91222R02
VOLUME III
2ND COPY



Interim Response Action
Basin F Liquid Incineration Project

FINAL DRAFT

HUMAN HEALTH RISK ASSESSMENT

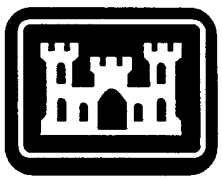
ASSOCIATED WITH HYDRAZINE RINSEWATER INCINERATION (APPENDIX TO VOLUME I)

Volume III

Preplaced Remedial Action Contract
Contract No. DACW-45-90-D-0015

July 1991

19960917 019



U.S. Army Corps
of Engineers
Omaha District

DISTRIBUTION STATEMENT A
Approved for public release;
Distribution Unlimited

WESTON® MANAGERS DESIGNERS/CONSULTANTS

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	07/00/91	

4. TITLE AND SUBTITLE
INTERIM RESPONSE ACTION, BASIN F LIQUID INCINERATION PROJECT, HUMAN HEALTH RISK ASSESSMENT, FINAL DRAFT

5. FUNDING NUMBERS
DACW45 90 D 0015

6. AUTHOR(S)

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
ROY F. WESTON, INC.
LAKEWOOD, CO

8. PERFORMING ORGANIZATION REPORT NUMBER
91222R02

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
ARMY CORPS OF ENGINEERS. OMAHA DISTRICT
OMAHA, NE

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

THIS DOCUMENT IS A COMPREHENSIVE, MULTIPLE EXPOSURE PATHWAY, HUMAN HEALTH RISK ASSESSMENT PREPARED FOR THE PROPOSED BASIN F LIQUID INCINERATION PROJECT. THE SUBMERGED QUENCH INCINERATOR WILL TREAT BASIN F LIQUID AND HYDRAZINE RINSE WATER. THE OBJECTIVE OF THE RISK ASSESSMENT IS TO ESTABLISH CHEMICAL EMISSION LIMITS WHICH ARE PROTECTIVE OF HUMAN HEALTH. AVERAGE AND MAXIMUM LIFETIME DAILY INTAKES WERE CALCULATED FOR ADULTS, CHILDREN, AND INFANTS IN FOUR MAXIMUM EXPOSURE SCENARIOS UNDER BASE CASE AND SENSITIVITY CASE EMISSIONS CONDITION. IT WAS CONCLUDED THAT THE INCINERATION FACILITY POSES NEITHER CARCINOGENIC NOR NONCARCINOGENIC RISK TO ANY SENSITIVE POPULATION.

THE ASSESSMENT IS DIVIDED INTO THE FOLLOWING SECTIONS:

1. INCINERATION FACILITY DESCRIPTION
2. DESCRIPTION OF SURROUNDING AREA
3. PROCESS OF POLLUTANT IDENTIFICATION AND SELECTION
4. DETERMINATION OF EMISSION RATES FROM INCINERATION FACILITY

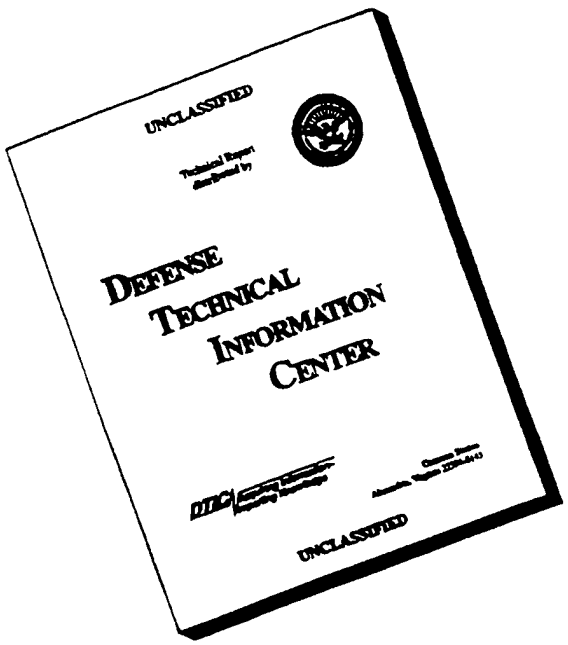
14. SUBJECT TERMS
SQI, EMISSION RATES, AIR QUALITY, TOXICITY ASSESSMENT, IRA F

15. NUMBER OF PAGES

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
UNCLASSIFIED			

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

91222R02
VOLUME III
2ND COPY

PROGRAM MANAGER FOR
ROCKY MOUNTAIN ARSENAL
COMMERCE CITY, COLORADO

INTERIM RESPONSE ACTION
BASIN F LIQUID INCINERATION PROJECT

FINAL DRAFT
HUMAN HEALTH RISK ASSESSMENT
ASSOCIATED WITH HYDRAZINE RINSEWATER INCINERATION

VOLUME III
Preplaced Remedial Action Contract (PRAC)
Contract No. DACW-45-90-D-0015

Delivery Order No. 5001
Document Control No.: 3886-44-01-ABTD

U.S. ARMY CORPS OF ENGINEERS
Omaha District
Omaha, Nebraska

July 1991

Prepared by:

ROY F. WESTON, INC.
Weston Way
West Chester, Pennsylvania 19380

VOLUME III
TABLE OF CONTENTS

Section	Title	Page
1	**INTRODUCTION**	1-1
2	**SELECTION OF KEY PATHWAYS AND POLLUTANTS**	2-1
	2.1 Introduction	2-1
	2.2 Air Pathway	2-1
	2.3 Soil Pathway	2-1
	2.4 Surface Water Pathway	2-2
3	**ESTIMATION OF EMISSION RATES**	3-1
4	**AIR QUALITY AND DEPOSITION MODELING ANALYSIS**	4-1
	4.1 Introduction	4-1
5	**EXPOSURE ASSESSMENT**	5-1
	5.1 Introduction	5-1
6	**TOXICITY ASSESSMENT**	6-1
	6.1 Introduction	6-1
	6.2 Cancer Slope Factors	6-1
	6.3 Reference Doses for Noncarcinogenic Effects	6-1
7	**RISK CHARACTERIZATION AND DISCUSSION**	7-1
	7.1 Introduction	7-1
	7.2 Risk Results	7-1
	7.2.1 Carcinogenic Risks	7-1
	7.2.2 Noncarcinogenic Effects	7-5
	7.3 Conclusions	7-5
8	**CITED REFERENCES**	8-1

VOLUME III
TABLE OF CONTENTS
(continued)

Section	Title	Page
9	**SUPPORTING DOCUMENTATION**	9-
9.1	Resident A Scenario	9-2
9.1.1	Base Case Emissions	9-3
9.1.2	Sensitivity Case Emissions	9-4
9.2	Resident B Scenario	9-5
9.2.1	Base Case Emissions	9-6
9.2.2	Sensitivity Case Emissions	9-7
9.3	Farmer Scenario	9-8
9.3.1	Base Case Emissions	9-9
9.3.2	Sensitivity Case Emissions	9-10
9.4	Worker Scenario	9-11
9.4.1	Base Case Emissions	9-12
9.4.2	Sensitivity Case Emissions	9-13
9.5	Hydrazine Wastestream and Emission Documentation	9-14

VOLUME III
LIST OF TABLES

Table No.	Title	Page
2-1	Composition of Hydrazine Rinsewater in Tanks and Sump; Chemical & Physical Characteristics	2-3
2-2	Composition of Hydrazine Rinsewater in Tanks and Sump; Additional Chemical & Physical Characteristics	2-5
2-3	Selection of Contaminants of Potential Concern for the Hydrazine Rinsewater	2-7
2-4	Tier 1 Surface Water Pathway Screening Analysis for Hydrazine Rinsewater	2-8
3-1	Organic Emission Rates from Incineration of Rocky Mountain Arsenal Hydrazine Rinsewater (Principal Organic Hazardous Constituents)	3-2
3-2	Organic Emission Rates from Incineration of Rocky Mountain Arsenal Hydrazine Rinsewater (Products of Incomplete Combustion)	3-4
3-3	Incremental Metals Emission Rates for Rocky Mountain Arsenal Hydrazine Rinsewater	3-7
6-1	Slope Factors for Carcinogens [$(mg/kg/day)^{-1}$] in Hydrazine Rinsewater	6-2
6-2	Reference Doses for Noncarcinogens (mg/kg/day) in Hydrazine Rinsewater	6-3
7-1	Total Lifetime Carcinogenic Risk for Hydrazine Rinsewater and Basin F Liquid - Rocky Mountain Arsenal for Four Exposure Scenarios	7-2
7-2	Total Hazard Index for Hydrazine Rinsewater and Basin F Liquid - Rocky Mountain Arsenal for Four Exposure Scenarios	7-3
7-3	Comparison of Predicted Soil and Air Levels of Lead to Soil Cleanup and National Ambient Air Quality Standards (NAAQS)	7-9

VOLUME III
LIST OF FIGURES

Figure No.	Title	Page
7-1	Additive Total Lifetime Carcinogenic Risks for Resident, Farmer, and On-Site Worker Exposure Scenarios for Hydrazine Rinsewater and Basin F Liquid Waste Combined	7-4
7-2	Additive Total Hazard Indices for Resident, Farmer, and On-Site Worker Exposure Scenarios for Hydrazine Rinsewater and Basin F Liquid Waste Combined Under Base Case Emissions	7-6
7-3	Additive Total Hazard Indices for Resident, Farmer, and On-Site Worker Exposure Scenarios for Hydrazine Rinsewater and Basin F Liquid Waste Combined Under Sensitivity Case Emissions	7-7

SECTION 1
INTRODUCTION

This is a supplementary report to the Final Draft Human Health Risk Assessment, Volumes I and II, prepared by Roy F. Weston, Inc. (WESTON, 1991) which presented the risks associated with the Basin F Liquid Submerged Quench Incineration Project for Rocky Mountain Arsenal (RMA) located in Denver, CO. The purpose of this supplementary report (Volume III, WESTON, 1991) is to evaluate the human health risks associated with the incineration of hydrazine rinsewater by the Submerged Quench Incineration (SQI) unit, and to determine whether the addition of the hydrazine rinsewater to the Basin F liquid wastes will pose an increased risk over that previously determined for Basin F Liquid waste (WESTON, 1991).

The primary objective of the human health risk assessment conducted by Roy F. Weston, Inc. (WESTON) for RMA was to assist in the establishment of chemical emission limits for the Basin F Liquid Incineration Project, while staying as close as possible to the approach described in the EPA Risk Assessment Guidance for Superfund -- Human Health Evaluation Manual, Part A (RAGS) (EPA, 1989a). The following points must be made to clarify that incinerator risk assessments differ significantly from Superfund risk assessments:

- Superfund risk assessments use actual contaminant data from analytical chemistry evaluations of air, soil, and water to assess potential human exposures at a site.

- Incinerator risk assessments, on the other hand, must use predicted human exposures from modeling rather than measured exposures [the objective of the risk assessment is to evaluate whether the incinerator should be built (i.e., in general, there is no incinerator from which to gather data)].

Therefore, in an attempt to utilize Superfund terminology, WESTON had to redefine the term "Reasonable Maximum Exposure" (RME). RAGS defines RME as the upper 95% Confidence Limit of the arithmetic mean of the exposure data determined from analytical

chemistry evaluations of samples collected from air, water, or soil. The available data did not support the calculation of an upper 95% confidence interval for the emissions because of an insufficient number of data points. The numbers of actual concern, the human exposures at various points in the community surrounding the incinerator, can only be modeled from the initial waste stream sample data and subsequent predicted emissions. Section 1 of Volume I of this report should be reviewed for a detailed discussion of the methods used to predict emissions.

The methodologies and assumptions employed for air dispersion and deposition modeling and the risk assessment process (exposure assessment, toxicity assessment, risk characterization) are identical to those discussed in Volume I of the Final Draft Report (WESTON, 1991). Therefore, appropriate sections of the Final Draft Report, Volume I, are cited where necessary. The methodology employed for determination of hydrazine rinsewater emission rates differs in a few respects from that used for Basin F liquid; this is discussed in Section 3 of this report.

The risk results presented in Section 7 of this report are calculated on the basis of incinerating the hydrazine rinsewater as a separate rinsewater unit. For comparison purposes, a summary of the risks calculated for the Basin F Liquid is presented in the summary tables of the hydrazine rinsewater risk results. The physical addition of the hydrazine rinsewater to the Basin F liquid will not alter total chemical emissions characteristics or operational properties of the incinerator, since hydrazine rinsewater only represents 2.7% of the total volume of Basin F liquid. Furthermore, it will not alter air modeling isopleths originally employed in the Basin F liquid study. As indicated in Subsections 8.3.2 and 8.3.3 of the Risk Assessment Guidance for Superfund Human Health Evaluation Manual (EPA,1989a), the risk results are assumed to be additive to those calculated for the incineration of the Basin F liquid. It should be noted that a number of chemical entities present in the hydrazine rinsewater are identical to many found in the

Basin F liquid. However, the entire mass of hydrazine waste has been evaluated in this supplemental risk assessment, independent of the Basin F liquid.

SECTION 2
SELECTION OF KEY PATHWAYS AND POLLUTANTS

2.1 INTRODUCTION

The physical and chemical characteristics of the hydrazine rinsewater are summarized in Tables 2-1 and 2-2. The values presented were used in the final selection of contaminants of concern as described later in this section. The purpose of this evaluation was to eliminate those chemicals that would not be of significance in the risk characterization. The final selection was based on various conservative criteria discussed in Section 4 of Volume I of the Final Draft Human Health Risk Assessment (WESTON, 1991).

The process used for the determination of key pathways and pollutant selection was identical to that described in Section 7 of Volume I of the Final Draft Human Health Risk Assessment (WESTON, 1991).

2.2 AIR PATHWAY

The pollutants selected for the inhalation pathway are the same for all scenarios discussed in Section 8 of Volume I of the Final Draft Human Health Risk Assessment (WESTON, 1991). The rationale for this approach is also outlined in Subsection 7.3 of Volume I. A list of the pollutants of concern in the hydrazine rinsewater for this pathway is found in Table 2-3.

2.3 SOIL PATHWAY

All pollutants were screened through the soil pathway based on those criteria presented in Subsection 7.4 of Volume I of the Final Draft Human Health Risk Assessment (WESTON, 1991). All volatile organic compounds (VOCs) were excluded from the soil pathway. The

Table 2-1

Rocky Mountain Arsenal
Composition of Hydrazine Rinsewater in Tanks & Sump
Chemical & Physical Characteristics

Compounds	Appropriate Synonym	CAS #	Vapor Pressure (mm Hg)	Ref	Henry's Constant (atm-m^3/m)	Ref	Log Kow	Ref	BCF	Ref
Aniline	Benzenamine	62-53-3	0.489 (25°C)	Howard 1989	1.36E-01	Howard 1989	0.90	Howard 1989	6.03[1] (calc)	Howard 1989
Benzothiazole	NA	95-16-9	NA	NA	NA		2.01	ATSDR 1989a	19.8[1] (calc)	ATSDR 1990a
Bis(2-Ethylhexyl) phthalate	DEHP, Dioctyl-Phthalate Di(2-ethylhexyl) phthalate	117-81-7	2E-07 (20°C)	EPA 1987	3E-07	EPA 1987	8.73	EPA 1987	850	ATSDR 1990a
4-Chloroaniline	NA	106-47-8	0.025 (25°C)	Howard 1989	1.07E-05 (calc)	Howard 1989	1.83	Howard 1989	14.5[1] (calc)	ATSDR 1990a
Chloroethane	Ethyl Chloride	75-00-3	1000	EPA 1987	1.48E-01	EPA 1987	1.49	EPA 1987	2-9[1] (calc)	Howard 1989
1,1-Dichloroethane	Ethylidene Chloride Ethylidene Dichloride	75-34-3	182	EPA 1986b	4.31E-03	EPA 1986b	1.79	EPA 1986b	1.2	Howard 1989
1,2-Dichloroethane	Ethylene Dichloride	107-06-2	64	EPA 1986b	9.78E-04	EPA 1986b	1.48	EPA 1986b	2	EPA 1987
1,2-Dichloropropane	Propylene Chloride	78-875	42	EPA 1987	2.31E-03	EPA 1987	2.00	EPA 1987	NA	NA
Dimethyl disulfide	Methyl Sulfide	75-18-3	NA	NA	NA	NA	1.77	ATSDR 1990b	13[1] (calc)	ATSDR 1990a

Table 2-1
(continued)

Compounds	Appropriate Synonym	CAS #	Vapor Pressure (mm Hg)	Ref	Henry's Constant (atm-m^3/m)	Ref	Log Kow	Ref	BCF	Ref
Hydrazine	NA	302-01-2	14	EPA 1986b	1.73E-09	EPA 1986b	-3.08	EPA 1986b	2.8[1] (calc)	ATSDR 1990a
Lindane	Hexachlorocyclo-hexane (gamma)	58-89-9	4.0E-06 (20°C)	ATSDR 1989b	7.8E-06	ATSDR 1989b	3.3	ATSDR 1989b	130	EPA 1986b
Methyl Ethyl Ketone	2-Butanone	78-93-3	77.5	EPA 1986b	2.74E-05	EPA 1986b	0.26	EPA 1986b	0	EPA 1986b
Methylphenol	4-Cresol,p-Cresol	106-44-5	0.13 (25°C)	Howard 1989	9.6E-07	Howard 1989	1.94	Howard 1989	18[1] (calc)	Howard 1989
Monomethyl hydrazine	Methylhydrazine	60-34-4	49.6	Clayton 1981	NA	NA	-3.08	EPA 1986b	2.8[1] (calc)	ATSDR 1990a
Naphthalene	Naphthene	91-20-3	0.23	EPA 1987	1.15E-03	EPA 1987	3.35	EPA 1987	430	ATSDR 1990a
Naphthalene carbonitrile (based on Naphthalene)	1-Naphthalene carbonitrite	86-53-3	NA	NA	NA	NA	3.35	EPA 1987	430	ATSDR 1990a
N-Nitrosodi-methylamine	Dimethyl-nitrosamine	62-75-9	8.1 (25°C)	EPA 1987	3.3E-05	EPA 1987	-0.68	EPA 1986b	0	EPA 1986b
Unsymmetrical dimethyl hydrazine	1,1-Dimethylhydrazine	57-14-7	156	Clayton 1981	1.00E-07	EPA 1986b	-2.42	EPA 1986b	2.8[1] (calc)	ATSDR 1990a
Vinyl Acetate	1-Acetoxyethylene acetic acid	108-05-4	85 (20°C)	Howard 1989	4.81E-04	Howard 1989	0.73	Howard 1989	2.53[1] (calc)	ATSDR 1990a

[1] All calculated BCFs were based on Lyman. et. al. 1982.
Equation: log BCF = 0.76 (log Kow) - 0.23
If a Kow for a particular chemical was below input range (7.9) and no other alternative existed for deriving a BCF, 7.9 was used to derive a conservative estimate of the BCF.
NA - Not available.

Table 2-2

Rocky Mountain Arsenal
Composition of Hydrazine Rinsewater in Tanks & Sump
Additional Chemical & Physical Characteristics

Compounds (µg/L)	Solubility (mg/L)	Ref	Koc (mL/g)	Ref	Soil Half Life	Ref	Fish Consumption AWQCs (mg/L)	Ref	Whole Body Half Life	Ref
Aniline	3.6E+04 (25°C)	Howard 1989	73.5[1] (calc)	ATSDR 1990a	NA	NA	NA	NA	NA	NA
Benzothiazole	NA	NA	295.4[1] (calc)	ATSDR 1990a	NA	NA	NA	NA	NA	NA
Bis(2-Ethylhexyl)phthalate	3E-01 (25°C)	Howard 1989	87,420	Howard 1989	148 days	ATSDR 1989b	NA	NA	12 hr	ATSDR 1989b
4-Chloroaniline	3.9E+03	Howard 1989	230-469	Howard 1990	NA	NA	NA	NA	NA	NA
Chloroethane	5.74E+03 (20°C)	EPA 1987	143[1] (calc)	Howard 1989	NA	NA	NA	NA	NA	NA
1,1-Dichlorethane	8.69E+03	EPA 1986b	14	EPA 1986b	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	5.50E+03	EPA 1986b	30	EPA 1986b	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	8.52E+03	EPA 1986b	14	EPA 1986b	NA	NA	2.43E-01	EPA 1986a	NA	NA
Dimethyl disulfide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hydrazine	3.41E+08	EPA 1986b	0.1	EPA 1986b	NA	NA	NA	NA	NA	NA
Lindane	1.7E+01	ASTDR 1989b	1,000	ATSDR 1989b	100 days	ATSDR 1990c	3.1E-05	ATSDR 1989b	NA	NA

Table 2-2
(continued)

Compounds (μg/L)	Solubility (mg/L)	Ref	Koc (mL/g)	Ref	Soil Half Life	Ref	Fish Consumption AWQCs (mg/L)	Ref	Whole Body Half Life	Ref
Methyl Ethyl Ketone	2.68E+05	EPA 1986b	4.5	EPA 1986b	NA	NA	NA	NA	49-96 min. plasma half life inhalation	ATSDR 1989b
4-Methylphenol	2.26E+04	Howard 1989	49	Howard 1989	NA	NA	NA	NA	NA	NA
Monomethyl hydrazine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	33	EPA 1987	871	Howard 1989	3.6 mos	Howard 1989	6.20E-01[2]	EPA 1986a	NA	NA
Naphthalene Carbonitrile	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-methylamine	1.0E+06	EPA 1986b	1,000	ATSDR 1989b	50 days	ATSDR 1989b	NA	NA	NA	NA
Unsymmetrical dimethyl hydrazine	1.24E+08	EPA 1986b	0.2	EPA 1986b	NA	NA	NA	NA	NA	NA
Vinyl Acetate	20,000 (20°C)	Howard 1989	19-59[1] (calc)	Howard 1989	NA	NA	NA	NA	NA	NA

[1] KOC data were not available for several chemicals. In these instances, the valves were calculated based on the log kow. If the chemical was an aromatic with a log kow between 2 to 6.6, the followin equation was used:

log KOC = 0.937 log KOW - 0.006 (Lyman et. al. 1982)
For aromatics with a log KOW falling outside the given range as well as all other organic substances, the following equation was used:
log KOC = 0.544 log KOW + 1,377 (Lyman et.al. 1982)

[2] AWQC for the protection of freshwater aquatic life from chronic effect.
NA - not available.

Table 2-3

Selection of Pollutants of Concern in the Hydrazine Rinsewater

Chemical	Inhalation Pathway	Soil pathway	Surface Water Pathway
ORGANICS	X		
Acetone	X	X	X
Acetonitrile	X		
Acrylonitrile	X	X	X
Aldrin	X	X	X
Aniline	X	X	X
Atrazine	X	X	X
Benzene	X		
Benzaldehyde	X		
Benzofuran	X	X	X
Benzoic Acid	X	X	X
Benzonitrile	X	X	X
Benzothiazole	X	X	X
Biphenyl	X		
Bis(2-ethylhexyl)phthalate	X	X	X
Carbazole	X	X	X
Carbon Tetrachloride	X		
4-Chloroaniline	X	X	X
Chlorobenzene	X		
4-Chlorobiphenyl	X	X	X
4,4-Chlorobiphenyl	X	X	X
Chloroethane	X	X	X
Chloroform	X		
Dibenzofuran	X	X	X
Dichlorobenzenes (total)	X		

Table 2-3
(continued)

Chemical	Inhalation Pathway	Soil pathway	Surface Water Pathway
1,4-Dichlorobenzene	X		
1,1-Dichloroethane	X		
1,2-Dichloroethane	X	X	X
1,1-Dichloroethene	X		
1,2-Dichloroethene	X		
1,2-Dichloropropane	X		
Dieldrin	X	X	X
Dimethyldisulfide	X		
Hexachlorobenzene	X	X	X
Hydrazine	X	X	X
Lindane	X	X	X
Malathion	X	X	X
Methyl chloride	X		
Methylene chloride	X		
Methyl ethyl ketone	X	X	X
4-Methylphenol	X	X	X
Monomethyl hydrazine	X	X	X
Naphthalene	X	X	X
Naphthalene carbonitrile	X	X	X
n-Nitrosodimethylamine	X	X	X
PAHs			
Acenaphthalene	X	X	X
Acenaphthene	X	X	X
Benzo(a)pyrene	X	X	X
Chrysene	X	X	X
Dibenzo(a,h,)anthracene	X	X	X
Fluoroanthene	X	X	
Fluorene	X	X	X
Phenanthrene	X	X	X

Table 2-3
(continued)

Chemical	Inhalation Pathway	Soil pathway	Surface Water Pathway
Pyrene	X	X	X
Parathion	X	X	X
Pentachlorobenzene	X	X	
Phenol	X	X	
Pydirine	X		
Quinoline	X	X	X
Tetrachlorobenzene	X	X	
Tetrachloroethene	X		
Toluene	X	X	
Trichlorobenzene	X		X
Trichloroethene	X	X	
Unsym. dimethyl hydrazine	X	X	X
Vapona	X		X
Vinyl acetate	X		
Vinyl chloride	X		
Xylenes (total)	X		
INORGANICS			
Arsenic	X	X	X
Cadmium	X	X	
Chromium (III)	X		
Chromium (VI)	X		
Copper	X		X
Iron	X		
Lead	X		
Mercury	X	X	
Selenium	X		
Silver	X		
Zinc	X		X

VOCs excluded from the soil pathway included chloroethane, 1,1-dichloroethane, and vinyl acetate. All other organic compounds predicted in the emissions list were included for evaluation in the final soil pathway. All inorganics, except for arsenic, cadmium, and mercury were eliminated from the soil pathway on the basis of the background soil criteria discussed in Subsection 7.4 of Volume I, of WESTON (1991). The final list of pollutants that were evaluated for the soil pathway is presented in Table 2-3. Table 2-4 shows the screening data used to exclude inorganic compounds (i.e., metals) from the soils pathways. Only those metals for which emission rates could be predicted are included.

2.4 SURFACE WATER PATHWAY

The approach for excluding pollutants via the surface water pathway is outlined in Subsection 7.5 of Volume I (WESTON, 1991). Table 2-3 is a list of pollutants of concern in the hydrazine rinsewater for this pathway. Note that all VOCs were excluded from the surface water pathway using the same criteria as employed for soils. In addition, surface water concentrations for the pollutants were selected for analysis in the surface water pathway if the predicted surface water concentrations for a given chemical exceeded 10% of its respective AWQC. Table 2-5 presents a comparison of Tier 1 surface water concentrations with the AWQC for those compounds that were screened out of the surface water pathway.

2.5 CONSUMPTION OF BREAST MILK

The selection of pollutants in this pathway was identical to Subsection 7.6 of Volume I of (WESTON, 1991). All organic compounds were included in the evaluation of the breast milk consumption pathway for noncarcinogenic effects. Those organics classified as oral carcinogens were evaluated by this pathway. Inorganics were excluded from this evaluation because of the insufficiency of data for estimating breast milk concentrations.

Table 2-4

Selection of Contaminants of Potential Concern for the Hydrazine Rinsewater

Inorganic Pollutants	RMA Upper Range Emission Rates g/sec	Upper 95% Deposition Rate g/M2/yr	Background Soil Concentration Mean (a) mg/Kg	Concentration in Soil .01M Upper 95% Emissions mg/Kg	Soil: Background Ratio Mean	Soil Concentration as % of Background Mean
Arsenic (d,e)	4.24E-08	5.68E-09	ND (a)	7.97E-07	NA	NA
Cadmium (d)	3.10E-10	4.15E-11	ND (a)	5.83E-09	NA	NA
Chromium III	1.29E-09	1.73E-10	14.4 (a)	2.43E-08	1.69E-09	0.000 (f)
Chromium IV	4.42E-11	5.92E-12	1.44 (b)	8.31E-10	5.77E-10	0.000
Copper	3.17E-09	4.25E-10	8 (a)	5.96E-08	7.45E-09	0.000
Iron	9.68E-05	1.30E-05	16424 (c)	1.82E-03	1.11E-07	0.000
Lead (d,e)	1.63E-09	2.18E-10	15.3 (a)	3.07E-08	2.00E-09	0.000
Mercury (d)	2.02E-09	2.71E-10	ND (a)	3.80E-08	NA	NA
Selenium	5.21E-09	6.98E-10	0.97 (c)	9.80E-08	1.01E-07	0.000
Silver	3.24E-11	4.34E-12	8.3 (c)	6.09E-10	7.34E-11	0.000
Zinc	1.43E-08	1.92E-09	42.2 (a)	2.69E-07	6.37E-09	0.000

(a) Source: Personal Communication with Katherine Cain (PMRMA), 1991. These data were collected under the off-post RI and is in the RMA database.
(b) Assumed 10% of total chromium.
(c) Source: WESTON, Draft Background Geographical Characterization Report, Rocky Flats Plant, Golden, Colorado.
(d) Selected as a contaminant of concern for soil pathway analysis. However, at EPA's request, lead was not evaluated for potential noncarcinogenic and carcinogenic risks. Rather, for lead, estimated soil concentrations were compared to clean-up criteria, and air concentrations to air quality standards.
(e) Carcinogen by oral route of administration.
(f) Values shown as 0.0000 are <0.001 because of rounding off to the nearest one-thousandth.
NA — Not able to be calculated.

Table 2-5

Tier 1 Surface Water Pathway
Screening Analysis for Hydrazine Rinsewater

Pollutants	Emission Rate (g/sec)	Total Deposition Rate (g/m2*yr)	Total Basin Deposition (g/yr)	Water Concentration (mg/L)	AWQC Fish Ingestion (mg/L)
Organics					
Fluoranthene	5.42E-12	4.88E-15	6.32E-10	1.16E-15	5.40E-02
Pentachlorobenzene	6.67E-13	6.00E-16	7.77E-11	1.43E-16	8.50E-02
Phenol	5.60E-12	5.04E-15	6.53E-10	1.20E-15	3.50+00
Tetrachlorobenzene	3.27E-13	2.94E-16	3.81E-11	7.02E-17	4.80E-02
Inorganics					
Cadmium	3.10E-10	2.79E-13	3.61E-08	6.66E-14	1.00E-02
Chromium (VI)	1.34E-09	1.21E-12	1.56E-07	2.88E-13	5.00E-02
Iron	9.68E-05	8.71E-08	1.13E-02	2.08E-08	3.00E-01
Lead	1.63E-09	1.47E-12	1.90E-07	3.50E-13	5.00E-02
Mercury	2.02E-09	1.82E-12	2.35E-07	4.34E-13	1.46E-04
Selenium	5.21E-09	4.69E-12	6.07E-07	1.12E-12	1.00E-02
Silver	3.24E-11	2.92E-14	3.78E-09	6.96E-15	5.00E-02

[a]AWQC for water and fish ingestion for chromium (VI), which are lower (more conservative) than chromium (III).

SECTION 3
ESTIMATION OF EMISSION RATES

Incremental emission estimates were developed by WESTON for the option of incinerating the hydrazine rinsewater in the SQI proposed for the Basin F liquid waste. The development of the emission estimates, as well as the risk assessment as a whole, treat the hydrazine rinsewater as a negligible addition to the Basin F liquid waste (only 2.7% of the total) that will not affect the combustion or physical flue gas characteristics of the proposed incinerator (i.e., the destruction of the Basin F liquid and hydrazine rinsewater are independent and no additional atmospheric dispersion and deposition modeling will be required of the combined Basin F liquid and hydrazine rinsewater). Many of the organics and all of the inorganics in the hydrazine rinsewater were previously evaluated in the Basin F Liquid Incineration Project, Volume I of the Final Draft Human Health Risk Assessment (WESTON, 1991).

The waste feed characteristics of the composite rinsewater were based on the results of the chemical characterization provided by Harding Lawson Associates (ESE, 1989) with the concurrence of the U.S. Army. The composite hydrazine rinsewater waste feed characteristics were based on burning all of the 50,000 gallons in Tank US-3, 200,000 gallons in Tank US-4, and 40,000 gallons in the In-Ground Sump within the 2-year period of the proposed incinerator operation, assuming 7,000 operating hours per year. A summary of emission rates for principal organic hazardous constituents (POHCs) and products of incomplete combustion (PICs) is presented in Tables 3-1 and 3-2, respectively. The organic compound concentration data, the resultant estimate of the composite waste feed and its basis, and the Destruction Removal Efficiencies (DREs) are presented in Subsection 9.5 (Supporting Documentation in this volume). The base case concentration for each compound in each individual tank or sump was estimated from the averages of the three analyses for that compound and source. Only those compounds with at least one value above the detection limit were considered. For compounds with at least one sample value

Table 3-1

Organic Emission Rates from Incineration of Rocky Mountain Arsenal Hydrazine Rinsewater (Principal Organic Hazardous Constituents)

Compounds	Normalized Emission Rate (tons/yr)	Normalized Destruction Efficiency (%)	Emission Rate (grams/sec)
Acetone	3.500E-09	99.9900	1.26E-10
Aldrin	4.910E-12	99.9900	1.77E-13
Aniline	1.780E-07	99.9900	6.41E-09
Atrazine	1.100E-09	99.9900	3.96E-11
Benzene	1.020E-09	99.9900	3.67E-11
Benzothiazole	3.690E-10	99.9900	1.33E-11
bis(2-Ethylhexyl)phthalate	2.180E-15	99.9900	7.85E-12
4-Chloroaniline	1.020E-10	99.9900	3.67E-12
Chlorobenzene	2.450E-10	99.9900	8.82E-12
Chloroethane	8.990E-09	99.9900	3.24E-10
Chloroform	4.380E-08	99.9900	1.58E-09
Chloromethane	1.210E-09	99.9900	4.36E-11
1,1-Dichloroethane	2.920E-09	99.9900	1.05E-10
1,2-Dichloroethane	9.110E-10	99.9900	3.28E-11
1,1-Dichloroethene	1.560E-09	99.9900	5.62E-11
1,2-Dichloropropane	5.790E-10	99.9900	2.08E-11
Dieldrin	9.020E-12	99.9900	3.25E-13
Dimethyl Disulfide	2.480E-09	99.9900	8.93E-11
Hydrazine	3.070E-05	99.9900	1.11E-06
Lindane	4.190E-12	99.9900	1.51E-13
Malathion	1.240E-11	99.9900	4.46E-13
Methylene Chloride	7.310E-08	99.9900	2.63E-09
Methylethyl ketone	1.530E-09	99.9900	5.51E-11
4-Methylphenol	1.390E-09	99.9900	5.00E-11
Monomethyl hydrazine	9.720E-06	99.9900	3.50E-07

Table 3-1
(continued)

Compounds	Normalized Emission Rate (tons/yr)	Normalized Destruction Efficiency (%)	Emission Rate (grams/sec)
Naphthalene	1.640E-10	99.9900	5.90E-12
N-Nitrosodimethylamine	9.880E-09	99.9900	3.56E-10
Parathion	1.960E-11	99.9900	7.06E-13
Phenanthrene	3.076E-11	99.9891	1.11E-12
Phenol	1.555E-10	99.9775	5.60E-12
Tetrachlorethene	1.670E-10	99.9900	6.01E-12
Toluene	2.660E-09	99.9900	9.58E-11
Trichloroethene	1.780E-09	99.9900	6.41E-11
Unsymmetrical dimethyl hydrazine	3.840E-05	99.9900	1.38E-06
Vapona	7.740E-11	99.9900	2.79E-12
Vinyl acetate	1.100E-09	99.9900	3.96E-11
Vinyl chloride	1.020E-09	99.9900	3.67E-11
o,p-Xylene (total)	1.900E-10	99.9900	6.84E-12

Table 3-2

Organic Emission Rates from Incineration of Rocky Mountain Arsenal Hydrazine Rinsewater (Products of Incomplete Combustion)

PICs with Specific Precursors	Normalized Emission Rate (tons/yr)	Emission Rate (grams/sec)
Acenaphthalene	3.958E-08	1.42E-09
Acenaphthene	3.958E-08	1.42E-09
Acetonitrile	3.174E-06	1.14E-07
Acrylonitrile	1.347E-06	4.85E-08
Benzaldehyde	8.111E-08	2.92E-09
Benzo(a)pyrene	7.916E-08	2.85E-09
Benzofuran	3.958E-07	1.42E-08
Benzoic Acid	3.962E-08	1.43E-09
Benzonitrile	8.653E-07	3.12E-08
Biphenyl	3.976E-07	1.43E-08
Carbazole	1.781E-09	6.41E-11
Carbon Tetrachloride	5.155E-09	1.86E-10
4-Chlorobiphenyl	2.511E-10	9.04E-12
Chrysene	7.916E-09	2.85E-10
Dibenzo(a)anthracene	7.916E-08	2.85E-09
Dibenzofuran	7.916E-09	2.85E-10
Dichlorobenzene	1.021E-09	3.67E-11
4,4'-Dichlorobiphenyl	1.265E-11	4.55E-13
1,2-Dichloroethene	1.350E-09	4.86E-11
Fluoranthene	7.916E-08	2.85E-09
Fluorene	7.916E-09	2.85E-10
Hexachlorobenzene	2.385E-08	8.59E-10
Naphthalene Carbonitrile	8.653E-07	3.12E-08
Pentachlorobenzene	9.734E-09	3.50E-10
Pyrene	1.583E-07	5.70E-09

Table 3-2
(continued)

PICs with Specific Precursors	Normalized Emission Rate (tons/yr)	Emission Rate (grams/sec)
Pyridine	8.653E-07	3.12E-08
Quinoine	8.905E-09	3.21E-10
Tetrachlorobenzene	4.769E-09	1.72E-10
Trichlorobenzene	2.420E-09	8.71E-11

above the detection limit was assumed for the analyses when the compound was not detected. The composite feed characterization was calculated as the sum of the average values, which were weighted relative to the total quantity in the tank or sump, and were then used as the basis for estimating emissions.

The organic compound feed rates were provided to Dr. Barry Dellinger of the University of Dayton Research Institute in order to estimate the thermal destruction of POHCs and PICs based on the results of his laboratory studies. In order to ensure a conservatively high estimate of risk, the destruction efficiency of POHCs, i.e., the compounds in the waste feed, were limited to a maximum of 99.99% and the emission of PICs were not normalized. This is the same approach used for the Basin F liquid as described in Section 5, Volume I and Appendix 5B Volume II of (WESTON, 1991).

Metals emissions were estimated by WESTON using the same methodology and assumptions that were used for the Basin F liquid waste (as discussed in Section 5, Volume I and Appendix 5A, Volume II; WESTON, 1991). The only differences in methodology and assumptions from the analysis of metals emissions from the Basin F liquid are that no test burn results were available for evaluation.

A summary of the metals emission rates is shown in Table 3-3. Supporting documentation for the metals is presented in Subsection 9.5 of this volume.

Dioxins/furans, criteria pollutants and acid gas emissions were also not considered in the incremental analysis for the addition of the hydrazine rinsewater to the Basin F liquid incinerator because emissions of these pollutants were considered in the Basin F liquid analysis. Estimates of these emissions would not be changed by the addition of the hydrazine rinsewater because these emission estimates are based on the volumetric flue gas flow rate. This flow rate was assumed to be only negligibly affected by the additional waste

Table 3-3

Incremental Metals Emission Rates for Rocky Mountain Arsenal Hydrazine Rinsewater

	Base Case (a)			Sensitivity Case (b)		
Pollutant	**(ton/yr)**	**(lb/hr)**	**(g/sec)**	**(ton/yr)**	**(lb/hr)**	**(g/sec)**
Aluminum	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA
Arsenic	1.04E-06	2.98E-07	3.76E-08	1.18E-06	3.36E-07	4.24E-08
Barium	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA
Boron	NA	NA	NA	NA	NA	NA
Cadmium	6.06E-09	1.73E-09	2.18E-10	8.62E-09	2.46E-09	3.10E-10
Calcium	NA	NA	NA	NA	NA	NA
Chromium	2.78E-08	7.95E-09	1.00E-09	3.73E-08	1.06E-08	1.34E-09
Cobalt	NA	NA	NA	NA	NA	NA
Copper	3.97E-08	1.13E-08	1.43E-09	8.81E-08	2.52E-08	3.17E-09
Iron	9.63E-04	2.75E-04	3.47E-05	2.69E-03	7.68E-04	9.68E-05
Lead	3.91E-08	1.12E-08	1.41E-09	4.54E-08	1.30E-08	1.63E-09
Lithium	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA

Table 3-3
(continued)

	Base Case (a)			Sensitivity Case (b)		
Pollutant	**(ton/yr)**	**(lb/hr)**	**(g/sec)**	**(ton/yr)**	**(lb/hr)**	**(g/sec)**
Mercury	3.92E-08	1.12E-08	1.41E-09	5.60E-08	1.60E-08	2.02E-09
Molybdenum	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA
Selenium	1.19E-07	3.39E-08	4.27E-09	1.45E-07	4.14E-08	5.21E-09
Silicon	NA	NA	NA	NA	NA	NA
Silver	5.42E-10	1.55E-10	1.95E-11	9.00E-10	2.57E-10	3.24E-11
Sodium	NA	NA	NA	NA	NA	NA
Strontium	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA
Tin	NA	NA	NA	NA	NA	NA
Titanium	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA
Yttrium	NA	NA	NA	NA	NA	NA
Zinc	3.12E-07	8.90E-08	1.12E-08	3.97E-07	1.13E-07	1.43E-08

NA - Not applicable.

feed since the incinerator capacity would be essentially the same. The hydrazine rinsewater totals only 290,000 gallons compared with the 10,500,000 gallons of the Basin F liquid. Therefore, the hydrazine rinsewater comprises only 2.7% of the combined total. Decontamination water totaling 80,000 gallons will also be incinerated but this is only 0.7% of the combined total, so it is also expected to have a negligible effect.

SECTION 4
AIR QUALITY AND DEPOSITION MODELING ANALYSIS

4.1 INTRODUCTION

In the calculations of the human health risk assessment based on the hydrazine rinsewater, it was assumed that the physical characteristics of the incinerator, the points of exposure, and the deposition area had not changed from those incorporated in Volume I of WESTON (1991) based on the Basin F liquid waste. A detailed description of the air quality and deposition modeling analysis is found in Section 6 of Volume I and Appendix 6A of Volume II of WESTON (1991).

SECTION 5
EXPOSURE ASSESSMENT

5.1 INTRODUCTION

The exposure assessment for the hydrazine rinsewater was performed identically to the methods described in Section 8 of Volume I of WESTON (1991). The four potential reasonable maximally exposed individuals (RMEIs), their locations, appropriate exposure routes, and general assumptions for each scenario are described therein. Refer to the supporting documentation tables in Sections 9 of this volume for data regarding exposure algorithms and doses for each scenario, routes of exposure, and pollutants in the hydrazine rinsewater.

SECTION 6
TOXICITY ASSESSMENT

6.1 INTRODUCTION

The toxicity assessment for the hydrazine rinsewater was performed identically to the methods discussed in Section 9 of Volume I of WESTON (1991). It should be noted that a number of chemicals present in the hydrazine rinsewater also were evaluated in Volume I of WESTON (1991). Table 6-1 presents toxicity values for only those chemicals not originally evaluated. However, risk calculations calculated in Section 9 of the Supporting Documentation in this volume were determined for all chemicals present in the hydrazine rinsewater.

6.2 CANCER SLOPE FACTORS

The slope factors for the carcinogenic pollutants that were not initially evaluated in Volume I of WESTON (1991) are presented in Table 6-1. The reference or basis for each of the slope factors is indicated.

6.3 REFERENCE DOSES FOR NONCARCINOGENIC EFFECTS

Table 6-2 summarizes the reference doses for noncarcinogenic effects of chemicals not previously evaluated in Volume I of WESTON (1991).

Table 6-1

Slope Factors for Carcinogens [(mg-kg/day^{-1})] in Hydrazine Rinsewater

Pollutants	EPA Carcinogenic Classification	IARC Carcinogenic Classification	Inhalation Route Slope Factor	Reference or Basis of Inhalation Slope Factor	Oral Route Slope Factor	Reference or Basis of Oral Slope Factor	Dermal Route Slope Factor*
Aniline	B2	2B	5.70E-03	OSF	5.70E-03	EPA, 1990	1.14E-02 (sv)
bis(2-Ethylhexyl) phthalate	B2	NL	1.40E-02	OSF	1.40E-02	EPA, 1990	2.80E-02 (sv)
1,1-Dichloroethane	C	NL	NSF	NA	NSF	NA	NSF
1,2-Dichloroethane	B2	2B	9.10E-02	EPA, 1990	9.10E-02	EPA, 1990	1.82E-01 (sv)
1,1-dimethyl hydrazine (uns)	C	2B	8.70E+00	OSF	8.70E+00	EPA, 1990	1.74E+01 (sv)
Hydrazine	B2	2B	1.71E+01	EPA, 1990	3.00E+00	EPA, 1990	6.00E+00 (sv)
Lindane	B2	NL	1.30E+00	OSF	1.30E+00	EPA, 1990	2.60E+00 (sv)
4-Methylphenol	C	NL	NSF	NA	NSF	NA	NSF
Monomethyl hydrazine	NL	NL	1.10E+00	OSF	1.10E+00	EPA, 1990	2.20E+00 (sv)
N-Nitrosodimethyl-amine	B2	2A	5.10E+01	EPA, 1990	5.10E+01	EPA, 1990	1.02E+02 (sv)

EPA, 1990 = Health Effects Assessment Summary Tables, Fourth Quarter, United States Environmental Protection Agency, Sept. 1990.
NL = Carcinogenicity not categorized.
NSF = No slope factor available.
OSF = Oral slope factor.
* Substance was treated as a volatile (v) or semi-volatile (sv) in deriving the dermal slope factor.
NA - Not available.

Table 6-2

Reference Doses (RfDs) for Noncarcinogens (mg/kg/day) in Hydrazine Rinsewater

Pollutants	Inhalation Route RfD	Reference or Basis of Inhalation RfD	Oral Route RfD	Reference or Basis of Oral RfD	Dermal Route RfD*
Aniline	7.76E-03	ACGIH-TWA	1.95E-03	Derived	9.75E-04 (sv)
Benzothiazole	1.00E-03	Oral RfD	1.00E-03	Derived	5.00E-04 (sv)
bis(2-Ethylhexyl)phthalate	5.10E-03	ACGIH-TWA	4.00E-03	EPA, 1990	1.00E-02 (sv)
4-Chloroaniline	4.00E-03	Oral RfD	4.00E-03	EPA, 1990	2.00E-03 (sv)
Chloroethane	2.65E+00	ACGIH-TWA	NRD	NA	NC (v)
1,1-Dichloroethane	1.00E-01	EPA, 1990	1.00E+01	EPA, 1990	NC (v)
1,2-Dichloroethane	4.08E-02	ACGIH-TWA	4.89E-03	Derived	2.45E-03 (sv)
1,1-dimethyl hydrazine(uns)	1.22E-03	ACGIH-TWA	1.22E-03	Derived	6.10-04 (sv)
Hydrazine	1.33E-04	ACGIH-TWA	6.00E-04	Derived	3.00-04 (sv)
Lindane	5.10E-04	ACGIH-TWA	3.00E-04	EPA, 1990	1.50-04 (sv)
Methyl ethyl ketone	9.00E-02	EPA, 1990	5.00-01	EPA, 1990	2.50-02 (sv)
4-Methylphenol	1.02E-02	REL	5.00-02	EPA, 1990	2.50-02 (sv)
Monomethyl hydrazine	1.94E-05	ACGIH-TWA	2.20E-04	Derived	1.10E-04 (sv)
Naphthalene	5.10E-02	ACGIH-TWA	4.00E-03	EPA, 1990	2.00-03 (sv)
Naphthalene Carbonitrile	5.10-02	ACGIH-TWA	4.00E-03	EPA, 1990	2.00-03 (sv)
N-Nitrosodimethylamine	2.80E-04	Oral RfD	2.80E-04	Derived	1.40E-04 (sv)
Vinyl acetate	2.00E-01	EPA, 1990	1.00E+00	EPA, 1990	NC (v)

ACGIH-TWA = American Conference of Governmental Industrial Hygienists Time Weighted Average.
EPA, 1990 = Health Effects Assessment Summary Tables. 4th Quarter. United States Environmental Protection Agency, Sept. 1990.
NRD = No reference dose available and it cannot be derived.
* Substance was treated as a volatile (v) or semi-volatile (sv) in deriving the dermal reference dose.
Derived = Derived from existing toxicity data (see Appendix 9A, Vol. II for procedure).
NC = Not of concern through this exposure route (see Section 8 of Vol. I of the Final Draft, Human Health Risk Assessment Document).
Note: The reference dose for Naphthalene was used for Naphthalene Carbonitrile because an appropriate reference dose could not be derived.

SECTION 7
RISK CHARACTERIZATION AND DISCUSSION

7.1 INTRODUCTION

In this section, both carcinogenic and noncarcinogenic risks, as a result of exposure under both base and sensitivity case emissions rates, were evaluated based on the daily intake of pollutants outlined in Section 5 and the toxicity values presented in Section 6. The total lifetime carcinogenic risk and the noncarcinogenic hazard indices were calculated according to the procedures described in Section 10 of Volume I of WESTON (1991). Section 10 of Volume I specifically discusses the calculations and the application of the sensitivity case emissions. For comparison, the risk results contained in Volume I of WESTON (1991) are presented in Tables 7-1 and 7-2.

7.2 RISK RESULTS

7.2.1 Carcinogenic Risks

Table 7-1 shows the carcinogenic risk comparisons between hydrazine rinsewater and Basin F liquid waste for all four scenarios under base case and sensitivity case emissions. Note that base case emissions most closely approximate the "reasonable maximum exposure" described in Superfund guidance by EPA (1989a). Hydrazine rinsewater incineration, exclusive of Basin F liquid risk, results in a 1.2E-08 cancer risk in both base case and sensitivity case emission conditions for the Farmer scenario. Farmer scenario represents the highest cancer risk of all four scenarios. Assuming additivity with Basin F liquid waste (WESTON has made the same air modeling and exposure assumptions for both hydrazine rinsewater and Basin F liquid incineration), the total cancer risk under base case emissions for the Farmer scenario is 5.8E-08 and under sensitivity case emissions is 7.2E-08. Figure 7-1 representing the additivity of Basin F and hydrazine rinsewater illustrates the

Table 7-1

Total Lifetime Carcinogenic Risk for Hydrazine Rinsewater and Basin F Liquid - Rocky Mountain Arsenal for Four Exposure Scenarios

Exposure Scenario	Lifetime Carcinogenic Risk			
	Base Case Emissions		Sensitivity Case Emissions	
	Hydrazine	Basin F Liq[1]	Hydrazine	Basin F Liq[1]
Resident A				
Adult	1.0E-08	6.7E-10	1.0E-08	9.1E-10
Child	1.6E-09	7.2E-09	1.6E-09	1.8E-08
Infant	6.5E-10	6.1E-09	6.5E-10	2.8E-08
Total	**1.2E-08**	**1.4E-08**	**1.2E-08**	**4.7E-08**
Resident B				
Adult	1.6E-08	7.6E-10	1.6E-08	1.0E-09
Child	2.4E-09	1.6E-09	2.4E-09	3.8E-09
Infant	9.6E-10	1.3E-09	9.6E-10	5.6E-09
Total	**2.0E-08**	**3.6E-09**	**2.0E-08**	**1.0E-08**
Farmer				
Adult	4.1E-08	2.0E-09	4.1E-08	3.0E-09
Child	6.9E-09	2.9E-09	6.9E-09	7.0E-09
Infant	2.4E-09	2.4E-09	2.4E-09	1.1E-08
Total	**5.1E-08**	**7.3E-09**	**5.1E-08**	**2.1E-08**
Worker				
Adult	6.3E-12	6.8E-10	6.4E-12	1.8E-09
Total	**6.3E-12**	**6.8E-10**	**6.4E-12**	**1.8E-09**

[1] Risk results extracted from *Final Draft Human Health Risk Assessment, Volume I*, June 1991. (DCN 3886-44-01-ABTD).

Table 7-2

Hazard Indices Calculated for Adult, Child, and Infants for Hydrazine Rinsewater and Basin F Liquid Under Four Exposure Scenarios

Exposure Scenario	Hazard Index			
	Base Case Emissions		Sensitivity Case Emissions	
	Hydrazine	Basin F Liq[1]	Hydrazine	Basin F Liq[1]
Resident A				
Adult	1.7E-05	7.3E-02	2.3E-05	1.5E-01
Child	3.5E-05	1.7E-01	4.9E-05	3.3E-01
Infant	5.0E-05	1.1E-01	5.9E-05	2.3E-01
Resident B				
Adult	1.9E-05	1.5E-02	2.0E-05	3.0E-02
Child	3.6E-05	3.4E-02	3.9E-05	6.7E-02
Infant	6.6E-05	2.4E-02	6.7E-05	4.7E-02
Farmer				
Adult	4.1E-05	2.6E-02	4.3E-05	5.2E-02
Child	8.9E-05	5.9E-02	9.3E-05	1.2E-01
Infant	1.5E-04	4.1E-02	1.5E-04	8.2E-02
Worker				
Adult	6.4E-07	7.5E-03	1.3E-06	1.5E-02

[1] Risk results extracted from *Final Draft Human Health Risk Assessment, Volume I*, June 1991. (DCN 3886-44-01-ABTD).

