.02E-04	1.00E-05	1.17E-02
Naphthalene	1.15E-01	40234.3	3.31E-03	0.00E+00	9.18E-02
Nickel		> 1000000.0			
NnitroNpropyl	4.84E+00	932.0	1.39E-01	9.71E-01	0.00E+00
Pentachloropheno		> 1000000.0			
Phenanthrene	3.56E-03	463931.2	1.03E-04	1.19E-03	0.00E+00
Phenol	5.06E+00	889.9	1.45E-01	0.00E+00	2.42E-01
Potassium	5.34E-01	42170.4	1.81E-02	0.00E+00	0.00E+00
Pyrene		> 1000000.0			
Selenium	1.46E-01	31827.4	7.48E-03	0.00E+00	1.50E+00
Silver	5.25E-03	809442.4	1.54E-04	0.00E+00	3.08E-02
Sodium	2.17E-01	16811.2	1.07E-02	0.00E+00	0.00E+00
Strontium	1.62E-01	22607.2	5.02E-03	0.00E+00	8.37E-03
Tetrachloroethen	3.00E-01	12174.4	8.61E-03	4.48E-04	8.61E-01
Thallium	1.59E+02	214.6	4.56E+00	0.00E+00	5.69E+04
Tin	8.31E-01	5555.8	2.57E-02	0.00E+00	4.29E-02
Toluene	3.59E-01	10187.2	1.03E-02	0.00E+00	5.14E-02
Trichloroethene	8.01E-01	4556.8	2.30E-02	2.53E-04	0.00E+00
U-233	4.83E-02	29518.5	1.39E-03	0.00E+00	4.64E-01
U-234	5.05E-02	29624.8	1.46E-03	0.00E+00	4.86E-01
U-235	5.50E-02	34039.3	1.59E-03	0.00E+00	5.29E-01
U-236	5.49E-02	30635.4	1.58E-03	0.00E+00	5.28E-01

U-238	5.50E-02	34039.3	1.59E-03	0.00E+00	5.29E-01
Vanadium	2.20E-02	192934.9	6.43E-04	0.00E+00	9.19E-02
Zinc		> 1000000.0			
Zirconium	4.40E-02	83051.2	1.26E-03	0.00E+00	3.61E-02
12378PeCDF	1.59E+02	214.6	4.56E+00	6.83E+03	0.00E+00
23478PeCDF	1.59E+02	214.6	4.56E+00	6.83E+02	0.00E+00
OCDD	1.59E+02	214.6	6.88E+02	2.07E+03	0.00E+00
OCDF	1.59E+02	214.6	6.88E+02	2.07E+03	0.00E+00
1234678HpCDD	1.59E+02	214.6	4.56E+00	1.37E+02	0.00E+00
1234678HpCDF	1.59E+02	214.6	4.56E+00	1.37E+02	0.00E+00
123478HxCDF		> 1000000.0			
12378HxCDD		> 1000000.0			
123678HxCDD		> 1000000.0			
123789HxCDD		> 1000000.0			
2378TCDD		> 1000000.0			
2378TCDF	1.59E+02	214.6	4.56E+00	1.37E+03	0.00E+00
Hexachloroethene	3.06E-01	626.1	8.79E-03	1.23E-04	8.79E+00
124Trichlorb	2.03E-01	3327.9	5.82E-03	0.00E+00	1.16E-01
Molybdenum	1.09E-01	42336.1	3.21E-03	0.00E+00	6.43E-01
Strontium	1.62E-01	22607.2	5.02E-03	0.00E+00	8.37E-03
Acenaphthylene	1.81E-02	235319.8	5.19E-04	0.00E+00	0.00E+00
benzidine	3.92E-01	11818.9	1.12E-02	2.58E+00	3.74E+00
Chlordane	1.99E-04	333575.7	6.16E-06	2.16E-06	1.23E-02
Cumene	1.22E-03	3769.3	3.51E-05	0.00E+00	3.51E-04
MethylPropylB	1.22E-03	3769.3	3.51E-05	0.00E+00	9.48E-04
124TriMethylB	1.42E-03	3243.9	4.07E-05	0.00E+00	8.14E-04
135TriMethylB	6.31E-04	7328.1	1.81E-05	0.00E+00	3.62E-04
MethylEthylB	1.22E-03	3769.3	3.51E-05	0.00E+00	9.48E-04
ButylB	1.22E-03	3769.3	3.51E-05	0.00E+00	9.48E-04
12DiMethylB	3.47E-03	1310.3	9.95E-05	0.00E+00	4.98E-05
PropylB	1.22E-03	3769.3	3.51E-05	0.00E+00	9.48E-04
Aldrin	6.05E-05	187925.8	1.73E-06	2.95E-05	5.78E-02
Aroclor1016		> 1000000.0			
Aroclor1221	1.70E-02	543728.5	4.88E-04	1.95E-04	0.00E+00
Aroclor1232	1.72E-02	110340.9	4.93E-04	1.97E-04	0.00E+00
DDD	3.20E-04	176751.6	1.06E-05	2.55E-06	0.00E+00
DDE	1.42E-04	3937.4	4.60E-06	1.57E-06	0.00E+00
DDT		> 1000000.0			