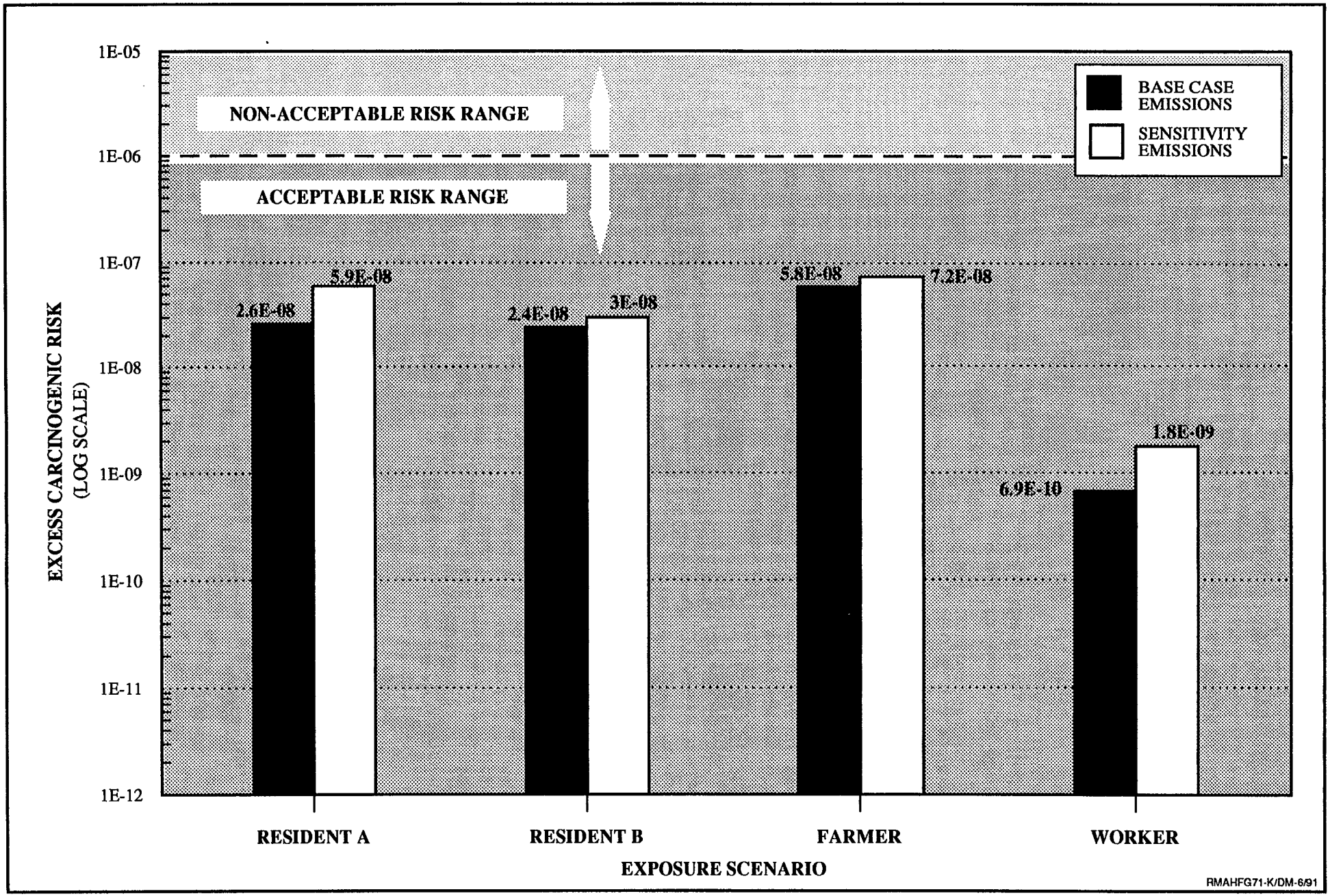


FIGURE 7-1 ADDITIVE TOTAL LIFETIME CARCINOGENIC RISK FOR RESIDENT, FARMER AND ON-SITE WORKER EXPOSURE SCENARIOS FOR HYDRAZINE RINSEWATER AND BASIN F LIQUID WASTE COMBINED

differences for all four scenarios. These values are between one and two orders of magnitude lower than the value of 1E-06 developed in the Final Decision Document (Woodward-Clyde Consultants, 1990).

7.2.2 Noncarcinogenic Effects

Table 7-2 summarizes the hazard indices for adult, child, and infant for incineration of hydrazine rinsewater and Basin F liquid waste under all four scenarios. These values, like carcinogenic risk, have been calculated under base case and sensitivity case emissions. The highest hazard index for hydrazine rinsewater was the infant farmer scenario (sensitivity case), which was calculated to be 1.5E-04. This is between three and four orders of magnitude below the value of 1.0 promulgated in the Final Decision Document (Woodward-Clyde Consultants, 1990). Assuming additivity between individual hazard indices, the highest combined exposure would be the sensitivity case for the child Resident-A scenario at a hazard index of 3.3E-01. This and all combinations are illustrated in Figure 7-2 for base case emissions, and Figure 7-3 for sensitivity case emissions.

7.2.3 Conclusions

The overall uncertainty inherent in this risk assessment has been thoroughly discussed in Volume I, Section 10 of WESTON (1991). The reader is encouraged to review Section 10 of Volume I (WESTON, 1991) to gain an understanding of the conservatism underlying the final calculations. Note that the same air modeling and exposure assumptions have been made for both Basin F liquid and hydrazine rinsewater incineration.

As requested by EPA VIII (refer to General Comment 3, EPA, Volume IV of WESTON, 1991), lead was not incorporated into the risk calculations. Currently, lead is not assigned a cancer slope factor or a reference dose by EPA. However, Dr. Chris Weis, Toxicologist

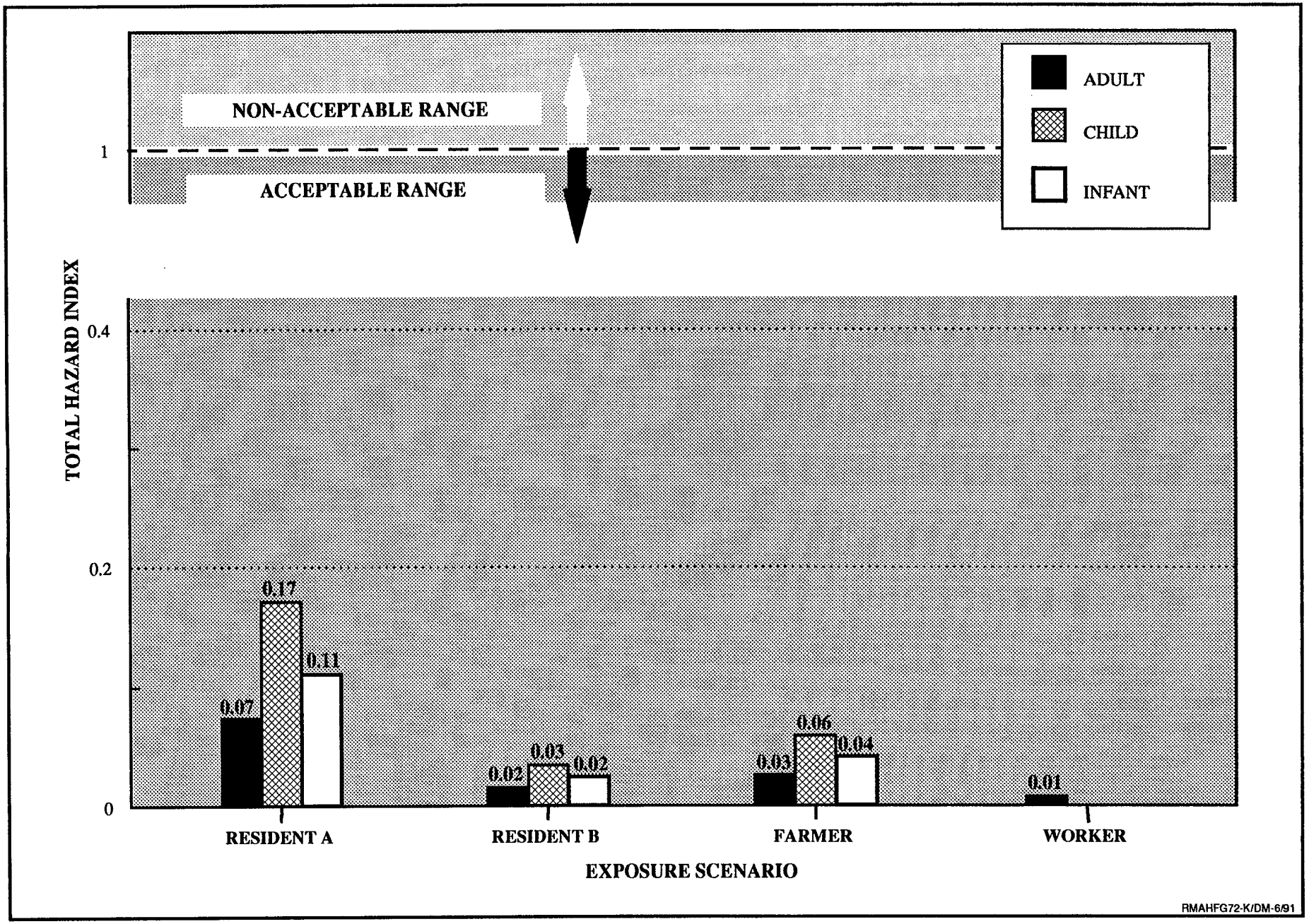


FIGURE 7-2 ADDITIVE TOTAL HAZARD INDICES FOR RESIDENT, FARMER AND ON-SITE WORKER EXPOSURE SCENARIOS FOR HYDRAZINE RINSEWATER AND BASIN F LIQUID WASTE COMBINED UNDER BASE CASE EMISSIONS

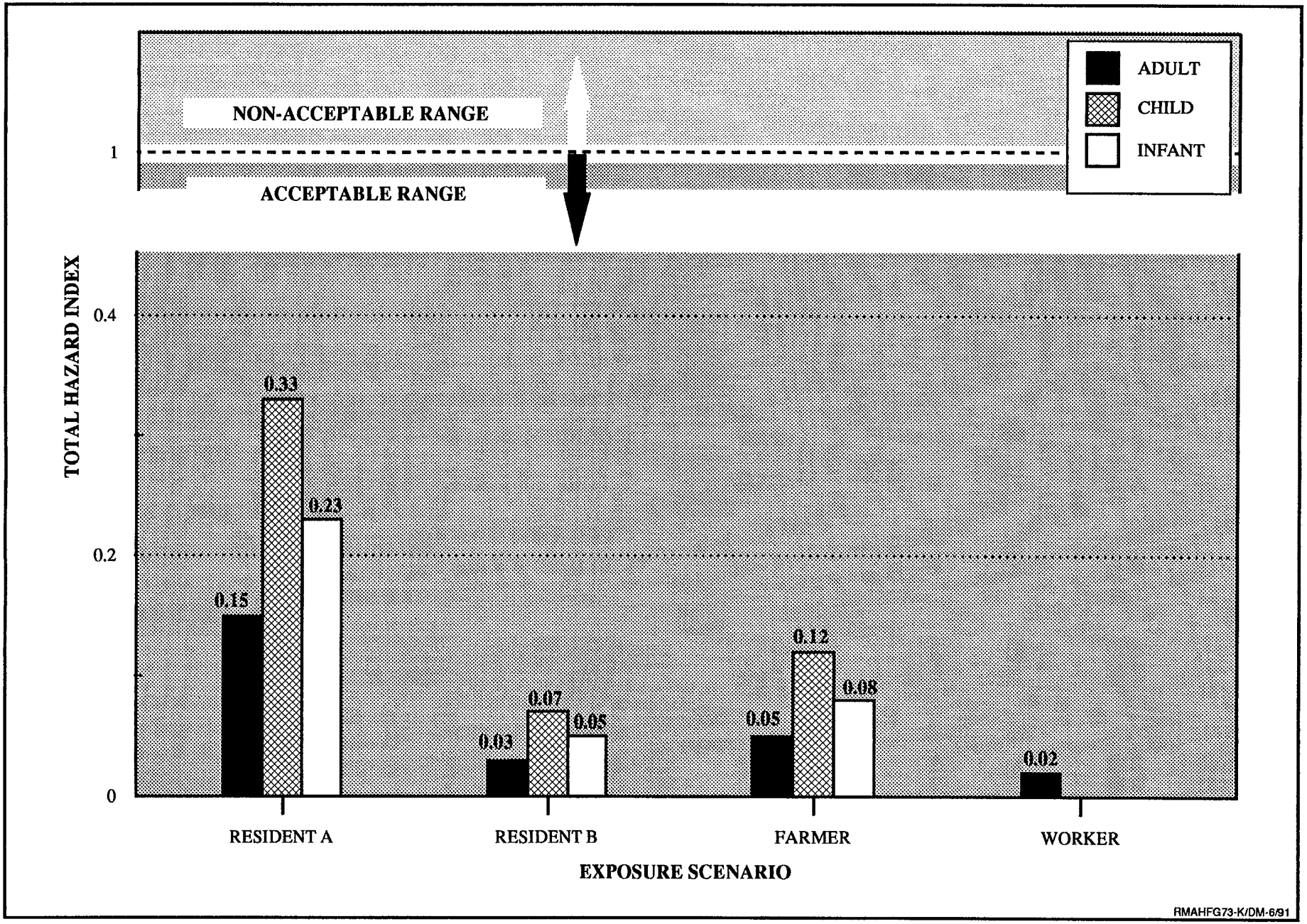


FIGURE 7-3 ADDITIVE TOTAL HAZARD INDICES FOR RESIDENT, FARMER AND ON-SITE WORKER EXPOSURE SCENARIOS FOR HYDRAZINE RINSEWATER AND BASIN F LIQUID WASTE COMBINED UNDER SENSITIVITY CASE EMISSIONS

for EPA Region VIII, requested that a comparison be made between estimated lead soil concentrations and ambient air concentrations to soil cleanup levels and National Ambient Air Quality Standards (NAAQS), respectively. Table 7-3 shows the requested comparisons. Predicted lead levels in soil and air were well below the respective standards.

In conclusion, the addition of hydrazine rinsewater to the Basin F liquid waste does not pose a cancer risk or noncarcinogenic effect as defined in the Final Decision Document (Woodward- Clyde Consultants, 1990). This conclusion is highlighted by several conservative assumptions that were previously discussed in Volume I, Section 10 (WESTON, 1991):

- No environmental degradation has been assumed for any chemical in the waste stream (POHC) or formed by the incineration process (PIC).
- Even though the facility is operating for only 2 years, a 70-year lifetime exposure has been assumed (except for inhalation).

Table 7-3

Comparison of Predicted Soil and Air Levels of Lead From Hydrazine Rinsewater Incinerator to Soil Cleanup and National Ambient Air Quality Standards (NAAQS)

Inorganic Pollutant	Maximum[a] Predicted Soil Concentration (0.01m) Sensitivity Case (mg/kg)	Soil Cleanup[b] Level (mg/kg)	Predicted[c] Ambient Air Concentration Sensitivity Case (ug/m^3)	NAAQS[d] (ug/m^3)
Lead	7.07E-11	500-1,000	5.7E-10	1.5E+00

[a] Refer to Table 1A in Section 9.1.1, last column, second page.
[b] OSWER Directive 9355.4-02, September, 1989 (EPA, 1989b).
[c] Refer to Table 1A in Section 9.1.1, second column, second page. Represents predicted average annual ambient air concentration.
[d] 40 CFR 50. Three month annual average.

SECTION 8
CITED REFERENCES

ATSDR (Agency for Toxic Substances and Disease Registry). 1989a. Toxicological Profile for alpha-, beta-, gamma-, and delta-hexachlorocyclohexane. Prepared by Clement Associates.

ATSDR (Agency for Toxic Substances and Disease Registry). 1989b. Toxicological Profile for Di(2-ethylhexyl) phthalate. Prepared by Life Systems, Inc.

ATSDR (Agency for Toxic Substances and Disease Registry). 1990a. Toxicological Profile for 2-Butanone. Prepared by Syracuse Research Corporation and Clement Associates, Inc.

ATSDR (Agency for Toxic Substances and Disease Registry). 1990b. Toxicological Profile for Naphthalene. Prepared by Clement Associates.

Clayton, G. 1981. Patty's Industrial Hygiene and Toxicology, Vol. 2C. John Wiley and Sons, New York, New York.

EPA (U.S. Environmental Protection Agency). 1979. Water-Related Environmental Fate of 129 Priority Pollutants, Vol. 1-2. U.S. EPA Office of Water Planning and Standards, Washington, D.C.

EPA (U.S. Environmental Protection Agency). 1985. Chemical, Physical, and Biological Properties of Compounds Present at Hazardous Waste Sites, Final Report. Prepared by Clement Associates, Inc. Arlington, Virginia.

EPA (U.S. Environmental Protection Agency). 1986a. Quality Criteria for Water Regulations and Standards. EPA 440/5-86-001.

EPA (U.S. Environmental Protection Agency). 1986b. Superfund Public Health Evaluation Manual (SPHEM) 1986, Environmental Protection Agency (EPA). Washington, D.C. EPA 540/1-86/060.

EPA (U.S. Environmental Protection Agency). 1987. Process, Coefficients, and Models for Simulating Toxic Organics and Heavy Metals in Surface Waters 1987. Athens, Georgia EPA/600/3-87/015.

EPA (U.S. Environmental Protection Agency). 1989a. Risk Assessment Guidance for Superfund. Volume I. Human Health Evaluation Manual (Part A). Interim Final. Washington, D.C. EPA/540/1-89/002.

EPA (U.S. Environmental Protection Agency). 1989b. Interim Guidance on Establishing Soil Lead Cleanup Levels at Superfund Sites. OSWER Directive # 9355-4-02. September 1989.

EPA (U.S. Environmental Protection Agency). 1990. Health Effects Summary Tables, Annual FY-1991. OERR 9200.6-30 (91-1).

ESE (Environmental Science & Engineering, Inc.). Harding Lawson Associates, and Applied Environmental, Inc. 1989. Technical Support for Rocky Mountain Arsenal. Offpost Operable Unit Endangerment Assessment/Feasibility Study with Applicable and Appropriate Requirements. Volume I. Draft Final Report Version 2.1. March 1989. Contract No. DAAA15-88-D-0021.

Howard, P.H. 1989. Handbook of Environmental Fate and Exposure Data for Organic Chemicals. Vol. 1 and 2. Lewis Publishers. Chelsea, Michigan.

Lyman, W. et. al. 1982. Handbook of Chemical Property Estimation Methods. McGraw-Hill Book Company. New York, New York.

National Ambient Air Quality Standard (NAAQS). Lead. 40 CFR 50.

WESTON (Roy F. Weston, Inc.). 1991. Final Draft Human Health Risk Assessment, Volumes 1-4, Interim Action, Basin F Liquid Incineration Project, Preplaced Remediation Action Contract, Contract No. DACW-45-90-D-0015.

Woodward-Clyde Consultants. 1990. Final Decision Document for the Interim Response Action, Basin F Liquid Treatment, Rocky Mountain Arsenal, Volume I - Text. May 1990. Contract No. DAAA15-88-D-0022/0001. Version 3.2.

SECTION 9
SUPPORTING DOCUMENTATION

Included in this section are the detailed spreadsheets that document base case and sensitivity case emissions, exposure doses, and risk results for the Residents A and B, the farmer, and the on-site worker scenarios that have been summarized in this report.

9.1 RESIDENT A SCENARIO

9.1.1 Base Case Emissions — Resident A

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
3										
4	BASE CASE		ER	AC	D	D	CO	CO	CO	CO
5							AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6				AVG. ANN.	TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	EMISSION	AMBIENT	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:31:25	RATE	CONC.	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		RES-A	g/sec	ug/M3	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10							mg/Kg	mg/Kg	mg/Kg	mg/Kg
11										
12	ORGANICS									
13		Acetone	1.26E-10	4.42E-11	NA	NA	NA	NA	NA	NA
14		Acetonitrile	1.14E-07	4.00E-08	3.52E-10	1.68E-10	2.44E-09	2.47E-09	4.87E-09	4.94E-09
15		Acrylonitrile	4.85E-08	1.70E-08	NA	NA	NA	NA	NA	NA
16		Aldrin	1.77E-13	6.21E-14	5.47E-16	2.60E-16	3.78E-15	3.84E-15	7.57E-15	7.68E-15
17		Aniline	6.41E-09	2.25E-09	1.98E-11	9.42E-12	1.37E-10	1.39E-10	2.74E-10	2.78E-10
18		Atrazine	3.96E-11	1.39E-11	1.22E-13	5.82E-14	8.46E-13	8.59E-13	1.69E-12	1.72E-12
19		Benzaldehyde	2.92E-09	1.02E-09	9.02E-12	4.29E-12	6.24E-11	6.33E-11	1.25E-10	1.27E-10
20		Benzene	3.67E-11	1.29E-11	NA	NA	NA	NA	NA	NA
21		Benzofuran	1.42E-08	4.98E-09	4.39E-11	2.09E-11	3.04E-10	3.08E-10	6.07E-10	6.16E-10
22		Benzoic Acid	1.43E-09	5.02E-10	4.42E-12	2.10E-12	3.06E-11	3.10E-11	6.11E-11	6.20E-11
23		Benzonitrile	3.12E-08	1.10E-08	9.64E-11	4.59E-11	6.67E-10	6.77E-10	1.33E-09	1.35E-09
24		Benzothiazole	1.33E-11	4.67E-12	4.11E-14	1.96E-14	2.84E-13	2.88E-13	5.69E-13	5.77E-13
25		Biphenyl	1.43E-08	5.02E-09	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	7.85E-12	2.76E-12	2.43E-14	1.15E-14	1.68E-13	1.70E-13	3.36E-13	3.40E-13
27		Carbazole	6.41E-11	2.25E-11	1.98E-13	9.42E-14	1.37E-12	1.39E-12	2.74E-12	2.78E-12
28		Carbon Tetrachloride	1.86E-10	6.53E-11	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	3.67E-12	1.29E-12	1.13E-14	5.39E-15	7.84E-14	7.96E-14	1.57E-13	1.59E-13
30		Chlorobenzene	8.82E-12	3.10E-12	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	9.04E-12	3.17E-12	2.79E-14	1.33E-14	1.93E-13	1.96E-13	3.86E-13	3.92E-13
32		4,4-Chlorobiphenyl	4.55E-13	1.60E-13	1.41E-15	6.69E-16	9.73E-15	9.87E-15	1.95E-14	1.97E-14
33		Chloroethane	3.24E-10	1.14E-10	1.00E-12	4.76E-13	6.93E-12	7.03E-12	1.39E-11	1.41E-11
34		Chloroform	1.58E-09	5.55E-10	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	2.85E-10	1.00E-10	8.81E-13	4.19E-13	6.09E-12	6.18E-12	1.22E-11	1.24E-11
36		Dichlorobenzenes (total)	3.67E-11	1.29E-11	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	2.32E-12	8.14E-13	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	1.05E-10	3.69E-11	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	3.28E-11	1.15E-11	1.01E-13	4.82E-14	7.01E-13	7.11E-13	1.40E-12	1.42E-12
40		1,1-Dichloroethene	5.62E-11	1.97E-11	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	4.86E-11	1.71E-11	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	2.08E-11	7.30E-12	NA	NA	NA	NA	NA	NA
43		Dieldrin	3.25E-13	1.14E-13	1.00E-15	4.78E-16	6.95E-15	7.05E-15	1.39E-14	1.41E-14
44		Dimethyldisulfide	8.93E-11	3.13E-11	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	8.59E-10	3.02E-10	2.65E-12	1.26E-12	1.84E-11	1.86E-11	3.67E-11	3.73E-11
46		Hydrazine	1.11E-06	3.90E-07	3.43E-09	1.63E-09	2.37E-08	2.41E-08	4.75E-08	4.81E-08
47		Lindane	1.51E-13	5.30E-14	4.67E-16	2.22E-16	3.23E-15	3.27E-15	6.46E-15	6.55E-15
48		Malathion	4.46E-13	1.57E-13	1.38E-15	6.56E-16	9.53E-15	9.67E-15	1.91E-14	1.93E-14
49		Methyl chloride	4.36E-11	1.53E-11	NA	NA	NA	NA	NA	NA
50		Methylene chloride	2.63E-09	9.23E-10	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	5.51E-11	1.93E-11	1.70E-13	8.10E-14	1.18E-12	1.19E-12	2.36E-12	2.39E-12
52		4-Methylphenol	5.00E-11	1.76E-11	1.54E-13	7.35E-14	1.07E-12	1.08E-12	2.14E-12	2.17E-12
53		Monomethyl hydrazine	3.50E-07	1.23E-07	1.08E-09	5.14E-10	7.48E-09	7.59E-09	1.50E-08	1.52E-08
54		Naphthalene	5.90E-12	2.07E-12	1.82E-14	8.67E-15	1.26E-13	1.28E-13	2.52E-13	2.56E-13
55		Naphthalene carbonitrile	3.12E-08	1.10E-08	9.64E-11	4.59E-11	6.67E-10	6.77E-10	1.33E-09	1.35E-09
56		n-Nitrosodimethylamine	3.56E-10	1.25E-10	1.10E-12	5.23E-13	7.61E-12	7.72E-12	1.52E-11	1.54E-11
57		PAHs								
58		Acenaphthalene	1.42E-09	4.98E-10	4.39E-12	2.09E-12	3.04E-11	3.08E-11	6.07E-11	6.16E-11
59		Acenaphthene	1.42E-09	4.98E-10	4.39E-12	2.09E-12	3.04E-11	3.08E-11	6.07E-11	6.16E-11
60		Benzo(a)pyrene	2.85E-09	1.00E-09	8.81E-12	4.19E-12	6.09E-11	6.18E-11	1.22E-10	1.24E-10

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
61		Chrysene	2.85E-10	1.00E-10	8.81E-13	4.19E-13	6.09E-12	6.18E-12	1.22E-11	1.24E-11
62		Dibenzo(a,h)anthracene	2.85E-09	1.00E-09	8.81E-12	4.19E-12	6.09E-11	6.18E-11	1.22E-10	1.24E-10
63		Fluoranthene	2.85E-09	1.00E-09	8.81E-12	4.19E-12	6.09E-11	6.18E-11	1.22E-10	1.24E-10
64		Fluorene	2.85E-10	1.00E-10	8.81E-13	4.19E-13	6.09E-12	6.18E-12	1.22E-11	1.24E-11
65		Phenanthrene	1.11E-12	3.90E-13	3.43E-15	1.63E-15	2.37E-14	2.41E-14	4.75E-14	4.81E-14
66		Pyrene	5.70E-09	2.00E-09	1.76E-11	8.38E-12	1.22E-10	1.24E-10	2.44E-10	2.47E-10
67		Parathion	7.06E-13	2.48E-13	2.18E-15	1.04E-15	1.51E-14	1.53E-14	3.02E-14	3.06E-14
68		Pentachlorobenzene	3.50E-10	1.23E-10	1.08E-12	5.14E-13	7.48E-12	7.59E-12	1.50E-11	1.52E-11
69		Phenol	5.60E-12	1.97E-12	1.73E-14	8.23E-15	1.20E-13	1.21E-13	2.39E-13	2.43E-13
70		Pyridine	3.12E-08	1.10E-08	NA	NA	NA	NA	NA	NA
71		Quinoline	3.21E-10	1.13E-10	9.92E-13	4.72E-13	6.86E-12	6.96E-12	1.37E-11	1.39E-11
72		Tetrachlorobenzene	1.72E-10	6.04E-11	5.31E-13	2.53E-13	3.68E-12	3.73E-12	7.35E-12	7.46E-12
73		Tetrachloroethene	6.01E-12	2.11E-12	NA	NA	NA	NA	NA	NA
74		Toluene	9.58E-11	3.36E-11	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	8.71E-11	3.06E-11	2.69E-13	1.28E-13	1.86E-12	1.89E-12	3.72E-12	3.78E-12
76		Trichloroethene	6.41E-11	2.25E-11	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	1.38E-06	4.84E-07	4.26E-09	2.03E-09	2.95E-08	2.99E-08	5.90E-08	5.98E-08
78		Vapona	2.79E-12	9.79E-13	8.62E-15	4.10E-15	5.96E-14	6.05E-14	1.19E-13	1.21E-13
79		Vinyl acetate	3.96E-11	1.39E-11	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	3.67E-11	1.29E-11	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	6.84E-12	2.40E-12	NA	NA	NA	NA	NA	NA
82										
83	INORGANICS									
84		Arsenic	3.76E-08	1.32E-08	1.16E-10	5.53E-11	8.04E-10	8.15E-10	1.61E-09	1.63E-09
85		Cadmium	2.18E-10	7.65E-11	6.74E-13	3.20E-13	4.66E-12	4.73E-12	9.32E-12	9.45E-12
86		Chromium (III)	9.66E-10	3.39E-10	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	3.40E-11	1.19E-11	NA	NA	NA	NA	NA	NA
88		Copper	1.43E-09	5.02E-10	NA	NA	NA	NA	NA	NA
89		Iron	3.47E-05	1.22E-05	NA	NA	NA	NA	NA	NA
90		Lead	1.41E-09	4.95E-10	4.36E-12	2.07E-12	3.01E-11	3.06E-11	6.03E-11	6.11E-11
91		Mercury	1.41E-09	4.95E-10	4.36E-12	2.07E-12	3.01E-11	3.06E-11	6.03E-11	6.11E-11
92		Selenium	4.27E-09	1.50E-09	NA	NA	NA	NA	NA	NA
93		Silver	1.95E-11	6.84E-12	NA	NA	NA	NA	NA	NA
94		Zinc	1.12E-08	3.93E-09	NA	NA	NA	NA	NA	NA
95										
96										
97						2 yrs	ACCUMULATION TIME	AT		
98						0.2 M	SOIL DEPTH OF MIXING	SD		
99						0.1 M	SOIL DEPTH OF MIXING	SD		
100						1.43E+03 Kg/M3	SOIL BULK DENSITY	BD		
101						1.00E+03 mg/g				
102						3.15E+07 sec/yr				
103										
104										
105						Dilution Factor				
106						3.51E-01 INHALATION	DFI			
107						Deposition Factor	DF			
108						1.47E-03 DRY	DDF			
109						3.09E-03 DRY/WET	TDF			
110										
111										

$$CO = \frac{D*AT*1000}{SD*BD}$$

AC = ER * DFI

D = ER * x DF

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
3			CATTLE FEED					
4	BASE CASE		D	D	CO	CO	CO	CO
5					AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6			TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:34:18	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		RES-A	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10					mg/Kg	mg/Kg	mg/Kg	mg/Kg
11								
12	ORGANICS							
13		Acetone	NA	NA	NA	NA	NA	NA
14		Acetonitrile	3.42E-10	5.76E-11	2.37E-09	2.40E-09	4.73E-09	4.80E-09
15		Acrylonitrile	NA	NA	NA	NA	NA	NA
16		Aldrin	5.31E-16	8.94E-17	3.67E-15	3.73E-15	7.35E-15	7.45E-15
17		Aniline	1.92E-11	3.24E-12	1.33E-10	1.35E-10	2.66E-10	2.70E-10
18		Atrazine	1.19E-13	2.00E-14	8.22E-13	8.34E-13	1.64E-12	1.67E-12
19		Benzaldehyde	8.76E-12	1.47E-12	6.06E-11	6.15E-11	1.21E-10	1.23E-10
20		Benzene	NA	NA	NA	NA	NA	NA
21		Benzofuran	4.26E-11	7.17E-12	2.95E-10	2.99E-10	5.89E-10	5.98E-10
22		Benzoic Acid	4.29E-12	7.22E-13	2.97E-11	3.01E-11	5.94E-11	6.02E-11
23		Benzonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
24		Benzothiazole	3.99E-14	6.72E-15	2.76E-13	2.80E-13	5.52E-13	5.60E-13
25		Biphenyl	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	2.36E-14	3.96E-15	1.63E-13	1.65E-13	3.26E-13	3.31E-13
27		Carbazole	1.92E-13	3.24E-14	1.33E-12	1.35E-12	2.66E-12	2.70E-12
28		Carbon Tetrachloride	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	1.10E-14	1.85E-15	7.62E-14	7.73E-14	1.52E-13	1.55E-13
30		Chlorobenzene	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	2.71E-14	4.57E-15	1.88E-13	1.90E-13	3.75E-13	3.81E-13
32		4,4-Chlorobiphenyl	1.36E-15	2.30E-16	9.44E-15	9.58E-15	1.89E-14	1.92E-14
33		Chloroethane	9.72E-13	1.64E-13	6.72E-12	6.82E-12	1.34E-11	1.36E-11
34		Chloroform	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
36		Dichlorobenzenes (total)	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	9.84E-14	1.66E-14	6.81E-13	6.91E-13	1.36E-12	1.38E-12
40		1,1-Dichloroethene	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	NA	NA	NA	NA	NA	NA
43		Dieldrin	9.75E-16	1.64E-16	6.74E-15	6.84E-15	1.35E-14	1.37E-14
44		Dimethyldisulfide	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	2.58E-12	4.34E-13	1.78E-11	1.81E-11	3.57E-11	3.62E-11
46		Hydrazine	3.33E-09	5.61E-10	2.30E-08	2.34E-08	4.61E-08	4.67E-08
47		Lindane	4.53E-16	7.63E-17	3.13E-15	3.18E-15	6.27E-15	6.36E-15
48		Malathion	1.34E-15	2.25E-16	9.26E-15	9.39E-15	1.85E-14	1.88E-14
49		Methyl chloride	NA	NA	NA	NA	NA	NA
50		Methylene chloride	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	1.65E-13	2.78E-14	1.14E-12	1.16E-12	2.29E-12	2.32E-12
52		4-Methylphenol	1.50E-13	2.53E-14	1.04E-12	1.05E-12	2.08E-12	2.11E-12
53		Monomethyl hydrazine	1.05E-09	1.77E-10	7.26E-09	7.37E-09	1.45E-08	1.47E-08
54		Naphthalene	1.77E-14	2.98E-15	1.22E-13	1.24E-13	2.45E-13	2.48E-13
55		Naphthalene carbonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
56		n-Nitrosodimethylamine	1.07E-12	1.80E-13	7.39E-12	7.49E-12	1.48E-11	1.50E-11
57		PAHs						
58		Acenaphthalene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
59		Acenaphthene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
60		Benzo(a)pyrene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
61		Chrysene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
62		Dibenzo(a,h)anthracene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
63		Fluoranthene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
64		Fluorene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
65		Phenanthrene	3.33E-15	5.61E-16	2.30E-14	2.34E-14	4.61E-14	4.67E-14
66		Pyrene	1.71E-11	2.88E-12	1.18E-10	1.20E-10	2.37E-10	2.40E-10
67		Parathion	2.12E-15	3.57E-16	1.47E-14	1.49E-14	2.93E-14	2.97E-14
68		Pentachlorobenzene	1.05E-12	1.77E-13	7.26E-12	7.37E-12	1.45E-11	1.47E-11
69		Phenol	1.68E-14	2.83E-15	1.16E-13	1.18E-13	2.32E-13	2.36E-13
70		Pyridine	NA	NA	NA	NA	NA	NA
71		Quinoline	9.63E-13	1.62E-13	6.66E-12	6.76E-12	1.33E-11	1.35E-11
72		Tetrachlorobenzene	5.16E-13	8.69E-14	3.57E-12	3.62E-12	7.14E-12	7.24E-12
73		Tetrachloroethene	NA	NA	NA	NA	NA	NA
74		Toluene	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	2.61E-13	4.40E-14	1.81E-12	1.83E-12	3.61E-12	3.67E-12
76		Trichloroethene	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	4.14E-09	6.97E-10	2.86E-08	2.91E-08	5.73E-08	5.81E-08
78		Vapona	8.37E-15	1.41E-15	5.79E-14	5.87E-14	1.16E-13	1.17E-13
79		Vinyl acetate	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	NA	NA	NA	NA	NA	NA
82								
83	INORGANICS							
84		Arsenic	1.13E-10	1.90E-11	7.80E-10	7.92E-10	1.56E-09	1.58E-09
85		Cadmium	6.54E-13	1.10E-13	4.52E-12	4.59E-12	9.05E-12	9.18E-12
86		Chromium (III)	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	NA	NA	NA	NA	NA	NA
88		Copper	NA	NA	NA	NA	NA	NA
89		Iron	NA	NA	NA	NA	NA	NA
90		Lead	4.23E-12	7.12E-13	2.93E-11	2.97E-11	5.85E-11	5.94E-11
91		Mercury	4.23E-12	7.12E-13	2.93E-11	2.97E-11	5.85E-11	5.94E-11
92		Selenium	NA	NA	NA	NA	NA	NA
93		Silver	NA	NA	NA	NA	NA	NA
94		Zinc	NA	NA	NA	NA	NA	NA
95								
96								
97				2.0 yrs	ACCUMULATION TIME	AT		
98				0.2 M	SOIL DEPTH OF MIXING	SD		
99				0.1 M	SOIL DEPTH OF MIXING	SD		
100				1.43E+03 Kg/M3	SOIL BULK DENSITY	BD		
101				1.00E+03 mg/g				
102				3.15E+07 sec/yr				
103								
104								
105				Dilution Factor				D*AT*1000
106				1.22E-01 INHALATION	DFI		CO =	---------
107				Deposition Factor	DF			SD*BD
108				5.05E-04 DRY	DDF			
109				3.00E-03 DRY/WET	TDF		D =	ER * x DF

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 2
ADULT TOTAL EXPOSURE - AVERAGE

BASE CASE

18-Jun-91
14:11:45
RES-A

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	1.26E-14	NA	NA	NA	NA	NA	NA	1.26E-14
Acetonitrile	1.14E-11	1.18E-11	2.37E-18	9.30E-19	6.96E-15	7.76E-21	2.56E-15	2.33E-11
Acrylonitrile	4.86E-12	NA	NA	NA	NA	NA	NA	4.86E-12
Aldrin	1.78E-17	4.07E-18	4.78E-20	7.19E-21	1.08E-20	2.81E-27	3.98E-21	2.19E-17
Aniline	6.43E-13	7.17E-14	4.43E-19	1.73E-19	3.91E-16	2.33E-19	1.44E-16	7.15E-13
Atrazine	3.97E-15	1.15E-16	1.54E-20	6.01E-21	2.42E-18	0.00E+00	8.90E-19	4.09E-15
Benzaldehyde	2.93E-13	1.60E-14	3.54E-19	1.38E-19	1.78E-16	2.51E-20	6.56E-17	3.09E-13
Benzene	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
Benzofuran	1.42E-12	4.15E-14	5.49E-18	2.13E-18	8.67E-16	5.53E-19	3.19E-16	1.47E-12
Benzoic Acid	1.43E-13	5.09E-15	2.53E-19	9.89E-20	8.73E-17	2.20E-20	3.21E-17	1.49E-13
Benzonitrile	3.13E-12	1.56E-13	4.08E-18	1.60E-18	1.91E-15	2.99E-19	7.01E-16	3.29E-12
Benzothiazole	1.33E-15	4.11E-17	2.70E-21	1.05E-21	8.12E-19	2.51E-24	2.99E-19	1.38E-15
Biphenyl	1.43E-12	NA	NA	NA	NA	NA	NA	1.43E-12
Bis(2-ethylhexyl)phthalate	7.87E-16	1.37E-16	4.02E-17	4.79E-18	4.79E-19	3.25E-24	1.76E-19	9.70E-16
Carbazole	6.43E-15	1.16E-16	4.58E-20	1.76E-20	3.91E-18	3.31E-21	1.44E-18	6.55E-15
Carbon Tetrachloride	1.87E-14	NA	NA	NA	NA	NA	NA	1.87E-14
4-Chloroaniline	3.68E-16	1.25E-17	6.24E-22	2.44E-22	2.24E-19	9.45E-22	8.24E-20	3.81E-16
Chlorobenzene	8.85E-16	NA	NA	NA	NA	NA	NA	8.85E-16
4-Chlorobiphenyl	9.07E-16	7.25E-18	3.65E-20	1.24E-20	5.52E-19	3.39E-22	2.03E-19	9.15E-16
4,4-Chlorobiphenyl	4.56E-17	2.81E-19	4.50E-21	1.32E-21	2.78E-20	5.71E-24	1.02E-20	4.60E-17
Chloroethane	3.25E-14	1.79E-15	3.96E-20	1.55E-20	1.98E-17	1.91E-23	7.28E-18	3.43E-14
Chloroform	1.58E-13	NA	NA	NA	NA	NA	NA	1.58E-13
Dibenzofuran	2.86E-14	3.23E-16	4.77E-19	1.77E-19	1.74E-17	2.19E-20	6.40E-18	2.89E-14
Dichlorobenzenes (total)	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
1,4-Dichlorobenzene	2.33E-16	NA	NA	NA	NA	NA	NA	2.33E-16
1,1-Dichloroethane	1.05E-14	NA	NA	NA	NA	NA	NA	1.05E-14
1,2-Dichloroethane	3.29E-15	5.64E-16	3.97E-21	1.56E-21	2.00E-18	5.73E-23	7.37E-19	3.86E-15
1,1-Dichloroethene	5.64E-15	NA	NA	NA	NA	NA	NA	5.64E-15
1,2-Dichloroethene	4.87E-15	NA	NA	NA	NA	NA	NA	4.87E-15
1,2-Dichloropropane	2.09E-15	NA	NA	NA	NA	NA	NA	2.09E-15
Dieldrin	3.26E-17	5.01E-17	8.55E-21	2.01E-21	1.98E-20	1.08E-24	7.30E-21	8.27E-17
Dimethyldisulfide	8.96E-15	NA	NA	NA	NA	NA	NA	8.96E-15
Hexachlorobenzene	8.61E-14	1.32E-15	7.27E-18	2.19E-18	5.25E-17	4.30E-19	1.93E-17	8.75E-14
Hydrazine	1.11E-10	3.40E-09	1.63E-18	6.40E-19	6.78E-14	3.52E-20	2.49E-14	3.51E-09
Lindane	1.51E-17	3.17E-19	1.09E-22	4.19E-23	9.22E-21	4.73E-26	3.39E-21	1.55E-17
Malathion	4.47E-17	5.34E-19	2.14E-22	8.30E-23	2.72E-20	0.00E+00	1.00E-20	4.53E-17
Methyl chloride	4.37E-15	NA	NA	NA	NA	NA	NA	4.37E-15
Methylene chloride	2.64E-13	NA	NA	NA	NA	NA	NA	2.64E-13
Methyl ethyl ketone	5.53E-15	2.74E-15	2.05E-21	8.03E-22	3.36E-18	0.00E+00	1.24E-18	8.27E-15
4-Methylphenol	5.01E-15	3.81E-16	9.47E-21	3.70E-21	3.05E-18	2.71E-23	1.12E-18	5.40E-15
Monomethyl hydrazine	3.51E-11	7.37E-10	5.14E-19	2.02E-19	2.14E-14	1.12E-20	7.86E-15	7.72E-10
Naphthalene	5.92E-16	1.47E-17	4.47E-21	1.72E-21	3.60E-19	1.48E-19	1.33E-19	6.07E-16
Naphthalene carbonitrile	3.13E-12	7.75E-14	2.37E-17	9.09E-18	1.91E-15	3.42E-18	7.01E-16	3.21E-12
n-Nitrosodimethylamine	3.57E-14	4.58E-13	5.33E-21	2.09E-21	2.17E-17	0.00E+00	8.00E-18	4.93E-13
PAHs								
Acenaphthalene	1.42E-13	3.77E-15	2.26E-18	8.41E-19	8.67E-17	1.05E-19	3.19E-17	1.46E-13
Acenaphthene	1.42E-13	1.80E-15	1.93E-18	7.25E-19	8.67E-17	4.07E-20	3.19E-17	1.44E-13
Benzo(a)pyrene	2.86E-13	4.34E-16	1.10E-16	2.38E-17	1.74E-16	1.40E-19	6.40E-17	2.87E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	T	U	V	W	X	Y	Z	AA
2			TABLE 2							
61		Chrysene	2.86E-14	2.06E-16	3.85E-18	1.06E-18	1.74E-17	3.55E-19	6.40E-18	2.88E-14
62		Dibenzo(a,h)anthracene	2.86E-13	6.17E-16	1.28E-16	2.67E-17	1.74E-16	7.95E-17	6.40E-17	2.87E-13
63		Fluoranthene	2.86E-13	3.76E-15	1.72E-17	5.52E-18	1.74E-16	NA	6.40E-17	2.90E-13
64		Fluorene	2.86E-14	4.57E-16	6.32E-19	2.30E-19	1.74E-17	2.92E-20	6.40E-18	2.91E-14
65		Phenanthrene	1.11E-16	1.32E-18	3.05E-21	1.09E-21	6.78E-20	1.01E-19	2.49E-20	1.13E-16
66		Pyrene	5.72E-13	7.06E-15	3.27E-17	1.06E-17	3.48E-16	1.60E-18	1.28E-16	5.79E-13
67		Parathion	7.08E-17	9.39E-19	8.54E-22	3.23E-22	4.31E-20	3.17E-25	1.59E-20	7.18E-17
68		Pentachlorobenzene	3.51E-14	1.01E-15	1.77E-18	5.83E-19	2.14E-17	NA	7.86E-18	3.61E-14
69		Phenol	5.62E-16	9.61E-17	6.65E-22	2.60E-22	3.42E-19	NA	1.26E-19	6.58E-16
70		Pyridine	3.13E-12	NA	NA	NA	NA	NA	NA	3.13E-12
71		Quinoline	3.22E-14	1.82E-15	6.63E-20	2.59E-20	1.96E-17	6.35E-21	7.21E-18	3.40E-14
72		Tetrachlorobenzene	1.72E-14	1.14E-15	3.77E-19	1.38E-19	1.05E-17	NA	3.86E-18	1.84E-14
73		Tetrachloroethene	6.03E-16	NA	NA	NA	NA	NA	NA	6.03E-16
74		Toluene	9.61E-15	NA	NA	NA	NA	NA	NA	9.61E-15
75		Trichlorobenzene	8.73E-15	6.93E-17	1.26E-19	4.72E-20	5.32E-18	9.59E-21	1.96E-18	8.81E-15
76		Trichloroethene	6.43E-15	NA	NA	NA	NA	NA	NA	6.43E-15
77		Unsym. dimethyl hydrazine	1.38E-10	1.89E-09	3.84E-18	1.51E-18	8.43E-14	4.39E-20	3.10E-14	2.03E-09
78		Vapona	2.80E-16	1.68E-17	3.13E-22	1.22E-22	1.70E-19	2.12E-25	6.27E-20	2.97E-16
79		Vinyl acetate	3.97E-15	NA	NA	NA	NA	NA	NA	3.97E-15
80		Vinyl chloride	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
81		Xylenes (total)	6.86E-16	NA	NA	NA	NA	NA	NA	6.86E-16
82										
83	INORGANICS									
84		Arsenic	3.77E-12	3.24E-15	2.02E-15	2.65E-17	2.30E-15	4.36E-15	8.45E-17	3.78E-12
85		Cadmium	2.19E-14	5.96E-17	4.18E-18	1.83E-19	1.33E-17	NA	4.90E-19	2.19E-14
86		Chromium (III)	9.69E-14	NA	NA	NA	NA	NA	NA	9.69E-14
87		Chromium (VI)	3.41E-15	NA	NA	NA	NA	NA	NA	3.41E-15
88		Copper	1.43E-13	NA	NA	NA	NA	5.29E-16	NA	1.44E-13
89		Iron	3.48E-09	NA	NA	NA	NA	NA	NA	3.48E-09
90		Lead	1.41E-13	NA	NA	NA	NA	NA	NA	1.41E-13
91		Mercury	1.41E-13	5.03E-16	1.06E-17	7.98E-16	8.61E-17	NA	3.17E-18	1.43E-13
92		Selenium	4.28E-13	NA	NA	NA	NA	NA	NA	4.28E-13
93		Silver	1.96E-15	NA	NA	NA	NA	NA	NA	1.96E-15
94		Zinc	1.12E-12	NA	NA	NA	NA	2.03E-15	NA	1.13E-12
95										
96										
97										

98	br	20 M3/day
99	bw	70 Kg
100	ef	365 days/yr
101	cf	365000 (1000 ug/mg)*(365 day/yr)
102		
103	Inhalation dose = Cair*br*ef/bw/cf	
104		

$$\frac{D*AT*1000}{SD*BD}$$

AC = ER * DFI

D = ER * x DF

TABLE 3
ADULT TOTAL EXPOSURE - MAXIMUM

BASE CASE

18-Jun-91
14:11:45
RES-A

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	1.26E-14	NA	NA	NA	NA	NA	NA	1.26E-14
Acetonitrile	1.14E-11	1.23E-11	2.42E-18	9.45E-19	7.06E-15	7.76E-21	2.60E-15	2.37E-11
Acrylonitrile	4.86E-12	NA	NA	NA	NA	NA	NA	4.86E-12
Aldrin	1.78E-17	4.59E-18	1.45E-18	1.64E-19	1.10E-20	2.81E-27	4.03E-21	2.40E-17
Aniline	6.43E-13	8.93E-14	4.65E-19	1.78E-19	3.97E-16	2.33E-19	1.46E-16	7.33E-13
Atrazine	3.97E-15	2.19E-16	2.16E-20	6.77E-21	2.45E-18	0.00E+00	9.02E-19	4.19E-15
Benzaldehyde	2.93E-13	2.39E-14	3.87E-19	1.44E-19	1.81E-16	2.51E-20	6.65E-17	3.17E-13
Benzene	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
Benzofuran	1.42E-12	7.89E-14	7.66E-18	2.40E-18	8.80E-16	5.53E-19	3.24E-16	1.50E-12
Benzoic Acid	1.43E-13	8.88E-15	2.90E-19	1.04E-19	8.86E-17	2.20E-20	3.26E-17	1.52E-13
Benzonitrile	3.13E-12	2.39E-13	4.50E-18	1.66E-18	1.93E-15	2.99E-19	7.11E-16	3.37E-12
Benzothiazole	1.33E-15	7.62E-17	3.16E-21	1.12E-21	8.24E-19	2.51E-24	3.03E-19	1.41E-15
Biphenyl	1.43E-12	NA	NA	NA	NA	NA	NA	1.43E-12
Bis(2-ethylhexyl)phthalate	7.87E-16	1.59E-16	1.37E-15	1.54E-16	4.86E-19	3.25E-24	1.79E-19	2.47E-15
Carbazole	6.43E-15	2.84E-16	8.58E-20	2.23E-20	3.97E-18	3.31E-21	1.46E-18	6.72E-15
Carbon Tetrachloride	1.87E-14	NA	NA	NA	NA	NA	NA	1.87E-14
4-Chloroaniline	3.68E-16	2.22E-17	7.12E-22	2.57E-22	2.27E-19	9.45E-22	8.36E-20	3.91E-16
Chlorobenzene	8.85E-16	NA	NA	NA	NA	NA	NA	8.85E-16
4-Chlorobiphenyl	9.07E-16	3.08E-17	2.63E-19	3.80E-20	5.60E-19	3.39E-22	2.06E-19	9.38E-16
4,4-Chlorobiphenyl	4.56E-17	1.46E-18	5.91E-20	7.45E-21	2.82E-20	5.71E-24	1.04E-20	4.72E-17
Chloroethane	3.25E-14	2.66E-15	4.34E-20	1.61E-20	2.01E-17	1.91E-23	7.38E-18	3.52E-14
Chloroform	1.58E-13	NA	NA	NA	NA	NA	NA	1.58E-13
Dibenzofuran	2.86E-14	1.07E-15	1.67E-18	3.13E-19	1.77E-17	2.19E-20	6.49E-18	2.97E-14
Dichlorobenzenes (total)	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
1,4-Dichlorobenzene	2.33E-16	NA	NA	NA	NA	NA	NA	2.33E-16
1,1-Dichloroethane	1.05E-14	NA	NA	NA	NA	NA	NA	1.05E-14
1,2-Dichloroethane	3.29E-15	6.57E-16	4.34E-21	1.61E-21	2.03E-18	5.73E-23	7.47E-19	3.95E-15
1,1-Dichloroethene	5.64E-15	NA	NA	NA	NA	NA	NA	5.64E-15
1,2-Dichloroethene	4.87E-15	NA	NA	NA	NA	NA	NA	4.87E-15
1,2-Dichloropropane	2.09E-15	NA	NA	NA	NA	NA	NA	2.09E-15
Dieldrin	3.26E-17	5.17E-17	1.71E-19	2.02E-20	2.01E-20	1.08E-24	7.41E-21	8.45E-17
Dimethyldisulfide	8.96E-15	NA	NA	NA	NA	NA	NA	8.96E-15
Hexachlorobenzene	8.61E-14	3.56E-15	8.73E-17	1.12E-17	5.32E-17	4.30E-19	1.96E-17	8.99E-14
Hydrazine	1.11E-10	3.45E-09	1.65E-18	6.49E-19	6.88E-14	3.52E-20	2.53E-14	3.57E-09
Lindane	1.51E-17	7.13E-19	2.05E-22	5.32E-23	9.36E-21	4.73E-26	3.44E-21	1.59E-17
Malathion	4.47E-17	1.70E-18	3.26E-22	9.64E-23	2.76E-20	0.00E+00	1.02E-20	4.65E-17
Methyl chloride	4.37E-15	NA	NA	NA	NA	NA	NA	4.37E-15
Methylene chloride	2.64E-13	NA	NA	NA	NA	NA	NA	2.64E-13
Methyl ethyl ketone	5.53E-15	2.93E-15	2.11E-21	8.18E-22	3.41E-18	0.00E+00	1.26E-18	8.46E-15
4-Methylphenol	5.01E-15	5.16E-16	1.10E-20	3.91E-21	3.10E-18	2.71E-23	1.14E-18	5.53E-15
Monomethyl hydrazine	3.51E-11	7.49E-10	5.22E-19	2.05E-19	2.17E-14	1.12E-20	7.98E-15	7.84E-10
Naphthalene	5.92E-16	3.02E-17	8.70E-21	2.21E-21	3.66E-19	1.48E-19	1.34E-19	6.23E-16
Naphthalene carbonitrile	3.13E-12	1.59E-13	4.60E-17	1.17E-17	1.93E-15	3.42E-18	7.11E-16	3.29E-12
n-Nitrosodimethylamine	3.57E-14	4.65E-13	5.43E-21	2.12E-21	2.21E-17	0.00E+00	8.11E-18	5.01E-13
PAHs								
Acenaphthalene	1.42E-13	7.51E-15	7.55E-18	1.44E-18	8.80E-17	1.05E-19	3.24E-17	1.50E-13
Acenaphthene	1.42E-13	5.50E-15	5.68E-18	1.15E-18	8.80E-17	4.07E-20	3.24E-17	1.48E-13
Benzo(a)pyrene	2.86E-13	7.83E-15	2.47E-15	2.89E-16	1.77E-16	1.40E-19	6.49E-17	2.97E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AD	AE	AF	AG	AH	AI	AJ	AK
2			TABLE 3							
61		Chrysene	2.86E-14	9.48E-16	5.93E-17	7.28E-18	1.77E-17	3.55E-19	6.49E-18	2.96E-14
62		Dibenzo(a,h)anthracene	2.86E-13	8.01E-15	2.97E-15	3.45E-16	1.77E-16	7.95E-17	6.49E-17	2.97E-13
63		Fluoranthene	2.86E-13	1.12E-14	1.67E-16	2.23E-17	1.77E-16	NA	6.49E-17	2.97E-13
64		Fluorene	2.86E-14	1.20E-15	2.80E-18	4.75E-19	1.77E-17	2.92E-20	6.49E-18	2.98E-14
65		Phenanthrene	1.11E-16	4.22E-18	1.61E-20	2.56E-21	6.88E-20	1.01E-19	2.53E-20	1.16E-16
66		Pyrene	5.72E-13	2.19E-14	3.05E-16	4.12E-17	3.53E-16	1.60E-18	1.30E-16	5.94E-13
67		Parathion	7.08E-17	2.78E-18	2.30E-21	4.89E-22	4.37E-20	3.17E-25	1.61E-20	7.36E-17
68		Pentachlorobenzene	3.51E-14	1.93E-15	1.51E-17	2.08E-18	2.17E-17	NA	7.98E-18	3.71E-14
69		Phenol	5.62E-16	1.12E-16	7.26E-22	2.70E-22	3.47E-19	NA	1.28E-19	6.74E-16
70		Pyridine	3.13E-12	NA	NA	NA	NA	NA	NA	3.13E-12
71		Quinoline	3.22E-14	2.68E-15	7.82E-20	2.75E-20	1.99E-17	6.35E-21	7.32E-18	3.49E-14
72		Tetrachlorobenzene	1.72E-14	1.60E-15	1.65E-18	2.82E-19	1.07E-17	NA	3.92E-18	1.89E-14
73		Tetrachloroethene	6.03E-16	NA	NA	NA	NA	NA	NA	6.03E-16
74		Toluene	9.61E-15	NA	NA	NA	NA	NA	NA	9.61E-15
75		Trichlorobenzene	8.73E-15	2.96E-16	3.90E-19	7.72E-20	5.40E-18	9.59E-21	1.98E-18	9.04E-15
76		Trichloroethene	6.43E-15	NA	NA	NA	NA	NA	NA	6.43E-15
77		Unsym. dimethyl hydrazine	1.38E-10	1.93E-09	3.90E-18	1.53E-18	8.55E-14	4.39E-20	3.14E-14	2.06E-09
78		Vapona	2.80E-16	2.43E-17	3.39E-22	1.27E-22	1.73E-19	2.12E-25	6.36E-20	3.04E-16
79		Vinyl acetate	3.97E-15	NA	NA	NA	NA	NA	NA	3.97E-15
80		Vinyl chloride	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
81		Xylenes (total)	6.86E-16	NA	NA	NA	NA	NA	NA	6.86E-16
82										
83	INORGANICS									
84		Arsenic	3.77E-12	1.01E-13	1.08E-14	1.33E-16	2.33E-15	4.36E-15	8.57E-17	3.89E-12
85		Cadmium	2.19E-14	6.26E-16	1.27E-17	3.54E-19	1.35E-17	NA	4.97E-19	2.25E-14
86		Chromium (III)	9.69E-14	NA	NA	NA	NA	NA	NA	9.69E-14
87		Chromium (VI)	3.41E-15	NA	NA	NA	NA	NA	NA	3.41E-15
88		Copper	1.43E-13	NA	NA	NA	NA	5.29E-16	NA	1.44E-13
89		Iron	3.48E-09	NA	NA	NA	NA	NA	NA	3.48E-09
90		Lead	1.41E-13	NA	NA	NA	NA	NA	NA	1.41E-13
91		Mercury	1.41E-13	4.17E-15	3.54E-17	1.31E-15	8.74E-17	NA	3.21E-18	1.47E-13
92		Selenium	4.28E-13	NA	NA	NA	NA	NA	NA	4.28E-13
93		Silver	1.96E-15	NA	NA	NA	NA	NA	NA	1.96E-15
94		Zinc	1.12E-12	NA	NA	NA	NA	2.03E-15	NA	1.13E-12
95										
96										
97										
98				br	20 M3/day					
99				bw	70 Kg					
100				ef	365 day/yr					
101				cf	365000 (1000 ug/mg)*(365 day/yr)					
102										
103			Inhalation dose = Cair*br*ef/bw/cf							

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 4
CHILD TOTAL EXPOSURE - AVERAGE

BASE CASE

18-Jun-91
14:11:45
RES-A

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	2.85E-14	NA	NA	NA	NA	NA	NA	2.85E-14
Acetonitrile	2.58E-11	2.11E-11	1.37E-17	2.32E-18	6.29E-14	1.75E-20	2.14E-14	4.70E-11
Acrylonitrile	1.10E-11	NA	NA	NA	NA	NA	NA	1.10E-11
Aldrin	4.01E-17	6.10E-18	2.76E-19	1.79E-20	9.76E-20	6.34E-27	3.33E-20	4.66E-17
Aniline	1.45E-12	1.44E-13	2.56E-18	4.33E-19	3.54E-15	5.27E-19	1.20E-15	1.60E-12
Atrazine	8.97E-15	1.94E-16	8.92E-20	1.50E-20	2.18E-17	0.00E+00	7.44E-18	9.19E-15
Benzaldehyde	6.61E-13	3.18E-14	2.04E-18	3.45E-19	1.61E-15	5.67E-20	5.49E-16	6.95E-13
Benzene	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
Benzofuran	3.22E-12	7.02E-14	3.17E-17	5.32E-18	7.83E-15	1.25E-18	2.67E-15	3.30E-12
Benzoic Acid	3.24E-13	9.89E-15	1.46E-18	2.47E-19	7.89E-16	4.96E-20	2.69E-16	3.35E-13
Benzonitrile	7.07E-12	3.08E-13	2.36E-17	3.99E-18	1.72E-14	6.74E-19	5.86E-15	7.40E-12
Benzothiazole	3.01E-15	7.91E-17	1.56E-20	2.63E-21	7.34E-18	5.67E-24	2.50E-18	3.10E-15
Biphenyl	3.24E-12	NA	NA	NA	NA	NA	NA	3.24E-12
Bis(2-ethylhexyl)phthalate	1.78E-15	2.05E-16	2.32E-16	1.20E-17	4.33E-18	7.34E-24	1.47E-18	2.23E-15
Carbazole	1.45E-14	1.91E-16	2.64E-19	4.39E-20	3.54E-17	7.46E-21	1.20E-17	1.48E-14
Carbon Tetrachloride	4.21E-14	NA	NA	NA	NA	NA	NA	4.21E-14
4-Chloroaniline	8.31E-16	2.48E-17	3.61E-21	6.09E-22	2.02E-18	2.13E-21	6.89E-19	8.59E-16
Chlorobenzene	2.00E-15	NA	NA	NA	NA	NA	NA	2.00E-15
4-Chlorobiphenyl	2.05E-15	1.14E-17	2.11E-19	3.10E-20	4.99E-18	7.66E-22	1.70E-18	2.07E-15
4,4-Chlorobiphenyl	1.03E-16	4.38E-19	2.60E-20	3.28E-21	2.51E-19	1.29E-23	8.55E-20	1.04E-16
Chloroethane	7.34E-14	3.53E-15	2.29E-19	3.87E-20	1.79E-16	4.32E-23	6.09E-17	7.71E-14
Chloroform	3.58E-13	NA	NA	NA	NA	NA	NA	3.58E-13
Dibenzofuran	6.45E-14	5.14E-16	2.76E-18	4.43E-19	1.57E-16	4.94E-20	5.35E-17	6.53E-14
Dichlorobenzenes (total)	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
1,4-Dichlorobenzene	5.25E-16	NA	NA	NA	NA	NA	NA	5.25E-16
1,1-Dichloroethane	2.38E-14	NA	NA	NA	NA	NA	NA	2.38E-14
1,2-Dichloroethane	7.43E-15	9.32E-16	2.29E-20	3.88E-21	1.81E-17	1.29E-22	6.16E-18	8.38E-15
1,1-Dichloroethene	1.27E-14	NA	NA	NA	NA	NA	NA	1.27E-14
1,2-Dichloroethene	1.10E-14	NA	NA	NA	NA	NA	NA	1.10E-14
1,2-Dichloropropane	4.71E-15	NA	NA	NA	NA	NA	NA	4.71E-15
Dieldrin	7.36E-17	7.51E-17	4.94E-20	5.02E-21	1.79E-19	2.44E-24	6.11E-20	1.49E-16
Dimethyldisulfide	2.02E-14	NA	NA	NA	NA	NA	NA	2.02E-14
Hexachlorobenzene	1.95E-13	2.01E-15	4.20E-17	5.47E-18	4.74E-16	9.71E-19	1.61E-16	1.97E-13
Hydrazine	2.51E-10	6.38E-09	9.42E-18	1.59E-18	6.12E-13	7.96E-20	2.09E-13	6.63E-09
Lindane	3.42E-17	5.14E-19	6.29E-22	1.05E-22	8.33E-20	1.07E-25	2.84E-20	3.48E-17
Malathion	1.01E-16	9.90E-19	1.24E-21	2.07E-22	2.46E-19	0.00E+00	8.38E-20	1.02E-16
Methyl chloride	9.87E-15	NA	NA	NA	NA	NA	NA	9.87E-15
Methylene chloride	5.96E-13	NA	NA	NA	NA	NA	NA	5.96E-13
Methyl ethyl ketone	1.25E-14	4.85E-15	1.18E-20	2.00E-21	3.04E-17	0.00E+00	1.04E-17	1.74E-14
4-Methylphenol	1.13E-14	6.42E-16	5.47E-20	9.23E-21	2.76E-17	6.13E-23	9.39E-18	1.20E-14
Monomethyl hydrazine	7.93E-11	1.51E-09	2.97E-18	5.03E-19	1.93E-13	2.52E-20	6.58E-14	1.59E-09
Naphthalene	1.34E-15	2.34E-17	2.58E-20	4.29E-21	3.25E-18	3.35E-19	1.11E-18	1.36E-15
Naphthalene carbonitrile	7.07E-12	1.24E-13	1.37E-16	2.27E-17	1.72E-14	7.72E-18	5.86E-15	7.21E-12
n-Nitrosodimethylamine	8.06E-14	7.02E-13	3.08E-20	5.21E-21	1.96E-16	0.00E+00	6.69E-17	7.83E-13
PAHs								
Acenaphthalene	3.22E-13	5.81E-15	1.30E-17	2.10E-18	7.83E-16	2.37E-19	2.67E-16	3.28E-13
Acenaphthene	3.22E-13	2.87E-15	1.11E-17	1.81E-18	7.83E-16	9.18E-20	2.67E-16	3.25E-13
Benzo(a)pyrene	6.45E-13	7.38E-16	6.38E-16	5.94E-17	1.57E-15	3.17E-19	5.35E-16	6.49E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AN	AO	AP	AQ	AR	AS	AT	AU
2			TABLE 4							
61		Chrysene	6.45E-14	3.19E-16	2.23E-17	2.63E-18	1.57E-16	8.01E-19	5.35E-17	6.51E-14
62		Dibenzo(a,h)anthracene	6.45E-13	1.01E-15	7.38E-16	6.66E-17	1.57E-15	1.79E-16	5.35E-16	6.49E-13
63		Fluoranthene	6.45E-13	5.77E-15	9.94E-17	1.38E-17	1.57E-15	NA	5.35E-16	6.53E-13
64		Fluorene	6.45E-14	7.08E-16	3.65E-18	5.74E-19	1.57E-16	6.60E-20	5.35E-17	6.55E-14
65		Phenanthrene	2.51E-16	2.06E-18	1.76E-20	2.71E-21	6.12E-19	2.27E-19	2.09E-19	2.54E-16
66		Pyrene	1.29E-12	1.08E-14	1.89E-16	2.64E-17	3.14E-15	3.62E-18	1.07E-15	1.31E-12
67		Parathion	1.60E-16	1.51E-18	4.93E-21	8.06E-22	3.89E-19	7.17E-25	1.33E-19	1.62E-16
68		Pentachlorobenzene	7.93E-14	1.53E-15	1.02E-17	1.45E-18	1.93E-16	NA	6.58E-17	8.11E-14
69		Phenol	1.27E-15	1.59E-16	3.84E-21	6.50E-22	3.09E-18	NA	1.05E-18	1.43E-15
70		Pyridine	7.07E-12	NA	NA	NA	NA	NA	NA	7.07E-12
71		Quinoline	7.27E-14	3.13E-15	3.83E-19	6.47E-20	1.77E-16	1.43E-20	6.03E-17	7.61E-14
72		Tetrachlorobenzene	3.89E-14	1.72E-15	2.18E-18	3.43E-19	9.49E-17	NA	3.23E-17	4.08E-14
73		Tetrachloroethene	1.36E-15	NA	NA	NA	NA	NA	NA	1.36E-15
74		Toluene	2.17E-14	NA	NA	NA	NA	NA	NA	2.17E-14
75		Trichlorobenzene	1.97E-14	1.14E-16	7.27E-19	1.18E-19	4.80E-17	2.17E-20	1.64E-17	1.99E-14
76		Trichloroethene	1.45E-14	NA	NA	NA	NA	NA	NA	1.45E-14
77		Unsym. dimethyl hydrazine	3.13E-10	3.50E-09	2.22E-17	3.75E-18	7.61E-13	9.92E-20	2.59E-13	3.81E-09
78		Vapona	6.32E-16	3.34E-17	1.81E-21	3.05E-22	1.54E-18	4.78E-25	5.24E-19	6.67E-16
79		Vinyl acetate	8.97E-15	NA	NA	NA	NA	NA	NA	8.97E-15
80		Vinyl chloride	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
81		Xylenes (total)	1.55E-15	NA	NA	NA	NA	NA	NA	1.55E-15
82										
83	INORGANICS									
84		Arsenic	8.51E-12	5.84E-15	1.17E-14	6.61E-17	2.07E-14	9.84E-15	7.06E-16	8.56E-12
85		Cadmium	4.94E-14	1.02E-16	2.41E-17	4.55E-19	1.20E-16	NA	4.10E-18	4.96E-14
86		Chromium (III)	2.19E-13	NA	NA	NA	NA	NA	NA	2.19E-13
87		Chromium (VI)	7.70E-15	NA	NA	NA	NA	NA	NA	7.70E-15
88		Copper	3.24E-13	NA	NA	NA	NA	1.20E-15	NA	3.25E-13
89		Iron	7.86E-09	NA	NA	NA	NA	NA	NA	7.86E-09
90		Lead	3.19E-13	NA	NA	NA	NA	NA	NA	3.19E-13
91		Mercury	3.19E-13	8.22E-16	6.15E-17	1.99E-15	7.78E-16	NA	2.65E-17	3.23E-13
92		Selenium	9.67E-13	NA	NA	NA	NA	NA	NA	9.67E-13
93		Silver	4.42E-15	NA	NA	NA	NA	NA	NA	4.42E-15
94		Zinc	2.54E-12	NA	NA	NA	NA	4.58E-15	NA	2.54E-12
95										
96										
97										
98				br	10	M3/day				
99				bw	15.5	Kg				
100				um	1000	ug/mg				
101										
102										
103			Inhalation dose = Cair *br/bw/ugmg							

TABLE 5
CHILD TOTAL EXPOSURE - MAXIMUM

BASE CASE

18-Jun-91
14:11:45
RES-A

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	2.85E-14	NA	NA	NA	NA	NA	NA	2.85E-14
Acetonitrile	2.58E-11	2.19E-11	1.40E-17	2.36E-18	6.38E-14	1.75E-20	2.17E-14	4.79E-11
Acrylonitrile	1.10E-11	NA	NA	NA	NA	NA	NA	1.10E-11
Aldrin	4.01E-17	7.04E-18	8.37E-18	4.10E-19	9.90E-20	6.34E-27	3.37E-20	5.60E-17
Aniline	1.45E-12	1.77E-13	2.69E-18	4.43E-19	3.59E-15	5.27E-19	1.22E-15	1.63E-12
Atrazine	8.97E-15	3.87E-16	1.25E-19	1.69E-20	2.22E-17	0.00E+00	7.55E-18	9.38E-15
Benzaldehyde	6.61E-13	4.63E-14	2.23E-18	3.58E-19	1.63E-15	5.67E-20	5.57E-16	7.10E-13
Benzene	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
Benzofuran	3.22E-12	1.39E-13	4.42E-17	5.98E-18	7.95E-15	1.25E-18	2.71E-15	3.37E-12
Benzoic Acid	3.24E-13	1.69E-14	1.67E-18	2.60E-19	8.00E-16	4.96E-20	2.73E-16	3.42E-13
Benzonitrile	7.07E-12	4.63E-13	2.60E-17	4.15E-18	1.75E-14	6.74E-19	5.95E-15	7.55E-12
Benzothiazole	3.01E-15	1.44E-16	1.83E-20	2.79E-21	7.44E-18	5.67E-24	2.53E-18	3.17E-15
Biphenyl	3.24E-12	NA	NA	NA	NA	NA	NA	3.24E-12
Bis(2-ethylhexyl)phthalate	1.78E-15	2.46E-16	7.91E-15	3.83E-16	4.39E-18	7.34E-24	1.50E-18	1.03E-14
Carbazole	1.45E-14	5.02E-16	4.96E-19	5.56E-20	3.59E-17	7.46E-21	1.22E-17	1.51E-14
Carbon Tetrachloride	4.21E-14	NA	NA	NA	NA	NA	NA	4.21E-14
4-Chloroaniline	8.31E-16	4.28E-17	4.11E-21	6.40E-22	2.05E-18	2.13E-21	6.99E-19	8.77E-16
Chlorobenzene	2.00E-15	NA	NA	NA	NA	NA	NA	2.00E-15
4-Chlorobiphenyl	2.05E-15	5.50E-17	1.52E-18	9.48E-20	5.06E-18	7.66E-22	1.72E-18	2.11E-15
4,4-Chlorobiphenyl	1.03E-16	2.63E-18	3.41E-19	1.86E-20	2.55E-19	1.29E-23	8.67E-20	1.06E-16
Chloroethane	7.34E-14	5.13E-15	2.50E-19	4.01E-20	1.81E-16	4.32E-23	6.18E-17	7.87E-14
Chloroform	3.58E-13	NA	NA	NA	NA	NA	NA	3.58E-13
Dibenzofuran	6.45E-14	1.89E-15	9.63E-18	7.80E-19	1.59E-16	4.94E-20	5.43E-17	6.67E-14
Dichlorobenzenes (total)	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
1,4-Dichlorobenzene	5.25E-16	NA	NA	NA	NA	NA	NA	5.25E-16
1,1-Dichloroethane	2.38E-14	NA	NA	NA	NA	NA	NA	2.38E-14
1,2-Dichloroethane	7.43E-15	1.10E-15	2.51E-20	4.02E-21	1.84E-17	1.29E-22	6.25E-18	8.55E-15
1,1-Dichloroethene	1.27E-14	NA	NA	NA	NA	NA	NA	1.27E-14
1,2-Dichloroethene	1.10E-14	NA	NA	NA	NA	NA	NA	1.10E-14
1,2-Dichloropropane	4.71E-15	NA	NA	NA	NA	NA	NA	4.71E-15
Dieldrin	7.36E-17	7.77E-17	9.88E-19	5.05E-20	1.82E-19	2.44E-24	6.19E-20	1.53E-16
Dimethyldisulfide	2.02E-14	NA	NA	NA	NA	NA	NA	2.02E-14
Hexachlorobenzene	1.95E-13	6.17E-15	5.04E-16	2.79E-17	4.81E-16	9.71E-19	1.64E-16	2.02E-13
Hydrazine	2.51E-10	6.48E-09	9.55E-18	1.62E-18	6.21E-13	7.96E-20	2.12E-13	6.73E-09
Lindane	3.42E-17	1.25E-18	1.19E-21	1.33E-22	8.45E-20	1.07E-25	2.88E-20	3.56E-17
Malathion	1.01E-16	3.15E-18	1.88E-21	2.41E-22	2.50E-19	0.00E+00	8.50E-20	1.04E-16
Methyl chloride	9.87E-15	NA	NA	NA	NA	NA	NA	9.87E-15
Methylene chloride	5.96E-13	NA	NA	NA	NA	NA	NA	5.96E-13
Methyl ethyl ketone	1.25E-14	5.18E-15	1.22E-20	2.04E-21	3.08E-17	0.00E+00	1.05E-17	1.77E-14
4-Methylphenol	1.13E-14	8.92E-16	6.34E-20	9.75E-21	2.80E-17	6.13E-23	9.53E-18	1.23E-14
Monomethyl hydrazine	7.93E-11	1.53E-09	3.01E-18	5.10E-19	1.96E-13	2.52E-20	6.67E-14	1.61E-09
Naphthalene	1.34E-15	5.21E-17	5.02E-20	5.51E-21	3.30E-18	3.35E-19	1.12E-18	1.39E-15
Naphthalene carbonitrile	7.07E-12	2.75E-13	2.66E-16	2.92E-17	1.75E-14	7.72E-18	5.95E-15	7.36E-12
n-Nitrosodimethylamine	8.06E-14	7.14E-13	3.13E-20	5.29E-21	1.99E-16	0.00E+00	6.78E-17	7.95E-13
PAHs								
Acenaphthalene	3.22E-13	1.27E-14	4.36E-17	3.60E-18	7.95E-16	2.37E-19	2.71E-16	3.35E-13
Acenaphthene	3.22E-13	9.74E-15	3.28E-17	2.87E-18	7.95E-16	9.18E-20	2.71E-16	3.32E-13
Benzo(a)pyrene	6.45E-13	1.44E-14	1.43E-14	7.21E-16	1.59E-15	3.17E-19	5.43E-16	6.77E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AX	AY	AZ	BA	BB	BC	BD	BE
2			TABLE 5							
61		Chrysene	6.45E-14	1.69E-15	3.42E-16	1.81E-17	1.59E-16	8.01E-19	5.43E-17	6.68E-14
62		Dibenzo(a,h)anthracene	6.45E-13	1.47E-14	1.72E-14	8.61E-16	1.59E-15	1.79E-16	5.43E-16	6.80E-13
63		Fluoranthene	6.45E-13	1.95E-14	9.62E-16	5.56E-17	1.59E-15	NA	5.43E-16	6.68E-13
64		Fluorene	6.45E-14	2.09E-15	1.61E-17	1.18E-18	1.59E-16	6.60E-20	5.43E-17	6.69E-14
65		Phenanthrene	2.51E-16	7.42E-18	9.29E-20	6.38E-21	6.21E-19	2.27E-19	2.12E-19	2.60E-16
66		Pyrene	1.29E-12	3.84E-14	1.76E-15	1.03E-16	3.19E-15	3.62E-18	1.09E-15	1.34E-12
67		Parathion	1.60E-16	4.92E-18	1.33E-20	1.22E-21	3.95E-19	7.17E-25	1.35E-19	1.65E-16
68		Pentachlorobenzene	7.93E-14	3.23E-15	8.69E-17	5.18E-18	1.96E-16	NA	6.67E-17	8.28E-14
69		Phenol	1.27E-15	1.88E-16	4.19E-21	6.73E-22	3.13E-18	NA	1.07E-18	1.46E-15
70		Pyridine	7.07E-12	NA	NA	NA	NA	NA	NA	7.07E-12
71		Quinoline	7.27E-14	4.72E-15	4.51E-19	6.86E-20	1.80E-16	1.43E-20	6.12E-17	7.77E-14
72		Tetrachlorobenzene	3.89E-14	2.57E-15	9.55E-18	7.03E-19	9.62E-17	NA	3.28E-17	4.17E-14
73		Tetrachloroethene	1.36E-15	NA	NA	NA	NA	NA	NA	1.36E-15
74		Toluene	2.17E-14	NA	NA	NA	NA	NA	NA	2.17E-14
75		Trichlorobenzene	1.97E-14	5.34E-16	2.25E-18	1.93E-19	4.87E-17	2.17E-20	1.66E-17	2.03E-14
76		Trichloroethene	1.45E-14	NA	NA	NA	NA	NA	NA	1.45E-14
77		Unsym. dimethyl hydrazine	3.13E-10	3.55E-09	2.25E-17	3.81E-18	7.72E-13	9.92E-20	2.63E-13	3.87E-09
78		Vapona	6.32E-16	4.73E-17	1.96E-21	3.16E-22	1.56E-18	4.78E-25	5.32E-19	6.81E-16
79		Vinyl acetate	8.97E-15	NA	NA	NA	NA	NA	NA	8.97E-15
80		Vinyl chloride	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
81		Xylenes (total)	1.55E-15	NA	NA	NA	NA	NA	NA	1.55E-15
82										
83	INORGANICS									
84		Arsenic	8.51E-12	1.87E-13	6.24E-14	3.31E-16	2.10E-14	9.84E-15	7.17E-16	8.80E-12
85		Cadmium	4.94E-14	1.15E-15	7.33E-17	8.82E-19	1.22E-16	NA	4.15E-18	5.07E-14
86		Chromium (III)	2.19E-13	NA	NA	NA	NA	NA	NA	2.19E-13
87		Chromium (VI)	7.70E-15	NA	NA	NA	NA	NA	NA	7.70E-15
88		Copper	3.24E-13	NA	NA	NA	NA	1.20E-15	NA	3.25E-13
89		Iron	7.86E-09	NA	NA	NA	NA	NA	NA	7.86E-09
90		Lead	3.19E-13	NA	NA	NA	NA	NA	NA	3.19E-13
91		Mercury	3.19E-13	7.61E-15	2.04E-16	3.26E-15	7.89E-16	NA	2.69E-17	3.31E-13
92		Selenium	9.67E-13	NA	NA	NA	NA	NA	NA	9.67E-13
93		Silver	4.42E-15	NA	NA	NA	NA	NA	NA	4.42E-15
94		Zinc	2.54E-12	NA	NA	NA	NA	4.58E-15	NA	2.54E-12
95										
96										
97										
98			br	10 M3/day						
99			bw	15.5 Kg						
100			um	1000 ug/mg						
101										
102										
103			Inhalation dose = Cair*br/bw/ugmg							

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
3			INFANT TOTAL EXPOSURE		
4		BASE CASE			
5					
6			----------MAXIMUM----------		
7		18-Jun-91	INHALATION	BREAST MILK	TOTAL
8		14:11:45	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)
9		RES-A			
10					
11					
12	ORGANICS				
13		Acetone	1.87E-14	3.24E-16	1.90E-14
14		Acetonitrile	1.69E-11	8.64E-11	1.03E-10
15		Acrylonitrile	7.19E-12	2.22E-14	7.21E-12
16		Aldrin	2.62E-17	8.72E-17	1.13E-16
17		Aniline	9.50E-13	2.67E-12	3.62E-12
18		Atrazine	5.87E-15	1.53E-14	2.11E-14
19		Benzaldehyde	4.33E-13	1.15E-12	1.59E-12
20		Benzene	5.44E-15	6.29E-18	5.45E-15
21		Benzofuran	2.10E-12	5.47E-12	7.58E-12
22		Benzoic Acid	2.12E-13	5.55E-13	7.67E-13
23		Benzonitrile	4.62E-12	1.23E-11	1.69E-11
24		Benzothiazole	1.97E-15	5.14E-15	7.11E-15
25		Biphenyl	2.12E-12	3.68E-14	2.16E-12
26		Bis(2-ethylhexyl)phthalate	1.16E-15	8.99E-15	1.02E-14
27		Carbazole	9.50E-15	2.44E-14	3.39E-14
28		Carbon Tetrachloride	2.76E-14	4.79E-16	2.80E-14
29		4-Chloroaniline	5.44E-16	1.42E-15	1.97E-15
30		Chlorobenzene	1.31E-15	2.27E-17	1.33E-15
31		4-Chlorobiphenyl	1.34E-15	3.42E-15	4.76E-15
32		4,4-Chlorobiphenyl	6.74E-17	1.72E-16	2.39E-16
33		Chloroethane	4.80E-14	1.28E-13	1.76E-13
34		Chloroform	2.34E-13	4.06E-15	2.38E-13
35		Dibenzofuran	4.22E-14	1.08E-13	1.50E-13
36		Dichlorobenzenes (total)	5.44E-15	9.44E-17	5.53E-15
37		1,4-Dichlorobenzene	3.44E-16	5.97E-18	3.50E-16
38		1,1-Dichloroethane	1.56E-14	2.70E-16	1.58E-14
39		1,2-Dichloroethane	4.86E-15	1.44E-14	1.92E-14
40		1,1-Dichloroethene	8.33E-15	1.45E-16	8.47E-15
41		1,2-Dichloroethene	7.20E-15	1.25E-16	7.33E-15
42		1,2-Dichloropropane	3.08E-15	5.35E-17	3.14E-15
43		Dieldrin	4.82E-17	3.08E-16	3.56E-16
44		Dimethyldisulfide	1.32E-14	2.30E-16	1.35E-14
45		Hexachlorobenzene	1.27E-13	7.38E-14	2.01E-13
46		Hydrazine	1.65E-10	1.30E-08	1.31E-08
47		Lindane	2.24E-17	5.78E-17	8.01E-17
48		Malathion	6.61E-17	1.69E-16	2.35E-16
49		Methyl chloride	6.46E-15	1.12E-16	6.57E-15
50		Methylene chloride	3.90E-13	6.77E-15	3.97E-13
51		Methyl ethyl ketone	8.17E-15	3.08E-14	3.89E-14
52		4-Methylphenol	7.41E-15	2.01E-14	2.76E-14
53		Monomethyl hydrazine	5.19E-11	2.85E-09	2.90E-09
54		Naphthalene	8.74E-16	2.27E-15	3.14E-15
55		Naphthalene carbonitrile	4.62E-12	1.20E-11	1.66E-11
56		n-Nitrosodimethylamine	5.28E-14	1.82E-12	1.88E-12
57		PAHs			
58		Acenaphthalene	2.10E-13	5.46E-13	7.57E-13
59		Acenaphthene	2.10E-13	5.39E-13	7.49E-13
60		Benzo(a)pyrene	4.22E-13	1.08E-12	1.50E-12

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
61		Chrysene	4.22E-14	1.08E-13	1.50E-13
62		Dibenzo(a,h)anthracene	4.22E-13	1.08E-12	1.50E-12
63		Fluoranthene	4.22E-13	1.08E-12	1.50E-12
64		Fluorene	4.22E-14	1.08E-13	1.51E-13
65		Phenanthrene	1.65E-16	4.21E-16	5.86E-16
66		Pyrene	8.45E-13	2.16E-12	3.01E-12
67		Parathion	1.05E-16	2.68E-16	3.73E-16
68		Pentachlorobenzene	5.19E-14	3.04E-14	8.23E-14
69		Phenol	8.30E-16	2.45E-15	3.28E-15
70		Pyridine	4.62E-12	8.03E-14	4.70E-12
71		Quinoline	4.76E-14	1.27E-13	1.75E-13
72		Tetrachlorobenzene	2.55E-14	1.55E-14	4.10E-14
73		Tetrachloroethene	8.91E-16	1.55E-17	9.06E-16
74		Toluene	1.42E-14	4.11E-17	1.42E-14
75		Trichlorobenzene	1.29E-14	7.42E-15	2.03E-14
76		Trichloroethene	9.50E-15	1.65E-16	9.66E-15
77		Unsym. dimethyl hydrazine	2.05E-10	7.51E-09	7.71E-09
78		Vapona	4.13E-16	1.11E-15	1.52E-15
79		Vinyl acetate	5.87E-15	1.02E-16	5.97E-15
80		Vinyl chloride	5.44E-15	9.44E-17	5.53E-15
81		Xylenes (total)	1.01E-15	5.87E-19	1.01E-15
82					
83	INORGANICS				
84		Arsenic	5.57E-12	NE	5.57E-12
85		Cadmium	3.23E-14	NE	3.23E-14
86		Chromium (III)	1.43E-13	NE	1.43E-13
87		Chromium (VI)	5.04E-15	NE	5.04E-15
88		Copper	2.12E-13	NE	2.12E-13
89		Iron	5.14E-09	NE	5.14E-09
90		Lead	2.09E-13	NE	2.09E-13
91		Mercury	2.09E-13	NE	2.09E-13
92		Selenium	6.33E-13	NE	6.33E-13
93		Silver	2.89E-15	NE	2.89E-15
94		Zinc	1.66E-12	NE	1.66E-12
95					
96					
97					
98			br	3.80E+00 M3/day	
99			bw	9.00E+00 Kg	
100			um	1.00E+03 ug/mg	
101					
102					
103			Inhalation dose = Cair *br/bw/ugmg		

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 7

BASE CASE

MOTHER'S MILK PATHWAY

		BL	BM	BN	BO	BP	BQ	BR
		18-Jun-91 14:11:45 RES-A	DI Average Total Daily Intake (mg/kg/day)	DI Maximum Total Daily Intake (mg/kg/day)	TF Breast milk Transfer Factor (day)	Average Breast milk Conc. mg/kg	Maximum Breast milk Conc. mg/kg	Average Estimated Daily Intake mg/kg/day	Maximum Estimated Daily Intake mg/kg/day
ORGANICS								
	Acetone		1.26E-14	1.26E-14	2.89E-01	3.65E-15	3.65E-15	3.24E-16	3.24E-16
	Acetonitrile		2.33E-11	2.37E-11	4.09E+01	9.52E-10	9.71E-10	8.47E-11	8.64E-11
	Acrylonitrile		4.86E-12	4.86E-12	5.13E-02	2.50E-13	2.50E-13	2.22E-14	2.22E-14
	Aldrin		2.19E-17	2.40E-17	4.09E+01	8.96E-16	9.81E-16	7.97E-17	8.72E-17
	Aniline		7.15E-13	7.33E-13	4.09E+01	2.93E-11	3.00E-11	2.60E-12	2.67E-12
	Atrazine		4.09E-15	4.19E-15	4.09E+01	1.67E-13	1.72E-13	1.49E-14	1.53E-14
	Benzaldehyde		3.09E-13	3.17E-13	4.09E+01	1.27E-11	1.30E-11	1.13E-12	1.15E-12
	Benzene		3.68E-15	3.68E-15	1.92E-02	7.08E-17	7.08E-17	6.29E-18	6.29E-18
	Benzofuran		1.47E-12	1.50E-12	4.09E+01	6.01E-11	6.16E-11	5.34E-12	5.47E-12
	Benzoic Acid		1.49E-13	1.52E-13	4.09E+01	6.09E-12	6.24E-12	5.41E-13	5.55E-13
	Benzonitrile		3.29E-12	3.37E-12	4.09E+01	1.35E-10	1.38E-10	1.20E-11	1.23E-11
	Benzothiazole		1.38E-15	1.41E-15	4.09E+01	5.63E-14	5.78E-14	5.01E-15	5.14E-15
	Biphenyl		1.43E-12	1.43E-12	2.89E-01	4.14E-13	4.14E-13	3.68E-14	3.68E-14
	Bis(2-ethylhexyl)phthalate		9.70E-16	2.47E-15	4.09E+01	3.97E-14	1.01E-13	3.53E-15	8.99E-15
	Carbazole		6.55E-15	6.72E-15	4.09E+01	2.68E-13	2.75E-13	2.38E-14	2.44E-14
	Carbon Tetrachloride		1.87E-14	1.87E-14	2.89E-01	5.38E-15	5.38E-15	4.79E-16	4.79E-16
	4-Chloroaniline		3.81E-16	3.91E-16	4.09E+01	1.56E-14	1.60E-14	1.39E-15	1.42E-15
	Chlorobenzene		8.85E-16	8.85E-16	2.89E-01	2.55E-16	2.55E-16	2.27E-17	2.27E-17
	4-Chlorobiphenyl		9.15E-16	9.38E-16	4.09E+01	3.74E-14	3.84E-14	3.33E-15	3.42E-15
	4,4-Chlorobiphenyl		4.60E-17	4.72E-17	4.09E+01	1.88E-15	1.93E-15	1.67E-16	1.72E-16
	Chloroethane		3.43E-14	3.52E-14	4.09E+01	1.40E-12	1.44E-12	1.25E-13	1.28E-13
	Chloroform		1.58E-13	1.58E-13	2.89E-01	4.57E-14	4.57E-14	4.06E-15	4.06E-15
	Dibenzofuran		2.89E-14	2.97E-14	4.09E+01	1.18E-12	1.21E-12	1.05E-13	1.08E-13
	Dichlorobenzenes (total)		3.68E-15	3.68E-15	2.89E-01	1.06E-15	1.06E-15	9.44E-17	9.44E-17
	1,4-Dichlorobenzene		2.33E-16	2.33E-16	2.89E-01	6.71E-17	6.71E-17	5.97E-18	5.97E-18
	1,1-Dichloroethane		1.05E-14	1.05E-14	2.89E-01	3.04E-15	3.04E-15	2.70E-16	2.70E-16
	1,2-Dichloroethane		3.86E-15	3.95E-15	4.09E+01	1.58E-13	1.62E-13	1.40E-14	1.44E-14
	1,1-Dichloroethene		5.64E-15	5.64E-15	2.89E-01	1.63E-15	1.63E-15	1.45E-16	1.45E-16
	1,2-Dichloroethene		4.87E-15	4.87E-15	2.89E-01	1.41E-15	1.41E-15	1.25E-16	1.25E-16
	1,2-Dichloropropane		2.09E-15	2.09E-15	2.89E-01	6.02E-16	6.02E-16	5.35E-17	5.35E-17
	Dieldrin		8.27E-17	8.45E-17	4.09E+01	3.39E-15	3.46E-15	3.01E-16	3.08E-16
	Dimethyldisulfide		8.96E-15	8.96E-15	2.89E-01	2.58E-15	2.58E-15	2.30E-16	2.30E-16
	Hexachlorobenzene		8.75E-14	8.99E-14	9.24E+00	8.09E-13	8.30E-13	7.19E-14	7.38E-14
	Hydrazine		3.51E-09	3.57E-09	4.09E+01	1.44E-07	1.46E-07	1.28E-08	1.30E-08
	Lindane		1.55E-17	1.59E-17	4.09E+01	6.34E-16	6.50E-16	5.63E-17	5.78E-17
	Malathion		4.53E-17	4.65E-17	4.09E+01	1.85E-15	1.90E-15	1.65E-16	1.69E-16
	Methyl chloride		4.37E-15	4.37E-15	2.89E-01	1.26E-15	1.26E-15	1.12E-16	1.12E-16
	Methylene chloride		2.64E-13	2.64E-13	2.89E-01	7.61E-14	7.61E-14	6.77E-15	6.77E-15
	Methyl ethyl ketone		8.27E-15	8.46E-15	4.09E+01	3.39E-13	3.46E-13	3.01E-14	3.08E-14
	4-Methylphenol		5.40E-15	5.53E-15	4.09E+01	2.21E-13	2.27E-13	1.96E-14	2.01E-14
	Monomethyl hydrazine		7.72E-10	7.84E-10	4.09E+01	3.16E-08	3.21E-08	2.81E-09	2.85E-09
	Naphthalene		6.07E-16	6.23E-16	4.09E+01	2.49E-14	2.55E-14	2.21E-15	2.27E-15
	Naphthalene carbonitrile		3.21E-12	3.29E-12	4.09E+01	1.31E-10	1.35E-10	1.17E-11	1.20E-11
	n-Nitrosodimethylamine		4.93E-13	5.01E-13	4.09E+01	2.02E-11	2.05E-11	1.80E-12	1.82E-12
	PAHs								
	Acenaphthalene		1.46E-13	1.50E-13	4.09E+01	5.99E-12	6.14E-12	5.32E-13	5.46E-13
	Acenaphthene		1.44E-13	1.48E-13	4.09E+01	5.91E-12	6.06E-12	5.25E-13	5.39E-13
	Benzo(a)pyrene		2.87E-13	2.97E-13	4.09E+01	1.17E-11	1.21E-11	1.04E-12	1.08E-12

A	B	C	BL	BM	BN	BO	BP	BQ	BR
2			TABLE 7						
61		Chrysene	2.88E-14	2.96E-14	4.09E+01	1.18E-12	1.21E-12	1.05E-13	1.08E-13
62		Dibenzo(a,h)anthracene	2.87E-13	2.97E-13	4.09E+01	1.17E-11	1.22E-11	1.04E-12	1.08E-12
63		Fluoranthene	2.90E-13	2.97E-13	4.09E+01	1.19E-11	1.22E-11	1.05E-12	1.08E-12
64		Fluorene	2.91E-14	2.98E-14	4.09E+01	1.19E-12	1.22E-12	1.06E-13	1.08E-13
65		Phenanthrene	1.13E-16	1.16E-16	4.09E+01	4.62E-15	4.74E-15	4.11E-16	4.21E-16
66		Pyrene	5.79E-13	5.94E-13	4.09E+01	2.37E-11	2.43E-11	2.11E-12	2.16E-12
67		Parathion	7.18E-17	7.36E-17	4.09E+01	2.94E-15	3.02E-15	2.61E-16	2.68E-16
68		Pentachlorobenzene	3.61E-14	3.71E-14	9.24E+00	3.34E-13	3.42E-13	2.97E-14	3.04E-14
69		Phenol	6.58E-16	6.74E-16	4.09E+01	2.69E-14	2.76E-14	2.40E-15	2.45E-15
70		Pyridine	3.13E-12	3.13E-12	2.89E-01	9.03E-13	9.03E-13	8.03E-14	8.03E-14
71		Quinoline	3.40E-14	3.49E-14	4.09E+01	1.39E-12	1.43E-12	1.24E-13	1.27E-13
72		Tetrachlorobenzene	1.84E-14	1.89E-14	9.24E+00	1.70E-13	1.74E-13	1.51E-14	1.55E-14
73		Tetrachloroethene	6.03E-16	6.03E-16	2.89E-01	1.74E-16	1.74E-16	1.55E-17	1.55E-17
74		Toluene	9.61E-15	9.61E-15	4.81E-02	4.62E-16	4.62E-16	4.11E-17	4.11E-17
75		Trichlorobenzene	8.81E-15	9.04E-15	9.24E+00	8.14E-14	8.35E-14	7.23E-15	7.42E-15
76		Trichloroethene	6.43E-15	6.43E-15	2.89E-01	1.86E-15	1.86E-15	1.65E-16	1.65E-16
77		Unsym. dimethyl hydrazine	2.03E-09	2.06E-09	4.09E+01	8.32E-08	8.45E-08	7.40E-09	7.51E-09
78		Vapona	2.97E-16	3.04E-16	4.09E+01	1.22E-14	1.25E-14	1.08E-15	1.11E-15
79		Vinyl acetate	3.97E-15	3.97E-15	2.89E-01	1.15E-15	1.15E-15	1.02E-16	1.02E-16
80		Vinyl chloride	3.68E-15	3.68E-15	2.89E-01	1.06E-15	1.06E-15	9.44E-17	9.44E-17
81		Xylenes (total)	6.86E-16	6.86E-16	9.62E-03	6.60E-18	6.60E-18	5.87E-19	5.87E-19
82									
83	INORGANICS								
84		Arsenic	3.78E-12	3.89E-12	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
85		Cadmium	2.19E-14	2.25E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86		Chromium (III)	9.69E-14	9.69E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87		Chromium (VI)	3.41E-15	3.41E-15	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88		Copper	1.44E-13	1.44E-13	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89		Iron	3.48E-09	3.48E-09	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90		Lead	1.41E-13	1.41E-13	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91		Mercury	1.43E-13	1.47E-13	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92		Selenium	4.28E-13	4.28E-13	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
93		Silver	1.96E-15	1.96E-15	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94		Zinc	1.13E-12	1.13E-12	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95									
96									
97			TF = 0.8*0.04/0.3/k						
98			Breast Milk = DI*TF(day)						
99			EDI = BMC*IR/BW(infant)						
100									
101			8.00E-01 Ingestion Rate (kg/day)						
102			9.00E+00 Body Weight (kg) - infant						
103									
104			HALF LIVES	k					
105			0.33	2.08E+00 Acrylonitrile					
106			0.125	5.54E+00 Benzene					
107			240	2.89E-03 DDE					
108			120	5.77E-03 DDT					
109			1.875	3.70E-01 1,1-DCE & Phenol					
110			266	2.61E-03 Dieldrin					
111			2120	3.27E-04 Dioxin					
112			60	1.15E-02 Hexachlorobenzene					
113			0.3125	2.22E+00 Toluene					
114			0.0625	1.11E+01 Xylene					

BASE CASE

TABLE 8
TOMATO CONSUMPTION - AVERAGE

18-Jun-91
14:11:47

	D DRY DEPOSITION RATE g/M2/yr	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CONC.DUE TO UPTAKE mg/Kg	Cs AVERAGE CONC. ON PLANT SURFACE mg/Kg	Ct AVERAGE CONC ON PLANT mg/Kg	EDI ADULT AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS								
Acetonitrile	1.68E-10	2.44E-09	3.68E+00	8.96E-09	1.19E-11	8.97E-09	4.76E-12	1.13E-11
Aldrin	2.60E-16	3.78E-15	1.19E-04	4.51E-19	1.85E-17	1.90E-17	1.01E-20	2.39E-20
Aniline	9.42E-12	1.37E-10	7.02E-01	9.61E-11	6.71E-13	9.68E-11	5.13E-14	1.22E-13
Atrazine	5.82E-14	8.46E-13	6.51E-02	5.51E-14	4.15E-15	5.93E-14	3.14E-17	7.45E-17
Benzaldehyde	4.29E-12	6.24E-11	3.23E-01	2.02E-11	3.06E-13	2.05E-11	1.09E-14	2.58E-14
Benzofuran	2.09E-11	3.04E-10	6.60E-02	2.00E-11	1.49E-12	2.15E-11	1.14E-14	2.71E-14
Benzoic Acid	2.10E-12	3.06E-11	1.92E-01	5.87E-12	1.50E-13	6.02E-12	3.19E-15	7.57E-15
Benzonitrile	4.59E-11	6.67E-10	2.91E-01	1.94E-10	3.27E-12	1.97E-10	1.05E-13	2.48E-13
Benzothiazole	1.96E-14	2.84E-13	1.59E-01	4.53E-14	1.39E-15	4.67E-14	2.48E-17	5.87E-17
Bis(2-ethylhexyl)phthalate	1.15E-14	1.68E-13	2.02E-05	3.38E-18	8.22E-16	8.25E-16	4.38E-19	1.04E-18
Carbazole	9.42E-14	1.37E-12	2.88E-02	3.95E-14	6.71E-15	4.62E-14	2.45E-17	5.81E-17
4-Chloroaniline	5.39E-15	7.84E-14	2.03E-01	1.59E-14	3.84E-16	1.63E-14	8.63E-18	2.05E-17
4-Chlorobiphenyl	1.33E-14	1.93E-13	3.36E-03	6.49E-16	9.46E-16	1.60E-15	8.46E-19	2.01E-18
4,4-Chlorobiphenyl	6.69E-16	9.73E-15	1.35E-03	1.32E-17	4.76E-17	6.08E-17	3.22E-20	7.64E-20
Chloroethane	4.76E-13	6.93E-12	3.19E-01	2.21E-12	3.39E-14	2.24E-12	1.19E-15	2.82E-15
Dibenzofuran	4.19E-13	6.09E-12	9.52E-03	5.80E-14	2.98E-14	8.78E-14	4.66E-17	1.10E-16
1,2-Dichloroethane	4.82E-14	7.01E-13	3.23E-01	2.27E-13	3.43E-15	2.30E-13	1.22E-16	2.89E-16
Dieldrin	4.78E-16	6.95E-15	5.92E-04	4.11E-18	3.40E-17	3.81E-17	2.02E-20	4.79E-20
Hexachlorobenzene	1.26E-12	1.84E-11	1.57E-03	2.88E-14	8.99E-14	1.19E-13	6.30E-17	1.49E-16
Hydrazine	1.63E-09	2.37E-08	1.43E+02	3.39E-06	1.16E-10	3.39E-06	1.80E-09	4.26E-09
Lindane	2.22E-16	3.23E-15	2.85E-02	9.18E-17	1.58E-17	1.08E-16	5.71E-20	1.35E-19
Malathion	6.56E-16	9.53E-15	4.92E-02	4.69E-16	4.67E-17	5.16E-16	2.73E-19	6.48E-19
Methyl ethyl ketone	8.10E-14	1.18E-12	1.65E+00	1.94E-12	5.77E-15	1.95E-12	1.03E-15	2.45E-15
4-Methylphenol	7.35E-14	1.07E-12	1.75E-01	1.87E-13	5.23E-15	1.92E-13	1.02E-16	2.42E-16
Monomethyl hydrazine	5.14E-10	7.48E-09	1.43E+02	1.07E-06	3.66E-11	1.07E-06	5.66E-10	1.34E-09
Naphthalene	8.67E-15	1.26E-13	2.66E-02	3.36E-15	6.18E-16	3.97E-15	2.11E-18	5.00E-18
Naphthalene carbonitrile	4.59E-11	6.67E-10	2.66E-02	1.77E-11	3.27E-12	2.10E-11	1.11E-14	2.64E-14
n-Nitrosodimethylamine	5.23E-13	7.61E-12	5.79E+00	4.40E-11	3.73E-14	4.41E-11	2.34E-14	5.54E-14
PAHs								
Acenaphthalene	2.09E-12	3.04E-11	1.02E-02	3.09E-13	1.49E-13	4.57E-13	2.43E-16	5.75E-16
Acenaphthene	2.09E-12	3.04E-11	1.24E-02	3.77E-13	1.49E-13	5.26E-13	2.79E-16	6.61E-16
Benzo(a)pyrene	4.19E-12	6.09E-11	4.41E-04	2.69E-14	2.98E-13	3.25E-13	1.72E-16	4.09E-16
Chrysene	4.19E-13	6.09E-12	1.02E-03	6.23E-15	2.98E-14	3.61E-14	1.91E-17	4.53E-17
Dibenzo(a,h)anthracene	4.19E-12	6.09E-11	3.96E-04	2.41E-14	2.98E-13	3.23E-13	1.71E-16	4.05E-16
Fluoranthene	4.19E-12	6.09E-11	2.19E-03	1.33E-13	2.98E-13	4.32E-13	2.29E-16	5.43E-16
Fluorene	4.19E-13	6.09E-12	6.73E-03	4.10E-14	2.98E-14	7.08E-14	3.75E-17	8.90E-17
Phenanthrene	1.63E-15	2.37E-14	5.22E-03	1.24E-16	1.16E-16	2.40E-16	1.27E-19	3.02E-19
Pyrene	8.38E-12	1.22E-10	2.31E-03	2.81E-13	5.97E-13	8.78E-13	4.66E-16	1.10E-15
Parathion	1.04E-15	1.51E-14	1.44E-02	2.17E-16	7.39E-17	2.91E-16	1.54E-19	3.66E-19
Pentachlorobenzene	5.14E-13	7.48E-12	2.64E-03	1.98E-14	3.66E-14	5.64E-14	2.99E-17	7.09E-17
Phenol	8.23E-15	1.20E-13	3.32E-01	3.98E-14	5.86E-16	4.03E-14	2.14E-17	5.07E-17
Quinoline	4.72E-13	6.86E-12	1.55E-01	1.06E-12	3.36E-14	1.10E-12	5.82E-16	1.38E-15
Tetrachlorobenzene	2.53E-13	3.68E-12	6.82E-03	2.51E-14	1.80E-14	4.31E-14	2.28E-17	5.41E-17
Trichlorobenzene	1.28E-13	1.86E-12	1.15E-02	2.14E-14	9.12E-15	3.05E-14	1.62E-17	3.83E-17
Unsym. dimethyl hydrazine	2.03E-09	2.95E-08	5.91E+01	1.74E-06	1.44E-10	1.74E-06	9.25E-10	2.19E-09
Vapona	4.10E-15	5.96E-14	3.60E-01	2.15E-14	2.92E-16	2.18E-14	1.15E-17	2.73E-17

	B	C	D	E	F	G	H	I	J	K
117										
118	BASE CASE		TABLE 8							
177										
178	INORGANICS									
179	Arsenic		5.53E-11	8.04E-10	3.60E-04	2.89E-13	3.94E-12	4.23E-12	2.24E-15	5.31E-15
180	Cadmium		3.20E-13	4.66E-12	9.00E-03	4.19E-14	2.28E-14	6.48E-14	3.43E-17	8.14E-17
181	Mercury		2.07E-12	3.01E-11	1.20E-02	3.62E-13	1.48E-13	5.09E-13	2.70E-16	6.40E-16
182										

	F	G		
183				
184	ADULT	CHILD		
185	6.40E-02	3.36E-02	TOMATO INGESTION RATE ,Kg/day	ADITOM
186	7.00E+01	1.55E+01	BODY WEIGHT, KG	ADWT
187	6.80E-02	6.80E-02	r tomato	r
188	5.78E-07	5.78E-07	k tomato, 1/s	k
189	3.89E+06	3.89E+06	t tomato, s	t
190	1.34E+00	1.34E+00	Y tomato, Kg/M2	y
191	7.85E+04	7.85E+04	VSDF tomato, M2s/Kg	VSDF
192	0.58	5.80E-01	FRACT. CONSUMED FROM RURAL SOURCE.	HG
193	3.15E+07	3.15E+07	sec/yr	secyr
194	1.00E+03	1.00E+03	mg/g	mgg