Alpha-BHC	2.85E-02	7699.5	8.18E-04	5.15E-03	0.00E+00
Beta-BHC	2.85E-02	9296.9	8.18E-04	1.47E-03	0.00E+00
Delta-BHC	2.85E-02	9296.9	8.16E-04	1.47E-03	0.00E+00
Acenaphthylene	5.73E-02	25942.6	1.64E-03	0.00E+00	2.74E-02
Benzoic Acid	1.21E+01	405.3	3.47E-01	0.00E+00	8.67E-02
Dibenzofuran	9.76E-03	435684.7	2.81E-04	0.00E+00	7.02E-02
Diethylphth	3.84E+00	831.1	1.10E-01	0.00E+00	1.38E-01
24-Dimethylphe	8.25E-01	5597.8	2.37E-02	0.00E+00	1.18E+00
Dimethylphth	9.58E+00	609.9	2.75E-01	0.00E+00	2.75E-02
2Methylnaptha	8.75E-02	12785.7	2.51E-03	0.00E+00	6.29E-01
2346Tetrachlor	8.86E-03	479996.2	2.55E-04	0.00E+00	8.49E-03
Benzyl Alcohol	1.18E+01	489.6	3.38E-01	0.00E+00	1.13E+00
Acentonitrile	1.40E+01	406.3	4.01E-01	0.00E+00	6.69E+01
Acrolien	1.39E+01	409.7	3.98E-01	0.00E+00	7.96E+02
Acylonitrle	1.37E+01	414.4	3.94E-01	2.13E-01	3.94E+02
Bromodichloro	1.08E+01	432.2	3.09E-01	1.92E-02	1.55E+01
Bromoform	5.41E+00	831.1	1.55E-01	1.22E-03	7.75E+00
Bromometh	1.20E+01	481.2	3.43E-01	0.00E+00	2.45E+02
CarbonDiS	4.20E+00	690.6	1.20E-01	0.00E+00	1.20E+00
Chlorometh	1.19E+01	482.1	3.42E-01	4.45E-03	0.00E+00
0-ChloroTu	1.33E+00	2163.6	3.82E-02	0.00E+00	1.91E+00
Dibromochloro	7.42E+00	797.1	2.13E-01	1.79E-02	1.06E+01
Dichlorodiflo	9.96E-01	440.3	2.86E-02	0.00E+00	1.43E-01
12cisDichloro	1.92E+00	2394.8	5.49E-02	0.00E+00	5.49E+00
12transDichl	9.50E+00	614.9	2.73E-01	0.00E+00	1.36E+01
12Dichlprop	8.82E+00	582.2	2.53E-01	1.72E-02	0.00E+00
Ethylbenz	6.01E-01	1159.0	1.72E-02	0.00E+00	1.72E-01
Nhexane	3.38E-02	927.8	9.71E-04	0.00E+00	1.62E-02
MethylIso	1.37E+01	415.1	3.93E-01	0.00E+00	4.92E+00
MethChloride	1.25E+01	458.0	3.59E-01	2.69E-03	5.99E+00
PropGlycol	1.39E+01	407.5	4.00E-01	0.00E+00	8.01E-01
Styrene	1.10E+00	4126.6	3.16E-02	0.00E+00	1.58E-01
1112Tetra	3.81E+00	969.8	1.09E-01	2.84E-03	3.64E+00
1122Tetra	7.02E+00	734.2	2.01E-01	4.03E-02	3.36E+00
TriChloFlo	3.91E+00	1008.8	1.12E-01	0.00E+00	3.74E-01
123TriChlopr	6.22E+00	853.1	1.80E-01	1.26E+00	3.00E+01
Trimethbenz	2.03E-01	3327.9	5.82E-03	0.00E+00	1.16E-01
135Trimeth	1.71E-01	7321.2	4.92E-03	0.00E+00	9.84E-02