195 $VSDF = r*(1-e^{-kt})$ / $Y*k$

196 $Cs = VSDF*Deposition*mgg/secyr$

197 $Cu = PUF*Csoil$

198 $EDI = (Ct)*ADITOM*HG/ADWT$

199

117	B	C	M	N	O	P	Q	R	S	T
118		BASE CASE	TABLE 9							
119			TOMATO CONSUMPTION - MAXIMUM							
120										
121										
122		18-Jun-91	D	C soil	PUF	Cu	Cs	Ct	EDI	EDI
123		14:11:47	DRY	MAXIMUM		MAXIMUM	MAXIMUM	MAXIMUM	ADULT	CHILD
124			DEPOSITION	CALCULATED	PLANT UPTAKE	CONC.DUE	CONC. ON	CONC ON	MAXIMUM	MAXIMUM
125			RATE	CONC IN	FACTOR	TO UPTAKE	PLANT	PLANT	ESTIMATED	ESTIMATED
126			g/M2/yr	SOIL		mg/Kg	SURFACE	mg/Kg	DAILY	DAILY
127				.2M			mg/Kg		INTAKE	INTAKE
128				mg/Kg					mg/Kg/day	mg/Kg/day
129										
130	ORGANICS									
131		Acetonitrile	1.68E-10	2.47E-09	3.68E+00	9.09E-09	4.18E-10	9.50E-09	5.04E-12	1.19E-11
132		Aldrin	2.60E-16	3.84E-15	1.19E-04	4.57E-19	6.49E-16	6.49E-16	3.44E-19	8.16E-19
133		Aniline	9.42E-12	1.39E-10	7.02E-01	9.75E-11	2.35E-11	1.21E-10	6.42E-14	1.52E-13
134		Atrazine	5.82E-14	8.59E-13	6.51E-02	5.59E-14	1.45E-13	2.01E-13	1.07E-16	2.53E-16
135		Benzaldehyde	4.29E-12	6.33E-11	3.23E-01	2.05E-11	1.07E-11	3.12E-11	1.65E-14	3.92E-14
136		Benzofuran	2.09E-11	3.08E-10	6.60E-02	2.03E-11	5.20E-11	7.24E-11	3.84E-14	9.10E-14
137		Benzoic Acid	2.10E-12	3.10E-11	1.92E-01	5.96E-12	5.24E-12	1.12E-11	5.94E-15	1.41E-14
138		Benzonitrile	4.59E-11	6.77E-10	2.91E-01	1.97E-10	1.14E-10	3.11E-10	1.65E-13	3.91E-13
139		Benzothiazole	1.96E-14	2.88E-13	1.59E-01	4.60E-14	4.87E-14	9.47E-14	5.02E-17	1.19E-16
140		Bis(2-ethylhexyl)phthalate	1.15E-14	1.70E-13	2.02E-05	3.43E-18	2.88E-14	2.88E-14	1.53E-17	3.62E-17
141		Carbazole	9.42E-14	1.39E-12	2.88E-02	4.01E-14	2.35E-13	2.75E-13	1.46E-16	3.46E-16
142		4-Chloroaniline	5.39E-15	7.96E-14	2.03E-01	1.61E-14	1.34E-14	2.96E-14	1.57E-17	3.72E-17
143		4-Chlorobiphenyl	1.33E-14	1.96E-13	3.36E-03	6.58E-16	3.31E-14	3.38E-14	1.79E-17	4.25E-17
144		4,4-Chlorobiphenyl	6.69E-16	9.87E-15	1.35E-03	1.34E-17	1.67E-15	1.68E-15	8.91E-19	2.11E-18
145		Chloroethane	4.76E-13	7.03E-12	3.19E-01	2.24E-12	1.19E-12	3.43E-12	1.82E-15	4.31E-15
146		Dibenzofuran	4.19E-13	6.18E-12	9.52E-03	5.88E-14	1.04E-12	1.10E-12	5.85E-16	1.39E-15
147		1,2-Dichloroethane	4.82E-14	7.11E-13	3.23E-01	2.30E-13	1.20E-13	3.50E-13	1.86E-16	4.40E-16
148		Dieldrin	4.78E-16	7.05E-15	5.92E-04	4.17E-18	1.19E-15	1.20E-15	6.34E-19	1.50E-18
149		Hexachlorobenzene	1.26E-12	1.86E-11	1.57E-03	2.92E-14	3.15E-12	3.18E-12	1.68E-15	3.99E-15
150		Hydrazine	1.63E-09	2.41E-08	1.43E+02	3.44E-06	4.07E-09	3.44E-06	1.82E-09	4.32E-09
151		Lindane	2.22E-16	3.27E-15	2.85E-02	9.32E-17	5.53E-16	6.46E-16	3.43E-19	8.13E-19
152		Malathion	6.56E-16	9.67E-15	4.92E-02	4.76E-16	1.63E-15	2.11E-15	1.12E-18	2.65E-18
153		Methyl ethyl ketone	8.10E-14	1.19E-12	1.65E+00	1.97E-12	2.02E-13	2.17E-12	1.15E-15	2.73E-15
154		4-Methylphenol	7.35E-14	1.08E-12	1.75E-01	1.90E-13	1.83E-13	3.73E-13	1.98E-16	4.69E-16
155		Monomethyl hydrazine	5.14E-10	7.59E-09	1.43E+02	1.08E-06	1.28E-09	1.08E-06	5.75E-10	1.36E-09
156		Naphthalene	8.67E-15	1.28E-13	2.66E-02	3.40E-15	2.16E-14	2.50E-14	1.33E-17	3.15E-17
157		Naphthalene carbonitrile	4.59E-11	6.77E-10	2.66E-02	1.80E-11	1.14E-10	1.32E-10	7.02E-14	1.66E-13
158		n-Nitrosodimethylamine	5.23E-13	7.72E-12	5.79E+00	4.47E-11	1.30E-12	4.60E-11	2.44E-14	5.78E-14
159		PAHs								
160		Acenaphthalene	2.09E-12	3.08E-11	1.02E-02	3.13E-13	5.20E-12	5.52E-12	2.93E-15	6.94E-15
161		Acenaphthene	2.09E-12	3.08E-11	1.24E-02	3.83E-13	5.20E-12	5.59E-12	2.96E-15	7.02E-15
162		Benzo(a)pyrene	4.19E-12	6.18E-11	4.41E-04	2.73E-14	1.04E-11	1.05E-11	5.55E-15	1.32E-14
163		Chrysene	4.19E-13	6.18E-12	1.02E-03	6.32E-15	1.04E-12	1.05E-12	5.57E-16	1.32E-15
164		Dibenzo(a,h)anthracene	4.19E-12	6.18E-11	3.96E-04	2.45E-14	1.04E-11	1.05E-11	5.55E-15	1.32E-14
165		Fluoranthene	4.19E-12	6.18E-11	2.19E-03	1.35E-13	1.04E-11	1.06E-11	5.61E-15	1.33E-14
166		Fluorene	4.19E-13	6.18E-12	6.73E-03	4.16E-14	1.04E-12	1.09E-12	5.76E-16	1.37E-15
167		Phenanthrene	1.63E-15	2.41E-14	5.22E-03	1.26E-16	4.07E-15	4.19E-15	2.22E-18	5.27E-18
168		Pyrene	8.38E-12	1.24E-10	2.31E-03	2.86E-13	2.09E-11	2.12E-11	1.12E-14	2.66E-14
169		Parathion	1.04E-15	1.53E-14	1.44E-02	2.20E-16	2.59E-15	2.81E-15	1.49E-18	3.53E-18
170		Pentachlorobenzene	5.14E-13	7.59E-12	2.64E-03	2.00E-14	1.28E-12	1.30E-12	6.91E-16	1.64E-15
171		Phenol	8.23E-15	1.21E-13	3.32E-01	4.03E-14	2.05E-14	6.08E-14	3.23E-17	7.65E-17
172		Quinoline	4.72E-13	6.96E-12	1.55E-01	1.08E-12	1.18E-12	2.26E-12	1.20E-15	2.84E-15
173		Tetrachlorobenzene	2.53E-13	3.73E-12	6.82E-03	2.54E-14	6.30E-13	6.56E-13	3.48E-16	8.24E-16
174		Trichlorobenzene	1.28E-13	1.89E-12	1.15E-02	2.17E-14	3.19E-13	3.41E-13	1.81E-16	4.29E-16
175		Unsym. dimethyl hydrazine	2.03E-09	2.99E-08	5.91E+01	1.77E-06	5.06E-09	1.77E-06	9.41E-10	2.23E-09
176		Vapona	4.10E-15	6.05E-14	3.60E-01	2.18E-14	1.02E-14	3.20E-14	1.70E-17	4.02E-17

	B	C	M	N	O	P	Q	R	S	T
117										
118		BASE CASE	TABLE 9							
177										
178	INORGANICS									
179		Arsenic	5.53E-11	8.15E-10	3.60E-04	2.94E-13	1.38E-10	1.38E-10	7.32E-14	1.74E-13
180		Cadmium	3.20E-13	4.73E-12	9.00E-03	4.25E-14	7.99E-13	8.41E-13	4.46E-16	1.06E-15
181		Mercury	2.07E-12	3.06E-11	1.20E-02	3.67E-13	5.17E-12	5.53E-12	2.93E-15	6.96E-15
182										
183					ADULT	CHILD				
184					6.40E-02	3.36E-02	TOMATO INGESTION RATE ,Kg/day			ADITOM
185					7.00E+01	1.55E+01	BODY WEIGHT, KG			ADWT
186					6.80E-02	6.80E-02	r tomato			r
187					5.78E-07	5.78E-07	k tomato, 1/s			k
188					3.89E+06	3.89E+06	t tomato, s			t
189					1.34E+00	1.34E+00	Y tomato, Kg/M2			y
190					7.85E+04	7.85E+04	VSDF tomato, M2s/Kg			VSDF
191					5.80E-01	5.80E-01	FRACT. CONSUMED FROM RURAL SOURCE.			HG
192					3.15E+07	3.15E+07	sec/yr			secyr
193					1.00E+03	1.00E+03	mg/g			mgg
194							-kt			
195						VSDF = r*(1-e	)			
196							Y*k			
197						Cs = VSDF*Deposition*mgg/secyr				
198						Cu = PUF*Csoil				
199						EDI = (Ct)*ADITOM*HG/ADWT				

117	B	C	V	W	X	Y	Z	AA	AB	AC
118		BASE CASE	TABLE 10							
119			LETTUCE CONSUMPTION - AVERAGE							
120										
121										
122		18-Jun-91	D	C soil	PUF	Cu	Cs	Ct	EDI	EDI
123		14:11:47	DRY	AVERAGE		AVERAGE	AVERAGE	AVERAGE	ADULT	CHILD
124			DEPOSITION	CALCULATED	PLANT UPTAKE	CONC.DUE	CONC. ON	CONC ON	AVERAGE	AVERAGE
125			RATE	CONC IN	FACTOR	TO UPTAKE	PLANT	PLANT	ESTIMATED	ESTIMATED
126			g/M2/yr	SOIL		mg/Kg	SURFACE	mg/Kg	DAILY	DAILY
127				.2M			mg/Kg		INTAKE	INTAKE
128				mg/Kg					mg/Kg/day	mg/Kg/day
129										
130	ORGANICS									
131		Acetonitrile	1.68E-10	2.44E-09	3.06E+00	7.46E-09	2.40E-11	7.49E-09	7.38E-13	3.47E-13
132		Aldrin	2.60E-16	3.78E-15	9.93E-05	3.76E-19	3.73E-17	3.76E-17	3.71E-21	1.75E-21
133		Aniline	9.42E-12	1.37E-10	5.85E-01	8.01E-11	1.35E-12	8.15E-11	8.03E-15	3.78E-15
134		Atrazine	5.82E-14	8.46E-13	5.43E-02	4.59E-14	8.34E-15	5.43E-14	5.35E-18	2.52E-18
135		Benzaldehyde	4.29E-12	6.24E-11	2.69E-01	1.68E-11	6.15E-13	1.74E-11	1.72E-15	8.09E-16
136		Benzofuran	2.09E-11	3.04E-10	5.50E-02	1.67E-11	2.99E-12	1.97E-11	1.94E-15	9.13E-16
137		Benzoic Acid	2.10E-12	3.06E-11	1.60E-01	4.89E-12	3.01E-13	5.19E-12	5.12E-16	2.41E-16
138		Benzonitrile	4.59E-11	6.67E-10	2.42E-01	1.61E-10	6.57E-12	1.68E-10	1.66E-14	7.80E-15
139		Benzothiazole	1.96E-14	2.84E-13	1.33E-01	3.77E-14	2.80E-15	4.05E-14	4.00E-18	1.88E-18
140		Bis(2-ethylhexyl)phthalate	1.15E-14	1.68E-13	1.68E-05	2.82E-18	1.65E-15	1.66E-15	1.63E-19	7.68E-20
141		Carbazole	9.42E-14	1.37E-12	2.40E-02	3.29E-14	1.35E-14	4.64E-14	4.58E-18	2.15E-18
142		4-Chloroaniline	5.39E-15	7.84E-14	1.69E-01	1.32E-14	7.73E-16	1.40E-14	1.38E-18	6.50E-19
143		4-Chlorobiphenyl	1.33E-14	1.93E-13	2.80E-03	5.41E-16	1.90E-15	2.44E-15	2.41E-19	1.13E-19
144		4,4-Chlorobiphenyl	6.69E-16	9.73E-15	1.13E-03	1.10E-17	9.58E-17	1.07E-16	1.05E-20	4.95E-21
145		Chloroethane	4.76E-13	6.93E-12	2.66E-01	1.84E-12	6.82E-14	1.91E-12	1.88E-16	8.86E-17
146		Dibenzofuran	4.19E-13	6.09E-12	7.93E-03	4.83E-14	6.00E-14	1.08E-13	1.07E-17	5.03E-18
147		1,2-Dichloroethane	4.82E-14	7.01E-13	2.69E-01	1.89E-13	6.90E-15	1.96E-13	1.93E-17	9.09E-18
148		Dieldrin	4.78E-16	6.95E-15	4.93E-04	3.43E-18	6.84E-17	7.18E-17	7.08E-21	3.33E-21
149		Hexachlorobenzene	1.26E-12	1.84E-11	1.31E-03	2.40E-14	1.81E-13	2.05E-13	2.02E-17	9.50E-18
150		Hydrazine	1.63E-09	2.37E-08	1.19E+02	2.82E-06	2.34E-10	2.82E-06	2.78E-10	1.31E-10
151		Lindane	2.22E-16	3.23E-15	2.37E-02	7.65E-17	3.18E-17	1.08E-16	1.07E-20	5.03E-21
152		Malathion	6.56E-16	9.53E-15	4.10E-02	3.91E-16	9.39E-17	4.85E-16	4.78E-20	2.25E-20
153		Methyl ethyl ketone	8.10E-14	1.18E-12	1.37E+00	1.62E-12	1.16E-14	1.63E-12	1.61E-16	7.56E-17
154		4-Methylphenol	7.35E-14	1.07E-12	1.46E-01	1.56E-13	1.05E-14	1.66E-13	1.64E-17	7.72E-18
155		Monomethyl hydrazine	5.14E-10	7.48E-09	1.19E+02	8.90E-07	7.37E-11	8.90E-07	8.77E-11	4.13E-11
156		Naphthalene	8.67E-15	1.26E-13	2.22E-02	2.80E-15	1.24E-15	4.04E-15	3.98E-19	1.87E-19
157		Naphthalene carbonitrile	4.59E-11	6.67E-10	2.22E-02	1.48E-11	6.57E-12	2.14E-11	2.11E-15	9.91E-16
158		n-Nitrosodimethylamine	5.23E-13	7.61E-12	4.82E+00	3.67E-11	7.49E-14	3.68E-11	3.63E-15	1.71E-15
159		PAHs								
160		Acenaphthalene	2.09E-12	3.04E-11	8.48E-03	2.57E-13	2.99E-13	5.56E-13	5.48E-17	2.58E-17
161		Acenaphthene	2.09E-12	3.04E-11	1.04E-02	3.14E-13	2.99E-13	6.13E-13	6.05E-17	2.85E-17
162		Benzo(a)pyrene	4.19E-12	6.09E-11	3.68E-04	2.24E-14	6.00E-13	6.22E-13	6.14E-17	2.89E-17
163		Chrysene	4.19E-13	6.09E-12	8.53E-04	5.19E-15	6.00E-14	6.52E-14	6.43E-18	3.02E-18
164		Dibenzo(a,h)anthracene	4.19E-12	6.09E-11	3.30E-04	2.01E-14	6.00E-13	6.20E-13	6.11E-17	2.88E-17
165		Fluoranthene	4.19E-12	6.09E-11	1.83E-03	1.11E-13	6.00E-13	7.11E-13	7.01E-17	3.30E-17
166		Fluorene	4.19E-13	6.09E-12	5.60E-03	3.41E-14	6.00E-14	9.41E-14	9.28E-18	4.37E-18
167		Phenanthrene	1.63E-15	2.37E-14	4.35E-03	1.03E-16	2.34E-16	3.37E-16	3.32E-20	1.56E-20
168		Pyrene	8.38E-12	1.22E-10	1.93E-03	2.35E-13	1.20E-12	1.43E-12	1.41E-16	6.66E-17
169		Parathion	1.04E-15	1.51E-14	1.20E-02	1.81E-16	1.49E-16	3.30E-16	3.25E-20	1.53E-20
170		Pentachlorobenzene	5.14E-13	7.48E-12	2.20E-03	1.65E-14	7.37E-14	9.01E-14	8.89E-18	4.18E-18
171		Phenol	8.23E-15	1.20E-13	2.77E-01	3.31E-14	1.18E-15	3.43E-14	3.38E-18	1.59E-18
172		Quinoline	4.72E-13	6.86E-12	1.29E-01	8.87E-13	6.76E-14	9.55E-13	9.41E-17	4.43E-17
173		Tetrachlorobenzene	2.53E-13	3.68E-12	5.68E-03	2.09E-14	3.62E-14	5.71E-14	5.63E-18	2.65E-18
174		Trichlorobenzene	1.28E-13	1.86E-12	9.56E-03	1.78E-14	1.83E-14	3.61E-14	3.56E-18	1.68E-18
175		Unsym. dimethyl hydrazine	2.03E-09	2.95E-08	4.93E+01	1.45E-06	2.90E-10	1.45E-06	1.43E-10	6.74E-11
176		Vapona	4.10E-15	5.96E-14	3.00E-01	1.79E-14	5.87E-16	1.85E-14	1.82E-18	8.57E-19

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	V	W	X	Y	Z	AA	AB	AC
117										
118		BASE CASE	TABLE 10							
177										
178	INORGANICS									
179		Arsenic	5.53E-11	8.04E-10	2.00E-03	1.61E-12	7.91E-12	9.52E-12	9.39E-16	4.42E-16
180		Cadmium	3.20E-13	4.66E-12	2.75E-02	1.28E-13	4.59E-14	1.74E-13	1.72E-17	8.07E-18
181		Mercury	2.07E-12	3.01E-11	4.50E-02	1.36E-12	2.97E-13	1.65E-12	1.63E-16	7.67E-17
182										
183					ADULT	CHILD				
184					1.19E-02	1.24E-03	LETTUCE INGESTION RATE ,Kg/day			ADILET
185					7.00E+01	1.55E+01	BODY WEIGHT, KG			ADWT
186					1.50E-01	1.50E-01	r lettuce			r
187					5.78E-07	5.78E-07	k lettuce, 1/s			k
188					5.62E+06	5.62E+06	t lettuce, s			t
189					1.58E+00	1.58E+00	y lettuce, Kg/M2			y
190					1.58E+05	1.58E+05	VSDF lettuce, M2s/Kg			VSDF
191					5.80E-01	5.80E-01	FRACT. CONSUMED FROM RURAL SOURCE.			HG
192					3.15E+07	3.15E+07	sec/yr			secyr
193					1.00E+03	1.00E+03	mg/g			mgg
194							-kt			
195						VSDF = r*(1-e	)			
196							Y*k			
197						Cs = VSDF*Deposition*mgg/secyr				
198						Cu = PUF*Csoil				
199						EDI = (Cs+Cu)*ADILET*HG/ADWT				

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AE	AF	AG	AH	AI	AJ	AK	AL
118	BASE CASE		TABLE 11							
119			LETTUCE CONSUMPTION - MAXIMUM							
120										
121										
122		18-Jun-91	D	C soil	PUF	Cu	Cs	Ct	EDI	EDI
123		14:11:47	DRY	MAXIMUM		MAXIMUM	MAXIMUM	MAXIMUM	ADULT	CHILD
124			DEPOSITION	CALCULATED	PLANT UPTAKE	CONC.DUE	CONC. ON	CONC ON	MAXIMUM	MAXIMUM
125			RATE	CONC IN	FACTOR	TO UPTAKE	PLANT	PLANT	ESTIMATED	ESTIMATED
126			g/M2/yr	SOIL		mg/Kg	SURFACE	mg/Kg	DAILY	DAILY
127				.2M			mg/Kg		INTAKE	INTAKE
128				mg/Kg					mg/Kg/day	mg/Kg/day
129										
130	ORGANICS									
131		Acetonitrile	1.68E-10	2.47E-09	3.06E+00	7.57E-09	8.40E-10	8.41E-09	8.29E-13	3.90E-13
132		Aldrin	2.60E-16	3.84E-15	9.93E-05	3.81E-19	1.30E-15	1.30E-15	1.29E-19	6.05E-20
133		Aniline	9.42E-12	1.39E-10	5.85E-01	8.13E-11	4.72E-11	1.28E-10	1.27E-14	5.96E-15
134		Atrazine	5.82E-14	8.59E-13	5.43E-02	4.66E-14	2.92E-13	3.38E-13	3.34E-17	1.57E-17
135		Benzaldehyde	4.29E-12	6.33E-11	2.69E-01	1.71E-11	2.15E-11	3.86E-11	3.80E-15	1.79E-15
136		Benzofuran	2.09E-11	3.08E-10	5.50E-02	1.69E-11	1.05E-10	1.22E-10	1.20E-14	5.64E-15
137		Benzoic Acid	2.10E-12	3.10E-11	1.60E-01	4.96E-12	1.05E-11	1.55E-11	1.53E-15	7.19E-16
138		Benzonitrile	4.59E-11	6.77E-10	2.42E-01	1.64E-10	2.30E-10	3.94E-10	3.88E-14	1.83E-14
139		Benzothiazole	1.96E-14	2.88E-13	1.33E-01	3.83E-14	9.80E-14	1.36E-13	1.34E-17	6.32E-18
140		Bis(2-ethylhexyl)phthalate	1.15E-14	1.70E-13	1.68E-05	2.86E-18	5.78E-14	5.78E-14	5.70E-18	2.68E-18
141		Carbazole	9.42E-14	1.39E-12	2.40E-02	3.34E-14	4.72E-13	5.06E-13	4.99E-17	2.35E-17
142		4-Chloroaniline	5.39E-15	7.96E-14	1.69E-01	1.34E-14	2.70E-14	4.05E-14	3.99E-18	1.88E-18
143		4-Chlorobiphenyl	1.33E-14	1.96E-13	2.80E-03	5.49E-16	6.66E-14	6.71E-14	6.62E-18	3.12E-18
144		4,4-Chlorobiphenyl	6.69E-16	9.87E-15	1.13E-03	1.11E-17	3.35E-15	3.36E-15	3.32E-19	1.56E-19
145		Chloroethane	4.76E-13	7.03E-12	2.66E-01	1.87E-12	2.39E-12	4.26E-12	4.20E-16	1.97E-16
146		Dibenzofuran	4.19E-13	6.18E-12	7.93E-03	4.90E-14	2.10E-12	2.15E-12	2.12E-16	9.97E-17
147		1,2-Dichloroethane	4.82E-14	7.11E-13	2.69E-01	1.92E-13	2.42E-13	4.33E-13	4.27E-17	2.01E-17
148		Dieldrin	4.78E-16	7.05E-15	4.93E-04	3.47E-18	2.39E-15	2.40E-15	2.36E-19	1.11E-19
149		Hexachlorobenzene	1.26E-12	1.86E-11	1.31E-03	2.43E-14	6.33E-12	6.35E-12	6.26E-16	2.95E-16
150		Hydrazine	1.63E-09	2.41E-08	1.19E+02	2.86E-06	8.18E-09	2.87E-06	2.83E-10	1.33E-10
151		Lindane	2.22E-16	3.27E-15	2.37E-02	7.76E-17	1.11E-15	1.19E-15	1.17E-19	5.52E-20
152		Malathion	6.56E-16	9.67E-15	4.10E-02	3.96E-16	3.29E-15	3.68E-15	3.63E-19	1.71E-19
153		Methyl ethyl ketone	8.10E-14	1.19E-12	1.37E+00	1.64E-12	4.06E-13	2.05E-12	2.02E-16	9.50E-17
154		4-Methylphenol	7.35E-14	1.08E-12	1.46E-01	1.58E-13	3.68E-13	5.26E-13	5.19E-17	2.44E-17
155		Monomethyl hydrazine	5.14E-10	7.59E-09	1.19E+02	9.03E-07	2.58E-09	9.05E-07	8.93E-11	4.20E-11
156		Naphthalene	8.67E-15	1.28E-13	2.22E-02	2.84E-15	4.35E-14	4.63E-14	4.57E-18	2.15E-18
157		Naphthalene carbonitrile	4.59E-11	6.77E-10	2.22E-02	1.50E-11	2.30E-10	2.45E-10	2.41E-14	1.14E-14
158		n-Nitrosodimethylamine	5.23E-13	7.72E-12	4.82E+00	3.72E-11	2.62E-12	3.99E-11	3.93E-15	1.85E-15
159		PAHs								
160		Acenaphthalene	2.09E-12	3.08E-11	8.48E-03	2.61E-13	1.05E-11	1.07E-11	1.06E-15	4.98E-16
161		Acenaphthene	2.09E-12	3.08E-11	1.04E-02	3.19E-13	1.05E-11	1.08E-11	1.06E-15	5.00E-16
162		Benzo(a)pyrene	4.19E-12	6.18E-11	3.68E-04	2.27E-14	2.10E-11	2.10E-11	2.07E-15	9.75E-16
163		Chrysene	4.19E-13	6.18E-12	8.53E-04	5.27E-15	2.10E-12	2.10E-12	2.08E-16	9.77E-17
164		Dibenzo(a,h)anthracene	4.19E-12	6.18E-11	3.30E-04	2.04E-14	2.10E-11	2.10E-11	2.07E-15	9.75E-16
165		Fluoranthene	4.19E-12	6.18E-11	1.83E-03	1.13E-13	2.10E-11	2.11E-11	2.08E-15	9.79E-16
166		Fluorene	4.19E-13	6.18E-12	5.60E-03	3.46E-14	2.10E-12	2.13E-12	2.10E-16	9.90E-17
167		Phenanthrene	1.63E-15	2.41E-14	4.35E-03	1.05E-16	8.18E-15	8.28E-15	8.17E-19	3.84E-19
168		Pyrene	8.38E-12	1.24E-10	1.93E-03	2.38E-13	4.20E-11	4.22E-11	4.16E-15	1.96E-15
169		Parathion	1.04E-15	1.53E-14	1.20E-02	1.84E-16	5.20E-15	5.39E-15	5.31E-19	2.50E-19
170		Pentachlorobenzene	5.14E-13	7.59E-12	2.20E-03	1.67E-14	2.58E-12	2.60E-12	2.56E-16	1.20E-16
171		Phenol	8.23E-15	1.21E-13	2.77E-01	3.36E-14	4.13E-14	7.49E-14	7.38E-18	3.47E-18
172		Quinoline	4.72E-13	6.96E-12	1.29E-01	9.00E-13	2.36E-12	3.26E-12	3.22E-16	1.51E-16
173		Tetrachlorobenzene	2.53E-13	3.73E-12	5.68E-03	2.12E-14	1.27E-12	1.29E-12	1.27E-16	5.98E-17
174		Trichlorobenzene	1.28E-13	1.89E-12	9.56E-03	1.81E-14	6.42E-13	6.60E-13	6.51E-17	3.06E-17
175		Unsym. dimethyl hydrazine	2.03E-09	2.99E-08	4.93E+01	1.47E-06	1.02E-08	1.48E-06	1.46E-10	6.89E-11
176		Vapona	4.10E-15	6.05E-14	3.00E-01	1.81E-14	2.06E-14	3.87E-14	3.82E-18	1.80E-18

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AE	AF	AG	AH	AI	AJ	AK	AL
117										
118	BASE CASE		TABLE 11							
177										
178	INORGANICS									
179	Arsenic		5.53E-11	8.15E-10	2.00E-03	1.63E-12	2.77E-10	2.79E-10	2.75E-14	1.29E-14
180	Cadmium		3.20E-13	4.73E-12	2.75E-02	1.30E-13	1.61E-12	1.74E-12	1.71E-16	8.06E-17
181	Mercury		2.07E-12	3.06E-11	4.50E-02	1.38E-12	1.04E-11	1.18E-11	1.16E-15	5.46E-16
182										
183					ADULT	CHILD				
184					1.19E-02	1.24E-03	LETTUCE INGESTION RATE ,Kg/day			ADILET
185					7.00E+01	1.55E+01	BODY WEIGHT, KG			ADWT
186					1.50E-01	1.50E-01	r lettuce			r
187					5.78E-07	5.78E-07	k lettuce, 1/s			k
188					5.62E+06	5.62E+06	t lettuce, s			t
189					1.58E+00	1.58E+00	y lettuce, Kg/M2			y
190					1.58E+05	1.58E+05	VSDF lettuce, M2s/Kg			VSDF
191					5.80E-01	5.80E-01	FRACT. CONSUMED FROM RURAL SOURCE.			HG
192					3.15E+07	3.15E+07	sec/yr			secyr
193					1.00E+03	1.00E+03	mg/g			mgg
194							-kt			
195						VSDF = r*(1-e	)			
196							Y*k			
197						Cs = VSDF*Deposition*mgg/secyr				
198						Cu = PUF*Csoil				
199						EDI = (Cs+Cu)*ADILET*HG/ADWT				

	B	C	AO	AP	AQ	AR	AS	AT	AU
118	BASE CASE		TABLE 12						
119			CARROT CONSUMPTION - AVERAGE						
120									
121									
122		18-Jun-91	C soil			RUF	C plant	EDI	EDI
123		14:11:47	AVERAGE				AVERAGE	ADULT	CHILD
124			CALCULATED	log Kow	Koc	ROOT UPTAKE	CONC.DUE	AVERAGE	AVERAGE
125			CONC IN			FACTOR	TO UPTAKE	ESTIMATED	ESTIMATED
126			SOIL				mg/Kg	DAILY	DAILY
127			.2M					INTAKE	INTAKE
128			mg/Kg					mg/Kg/day	mg/Kg/day
129									
130	ORGANICS								
131	Acetonitrile		2.44E-09	-0.34	2.2	2.68E+01	6.52E-08	6.33E-12	9.47E-12
132	Aldrin		3.78E-15	7.4	96000	1.11E+01	4.18E-14	4.05E-18	6.07E-18
133	Aniline		1.37E-10	0.9	73.553	9.28E-01	1.27E-10	1.23E-14	1.85E-14
134	Atrazine		8.46E-13	2.68	320	9.50E-01	8.04E-13	7.79E-17	1.17E-16
135	Benzaldehyde		6.24E-11	1.48	152	5.73E-01	3.58E-11	3.47E-15	5.19E-15
136	Benzofuran		3.04E-10	2.67	313	9.57E-01	2.91E-10	2.82E-14	4.22E-14
137	Benzoic Acid		3.06E-11	1.87	248	4.69E-01	1.43E-11	1.39E-15	2.08E-15
138	Benzonitrile		6.67E-10	1.56	168	5.45E-01	3.63E-10	3.52E-14	5.28E-14
139	Benzothiazole		2.84E-13	2.01	295.42	4.50E-01	1.28E-13	1.24E-17	1.86E-17
140	Bis(2-ethylhexyl)phthalate		1.68E-13	8.73	1336965	8.39E+00	1.41E-12	1.36E-16	2.04E-16
141	Carbazole		1.37E-12	3.29	1193	6.57E-01	9.00E-13	8.73E-17	1.31E-16
142	4-Chloroaniline		7.84E-14	1.83	349.5	3.21E-01	2.52E-14	2.44E-18	3.66E-18
143	4-Chlorobiphenyl		1.93E-13	4.9	38486	3.29E-01	6.36E-14	6.17E-18	9.23E-18
144	4,4-Chlorobiphenyl		9.73E-15	5.58	166901	2.53E-01	2.46E-15	2.38E-19	3.57E-19
145	Chloroethane		6.93E-12	1.49	143	6.13E-01	4.24E-12	4.11E-16	6.16E-16
146	Dibenzofuran		6.09E-12	4.12	7152	4.50E-01	2.74E-12	2.66E-16	3.98E-16
147	1,2-Dichloroethane		7.01E-13	1.48	14	6.22E+00	4.36E-12	4.23E-16	6.33E-16
148	Dieldrin		6.95E-15	6.2	1700	7.44E+01	5.17E-13	5.01E-17	7.50E-17
149	Hexachlorobenzene		1.84E-11	5.47	50000	6.94E-01	1.27E-11	1.24E-15	1.85E-15
150	Hydrazine		2.37E-08	-3.08	0.1	5.78E+02	1.37E-05	1.33E-09	1.99E-09
151	Lindane		3.23E-15	3.3	1000	7.97E-01	2.57E-15	2.49E-19	3.73E-19
152	Malathion		9.53E-15	2.89	1800	2.31E-01	2.20E-15	2.13E-19	3.19E-19
153	Methyl ethyl ketone		1.18E-12	0.26	4.5	1.36E+01	1.60E-11	1.55E-15	2.32E-15
154	4-Methylphenol		1.07E-12	1.94	49	2.53E+00	2.71E-12	2.62E-16	3.93E-16
155	Monomethyl hydrazine		7.48E-09	-3.08	0.503	1.15E+02	8.59E-07	8.33E-11	1.25E-10
156	Naphthalene		1.26E-13	3.35	871	9.94E-01	1.25E-13	1.21E-17	1.82E-17
157	Naphthalene carbonitrile		6.67E-10	3.35	871	9.94E-01	6.63E-10	6.42E-14	9.62E-14
158	n-Nitrosodimethylamine		7.61E-12	-0.68	0.1	5.84E+02	4.44E-09	4.31E-13	6.45E-13
159	PAHs								
160	Acenaphthalene		3.04E-11	4.07	2500	1.18E+00	3.58E-11	3.47E-15	5.20E-15
161	Acenaphthene		3.04E-11	3.92	4600	4.95E-01	1.50E-11	1.46E-15	2.18E-15
162	Benzo(a)pyrene		6.09E-11	6.42	5500000	3.40E-02	2.07E-12	2.01E-16	3.00E-16
163	Chrysene		6.09E-12	5.79	200000	3.06E-01	1.86E-12	1.81E-16	2.70E-16
164	Dibenzo(a,h)anthracene		6.09E-11	6.5	3300000	6.52E-02	3.97E-12	3.85E-16	5.77E-16
165	Fluoranthene		6.09E-11	5.22	38000	5.87E-01	3.57E-11	3.47E-15	5.19E-15
166	Fluorene		6.09E-12	4.38	7300	6.95E-01	4.23E-12	4.10E-16	6.15E-16
167	Phenanthrene		2.37E-14	4.57	14000	5.06E-01	1.20E-14	1.16E-18	1.74E-18
168	Pyrene		1.22E-10	5.18	38000	5.47E-01	6.66E-11	6.46E-15	9.67E-15
169	Parathion		1.51E-14	3.81	3664	5.14E-01	7.76E-15	7.52E-19	1.13E-18
170	Pentachlorobenzene		7.48E-12	5.08	13000	1.34E+00	1.00E-11	9.71E-16	1.45E-15
171	Phenol		1.20E-13	1.46	14	6.15E+00	7.36E-13	7.13E-17	1.07E-16
172	Quinoline		6.86E-12	2.03	79	1.72E+00	1.18E-11	1.14E-15	1.71E-15
173	Tetrachlorobenzene		3.68E-12	4.37	1600	3.12E+00	1.15E-11	1.11E-15	1.66E-15
174	Trichlorobenzene		1.86E-12	3.98	9200	2.75E-01	5.11E-13	4.95E-17	7.42E-17
175	Unsym. dimethyl hydrazine		2.95E-08	-2.42	0.2	2.89E+02	8.52E-06	8.26E-10	1.24E-09
176	Vapona		5.96E-14	1.4	138	6.03E-01	3.60E-14	3.49E-18	5.22E-18

	B	C	AO	AP	AQ	AR	AS	AT	AU
118	BASE CASE		TABLE 12						
177									
178	INORGANICS								
179	Arsenic		8.04E-10			7.20E-04	5.79E-13	5.61E-17	8.40E-17
180	Cadmium		4.66E-12			1.80E-02	8.39E-14	8.13E-18	1.22E-17
181	Mercury		3.01E-11			2.40E-02	7.23E-13	7.01E-17	1.05E-16
182									
183									
184									

		ADULT	CHILD	
186	Foc	1.42E-02	1.42E-02	SOIL ORGANIC CARBON CONTENT
187	ADICAR	0.0117	0.00388	CARROT INGESTION RATE ,Kg/day
188	ADWT	7.00E+01	1.55E+01	BODY WEIGHT, KG
189	HG	5.80E-01	5.80E-01	FRACTION OF CARROTS HOMEGROWN

190

191 log(RCF-0.82) = 0.77log Kow-1.52

192 RUF = RCF

193 (Koc*Foc)

194 Cplant = RUF*Csoil

195 EDI = C plant * ADICAR * HG / ADWT

196 EDI (total) = DI tomato + DI lettuce + DI carrot

BASE CASE

TABLE 13
CARROT CONSUMPTION - MAXIMUM

18-Jun-91
14:11:47

	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	log Kow	Koc	RUF ROOT UPTAKE FACTOR	C plant MAXIMUM CONC.DUE TO UPTAKE mg/Kg	EDI ADULT MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS							
Acetonitrile	2.47E-09	-3.40E-01	2.20E+00	2.68E+01	6.62E-08	6.42E-12	9.61E-12
Aldrin	3.84E-15	7.40E+00	9.60E+04	1.11E+01	4.24E-14	4.11E-18	6.16E-18
Aniline	1.39E-10	9.00E-01	7.36E+01	9.28E-01	1.29E-10	1.25E-14	1.87E-14
Atrazine	8.59E-13	2.68E+00	3.20E+02	9.50E-01	8.16E-13	7.91E-17	1.18E-16
Benzaldehyde	6.33E-11	1.48E+00	1.52E+02	5.73E-01	3.63E-11	3.52E-15	5.27E-15
Benzofuran	3.08E-10	2.67E+00	3.13E+02	9.57E-01	2.95E-10	2.86E-14	4.28E-14
Benzoic Acid	3.10E-11	1.87E+00	2.48E+02	4.69E-01	1.45E-11	1.41E-15	2.11E-15
Benzonitrile	6.77E-10	1.56E+00	1.68E+02	5.45E-01	3.69E-10	3.57E-14	5.35E-14
Benzothiazole	2.88E-13	2.01E+00	2.95E+02	4.50E-01	1.30E-13	1.26E-17	1.88E-17
Bis(2-ethylhexyl)phthalate	1.70E-13	8.73E+00	1.34E+06	8.39E+00	1.43E-12	1.38E-16	2.07E-16
Carbazole	1.39E-12	3.29E+00	1.19E+03	6.57E-01	9.13E-13	8.85E-17	1.33E-16
4-Chloroaniline	7.96E-14	1.83E+00	3.50E+02	3.21E-01	2.56E-14	2.48E-18	3.71E-18
4-Chlorobiphenyl	1.96E-13	4.90E+00	3.85E+04	3.29E-01	6.45E-14	6.25E-18	9.37E-18
4,4-Chlorobiphenyl	9.87E-15	5.58E+00	1.67E+05	2.53E-01	2.49E-15	2.42E-19	3.62E-19
Chloroethane	7.03E-12	1.49E+00	1.43E+02	6.13E-01	4.30E-12	4.17E-16	6.25E-16
Dibenzofuran	6.18E-12	4.12E+00	7.15E+03	4.50E-01	2.78E-12	2.70E-16	4.04E-16
1,2-Dichloroethane	7.11E-13	1.48E+00	1.40E+01	6.22E+00	4.42E-12	4.29E-16	6.42E-16
Dieldrin	7.05E-15	6.20E+00	1.70E+03	7.44E+01	5.24E-13	5.08E-17	7.61E-17
Hexachlorobenzene	1.86E-11	5.47E+00	5.00E+04	6.94E-01	1.29E-11	1.25E-15	1.88E-15
Hydrazine	2.41E-08	-3.08E+00	1.00E-01	5.78E+02	1.39E-05	1.35E-09	2.02E-09
Lindane	3.27E-15	3.30E+00	1.00E+03	7.97E-01	2.61E-15	2.53E-19	3.79E-19
Malathion	9.67E-15	2.89E+00	1.80E+03	2.31E-01	2.23E-15	2.16E-19	3.24E-19
Methyl ethyl ketone	1.19E-12	2.60E-01	4.50E+00	1.36E+01	1.62E-11	1.57E-15	2.36E-15
4-Methylphenol	1.08E-12	1.94E+00	4.90E+01	2.53E+00	2.74E-12	2.66E-16	3.99E-16
Monomethyl hydrazine	7.59E-09	-3.08E+00	5.03E-01	1.15E+02	8.71E-07	8.45E-11	1.27E-10
Naphthalene	1.28E-13	3.35E+00	8.71E+02	9.94E-01	1.27E-13	1.23E-17	1.85E-17
Naphthalene carbonitrile	6.77E-10	3.35E+00	8.71E+02	9.94E-01	6.72E-10	6.52E-14	9.76E-14
n-Nitrosodimethylamine	7.72E-12	-6.80E-01	1.00E-01	5.84E+02	4.51E-09	4.37E-13	6.54E-13
PAHs							
Acenaphthalene	3.08E-11	4.07E+00	2.50E+03	1.18E+00	3.64E-11	3.53E-15	5.28E-15
Acenaphthene	3.08E-11	3.92E+00	4.60E+03	4.95E-01	1.52E-11	1.48E-15	2.21E-15
Benzo(a)pyrene	6.18E-11	6.42E+00	5.50E+06	3.40E-02	2.10E-12	2.03E-16	3.05E-16
Chrysene	6.18E-12	5.79E+00	2.00E+05	3.06E-01	1.89E-12	1.83E-16	2.74E-16
Dibenzo(a,h)anthracene	6.18E-11	6.50E+00	3.30E+06	6.52E-02	4.03E-12	3.91E-16	5.85E-16
Fluoranthene	6.18E-11	5.22E+00	3.80E+04	5.87E-01	3.63E-11	3.52E-15	5.26E-15
Fluorene	6.18E-12	4.38E+00	7.30E+03	6.95E-01	4.29E-12	4.16E-16	6.24E-16
Phenanthrene	2.41E-14	4.57E+00	1.40E+04	5.06E-01	1.22E-14	1.18E-18	1.77E-18
Pyrene	1.24E-10	5.18E+00	3.80E+04	5.47E-01	6.76E-11	6.55E-15	9.81E-15
Parathion	1.53E-14	3.81E+00	3.66E+03	5.14E-01	7.87E-15	7.63E-19	1.14E-18
Pentachlorobenzene	7.59E-12	5.08E+00	1.30E+04	1.34E+00	1.02E-11	9.85E-16	1.48E-15
Phenol	1.21E-13	1.46E+00	1.40E+01	6.15E+00	7.46E-13	7.24E-17	1.08E-16
Quinoline	6.96E-12	2.03E+00	7.90E+01	1.72E+00	1.19E-11	1.16E-15	1.73E-15
Tetrachlorobenzene	3.73E-12	4.37E+00	1.60E+03	3.12E+00	1.16E-11	1.13E-15	1.69E-15
Trichlorobenzene	1.89E-12	3.98E+00	9.20E+03	2.75E-01	5.18E-13	5.03E-17	7.53E-17
Unsym. dimethyl hydrazine	2.99E-08	-2.42E+00	2.00E-01	2.89E+02	8.64E-06	8.38E-10	1.26E-09
Vapona	6.05E-14	1.40E+00	1.38E+02	6.03E-01	3.65E-14	3.54E-18	5.30E-18

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

117	B	C	AW	AX	AY	AZ	BA	BB	BC
118	BASE CASE		TABLE 13						
177									
178	INORGANICS								
179	Arsenic		8.15E-10			7.20E-04	5.87E-13	5.69E-17	8.52E-17
180	Cadmium		4.73E-12			1.80E-02	8.51E-14	8.25E-18	1.24E-17
181	Mercury		3.06E-11			2.40E-02	7.34E-13	7.11E-17	1.07E-16
182									
183									
184									

185		ADULT	CHILD	
186	Foc	1.42E-02	1.42E-02	SOIL ORGANIC CARBON CONTENT
187	ADICAR	1.17E-02	3.88E-03	INGESTION RATE ,Kg/day
188	ADWT	7.00E+01	1.55E+01	BODY WEIGHT, KG
189	HG	5.80E-01	5.80E-01	FRACTION OF CARROTS HOMEGROWN

190

191 $\log(RCF-0.82) = 0.77 \log Kow - 1.52$

192 $RUF = \frac{RCF}{(Koc*Foc)}$

193

194 $Cplant = RUF*Csoil$

195 $EDI = C\ plant * ADICAR * HG / ADWT$

196 $EDI\ (total) = DI\ tomato + DI\ lettuce + DI\ carrot$

BASE CASE

TABLE 14
TOTAL VEGETABLE CONSUMPTION
(carrots, lettuce, and tomatoes)

18-Jun-91
14:11:47

	-------ADULT-------		-------CHILD-------	
	AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day	MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day	AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day	MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS				
Acetonitrile	1.18E-11	1.23E-11	2.11E-11	2.19E-11
Aldrin	4.07E-18	4.59E-18	6.10E-18	7.04E-18
Aniline	7.17E-14	8.93E-14	1.44E-13	1.77E-13
Atrazine	1.15E-16	2.19E-16	1.94E-16	3.87E-16
Benzaldehyde	1.60E-14	2.39E-14	3.18E-14	4.63E-14
Benzofuran	4.15E-14	7.89E-14	7.02E-14	1.39E-13
Benzoic Acid	5.09E-15	8.88E-15	9.89E-15	1.69E-14
Benzonitrile	1.56E-13	2.39E-13	3.08E-13	4.63E-13
Benzothiazole	4.11E-17	7.62E-17	7.91E-17	1.44E-16
Bis(2-ethylhexyl)phthalate	1.37E-16	1.59E-16	2.05E-16	2.46E-16
Carbazole	1.16E-16	2.84E-16	1.91E-16	5.02E-16
4-Chloroaniline	1.25E-17	2.22E-17	2.48E-17	4.28E-17
4-Chlorobiphenyl	7.25E-18	3.08E-17	1.14E-17	5.50E-17
4,4-Chlorobiphenyl	2.81E-19	1.46E-18	4.38E-19	2.63E-18
Chloroethane	1.79E-15	2.66E-15	3.53E-15	5.13E-15
Dibenzofuran	3.23E-16	1.07E-15	5.14E-16	1.89E-15
1,2-Dichloroethane	5.64E-16	6.57E-16	9.32E-16	1.10E-15
Dieldrin	5.01E-17	5.17E-17	7.51E-17	7.77E-17
Hexachlorobenzene	1.32E-15	3.56E-15	2.01E-15	6.17E-15
Hydrazine	3.40E-09	3.45E-09	6.38E-09	6.48E-09
Lindane	3.17E-19	7.13E-19	5.14E-19	1.25E-18
Malathion	5.34E-19	1.70E-18	9.90E-19	3.15E-18
Methyl ethyl ketone	2.74E-15	2.93E-15	4.85E-15	5.18E-15
4-Methylphenol	3.81E-16	5.16E-16	6.42E-16	8.92E-16
Monomethyl hydrazine	7.37E-10	7.49E-10	1.51E-09	1.53E-09
Naphthalene	1.47E-17	3.02E-17	2.34E-17	5.21E-17
Naphthalene carbonitrile	7.75E-14	1.59E-13	1.24E-13	2.75E-13
n-Nitrosodimethylamine	4.58E-13	4.65E-13	7.02E-13	7.14E-13
PAHs				
Acenaphthalene	3.77E-15	7.51E-15	5.81E-15	1.27E-14
Acenaphthene	1.80E-15	5.50E-15	2.87E-15	9.74E-15
Benzo(a)pyrene	4.34E-16	7.83E-15	7.38E-16	1.44E-14
Chrysene	2.06E-16	9.48E-16	3.19E-16	1.69E-15
Dibenzo(a,h)anthracene	6.17E-16	8.01E-15	1.01E-15	1.47E-14
Fluoranthene	3.76E-15	1.12E-14	5.77E-15	1.95E-14
Fluorene	4.57E-16	1.20E-15	7.08E-16	2.09E-15
Phenanthrene	1.32E-18	4.22E-18	2.06E-18	7.42E-18
Pyrene	7.06E-15	2.19E-14	1.08E-14	3.84E-14
Parathion	9.39E-19	2.78E-18	1.51E-18	4.92E-18
Pentachlorobenzene	1.01E-15	1.93E-15	1.53E-15	3.23E-15
Phenol	9.61E-17	1.12E-16	1.59E-16	1.88E-16
Quinoline	1.82E-15	2.68E-15	3.13E-15	4.72E-15
Tetrachlorobenzene	1.14E-15	1.60E-15	1.72E-15	2.57E-15
Trichlorobenzene	6.93E-17	2.96E-16	1.14E-16	5.34E-16
Unsym. dimethyl hydrazine	1.89E-09	1.93E-09	3.50E-09	3.55E-09
Vapona	1.68E-17	2.43E-17	3.34E-17	4.73E-17

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BE	BF	BG	BH
117						
118	BASE CASE		TABLE 14			
177						
178	INORGANICS					
179	Arsenic		3.24E-15	1.01E-13	5.84E-15	1.87E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

B	C	BJ	BK	BL	BM
BASE CASE		TABLE 15			
		SOIL/DUST INGESTION CHILD			
	18-Jun-91	--------AVERAGE---------		--------MAXIMUM---------	
	14:11:47	C soil CALCULATED CONC IN SOIL .1M mg/Kg	EDI ESTIMATED DAILY INTAKE mg/Kg/day	C soil CALCULATED CONC IN SOIL .1M mg/Kg	EDI ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS					
Acetonitrile		4.87E-09	6.29E-14	4.94E-09	6.38E-14
Aldrin		7.57E-15	9.76E-20	7.68E-15	9.90E-20
Aniline		2.74E-10	3.54E-15	2.78E-10	3.59E-15
Atrazine		1.69E-12	2.18E-17	1.72E-12	2.22E-17
Benzaldehyde		1.25E-10	1.61E-15	1.27E-10	1.63E-15
Benzofuran		6.07E-10	7.83E-15	6.16E-10	7.95E-15
Benzoic Acid		6.11E-11	7.89E-16	6.20E-11	8.00E-16
Benzonitrile		1.33E-09	1.72E-14	1.35E-09	1.75E-14
Benzothiazole		5.69E-13	7.34E-18	5.77E-13	7.44E-18
Bis(2-ethylhexyl)phthalate		3.36E-13	4.33E-18	3.40E-13	4.39E-18
Carbazole		2.74E-12	3.54E-17	2.78E-12	3.59E-17
4-Chloroaniline		1.57E-13	2.02E-18	1.59E-13	2.05E-18
4-Chlorobiphenyl		3.86E-13	4.99E-18	3.92E-13	5.06E-18
4,4-Chlorobiphenyl		1.95E-14	2.51E-19	1.97E-14	2.55E-19
Chloroethane		1.39E-11	1.79E-16	1.41E-11	1.81E-16
Dibenzofuran		1.22E-11	1.57E-16	1.24E-11	1.59E-16
1,2-Dichloroethane		1.40E-12	1.81E-17	1.42E-12	1.84E-17
Dieldrin		1.39E-14	1.79E-19	1.41E-14	1.82E-19
Hexachlorobenzene		3.67E-11	4.74E-16	3.73E-11	4.81E-16
Hydrazine		4.75E-08	6.12E-13	4.81E-08	6.21E-13
Lindane		6.46E-15	8.33E-20	6.55E-15	8.45E-20
Malathion		1.91E-14	2.46E-19	1.93E-14	2.50E-19
Methyl ethyl ketone		2.36E-12	3.04E-17	2.39E-12	3.08E-17
4-Methylphenol		2.14E-12	2.76E-17	2.17E-12	2.80E-17
Monomethyl hydrazine		1.50E-08	1.93E-13	1.52E-08	1.96E-13
Naphthalene		2.52E-13	3.25E-18	2.56E-13	3.30E-18
Naphthalene carbonitrile		1.33E-09	1.72E-14	1.35E-09	1.75E-14
n-Nitrosodimethylamine		1.52E-11	1.96E-16	1.54E-11	1.99E-16
PAHs					
Acenaphthalene		6.07E-11	7.83E-16	6.16E-11	7.95E-16
Acenaphthene		6.07E-11	7.83E-16	6.16E-11	7.95E-16
Benzo(a)pyrene		1.22E-10	1.57E-15	1.24E-10	1.59E-15
Chrysene		1.22E-11	1.57E-16	1.24E-11	1.59E-16
Dibenzo(a,h)anthracene		1.22E-10	1.57E-15	1.24E-10	1.59E-15
Fluoranthene		1.22E-10	1.57E-15	1.24E-10	1.59E-15
Fluorene		1.22E-11	1.57E-16	1.24E-11	1.59E-16
Phenanthrene		4.75E-14	6.12E-19	4.81E-14	6.21E-19
Pyrene		2.44E-10	3.14E-15	2.47E-10	3.19E-15
Parathion		3.02E-14	3.89E-19	3.06E-14	3.95E-19
Pentachlorobenzene		1.50E-11	1.93E-16	1.52E-11	1.96E-16
Phenol		2.39E-13	3.09E-18	2.43E-13	3.13E-18
Quinoline		1.37E-11	1.77E-16	1.39E-11	1.80E-16
Tetrachlorobenzene		7.35E-12	9.49E-17	7.46E-12	9.62E-17
Trichlorobenzene		3.72E-12	4.80E-17	3.78E-12	4.87E-17
Unsym. dimethyl hydrazine		5.90E-08	7.61E-13	5.98E-08	7.72E-13
Vapona		1.19E-13	1.54E-18	1.21E-13	1.56E-18