oXylene	3.77E-01	1272.5	1.08E-02	0.00E+00	5.41E-03
acetophenone	8.88E+00	660.9	2.55E-01	0.00E+00	2.55E+00
Ethylchlorid	1.08E+01	535.0	3.11E-01	9.01E-04	7.77E-01
2Hexanone	1.21E+01	474.8	3.47E-01	0.00E+00	8.68E+00
Methonal	1.39E+01	407.5	4.00E-01	0.00E+00	8.00E-01
MMetacrylate	1.25E+01	458.0	3.59E-01	0.00E+00	2.57E-01
Chlorobenzene	1.77E+00	1310.3	5.08E-02	0.00E+00	2.54E+00
Cyanide	2.19E-01	21108.6	6.29E-03	0.00E+00	3.15E-01
Dibenz[a,h]		> 1000000.0			
26Dinitrotoluene	1.25E+00	637.0	3.59E-02	2.44E-02	3.59E+01
DiNOctylphtalate		> 1000000.0			
Endosulfan	1.60E-03	8876.5	4.59E-05	0.00E+00	7.66E-03
4Nitrobenzenamin	3.81E-08	1024.4	1.09E-09	2.29E-11	3.64E-07
4Nitrophenol	2.14E+00	2138.4	6.14E-02	0.00E+00	9.91E-01
NNitrosodiphen	1.24E-01	1676.0	3.57E-03	1.75E-05	1.79E-01
Xylene	3.77E-01	2163.6	1.08E-02	0.00E+00	5.41E-02
12Dichloro	2.85E-01	1894.6	8.16E-03	0.00E+00	9.07E-02
13Dichloro	1.36E-01	34055.2	3.91E-03	0.00E+00	4.39E-02
14Dichloro	2.89E-01	2890.8	8.30E-03	1.99E-04	3.61E-02
Methylcyclo	4.98E-02	401.9	1.43E-03	0.00E+00	2.38E-02
Benzo[g,h,i]		> 1000000.0			
MethylChlor	1.20E+01	480.4	3.44E-01	4.47E-03	0.00E+00
2MethylNap	8.89E-02	12911.8	2.56E-03	0.00E+00	6.39E-01
2Nitrophenol	2.55E+00	1793.7	7.31E-02	0.00E+00	1.18E+00
Aroclor1268		> 1000000.0			
EndosulfanII	1.60E-03	26996.9	4.59E-05	0.00E+00	7.66E-03
Aldehyde	8.89E-04	131995.2	2.58E-05	0.00E+00	8.58E-02
Ketone	8.89E-04	131995.2	2.58E-05	0.00E+00	8.58E-02
Chlorobenzene	1.77E+00	1222.0	5.08E-02	0.00E+00	2.54E+00
Vinyl Chloride	4.18E+00	1083.3	1.20E-01	1.68E-01	3.99E+01
o-cresol	6.52E+00	912.0	1.87E-01	0.00E+00	3.74E+00
m-cresol	8.76E+00	669.8	2.51E-01	0.00E+00	5.03E+00
p-cresol	8.88E+00	660.3	2.55E-01	0.00E+00	5.10E+01
14Dichlorobenzen	2.89E-01	2890.8	8.30E-03	1.99E-04	3.61E-02
Hexachlorobenzen	2.20E-05	212200.8	6.64E-07	1.06E-06	8.30E-04
Hexachlorobutadn	1.14E-02	19952.6	3.32E-04	2.59E-05	1.66E+00
Hexachloroethane	1.78E-01	7783.6	5.11E-03	7.15E-05	5.11E+00
Nitrobenzene	7.43E+00	763.4	2.13E-01	0.00E+00	4.26E+02

246-Trichlorphnl	2.79E+00	1638.2	8.00E-02	8.80E-04	0.00E+00
Pyridine	1.30E+01	440.6	3.72E-01	0.00E+00	3.72E+02
24-D	2.43E+00	566.7	6.96E-02	0.00E+00	6.96E+00
245-TP (Silvex)	7.11E-01	852.5	2.04E-02	0.00E+00	2.56E+00
Chlordane	1.99E-04	197944.0	6.16E-06	2.16E-06	1.23E-02
Endrin	8.89E-04	45698.8	2.58E-05	0.00E+00	8.58E-02
Heptachlor	6.40E-04	92752.4	1.85E-05	8.30E-05	3.69E-02
Heptachlor epoxd	7.11E-04	36661.4	2.17E-05	1.97E-04	1.67E+00
Lindane	2.85E-02	14509.1	8.17E-04	1.06E-03	2.72E+00
Methoxychlor	3.56E-04	308530.1	1.03E-05	0.00E+00	2.05E-03
Toxaphene	1.96E-03	382896.3	5.70E-05	6.27E-05	0.00E+00
Lithium	7.35E-03	578252.1	2.66E-04	0.00E+00	1.33E-02
124trimethylb	2.03E-01	3327.9	5.82E-03	0.00E+00	1.16E-01
1hexanol	1.21E+01	474.8	3.47E-01	0.00E+00	8.68E+00
2hexanone	1.21E+01	474.8	3.47E-01	0.00E+00	8.68E+00
butylbenzene	2.18E-01	3727.3	6.26E-03	0.00E+00	1.65E-01

********* CONTAMINANT DOSES (mg/kg-day) ********

TIMES	1000.	100000.
Acenaphthene	0.0E+00	0.0E+00
Acetone	1.5E-14	0.0E+00
Anthracene	0.0E+00	0.0E+00
Aluminum	0.0E+00	0.0E+00
Antimony	0.0E+00	1.6E-20
Arochlors-1242	0.0E+00	0.0E+00
Arochlors-1254	0.0E+00	0.0E+00
Arochlors-1248	0.0E+00	0.0E+00
Arochlors-1260	0.0E+00	0.0E+00
Arsenic	0.0E+00	2.2E-03
Barium	1.2E-03	1.2E-03
Benzene	0.0E+00	0.0E+00
BenzoAanthracene	0.0E+00	0.0E+00
Beryllium	0.0E+00	0.0E+00
Bis2ethylhexapht	0.0E+00	0.0E+00
Butylbenzylphtha	0.0E+00	0.0E+00
Cadmium	0.0E+00	0.0E+00
Calcium	0.0E+00	0.0E+00
Carbazole	0.0E+00	1.8E-04
Carbontetchl	0.0E+00	0.0E+00
Chloroform	0.0E+00	0.0E+00
Chromium III	0.0E+00	0.0E+00
Chromium VI	0.0E+00	0.0E+00
Cobalt	0.0E+00	0.0E+00
Copper	0.0E+00	0.0E+00
Benzobflranthene	0.0E+00	0.0E+00
BenzoKflranthene	0.0E+00	0.0E+00
Benzoghiperylene	0.0E+00	0.0E+00
Benzo(a)pyrene	0.0E+00	0.0E+00
Dibenzoahanthrac	0.0E+00	0.0E+00
Dibenzofuran	1.7E-01	0.0E+00
Dieldrin	0.0E+00	2.1E-03
Dinbutylphthalat	0.0E+00	0.0E+00
Dinoctylphthalat	0.0E+00	0.0E+00

24-dinitrotoluen	0.0E+00	0.0E+00
Fluoranthene	0.0E+00	0.0E+00
Flourene	0.0E+00	0.0E+00
2-Hexanone	1.4E-01	0.0E+00
Indeno123cdpyren	0.0E+00	0.0E+00
Iron	0.0E+00	0.0E+00
Isophorone	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00
Lithium	0.0E+00	0.0E+00
Magnesium	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00
Mercury	0.0E+00	0.0E+00
Mehylenechloride	0.0E+00	0.0E+00
2Methylnaphthale	0.0E+00	0.0E+00
Naphthalene	0.0E+00	1.6E-20
Nickel	0.0E+00	0.0E+00
NnitroNpropyl	1.4E-01	0.0E+00
Pentachloropheno	0.0E+00	0.0E+00
Phenanthrene	0.0E+00	0.0E+00
Phenol	1.5E-01	0.0E+00
Potassium	0.0E+00	0.0E+00
Pyrene	0.0E+00	0.0E+00
Selenium	0.0E+00	0.0E+00
Silver	0.0E+00	0.0E+00
Sodium	0.0E+00	0.0E+00
Strontium	0.0E+00	0.0E+00
Tetrachloroethen	0.0E+00	0.0E+00
Thallium	0.0E+00	0.0E+00
Tin	0.0E+00	0.0E+00
Toluene	0.0E+00	0.0E+00
Trichloroethene	0.0E+00	0.0E+00
U-232	0.0E+00	0.0E+00
U-233	0.0E+00	1.0E-03
U-234	0.0E+00	1.2E-03
U-235	0.0E+00	1.6E-03
U-236	0.0E+00	1.6E-03
U-238	0.0E+00	1.6E-03
Vanadium	0.0E+00	0.0E+00