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BJ	BK	BL	BM
117						
118	BASE CASE		TABLE 15			
177						
178	INORGANICS					
179	Arsenic		1.61E-09	2.07E-14	1.63E-09	2.10E-14
180	Cadmium		9.32E-12	1.20E-16	9.45E-12	1.22E-16
181	Mercury		6.03E-11	7.78E-16	6.11E-11	7.89E-16
182						
183						
184						
185						
186						
187						
188			0.2	Soil/dust ingestion rate (g/day)		
189			15.5	Body weight (Kg)		
190			365	days/yr		
191			365000	g/Kg*day/yr		
192						
193			EDI = Csoil*SIR*EF/BW/CF			

	B	C	BO	BP	BQ	BR
	BASE CASE		TABLE 16			
			SOIL INGESTION ADULT			
		18-Jun-91	--------AVERAGE---------		--------MAXIMUM---------	
		14:11:47	C soil CALCULATED CONC IN SOIL .1M mg/Kg	EDI ESTIMATED DAILY INTAKE mg/Kg/day	C soil CALCULATED CONC IN SOIL .1M mg/Kg	EDI ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS						
	Acetonitrile		4.87E-09	6.96E-15	4.94E-09	7.06E-15
	Aldrin		7.57E-15	1.08E-20	7.68E-15	1.10E-20
	Aniline		2.74E-10	3.91E-16	2.78E-10	3.97E-16
	Atrazine		1.69E-12	2.42E-18	1.72E-12	2.45E-18
	Benzaldehyde		1.25E-10	1.78E-16	1.27E-10	1.81E-16
	Benzofuran		6.07E-10	8.67E-16	6.16E-10	8.80E-16
	Benzoic Acid		6.11E-11	8.73E-17	6.20E-11	8.86E-17
	Benzonitrile		1.33E-09	1.91E-15	1.35E-09	1.93E-15
	Benzothiazole		5.69E-13	8.12E-19	5.77E-13	8.24E-19
	Bis(2-ethylhexyl)phthalate		3.36E-13	4.79E-19	3.40E-13	4.86E-19
	Carbazole		2.74E-12	3.91E-18	2.78E-12	3.97E-18
	4-Chloroaniline		1.57E-13	2.24E-19	1.59E-13	2.27E-19
	4-Chlorobiphenyl		3.86E-13	5.52E-19	3.92E-13	5.60E-19
	4,4-Chlorobiphenyl		1.95E-14	2.78E-20	1.97E-14	2.82E-20
	Chloroethane		1.39E-11	1.98E-17	1.41E-11	2.01E-17
	Dibenzofuran		1.22E-11	1.74E-17	1.24E-11	1.77E-17
	1,2-Dichloroethane		1.40E-12	2.00E-18	1.42E-12	2.03E-18
	Dieldrin		1.39E-14	1.98E-20	1.41E-14	2.01E-20
	Hexachlorobenzene		3.67E-11	5.25E-17	3.73E-11	5.32E-17
	Hydrazine		4.75E-08	6.78E-14	4.81E-08	6.88E-14
	Lindane		6.46E-15	9.22E-21	6.55E-15	9.36E-21
	Malathion		1.91E-14	2.72E-20	1.93E-14	2.76E-20
	Methyl ethyl ketone		2.36E-12	3.36E-18	2.39E-12	3.41E-18
	4-Methylphenol		2.14E-12	3.05E-18	2.17E-12	3.10E-18
	Monomethyl hydrazine		1.50E-08	2.14E-14	1.52E-08	2.17E-14
	Naphthalene		2.52E-13	3.60E-19	2.56E-13	3.66E-19
	Naphthalene carbonitrile		1.33E-09	1.91E-15	1.35E-09	1.93E-15
	n-Nitrosodimethylamine		1.52E-11	2.17E-17	1.54E-11	2.21E-17
	PAHs					
		Acenaphthalene	6.07E-11	8.67E-17	6.16E-11	8.80E-17
		Acenaphthene	6.07E-11	8.67E-17	6.16E-11	8.80E-17
		Benzo(a)pyrene	1.22E-10	1.74E-16	1.24E-10	1.77E-16
		Chrysene	1.22E-11	1.74E-17	1.24E-11	1.77E-17
		Dibenzo(a,h)anthracene	1.22E-10	1.74E-16	1.24E-10	1.77E-16
		Fluoranthene	1.22E-10	1.74E-16	1.24E-10	1.77E-16
		Fluorene	1.22E-11	1.74E-17	1.24E-11	1.77E-17
		Phenanthrene	4.75E-14	6.78E-20	4.81E-14	6.88E-20
		Pyrene	2.44E-10	3.48E-16	2.47E-10	3.53E-16
	Parathion		3.02E-14	4.31E-20	3.06E-14	4.37E-20
	Pentachlorobenzene		1.50E-11	2.14E-17	1.52E-11	2.17E-17
	Phenol		2.39E-13	3.42E-19	2.43E-13	3.47E-19
	Quinoline		1.37E-11	1.96E-17	1.39E-11	1.99E-17
	Tetrachlorobenzene		7.35E-12	1.05E-17	7.46E-12	1.07E-17
	Trichlorobenzene		3.72E-12	5.32E-18	3.78E-12	5.40E-18
	Unsym. dimethyl hydrazine		5.90E-08	8.43E-14	5.98E-08	8.55E-14
	Vapona		1.19E-13	1.70E-19	1.21E-13	1.73E-19

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BO	BP	BQ	BR
117						
118	BASE CASE		TABLE 16			
177						
178	INORGANICS					
179	Arsenic		1.61E-09	2.30E-15	1.63E-09	2.33E-15
180	Cadmium		9.32E-12	1.33E-17	9.45E-12	1.35E-17
181	Mercury		6.03E-11	8.61E-17	6.11E-11	8.74E-17
182						
183						
184						
185						
186						
187						
188			0.1	Soil ingestion rate (g/day)		
189			70	Body weight (Kg)		
190			365	days/yr		
191			365000	g/Kg*day/yr		
192						
193			EDI = Csoil*SIR*EF/BW/CF			

BASE CASE

TABLE 17
CONTAMINANT CONCENTRATION IN GRAIN

18-Jun-91
14:11:47

	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CALCULATED CONC. IN GRAIN mg/Kg	Cu MAXIMUM CALCULATED CONC. IN GRAIN mg/Kg
ORGANICS					
Acetonitrile	2.37E-09	2.40E-09	6.13E+01	1.45E-07	1.47E-07
Aldrin	3.67E-15	3.73E-15	1.99E-03	7.29E-18	7.40E-18
Aniline	1.33E-10	1.35E-10	1.17E+01	1.56E-09	1.58E-09
Atrazine	8.22E-13	8.34E-13	1.09E+00	8.92E-13	9.05E-13
Benzaldehyde	6.06E-11	6.15E-11	5.39E+00	3.27E-10	3.31E-10
Benzofuran	2.95E-10	2.99E-10	1.10E+00	3.24E-10	3.29E-10
Benzoic Acid	2.97E-11	3.01E-11	3.20E+00	9.50E-11	9.64E-11
Benzonitrile	6.47E-10	6.57E-10	4.84E+00	3.14E-09	3.18E-09
Benzothiazole	2.76E-13	2.80E-13	2.66E+00	7.33E-13	7.44E-13
Bis(2-ethylhexyl)phthalate	1.63E-13	1.65E-13	3.36E-04	5.48E-17	5.56E-17
Carbazole	1.33E-12	1.35E-12	4.81E-01	6.39E-13	6.49E-13
4-Chloroaniline	7.62E-14	7.73E-14	3.38E+00	2.57E-13	2.61E-13
4-Chlorobiphenyl	1.88E-13	1.90E-13	5.60E-02	1.05E-14	1.07E-14
4,4-Chlorobiphenyl	9.44E-15	9.58E-15	2.26E-02	2.13E-16	2.16E-16
Chloroethane	6.72E-12	6.82E-12	5.32E+00	3.58E-11	3.63E-11
Dibenzofuran	5.91E-12	6.00E-12	1.59E-01	9.38E-13	9.52E-13
1,2-Dichloroethane	6.81E-13	6.91E-13	5.39E+00	3.67E-12	3.72E-12
Dieldrin	6.74E-15	6.84E-15	9.86E-03	6.65E-17	6.75E-17
Hexachlorobenzene	1.78E-11	1.81E-11	2.61E-02	4.66E-13	4.73E-13
Hydrazine	2.30E-08	2.34E-08	2.38E+03	5.48E-05	5.56E-05
Lindane	3.13E-15	3.18E-15	4.74E-01	1.49E-15	1.51E-15
Malathion	9.26E-15	9.39E-15	8.20E-01	7.59E-15	7.70E-15
Methyl ethyl ketone	1.14E-12	1.16E-12	2.75E+01	3.14E-11	3.19E-11
4-Methylphenol	1.04E-12	1.05E-12	2.92E+00	3.03E-12	3.07E-12
Monomethyl hydrazine	7.26E-09	7.37E-09	2.38E+03	1.73E-05	1.75E-05
Naphthalene	1.22E-13	1.24E-13	4.44E-01	5.43E-14	5.51E-14
Naphthalene carbonitrile	6.47E-10	6.57E-10	4.44E-01	2.87E-10	2.91E-10
n-Nitrosodimethylamine	7.39E-12	7.49E-12	9.65E+01	7.13E-10	7.23E-10
PAHs					
Acenaphthalene	2.95E-11	2.99E-11	1.70E-01	5.00E-12	5.07E-12
Acenaphthene	2.95E-11	2.99E-11	2.07E-01	6.11E-12	6.19E-12
Benzo(a)pyrene	5.91E-11	6.00E-11	7.35E-03	4.35E-13	4.41E-13
Chrysene	5.91E-12	6.00E-12	1.71E-02	1.01E-13	1.02E-13
Dibenzo(a,h)anthracene	5.91E-11	6.00E-11	6.61E-03	3.91E-13	3.96E-13
Fluoranthene	5.91E-11	6.00E-11	3.65E-02	2.16E-12	2.19E-12
Fluorene	5.91E-12	6.00E-12	1.12E-01	6.63E-13	6.73E-13
Phenanthrene	2.30E-14	2.34E-14	8.70E-02	2.00E-15	2.03E-15
Pyrene	1.18E-10	1.20E-10	3.85E-02	4.55E-12	4.62E-12
Parathion	1.47E-14	1.49E-14	2.40E-01	3.52E-15	3.57E-15
Pentachlorobenzene	7.26E-12	7.37E-12	4.40E-02	3.20E-13	3.24E-13
Phenol	1.16E-13	1.18E-13	5.54E+00	6.43E-13	6.53E-13
Quinoline	6.66E-12	6.76E-12	2.59E+00	1.72E-11	1.75E-11
Tetrachlorobenzene	3.57E-12	3.62E-12	1.14E-01	4.05E-13	4.11E-13
Trichlorobenzene	1.81E-12	1.83E-12	1.91E-01	3.46E-13	3.51E-13
Unsym. dimethyl hydrazine	2.86E-08	2.91E-08	9.85E+02	2.82E-05	2.86E-05
Vapona	5.79E-14	5.87E-14	6.00E+00	3.47E-13	3.52E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	D	E	F	G	H
202							
203	BASE CASE		TABLE 17				
262	INORGANICS						
263	Arsenic		7.80E-10	7.92E-10	3.30E-03	2.57E-12	2.61E-12
264	Cadmium		4.52E-12	4.59E-12	1.00E-01	4.52E-13	4.59E-13
265	Mercury		2.93E-11	2.97E-11	2.00E-01	5.85E-12	5.94E-12
266							
267							
268			Cgrain = Csoil*RUF				

BASE CASE

TABLE 18
CONTAMINANT CONCENTRATION IN HAY mg/Kg

	18-Jun-91 14:11:47	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	D DRY DEPOSITION RATE g/M2/yr	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CONC. DUE TO UPTAKE mg/Kg	Cu MAXIMUM CONC. DUE TO UPTAKE mg/Kg	Cs AVERAGE CONC. ON PLANT SURFACE mg/Kg	Cs MAXIMUM CONC. ON PLANT SURFACE mg/Kg	C hay AVERAGE CALCULATED CONC IN HAY mg/Kg	C hay MAXIMUM CALCULATED CONC IN HAY mg/Kg
ORGANICS											
Acetonitrile		2.37E-09	2.40E-09	5.76E-11	6.13E+01	1.45E-07	1.47E-07	1.30E-10	4.55E-09	1.45E-07	1.52E-07
Aldrin		3.67E-15	3.73E-15	8.94E-17	1.99E-03	7.29E-18	7.40E-18	2.02E-16	7.06E-15	2.09E-16	7.07E-15
Aniline		1.33E-10	1.35E-10	3.24E-12	1.17E+01	1.56E-09	1.58E-09	7.31E-12	2.56E-10	1.56E-09	1.83E-09
Atrazine		8.22E-13	8.34E-13	2.00E-14	1.09E+00	8.92E-13	9.05E-13	4.51E-14	1.58E-12	9.37E-13	2.48E-12
Benzaldehyde		6.06E-11	6.15E-11	1.47E-12	5.39E+00	3.27E-10	3.31E-10	3.33E-12	1.16E-10	3.30E-10	4.48E-10
Benzofuran		2.95E-10	2.99E-10	7.17E-12	1.10E+00	3.24E-10	3.29E-10	1.62E-11	5.66E-10	3.40E-10	8.95E-10
Benzoic Acid		2.97E-11	3.01E-11	7.22E-13	3.20E+00	9.50E-11	9.64E-11	1.63E-12	5.70E-11	9.66E-11	1.53E-10
Benzonitrile		6.47E-10	6.57E-10	1.58E-11	4.84E+00	3.14E-09	3.18E-09	3.56E-11	1.24E-09	3.17E-09	4.43E-09
Benzothiazole		2.76E-13	2.80E-13	6.72E-15	2.66E+00	7.33E-13	7.44E-13	1.52E-14	5.31E-13	7.48E-13	1.27E-12
Bis(2-ethylhexyl)phthalate		1.63E-13	1.65E-13	3.96E-15	3.36E-04	5.48E-17	5.56E-17	8.95E-15	3.13E-13	9.00E-15	3.13E-13
Carbazole		1.33E-12	1.35E-12	3.24E-14	4.81E-01	6.39E-13	6.49E-13	7.31E-14	2.56E-12	7.12E-13	3.21E-12
4-Chloroaniline		7.62E-14	7.73E-14	1.85E-15	3.38E+00	2.57E-13	2.61E-13	4.18E-15	1.46E-13	2.61E-13	4.07E-13
4-Chlorobiphenyl		1.88E-13	1.90E-13	4.57E-15	5.60E-02	1.05E-14	1.07E-14	1.03E-14	3.61E-13	2.08E-14	3.71E-13
4,4-Chlorobiphenyl		9.44E-15	9.58E-15	2.30E-16	2.26E-02	2.13E-16	2.16E-16	5.19E-16	1.81E-14	7.32E-16	1.84E-14
Chloroethane		6.72E-12	6.82E-12	1.64E-13	5.32E+00	3.58E-11	3.63E-11	3.69E-13	1.29E-11	3.61E-11	4.92E-11
Dibenzofuran		5.91E-12	6.00E-12	1.44E-13	1.59E-01	9.38E-13	9.52E-13	3.25E-13	1.14E-11	1.26E-12	1.23E-11
1,2-Dichloroethane		6.81E-13	6.91E-13	1.66E-14	5.39E+00	3.67E-12	3.72E-12	3.74E-14	1.31E-12	3.71E-12	5.03E-12
Dieldrin		6.74E-15	6.84E-15	1.64E-16	9.86E-03	6.65E-17	6.75E-17	3.70E-16	1.30E-14	4.37E-16	1.30E-14
Hexachlorobenzene		1.78E-11	1.81E-11	4.34E-13	2.61E-02	4.66E-13	4.73E-13	9.79E-13	3.43E-11	1.44E-12	3.47E-11
Hydrazine		2.30E-08	2.34E-08	5.61E-10	2.38E+03	5.48E-05	5.56E-05	1.27E-09	4.43E-08	5.48E-05	5.56E-05
Lindane		3.13E-15	3.18E-15	7.63E-17	4.74E-01	1.49E-15	1.51E-15	1.72E-16	6.02E-15	1.66E-15	7.53E-15
Malathion		9.26E-15	9.39E-15	2.25E-16	8.20E-01	7.59E-15	7.70E-15	5.08E-16	1.78E-14	8.10E-15	2.55E-14
Methyl ethyl ketone		1.14E-12	1.16E-12	2.78E-14	2.75E+01	3.14E-11	3.19E-11	6.28E-14	2.20E-12	3.15E-11	3.41E-11
4-Methylphenol		1.04E-12	1.05E-12	2.53E-14	2.92E+00	3.03E-12	3.07E-12	5.70E-14	1.99E-12	3.08E-12	5.06E-12
Monomethyl hydrazine		7.26E-09	7.37E-09	1.77E-10	2.38E+03	1.73E-05	1.75E-05	3.99E-10	1.40E-08	1.73E-05	1.75E-05
Naphthalene		1.22E-13	1.24E-13	2.98E-15	4.44E-01	5.43E-14	5.51E-14	6.72E-15	2.35E-13	6.10E-14	2.90E-13
Naphthalene carbonitrile		6.47E-10	6.57E-10	1.58E-11	4.44E-01	2.87E-10	2.91E-10	3.56E-11	1.24E-09	3.23E-10	1.54E-09
n-Nitrosodimethylamine		7.39E-12	7.49E-12	1.80E-13	9.65E+01	7.13E-10	7.23E-10	4.06E-13	1.42E-11	7.13E-10	7.37E-10
PAHs											
Acenaphthalene		2.95E-11	2.99E-11	7.17E-13	1.70E-01	5.00E-12	5.07E-12	1.62E-12	5.66E-11	6.62E-12	6.17E-11
Acenaphthene		2.95E-11	2.99E-11	7.17E-13	2.07E-01	6.11E-12	6.19E-12	1.62E-12	5.66E-11	7.72E-12	6.28E-11
Benzo(a)pyrene		5.91E-11	6.00E-11	1.44E-12	7.35E-03	4.35E-13	4.41E-13	3.25E-12	1.14E-10	3.68E-12	1.14E-10
Chrysene		5.91E-12	6.00E-12	1.44E-13	1.71E-02	1.01E-13	1.02E-13	3.25E-13	1.14E-11	4.26E-13	1.15E-11
Dibenzo(a,h)anthracene		5.91E-11	6.00E-11	1.44E-12	6.61E-03	3.91E-13	3.96E-13	3.25E-12	1.14E-10	3.64E-12	1.14E-10
Fluoranthene		5.91E-11	6.00E-11	1.44E-12	3.65E-02	2.16E-12	2.19E-12	3.25E-12	1.14E-10	5.41E-12	1.16E-10
Fluorene		5.91E-12	6.00E-12	1.44E-13	1.12E-01	6.63E-13	6.73E-13	3.25E-13	1.14E-11	9.88E-13	1.20E-11
Phenanthrene		2.30E-14	2.34E-14	5.61E-16	8.70E-02	2.00E-15	2.03E-15	1.27E-15	4.43E-14	3.27E-15	4.63E-14
Pyrene		1.18E-10	1.20E-10	2.88E-12	3.85E-02	4.55E-12	4.62E-12	6.50E-12	2.27E-10	1.11E-11	2.32E-10
Parathion		1.47E-14	1.49E-14	3.57E-16	2.40E-01	3.52E-15	3.57E-15	8.05E-16	2.82E-14	4.32E-15	3.17E-14
Pentachlorobenzene		7.26E-12	7.37E-12	1.77E-13	4.40E-02	3.20E-13	3.24E-13	3.99E-13	1.40E-11	7.19E-13	1.43E-11
Phenol		1.16E-13	1.18E-13	2.83E-15	5.54E+00	6.43E-13	6.53E-13	6.38E-15	2.23E-13	6.50E-13	8.76E-13
Quinoline		6.66E-12	6.76E-12	1.62E-13	2.59E+00	1.72E-11	1.75E-11	3.66E-13	1.28E-11	1.76E-11	3.03E-11
Tetrachlorobenzene		3.57E-12	3.62E-12	8.69E-14	1.14E-01	4.05E-13	4.11E-13	1.96E-13	6.86E-12	6.01E-13	7.27E-12
Trichlorobenzene		1.81E-12	1.83E-12	4.40E-14	1.91E-01	3.46E-13	3.51E-13	9.93E-14	3.47E-12	4.45E-13	3.82E-12
Unsym. dimethyl hydrazine		2.86E-08	2.91E-08	6.97E-10	9.85E+02	2.82E-05	2.86E-05	1.57E-09	5.50E-08	2.82E-05	2.87E-05
Vapona		5.79E-14	5.87E-14	1.41E-15	6.00E+00	3.47E-13	3.52E-13	3.18E-15	1.11E-13	3.50E-13	4.64E-13

	B	C	J	K	L	M	N	O	P	Q	R	S
202												
203	BASE CASE		TABLE 18									
262	INORGANICS											
263	Arsenic		7.80E-10	7.92E-10	1.90E-11	2.00E-01	1.56E-10	1.58E-10	4.29E-11	1.50E-09	1.99E-10	1.66E-09
264	Cadmium		4.52E-12	4.59E-12	1.10E-13	5.50E-01	2.49E-12	2.52E-12	2.48E-13	8.70E-12	2.74E-12	1.12E-11
265	Mercury		2.93E-11	2.97E-11	7.12E-13	2.30E-01	6.73E-12	6.83E-12	1.61E-12	5.62E-11	8.34E-12	6.31E-11
266												
267							6.35E-01	r hay				
268							5.78E-07	k hay, 1/s				
269							2.72E+06	t hay, s				
270							3.50E-01	Y hay, Kg/M2				
271							2.49E+06	SDF hay, sec*mg/Kg				
272							3.15E+07	sec/yr				
273							1.00E+03	mg/g				
274												
275								$SDF = r*(1-e^{-kt})/(Y*k)$				
276								Cs = SDF*Deposition*mgg/secyr				
277												
278								Cu = RUF*Csoil				
279								C hay = Cs+Cu				
280												
281												

BASE CASE

TABLE 19
CONTAMINANT CONCENTRATION IN CORN SILAGE mg/Kg

18-Jun-91
14:11:47

	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	D DRY DEPOSITION RATE g/M2/yr	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CONC.DUE TO UPTAKE mg/Kg	Cu MAXIMUM CONC.DUE TO UPTAKE mg/Kg	Cs AVERAGE CONC. ON PLANT SURFACE mg/Kg	Cs MAXIMUM CONC. ON PLANT SURFACE mg/Kg	C corn AVERAGE CALCULATED CONC IN CORN SILAGE mg/Kg	C corn MAXIMUM CALCULATED CONC IN CORN SILAGE mg/Kg
ORGANICS										
Acetonitrile	2.37E-09	2.40E-09	5.76E-11	6.13E+01	1.45E-07	1.47E-07	2.21E-11	7.72E-10	1.45E-07	1.48E-07
Aldrin	3.67E-15	3.73E-15	8.94E-17	1.99E-03	7.29E-18	7.40E-18	3.42E-17	1.20E-15	4.15E-17	1.21E-15
Aniline	1.33E-10	1.35E-10	3.24E-12	1.17E+01	1.56E-09	1.58E-09	1.24E-12	4.34E-11	1.56E-09	1.62E-09
Atrazine	8.22E-13	8.34E-13	2.00E-14	1.09E+00	8.92E-13	9.05E-13	7.66E-15	2.68E-13	9.00E-13	1.17E-12
Benzaldehyde	6.06E-11	6.15E-11	1.47E-12	5.39E+00	3.27E-10	3.31E-10	5.65E-13	1.98E-11	3.27E-10	3.51E-10
Benzofuran	2.95E-10	2.99E-10	7.17E-12	1.10E+00	3.24E-10	3.29E-10	2.75E-12	9.61E-11	3.27E-10	4.25E-10
Benzoic Acid	2.97E-11	3.01E-11	7.22E-13	3.20E+00	9.50E-11	9.64E-11	2.77E-13	9.68E-12	9.53E-11	1.06E-10
Benzonitrile	6.47E-10	6.57E-10	1.58E-11	4.84E+00	3.14E-09	3.18E-09	6.03E-12	2.11E-10	3.14E-09	3.39E-09
Benzothiazole	2.76E-13	2.80E-13	6.72E-15	2.66E+00	7.33E-13	7.44E-13	2.57E-15	9.00E-14	7.35E-13	8.34E-13
Bis(2-ethylhexyl)phthalate	1.63E-13	1.65E-13	3.96E-15	3.36E-04	5.48E-17	5.56E-17	1.52E-15	5.31E-14	1.57E-15	5.32E-14
Carbazole	1.33E-12	1.35E-12	3.24E-14	4.81E-01	6.39E-13	6.49E-13	1.24E-14	4.34E-13	6.52E-13	1.08E-12
4-Chloroaniline	7.62E-14	7.73E-14	1.85E-15	3.38E+00	2.57E-13	2.61E-13	7.10E-16	2.48E-14	2.58E-13	2.86E-13
4-Chlorobiphenyl	1.88E-13	1.90E-13	4.57E-15	5.60E-02	1.05E-14	1.07E-14	1.75E-15	6.12E-14	1.22E-14	7.19E-14
4,4-Chlorobiphenyl	9.44E-15	9.58E-15	2.30E-16	2.26E-02	2.13E-16	2.16E-16	8.80E-17	3.08E-15	3.01E-16	3.30E-15
Chloroethane	6.72E-12	6.82E-12	1.64E-13	5.32E+00	3.58E-11	3.63E-11	6.27E-14	2.19E-12	3.58E-11	3.85E-11
Dibenzofuran	5.91E-12	6.00E-12	1.44E-13	1.59E-01	9.38E-13	9.52E-13	5.51E-14	1.93E-12	9.93E-13	2.88E-12
1,2-Dichloroethane	6.81E-13	6.91E-13	1.66E-14	5.39E+00	3.67E-12	3.72E-12	6.34E-15	2.22E-13	3.67E-12	3.94E-12
Dieldrin	6.74E-15	6.84E-15	1.64E-16	9.86E-03	6.65E-17	6.75E-17	6.29E-17	2.20E-15	1.29E-16	2.27E-15
Hexachlorobenzene	1.78E-11	1.81E-11	4.34E-13	2.61E-02	4.66E-13	4.73E-13	1.66E-13	5.82E-12	6.32E-13	6.29E-12
Hydrazine	2.30E-08	2.34E-08	5.61E-10	2.38E+03	5.48E-05	5.56E-05	2.15E-10	7.51E-09	5.48E-05	5.56E-05
Lindane	3.13E-15	3.18E-15	7.63E-17	4.74E-01	1.49E-15	1.51E-15	2.92E-17	1.02E-15	1.52E-15	2.53E-15
Malathion	9.26E-15	9.39E-15	2.25E-16	8.20E-01	7.59E-15	7.70E-15	8.63E-17	3.02E-15	7.67E-15	1.07E-14
Methyl ethyl ketone	1.14E-12	1.16E-12	2.78E-14	2.75E+01	3.14E-11	3.19E-11	1.07E-14	3.73E-13	3.14E-11	3.23E-11
4-Methylphenol	1.04E-12	1.05E-12	2.53E-14	2.92E+00	3.03E-12	3.07E-12	9.67E-15	3.38E-13	3.04E-12	3.41E-12
Monomethyl hydrazine	7.26E-09	7.37E-09	1.77E-10	2.38E+03	1.73E-05	1.75E-05	6.77E-11	2.37E-09	1.73E-05	1.75E-05
Naphthalene	1.22E-13	1.24E-13	2.98E-15	4.44E-01	5.43E-14	5.51E-14	1.14E-15	3.99E-14	5.54E-14	9.50E-14
Naphthalene carbonitrile	6.47E-10	6.57E-10	1.58E-11	4.44E-01	2.87E-10	2.91E-10	6.03E-12	2.11E-10	2.93E-10	5.03E-10
n-Nitrosodimethylamine	7.39E-12	7.49E-12	1.80E-13	9.65E+01	7.13E-10	7.23E-10	6.89E-14	2.41E-12	7.13E-10	7.25E-10
PAHs										
Acenaphthalene	2.95E-11	2.99E-11	7.17E-13	1.70E-01	5.00E-12	5.07E-12	2.75E-13	9.61E-12	5.27E-12	1.47E-11
Acenaphthene	2.95E-11	2.99E-11	7.17E-13	2.07E-01	6.11E-12	6.19E-12	2.75E-13	9.61E-12	6.38E-12	1.58E-11
Benzo(a)pyrene	5.91E-11	6.00E-11	1.44E-12	7.35E-03	4.35E-13	4.41E-13	5.51E-13	1.93E-11	9.86E-13	1.97E-11
Chrysene	5.91E-12	6.00E-12	1.44E-13	1.71E-02	1.01E-13	1.02E-13	5.51E-14	1.93E-12	1.56E-13	2.03E-12
Dibenzo(a,h)anthracene	5.91E-11	6.00E-11	1.44E-12	6.61E-03	3.91E-13	3.96E-13	5.51E-13	1.93E-11	9.42E-13	1.97E-11
Fluoranthene	5.91E-11	6.00E-11	1.44E-12	3.65E-02	2.16E-12	2.19E-12	5.51E-13	1.93E-11	2.71E-12	2.15E-11
Fluorene	5.91E-12	6.00E-12	1.44E-13	1.12E-01	6.63E-13	6.73E-13	5.51E-14	1.93E-12	7.18E-13	2.60E-12
Phenanthrene	2.30E-14	2.34E-14	5.61E-16	8.70E-02	2.00E-15	2.03E-15	2.15E-16	7.51E-15	2.22E-15	9.55E-15
Pyrene	1.18E-10	1.20E-10	2.88E-12	3.85E-02	4.55E-12	4.62E-12	1.10E-12	3.86E-11	5.66E-12	4.32E-11
Parathion	1.47E-14	1.49E-14	3.57E-16	2.40E-01	3.52E-15	3.57E-15	1.37E-16	4.78E-15	3.65E-15	8.35E-15
Pentachlorobenzene	7.26E-12	7.37E-12	1.77E-13	4.40E-02	3.20E-13	3.24E-13	6.77E-14	2.37E-12	3.87E-13	2.69E-12
Phenol	1.16E-13	1.18E-13	2.83E-15	5.54E+00	6.43E-13	6.53E-13	1.08E-15	3.79E-14	6.44E-13	6.91E-13
Quinoline	6.66E-12	6.76E-12	1.62E-13	2.59E+00	1.72E-11	1.75E-11	6.21E-14	2.17E-12	1.73E-11	1.96E-11
Tetrachlorobenzene	3.57E-12	3.62E-12	8.69E-14	1.14E-01	4.05E-13	4.11E-13	3.33E-14	1.16E-12	4.39E-13	1.58E-12
Trichlorobenzene	1.81E-12	1.83E-12	4.40E-14	1.91E-01	3.46E-13	3.51E-13	1.68E-14	5.90E-13	3.62E-13	9.40E-13
Unsym. dimethyl hydrazine	2.86E-08	2.91E-08	6.97E-10	9.85E+02	2.82E-05	2.86E-05	2.67E-10	9.34E-09	2.82E-05	2.86E-05
Vapona	5.79E-14	5.87E-14	1.41E-15	6.00E+00	3.47E-13	3.52E-13	5.40E-16	1.89E-14	3.48E-13	3.71E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	U	V	W	X	Y	Z	AA	AB	AC	AD
202												
203	BASE CASE		TABLE 19									
262	INORGANICS											
263	Arsenic		7.80E-10	7.92E-10	1.90E-11	2.30E-01	1.79E-10	1.82E-10	7.27E-12	2.55E-10	1.87E-10	4.37E-10
264	Cadmium		4.52E-12	4.59E-12	1.10E-13	1.50E-01	6.79E-13	6.88E-13	4.22E-14	1.48E-12	7.21E-13	2.16E-12
265	Mercury		2.93E-11	2.97E-11	7.12E-13	2.20E-02	6.44E-13	6.53E-13	2.73E-13	9.55E-12	9.16E-13	1.02E-11
266												
267					4.40E-01	r corn						
268					5.78E-07	k corn, 1/s						
269					1.12E+07	t corn, s						
270					1.80E+00	Y corn, Kg/M2						
271					4.22E+05	SDF corn, sec/mg/Kg						
272					3.15E+07	sec/yr						
273					1.00E+03	mg/g						
274												
275							-kt					
276						SDF = r*(1-e	)					
277							Y*k					
278						Cs = SDF*Deposition*mgg/secyr						
279						Cu = RUF*Csoil						
280						C corn = Cs+Cu						

B	C	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
BASE CASE		TABLE 20									
		CONTAMINANT CONCENTRATION IN GRASS mg/Kg									
	18-Jun-91 14:11:47	C soil AVERAGE CALCULATED CONC IN SOIL .1M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .1M mg/Kg	D DRY DEPOSITION RATE g/M2/yr	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CONC.DUE TO UPTAKE mg/Kg	Cu MAXIMUM CONC.DUE TO UPTAKE mg/Kg	Cs AVERAGE CONC. ON PLANT SURFACE mg/Kg	Cs MAXIMUM CONC. ON PLANT SURFACE mg/Kg	C grass AVERAGE CALCULATED CONC IN GRASS mg/Kg	C grass MAXIMUM CALCULATED CONC IN GRASS mg/Kg
ORGANICS											
	Acetonitrile	4.87E-09	4.94E-09	1.68E-10	6.13E+01	2.99E-07	3.03E-07	6.04E-10	2.11E-08	2.99E-07	3.24E-07
	Aldrin	7.57E-15	7.68E-15	2.60E-16	1.99E-03	1.50E-17	1.52E-17	9.38E-16	3.28E-14	9.53E-16	3.28E-14
	Aniline	2.74E-10	2.78E-10	9.42E-12	1.17E+01	3.20E-09	3.25E-09	3.40E-11	1.19E-09	3.24E-09	4.44E-09
	Atrazine	1.69E-12	1.72E-12	5.82E-14	1.09E+00	1.84E-12	1.86E-12	2.10E-13	7.34E-12	2.05E-12	9.21E-12
	Benzaldehyde	1.25E-10	1.27E-10	4.29E-12	5.39E+00	6.73E-10	6.83E-10	1.55E-11	5.41E-10	6.88E-10	1.22E-09
	Benzofuran	6.07E-10	6.16E-10	2.09E-11	1.10E+00	6.68E-10	6.77E-10	7.52E-11	2.63E-09	7.43E-10	3.31E-09
	Benzoic Acid	6.11E-11	6.20E-11	2.10E-12	3.20E+00	1.96E-10	1.99E-10	7.58E-12	2.65E-10	2.03E-10	4.64E-10
	Benzonitrile	1.33E-09	1.35E-09	4.59E-11	4.84E+00	6.46E-09	6.55E-09	1.65E-10	5.79E-09	6.63E-09	1.23E-08
	Benzothiazole	5.69E-13	5.77E-13	1.96E-14	2.66E+00	1.51E-12	1.53E-12	7.05E-14	2.47E-12	1.58E-12	4.00E-12
	Bis(2-ethylhexyl)phthalate	3.36E-13	3.40E-13	1.15E-14	3.36E-04	1.13E-16	1.14E-16	4.16E-14	1.46E-12	4.17E-14	1.46E-12
	Carbazole	2.74E-12	2.78E-12	9.42E-14	4.81E-01	1.32E-12	1.34E-12	3.40E-13	1.19E-11	1.66E-12	1.32E-11
	4-Chloroaniline	1.57E-13	1.59E-13	5.39E-15	3.38E+00	5.30E-13	5.38E-13	1.94E-14	6.81E-13	5.49E-13	1.22E-12
	4-Chlorobiphenyl	3.86E-13	3.92E-13	1.33E-14	5.60E-02	2.16E-14	2.19E-14	4.79E-14	1.68E-12	6.95E-14	1.70E-12
	4,4-Chlorobiphenyl	1.95E-14	1.97E-14	6.69E-16	2.26E-02	4.39E-16	4.45E-16	2.41E-15	8.44E-14	2.85E-15	8.48E-14
	Chloroethane	1.39E-11	1.41E-11	4.76E-13	5.32E+00	7.37E-11	7.47E-11	1.72E-12	6.01E-11	7.54E-11	1.35E-10
	Dibenzofuran	1.22E-11	1.24E-11	4.19E-13	1.59E-01	1.93E-12	1.96E-12	1.51E-12	5.28E-11	3.44E-12	5.48E-11
	1,2-Dichloroethane	1.40E-12	1.42E-12	4.82E-14	5.39E+00	7.56E-12	7.67E-12	1.74E-13	6.08E-12	7.73E-12	1.37E-11
	Dieldrin	1.39E-14	1.41E-14	4.78E-16	9.86E-03	1.37E-16	1.39E-16	1.72E-15	6.03E-14	1.86E-15	6.04E-14
	Hexachlorobenzene	3.67E-11	3.73E-11	1.26E-12	2.61E-02	9.60E-13	9.74E-13	4.55E-12	1.59E-10	5.51E-12	1.60E-10
	Hydrazine	4.75E-08	4.81E-08	1.63E-09	2.38E+03	1.13E-04	1.15E-04	5.88E-09	2.06E-07	1.13E-04	1.15E-04
	Lindane	6.46E-15	6.55E-15	2.22E-16	4.74E-01	3.06E-15	3.11E-15	8.00E-16	2.80E-14	3.86E-15	3.11E-14
	Malathion	1.91E-14	1.93E-14	6.56E-16	8.20E-01	1.56E-14	1.59E-14	2.36E-15	8.27E-14	1.80E-14	9.86E-14
	Methyl ethyl ketone	2.36E-12	2.39E-12	8.10E-14	2.75E+01	6.47E-11	6.57E-11	2.92E-13	1.02E-11	6.50E-11	7.59E-11
	4-Methylphenol	2.14E-12	2.17E-12	7.35E-14	2.92E+00	6.23E-12	6.32E-12	2.65E-13	9.27E-12	6.50E-12	1.56E-11
	Monomethyl hydrazine	1.50E-08	1.52E-08	5.14E-10	2.38E+03	3.56E-05	3.61E-05	1.85E-09	6.49E-08	3.56E-05	3.62E-05
	Naphthalene	2.52E-13	2.56E-13	8.67E-15	4.44E-01	1.12E-13	1.13E-13	3.13E-14	1.09E-12	1.43E-13	1.21E-12
	Naphthalene carbonitrile	1.33E-09	1.35E-09	4.59E-11	4.44E-01	5.92E-10	6.00E-10	1.65E-10	5.79E-09	7.57E-10	6.39E-09
	n-Nitrosodimethylamine	1.52E-11	1.54E-11	5.23E-13	9.65E+01	1.47E-09	1.49E-09	1.89E-12	6.60E-11	1.47E-09	1.56E-09
	PAHs										
	Acenaphthalene	6.07E-11	6.16E-11	2.09E-12	1.70E-01	1.03E-11	1.04E-11	7.52E-12	2.63E-10	1.78E-11	2.74E-10
	Acenaphthene	6.07E-11	6.16E-11	2.09E-12	2.07E-01	1.26E-11	1.28E-11	7.52E-12	2.63E-10	2.01E-11	2.76E-10
	Benzo(a)pyrene	1.22E-10	1.24E-10	4.19E-12	7.35E-03	8.96E-13	9.09E-13	1.51E-11	5.28E-10	1.60E-11	5.29E-10
	Chrysene	1.22E-11	1.24E-11	4.19E-13	1.71E-02	2.08E-13	2.11E-13	1.51E-12	5.28E-11	1.72E-12	5.31E-11
	Dibenzo(a,h)anthracene	1.22E-10	1.24E-10	4.19E-12	6.61E-03	8.05E-13	8.17E-13	1.51E-11	5.28E-10	1.59E-11	5.29E-10
	Fluoranthene	1.22E-10	1.24E-10	4.19E-12	3.65E-02	4.45E-12	4.51E-12	1.51E-11	5.28E-10	1.95E-11	5.33E-10
	Fluorene	1.22E-11	1.24E-11	4.19E-13	1.12E-01	1.37E-12	1.39E-12	1.51E-12	5.28E-11	2.88E-12	5.42E-11
	Phenanthrene	4.75E-14	4.81E-14	1.63E-15	8.70E-02	4.13E-15	4.19E-15	5.88E-15	2.06E-13	1.00E-14	2.10E-13
	Pyrene	2.44E-10	2.47E-10	8.38E-12	3.85E-02	9.38E-12	9.52E-12	3.02E-11	1.06E-09	3.96E-11	1.07E-09
	Parathion	3.02E-14	3.06E-14	1.04E-15	2.40E-01	7.24E-15	7.35E-15	3.74E-15	1.31E-13	1.10E-14	1.38E-13
	Pentachlorobenzene	1.50E-11	1.52E-11	5.14E-13	4.40E-02	6.58E-13	6.68E-13	1.85E-12	6.49E-11	2.51E-12	6.56E-11
	Phenol	2.39E-13	2.43E-13	8.23E-15	5.54E+00	1.33E-12	1.34E-12	2.97E-14	1.04E-12	1.35E-12	2.38E-12
	Quinoline	1.37E-11	1.39E-11	4.72E-13	2.59E+00	3.55E-11	3.60E-11	1.70E-12	5.95E-11	3.72E-11	9.55E-11
	Tetrachlorobenzene	7.35E-12	7.46E-12	2.53E-13	1.14E-01	8.35E-13	8.47E-13	9.11E-13	3.19E-11	1.75E-12	3.27E-11
	Trichlorobenzene	3.72E-12	3.78E-12	1.28E-13	1.91E-01	7.12E-13	7.22E-13	4.61E-13	1.62E-11	1.17E-12	1.69E-11
	Unsym. dimethyl hydrazine	5.90E-08	5.98E-08	2.03E-09	9.85E+02	5.81E-05	5.90E-05	7.31E-09	2.56E-07	5.81E-05	5.92E-05
	Vapona	1.19E-13	1.21E-13	4.10E-15	6.00E+00	7.15E-13	7.26E-13	1.48E-14	5.17E-13	7.30E-13	1.24E-12

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
202												
203	BASE CASE		TABLE 20									
262	INORGANICS											
263	Arsenic		1.61E-09	1.63E-09	5.53E-11	1.30E-02	2.09E-11	2.12E-11	1.99E-10	6.97E-09	2.20E-10	6.99E-09
264	Cadmium		9.32E-12	9.45E-12	3.20E-13	5.50E-01	5.13E-12	5.20E-12	1.15E-12	4.04E-11	6.28E-12	4.56E-11
265	Mercury		6.03E-11	6.11E-11	2.07E-12	5.90E-01	3.56E-11	3.61E-11	7.47E-12	2.61E-10	4.30E-11	2.98E-10
266												
267						6.71E-02	r grass			r		
268						5.78E-07	k grass, 1/s			k		
269						3.02E+06	t grass, s			t		
270						2.41E-02	Y grass, Kg/M2		Y			
271						3.97E+06	SDF grass, sec*mg/kg		SDF			
272						3.15E+07	sec/yr		secyr			
273						1.00E+03	mg/g		mgg			
274												
275							-kt					
276						SDF = r*(1-e	)					
277							Y*k					
278												
279						Cs = SDF*Deposition*mgg/secyr						
280						Cu = RUF*Csoil						
281						C grass = Cs+Cu						

	B	C	AQ	AR	AS	AT	AU	AV	AW
	BASE CASE		TABLE 21						
			MILK INGESTION - AVERAGE						
		18-Jun-91 14:11:47	C diet AVERAGE CALCULATED CONC IN DIET (milk) mg/Kg	DUFm DIET UPTAKE MILK Unitless	TC TRANSFER COEFFICIENT MILK Day/Kg	C milk AVERAGE CALCULATED CONC IN MILK mg/Kg	C milkfat AVERAGE CALCULATED CONC IN MILK FAT mg/Kg	EDI ADULT AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS									
	Acetonitrile		1.30E-07		3.72E-09	1.09E-14		2.37E-18	1.37E-17
	Aldrin		4.79E-17		2.04E-01	2.19E-16		4.78E-20	2.76E-19
	Aniline		1.40E-09		6.46E-08	2.03E-15		4.43E-19	2.56E-18
	Atrazine		8.12E-13		3.89E-06	7.09E-17		1.54E-20	8.92E-20
	Benzaldehyde		2.95E-10		2.45E-07	1.62E-15		3.54E-19	2.04E-18
	Benzofuran		2.95E-10		3.80E-06	2.52E-14		5.49E-18	3.17E-17
	Benzoic Acid		8.58E-11		6.03E-07	1.16E-15		2.53E-19	1.46E-18
	Benzonitrile		2.83E-09		2.95E-07	1.87E-14		4.08E-18	2.36E-17
	Benzothiazole		6.63E-13		8.32E-07	1.24E-17		2.70E-21	1.56E-20
	Bis(2-ethylhexyl)phthalate		1.88E-15		4.37E+00	1.84E-13		4.02E-17	2.32E-16
	Carbazole		5.90E-13		1.58E-05	2.10E-16		4.58E-20	2.64E-19
	4-Chloroaniline		2.32E-13		5.50E-07	2.87E-18		6.24E-22	3.61E-21
	4-Chlorobiphenyl		1.16E-14		6.46E-04	1.68E-16		3.65E-20	2.11E-19
	4,4-Chlorobiphenyl		2.98E-16		3.09E-03	2.07E-17		4.50E-21	2.60E-20
	Chloroethane		3.23E-11		2.51E-07	1.82E-16		3.96E-20	2.29E-19
	Dibenzofuran		9.11E-13		1.07E-04	2.19E-15		4.77E-19	2.76E-18
	1,2-Dichloroethane		3.31E-12		2.45E-07	1.82E-17		3.97E-21	2.29E-20
	Dieldrin		1.36E-16		1.29E-02	3.92E-17		8.55E-21	4.94E-20
	Hexachlorobenzene		6.20E-13		2.40E-03	3.34E-14		7.27E-18	4.20E-17
	Hydrazine		4.93E-05		6.76E-12	7.48E-15		1.63E-18	9.42E-18
	Lindane		1.37E-15		1.62E-05	5.00E-19		1.09E-22	6.29E-22
	Malathion		6.93E-15		6.31E-06	9.82E-19		2.14E-22	1.24E-21
	Methyl ethyl ketone		2.83E-11		1.48E-08	9.40E-18		2.05E-21	1.18E-20
	4-Methylphenol		2.73E-12		7.08E-07	4.35E-17		9.47E-21	5.47E-20
	Monomethyl hydrazine		1.55E-05		6.76E-12	2.36E-15		5.14E-19	2.97E-18
	Naphthalene		5.03E-14		1.82E-05	2.05E-17		4.47E-21	2.58E-20
	Naphthalene carbonitrile		2.66E-10		1.82E-05	1.09E-13		2.37E-17	1.37E-16
	n-Nitrosodimethylamine		6.41E-10		1.70E-09	2.45E-17		5.33E-21	3.08E-20
	PAHs								
	Acenaphthalene		4.83E-12		9.55E-05	1.04E-14		2.26E-18	1.30E-17
	Acenaphthene		5.83E-12		6.76E-05	8.84E-15		1.93E-18	1.11E-17
	Benzo(a)pyrene		1.06E-12		2.14E-02	5.07E-13		1.10E-16	6.38E-16
	Chrysene		1.57E-13		5.01E-03	1.77E-14		3.85E-18	2.23E-17
	Dibenzo(a,h)anthracene		1.02E-12		2.57E-02	5.87E-13		1.28E-16	7.38E-16
	Fluoranthene		2.61E-12		1.35E-03	7.90E-14		1.72E-17	9.94E-17
	Fluorene		6.63E-13		1.95E-04	2.90E-15		6.32E-19	3.65E-18
	Phenanthrene		2.06E-15		3.02E-04	1.40E-17		3.05E-21	1.76E-20
	Pyrene		5.43E-12		1.23E-03	1.50E-13		3.27E-17	1.89E-16
	Parathion		3.33E-15		5.25E-05	3.92E-18		8.54E-22	4.93E-21
	Pentachlorobenzene		3.69E-13		9.77E-04	8.10E-15		1.77E-18	1.02E-17
	Phenol		5.80E-13		2.34E-07	3.05E-18		6.65E-22	3.84E-21
	Quinoline		1.56E-11		8.71E-07	3.05E-16		6.63E-20	3.83E-19
	Tetrachlorobenzene		4.05E-13		1.91E-04	1.73E-15		3.77E-19	2.18E-18
	Trichlorobenzene		3.31E-13		7.76E-05	5.78E-16		1.26E-19	7.27E-19
	Unsym. dimethyl hydrazine		2.54E-05		3.09E-11	1.76E-14		3.84E-18	2.22E-17
	Vapona		3.13E-13		2.04E-07	1.44E-18		3.13E-22	1.81E-21

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AQ	AR	AS	AT	AU	AV	AW
202									
203	BASE CASE		TABLE 21						
262	INORGANICS								
263	Arsenic		6.89E-11		6.00E-03	9.28E-12		2.02E-15	1.17E-14
264	Cadmium		8.54E-13		1.00E-03	1.92E-14		4.18E-18	2.41E-17
265	Mercury		4.84E-12		4.50E-04	4.89E-14		1.06E-17	6.15E-17
266									
267			ADULT	CHILD					
268			0.55		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.175		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.175		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % oF GRASS INTAKE				SI
273			22.45		TOTAL FEED INTAKE Kg/day				TI
274			0.305	0.39	CONSUMPTION RATE OF MILK PER DAY Kg/day				CRm
275			0.011	0.016	CONSUMPTION RATE OF MILK FAT PER DAY Kg/day				CRmf
276			0.05	0.05	FRACTION OF MILK CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	BODY WEIGHT Kg				WT
278									
279			C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))						

	B	C	AY	AZ	BA	BB	BC	BD	BE
203	BASE CASE		TABLE 22						
204			MILK INGESTION - MAXIMUM						
205									
206			C diet	DUFm	TC	C milk	C milkfat	EDI	EDI
207		18-Jun-91	MAXIMUM	DIET	TRANSFER	MAXIMUM	MAXIMUM	ADULT	CHILD
208		14:11:47	CALCULATED	UPTAKE	COEFFICIENT	CALCULATED	CALCULATED	MAXIMUM	MAXIMUM
209			CONC IN	MILK	MILK	CONC IN	CONC IN	ESTIMATED	ESTIMATED
210			DIET	Unitless	Day/Kg	MILK	MILK FAT	DAILY	DAILY
211			(milk)			mg/Kg	mg/Kg	INTAKE	INTAKE
212			mg/Kg					mg/Kg/day	mg/Kg/day
213									
214	ORGANICS								
215	Acetonitrile		1.33E-07		3.72E-09	1.11E-14		2.42E-18	1.40E-17
216	Aldrin		1.45E-15		2.04E-01	6.66E-15		1.45E-18	8.37E-18
217	Aniline		1.47E-09		6.46E-08	2.13E-15		4.65E-19	2.69E-18
218	Atrazine		1.14E-12		3.89E-06	9.94E-17		2.16E-20	1.25E-19
219	Benzaldehyde		3.22E-10		2.45E-07	1.77E-15		3.87E-19	2.23E-18
220	Benzofuran		4.12E-10		3.80E-06	3.52E-14		7.66E-18	4.42E-17
221	Benzoic Acid		9.84E-11		6.03E-07	1.33E-15		2.90E-19	1.67E-18
222	Benzonitrile		3.12E-09		2.95E-07	2.07E-14		4.50E-18	2.60E-17
223	Benzothiazole		7.78E-13		8.32E-07	1.45E-17		3.16E-21	1.83E-20
224	Bis(2-ethylhexyl)phthalate		6.41E-14		4.37E+00	6.29E-12		1.37E-15	7.91E-15
225	Carbazole		1.11E-12		1.58E-05	3.94E-16		8.58E-20	4.96E-19
226	4-Chloroaniline		2.65E-13		5.50E-07	3.27E-18		7.12E-22	4.11E-21
227	4-Chlorobiphenyl		8.34E-14		6.46E-04	1.21E-15		2.63E-19	1.52E-18
228	4,4-Chlorobiphenyl		3.91E-15		3.09E-03	2.71E-16		5.91E-20	3.41E-19
229	Chloroethane		3.53E-11		2.51E-07	1.99E-16		4.34E-20	2.50E-19
230	Dibenzofuran		3.18E-12		1.07E-04	7.66E-15		1.67E-18	9.63E-18
231	1,2-Dichloroethane		3.62E-12		2.45E-07	1.99E-17		4.34E-21	2.51E-20
232	Dieldrin		2.71E-15		1.29E-02	7.85E-16		1.71E-19	9.88E-19
233	Hexachlorobenzene		7.44E-12		2.40E-03	4.01E-13		8.73E-17	5.04E-16
234	Hydrazine		5.00E-05		6.76E-12	7.59E-15		1.65E-18	9.55E-18
235	Lindane		2.59E-15		1.62E-05	9.43E-19		2.05E-22	1.19E-21
236	Malathion		1.06E-14		6.31E-06	1.50E-18		3.26E-22	1.88E-21
237	Methyl ethyl ketone		2.91E-11		1.48E-08	9.68E-18		2.11E-21	1.22E-20
238	4-Methylphenol		3.17E-12		7.08E-07	5.04E-17		1.10E-20	6.34E-20
239	Monomethyl hydrazine		1.58E-05		6.76E-12	2.39E-15		5.22E-19	3.01E-18
240	Naphthalene		9.78E-14		1.82E-05	3.99E-17		8.70E-21	5.02E-20
241	Naphthalene carbonitrile		5.17E-10		1.82E-05	2.11E-13		4.60E-17	2.66E-16
242	n-Nitrosodimethylamine		6.54E-10		1.70E-09	2.49E-17		5.43E-21	3.13E-20
243	PAHs								
244	Acenaphthalene		1.62E-11		9.55E-05	3.46E-14		7.55E-18	4.36E-17
245	Acenaphthene		1.72E-11		6.76E-05	2.61E-14		5.68E-18	3.28E-17
246	Benzo(a)pyrene		2.37E-11		2.14E-02	1.14E-11		2.47E-15	1.43E-14
247	Chrysene		2.42E-12		5.01E-03	2.72E-13		5.93E-17	3.42E-16
248	Dibenzo(a,h)anthracene		2.36E-11		2.57E-02	1.36E-11		2.97E-15	1.72E-14
249	Fluoranthene		2.52E-11		1.35E-03	7.64E-13		1.67E-16	9.62E-16
250	Fluorene		2.93E-12		1.95E-04	1.28E-14		2.80E-18	1.61E-17
251	Phenanthrene		1.09E-14		3.02E-04	7.38E-17		1.61E-20	9.29E-20
252	Pyrene		5.07E-11		1.23E-03	1.40E-12		3.05E-16	1.76E-15
253	Parathion		8.97E-15		5.25E-05	1.06E-17		2.30E-21	1.33E-20
254	Pentachlorobenzene		3.15E-12		9.77E-04	6.91E-14		1.51E-17	8.69E-17
255	Phenol		6.33E-13		2.34E-07	3.33E-18		7.26E-22	4.19E-21
256	Quinoline		1.83E-11		8.71E-07	3.59E-16		7.82E-20	4.51E-19
257	Tetrachlorobenzene		1.77E-12		1.91E-04	7.59E-15		1.65E-18	9.55E-18
258	Trichlorobenzene		1.03E-12		7.76E-05	1.79E-15		3.90E-19	2.25E-18
259	Unsym. dimethyl hydrazine		2.58E-05		3.09E-11	1.79E-14		3.90E-18	2.25E-17
260	Vapona		3.40E-13		2.04E-07	1.56E-18		3.39E-22	1.96E-21
261									