Zinc	0.0E+00	0.0E+00
Zirconium	0.0E+00	1.3E-03
12378PeCDF	0.0E+00	0.0E+00
23478PeCDF	0.0E+00	0.0E+00
OCDD	0.0E+00	0.0E+00
OCDF	0.0E+00	0.0E+00
1234678HpCDD	0.0E+00	0.0E+00
1234678HpCDF	0.0E+00	0.0E+00
123478HxCDF	0.0E+00	0.0E+00
12378HxCDD	0.0E+00	0.0E+00
123678HxCDD	0.0E+00	0.0E+00
123789HxCDD	0.0E+00	0.0E+00
2378TCDD	0.0E+00	0.0E+00
2378TCDF	0.0E+00	0.0E+00
Hexachloroethene	8.8E-03	0.0E+00
124Trichlorb	0.0E+00	0.0E+00
Molybdenum	0.0E+00	0.0E+00
Strontium	0.00E+00	0.0E+00
Acenaphthylene	0.0E+00	0.0E+00
benzidine	0.0E+00	0.0E+00
Chlordane	0.0E+00	0.0E+00
Cumene	0.0E+00	0.0E+00
MethylPropylB	0.0E+00	0.0E+00
124TriMethylB	0.0E+00	0.0E+00
135TriMethylB	0.0E+00	0.0E+00
MethylEthylB	0.0E+00	0.0E+00
ButylB	0.0E+00	0.0E+00
12DiMethylB	9.3E-05	0.0E+00
PropylB	0.0E+00	0.0E+00
Aldrin	0.0E+00	0.0E+00
Aroclor1016	0.0E+00	0.0E+00
Aroclor1221	0.0E+00	0.0E+00
Aroclor1232	0.0E+00	4.9E-04
DDD	0.0E+00	0.0E+00
DDE	0.0E+00	4.6E-06
DDT	0.0E+00	0.0E+00
Alpha-BHC	0.0E+00	8.2E-04
Beta-BHC	0.0E+00	8.2E-04

Delta-BHC	0.0E+00	8.2E-04
Acenaphthylene	0.0E+00	1.6E-03
Benzoic Acid	0.0E+00	0.0E+00
Dibenzofuran	0.0E+00	0.0E+00
Diethylphth	1.1E-01	0.0E+00
24-Dimethylphe	0.0E+00	0.0E+00
Dimethylphth	2.1E-03	0.0E+00
2Methylnaptha	0.0E+00	0.0E+00
2346Tetrachlor	0.0E+00	0.0E+00
Benzyl Alcohol	5.6E-16	0.0E+00
Acentonitrile	0.0E+00	0.0E+00
Acrolien	0.0E+00	0.0E+00
Acylonitrle	0.0E+00	0.0E+00
Bromodichloro	3.2E-16	0.0E+00
Bromoform	1.6E-01	0.0E+00
Bromometh	4.4E-17	0.0E+00
CarbonDiS	1.2E-01	0.0E+00
Chlorometh	5.7E-17	0.0E+00
0-ChloroTu	0.0E+00	0.0E+00
Cumene	0.0E+00	0.0E+00
Dibromochloro	2.1E-01	0.0E+00
Dichlorodiflo	2.9E-02	0.0E+00
12cisDichloro	0.0E+00	0.0E+00
12transDichl	4.7E-03	0.0E+00
12Dichlprop	2.4E-01	0.0E+00
Ethylbenz	1.7E-02	0.0E+00
Nhexane	9.7E-04	9.7E-04
MethylIso	0.0E+00	0.0E+00
MethChloride	2.6E-20	0.0E+00
PropGlycol	0.0E+00	0.0E+00
Styrene	0.0E+00	0.0E+00
1112Tetra	1.1E-01	0.0E+00
1122Tetra	2.0E-01	0.0E+00
TriChloFlo	1.1E-01	0.0E+00
123TriChlopr	1.8E-01	0.0E+00
Trimethbenz	0.0E+00	0.0E+00
135Trimeth	0.0E+00	0.0E+00
oXylene	1.1E-02	0.0E+00

acetophenone	2.3E-01	0.0E+00
Ethylchlorid	1.8E-10	0.0E+00
2Hexanone	5.9E-18	0.0E+00
Methonal	0.0E+00	0.0E+00
MMetacrylate	2.6E-20	0.0E+00
Chlorobenzene	4.8E-02	0.0E+00
Cyanide	0.0E+00	0.0E+00
Dibenz[a,h]	0.0E+00	0.0E+00
26Dinitrotoluene	3.6E-02	0.0E+00
DiNOctylphtalate	0.0E+00	0.0E+00
Endosulfan	0.0E+00	4.6E-05
4Nitrobenzenamin	1.1E-09	1.1E-09
4Nitrophenol	0.0E+00	0.0E+00
NNitrosodiphen	0.0E+00	0.0E+00
Xylene	0.0E+00	0.0E+00
12Dichloro	0.0E+00	0.0E+00
13Dichloro	0.0E+00	0.0E+00
14Dichloro	0.0E+00	0.0E+00
Methylcyclo	1.4E-03	1.4E-03
Benzo[g,h,i]	0.0E+00	0.0E+00
MethylChlor	3.4E-17	0.0E+00
2MethylNap	0.0E+00	0.0E+00
2Nitrophenol	0.0E+00	0.0E+00
Aroclor1268	0.0E+00	0.0E+00
EndosulfanII	9.3E-21	4.6E-05
Aldehyde	0.0E+00	2.6E-05
Ketone	0.0E+00	2.6E-05
Chlorobenzene	5.1E-02	0.0E+00
Vinyl Chloride	1.2E-01	0.0E+00
o-cresol	1.9E-01	0.0E+00
m-cresol	2.5E-01	0.0E+00
p-cresol	2.2E-01	0.0E+00
14Dichlorobenzen	0.0E+00	0.0E+00
Hexachlorobenzen	0.0E+00	0.0E+00
Hexachlorobutadn	0.0E+00	3.3E-04
Hexachloroethane	0.0E+00	0.0E+00
Nitrobenzene	2.1E-01	0.0E+00
246-Trichlorphnl	0.0E+00	0.0E+00

Pyridine	0.0E+00	0.0E+00
24-D	7.0E-02	0.0E+00
245-TP (Silvex)	2.0E-02	0.0E+00
Chlordane	0.0E+00	0.0E+00
Endrin	0.0E+00	2.6E-05
Heptachlor	0.0E+00	1.8E-05
Heptachlor epoxd	0.0E+00	2.2E-05
Lindane	0.0E+00	8.2E-04
Methoxychlor	0.0E+00	0.0E+00
Toxaphene	0.0E+00	0.0E+00
Lithium	0.0E+00	0.0E+00
124trimethylb	0.0E+00	0.0E+00
1hexanol	5.9E-18	0.0E+00
2hexanone	5.9E-18	0.0E+00

CONTAMINANT CONCENTRATIONS IN RIVER (mg/l)

TIMES	1000.	100000.
Acenaphthene	0.0E+00	0.0E+00
Acetone	5.2E-13	0.0E+00
Anthracene	0.0E+00	0.0E+00
Aluminum	0.0E+00	0.0E+00
Antimony	0.0E+00	5.7E-19
Arochlors-1242	0.0E+00	0.0E+00
Arochlors-1254	0.0E+00	0.0E+00
Arochlors-1248	0.0E+00	0.0E+00
Arochlors-1260	0.0E+00	0.0E+00
Arsenic	0.0E+00	7.6E-02
Barium	4.0E-02	4.0E-02
Benzene	0.0E+00	0.0E+00
BenzoAanthracene	0.0E+00	0.0E+00
Beryllium	0.0E+00	0.0E+00
Bis2ethylhexapht	0.0E+00	0.0E+00
Butylbenzylphtha	0.0E+00	0.0E+00
Cadmium	0.0E+00	0.0E+00
Calcium	0.0E+00	0.0E+00