	B	C	AY	AZ	BA	BB	BC	BD	BE
202									
203	BASE CASE		TABLE 22						
262	INORGANICS								
263	Arsenic		3.68E-10		6.00E-03	4.96E-11		1.08E-14	6.24E-14
264	Cadmium		2.59E-12		1.00E-03	5.82E-14		1.27E-17	7.33E-17
265	Mercury		1.61E-11		4.50E-04	1.63E-13		3.54E-17	2.04E-16
266									
267			ADULT	CHILD					
268			0.55		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.175		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.175		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % oF GRASS INTAKE				SI
273			22.45		TOTAL FEED INTAKE Kg/day				TI
274			0.305	0.39	CONSUMPTION RATE OF MILK PER DAY Kg/day				CRm
275			0.011	0.016	CONSUMPTION RATE OF MILK FAT PER DAY Kg/day				CRmf
276			0.05	0.05	FRACTION OF MILK CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	ADULT WEIGHT Kg				WT
278									
279			C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))						
280			C milkfat = DUFm*C diet (dioxins)						

	B	C	BG	BH	BI	BJ	BK	BL	BM
202			TABLE 23						
203	BASE CASE		BEEF INGESTION - AVERAGE						
204									
205									
206			C diet	DUFb	TC	C beef	C beeffat	EDI	EDI
207		18-Jun-91	AVERAGE	DIET	TRANSFER	AVERAGE	AVERAGE	ADULT	CHILD
208		14:11:47	CALCULATED	UPTAKE	COEFFICIENT	CALCULATED	CALCULATED	AVERAGE	AVERAGE
209			CONC IN	BEEF	BEEF	CONC IN	CONC IN	ESTIMATED	ESTIMATED
210			DIET	Unitless	Day/Kg	BEEF	BEEFFAT	DAILY	DAILY
211			(beef)			mg/Kg	mg/Kg	INTAKE	INTAKE
212			mg/Kg					mg/Kg/day	mg/Kg/day
213									
214	ORGANICS								
215	Acetonitrile		1.30E-07		1.15E-08	1.94E-14		9.30E-19	2.32E-18
216	Aldrin		1.84E-17		6.31E-01	1.50E-16		7.19E-21	1.79E-20
217	Aniline		1.40E-09		2.00E-07	3.62E-15		1.73E-19	4.33E-19
218	Atrazine		8.05E-13		1.20E-05	1.26E-16		6.01E-21	1.50E-20
219	Benzaldehyde		2.94E-10		7.59E-07	2.89E-15		1.38E-19	3.45E-19
220	Benzofuran		2.93E-10		1.17E-05	4.46E-14		2.13E-18	5.32E-18
221	Benzoic Acid		8.56E-11		1.86E-06	2.07E-15		9.89E-20	2.47E-19
222	Benzonitrile		2.82E-09		9.12E-07	3.34E-14		1.60E-18	3.99E-18
223	Benzothiazole		6.61E-13		2.57E-06	2.20E-17		1.05E-21	2.63E-21
224	Bis(2-ethylhexyl)phthalate		5.73E-16		1.35E+01	1.00E-13		4.79E-18	1.20E-17
225	Carbazole		5.80E-13		4.90E-05	3.68E-16		1.76E-20	4.39E-20
226	4-Chloroaniline		2.32E-13		1.70E-06	5.10E-18		2.44E-22	6.09E-22
227	4-Chlorobiphenyl		1.01E-14		2.00E-03	2.60E-16		1.24E-20	3.10E-20
228	4,4-Chlorobiphenyl		2.22E-16		9.55E-03	2.75E-17		1.32E-21	3.28E-21
229	Chloroethane		3.22E-11		7.76E-07	3.24E-16		1.55E-20	3.87E-20
230	Dibenzofuran		8.63E-13		3.31E-04	3.71E-15		1.77E-19	4.43E-19
231	1,2-Dichloroethane		3.30E-12		7.59E-07	3.25E-17		1.56E-21	3.88E-21
232	Dieldrin		8.15E-17		3.98E-02	4.21E-17		2.01E-21	5.02E-21
233	Hexachlorobenzene		4.77E-13		7.41E-03	4.58E-14		2.19E-18	5.47E-18
234	Hydrazine		4.93E-05		2.09E-11	1.34E-14		6.40E-19	1.59E-18
235	Lindane		1.35E-15		5.01E-05	8.76E-19		4.19E-23	1.05E-22
236	Malathion		6.86E-15		1.95E-05	1.73E-18		8.30E-23	2.07E-22
237	Methyl ethyl ketone		2.83E-11		4.57E-08	1.68E-17		8.03E-22	2.00E-21
238	4-Methylphenol		2.73E-12		2.19E-06	7.74E-17		3.70E-21	9.23E-21
239	Monomethyl hydrazine		1.55E-05		2.09E-11	4.21E-15		2.02E-19	5.03E-19
240	Naphthalene		4.93E-14		5.62E-05	3.59E-17		1.72E-21	4.29E-21
241	Naphthalene carbonitrile		2.61E-10		5.62E-05	1.90E-13		9.09E-18	2.27E-17
242	n-Nitrosodimethylamine		6.41E-10		5.25E-09	4.37E-17		2.09E-21	5.21E-21
243	PAHs								
244	Acenaphthalene		4.59E-12		2.95E-04	1.76E-14		8.41E-19	2.10E-18
245	Acenaphthene		5.59E-12		2.09E-04	1.51E-14		7.25E-19	1.81E-18
246	Benzo(a)pyrene		5.81E-13		6.61E-02	4.98E-13		2.38E-17	5.94E-17
247	Chrysene		1.10E-13		1.55E-02	2.20E-14		1.06E-18	2.63E-18
248	Dibenzo(a,h)anthracene		5.42E-13		7.94E-02	5.58E-13		2.67E-17	6.66E-17
249	Fluoranthene		2.13E-12		4.17E-03	1.15E-13		5.52E-18	1.38E-17
250	Fluorene		6.16E-13		6.03E-04	4.81E-15		2.30E-19	5.74E-19
251	Phenanthrene		1.88E-15		9.33E-04	2.27E-17		1.09E-21	2.71E-21
252	Pyrene		4.48E-12		3.80E-03	2.21E-13		1.06E-17	2.64E-17
253	Parathion		3.21E-15		1.62E-04	6.75E-18		3.23E-22	8.06E-22
254	Pentachlorobenzene		3.11E-13		3.02E-03	1.22E-14		5.83E-19	1.45E-18
255	Phenol		5.79E-13		7.24E-07	5.44E-18		2.60E-22	6.50E-22
256	Quinoline		1.55E-11		2.69E-06	5.42E-16		2.59E-20	6.47E-20
257	Tetrachlorobenzene		3.76E-13		5.89E-04	2.87E-15		1.38E-19	3.43E-19
258	Trichlorobenzene		3.17E-13		2.40E-04	9.86E-16		4.72E-20	1.18E-19
259	Unsym. dimethyl hydrazine		2.54E-05		9.55E-11	3.15E-14		1.51E-18	3.75E-18
260	Vapona		3.13E-13		6.31E-07	2.56E-18		1.22E-22	3.05E-22
261									

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

202	B	C	BG	BH	BI	BJ	BK	BL	BM
203		BASE CASE	TABLE 23						
262	INORGANICS								
263		Arsenic	2.13E-11		2.00E-03	5.54E-13		2.65E-17	6.61E-17
264		Cadmium	5.35E-13		5.50E-04	3.81E-15		1.83E-19	4.55E-19
265		Mercury	5.14E-12		2.50E-01	1.67E-11		7.98E-16	1.99E-15
266									
267			ADULT	CHILD					
268			0.8		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.05		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.05		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % of GRASS INTAKE				SI
273			12.97		TOTAL FEED INTAKE Kg/day				TI
274			0.067	0.037	CONSUMPTION RATE OF BEEF PER DAY Kg/day				CRb
275			0.015	0.009	CONSUMPTION RATE OF BEEF FAT PER DAY Kg/day				CRbf
276			0.05	0.05	FRACTION OF BEEF CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	BODY WEIGHT Kg				WT
278									
279			C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))						

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

B	C	BO	BP	BQ	BR	BS	BT	BU
BASE CASE		TABLE 24						
		BEEF INGESTION - MAXIMUM						
	18-Jun-91 14:11:47	C diet MAXIMUM CALCULATED CONC IN DIET (beef) mg/Kg	DUFb DIET UPTAKE BEEF Unitless	TC TRANSFER COEFFICIENT BEEF Day/Kg	C beef MAXIMUM CALCULATED CONC IN BEEF mg/Kg	C beeffat MAXIMUM CALCULATED CONC IN BEEFFAT mg/Kg	EDI ADULT MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS								
Acetonitrile		1.33E-07		1.15E-08	1.97E-14		9.45E-19	2.36E-18
Aldrin		4.20E-16		6.31E-01	3.43E-15		1.64E-19	4.10E-19
Aniline		1.44E-09		2.00E-07	3.71E-15		1.78E-19	4.43E-19
Atrazine		9.07E-13		1.20E-05	1.41E-16		6.77E-21	1.69E-20
Benzaldehyde		3.05E-10		7.59E-07	3.00E-15		1.44E-19	3.58E-19
Benzofuran		3.29E-10		1.17E-05	5.01E-14		2.40E-18	5.98E-18
Benzoic Acid		9.01E-11		1.86E-06	2.18E-15		1.04E-19	2.60E-19
Benzonitrile		2.94E-09		9.12E-07	3.47E-14		1.66E-18	4.15E-18
Benzothiazole		7.00E-13		2.57E-06	2.33E-17		1.12E-21	2.79E-21
Bis(2-ethylhexyl)phthalate		1.84E-14		1.35E+01	3.21E-12		1.54E-16	3.83E-16
Carbazole		7.33E-13		4.90E-05	4.66E-16		2.23E-20	5.56E-20
4-Chloroaniline		2.43E-13		1.70E-06	5.36E-18		2.57E-22	6.40E-22
4-Chlorobiphenyl		3.07E-14		2.00E-03	7.94E-16		3.80E-20	9.48E-20
4,4-Chlorobiphenyl		1.26E-15		9.55E-03	1.56E-16		7.45E-21	1.86E-20
Chloroethane		3.34E-11		7.76E-07	3.36E-16		1.61E-20	4.01E-20
Dibenzofuran		1.52E-12		3.31E-04	6.53E-15		3.13E-19	7.80E-19
1,2-Dichloroethane		3.43E-12		7.59E-07	3.37E-17		1.61E-21	4.02E-21
Dieldrin		8.19E-16		3.98E-02	4.23E-16		2.02E-20	5.05E-20
Hexachlorobenzene		2.43E-12		7.41E-03	2.34E-13		1.12E-17	2.79E-17
Hydrazine		5.00E-05		2.09E-11	1.36E-14		6.49E-19	1.62E-18
Lindane		1.71E-15		5.01E-05	1.11E-18		5.32E-23	1.33E-22
Malathion		7.97E-15		1.95E-05	2.02E-18		9.64E-23	2.41E-22
Methyl ethyl ketone		2.88E-11		4.57E-08	1.71E-17		8.18E-22	2.04E-21
4-Methylphenol		2.88E-12		2.19E-06	8.17E-17		3.91E-21	9.75E-21
Monomethyl hydrazine		1.58E-05		2.09E-11	4.27E-15		2.05E-19	5.10E-19
Naphthalene		6.33E-14		5.62E-05	4.62E-17		2.21E-21	5.51E-21
Naphthalene carbonitrile		3.35E-10		5.62E-05	2.44E-13		1.17E-17	2.92E-17
n-Nitrosodimethylamine		6.51E-10		5.25E-09	4.43E-17		2.12E-21	5.29E-21
PAHs								
Acenaphthalene		7.88E-12		2.95E-04	3.01E-14		1.44E-18	3.60E-18
Acenaphthene		8.89E-12		2.09E-04	2.41E-14		1.15E-18	2.87E-18
Benzo(a)pyrene		7.05E-12		6.61E-02	6.04E-12		2.89E-16	7.21E-16
Chrysene		7.57E-13		1.55E-02	1.52E-13		7.28E-18	1.81E-17
Dibenzo(a,h)anthracene		7.01E-12		7.94E-02	7.22E-12		3.45E-16	8.61E-16
Fluoranthene		8.62E-12		4.17E-03	4.66E-13		2.23E-17	5.56E-17
Fluorene		1.27E-12		6.03E-04	9.93E-15		4.75E-19	1.18E-18
Phenanthrene		4.42E-15		9.33E-04	5.35E-17		2.56E-21	6.38E-21
Pyrene		1.75E-11		3.80E-03	8.61E-13		4.12E-17	1.03E-16
Parathion		4.86E-15		1.62E-04	1.02E-17		4.89E-22	1.22E-21
Pentachlorobenzene		1.11E-12		3.02E-03	4.34E-14		2.08E-18	5.18E-18
Phenol		6.00E-13		7.24E-07	5.64E-18		2.70E-22	6.73E-22
Quinoline		1.65E-11		2.69E-06	5.75E-16		2.75E-20	6.86E-20
Tetrachlorobenzene		7.71E-13		5.89E-04	5.89E-15		2.82E-19	7.03E-19
Trichlorobenzene		5.19E-13		2.40E-04	1.61E-15		7.72E-20	1.93E-19
Unsym. dimethyl hydrazine		2.58E-05		9.55E-11	3.19E-14		1.53E-18	3.81E-18
Vapona		3.24E-13		6.31E-07	2.65E-18		1.27E-22	3.16E-22

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BO	BP	BQ	BR	BS	BT	BU
202									
203	BASE CASE		TABLE 24						
262	INORGANICS								
263	Arsenic		1.07E-10		2.00E-03	2.77E-12		1.33E-16	3.31E-16
264	Cadmium		1.04E-12		5.50E-04	7.39E-15		3.54E-19	8.82E-19
265	Mercury		8.41E-12		2.50E-01	2.73E-11		1.31E-15	3.26E-15
266									
267			ADULT	CHILD					
268			0.8		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.05		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.05		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % of GRASS INTAKE				SI
273			12.97		TOTAL FEED INTAKE Kg/day				TI
274			0.067	0.037	CONSUMPTION RATE OF BEEF PER DAY Kg/day				CRb
275			0.015	0.009	CONSUMPTION RATE OF BEEF FAT PER DAY Kg/day				CRbf
276			0.05	0.05	FRACTION OF BEEF CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	ADULT WEIGHT Kg				WT
278									
279					C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))				

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

B	C	E	F	G	H	I	J
BASE CASE		TABLE 25					
		DERMAL EXPOSURE	CHILD				
		C soil	C soil	AF	EDI	EDI	
	18-Jun-91	AVERAGE	MAXIMUM		AVERAGE	MAXIMUM	
	14:11:47	CALCULATED	CALCULATED	ABSORPTION	ESTIMATED	ESTIMATED	
		CONC IN	CONC IN	FACTOR	DAILY	DAILY	
		SOIL	SOIL		INTAKE	INTAKE	
		.1M	.1M		mg/Kg/day	mg/Kg/day	
		mg/Kg	mg/Kg				
ORGANICS							
Acetonitrile		4.87E-09	4.94E-09	1.00E-01	2.14E-14	2.17E-14	
Aldrin		7.57E-15	7.68E-15	1.00E-01	3.33E-20	3.37E-20	
Aniline		2.74E-10	2.78E-10	1.00E-01	1.20E-15	1.22E-15	
Atrazine		1.69E-12	1.72E-12	1.00E-01	7.44E-18	7.55E-18	
Benzaldehyde		1.25E-10	1.27E-10	1.00E-01	5.49E-16	5.57E-16	
Benzofuran		6.07E-10	6.16E-10	1.00E-01	2.67E-15	2.71E-15	
Benzoic Acid		6.11E-11	6.20E-11	1.00E-01	2.69E-16	2.73E-16	
Benzonitrile		1.33E-09	1.35E-09	1.00E-01	5.86E-15	5.95E-15	
Benzothiazole		5.69E-13	5.77E-13	1.00E-01	2.50E-18	2.53E-18	
Bis(2-ethylhexyl)phthalate		3.36E-13	3.40E-13	1.00E-01	1.47E-18	1.50E-18	
Carbazole		2.74E-12	2.78E-12	1.00E-01	1.20E-17	1.22E-17	
4-Chloroaniline		1.57E-13	1.59E-13	1.00E-01	6.89E-19	6.99E-19	
4-Chlorobiphenyl		3.86E-13	3.92E-13	1.00E-01	1.70E-18	1.72E-18	
4,4-Chlorobiphenyl		1.95E-14	1.97E-14	1.00E-01	8.55E-20	8.67E-20	
Chloroethane		1.39E-11	1.41E-11	1.00E-01	6.09E-17	6.18E-17	
Dibenzofuran		1.22E-11	1.24E-11	1.00E-01	5.35E-17	5.43E-17	
1,2-Dichloroethane		1.40E-12	1.42E-12	1.00E-01	6.16E-18	6.25E-18	
Dieldrin		1.39E-14	1.41E-14	1.00E-01	6.11E-20	6.19E-20	
Hexachlorobenzene		3.67E-11	3.73E-11	1.00E-01	1.61E-16	1.64E-16	
Hydrazine		4.75E-08	4.81E-08	1.00E-01	2.09E-13	2.12E-13	
Lindane		6.46E-15	6.55E-15	1.00E-01	2.84E-20	2.88E-20	
Malathion		1.91E-14	1.93E-14	1.00E-01	8.38E-20	8.50E-20	
Methyl ethyl ketone		2.36E-12	2.39E-12	1.00E-01	1.04E-17	1.05E-17	
4-Methylphenol		2.14E-12	2.17E-12	1.00E-01	9.39E-18	9.53E-18	
Monomethyl hydrazine		1.50E-08	1.52E-08	1.00E-01	6.58E-14	6.67E-14	
Naphthalene		2.52E-13	2.56E-13	1.00E-01	1.11E-18	1.12E-18	
Naphthalene carbonitrile		1.33E-09	1.35E-09	1.00E-01	5.86E-15	5.95E-15	
n-Nitrosodimethylamine		1.52E-11	1.54E-11	1.00E-01	6.69E-17	6.78E-17	
PAHs							
Acenaphthalene		6.07E-11	6.16E-11	1.00E-01	2.67E-16	2.71E-16	
Acenaphthene		6.07E-11	6.16E-11	1.00E-01	2.67E-16	2.71E-16	
Benzo(a)pyrene		1.22E-10	1.24E-10	1.00E-01	5.35E-16	5.43E-16	
Chrysene		1.22E-11	1.24E-11	1.00E-01	5.35E-17	5.43E-17	
Dibenzo(a,h)anthracene		1.22E-10	1.24E-10	1.00E-01	5.35E-16	5.43E-16	
Fluoranthene		1.22E-10	1.24E-10	1.00E-01	5.35E-16	5.43E-16	
Fluorene		1.22E-11	1.24E-11	1.00E-01	5.35E-17	5.43E-17	
Phenanthrene		4.75E-14	4.81E-14	1.00E-01	2.09E-19	2.12E-19	
Pyrene		2.44E-10	2.47E-10	1.00E-01	1.07E-15	1.09E-15	
Parathion		3.02E-14	3.06E-14	1.00E-01	1.33E-19	1.35E-19	
Pentachlorobenzene		1.50E-11	1.52E-11	1.00E-01	6.58E-17	6.67E-17	
Phenol		2.39E-13	2.43E-13	1.00E-01	1.05E-18	1.07E-18	
Quinoline		1.37E-11	1.39E-11	1.00E-01	6.03E-17	6.12E-17	
Tetrachlorobenzene		7.35E-12	7.46E-12	1.00E-01	3.23E-17	3.28E-17	
Trichlorobenzene		3.72E-12	3.78E-12	1.00E-01	1.64E-17	1.66E-17	
Unsym. dimethyl hydrazine		5.90E-08	5.98E-08	1.00E-01	2.59E-13	2.63E-13	
Vapona		1.19E-13	1.21E-13	1.00E-01	5.24E-19	5.32E-19	

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	E	F	G	H	I	J
284								
285	BASE CASE		TABLE 25					
344	INORGANICS							
345	Arsenic		1.61E-09	1.63E-09	1.00E-02	7.06E-16	7.17E-16	
346	Cadmium		9.32E-12	9.45E-12	1.00E-02	4.10E-18	4.15E-18	
347	Mercury		6.03E-11	6.11E-11	1.00E-02	2.65E-17	2.69E-17	
348								
349			195	Number of exposure events per year (events/yr.)				NE
350			2500	Exposed surface area (cm2/event)				ESA
351			0.51	Skin adherence factor for soil (mg/cm2)				SAF
352			1	Soil matrix factor				SMF
353			15.5	Body weight (Kg)				BW
354			365	Days/yr				DAYR
355			1000000	mg/Kg				mgKg
356								
357			EDI = Csoil*AF*SAF*ESA*NE*SMF/BW/mgKg/DAYR					

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	K	L	M	N	O
	BASE CASE		TABLE 26				
			DERMAL EXPOSURE ADULT				
			C soil	C soil	AF	EDI	EDI
		18-Jun-91	AVERAGE	MAXIMUM		AVERAGE	MAXIMUM
		14:11:47	CALCULATED	CALCULATED	ABSORPTION	ESTIMATED	ESTIMATED
			CONC IN	CONC IN	FACTOR	DAILY	DAILY
			SOIL	SOIL		INTAKE	INTAKE
			.2M	.2M		mg/Kg/day	mg/Kg/day
			mg/Kg	mg/Kg			
ORGANICS							
	Acetonitrile		2.44E-09	2.47E-09	1.00E-01	2.56E-15	2.60E-15
	Aldrin		3.78E-15	3.84E-15	1.00E-01	3.98E-21	4.03E-21
	Aniline		1.37E-10	1.39E-10	1.00E-01	1.44E-16	1.46E-16
	Atrazine		8.46E-13	8.59E-13	1.00E-01	8.90E-19	9.02E-19
	Benzaldehyde		6.24E-11	6.33E-11	1.00E-01	6.56E-17	6.65E-17
	Benzofuran		3.04E-10	3.08E-10	1.00E-01	3.19E-16	3.24E-16
	Benzoic Acid		3.06E-11	3.10E-11	1.00E-01	3.21E-17	3.26E-17
	Benzonitrile		6.67E-10	6.77E-10	1.00E-01	7.01E-16	7.11E-16
	Benzothiazole		2.84E-13	2.88E-13	1.00E-01	2.99E-19	3.03E-19
	Bis(2-ethylhexyl)phthalate		1.68E-13	1.70E-13	1.00E-01	1.76E-19	1.79E-19
	Carbazole		1.37E-12	1.39E-12	1.00E-01	1.44E-18	1.46E-18
	4-Chloroaniline		7.84E-14	7.96E-14	1.00E-01	8.24E-20	8.36E-20
	4-Chlorobiphenyl		1.93E-13	1.96E-13	1.00E-01	2.03E-19	2.06E-19
	4,4-Chlorobiphenyl		9.73E-15	9.87E-15	1.00E-01	1.02E-20	1.04E-20
	Chloroethane		6.93E-12	7.03E-12	1.00E-01	7.28E-18	7.38E-18
	Dibenzofuran		6.09E-12	6.18E-12	1.00E-01	6.40E-18	6.49E-18
	1,2-Dichloroethane		7.01E-13	7.11E-13	1.00E-01	7.37E-19	7.47E-19
	Dieldrin		6.95E-15	7.05E-15	1.00E-01	7.30E-21	7.41E-21
	Hexachlorobenzene		1.84E-11	1.86E-11	1.00E-01	1.93E-17	1.96E-17
	Hydrazine		2.37E-08	2.41E-08	1.00E-01	2.49E-14	2.53E-14
	Lindane		3.23E-15	3.27E-15	1.00E-01	3.39E-21	3.44E-21
	Malathion		9.53E-15	9.67E-15	1.00E-01	1.00E-20	1.02E-20
	Methyl ethyl ketone		1.18E-12	1.19E-12	1.00E-01	1.24E-18	1.26E-18
	4-Methylphenol		1.07E-12	1.08E-12	1.00E-01	1.12E-18	1.14E-18
	Monomethyl hydrazine		7.48E-09	7.59E-09	1.00E-01	7.86E-15	7.98E-15
	Naphthalene		1.26E-13	1.28E-13	1.00E-01	1.33E-19	1.34E-19
	Naphthalene carbonitrile		6.67E-10	6.77E-10	1.00E-01	7.01E-16	7.11E-16
	n-Nitrosodimethylamine		7.61E-12	7.72E-12	1.00E-01	8.00E-18	8.11E-18
	PAHs						
	Acenaphthalene		3.04E-11	3.08E-11	1.00E-01	3.19E-17	3.24E-17
	Acenaphthene		3.04E-11	3.08E-11	1.00E-01	3.19E-17	3.24E-17
	Benzo(a)pyrene		6.09E-11	6.18E-11	1.00E-01	6.40E-17	6.49E-17
	Chrysene		6.09E-12	6.18E-12	1.00E-01	6.40E-18	6.49E-18
	Dibenzo(a,h)anthracene		6.09E-11	6.18E-11	1.00E-01	6.40E-17	6.49E-17
	Fluoranthene		6.09E-11	6.18E-11	1.00E-01	6.40E-17	6.49E-17
	Fluorene		6.09E-12	6.18E-12	1.00E-01	6.40E-18	6.49E-18
	Phenanthrene		2.37E-14	2.41E-14	1.00E-01	2.49E-20	2.53E-20
	Pyrene		1.22E-10	1.24E-10	1.00E-01	1.28E-16	1.30E-16
	Parathion		1.51E-14	1.53E-14	1.00E-01	1.59E-20	1.61E-20
	Pentachlorobenzene		7.48E-12	7.59E-12	1.00E-01	7.86E-18	7.98E-18
	Phenol		1.20E-13	1.21E-13	1.00E-01	1.26E-19	1.28E-19
	Quinoline		6.86E-12	6.96E-12	1.00E-01	7.21E-18	7.32E-18
	Tetrachlorobenzene		3.68E-12	3.73E-12	1.00E-01	3.86E-18	3.92E-18
	Trichlorobenzene		1.86E-12	1.89E-12	1.00E-01	1.96E-18	1.98E-18
	Unsym. dimethyl hydrazine		2.95E-08	2.99E-08	1.00E-01	3.10E-14	3.14E-14
	Vapona		5.96E-14	6.05E-14	1.00E-01	6.27E-20	6.36E-20

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	K	L	M	N	O	
284								
285		BASE CASE	TABLE 26					
344	INORGANICS							
345		Arsenic	8.04E-10	8.15E-10	1.00E-02	8.45E-17	8.57E-17	
346		Cadmium	4.66E-12	4.73E-12	1.00E-02	4.90E-19	4.97E-19	
347		Mercury	3.01E-11	3.06E-11	1.00E-02	3.17E-18	3.21E-18	
348								
349			117	Number of exposure events per year (events/yr)				NE
350			4500	Exposed surface area (cm2/event)				ESA
351			0.51	Skin adherence factor for soil (mg/cm2)				SAF
352			1	Soil matrix factor				SMF
353			70	Body weight (Kg)				BW
354			365	Days/yr				DAYR
355			1000000	mg/Kg				mgKg
356								
357			EDI = Csoil*AF*SAF*ESA*NE*SMF/BW/mgKg/DAYR					

B C D E F G

BASE CASE

TABLE 27
FISH INGESTION

18-Jun-91
14:11:47

	C water SURFACE WATER CONCENTRAT. mg/L	BCF BIO. CONC. FACTOR	EDI ADULT ESTIMATED DAILY INTAKE mg/kg/day	EDI CHILD ESTIMATED DAILY INTAKE mg/kg/day
ORGANICS				
Acetonitrile	1.87E-14	0.06	7.76E-21	1.75E-20
Aldrin	1.45E-23	28	2.81E-27	6.34E-27
Aniline	5.60E-15	6.03	2.33E-19	5.27E-19
Atrazine	3.15E-20	0	0.00E+00	0.00E+00
Benzaldehyde	4.54E-16	8	2.51E-20	5.67E-20
Benzofuran	1.27E-15	63	5.53E-19	1.25E-18
Benzoic Acid	2.05E-16	15.5	2.20E-20	4.96E-20
Benzonitrile	4.80E-15	9	2.99E-19	6.74E-19
Benzothiazole	1.83E-20	19.843	2.51E-24	5.67E-24
Bis(2-ethylhexyl)phthalate	5.53E-22	850	3.25E-24	7.34E-24
Carbazole	2.57E-18	186	3.31E-21	7.46E-21
4-Chloroaniline	9.43E-18	14.5	9.45E-22	2.13E-21
4-Chlorobiphenyl	8.32E-20	590	3.39E-22	7.66E-22
4,4-Chlorobiphenyl	3.84E-21	215	5.71E-24	1.29E-23
Chloroethane	5.03E-19	5.5	1.91E-23	4.32E-23
Dibenzofuran	3.97E-18	796.5	2.19E-20	4.94E-20
1,2-Dichloroethane	4.14E-18	2	5.73E-23	1.29E-22
Dieldrin	2.69E-23	5800	1.08E-24	2.44E-24
Hexachlorobenzene	7.16E-18	8690	4.30E-19	9.71E-19
Hydrazine	1.82E-15	2.8	3.52E-20	7.96E-20
Lindane	5.26E-23	130	4.73E-26	1.07E-25
Malathion	3.10E-22	0	0.00E+00	0.00E+00
Methyl ethyl ketone	9.04E-20	0	0.00E+00	0.00E+00
4-Methylphenol	2.18E-19	18	2.71E-23	6.13E-23
Monomethyl hydrazine	5.76E-16	2.8	1.12E-20	2.52E-20
Naphthalene	4.99E-17	430	1.48E-19	3.35E-19
Naphthalene carbonitrile	1.15E-15	430	3.42E-18	7.72E-18
n-Nitrosodimethylamine	5.08E-19	0	0.00E+00	0.00E+00
PAHs				
Acenaphthalene	2.08E-17	730	1.05E-19	2.37E-19
Acenaphthene	2.43E-17	242	4.07E-20	9.18E-20
Benzo(a)pyrene	2.18E-17	930	1.40E-19	3.17E-19
Chrysene	2.23E-18	23000	3.55E-19	8.01E-19
Dibenzo(a,h)anthracene	2.21E-17	520000	7.95E-17	1.79E-16
Fluorene	3.25E-18	1300	2.92E-20	6.60E-20
Phenanthrene	5.53E-18	2630	1.01E-19	2.27E-19
Pyrene	4.55E-17	5100	1.60E-18	3.62E-18
Parathion	1.37E-22	335	3.17E-25	7.17E-25
Quinoline	4.37E-17	21	6.35E-21	1.43E-20
Trichlorobenzene	1.40E-18	991	9.59E-21	2.17E-20
Unsym. dimethyl hydrazine	2.27E-15	2.8	4.39E-20	9.92E-20
Vapona	4.37E-21	7.0	2.12E-25	4.78E-25
INORGANICS				
Arsenic	1.80E-13	350	4.36E-15	9.84E-15
Copper	6.47E-15	1183	5.29E-16	1.20E-15
Zinc	5.07E-14	578	2.03E-15	4.58E-15

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	D	E	F	G
359						
360		BASE CASE	TABLE 27			
419						
420						
421			CHILD	ADULT		
422			2.42	4.84	FISH INGESTION RATE g/day	
423			15.5	70	ADULT BODY WEIGHT KG	
424			1000	1000	g/KG	
425			0.1	0.1	Fraction lipid in fillet	

TABLE 28
CARCINOGENIC SLOPE FACTORS ((mg/kg-day)-1)

RES-A BASE CASE	Inhalation Slope Factor	Oral Slope Factor	Dermal Slope Factor
ORGANICS			
Acrylonitrile	2.40E-01	5.40E-01	NC
Aldrin	1.70E+01	1.70E+01	3.40E+01
Aniline	5.70E-03	5.70E-03	1.14E-02
Benzene	2.90E-02	2.90E-02	NC
Bis(2-ethylhexyl)phthalate	1.40E-02	1.40E-02	2.80E-02
Carbazole	2.00E-02	2.00E-02	4.00E-02
Carbon Tetrachloride	1.30E-01	1.30E-01	NC
Chloroform	8.10E-02	6.10E-03	NC
1,4-Dichlorobenzene	2.40E-02	2.40E-02	NC
1,1-Dichloroethane			
1,2-Dichloroethane	9.10E-02	9.10E-02	1.82E-01
1,1-Dichloroethene	1.20E+00	6.00E-01	NC
1,2-Dichloropropane	6.80E-02	6.80E-02	NC
Dieldrin	1.60E+01	1.60E+01	3.20E+01
Hexachlorobenzene	1.60E+00	1.60E+00	3.20E+00
Hydrazine	1.71E+01	3.00E+00	6.00E+00
Lindane	1.30E+00	1.30E+00	2.60E+00
Methyl chloride	6.30E-03	1.30E-02	NC
Methylene chloride	1.40E-02	7.50E-03	NC
4-Methylphenol			
Monomethyl hydrazine	1.10E+00	1.10E+00	2.20E+00
n-Nitrosodimethylamine	5.10E+01	5.10E+01	1.02E+02
PAHs			
Benzo(a)pyrene	6.10E+00	1.15E+01	2.30E+01
Chrysene	6.10E+00	1.15E+01	2.30E+01
Dibenzo(a,h)anthracene	6.10E+00	1.15E+01	2.30E+01
Parathion			
Quinoline	1.20E+01	1.20E+01	2.40E+01
Tetrachloroethene	3.30E-03	5.10E-02	NC
Trichloroethene	1.10E-02	1.10E-02	NC
Vapona	2.90E-01	2.90E-01	5.80E-01
Vinyl chloride	2.95E-01	2.30E+00	NC
INORGANICS			
Arsenic	1.50E+01	1.75E+00	3.50E+01
Cadmium	6.10E+00	NC	NC
Chromium (VI)	4.10E+01	NC	NC
Total			

AED	Adult Exposure Duration	64
CED	Child Exposure Duration	5
CID	Child Inhalation Duration	1
IED	Infant Exposure Duration	1
IID	Infant Inhalation Duration	1

TABLE 29
ADULT CARCINOGENIC RISK

RES-A BASE CASE	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL ADULT CARC. RISK
ORGANICS							
Acrylonitrile	NA	NA	NA	NA	NA	NA	NA
Aldrin	6.32E-17	7.43E-19	1.12E-19	1.68E-19	4.36E-26	1.24E-19	6.44E-17
Aniline	3.74E-16	2.31E-21	9.04E-22	2.04E-18	1.22E-21	1.50E-18	3.77E-16
Benzene	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	1.75E-18	5.14E-19	6.14E-20	6.14E-21	4.16E-26	4.51E-21	2.34E-18
Carbazole	2.13E-18	8.37E-22	3.22E-22	7.16E-20	6.04E-23	5.27E-20	2.25E-18
Carbon Tetrachloride	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	4.69E-17	3.31E-22	1.29E-22	1.67E-19	4.76E-24	1.23E-19	4.72E-17
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA
Dieldrin	7.33E-16	1.25E-19	2.95E-20	2.90E-19	1.58E-23	2.14E-19	7.34E-16
Hexachlorobenzene	1.93E-15	1.06E-17	3.21E-18	7.67E-17	6.29E-19	5.65E-17	2.08E-15
Hydrazine	9.33E-09	4.47E-18	1.75E-18	1.86E-13	9.66E-20	1.37E-13	9.33E-09
Lindane	3.77E-19	1.29E-22	4.98E-23	1.10E-20	5.62E-26	8.06E-21	3.96E-19
Methyl chloride	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	7.41E-10	5.17E-19	2.03E-19	2.15E-14	1.12E-20	1.58E-14	7.41E-10
n-Nitrosodimethylamine	2.13E-11	2.48E-19	9.74E-20	1.01E-15	0.00E+00	7.46E-16	2.13E-11
PAHs							
Benzo(a)pyrene	4.57E-15	1.16E-15	2.51E-16	1.83E-15	1.47E-18	1.35E-15	9.16E-15
Chrysene	2.17E-15	4.05E-17	1.11E-17	1.83E-16	3.73E-18	1.35E-16	2.54E-15
Dibenzo(a,h)anthracene	6.49E-15	1.34E-15	2.81E-16	1.83E-15	8.35E-16	1.35E-15	1.21E-14
Parathion	NE	NE	NE	NE	NE	NE	NE
Quinoline	1.99E-14	7.28E-19	2.85E-19	2.15E-16	6.96E-20	1.58E-16	2.03E-14
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Vapona	4.47E-18	8.29E-23	3.25E-23	4.52E-20	5.61E-26	3.32E-20	4.54E-18
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA
INORGANICS							
Arsenic	5.18E-15	3.24E-15	4.24E-17	3.67E-15	6.97E-15	2.70E-15	2.18E-14
Cadmium	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	NA	NA	NA	NA	NA	NA	NA
Total	1.01E-08	5.80E-15	5.91E-16	2.16E-13	7.81E-15	1.59E-13	1.01E-08

TABLE 30
CHILD CARCINOGENIC RISK

RES-A BASE CASE	INHALATION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL CHILD CARC. RISK
ORGANICS								
Acrylonitrile	3.77E-14	NA	NA	NA	NA	NA	NA	3.77E-14
Aldrin	9.73E-18	7.40E-18	3.35E-19	2.18E-20	1.19E-19	7.70E-27	8.08E-20	1.77E-17
Aniline	1.18E-16	5.86E-17	1.04E-21	1.76E-22	1.44E-18	2.15E-22	9.81E-19	1.79E-16
Benzene	3.44E-18	NA	NA	NA	NA	NA	NA	3.44E-18
Bis(2-ethylhexyl)phthalate	3.56E-19	2.05E-19	2.32E-19	1.20E-20	4.33E-21	7.34E-27	2.95E-21	8.12E-19
Carbazole	4.15E-18	2.73E-19	3.77E-22	6.28E-23	5.05E-20	1.07E-23	3.44E-20	4.51E-18
Carbon Tetrachloride	7.82E-17	NA	NA	NA	NA	NA	NA	7.82E-17
Chloroform	4.14E-16	NA	NA	NA	NA	NA	NA	4.14E-16
1,4-Dichlorobenzene	1.80E-19	NA	NA	NA	NA	NA	NA	1.80E-19
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	9.66E-18	6.06E-18	1.49E-22	2.52E-23	1.18E-19	8.40E-25	8.01E-20	1.59E-17
1,1-Dichloroethene	2.18E-16	NA	NA	NA	NA	NA	NA	2.18E-16
1,2-Dichloropropane	4.58E-18	NA	NA	NA	NA	NA	NA	4.58E-18
Dieldrin	1.68E-17	8.58E-17	5.64E-20	5.74E-21	2.05E-19	2.78E-24	1.40E-19	1.03E-16
Hexachlorobenzene	4.45E-15	2.30E-16	4.80E-18	6.25E-19	5.42E-17	1.11E-19	3.69E-17	4.77E-15
Hydrazine	6.14E-11	1.37E-09	2.02E-18	3.42E-19	1.31E-13	1.70E-20	8.94E-14	1.43E-09
Lindane	6.35E-19	4.77E-20	5.84E-23	9.71E-24	7.73E-21	9.91E-27	5.27E-21	6.96E-19
Methyl chloride	8.89E-19	NA	NA	NA	NA	NA	NA	8.89E-19
Methylene chloride	1.19E-16	NA	NA	NA	NA	NA	NA	1.19E-16
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	1.25E-12	1.19E-10	2.33E-19	3.95E-20	1.52E-14	1.98E-21	1.03E-14	1.20E-10
n-Nitrosodimethylamine	5.87E-14	2.56E-12	1.12E-19	1.90E-20	7.15E-16	0.00E+00	4.87E-16	2.62E-12
PAHs								
Benzo(a)pyrene	5.62E-14	6.06E-16	5.24E-16	4.88E-17	1.29E-15	2.60E-19	8.80E-16	5.96E-14
Chrysene	5.62E-15	2.62E-16	1.83E-17	2.16E-18	1.29E-16	6.58E-19	8.80E-17	6.12E-15
Dibenzo(a,h)anthracene	5.62E-14	8.30E-16	6.06E-16	5.47E-17	1.29E-15	1.47E-16	8.80E-16	6.01E-14
Parathion	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	1.25E-14	2.69E-15	3.28E-19	5.54E-20	1.52E-16	1.23E-20	1.03E-16	1.54E-14
Tetrachloroethene	6.42E-20	NA	NA	NA	NA	NA	NA	6.42E-20
Trichloroethene	2.28E-18	NA	NA	NA	NA	NA	NA	2.28E-18
Vapona	2.62E-18	6.92E-19	3.74E-23	6.33E-24	3.19E-20	9.89E-27	2.17E-20	3.36E-18
Vinyl chloride	3.50E-17	NA	NA	NA	NA	NA	NA	3.50E-17
INORGANICS								
Arsenic	1.82E-12	7.30E-16	1.46E-15	8.26E-18	2.59E-15	1.23E-15	1.77E-15	1.83E-12
Cadmium	4.30E-15	NA	NA	NA	NA	NA	NA	4.30E-15
Chromium (VI)	4.51E-15	NA	NA	NA	NA	NA	NA	4.51E-15
Total	6.47E-11	1.49E-09	2.62E-15	1.15E-16	1.53E-13	1.38E-15	1.04E-13	1.55E-09

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 31
INFANT CARCINOGENIC RISK

RES-A BASE CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	TOTAL INFANT CARC. RISK
ORGANICS			
Acrylonitrile	2.46E-14	1.71E-16	2.48E-14
Aldrin	6.37E-18	2.12E-17	2.76E-17
Aniline	7.74E-17	2.17E-16	2.94E-16
Benzene	2.25E-18	2.61E-21	2.26E-18
Bis(2-ethylhexyl)phthalate	2.33E-19	1.80E-18	2.03E-18
Carbazole	2.71E-18	6.99E-18	9.70E-18
Carbon Tetrachloride	5.12E-17	8.89E-19	5.21E-17
Chloroform	2.71E-16	3.54E-19	2.71E-16
1,4-Dichlorobenzene	1.18E-19	2.05E-21	1.20E-19
1,1-Dichloroethane	NE	NE	NE
1,2-Dichloroethane	6.32E-18	1.87E-17	2.50E-17
1,1-Dichloroethene	1.43E-16	1.24E-18	1.44E-16
1,2-Dichloropropane	2.99E-18	5.20E-20	3.05E-18
Dieldrin	1.10E-17	7.03E-17	8.13E-17
Hexachlorobenzene	2.91E-15	1.69E-15	4.60E-15
Hydrazine	4.02E-11	5.56E-10	5.96E-10
Lindane	4.16E-19	1.07E-18	1.49E-18
Methyl chloride	5.82E-19	2.08E-20	6.02E-19
Methylene chloride	7.80E-17	7.25E-19	7.87E-17
4-Methylphenol	NE	NE	NE
Monomethyl hydrazine	8.15E-13	4.48E-11	4.56E-11
n-Nitrosodimethylamine	3.84E-14	1.33E-12	1.37E-12
PAHs			
Benzo(a)pyrene	3.68E-14	1.77E-13	2.14E-13
Chrysene	3.68E-15	1.77E-14	2.14E-14
Dibenzo(a,h)anthracene	3.68E-14	1.78E-13	2.15E-13
Parathion	NE	NE	NE
Quinoline	8.16E-15	2.18E-14	2.99E-14
Tetrachloroethene	4.20E-20	1.13E-20	5.33E-20
Trichloroethene	1.49E-18	2.59E-20	1.52E-18
Vapona	1.71E-18	4.59E-18	6.30E-18
Vinyl chloride	2.29E-17	3.10E-18	2.60E-17
INORGANICS			
Arsenic	1.19E-12	NA	1.19E-12
Cadmium	2.82E-15	NA	2.82E-15
Chromium (VI)	2.95E-15	NA	2.95E-15
Total	4.24E-11	6.03E-10	6.45E-10

TABLE 32
TOTAL LIFETIME CARCINOGENIC RISK

RES-A BASE CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS									
Acrylonitrile	6.23E-14	1.71E-16	NA	NA	NA	NA	NA	NA	6.25E-14
Aldrin	1.61E-17	2.12E-17	7.06E-17	1.08E-18	1.34E-19	2.87E-19	5.13E-26	2.04E-19	1.10E-16
Aniline	1.96E-16	2.17E-16	4.32E-16	3.35E-21	1.08E-21	3.48E-18	1.43E-21	2.48E-18	8.51E-16
Benzene	5.70E-18	2.61E-21	NA	NA	NA	NA	NA	NA	5.70E-18
Bis(2-ethylhexyl)phthalate	5.88E-19	1.80E-18	1.96E-18	7.46E-19	7.33E-20	1.05E-20	4.89E-26	7.46E-21	5.18E-18
Carbazole	6.86E-18	6.99E-18	2.40E-18	1.21E-21	3.85E-22	1.22E-19	7.11E-23	8.71E-20	1.65E-17
Carbon Tetrachloride	1.29E-16	8.89E-19	NA	NA	NA	NA	NA	NA	1.30E-16
Chloroform	6.85E-16	3.54E-19	NA	NA	NA	NA	NA	NA	6.85E-16
1,4-Dichlorobenzene	2.98E-19	2.05E-21	NA	NA	NA	NA	NA	NA	3.00E-19
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	1.60E-17	1.87E-17	5.30E-17	4.80E-22	1.55E-22	2.84E-19	5.60E-24	2.03E-19	8.81E-17
1,1-Dichloroethene	3.61E-16	1.24E-18	NA	NA	NA	NA	NA	NA	3.62E-16
1,2-Dichloropropane	7.57E-18	5.20E-20	NA	NA	NA	NA	NA	NA	7.62E-18
Dieldrin	2.78E-17	7.03E-17	8.19E-16	1.81E-19	3.52E-20	4.95E-19	1.86E-23	3.53E-19	9.18E-16
Hexachlorobenzene	7.36E-15	1.69E-15	2.16E-15	1.54E-17	3.83E-18	1.31E-16	7.40E-19	9.33E-17	1.14E-14
Hydrazine	1.02E-10	5.56E-10	1.07E-08	6.49E-18	2.10E-18	3.17E-13	1.14E-19	2.26E-13	1.14E-08
Lindane	1.05E-18	1.07E-18	4.25E-19	1.88E-22	5.95E-23	1.87E-20	6.61E-26	1.33E-20	2.58E-18
Methyl chloride	1.47E-18	2.08E-20	NA	NA	NA	NA	NA	NA	1.49E-18
Methylene chloride	1.97E-16	7.25E-19	NA	NA	NA	NA	NA	NA	1.98E-16
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	2.06E-12	4.48E-11	8.60E-10	7.50E-19	2.42E-19	3.67E-14	1.32E-20	2.61E-14	9.07E-10
n-Nitrosodimethylamine	9.72E-14	1.33E-12	2.39E-11	3.61E-19	1.16E-19	1.73E-15	0.00E+00	1.23E-15	2.53E-11
PAHs									
Benzo(a)pyrene	9.30E-14	1.77E-13	5.17E-15	1.69E-15	2.99E-16	3.12E-15	1.73E-18	2.23E-15	2.83E-13
Chrysene	9.30E-15	1.77E-14	2.43E-15	5.88E-17	1.33E-17	3.12E-16	4.39E-18	2.23E-16	3.01E-14
Dibenzo(a,h)anthracene	9.30E-14	1.78E-13	7.32E-15	1.95E-15	3.35E-16	3.12E-15	9.83E-16	2.23E-15	2.87E-13
Parathion	NE	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	2.06E-14	2.18E-14	2.26E-14	1.06E-18	3.40E-19	3.67E-16	8.19E-20	2.62E-16	6.56E-14
Tetrachloroethene	1.06E-19	1.13E-20	NA	NA	NA	NA	NA	NA	1.17E-19
Trichloroethene	3.77E-18	2.59E-20	NA	NA	NA	NA	NA	NA	3.80E-18
Vapona	4.33E-18	4.59E-18	5.16E-18	1.20E-22	3.88E-23	7.71E-20	6.60E-26	5.49E-20	1.42E-17
Vinyl chloride	5.79E-17	3.10E-18	NA	NA	NA	NA	NA	NA	6.10E-17
INORGANICS									
Arsenic	3.02E-12	NA	5.91E-15	4.69E-15	5.07E-17	6.27E-15	8.20E-15	4.47E-15	3.05E-12
Cadmium	7.12E-15	NA	NA	NA	NA	NA	NA	NA	7.12E-15
Chromium (VI)	7.46E-15	NA	NA	NA	NA	NA	NA	NA	7.46E-15
Total	1.07E-10	6.03E-10	1.16E-08	8.41E-15	7.06E-16	3.69E-13	9.19E-15	2.63E-13	1.23E-08

TABLE 33
TOTAL LIFETIME CARCINOGENIC RISK

RES-A BASE CASE	INHALATION CARC. RISK	INGESTION CARC. RISK	DERMAL CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS				
Acrylonitrile	6.23E-14	1.71E-16	NA	6.25E-14
Aldrin	1.61E-17	9.33E-17	2.04E-19	1.10E-16
Aniline	1.96E-16	6.53E-16	2.48E-18	8.51E-16
Benzene	5.70E-18	2.61E-21	NA	5.70E-18
Bis(2-ethylhexyl)phthalate	5.88E-19	4.59E-18	7.46E-21	5.18E-18
Carbazole	6.86E-18	9.51E-18	8.71E-20	1.65E-17
Carbon Tetrachloride	1.29E-16	8.89E-19	NA	1.30E-16
Chloroform	6.85E-16	3.54E-19	NA	6.85E-16
1,4-Dichlorobenzene	2.98E-19	2.05E-21	NA	3.00E-19
1,1-Dichloroethane	NE	NE	NE	NE
1,2-Dichloroethane	1.60E-17	7.20E-17	2.03E-19	8.81E-17
1,1-Dichloroethene	3.61E-16	1.24E-18	NA	3.62E-16
1,2-Dichloropropane	7.57E-18	5.20E-20	NA	7.62E-18
Dieldrin	2.78E-17	8.90E-16	3.53E-19	9.18E-16
Hexachlorobenzene	7.36E-15	4.00E-15	9.33E-17	1.14E-14
Hydrazine	1.02E-10	1.13E-08	2.26E-13	1.14E-08
Lindane	1.05E-18	1.52E-18	1.33E-20	2.58E-18
Methyl chloride	1.47E-18	2.08E-20	NA	1.49E-18
Methylene chloride	1.97E-16	7.25E-19	NA	1.98E-16
4-Methylphenol	NE	NE	NE	NE
Monomethyl hydrazine	2.06E-12	9.05E-10	2.61E-14	9.07E-10
n-Nitrosodimethylamine	9.72E-14	2.52E-11	1.23E-15	2.53E-11
PAHs				
Benzo(a)pyrene	9.30E-14	1.88E-13	2.23E-15	2.83E-13
Chrysene	9.30E-15	2.05E-14	2.23E-16	3.01E-14
Dibenzo(a,h)anthracene	9.30E-14	1.92E-13	2.23E-15	2.87E-13
Parathion	NE	NE	NE	NE
Quinoline	2.06E-14	4.48E-14	2.62E-16	6.56E-14
Tetrachloroethene	1.06E-19	1.13E-20	NA	1.17E-19
Trichloroethene	3.77E-18	2.59E-20	NA	3.80E-18
Vapona	4.33E-18	9.82E-18	5.49E-20	1.42E-17
Vinyl chloride	5.79E-17	3.10E-18	NA	6.10E-17
INORGANICS				
Arsenic	3.02E-12	2.51E-14	4.47E-15	3.05E-12
Cadmium	7.12E-15	NA	NA	7.12E-15
Chromium (VI)	7.46E-15	NA	NA	7.46E-15
Total	1.07E-10	1.22E-08	2.63E-13	1.23E-08

TABLE 34
REFERENCE DOSES FOR NONCARCINOGENIC EFFECTS (mg/kg-day)