Carbazole	0.0E+00	6.4E-03
Carbontetchl	0.0E+00	0.0E+00
Chloroform	0.0E+00	0.0E+00
Chromium III	0.0E+00	0.0E+00
Chromium VI	0.0E+00	0.0E+00
Cobalt	0.0E+00	0.0E+00
Copper	0.0E+00	0.0E+00
Benzobflranthene	0.0E+00	0.0E+00
BenzoKflranthene	0.0E+00	0.0E+00
Benzoghiperylene	0.0E+00	0.0E+00
Benzo(a)pyrene	0.0E+00	0.0E+00
Dibenzoahanthrac	0.0E+00	0.0E+00
Dibenzofuran	5.9E+00	0.0E+00
Dieldrin	0.0E+00	6.5E-02
Dinbutylphthalat	0.0E+00	0.0E+00
Dinoctylphthalat	0.0E+00	0.0E+00
24-dinitrotoluen	0.0E+00	0.0E+00
Fluoranthene	0.0E+00	0.0E+00
Flourene	0.0E+00	0.0E+00
2-Hexanone	4.8E+00	0.0E+00
Indeno123cdpyren	0.0E+00	0.0E+00
Iron	0.0E+00	0.0E+00
Isophorone	0.0E+00	0.0E+00
Lead	0.0E+00	0.0E+00
Lithium	0.0E+00	0.0E+00
Magnesium	0.0E+00	0.0E+00
Manganese	0.0E+00	0.0E+00
Mercury	0.0E+00	0.0E+00
Mehylenechloride	0.0E+00	0.0E+00
2Methylnaphthale	0.0E+00	0.0E+00
Naphthalene	0.0E+00	5.7E-19
Nickel	0.0E+00	0.0E+00
NnitroNpropyl	4.8E+00	0.0E+00
Pentachloropheno	0.0E+00	0.0E+00
Phenanthrene	0.0E+00	0.0E+00
Phenol	5.1E+00	0.0E+00
Potassium	0.0E+00	0.0E+00
Pyrene	0.0E+00	0.0E+00

Selenium	0.0E+00	0.0E+00
Silver	0.0E+00	0.0E+00
Sodium	0.0E+00	0.0E+00
Strontium	0.0E+00	0.0E+00
Tetrachloroethen	0.0E+00	0.0E+00
Thallium	0.0E+00	0.0E+00
Tin	0.0E+00	0.0E+00
Toluene	0.0E+00	0.0E+00
Trichloroethene	0.0E+00	0.0E+00
U-232	0.0E+00	0.0E+00
U-233	0.0E+00	3.6E-02
U-234	0.0E+00	4.1E-02
U-235	0.0E+00	5.5E-02
U-236	0.0E+00	5.5E-02
U-238	0.0E+00	5.5E-02
Vanadium	0.0E+00	0.0E+00
Zinc	0.0E+00	0.0E+00
Zirconium	0.0E+00	4.4E-02
12378PeCDF	0.0E+00	0.0E+00
23478PeCDF	0.0E+00	0.0E+00
OCDD	0.0E+00	0.0E+00
OCDF	0.0E+00	0.0E+00
1234678HpCDD	0.0E+00	0.0E+00
1234678HpCDF	0.0E+00	0.0E+00
123478HxCDF	0.0E+00	0.0E+00
12378HxCDD	0.0E+00	0.0E+00
123678HxCDD	0.0E+00	0.0E+00
123789HxCDD	0.0E+00	0.0E+00
2378TCDD	0.0E+00	0.0E+00
2378TCDF	0.0E+00	0.0E+00
Hexachloroethene	3.1E-01	0.0E+00
124Trichlorb	0.0E+00	0.0E+00
Molybdenum	0.0E+00	0.0E+00
Strontium	0.0E+00	0.0E+00
Acenaphthylene	0.0E+00	0.0E+00
benzidine	0.0E+00	0.0E+00
Chlordane	0.0E+00	0.0E+00
Cumene	0.0E+00	0.0E+00

MethylPropylB	0.0E+00	0.0E+00
124TriMethylB	0.0E+00	0.0E+00
135TriMethylB	0.0E+00	0.0E+00
MethylEthylB	0.0E+00	0.0E+00
ButylB	0.0E+00	0.0E+00
12DiMethylB	3.2E-03	0.0E+00
PropylB	0.0E+00	0.0E+00
Aldrin	0.0E+00	0.0E+00
Aroclor1016	0.0E+00	0.0E+00
Aroclor1221	0.0E+00	0.0E+00
Aroclor1232	0.0E+00	1.7E-02
DDD	0.0E+00	0.0E+00
DDE	0.0E+00	1.4E-04
DDT	0.0E+00	0.0E+00
Alpha-BHC	0.0E+00	2.8E-02
Beta-BHC	0.0E+00	2.8E-02
Delta-BHC	0.0E+00	2.8E-02
Acenaphthylene	0.0E+00	5.7E-02
Benzoic Acid	0.0E+00	0.0E+00
Dibenzofuran	0.0E+00	0.0E+00
Diethylphth	3.8E+00	0.0E+00
24-Dimethylphe	0.0E+00	0.0E+00
Dimethylphth	7.4E-02	0.0E+00
2Methylnaptha	0.0E+00	0.0E+00
2346Tetrachlor	0.0E+00	0.0E+00
Benzyl Alcohol	2.0E-14	0.0E+00
Acentonitrile	0.0E+00	0.0E+00
Acrolien	0.0E+00	0.0E+00
Acylonitrle	0.0E+00	0.0E+00
Bromodichloro	1.1E-14	0.0E+00
Bromoform	5.4E+00	0.0E+00
Bromometh	1.5E-15	0.0E+00
CarbonDiS	4.2E+00	0.0E+00
Chlorometh	2.0E-15	0.0E+00
0-ChloroTu	0.0E+00	0.0E+00
Cumene	0.0E+00	0.0E+00
Dibromochloro	7.4E+00	0.0E+00
Dichlorodiflo	1.0E+00	0.0E+00