RES-A BASE CASE	Inhalation RfD	Oral RfD	Dermal RfD
ORGANICS			
Acetone	1.82E+00	1.00E-01	NC
Acetonitrile	1.00E-02	6.00E-02	3.00E-02
Acrylonitrile	4.39E-03	2.70E-04	NC
Aldrin	2.55E-04	3.00E-05	1.50E-05
Aniline	7.76E-03	1.95E-03	9.75E-04
Atrazine	5.10E-03	5.00E-03	2.50E-03
Benzaldehyde	1.00E-01	1.00E-01	5.00E-02
Benzene	3.26E-02	1.00E-03	NC
Benzofuran	5.00E-03	5.00E-03	2.50E-03
Benzoic Acid	4.00E+00	4.00E+00	2.00E+00
Benzonitrile	8.00E-03	8.00E-03	4.00E-03
Benzothiazole	1.00E-03	1.00E-03	5.00E-04
Biphenyl	1.33E-03	5.00E-02	NC
Bis(2-ethylhexyl)phthalate	5.10E-03	4.00E-03	1.00E-02
Carbazole	5.00E-03	5.00E-03	2.50E-03
Carbon Tetrachloride	3.16E-02	7.00E-04	NC
4-Chloroaniline	4.00E-03	4.00E-03	2.00E-03
Chlorobenzene	5.00E-03	2.00E-02	NC
4-Chlorobiphenyl	2.45E-02	2.45E-02	1.22E-02
4,4-Chlorobiphenyl	2.33E-02	2.33E-02	1.16E-02
Chloroethane	2.65E+00	NA	NC
Chloroform	5.00E-02	1.00E-02	NC
Dibenzofuran	NA	NA	NA
Dichlorobenzenes (total)	4.00E-02	9.00E-02	NC
1,1-Dichloroethane	1.00E-01	1.00E-01	NC
1,2-Dichloroethane	4.08E-02	4.89E-03	2.45E-03
1,1-Dichloroethene	2.04E-02	9.00E-03	NC
1,2-Dichloroethene	8.10E-01	2.00E-02	NC
1,2-Dichloropropane	3.54E-01	8.60E-03	NC
Dieldrin	2.55E-04	5.00E-05	2.50E-05
Dimethyldisulfide	8.10E-03	8.10E-03	NC
Hexachlorobenzene	8.00E-04	8.00E-04	4.00E-04
Hydrazine	1.33E-04	6.00E-04	3.00E-04
Lindane	5.10E-04	3.00E-04	1.50E-04
Malathion	1.02E-02	2.00E-02	1.00E-02
Methyl chloride	1.05E-01	1.80E-02	NC
Methylene chloride	8.57E-01	6.00E-02	NC
Methyl ethyl ketone	9.00E-02	5.00E-01	2.50E-01
4-Methylphenol	1.02E-02	5.00E-02	2.50E-02
Monomethyl hydrazine	1.94E-05	2.20E-04	1.10E-04
Naphthalene	5.10E-02	4.00E-03	2.00E-03
Naphthalene carbonitrile	5.10E-02	4.00E-03	2.00E-03
n-Nitrosodimethylamine	2.80E-04	2.80E-04	1.40E-04
PAHs			
Acenaphthalene	6.00E-02	6.00E-02	3.00E-02
Acenaphthene	6.00E-02	6.00E-02	3.00E-02
Benzo(a)pyrene	3.00E-02	3.00E-02	1.50E-02
Chrysene	3.00E-02	3.00E-02	1.50E-02

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

B	C	D	E	F
		TABLE 34		
	Dibenzo(a,h)anthracene	3.00E-02	3.00E-02	1.50E-02
	Fluoranthene	4.00E-02	4.00E-02	2.00E-02
	Fluorene	4.00E-02	4.00E-02	2.00E-02
	Phenanthrene	3.00E-02	3.00E-02	1.50E-02
	Pyrene	3.00E-02	3.00E-02	1.50E-02
	Parathion	5.10E-05	6.00E-03	3.00E-03
	Pentachlorobenzene	8.00E-04	8.00E-04	4.00E-04
	Phenol	1.94E-02	6.00E-01	3.00E-01
	Pyridine	1.63E-02	1.00E-03	NC
	Quinoline	2.00E-01	2.00E-01	1.00E-01
	Tetrachlorobenzene	3.00E-04	3.00E-04	1.50E-04
	Tetrachloroethene	3.46E-01	1.00E-02	NC
	Toluene	5.71E-01	2.00E-01	NC
	Trichlorobenzene	3.00E-03	2.00E-02	1.00E-02
	Trichloroethene	2.74E-01	7.35E-03	NC
	Unsym. dimethyl hydrazine	1.22E-03	1.22E-03	6.10E-04
	Vapona	8.00E-04	8.00E-04	4.00E-04
	Vinyl acetate	2.00E-01	1.00E+00	NC
	Vinyl chloride	1.33E-02	1.30E-03	NC
	Xylenes (total)	8.57E-02	2.00E+00	NC
INORGANICS				
	Arsenic	2.04E-04	1.00E-03	5.00E-05
	Cadmium	5.10E-05	1.00E-03	5.00E-05
	Chromium (III)	5.10E-04	NC	NC
	Chromium (VI)	5.10E-05	NC	NC
	Copper	1.00E-02	3.80E-02	NC
	Iron	1.02E-03	NC	NC
	Mercury	8.57E-05	3.00E-04	1.50E-05
	Selenium	2.04E-04	NC	NC
	Silver	1.02E-05	NC	NC
	Zinc	8.19E-03	2.00E-01	NC

TABLE 35
ADULT HAZARD INDEX

RES-A BASE CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL ADULT HAZARD INDEX
ORGANICS								
Acetone	6.94E-15	NA	NA	NA	NA	NA	NA	6.94E-15
Acetonitrile	1.14E-09	2.05E-10	4.04E-17	1.57E-17	1.18E-13	1.29E-19	8.66E-14	1.35E-09
Acrylonitrile	1.11E-09	NA	NA	NA	NA	NA	NA	1.11E-09
Aldrin	6.96E-14	1.53E-13	4.83E-14	5.48E-15	3.66E-16	9.36E-23	2.69E-16	2.77E-13
Aniline	8.28E-11	4.58E-11	2.38E-16	9.12E-17	2.04E-13	1.20E-16	1.50E-13	1.29E-10
Atrazine	7.79E-13	4.38E-14	4.33E-18	1.35E-18	4.91E-16	0.00E+00	3.61E-16	8.23E-13
Benzaldehyde	2.93E-12	2.39E-13	3.87E-18	1.44E-18	1.81E-15	2.51E-19	1.33E-15	3.17E-12
Benzene	1.13E-13	NA	NA	NA	NA	NA	NA	1.13E-13
Benzofuran	2.85E-10	1.58E-11	1.53E-15	4.80E-16	1.76E-13	1.11E-16	1.29E-13	3.01E-10
Benzoic Acid	3.59E-14	2.22E-15	7.25E-20	2.60E-20	2.21E-17	5.49E-21	1.63E-17	3.81E-14
Benzonitrile	3.91E-10	2.99E-11	5.63E-16	2.08E-16	2.42E-13	3.73E-17	1.78E-13	4.21E-10
Benzothiazole	1.33E-12	7.62E-14	3.16E-18	1.12E-18	8.24E-16	2.51E-21	6.06E-16	1.41E-12
Biphenyl	1.08E-09	NA	NA	NA	NA	NA	NA	1.08E-09
Bis(2-ethylhexyl)phthalate	1.54E-13	3.98E-14	3.42E-13	3.84E-14	1.22E-16	8.13E-22	1.79E-17	5.75E-13
Carbazole	1.29E-12	5.68E-14	1.72E-17	4.46E-18	7.94E-16	6.61E-19	5.84E-16	1.34E-12
Carbon Tetrachloride	5.90E-13	NA	NA	NA	NA	NA	NA	5.90E-13
4-Chloroaniline	9.20E-14	5.54E-15	1.78E-19	6.41E-20	5.68E-17	2.36E-19	4.18E-17	9.76E-14
Chlorobenzene	1.77E-13	NA	NA	NA	NA	NA	NA	1.77E-13
4-Chlorobiphenyl	3.70E-14	1.26E-15	1.07E-17	1.55E-18	2.29E-17	1.39E-20	1.69E-17	3.83E-14
4,4-Chlorobiphenyl	1.96E-15	6.28E-17	2.54E-18	3.20E-19	1.21E-18	2.45E-22	8.94E-19	2.03E-15
Chloroethane	1.23E-14	NE	NE	NE	NE	NE	NE	1.23E-14
Chloroform	3.17E-12	NA	NA	NA	NA	NA	NA	3.17E-12
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	9.20E-14	NA	NA	NA	NA	NA	NA	9.20E-14
1,1-Dichloroethane	1.05E-13	NA	NA	NA	NA	NA	NA	1.05E-13
1,2-Dichloroethane	8.06E-14	1.34E-13	8.88E-19	3.30E-19	4.16E-16	1.17E-20	3.06E-16	2.16E-13
1,1-Dichloroethene	2.76E-13	NA	NA	NA	NA	NA	NA	2.76E-13
1,2-Dichloroethene	6.02E-15	NA	NA	NA	NA	NA	NA	6.02E-15
1,2-Dichloropropane	5.89E-15	NA	NA	NA	NA	NA	NA	5.89E-15
Dieldrin	1.28E-13	1.03E-12	3.42E-15	4.05E-16	4.03E-16	2.16E-20	2.96E-16	1.17E-12
Dimethyldisulfide	1.11E-12	NA	NA	NA	NA	NA	NA	1.11E-12
Hexachlorobenzene	1.08E-10	4.46E-12	1.09E-13	1.40E-14	6.65E-14	5.38E-16	4.89E-14	1.12E-10
Hydrazine	8.37E-07	5.76E-06	2.76E-15	1.08E-15	1.15E-10	5.87E-17	8.43E-11	6.59E-06
Lindane	2.97E-14	2.38E-15	6.85E-19	1.77E-19	3.12E-17	1.58E-22	2.29E-17	3.21E-14
Malathion	4.39E-15	8.49E-17	1.63E-20	4.82E-21	1.38E-18	0.00E+00	1.02E-18	4.47E-15
Methyl chloride	4.16E-14	NA	NA	NA	NA	NA	NA	4.16E-14
Methylene chloride	3.08E-13	NA	NA	NA	NA	NA	NA	3.08E-13
Methyl ethyl ketone	6.14E-14	5.85E-15	4.22E-21	1.64E-21	6.83E-18	0.00E+00	5.02E-18	6.73E-14
4-Methylphenol	4.92E-13	1.03E-14	2.20E-19	7.82E-20	6.20E-17	5.43E-22	4.56E-17	5.02E-13
Monomethyl hydrazine	1.81E-06	3.40E-06	2.37E-15	9.30E-16	9.86E-11	5.07E-17	7.25E-11	5.21E-06
Naphthalene	1.16E-14	7.54E-15	2.18E-18	5.53E-19	9.14E-17	3.71E-17	6.72E-17	1.93E-14
Naphthalene carbonitrile	6.14E-11	3.99E-11	1.15E-14	2.92E-15	4.83E-13	8.55E-16	3.56E-13	1.02E-10
n-Nitrosodimethylamine	1.28E-10	1.66E-09	1.94E-17	7.58E-18	7.88E-14	0.00E+00	5.79E-14	1.79E-09
PAHs								
Acenaphthalene	2.37E-12	1.25E-13	1.26E-16	2.40E-17	1.47E-15	1.75E-18	1.08E-15	2.50E-12
Acenaphthene	2.37E-12	9.17E-14	9.46E-17	1.92E-17	1.47E-15	6.78E-19	1.08E-15	2.47E-12
Benzo(a)pyrene	9.53E-12	2.61E-13	8.25E-14	9.63E-15	5.89E-15	4.67E-18	4.33E-15	9.89E-12
Chrysene	9.53E-13	3.16E-14	1.98E-15	2.43E-16	5.89E-16	1.18E-17	4.33E-16	9.88E-13

155 B	C	H	I	J	K	L	M	N	O
156		TABLE 35							
215	Dibenzo(a,h)anthracene	9.53E-12	2.67E-13	9.90E-14	1.15E-14	5.89E-15	2.65E-15	4.33E-15	9.92E-12
216	Fluoranthene	7.15E-12	2.80E-13	4.16E-15	5.58E-16	4.41E-15	NA	3.25E-15	7.44E-12
217	Fluorene	7.15E-13	3.01E-14	6.99E-17	1.19E-17	4.41E-16	7.30E-19	3.25E-16	7.45E-13
218	Phenanthrene	3.71E-15	1.41E-16	5.36E-19	8.53E-20	2.29E-18	3.35E-18	1.69E-18	3.86E-15
219	Pyrene	1.91E-11	7.31E-13	1.02E-14	1.37E-15	1.18E-14	5.35E-17	8.66E-15	1.98E-11
220	Parathion	1.39E-12	4.64E-16	3.84E-19	8.15E-20	7.29E-18	5.29E-23	5.36E-18	1.39E-12
221	Pentachlorobenzene	4.39E-11	2.41E-12	1.88E-14	2.60E-15	2.71E-14	NA	1.99E-14	4.64E-11
222	Phenol	2.89E-14	1.87E-16	1.21E-21	4.50E-22	5.78E-19	NA	4.25E-19	2.91E-14
223	Pyridine	1.92E-10	NA	NA	NA	NA	NA	NA	1.92E-10
224	Quinoline	1.61E-13	1.34E-14	3.91E-19	1.38E-19	9.94E-17	3.17E-20	7.32E-17	1.75E-13
225	Tetrachlorobenzene	5.75E-11	5.34E-12	5.51E-15	9.40E-16	3.55E-14	NA	2.61E-14	6.29E-11
226	Tetrachloroethene	1.74E-15	NA	NA	NA	NA	NA	NA	1.74E-15
227	Toluene	1.68E-14	NA	NA	NA	NA	NA	NA	1.68E-14
228	Trichlorobenzene	2.91E-12	1.48E-14	1.95E-17	3.86E-18	2.70E-16	4.80E-19	1.98E-16	2.93E-12
229	Trichloroethene	2.35E-14	NA	NA	NA	NA	NA	NA	2.35E-14
230	Unsym. dimethyl hydrazine	1.13E-07	1.58E-06	3.19E-15	1.25E-15	7.01E-11	3.60E-17	5.16E-11	1.69E-06
231	Vapona	3.50E-13	3.04E-14	4.24E-19	1.58E-19	2.16E-16	2.64E-22	1.59E-16	3.81E-13
232	Vinyl acetate	1.99E-14	NA	NA	NA	NA	NA	NA	1.99E-14
233	Vinyl chloride	2.77E-13	NA	NA	NA	NA	NA	NA	2.77E-13
234	Xylenes (total)	8.00E-15	NA	NA	NA	NA	NA	NA	8.00E-15
235									
236	INORGANICS								
237	Arsenic	1.85E-08	1.01E-10	1.08E-11	1.33E-13	2.33E-12	4.36E-12	1.71E-12	1.86E-08
238	Cadmium	4.29E-10	6.26E-13	1.27E-14	3.54E-16	1.35E-14	NA	9.94E-15	4.29E-10
239	Chromium (III)	1.90E-10	NA	NA	NA	NA	NA	NA	1.90E-10
240	Chromium (VI)	6.69E-11	NA	NA	NA	NA	NA	NA	6.69E-11
241	Copper	1.43E-11	NA	NA	NA	NA	1.39E-14	NA	1.44E-11
242	Iron	3.41E-06	NA	NA	NA	NA	NA	NA	3.41E-06
243	Mercury	1.65E-09	1.39E-11	1.18E-13	4.35E-12	2.91E-13	NA	2.14E-13	1.67E-09
244	Selenium	2.10E-09	NA	NA	NA	NA	NA	NA	2.10E-09
245	Silver	1.92E-10	NA	NA	NA	NA	NA	NA	1.92E-10
246	Zinc	1.37E-10	NA	NA	NA	NA	1.01E-14	NA	1.37E-10
247									
248	Total (Hazard Index)	6.20E-06	1.07E-05	1.17E-11	4.58E-12	2.87E-10	4.38E-12	2.11E-10	1.69E-05

TABLE 36
CHILD HAZARD INDEX

RES-A BASE CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL CHILD HAZARD INDEX
ORGANICS								
Acetone	1.57E-14	NA	NA	NA	NA	NA	NA	1.57E-14
Acetonitrile	2.58E-09	3.66E-10	2.33E-16	3.93E-17	1.06E-12	2.92E-19	7.24E-13	2.95E-09
Acrylonitrile	2.50E-09	NA	NA	NA	NA	NA	NA	2.50E-09
Aldrin	1.57E-13	2.35E-13	2.79E-13	1.37E-14	3.30E-15	2.11E-22	2.25E-15	6.90E-13
Aniline	1.87E-10	9.07E-11	1.38E-15	2.27E-16	1.84E-12	2.70E-16	1.25E-12	2.81E-10
Atrazine	1.76E-12	7.74E-14	2.50E-17	3.38E-18	4.43E-15	0.00E+00	3.02E-15	1.84E-12
Benzaldehyde	6.61E-12	4.63E-13	2.23E-17	3.58E-18	1.63E-14	5.67E-19	1.11E-14	7.10E-12
Benzene	2.55E-13	NA	NA	NA	NA	NA	NA	2.55E-13
Benzofuran	6.43E-10	2.79E-11	8.85E-15	1.20E-15	1.59E-12	2.50E-16	1.08E-12	6.74E-10
Benzoic Acid	8.10E-14	4.23E-15	4.19E-19	6.49E-20	2.00E-16	1.24E-20	1.36E-16	8.55E-14
Benzonitrile	8.83E-10	5.78E-11	3.25E-15	5.18E-16	2.18E-12	8.43E-17	1.49E-12	9.45E-10
Benzothiazole	3.01E-12	1.44E-13	1.83E-17	2.79E-18	7.44E-15	5.67E-21	5.07E-15	3.17E-12
Biphenyl	2.43E-09	NA	NA	NA	NA	NA	NA	2.43E-09
Bis(2-ethylhexyl)phthalate	3.49E-13	6.15E-14	1.98E-12	9.59E-14	1.10E-15	1.83E-21	1.50E-16	2.48E-12
Carbazole	2.90E-12	1.00E-13	9.91E-17	1.11E-17	7.17E-15	1.49E-18	4.89E-15	3.02E-12
Carbon Tetrachloride	1.33E-12	NA	NA	NA	NA	NA	NA	1.33E-12
4-Chloroaniline	2.08E-13	1.07E-14	1.03E-18	1.60E-19	5.13E-16	5.34E-19	3.50E-16	2.19E-13
Chlorobenzene	3.99E-13	NA	NA	NA	NA	NA	NA	3.99E-13
4-Chlorobiphenyl	8.36E-14	2.24E-15	6.21E-17	3.87E-18	2.06E-16	3.13E-20	1.41E-16	8.62E-14
4,4-Chlorobiphenyl	4.42E-15	1.13E-16	1.46E-17	7.97E-19	1.09E-17	5.53E-22	7.48E-18	4.57E-15
Chloroethane	2.77E-14	NE	NE	NE	NE	NE	NE	2.77E-14
Chloroform	7.16E-12	NA	NA	NA	NA	NA	NA	7.16E-12
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	2.08E-13	NA	NA	NA	NA	NA	NA	2.08E-13
1,1-Dichloroethane	2.38E-13	NA	NA	NA	NA	NA	NA	2.38E-13
1,2-Dichloroethane	1.82E-13	2.25E-13	5.13E-18	8.23E-19	3.75E-15	2.64E-20	2.56E-15	4.14E-13
1,1-Dichloroethene	6.24E-13	NA	NA	NA	NA	NA	NA	6.24E-13
1,2-Dichloroethene	1.36E-14	NA	NA	NA	NA	NA	NA	1.36E-14
1,2-Dichloropropane	1.33E-14	NA	NA	NA	NA	NA	NA	1.33E-14
Dieldrin	2.89E-13	1.55E-12	1.98E-14	1.01E-15	3.64E-15	4.87E-20	2.48E-15	1.87E-12
Dimethyldisulfide	2.50E-12	NA	NA	NA	NA	NA	NA	2.50E-12
Hexachlorobenzene	2.43E-10	7.71E-12	6.30E-13	3.48E-14	6.01E-13	1.21E-15	4.09E-13	2.53E-10
Hydrazine	1.89E-06	1.08E-05	1.59E-14	2.70E-15	1.04E-09	1.33E-16	7.05E-10	1.27E-05
Lindane	6.70E-14	4.16E-15	3.95E-18	4.42E-19	2.82E-16	3.56E-22	1.92E-16	7.17E-14
Malathion	9.90E-15	1.57E-16	9.42E-20	1.20E-20	1.25E-17	0.00E+00	8.50E-18	1.01E-14
Methyl chloride	9.40E-14	NA	NA	NA	NA	NA	NA	9.40E-14
Methylene chloride	6.95E-13	NA	NA	NA	NA	NA	NA	6.95E-13
Methyl ethyl ketone	1.39E-13	1.04E-14	2.44E-20	4.08E-21	6.17E-17	0.00E+00	4.20E-17	1.49E-13
4-Methylphenol	1.11E-12	1.78E-14	1.27E-18	1.95E-19	5.60E-16	1.23E-21	3.81E-16	1.13E-12
Monomethyl hydrazine	4.09E-06	6.96E-06	1.37E-14	2.32E-15	8.90E-10	1.14E-16	6.06E-10	1.11E-05
Naphthalene	2.62E-14	1.30E-14	1.26E-17	1.38E-18	8.25E-16	8.38E-17	5.62E-16	4.07E-14
Naphthalene carbonitrile	1.39E-10	6.88E-11	6.64E-14	7.29E-15	4.36E-12	1.93E-15	2.97E-12	2.15E-10
n-Nitrosodimethylamine	2.88E-10	2.55E-09	1.12E-16	1.89E-17	7.11E-13	0.00E+00	4.85E-13	2.84E-09
PAHs								
Acenaphthalene	5.36E-12	2.12E-13	7.26E-16	6.00E-17	1.32E-14	3.95E-18	9.02E-15	5.59E-12
Acenaphthene	5.36E-12	1.62E-13	5.46E-16	4.79E-17	1.32E-14	1.53E-18	9.02E-15	5.54E-12
Benzo(a)pyrene	2.15E-11	4.81E-13	4.76E-13	2.40E-14	5.32E-14	1.06E-17	3.62E-14	2.26E-11
Chrysene	2.15E-12	5.64E-14	1.14E-14	6.05E-16	5.32E-15	2.67E-17	3.62E-15	2.23E-12

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

B	C	Q	R	S	T	U	V	W	X
		TABLE 36							
	Dibenzo(a,h)anthracene	2.15E-11	4.91E-13	5.72E-13	2.87E-14	5.32E-14	5.98E-15	3.62E-14	2.27E-11
	Fluoranthene	1.61E-11	4.89E-13	2.40E-14	1.39E-15	3.99E-14	NA	2.72E-14	1.67E-11
	Fluorene	1.61E-12	5.22E-14	4.04E-16	2.96E-17	3.99E-15	1.65E-18	2.72E-15	1.67E-12
	Phenanthrene	8.38E-15	2.47E-16	3.10E-18	2.13E-19	2.07E-17	7.57E-18	1.41E-17	8.67E-15
	Pyrene	4.30E-11	1.28E-12	5.87E-14	3.42E-15	1.06E-13	1.21E-16	7.24E-14	4.45E-11
	Parathion	3.13E-12	8.20E-16	2.22E-18	2.03E-19	6.58E-17	1.19E-22	4.49E-17	3.14E-12
	Pentachlorobenzene	9.91E-11	4.04E-12	1.09E-13	6.48E-15	2.45E-13	NA	1.67E-13	1.04E-10
	Phenol	6.54E-14	3.14E-16	6.99E-21	1.12E-21	5.22E-18	NA	3.56E-18	6.57E-14
	Pyridine	4.33E-10	NA	NA	NA	NA	NA	NA	4.33E-10
	Quinoline	3.63E-13	2.36E-14	2.26E-18	3.43E-19	8.98E-16	7.16E-20	6.12E-16	3.89E-13
	Tetrachlorobenzene	1.30E-10	8.57E-12	3.18E-14	2.34E-15	3.21E-13	NA	2.19E-13	1.39E-10
	Tetrachloroethene	3.93E-15	NA	NA	NA	NA	NA	NA	3.93E-15
	Toluene	3.80E-14	NA	NA	NA	NA	NA	NA	3.80E-14
	Trichlorobenzene	6.57E-12	2.67E-14	1.13E-16	9.63E-18	2.44E-15	1.08E-18	1.66E-15	6.61E-12
	Trichloroethene	5.30E-14	NA	NA	NA	NA	NA	NA	5.30E-14
	Unsym. dimethyl hydrazine	2.56E-07	2.91E-06	1.84E-14	3.12E-15	6.33E-10	8.13E-17	4.31E-10	3.17E-06
	Vapona	7.90E-13	5.91E-14	2.45E-18	3.95E-19	1.95E-15	5.97E-22	1.33E-15	8.52E-13
	Vinyl acetate	4.48E-14	NA	NA	NA	NA	NA	NA	4.48E-14
	Vinyl chloride	6.25E-13	NA	NA	NA	NA	NA	NA	6.25E-13
	Xylenes (total)	1.81E-14	NA	NA	NA	NA	NA	NA	1.81E-14
	INORGANICS								
	Arsenic	4.17E-08	1.87E-10	6.24E-11	3.31E-13	2.10E-11	9.84E-12	1.43E-11	4.20E-08
	Cadmium	9.68E-10	1.15E-12	7.33E-14	8.82E-16	1.22E-13	NA	8.31E-14	9.69E-10
	Chromium (III)	4.29E-10	NA	NA	NA	NA	NA	NA	4.29E-10
	Chromium (VI)	1.51E-10	NA	NA	NA	NA	NA	NA	1.51E-10
	Copper	3.24E-11	NA	NA	NA	NA	3.14E-14	NA	3.24E-11
	Iron	7.70E-06	NA	NA	NA	NA	NA	NA	7.70E-06
	Mercury	3.73E-09	2.54E-11	6.82E-13	1.09E-11	2.63E-12	NA	1.79E-12	3.77E-09
	Selenium	4.74E-09	NA	NA	NA	NA	NA	NA	4.74E-09
	Silver	4.33E-10	NA	NA	NA	NA	NA	NA	4.33E-10
	Zinc	3.10E-10	NA	NA	NA	NA	2.29E-14	NA	3.10E-10
	Total (Hazard Index)	1.40E-05	2.07E-05	6.74E-11	1.14E-11	2.60E-09	9.90E-12	1.77E-09	3.47E-05

TABLE 37
INFANT HAZARD INDEX

RES-A BASE CASE	INHALATION HAZARD QUOTIENT	BREAST MILK INGESTION HAZARD QUOTIENT	TOTAL INFANT HAZARD INDEX
ORGANICS			
Acetone	1.03E-14	3.24E-15	1.35E-14
Acetonitrile	1.69E-09	1.44E-09	3.13E-09
Acrylonitrile	1.64E-09	8.22E-11	1.72E-09
Aldrin	1.03E-13	2.91E-12	3.01E-12
Aniline	1.22E-10	1.37E-09	1.49E-09
Atrazine	1.15E-12	3.05E-12	4.20E-12
Benzaldehyde	4.33E-12	1.15E-11	1.59E-11
Benzene	1.67E-13	6.29E-15	1.73E-13
Benzofuran	4.21E-10	1.09E-09	1.52E-09
Benzoic Acid	5.30E-14	1.39E-13	1.92E-13
Benzonitrile	5.78E-10	1.53E-09	2.11E-09
Benzothiazole	1.97E-12	5.14E-12	7.11E-12
Biphenyl	1.59E-09	7.36E-13	1.59E-09
Bis(2-ethylhexyl)phthalate	2.28E-13	2.25E-12	2.48E-12
Carbazole	1.90E-12	4.89E-12	6.79E-12
Carbon Tetrachloride	8.72E-13	6.84E-13	1.56E-12
4-Chloroaniline	1.36E-13	3.55E-13	4.91E-13
Chlorobenzene	2.61E-13	1.13E-15	2.63E-13
4-Chlorobiphenyl	5.47E-14	1.39E-13	1.94E-13
4,4-Chlorobiphenyl	2.89E-15	7.37E-15	1.03E-14
Chloroethane	1.81E-14	NE	1.81E-14
Chloroform	4.68E-12	4.06E-13	5.09E-12
Dibenzofuran	NE	NE	NE
Dichlorobenzenes (total)	1.36E-13	1.05E-15	1.37E-13
1,1-Dichloroethane	1.56E-13	2.70E-15	1.58E-13
1,2-Dichloroethane	1.19E-13	2.94E-12	3.06E-12
1,1-Dichloroethene	4.08E-13	1.61E-14	4.24E-13
1,2-Dichloroethene	8.89E-15	6.25E-15	1.51E-14
1,2-Dichloropropane	8.71E-15	6.22E-15	1.49E-14
Dieldrin	1.89E-13	6.15E-12	6.34E-12
Dimethyldisulfide	1.63E-12	2.84E-14	1.66E-12
Hexachlorobenzene	1.59E-10	9.22E-11	2.51E-10
Hydrazine	1.24E-06	2.16E-05	2.29E-05
Lindane	4.39E-14	1.93E-13	2.36E-13
Malathion	6.48E-15	8.45E-15	1.49E-14
Methyl chloride	6.15E-14	6.23E-15	6.78E-14
Methylene chloride	4.55E-13	1.13E-13	5.68E-13
Methyl ethyl ketone	9.07E-14	6.16E-14	1.52E-13
4-Methylphenol	7.26E-13	4.03E-13	1.13E-12
Monomethyl hydrazine	2.67E-06	1.30E-05	1.56E-05
Naphthalene	1.71E-14	5.66E-13	5.84E-13
Naphthalene carbonitrile	9.07E-11	2.99E-09	3.09E-09
n-Nitrosodimethylamine	1.88E-10	6.51E-09	6.70E-09
PAHs			
Acenaphthalene	3.51E-12	9.10E-12	1.26E-11
Acenaphthene	3.51E-12	8.98E-12	1.25E-11
Benzo(a)pyrene	1.41E-11	3.60E-11	5.01E-11
Chrysene	1.41E-12	3.59E-12	5.00E-12

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

	B	C	Z	AA	AB
155					
156			TABLE 37		
215		Dibenzo(a,h)anthracene	1.41E-11	3.61E-11	5.02E-11
216		Fluoranthene	1.06E-11	2.71E-11	3.76E-11
217		Fluorene	1.06E-12	2.71E-12	3.77E-12
218		Phenanthrene	5.48E-15	1.40E-14	1.95E-14
219		Pyrene	2.82E-11	7.21E-11	1.00E-10
220		Parathion	2.05E-12	4.47E-14	2.10E-12
221		Pentachlorobenzene	6.48E-11	3.80E-11	1.03E-10
222		Phenol	4.28E-14	4.09E-15	4.69E-14
223		Pyridine	2.84E-10	8.03E-11	3.64E-10
224		Quinoline	2.38E-13	6.35E-13	8.73E-13
225		Tetrachlorobenzene	8.50E-11	5.16E-11	1.37E-10
226		Tetrachloroethene	2.57E-15	1.55E-15	4.12E-15
227		Toluene	2.49E-14	2.05E-16	2.51E-14
228		Trichlorobenzene	4.30E-12	3.71E-13	4.67E-12
229		Trichloroethene	3.47E-14	2.24E-14	5.71E-14
230		Unsym. dimethyl hydrazine	1.68E-07	6.16E-06	6.32E-06
231		Vapona	5.17E-13	1.38E-12	1.90E-12
232		Vinyl acetate	2.93E-14	1.02E-16	2.94E-14
233		Vinyl chloride	4.09E-13	7.26E-14	4.82E-13
234		Xylenes (total)	1.18E-14	2.93E-19	1.18E-14
235					
236		INORGANICS			
237		Arsenic	2.73E-08	NE	2.73E-08
238		Cadmium	6.33E-10	NE	6.33E-10
239		Chromium (III)	2.81E-10	NE	2.81E-10
240		Chromium (VI)	9.88E-11	NE	9.88E-11
241		Copper	2.12E-11	NE	2.12E-11
242		Iron	5.04E-06	NE	5.04E-06
243		Mercury	2.44E-09	NE	2.44E-09
244		Selenium	3.10E-09	NE	3.10E-09
245		Silver	2.83E-10	NE	2.83E-10
246		Zinc	2.03E-10	NE	2.03E-10
247					
248		Total (Hazard Index)	9.16E-06	4.08E-05	4.99E-05

A	B	C	D
253		TABLE 38	
254		CARCINOGENIC RISK	
255		CONTRIBUTION BY PATHWAY	
256			
257		RES-A	
258		BASE CASE	
259			
260		Adult	
261		Inhalation	NA
262			
263		Ingestion	82.1200
264		Vegetables	82.1181
265		Milk	0.0000
266		Beef	0.0000
267		Soil\Dust	0.0018
268		Fish	0.0001
269			
270		Dermal	0.0013
271			
272		Child	
273		Inhalation	0.5264
274			
275		Ingestion	12.1038
276		Vegetables	12.1026
277		Milk	0.0000
278		Beef	0.0000
279		Soil\Dust	0.0012
280		Fish	0.0000
281			
282		Dermal	0.0008
283			
284		Infant	
285		Inhalation	0.3445
286			
287		Breast Milk Ingestion	4.9031
288			
290		Total	100.0000

TABLE 39
ADULT INHALATION CARCINOGENIC RISK
(These numbers are for sensitivity analysis)

RES-A
BASE CASE

	INHALATION ADULT CARC. RISK
ORGANICS	
Acrylonitrile	3.34E-14
Aldrin	8.62E-18
Aniline	1.05E-16
Benzene	3.05E-18
Bis(2-ethylhexyl)phthalate	3.15E-19
Carbazole	3.67E-18
Carbon Tetrachloride	6.93E-17
Chloroform	3.67E-16
1,4-Dichlorobenzene	1.60E-19
1,1-Dichloroethane	NE
1,2-Dichloroethane	8.55E-18
1,1-Dichloroethene	1.93E-16
1,2-Dichloropropane	4.05E-18
Dieldrin	1.49E-17
Hexachlorobenzene	3.94E-15
Hydrazine	5.44E-11
Lindane	5.62E-19
Methyl chloride	7.87E-19
Methylene chloride	1.06E-16
4-Methylphenol	NE
Monomethyl hydrazine	1.10E-12
n-Nitrosodimethylamine	5.20E-14
PAHs	
Benzo(a)pyrene	4.98E-14
Chrysene	4.98E-15
Dibenzo(a,h)anthracene	4.98E-14
Parathion	NE
Quinoline	1.10E-14
Tetrachloroethene	5.68E-20
Trichloroethene	2.02E-18
Vapona	2.32E-18
Vinyl chloride	3.10E-17
INORGANICS	
Arsenic	1.62E-12
Cadmium	3.81E-15
Chromium (VI)	3.99E-15
Total	5.73E-11

INHALATION EXPOSURE DURATION 2 YEARS

9.1.2 Sensitivity Case Emissions - Resident A

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
3										
4		SENSITIVITY CASE	ER	AC	D	D	CO	CO	CO	CO
5							AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6				AVG. ANN.	TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	EMISSION	AMBIENT	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:35:21	RATE	CONC.	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		RES-A	g/sec	ug/M3	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10							mg/Kg	mg/Kg	mg/Kg	mg/Kg
11										
12	ORGANICS									
13		Acetone	1.26E-10	4.42E-11	NA	NA	NA	NA	NA	NA
14		Acetonitrile	1.14E-07	4.00E-08	3.52E-10	1.68E-10	2.44E-09	2.47E-09	4.87E-09	4.94E-09
15		Acrylonitrile	4.85E-08	1.70E-08	NA	NA	NA	NA	NA	NA
16		Aldrin	1.77E-13	6.21E-14	5.47E-16	2.60E-16	3.78E-15	3.84E-15	7.57E-15	7.68E-15
17		Aniline	6.41E-09	2.25E-09	1.98E-11	9.42E-12	1.37E-10	1.39E-10	2.74E-10	2.78E-10
18		Atrazine	3.96E-11	1.39E-11	1.22E-13	5.82E-14	8.46E-13	8.59E-13	1.69E-12	1.72E-12
19		Benzaldehyde	2.92E-09	1.02E-09	9.02E-12	4.29E-12	6.24E-11	6.33E-11	1.25E-10	1.27E-10
20		Benzene	3.67E-11	1.29E-11	NA	NA	NA	NA	NA	NA
21		Benzofuran	1.42E-08	4.98E-09	4.39E-11	2.09E-11	3.04E-10	3.08E-10	6.07E-10	6.16E-10
22		Benzoic Acid	1.43E-09	5.02E-10	4.42E-12	2.10E-12	3.06E-11	3.10E-11	6.11E-11	6.20E-11
23		Benzonitrile	3.12E-08	1.10E-08	9.64E-11	4.59E-11	6.67E-10	6.77E-10	1.33E-09	1.35E-09
24		Benzothiazole	1.33E-11	4.67E-12	4.11E-14	1.96E-14	2.84E-13	2.88E-13	5.69E-13	5.77E-13
25		Biphenyl	1.43E-08	5.02E-09	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	7.85E-12	2.76E-12	2.43E-14	1.15E-14	1.68E-13	1.70E-13	3.36E-13	3.40E-13
27		Carbazole	6.41E-11	2.25E-11	1.98E-13	9.42E-14	1.37E-12	1.39E-12	2.74E-12	2.78E-12
28		Carbon Tetrachloride	1.86E-10	6.53E-11	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	3.67E-12	1.29E-12	1.13E-14	5.39E-15	7.84E-14	7.96E-14	1.57E-13	1.59E-13
30		Chlorobenzene	8.82E-12	3.10E-12	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	9.04E-12	3.17E-12	2.79E-14	1.33E-14	1.93E-13	1.96E-13	3.86E-13	3.92E-13
32		4,4-Chlorobiphenyl	4.55E-13	1.60E-13	1.41E-15	6.69E-16	9.73E-15	9.87E-15	1.95E-14	1.97E-14
33		Chloroethane	3.24E-10	1.14E-10	1.00E-12	4.76E-13	6.93E-12	7.03E-12	1.39E-11	1.41E-11
34		Chloroform	1.58E-09	5.55E-10	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	2.85E-10	1.00E-10	8.81E-13	4.19E-13	6.09E-12	6.18E-12	1.22E-11	1.24E-11
36		Dichlorobenzenes (total)	3.67E-11	1.29E-11	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	2.32E-12	8.14E-13	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	1.05E-10	3.69E-11	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	3.28E-11	1.15E-11	1.01E-13	4.82E-14	7.01E-13	7.11E-13	1.40E-12	1.42E-12
40		1,1-Dichloroethene	5.62E-11	1.97E-11	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	4.86E-11	1.71E-11	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	2.08E-11	7.30E-12	NA	NA	NA	NA	NA	NA
43		Dieldrin	3.25E-13	1.14E-13	1.00E-15	4.78E-16	6.95E-15	7.05E-15	1.39E-14	1.41E-14
44		Dimethyldisulfide	8.93E-11	3.13E-11	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	8.59E-10	3.02E-10	2.65E-12	1.26E-12	1.84E-11	1.86E-11	3.67E-11	3.73E-11
46		Hydrazine	1.11E-06	3.90E-07	3.43E-09	1.63E-09	2.37E-08	2.41E-08	4.75E-08	4.81E-08
47		Lindane	1.51E-13	5.30E-14	4.67E-16	2.22E-16	3.23E-15	3.27E-15	6.46E-15	6.55E-15
48		Malathion	4.46E-13	1.57E-13	1.38E-15	6.56E-16	9.53E-15	9.67E-15	1.91E-14	1.93E-14
49		Methyl chloride	4.36E-11	1.53E-11	NA	NA	NA	NA	NA	NA
50		Methylene chloride	2.63E-09	9.23E-10	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	5.51E-11	1.93E-11	1.70E-13	8.10E-14	1.18E-12	1.19E-12	2.36E-12	2.39E-12
52		4-Methylphenol	5.00E-11	1.76E-11	1.54E-13	7.35E-14	1.07E-12	1.08E-12	2.14E-12	2.17E-12
53		Monomethyl hydrazine	3.50E-07	1.23E-07	1.08E-09	5.14E-10	7.48E-09	7.59E-09	1.50E-08	1.52E-08
54		Naphthalene	5.90E-12	2.07E-12	1.82E-14	8.67E-15	1.26E-13	1.28E-13	2.52E-13	2.56E-13
55		Naphthalene carbonitrile	3.12E-08	1.10E-08	9.64E-11	4.59E-11	6.67E-10	6.77E-10	1.33E-09	1.35E-09
56		n-Nitrosodimethylamine	3.56E-10	1.25E-10	1.10E-12	5.23E-13	7.61E-12	7.72E-12	1.52E-11	1.54E-11
57		PAHs								
58		Acenaphthalene	1.42E-09	4.98E-10	4.39E-12	2.09E-12	3.04E-11	3.08E-11	6.07E-11	6.16E-11
59		Acenaphthene	1.42E-09	4.98E-10	4.39E-12	2.09E-12	3.04E-11	3.08E-11	6.07E-11	6.16E-11
60		Benzo(a)pyrene	2.85E-09	1.00E-09	8.81E-12	4.19E-12	6.09E-11	6.18E-11	1.22E-10	1.24E-10

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
61		Chrysene	2.85E-10	1.00E-10	8.81E-13	4.19E-13	6.09E-12	6.18E-12	1.22E-11	1.24E-11
62		Dibenzo(a,h)anthracene	2.85E-09	1.00E-09	8.81E-12	4.19E-12	6.09E-11	6.18E-11	1.22E-10	1.24E-10
63		Fluoranthene	2.85E-09	1.00E-09	8.81E-12	4.19E-12	6.09E-11	6.18E-11	1.22E-10	1.24E-10
64		Fluorene	2.85E-10	1.00E-10	8.81E-13	4.19E-13	6.09E-12	6.18E-12	1.22E-11	1.24E-11
65		Phenanthrene	1.11E-12	3.90E-13	3.43E-15	1.63E-15	2.37E-14	2.41E-14	4.75E-14	4.81E-14
66		Pyrene	5.70E-09	2.00E-09	1.76E-11	8.38E-12	1.22E-10	1.24E-10	2.44E-10	2.47E-10
67		Parathion	7.06E-13	2.48E-13	2.18E-15	1.04E-15	1.51E-14	1.53E-14	3.02E-14	3.06E-14
68		Pentachlorobenzene	3.50E-10	1.23E-10	1.08E-12	5.14E-13	7.48E-12	7.59E-12	1.50E-11	1.52E-11
69		Phenol	5.60E-12	1.97E-12	1.73E-14	8.23E-15	1.20E-13	1.21E-13	2.39E-13	2.43E-13
70		Pyridine	3.12E-08	1.10E-08	NA	NA	NA	NA	NA	NA
71		Quinoline	3.21E-10	1.13E-10	9.92E-13	4.72E-13	6.86E-12	6.96E-12	1.37E-11	1.39E-11
72		Tetrachlorobenzene	1.72E-10	6.04E-11	5.31E-13	2.53E-13	3.68E-12	3.73E-12	7.35E-12	7.46E-12
73		Tetrachloroethene	6.01E-12	2.11E-12	NA	NA	NA	NA	NA	NA
74		Toluene	9.58E-11	3.36E-11	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	8.71E-11	3.06E-11	2.69E-13	1.28E-13	1.86E-12	1.89E-12	3.72E-12	3.78E-12
76		Trichloroethene	6.41E-11	2.25E-11	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	1.38E-06	4.84E-07	4.26E-09	2.03E-09	2.95E-08	2.99E-08	5.90E-08	5.98E-08
78		Vapona	2.79E-12	9.79E-13	8.62E-15	4.10E-15	5.96E-14	6.05E-14	1.19E-13	1.21E-13
79		Vinyl acetate	3.96E-11	1.39E-11	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	3.67E-11	1.29E-11	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	6.84E-12	2.40E-12	NA	NA	NA	NA	NA	NA
82										
83	INORGANICS									
84		Arsenic	4.24E-08	1.49E-08	1.31E-10	6.23E-11	9.06E-10	9.19E-10	1.81E-09	1.84E-09
85		Cadmium	3.10E-10	1.09E-10	9.58E-13	4.56E-13	6.63E-12	6.72E-12	1.33E-11	1.34E-11
86		Chromium (III)	1.26E-09	4.41E-10	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	4.42E-11	1.55E-11	NA	NA	NA	NA	NA	NA
88		Copper	3.17E-09	1.11E-09	NA	NA	NA	NA	NA	NA
89		Iron	9.68E-05	3.40E-05	NA	NA	NA	NA	NA	NA
90		Lead	1.63E-09	5.72E-10	5.04E-12	2.40E-12	3.48E-11	3.53E-11	6.97E-11	7.07E-11
91		Mercury	2.02E-09	7.09E-10	6.24E-12	2.97E-12	4.32E-11	4.38E-11	8.64E-11	8.76E-11
92		Selenium	5.21E-09	1.83E-09	NA	NA	NA	NA	NA	NA
93		Silver	3.24E-11	1.14E-11	NA	NA	NA	NA	NA	NA
94		Zinc	1.43E-08	5.02E-09	NA	NA	NA	NA	NA	NA
95										
96										
97						2 yrs	ACCUMULATION TIME	AT		
98						0.2 M	SOIL DEPTH OF MIXING	SD		
99						0.1 M	SOIL DEPTH OF MIXING	SD		
100						1.43E+03 Kg/M3	SOIL BULK DENSITY	BD		
101						1.00E+03 mg/g				
102						3.15E+07 sec/yr				
103										
104										
105						Dilution Factor				
106						3.51E-01 INHALATION	DFI			
107						Deposition Factor	DF			
108						1.47E-03 DRY	DDF			
109						3.09E-03 DRY/WET	TDF			
110										
111										

$$CO = \frac{D*AT*1000}{SD*BD}$$

AC = ER * DFI

D = ER * x DF

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
3			CATTLE FEED					
4		SENSITIVITY CASE	D	D	CO	CO	CO	CO
5					AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6			TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:35:21	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		RES-A	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10					mg/Kg	mg/Kg	mg/Kg	mg/Kg
11								
12	ORGANICS							
13		Acetone	NA	NA	NA	NA	NA	NA
14		Acetonitrile	3.42E-10	5.76E-11	2.37E-09	2.40E-09	4.73E-09	4.80E-09
15		Acrylonitrile	NA	NA	NA	NA	NA	NA
16		Aldrin	5.31E-16	8.94E-17	3.67E-15	3.73E-15	7.35E-15	7.45E-15
17		Aniline	1.92E-11	3.24E-12	1.33E-10	1.35E-10	2.66E-10	2.70E-10
18		Atrazine	1.19E-13	2.00E-14	8.22E-13	8.34E-13	1.64E-12	1.67E-12
19		Benzaldehyde	8.76E-12	1.47E-12	6.06E-11	6.15E-11	1.21E-10	1.23E-10
20		Benzene	NA	NA	NA	NA	NA	NA
21		Benzofuran	4.26E-11	7.17E-12	2.95E-10	2.99E-10	5.89E-10	5.98E-10
22		Benzoic Acid	4.29E-12	7.22E-13	2.97E-11	3.01E-11	5.94E-11	6.02E-11
23		Benzonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
24		Benzothiazole	3.99E-14	6.72E-15	2.76E-13	2.80E-13	5.52E-13	5.60E-13
25		Biphenyl	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	2.36E-14	3.96E-15	1.63E-13	1.65E-13	3.26E-13	3.31E-13
27		Carbazole	1.92E-13	3.24E-14	1.33E-12	1.35E-12	2.66E-12	2.70E-12
28		Carbon Tetrachloride	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	1.10E-14	1.85E-15	7.62E-14	7.73E-14	1.52E-13	1.55E-13
30		Chlorobenzene	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	2.71E-14	4.57E-15	1.88E-13	1.90E-13	3.75E-13	3.81E-13
32		4,4-Chlorobiphenyl	1.36E-15	2.30E-16	9.44E-15	9.58E-15	1.89E-14	1.92E-14
33		Chloroethane	9.72E-13	1.64E-13	6.72E-12	6.82E-12	1.34E-11	1.36E-11
34		Chloroform	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
36		Dichlorobenzenes (total)	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	9.84E-14	1.66E-14	6.81E-13	6.91E-13	1.36E-12	1.38E-12
40		1,1-Dichloroethene	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	NA	NA	NA	NA	NA	NA
43		Dieldrin	9.75E-16	1.64E-16	6.74E-15	6.84E-15	1.35E-14	1.37E-14
44		Dimethyldisulfide	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	2.58E-12	4.34E-13	1.78E-11	1.81E-11	3.57E-11	3.62E-11
46		Hydrazine	3.33E-09	5.61E-10	2.30E-08	2.34E-08	4.61E-08	4.67E-08
47		Lindane	4.53E-16	7.63E-17	3.13E-15	3.18E-15	6.27E-15	6.36E-15
48		Malathion	1.34E-15	2.25E-16	9.26E-15	9.39E-15	1.85E-14	1.88E-14
49		Methyl chloride	NA	NA	NA	NA	NA	NA
50		Methylene chloride	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	1.65E-13	2.78E-14	1.14E-12	1.16E-12	2.29E-12	2.32E-12
52		4-Methylphenol	1.50E-13	2.53E-14	1.04E-12	1.05E-12	2.08E-12	2.11E-12
53		Monomethyl hydrazine	1.05E-09	1.77E-10	7.26E-09	7.37E-09	1.45E-08	1.47E-08
54		Naphthalene	1.77E-14	2.98E-15	1.22E-13	1.24E-13	2.45E-13	2.48E-13
55		Naphthalene carbonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
56		n-Nitrosodimethylamine	1.07E-12	1.80E-13	7.39E-12	7.49E-12	1.48E-11	1.50E-11
57		PAHs						
58		Acenaphthalene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
59		Acenaphthene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
60		Benzo(a)pyrene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
61		Chrysene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
62		Dibenzo(a,h)anthracene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
63		Fluoranthene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
64		Fluorene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
65		Phenanthrene	3.33E-15	5.61E-16	2.30E-14	2.34E-14	4.61E-14	4.67E-14
66		Pyrene	1.71E-11	2.88E-12	1.18E-10	1.20E-10	2.37E-10	2.40E-10
67		Parathion	2.12E-15	3.57E-16	1.47E-14	1.49E-14	2.93E-14	2.97E-14
68		Pentachlorobenzene	1.05E-12	1.77E-13	7.26E-12	7.37E-12	1.45E-11	1.47E-11
69		Phenol	1.68E-14	2.83E-15	1.16E-13	1.18E-13	2.32E-13	2.36E-13
70		Pyridine	NA	NA	NA	NA	NA	NA
71		Quinoline	9.63E-13	1.62E-13	6.66E-12	6.76E-12	1.33E-11	1.35E-11
72		Tetrachlorobenzene	5.16E-13	8.69E-14	3.57E-12	3.62E-12	7.14E-12	7.24E-12
73		Tetrachloroethene	NA	NA	NA	NA	NA	NA
74		Toluene	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	2.61E-13	4.40E-14	1.81E-12	1.83E-12	3.61E-12	3.67E-12
76		Trichloroethene	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	4.14E-09	6.97E-10	2.86E-08	2.91E-08	5.73E-08	5.81E-08
78		Vapona	8.37E-15	1.41E-15	5.79E-14	5.87E-14	1.16E-13	1.17E-13
79		Vinyl acetate	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	NA	NA	NA	NA	NA	NA
82								
83	INORGANICS							
84		Arsenic	1.27E-10	2.14E-11	8.80E-10	8.93E-10	1.76E-09	1.79E-09
85		Cadmium	9.30E-13	1.57E-13	6.43E-12	6.53E-12	1.29E-11	1.31E-11
86		Chromium (III)	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	NA	NA	NA	NA	NA	NA
88		Copper	NA	NA	NA	NA	NA	NA
89		Iron	NA	NA	NA	NA	NA	NA
90		Lead	4.89E-12	8.23E-13	3.38E-11	3.43E-11	6.77E-11	6.86E-11
91		Mercury	6.06E-12	1.02E-12	4.19E-11	4.25E-11	8.38E-11	8.51E-11
92		Selenium	NA	NA	NA	NA	NA	NA
93		Silver	NA	NA	NA	NA	NA	NA
94		Zinc	NA	NA	NA	NA	NA	NA
95								
96								
97			2.0 yrs ACCUMULATION TIME		AT			
98			0.2 M SOIL DEPTH OF MIXING		SD			
99			0.1 M SOIL DEPTH OF MIXING		SD			
100			1.43E+03 Kg/M3 SOIL BULK DENSITY		BD			
101			1.00E+03 mg/g					
102			3.15E+07 sec/yr					
103								
104								
105			Dilution Factor					D*AT*1000
106			1.22E-01 INHALATION	DFI		CO =		---------
107			Deposition Factor	DF				SD*BD
108			5.05E-04 DRY	DDF				
109			3.00E-03 DRY/WET	TDF		D =		ER * x DF

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 2
ADULT TOTAL EXPOSURE - AVERAGE