12cisDichloro	0.0E+00	0.0E+00
12transDichl	1.6E-01	0.0E+00
12Dichlprop	8.5E+00	0.0E+00
Ethylbenz	6.0E-01	0.0E+00
Nhexane	3.4E-02	3.4E-02
MethylIso	0.0E+00	0.0E+00
MethChoride	9.0E-19	0.0E+00
PropGlycol	0.0E+00	0.0E+00
Styrene	0.0E+00	0.0E+00
1112Tetra	3.8E+00	0.0E+00
1122Tetra	7.0E+00	0.0E+00
TriChloFlo	3.9E+00	0.0E+00
123TriChlopr	6.2E+00	0.0E+00
Trimethbenz	0.0E+00	0.0E+00
135Trimeth	0.0E+00	0.0E+00
oXylene	3.7E-01	0.0E+00
acetophenone	7.9E+00	0.0E+00
Ethylchlorid	6.2E-09	0.0E+00
2Hexanone	2.0E-16	0.0E+00
Methonal	0.0E+00	0.0E+00
MMetacrylate	9.0E-19	0.0E+00
Chlorobenzene	1.7E+00	0.0E+00
Cyanide	0.0E+00	0.0E+00
Dibenz[a,h]	0.0E+00	0.0E+00
24Dinitrotoluene	9.6E-01	0.0E+00
26Dinitrotoluene	1.3E+00	0.0E+00
DiNOctylphtalate	0.0E+00	0.0E+00
Endosulfan	0.0E+00	1.6E-03
4Nitrobenzenamin	3.8E-08	3.8E-08
4Nitrophenol	0.0E+00	0.0E+00
NNitrosodiphen	0.0E+00	0.0E+00
Xylene	0.0E+00	0.0E+00
12Dichloro	0.0E+00	0.0E+00
13Dichloro	0.0E+00	0.0E+00
14Dichloro	0.0E+00	0.0E+00
Methylcyclo	5.0E-02	5.0E-02
Benzo[g,h,i]	0.0E+00	0.0E+00
MethylChlor	1.2E-15	0.0E+00

2MethylNap	0.0E+00	0.0E+00
2Nitrophenol	0.0E+00	0.0E+00
Aroclor1268	0.0E+00	0.0E+00
EndosulfanII	3.2E-19	1.6E-03
Aldehyde	0.0E+00	8.9E-04
Ketone	0.0E+00	8.9E-04
Chlorobenzene	1.8E+00	0.0E+00
Vinyl Chloride	4.2E+00	0.0E+00
o-cresol	6.5E+00	0.0E+00
m-cresol	8.7E+00	0.0E+00
p-cresol	7.8E+00	0.0E+00
14Dichlorobenzen	0.0E+00	0.0E+00
Hexachlorobenzen	0.0E+00	0.0E+00
Hexachlorobutadn	0.0E+00	1.1E-02
Hexachloroethane	0.0E+00	0.0E+00
Nitrobenzene	7.4E+00	0.0E+00
246-Trichlorphnl	0.0E+00	0.0E+00
Pyridine	0.0E+00	0.0E+00
24-D	2.4E+00	0.0E+00
245-TP (Silvex)	7.1E-01	0.0E+00
Chlordane	0.0E+00	0.0E+00
Endrin	0.0E+00	8.9E-04
Heptachlor	0.0E+00	6.4E-04
Heptachlor epoxd	0.0E+00	7.1E-04
Lindane	0.0E+00	2.8E-02
Methoxychlor	0.0E+00	0.0E+00
Toxaphene	0.0E+00	0.0E+00
Lithium	0.0E+00	0.0E+00
124trimethylb	0.0E+00	0.0E+00
1hexanol	5.9E-18	0.0E+00
2hexanone	5.9E-18	0.0E+00
butylbenzene	0.0E+00	0.0E+00