SENSITIVITY CASE

18-Jun-91
16:16:24
RES-A

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	1.26E-14	NA	NA	NA	NA	NA	NA	1.26E-14
Acetonitrile	1.14E-11	1.18E-11	2.37E-18	9.30E-19	6.96E-15	7.76E-21	2.56E-15	2.33E-11
Acrylonitrile	4.86E-12	NA	NA	NA	NA	NA	NA	4.86E-12
Aldrin	1.78E-17	4.07E-18	4.78E-20	7.19E-21	1.08E-20	2.81E-27	3.98E-21	2.19E-17
Aniline	6.43E-13	7.17E-14	4.43E-19	1.73E-19	3.91E-16	2.33E-19	1.44E-16	7.15E-13
Atrazine	3.97E-15	1.15E-16	1.54E-20	6.01E-21	2.42E-18	0.00E+00	8.90E-19	4.09E-15
Benzaldehyde	2.93E-13	1.60E-14	3.54E-19	1.38E-19	1.78E-16	2.51E-20	6.56E-17	3.09E-13
Benzene	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
Benzofuran	1.42E-12	4.15E-14	5.49E-18	2.13E-18	8.67E-16	5.53E-19	3.19E-16	1.47E-12
Benzoic Acid	1.43E-13	5.09E-15	2.53E-19	9.89E-20	8.73E-17	2.20E-20	3.21E-17	1.49E-13
Benzonitrile	3.13E-12	1.56E-13	4.08E-18	1.60E-18	1.91E-15	2.99E-19	7.01E-16	3.29E-12
Benzothiazole	1.33E-15	4.11E-17	2.70E-21	1.05E-21	8.12E-19	2.51E-24	2.99E-19	1.38E-15
Biphenyl	1.43E-12	NA	NA	NA	NA	NA	NA	1.43E-12
Bis(2-ethylhexyl)phthalate	7.87E-16	1.37E-16	4.02E-17	4.79E-18	4.79E-19	3.25E-24	1.76E-19	9.70E-16
Carbazole	6.43E-15	1.16E-16	4.58E-20	1.76E-20	3.91E-18	3.31E-21	1.44E-18	6.55E-15
Carbon Tetrachloride	1.87E-14	NA	NA	NA	NA	NA	NA	1.87E-14
4-Chloroaniline	3.68E-16	1.25E-17	6.24E-22	2.44E-22	2.24E-19	9.45E-22	8.24E-20	3.81E-16
Chlorobenzene	8.85E-16	NA	NA	NA	NA	NA	NA	8.85E-16
4-Chlorobiphenyl	9.07E-16	7.25E-18	3.65E-20	1.24E-20	5.52E-19	3.39E-22	2.03E-19	9.15E-16
4,4-Chlorobiphenyl	4.56E-17	2.81E-19	4.50E-21	1.32E-21	2.78E-20	5.71E-24	1.02E-20	4.60E-17
Chloroethane	3.25E-14	1.79E-15	3.96E-20	1.55E-20	1.98E-17	1.91E-23	7.28E-18	3.43E-14
Chloroform	1.58E-13	NA	NA	NA	NA	NA	NA	1.58E-13
Dibenzofuran	2.86E-14	3.23E-16	4.77E-19	1.77E-19	1.74E-17	2.19E-20	6.40E-18	2.89E-14
Dichlorobenzenes (total)	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
1,4-Dichlorobenzene	2.33E-16	NA	NA	NA	NA	NA	NA	2.33E-16
1,1-Dichloroethane	1.05E-14	NA	NA	NA	NA	NA	NA	1.05E-14
1,2-Dichloroethane	3.29E-15	5.64E-16	3.97E-21	1.56E-21	2.00E-18	5.73E-23	7.37E-19	3.86E-15
1,1-Dichloroethene	5.64E-15	NA	NA	NA	NA	NA	NA	5.64E-15
1,2-Dichloroethene	4.87E-15	NA	NA	NA	NA	NA	NA	4.87E-15
1,2-Dichloropropane	2.09E-15	NA	NA	NA	NA	NA	NA	2.09E-15
Dieldrin	3.26E-17	5.01E-17	8.55E-21	2.01E-21	1.98E-20	1.08E-24	7.30E-21	8.27E-17
Dimethyldisulfide	8.96E-15	NA	NA	NA	NA	NA	NA	8.96E-15
Hexachlorobenzene	8.61E-14	1.32E-15	7.27E-18	2.19E-18	5.25E-17	4.30E-19	1.93E-17	8.75E-14
Hydrazine	1.11E-10	3.40E-09	1.63E-18	6.40E-19	6.78E-14	3.52E-20	2.49E-14	3.51E-09
Lindane	1.51E-17	3.17E-19	1.09E-22	4.19E-23	9.22E-21	4.73E-26	3.39E-21	1.55E-17
Malathion	4.47E-17	5.34E-19	2.14E-22	8.30E-23	2.72E-20	0.00E+00	1.00E-20	4.53E-17
Methyl chloride	4.37E-15	NA	NA	NA	NA	NA	NA	4.37E-15
Methylene chloride	2.64E-13	NA	NA	NA	NA	NA	NA	2.64E-13
Methyl ethyl ketone	5.53E-15	2.74E-15	2.05E-21	8.03E-22	3.36E-18	0.00E+00	1.24E-18	8.27E-15
4-Methylphenol	5.01E-15	3.81E-16	9.47E-21	3.70E-21	3.05E-18	2.71E-23	1.12E-18	5.40E-15
Monomethyl hydrazine	3.51E-11	7.37E-10	5.14E-19	2.02E-19	2.14E-14	1.12E-20	7.86E-15	7.72E-10
Naphthalene	5.92E-16	1.47E-17	4.47E-21	1.72E-21	3.60E-19	1.48E-19	1.33E-19	6.07E-16
Naphthalene carbonitrile	3.13E-12	7.75E-14	2.37E-17	9.09E-18	1.91E-15	3.42E-18	7.01E-16	3.21E-12
n-Nitrosodimethylamine	3.57E-14	4.58E-13	5.33E-21	2.09E-21	2.17E-17	0.00E+00	8.00E-18	4.93E-13
PAHs								
Acenaphthalene	1.42E-13	3.77E-15	2.26E-18	8.41E-19	8.67E-17	1.05E-19	3.19E-17	1.46E-13
Acenaphthene	1.42E-13	1.80E-15	1.93E-18	7.25E-19	8.67E-17	4.07E-20	3.19E-17	1.44E-13
Benzo(a)pyrene	2.86E-13	4.34E-16	1.10E-16	2.38E-17	1.74E-16	1.40E-19	6.40E-17	2.87E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	T	U	V	W	X	Y	Z	AA
2			TABLE 2							
61		Chrysene	2.86E-14	2.06E-16	3.85E-18	1.06E-18	1.74E-17	3.55E-19	6.40E-18	2.88E-14
62		Dibenzo(a,h)anthracene	2.86E-13	6.17E-16	1.28E-16	2.67E-17	1.74E-16	7.95E-17	6.40E-17	2.87E-13
63		Fluoranthene	2.86E-13	3.76E-15	1.72E-17	5.52E-18	1.74E-16	NA	6.40E-17	2.90E-13
64		Fluorene	2.86E-14	4.57E-16	6.32E-19	2.30E-19	1.74E-17	2.92E-20	6.40E-18	2.91E-14
65		Phenanthrene	1.11E-16	1.32E-18	3.05E-21	1.09E-21	6.78E-20	1.01E-19	2.49E-20	1.13E-16
66		Pyrene	5.72E-13	7.06E-15	3.27E-17	1.06E-17	3.48E-16	1.60E-18	1.28E-16	5.79E-13
67		Parathion	7.08E-17	9.39E-19	8.54E-22	3.23E-22	4.31E-20	3.17E-25	1.59E-20	7.18E-17
68		Pentachlorobenzene	3.51E-14	1.01E-15	1.77E-18	5.83E-19	2.14E-17	NA	7.86E-18	3.61E-14
69		Phenol	5.62E-16	9.61E-17	6.65E-22	2.60E-22	3.42E-19	NA	1.26E-19	6.58E-16
70		Pyridine	3.13E-12	NA	NA	NA	NA	NA	NA	3.13E-12
71		Quinoline	3.22E-14	1.82E-15	6.63E-20	2.59E-20	1.96E-17	6.35E-21	7.21E-18	3.40E-14
72		Tetrachlorobenzene	1.72E-14	1.14E-15	3.77E-19	1.38E-19	1.05E-17	NA	3.86E-18	1.84E-14
73		Tetrachloroethene	6.03E-16	NA	NA	NA	NA	NA	NA	6.03E-16
74		Toluene	9.61E-15	NA	NA	NA	NA	NA	NA	9.61E-15
75		Trichlorobenzene	8.73E-15	6.93E-17	1.26E-19	4.72E-20	5.32E-18	9.59E-21	1.96E-18	8.81E-15
76		Trichloroethene	6.43E-15	NA	NA	NA	NA	NA	NA	6.43E-15
77		Unsym. dimethyl hydrazine	1.38E-10	1.89E-09	3.84E-18	1.51E-18	8.43E-14	4.39E-20	3.10E-14	2.03E-09
78		Vapona	2.80E-16	1.68E-17	3.13E-22	1.22E-22	1.70E-19	2.12E-25	6.27E-20	2.97E-16
79		Vinyl acetate	3.97E-15	NA	NA	NA	NA	NA	NA	3.97E-15
80		Vinyl chloride	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
81		Xylenes (total)	6.86E-16	NA	NA	NA	NA	NA	NA	6.86E-16
82										
83	INORGANICS									
84		Arsenic	4.25E-12	3.65E-15	2.28E-15	2.99E-17	2.59E-15	4.89E-15	9.52E-17	4.27E-12
85		Cadmium	3.11E-14	8.48E-17	5.94E-18	2.60E-19	1.89E-17	NA	6.96E-19	3.12E-14
86		Chromium (III)	1.26E-13	NA	NA	NA	NA	NA	NA	1.26E-13
87		Chromium (VI)	4.43E-15	NA	NA	NA	NA	NA	NA	4.43E-15
88		Copper	3.18E-13	NA	NA	NA	NA	1.17E-15	NA	3.19E-13
89		Iron	9.71E-09	NA	NA	NA	NA	NA	NA	9.71E-09
90		Lead	1.63E-13	NA	NA	NA	NA	NA	NA	1.63E-13
91		Mercury	2.03E-13	7.21E-16	1.53E-17	1.14E-15	1.23E-16	NA	4.54E-18	2.05E-13
92		Selenium	5.22E-13	NA	NA	NA	NA	NA	NA	5.22E-13
93		Silver	3.25E-15	NA	NA	NA	NA	NA	NA	3.25E-15
94		Zinc	1.43E-12	NA	NA	NA	NA	2.59E-15	NA	1.44E-12
95										
96										
97										
98			br	20 M3/day			D*AT*1000			
99			bw	70 Kg			---------			
100			ef	365 days/yr			SD*BD			
101			cf	365000 (1000 ug/mg)*(365 day/yr)						
102							AC = ER * DFI			
103			Inhalation dose = Cair*br*ef/bw/cf							
104							D = ER * x DF			

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 3
ADULT TOTAL EXPOSURE - MAXIMUM

SENSITIVITY CASE

18-Jun-91
16:16:24
RES-A

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	1.26E-14	NA	NA	NA	NA	NA	NA	1.26E-14
Acetonitrile	1.14E-11	1.23E-11	2.42E-18	9.45E-19	7.06E-15	7.76E-21	2.60E-15	2.37E-11
Acrylonitrile	4.86E-12	NA	NA	NA	NA	NA	NA	4.86E-12
Aldrin	1.78E-17	4.59E-18	1.45E-18	1.64E-19	1.10E-20	2.81E-27	4.03E-21	2.40E-17
Aniline	6.43E-13	8.93E-14	4.65E-19	1.78E-19	3.97E-16	2.33E-19	1.46E-16	7.33E-13
Atrazine	3.97E-15	2.19E-16	2.16E-20	6.77E-21	2.45E-18	0.00E+00	9.02E-19	4.19E-15
Benzaldehyde	2.93E-13	2.39E-14	3.87E-19	1.44E-19	1.81E-16	2.51E-20	6.65E-17	3.17E-13
Benzene	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
Benzofuran	1.42E-12	7.89E-14	7.66E-18	2.40E-18	8.80E-16	5.53E-19	3.24E-16	1.50E-12
Benzoic Acid	1.43E-13	8.88E-15	2.90E-19	1.04E-19	8.86E-17	2.20E-20	3.26E-17	1.52E-13
Benzonitrile	3.13E-12	2.39E-13	4.50E-18	1.66E-18	1.93E-15	2.99E-19	7.11E-16	3.37E-12
Benzothiazole	1.33E-15	7.62E-17	3.16E-21	1.12E-21	8.24E-19	2.51E-24	3.03E-19	1.41E-15
Biphenyl	1.43E-12	NA	NA	NA	NA	NA	NA	1.43E-12
Bis(2-ethylhexyl)phthalate	7.87E-16	1.59E-16	1.37E-15	1.54E-16	4.86E-19	3.25E-24	1.79E-19	2.47E-15
Carbazole	6.43E-15	2.84E-16	8.58E-20	2.23E-20	3.97E-18	3.31E-21	1.46E-18	6.72E-15
Carbon Tetrachloride	1.87E-14	NA	NA	NA	NA	NA	NA	1.87E-14
4-Chloroaniline	3.68E-16	2.22E-17	7.12E-22	2.57E-22	2.27E-19	9.45E-22	8.36E-20	3.91E-16
Chlorobenzene	8.85E-16	NA	NA	NA	NA	NA	NA	8.85E-16
4-Chlorobiphenyl	9.07E-16	3.08E-17	2.63E-19	3.80E-20	5.60E-19	3.39E-22	2.06E-19	9.38E-16
4,4-Chlorobiphenyl	4.56E-17	1.46E-18	5.91E-20	7.45E-21	2.82E-20	5.71E-24	1.04E-20	4.72E-17
Chloroethane	3.25E-14	2.66E-15	4.34E-20	1.61E-20	2.01E-17	1.91E-23	7.38E-18	3.52E-14
Chloroform	1.58E-13	NA	NA	NA	NA	NA	NA	1.58E-13
Dibenzofuran	2.86E-14	1.07E-15	1.67E-18	3.13E-19	1.77E-17	2.19E-20	6.49E-18	2.97E-14
Dichlorobenzenes (total)	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
1,4-Dichlorobenzene	2.33E-16	NA	NA	NA	NA	NA	NA	2.33E-16
1,1-Dichloroethane	1.05E-14	NA	NA	NA	NA	NA	NA	1.05E-14
1,2-Dichloroethane	3.29E-15	6.57E-16	4.34E-21	1.61E-21	2.03E-18	5.73E-23	7.47E-19	3.95E-15
1,1-Dichloroethene	5.64E-15	NA	NA	NA	NA	NA	NA	5.64E-15
1,2-Dichloroethene	4.87E-15	NA	NA	NA	NA	NA	NA	4.87E-15
1,2-Dichloropropane	2.09E-15	NA	NA	NA	NA	NA	NA	2.09E-15
Dieldrin	3.26E-17	5.17E-17	1.71E-19	2.02E-20	2.01E-20	1.08E-24	7.41E-21	8.45E-17
Dimethyldisulfide	8.96E-15	NA	NA	NA	NA	NA	NA	8.96E-15
Hexachlorobenzene	8.61E-14	3.56E-15	8.73E-17	1.12E-17	5.32E-17	4.30E-19	1.96E-17	8.99E-14
Hydrazine	1.11E-10	3.45E-09	1.65E-18	6.49E-19	6.88E-14	3.52E-20	2.53E-14	3.57E-09
Lindane	1.51E-17	7.13E-19	2.05E-22	5.32E-23	9.36E-21	4.73E-26	3.44E-21	1.59E-17
Malathion	4.47E-17	1.70E-18	3.26E-22	9.64E-23	2.76E-20	0.00E+00	1.02E-20	4.65E-17
Methyl chloride	4.37E-15	NA	NA	NA	NA	NA	NA	4.37E-15
Methylene chloride	2.64E-13	NA	NA	NA	NA	NA	NA	2.64E-13
Methyl ethyl ketone	5.53E-15	2.93E-15	2.11E-21	8.18E-22	3.41E-18	0.00E+00	1.26E-18	8.46E-15
4-Methylphenol	5.01E-15	5.16E-16	1.10E-20	3.91E-21	3.10E-18	2.71E-23	1.14E-18	5.53E-15
Monomethyl hydrazine	3.51E-11	7.49E-10	5.22E-19	2.05E-19	2.17E-14	1.12E-20	7.98E-15	7.84E-10
Naphthalene	5.92E-16	3.02E-17	8.70E-21	2.21E-21	3.66E-19	1.48E-19	1.34E-19	6.23E-16
Naphthalene carbonitrile	3.13E-12	1.59E-13	4.60E-17	1.17E-17	1.93E-15	3.42E-18	7.11E-16	3.29E-12
n-Nitrosodimethylamine	3.57E-14	4.65E-13	5.43E-21	2.12E-21	2.21E-17	0.00E+00	8.11E-18	5.01E-13
PAHs								
Acenaphthalene	1.42E-13	7.51E-15	7.55E-18	1.44E-18	8.80E-17	1.05E-19	3.24E-17	1.50E-13
Acenaphthene	1.42E-13	5.50E-15	5.68E-18	1.15E-18	8.80E-17	4.07E-20	3.24E-17	1.48E-13
Benzo(a)pyrene	2.86E-13	7.83E-15	2.47E-15	2.89E-16	1.77E-16	1.40E-19	6.49E-17	2.97E-13

A	B	C	AD	AE	AF	AG	AH	AI	AJ	AK
2			TABLE 3							
61		Chrysene	2.86E-14	9.48E-16	5.93E-17	7.28E-18	1.77E-17	3.55E-19	6.49E-18	2.96E-14
62		Dibenzo(a,h)anthracene	2.86E-13	8.01E-15	2.97E-15	3.45E-16	1.77E-16	7.95E-17	6.49E-17	2.97E-13
63		Fluoranthene	2.86E-13	1.12E-14	1.67E-16	2.23E-17	1.77E-16	NA	6.49E-17	2.97E-13
64		Fluorene	2.86E-14	1.20E-15	2.80E-18	4.75E-19	1.77E-17	2.92E-20	6.49E-18	2.98E-14
65		Phenanthrene	1.11E-16	4.22E-18	1.61E-20	2.56E-21	6.88E-20	1.01E-19	2.53E-20	1.16E-16
66		Pyrene	5.72E-13	2.19E-14	3.05E-16	4.12E-17	3.53E-16	1.60E-18	1.30E-16	5.94E-13
67		Parathion	7.08E-17	2.78E-18	2.30E-21	4.89E-22	4.37E-20	3.17E-25	1.61E-20	7.36E-17
68		Pentachlorobenzene	3.51E-14	1.93E-15	1.51E-17	2.08E-18	2.17E-17	NA	7.98E-18	3.71E-14
69		Phenol	5.62E-16	1.12E-16	7.26E-22	2.70E-22	3.47E-19	NA	1.28E-19	6.74E-16
70		Pyridine	3.13E-12	NA	NA	NA	NA	NA	NA	3.13E-12
71		Quinoline	3.22E-14	2.68E-15	7.82E-20	2.75E-20	1.99E-17	6.35E-21	7.32E-18	3.49E-14
72		Tetrachlorobenzene	1.72E-14	1.60E-15	1.65E-18	2.82E-19	1.07E-17	NA	3.92E-18	1.89E-14
73		Tetrachloroethene	6.03E-16	NA	NA	NA	NA	NA	NA	6.03E-16
74		Toluene	9.61E-15	NA	NA	NA	NA	NA	NA	9.61E-15
75		Trichlorobenzene	8.73E-15	2.96E-16	3.90E-19	7.72E-20	5.40E-18	9.59E-21	1.98E-18	9.04E-15
76		Trichloroethene	6.43E-15	NA	NA	NA	NA	NA	NA	6.43E-15
77		Unsym. dimethyl hydrazine	1.38E-10	1.93E-09	3.90E-18	1.53E-18	8.55E-14	4.39E-20	3.14E-14	2.06E-09
78		Vapona	2.80E-16	2.43E-17	3.39E-22	1.27E-22	1.73E-19	2.12E-25	6.36E-20	3.04E-16
79		Vinyl acetate	3.97E-15	NA	NA	NA	NA	NA	NA	3.97E-15
80		Vinyl chloride	3.68E-15	NA	NA	NA	NA	NA	NA	3.68E-15
81		Xylenes (total)	6.86E-16	NA	NA	NA	NA	NA	NA	6.86E-16
82										
83	INORGANICS									
84		Arsenic	4.25E-12	1.14E-13	1.22E-14	1.50E-16	2.63E-15	4.89E-15	9.66E-17	4.39E-12
85		Cadmium	3.11E-14	8.90E-16	1.80E-17	5.03E-19	1.92E-17	NA	7.06E-19	3.20E-14
86		Chromium (III)	1.26E-13	NA	NA	NA	NA	NA	NA	1.26E-13
87		Chromium (VI)	4.43E-15	NA	NA	NA	NA	NA	NA	4.43E-15
88		Copper	3.18E-13	NA	NA	NA	NA	1.17E-15	NA	3.19E-13
89		Iron	9.71E-09	NA	NA	NA	NA	NA	NA	9.71E-09
90		Lead	1.63E-13	NA	NA	NA	NA	NA	NA	1.63E-13
91		Mercury	2.03E-13	5.97E-15	5.07E-17	1.87E-15	1.25E-16	NA	4.60E-18	2.11E-13
92		Selenium	5.22E-13	NA	NA	NA	NA	NA	NA	5.22E-13
93		Silver	3.25E-15	NA	NA	NA	NA	NA	NA	3.25E-15
94		Zinc	1.43E-12	NA	NA	NA	NA	2.59E-15	NA	1.44E-12
95										
96										
97										
98				br	20 M3/day					
99				bw	70 Kg					
100				ef	365 day/yr					
101				cf	365000 (1000 ug/mg)*(365 day/yr)					
102										
103			Inhalation dose = Cair*br*ef/bw/cf							

TABLE 4
CHILD TOTAL EXPOSURE - AVERAGE

SENSITIVITY CASE

18-Jun-91
16:16:24
RES-A

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	2.85E-14	NA	NA	NA	NA	NA	NA	2.85E-14
Acetonitrile	2.58E-11	2.11E-11	1.37E-17	2.32E-18	6.29E-14	1.75E-20	2.14E-14	4.70E-11
Acrylonitrile	1.10E-11	NA	NA	NA	NA	NA	NA	1.10E-11
Aldrin	4.01E-17	6.10E-18	2.76E-19	1.79E-20	9.76E-20	6.34E-27	3.33E-20	4.66E-17
Aniline	1.45E-12	1.44E-13	2.56E-18	4.33E-19	3.54E-15	5.27E-19	1.20E-15	1.60E-12
Atrazine	8.97E-15	1.94E-16	8.92E-20	1.50E-20	2.18E-17	0.00E+00	7.44E-18	9.19E-15
Benzaldehyde	6.61E-13	3.18E-14	2.04E-18	3.45E-19	1.61E-15	5.67E-20	5.49E-16	6.95E-13
Benzene	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
Benzofuran	3.22E-12	7.02E-14	3.17E-17	5.32E-18	7.83E-15	1.25E-18	2.67E-15	3.30E-12
Benzoic Acid	3.24E-13	9.89E-15	1.46E-18	2.47E-19	7.89E-16	4.96E-20	2.69E-16	3.35E-13
Benzonitrile	7.07E-12	3.08E-13	2.36E-17	3.99E-18	1.72E-14	6.74E-19	5.86E-15	7.40E-12
Benzothiazole	3.01E-15	7.91E-17	1.56E-20	2.63E-21	7.34E-18	5.67E-24	2.50E-18	3.10E-15
Biphenyl	3.24E-12	NA	NA	NA	NA	NA	NA	3.24E-12
Bis(2-ethylhexyl)phthalate	1.78E-15	2.05E-16	2.32E-16	1.20E-17	4.33E-18	7.34E-24	1.47E-18	2.23E-15
Carbazole	1.45E-14	1.91E-16	2.64E-19	4.39E-20	3.54E-17	7.46E-21	1.20E-17	1.48E-14
Carbon Tetrachloride	4.21E-14	NA	NA	NA	NA	NA	NA	4.21E-14
4-Chloroaniline	8.31E-16	2.48E-17	3.61E-21	6.09E-22	2.02E-18	2.13E-21	6.89E-19	8.59E-16
Chlorobenzene	2.00E-15	NA	NA	NA	NA	NA	NA	2.00E-15
4-Chlorobiphenyl	2.05E-15	1.14E-17	2.11E-19	3.10E-20	4.99E-18	7.66E-22	1.70E-18	2.07E-15
4,4-Chlorobiphenyl	1.03E-16	4.38E-19	2.60E-20	3.28E-21	2.51E-19	1.29E-23	8.55E-20	1.04E-16
Chloroethane	7.34E-14	3.53E-15	2.29E-19	3.87E-20	1.79E-16	4.32E-23	6.09E-17	7.71E-14
Chloroform	3.58E-13	NA	NA	NA	NA	NA	NA	3.58E-13
Dibenzofuran	6.45E-14	5.14E-16	2.76E-18	4.43E-19	1.57E-16	4.94E-20	5.35E-17	6.53E-14
Dichlorobenzenes (total)	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
1,4-Dichlorobenzene	5.25E-16	NA	NA	NA	NA	NA	NA	5.25E-16
1,1-Dichloroethane	2.38E-14	NA	NA	NA	NA	NA	NA	2.38E-14
1,2-Dichloroethane	7.43E-15	9.32E-16	2.29E-20	3.88E-21	1.81E-17	1.29E-22	6.16E-18	8.38E-15
1,1-Dichloroethene	1.27E-14	NA	NA	NA	NA	NA	NA	1.27E-14
1,2-Dichloroethene	1.10E-14	NA	NA	NA	NA	NA	NA	1.10E-14
1,2-Dichloropropane	4.71E-15	NA	NA	NA	NA	NA	NA	4.71E-15
Dieldrin	7.36E-17	7.51E-17	4.94E-20	5.02E-21	1.79E-19	2.44E-24	6.11E-20	1.49E-16
Dimethyldisulfide	2.02E-14	NA	NA	NA	NA	NA	NA	2.02E-14
Hexachlorobenzene	1.95E-13	2.01E-15	4.20E-17	5.47E-18	4.74E-16	9.71E-19	1.61E-16	1.97E-13
Hydrazine	2.51E-10	6.38E-09	9.42E-18	1.59E-18	6.12E-13	7.96E-20	2.09E-13	6.63E-09
Lindane	3.42E-17	5.14E-19	6.29E-22	1.05E-22	8.33E-20	1.07E-25	2.84E-20	3.48E-17
Malathion	1.01E-16	9.90E-19	1.24E-21	2.07E-22	2.46E-19	0.00E+00	8.38E-20	1.02E-16
Methyl chloride	9.87E-15	NA	NA	NA	NA	NA	NA	9.87E-15
Methylene chloride	5.96E-13	NA	NA	NA	NA	NA	NA	5.96E-13
Methyl ethyl ketone	1.25E-14	4.85E-15	1.18E-20	2.00E-21	3.04E-17	0.00E+00	1.04E-17	1.74E-14
4-Methylphenol	1.13E-14	6.42E-16	5.47E-20	9.23E-21	2.76E-17	6.13E-23	9.39E-18	1.20E-14
Monomethyl hydrazine	7.93E-11	1.51E-09	2.97E-18	5.03E-19	1.93E-13	2.52E-20	6.58E-14	1.59E-09
Naphthalene	1.34E-15	2.34E-17	2.58E-20	4.29E-21	3.25E-18	3.35E-19	1.11E-18	1.36E-15
Naphthalene carbonitrile	7.07E-12	1.24E-13	1.37E-16	2.27E-17	1.72E-14	7.72E-18	5.86E-15	7.21E-12
n-Nitrosodimethylamine	8.06E-14	7.02E-13	3.08E-20	5.21E-21	1.96E-16	0.00E+00	6.69E-17	7.83E-13
PAHs								
Acenaphthalene	3.22E-13	5.81E-15	1.30E-17	2.10E-18	7.83E-16	2.37E-19	2.67E-16	3.28E-13
Acenaphthene	3.22E-13	2.87E-15	1.11E-17	1.81E-18	7.83E-16	9.18E-20	2.67E-16	3.25E-13
Benzo(a)pyrene	6.45E-13	7.38E-16	6.38E-16	5.94E-17	1.57E-15	3.17E-19	5.35E-16	6.49E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AN	AO	AP	AQ	AR	AS	AT	AU
2			TABLE 4							
61		Chrysene	6.45E-14	3.19E-16	2.23E-17	2.63E-18	1.57E-16	8.01E-19	5.35E-17	6.51E-14
62		Dibenzo(a,h)anthracene	6.45E-13	1.01E-15	7.38E-16	6.66E-17	1.57E-15	1.79E-16	5.35E-16	6.49E-13
63		Fluoranthene	6.45E-13	5.77E-15	9.94E-17	1.38E-17	1.57E-15	NA	5.35E-16	6.53E-13
64		Fluorene	6.45E-14	7.08E-16	3.65E-18	5.74E-19	1.57E-16	6.60E-20	5.35E-17	6.55E-14
65		Phenanthrene	2.51E-16	2.06E-18	1.76E-20	2.71E-21	6.12E-19	2.27E-19	2.09E-19	2.54E-16
66		Pyrene	1.29E-12	1.08E-14	1.89E-16	2.64E-17	3.14E-15	3.62E-18	1.07E-15	1.31E-12
67		Parathion	1.60E-16	1.51E-18	4.93E-21	8.06E-22	3.89E-19	7.17E-25	1.33E-19	1.62E-16
68		Pentachlorobenzene	7.93E-14	1.53E-15	1.02E-17	1.45E-18	1.93E-16	NA	6.58E-17	8.11E-14
69		Phenol	1.27E-15	1.59E-16	3.84E-21	6.50E-22	3.09E-18	NA	1.05E-18	1.43E-15
70		Pyridine	7.07E-12	NA	NA	NA	NA	NA	NA	7.07E-12
71		Quinoline	7.27E-14	3.13E-15	3.83E-19	6.47E-20	1.77E-16	1.43E-20	6.03E-17	7.61E-14
72		Tetrachlorobenzene	3.89E-14	1.72E-15	2.18E-18	3.43E-19	9.49E-17	NA	3.23E-17	4.08E-14
73		Tetrachloroethene	1.36E-15	NA	NA	NA	NA	NA	NA	1.36E-15
74		Toluene	2.17E-14	NA	NA	NA	NA	NA	NA	2.17E-14
75		Trichlorobenzene	1.97E-14	1.14E-16	7.27E-19	1.18E-19	4.80E-17	2.17E-20	1.64E-17	1.99E-14
76		Trichloroethene	1.45E-14	NA	NA	NA	NA	NA	NA	1.45E-14
77		Unsym. dimethyl hydrazine	3.13E-10	3.50E-09	2.22E-17	3.75E-18	7.61E-13	9.92E-20	2.59E-13	3.81E-09
78		Vapona	6.32E-16	3.34E-17	1.81E-21	3.05E-22	1.54E-18	4.78E-25	5.24E-19	6.67E-16
79		Vinyl acetate	8.97E-15	NA	NA	NA	NA	NA	NA	8.97E-15
80		Vinyl chloride	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
81		Xylenes (total)	1.55E-15	NA	NA	NA	NA	NA	NA	1.55E-15
82										
83	INORGANICS									
84		Arsenic	9.60E-12	6.58E-15	1.32E-14	7.45E-17	2.34E-14	1.10E-14	7.97E-16	9.66E-12
85		Cadmium	7.02E-14	1.45E-16	3.43E-17	6.47E-19	1.71E-16	NA	5.82E-18	7.06E-14
86		Chromium (III)	2.84E-13	NA	NA	NA	NA	NA	NA	2.84E-13
87		Chromium (VI)	1.00E-14	NA	NA	NA	NA	NA	NA	1.00E-14
88		Copper	7.18E-13	NA	NA	NA	NA	2.64E-15	NA	7.20E-13
89		Iron	2.19E-08	NA	NA	NA	NA	NA	NA	2.19E-08
90		Lead	3.69E-13	NA	NA	NA	NA	NA	NA	3.69E-13
91		Mercury	4.57E-13	1.18E-15	8.81E-17	2.85E-15	1.11E-15	NA	3.79E-17	4.63E-13
92		Selenium	1.18E-12	NA	NA	NA	NA	NA	NA	1.18E-12
93		Silver	7.34E-15	NA	NA	NA	NA	NA	NA	7.34E-15
94		Zinc	3.24E-12	NA	NA	NA	NA	5.84E-15	NA	3.24E-12
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair *br/bw/ugmg							

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 5
CHILD TOTAL EXPOSURE - MAXIMUM

SENSITIVITY CASE

18-Jun-91
16:16:24
RES-A

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	2.85E-14	NA	NA	NA	NA	NA	NA	2.85E-14
Acetonitrile	2.58E-11	2.19E-11	1.40E-17	2.36E-18	6.38E-14	1.75E-20	2.17E-14	4.79E-11
Acrylonitrile	1.10E-11	NA	NA	NA	NA	NA	NA	1.10E-11
Aldrin	4.01E-17	7.04E-18	8.37E-18	4.10E-19	9.90E-20	6.34E-27	3.37E-20	5.60E-17
Aniline	1.45E-12	1.77E-13	2.69E-18	4.43E-19	3.59E-15	5.27E-19	1.22E-15	1.63E-12
Atrazine	8.97E-15	3.87E-16	1.25E-19	1.69E-20	2.22E-17	0.00E+00	7.55E-18	9.38E-15
Benzaldehyde	6.61E-13	4.63E-14	2.23E-18	3.58E-19	1.63E-15	5.67E-20	5.57E-16	7.10E-13
Benzene	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
Benzofuran	3.22E-12	1.39E-13	4.42E-17	5.98E-18	7.95E-15	1.25E-18	2.71E-15	3.37E-12
Benzoic Acid	3.24E-13	1.69E-14	1.67E-18	2.60E-19	8.00E-16	4.96E-20	2.73E-16	3.42E-13
Benzonitrile	7.07E-12	4.63E-13	2.60E-17	4.15E-18	1.75E-14	6.74E-19	5.95E-15	7.55E-12
Benzothiazole	3.01E-15	1.44E-16	1.83E-20	2.79E-21	7.44E-18	5.67E-24	2.53E-18	3.17E-15
Biphenyl	3.24E-12	NA	NA	NA	NA	NA	NA	3.24E-12
Bis(2-ethylhexyl)phthalate	1.78E-15	2.46E-16	7.91E-15	3.83E-16	4.39E-18	7.34E-24	1.50E-18	1.03E-14
Carbazole	1.45E-14	5.02E-16	4.96E-19	5.56E-20	3.59E-17	7.46E-21	1.22E-17	1.51E-14
Carbon Tetrachloride	4.21E-14	NA	NA	NA	NA	NA	NA	4.21E-14
4-Chloroaniline	8.31E-16	4.28E-17	4.11E-21	6.40E-22	2.05E-18	2.13E-21	6.99E-19	8.77E-16
Chlorobenzene	2.00E-15	NA	NA	NA	NA	NA	NA	2.00E-15
4-Chlorobiphenyl	2.05E-15	5.50E-17	1.52E-18	9.48E-20	5.06E-18	7.66E-22	1.72E-18	2.11E-15
4,4-Chlorobiphenyl	1.03E-16	2.63E-18	3.41E-19	1.86E-20	2.55E-19	1.29E-23	8.67E-20	1.06E-16
Chloroethane	7.34E-14	5.13E-15	2.50E-19	4.01E-20	1.81E-16	4.32E-23	6.18E-17	7.87E-14
Chloroform	3.58E-13	NA	NA	NA	NA	NA	NA	3.58E-13
Dibenzofuran	6.45E-14	1.89E-15	9.63E-18	7.80E-19	1.59E-16	4.94E-20	5.43E-17	6.67E-14
Dichlorobenzenes (total)	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
1,4-Dichlorobenzene	5.25E-16	NA	NA	NA	NA	NA	NA	5.25E-16
1,1-Dichloroethane	2.38E-14	NA	NA	NA	NA	NA	NA	2.38E-14
1,2-Dichloroethane	7.43E-15	1.10E-15	2.51E-20	4.02E-21	1.84E-17	1.29E-22	6.25E-18	8.55E-15
1,1-Dichloroethene	1.27E-14	NA	NA	NA	NA	NA	NA	1.27E-14
1,2-Dichloroethene	1.10E-14	NA	NA	NA	NA	NA	NA	1.10E-14
1,2-Dichloropropane	4.71E-15	NA	NA	NA	NA	NA	NA	4.71E-15
Dieldrin	7.36E-17	7.77E-17	9.88E-19	5.05E-20	1.82E-19	2.44E-24	6.19E-20	1.53E-16
Dimethyldisulfide	2.02E-14	NA	NA	NA	NA	NA	NA	2.02E-14
Hexachlorobenzene	1.95E-13	6.17E-15	5.04E-16	2.79E-17	4.81E-16	9.71E-19	1.64E-16	2.02E-13
Hydrazine	2.51E-10	6.48E-09	9.55E-18	1.62E-18	6.21E-13	7.96E-20	2.12E-13	6.73E-09
Lindane	3.42E-17	1.25E-18	1.19E-21	1.33E-22	8.45E-20	1.07E-25	2.88E-20	3.56E-17
Malathion	1.01E-16	3.15E-18	1.88E-21	2.41E-22	2.50E-19	0.00E+00	8.50E-20	1.04E-16
Methyl chloride	9.87E-15	NA	NA	NA	NA	NA	NA	9.87E-15
Methylene chloride	5.96E-13	NA	NA	NA	NA	NA	NA	5.96E-13
Methyl ethyl ketone	1.25E-14	5.18E-15	1.22E-20	2.04E-21	3.08E-17	0.00E+00	1.05E-17	1.77E-14
4-Methylphenol	1.13E-14	8.92E-16	6.34E-20	9.75E-21	2.80E-17	6.13E-23	9.53E-18	1.23E-14
Monomethyl hydrazine	7.93E-11	1.53E-09	3.01E-18	5.10E-19	1.96E-13	2.52E-20	6.67E-14	1.61E-09
Naphthalene	1.34E-15	5.21E-17	5.02E-20	5.51E-21	3.30E-18	3.35E-19	1.12E-18	1.39E-15
Naphthalene carbonitrile	7.07E-12	2.75E-13	2.66E-16	2.92E-17	1.75E-14	7.72E-18	5.95E-15	7.36E-12
n-Nitrosodimethylamine	8.06E-14	7.14E-13	3.13E-20	5.29E-21	1.99E-16	0.00E+00	6.78E-17	7.95E-13
PAHs								
Acenaphthalene	3.22E-13	1.27E-14	4.36E-17	3.60E-18	7.95E-16	2.37E-19	2.71E-16	3.35E-13
Acenaphthene	3.22E-13	9.74E-15	3.28E-17	2.87E-18	7.95E-16	9.18E-20	2.71E-16	3.32E-13
Benzo(a)pyrene	6.45E-13	1.44E-14	1.43E-14	7.21E-16	1.59E-15	3.17E-19	5.43E-16	6.77E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AX	AY	AZ	BA	BB	BC	BD	BE
2			TABLE 5							
61		Chrysene	6.45E-14	1.69E-15	3.42E-16	1.81E-17	1.59E-16	8.01E-19	5.43E-17	6.68E-14
62		Dibenzo(a,h)anthracene	6.45E-13	1.47E-14	1.72E-14	8.61E-16	1.59E-15	1.79E-16	5.43E-16	6.80E-13
63		Fluoranthene	6.45E-13	1.95E-14	9.62E-16	5.56E-17	1.59E-15	NA	5.43E-16	6.68E-13
64		Fluorene	6.45E-14	2.09E-15	1.61E-17	1.18E-18	1.59E-16	6.60E-20	5.43E-17	6.69E-14
65		Phenanthrene	2.51E-16	7.42E-18	9.29E-20	6.38E-21	6.21E-19	2.27E-19	2.12E-19	2.60E-16
66		Pyrene	1.29E-12	3.84E-14	1.76E-15	1.03E-16	3.19E-15	3.62E-18	1.09E-15	1.34E-12
67		Parathion	1.60E-16	4.92E-18	1.33E-20	1.22E-21	3.95E-19	7.17E-25	1.35E-19	1.65E-16
68		Pentachlorobenzene	7.93E-14	3.23E-15	8.69E-17	5.18E-18	1.96E-16	NA	6.67E-17	8.28E-14
69		Phenol	1.27E-15	1.88E-16	4.19E-21	6.73E-22	3.13E-18	NA	1.07E-18	1.46E-15
70		Pyridine	7.07E-12	NA	NA	NA	NA	NA	NA	7.07E-12
71		Quinoline	7.27E-14	4.72E-15	4.51E-19	6.86E-20	1.80E-16	1.43E-20	6.12E-17	7.77E-14
72		Tetrachlorobenzene	3.89E-14	2.57E-15	9.55E-18	7.03E-19	9.62E-17	NA	3.28E-17	4.17E-14
73		Tetrachloroethene	1.36E-15	NA	NA	NA	NA	NA	NA	1.36E-15
74		Toluene	2.17E-14	NA	NA	NA	NA	NA	NA	2.17E-14
75		Trichlorobenzene	1.97E-14	5.34E-16	2.25E-18	1.93E-19	4.87E-17	2.17E-20	1.66E-17	2.03E-14
76		Trichloroethene	1.45E-14	NA	NA	NA	NA	NA	NA	1.45E-14
77		Unsym. dimethyl hydrazine	3.13E-10	3.55E-09	2.25E-17	3.81E-18	7.72E-13	9.92E-20	2.63E-13	3.87E-09
78		Vapona	6.32E-16	4.73E-17	1.96E-21	3.16E-22	1.56E-18	4.78E-25	5.32E-19	6.81E-16
79		Vinyl acetate	8.97E-15	NA	NA	NA	NA	NA	NA	8.97E-15
80		Vinyl chloride	8.31E-15	NA	NA	NA	NA	NA	NA	8.31E-15
81		Xylenes (total)	1.55E-15	NA	NA	NA	NA	NA	NA	1.55E-15
82										
83	INORGANICS									
84		Arsenic	9.60E-12	2.10E-13	7.03E-14	3.73E-16	2.37E-14	1.10E-14	8.08E-16	9.92E-12
85		Cadmium	7.02E-14	1.64E-15	1.04E-16	1.25E-18	1.73E-16	NA	5.91E-18	7.21E-14
86		Chromium (III)	2.84E-13	NA	NA	NA	NA	NA	NA	2.84E-13
87		Chromium (VI)	1.00E-14	NA	NA	NA	NA	NA	NA	1.00E-14
88		Copper	7.18E-13	NA	NA	NA	NA	2.64E-15	NA	7.20E-13
89		Iron	2.19E-08	NA	NA	NA	NA	NA	NA	2.19E-08
90		Lead	3.69E-13	NA	NA	NA	NA	NA	NA	3.69E-13
91		Mercury	4.57E-13	1.09E-14	2.93E-16	4.66E-15	1.13E-15	NA	3.85E-17	4.74E-13
92		Selenium	1.18E-12	NA	NA	NA	NA	NA	NA	1.18E-12
93		Silver	7.34E-15	NA	NA	NA	NA	NA	NA	7.34E-15
94		Zinc	3.24E-12	NA	NA	NA	NA	5.84E-15	NA	3.24E-12
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair*br/bw/ugmg							

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
3			INFANT TOTAL EXPOSURE		
4		SENSITIVITY CASE			
5					
6			----------MAXIMUM----------		
7		18-Jun-91	INHALATION	BREAST MILK	TOTAL
8		16:16:24	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)
9		RES-A			
10					
11					
12	ORGANICS				
13		Acetone	1.87E-14	3.24E-16	1.90E-14
14		Acetonitrile	1.69E-11	8.64E-11	1.03E-10
15		Acrylonitrile	7.19E-12	2.22E-14	7.21E-12
16		Aldrin	2.62E-17	8.72E-17	1.13E-16
17		Aniline	9.50E-13	2.67E-12	3.62E-12
18		Atrazine	5.87E-15	1.53E-14	2.11E-14
19		Benzaldehyde	4.33E-13	1.15E-12	1.59E-12
20		Benzene	5.44E-15	6.29E-18	5.45E-15
21		Benzofuran	2.10E-12	5.47E-12	7.58E-12
22		Benzoic Acid	2.12E-13	5.55E-13	7.67E-13
23		Benzonitrile	4.62E-12	1.23E-11	1.69E-11
24		Benzothiazole	1.97E-15	5.14E-15	7.11E-15
25		Biphenyl	2.12E-12	3.68E-14	2.16E-12
26		Bis(2-ethylhexyl)phthalate	1.16E-15	8.99E-15	1.02E-14
27		Carbazole	9.50E-15	2.44E-14	3.39E-14
28		Carbon Tetrachloride	2.76E-14	4.79E-16	2.80E-14
29		4-Chloroaniline	5.44E-16	1.42E-15	1.97E-15
30		Chlorobenzene	1.31E-15	2.27E-17	1.33E-15
31		4-Chlorobiphenyl	1.34E-15	3.42E-15	4.76E-15
32		4,4-Chlorobiphenyl	6.74E-17	1.72E-16	2.39E-16
33		Chloroethane	4.80E-14	1.28E-13	1.76E-13
34		Chloroform	2.34E-13	4.06E-15	2.38E-13
35		Dibenzofuran	4.22E-14	1.08E-13	1.50E-13
36		Dichlorobenzenes (total)	5.44E-15	9.44E-17	5.53E-15
37		1,4-Dichlorobenzene	3.44E-16	5.97E-18	3.50E-16
38		1,1-Dichloroethane	1.56E-14	2.70E-16	1.58E-14
39		1,2-Dichloroethane	4.86E-15	1.44E-14	1.92E-14
40		1,1-Dichloroethene	8.33E-15	1.45E-16	8.47E-15
41		1,2-Dichloroethene	7.20E-15	1.25E-16	7.33E-15
42		1,2-Dichloropropane	3.08E-15	5.35E-17	3.14E-15
43		Dieldrin	4.82E-17	3.08E-16	3.56E-16
44		Dimethyldisulfide	1.32E-14	2.30E-16	1.35E-14
45		Hexachlorobenzene	1.27E-13	7.38E-14	2.01E-13
46		Hydrazine	1.65E-10	1.30E-08	1.31E-08
47		Lindane	2.24E-17	5.78E-17	8.01E-17
48		Malathion	6.61E-17	1.69E-16	2.35E-16
49		Methyl chloride	6.46E-15	1.12E-16	6.57E-15
50		Methylene chloride	3.90E-13	6.77E-15	3.97E-13
51		Methyl ethyl ketone	8.17E-15	3.08E-14	3.89E-14
52		4-Methylphenol	7.41E-15	2.01E-14	2.76E-14
53		Monomethyl hydrazine	5.19E-11	2.85E-09	2.90E-09
54		Naphthalene	8.74E-16	2.27E-15	3.14E-15
55		Naphthalene carbonitrile	4.62E-12	1.20E-11	1.66E-11
56		n-Nitrosodimethylamine	5.28E-14	1.82E-12	1.88E-12
57		PAHs			
58		Acenaphthalene	2.10E-13	5.46E-13	7.57E-13
59		Acenaphthene	2.10E-13	5.39E-13	7.49E-13
60		Benzo(a)pyrene	4.22E-13	1.08E-12	1.50E-12

ROCKY MTN ARSENAL - RESIDENT SCENARIO A - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
61		Chrysene	4.22E-14	1.08E-13	1.50E-13
62		Dibenzo(a,h)anthracene	4.22E-13	1.08E-12	1.50E-12
63		Fluoranthene	4.22E-13	1.08E-12	1.50E-12
64		Fluorene	4.22E-14	1.08E-13	1.51E-13
65		Phenanthrene	1.65E-16	4.21E-16	5.86E-16
66		Pyrene	8.45E-13	2.16E-12	3.01E-12
67		Parathion	1.05E-16	2.68E-16	3.73E-16
68		Pentachlorobenzene	5.19E-14	3.04E-14	8.23E-14
69		Phenol	8.30E-16	2.45E-15	3.28E-15
70		Pyridine	4.62E-12	8.03E-14	4.70E-12
71		Quinoline	4.76E-14	1.27E-13	1.75E-13
72		Tetrachlorobenzene	2.55E-14	1.55E-14	4.10E-14
73		Tetrachloroethene	8.91E-16	1.55E-17	9.06E-16
74		Toluene	1.42E-14	4.11E-17	1.42E-14
75		Trichlorobenzene	1.29E-14	7.42E-15	2.03E-14
76		Trichloroethene	9.50E-15	1.65E-16	9.66E-15
77		Unsym. dimethyl hydrazine	2.05E-10	7.51E-09	7.71E-09
78		Vapona	4.13E-16	1.11E-15	1.52E-15
79		Vinyl acetate	5.87E-15	1.02E-16	5.97E-15
80		Vinyl chloride	5.44E-15	9.44E-17	5.53E-15
81		Xylenes (total)	1.01E-15	5.87E-19	1.01E-15
82					
83	INORGANICS				
84		Arsenic	6.28E-12	NE	6.28E-12
85		Cadmium	4.59E-14	NE	4.59E-14
86		Chromium (III)	1.86E-13	NE	1.86E-13
87		Chromium (VI)	6.55E-15	NE	6.55E-15
88		Copper	4.70E-13	NE	4.70E-13
89		Iron	1.43E-08	NE	1.43E-08
90		Lead	2.42E-13	NE	2.42E-13
91		Mercury	2.99E-13	NE	2.99E-13
92		Selenium	7.72E-13	NE	7.72E-13
93		Silver	4.80E-15	NE	4.80E-15
94		Zinc	2.12E-12	NE	2.12E-12
95					
96					
97					
98			br	3.80E+00 M3/day	
99			bw	9.00E+00 Kg	
100			um	1.00E+03 ug/mg	
101					
102					
103			Inhalation dose = Cair *br/bw/ugmg		

TABLE 28
CARCINOGENIC SLOPE FACTORS ((mg/kg-day)-1)

RES-A
SENSITIVITY CASE

	Inhalation Slope Factor	Oral Slope Factor	Dermal Slope Factor
ORGANICS			
Acrylonitrile	2.40E-01	5.40E-01	NC
Aldrin	1.70E+01	1.70E+01	3.40E+01
Aniline	5.70E-03	5.70E-03	1.14E-02
Benzene	2.90E-02	2.90E-02	NC
Bis(2-ethylhexyl)phthalate	1.40E-02	1.40E-02	2.80E-02
Carbazole	2.00E-02	2.00E-02	4.00E-02
Carbon Tetrachloride	1.30E-01	1.30E-01	NC
Chloroform	8.10E-02	6.10E-03	NC
1,4-Dichlorobenzene	2.40E-02	2.40E-02	NC
1,1-Dichloroethane			
1,2-Dichloroethane	9.10E-02	9.10E-02	1.82E-01
1,1-Dichloroethene	1.20E+00	6.00E-01	NC
1,2-Dichloropropane	6.80E-02	6.80E-02	NC
Dieldrin	1.60E+01	1.60E+01	3.20E+01
Hexachlorobenzene	1.60E+00	1.60E+00	3.20E+00
Hydrazine	1.71E+01	3.00E+00	6.00E+00
Lindane	1.30E+00	1.30E+00	2.60E+00
Methyl chloride	6.30E-03	1.30E-02	NC
Methylene chloride	1.40E-02	7.50E-03	NC
4-Methylphenol			
Monomethyl hydrazine	1.10E+00	1.10E+00	2.20E+00
n-Nitrosodimethylamine	5.10E+01	5.10E+01	1.02E+02
PAHs			
Benzo(a)pyrene	6.10E+00	1.15E+01	2.30E+01
Chrysene	6.10E+00	1.15E+01	2.30E+01
Dibenzo(a,h)anthracene	6.10E+00	1.15E+01	2.30E+01
Parathion			
Quinoline	1.20E+01	1.20E+01	2.40E+01
Tetrachloroethene	3.30E-03	5.10E-02	NC
Trichloroethene	1.10E-02	1.10E-02	NC
Vapona	2.90E-01	2.90E-01	5.80E-01
Vinyl chloride	2.95E-01	2.30E+00	NC
INORGANICS			
Arsenic	1.50E+01	1.75E+00	3.50E+01
Cadmium	6.10E+00	NC	NC
Chromium (VI)	4.10E+01	NC	NC
Total			

AED Adult Exposure Duration	64
CED Child Exposure Duration	5
CID Child Inhalation Duration	1
IED Infant Exposure Duration	1
IID Infant Inhalation Duration	1

TABLE 29
ADULT CARCINOGENIC RISK

RES-A SENSITIVITY CASE	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL ADULT CARC. RISK
ORGANICS							
Acrylonitrile	NA	NA	NA	NA	NA	NA	NA
Aldrin	6.32E-17	7.43E-19	1.12E-19	1.68E-19	4.36E-26	1.24E-19	6.44E-17
Aniline	3.74E-16	2.31E-21	9.04E-22	2.04E-18	1.22E-21	1.50E-18	3.77E-16
Benzene	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	1.75E-18	5.14E-19	6.14E-20	6.14E-21	4.16E-26	4.51E-21	2.34E-18
Carbazole	2.13E-18	8.37E-22	3.22E-22	7.16E-20	6.04E-23	5.27E-20	2.25E-18
Carbon Tetrachloride	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	4.69E-17	3.31E-22	1.29E-22	1.67E-19	4.76E-24	1.23E-19	4.72E-17
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA
Dieldrin	7.33E-16	1.25E-19	2.95E-20	2.90E-19	1.58E-23	2.14E-19	7.34E-16
Hexachlorobenzene	1.93E-15	1.06E-17	3.21E-18	7.67E-17	6.29E-19	5.65E-17	2.08E-15
Hydrazine	9.33E-09	4.47E-18	1.75E-18	1.86E-13	9.66E-20	1.37E-13	9.33E-09
Lindane	3.77E-19	1.29E-22	4.98E-23	1.10E-20	5.62E-26	8.06E-21	3.96E-19
Methyl chloride	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	7.41E-10	5.17E-19	2.03E-19	2.15E-14	1.12E-20	1.58E-14	7.41E-10
n-Nitrosodimethylamine	2.13E-11	2.48E-19	9.74E-20	1.01E-15	0.00E+00	7.46E-16	2.13E-11
PAHs							
Benzo(a)pyrene	4.57E-15	1.16E-15	2.51E-16	1.83E-15	1.47E-18	1.35E-15	9.16E-15
Chrysene	2.17E-15	4.05E-17	1.11E-17	1.83E-16	3.73E-18	1.35E-16	2.54E-15
Dibenzo(a,h)anthracene	6.49E-15	1.34E-15	2.81E-16	1.83E-15	8.35E-16	1.35E-15	1.21E-14
Parathion	NE	NE	NE	NE	NE	NE	NE
Quinoline	1.99E-14	7.28E-19	2.85E-19	2.15E-16	6.96E-20	1.58E-16	2.03E-14
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Vapona	4.47E-18	8.29E-23	3.25E-23	4.52E-20	5.61E-26	3.32E-20	4.54E-18
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA
INORGANICS							
Arsenic	5.84E-15	3.65E-15	4.78E-17	4.14E-15	7.82E-15	3.05E-15	2.45E-14
Cadmium	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	NA	NA	NA	NA	NA	NA	NA
Total	1.01E-08	6.21E-15	5.96E-16	2.17E-13	8.66E-15	1.59E-13	1.01E-08

TABLE 30
CHILD CARCINOGENIC RISK

RES-A SENSITIVITY CASE	INHALATION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL CHILD CARC. RISK
ORGANICS								
Acrylonitrile	3.77E-14	NA	NA	NA	NA	NA	NA	3.77E-14
Aldrin	9.73E-18	7.40E-18	3.35E-19	2.18E-20	1.19E-19	7.70E-27	8.08E-20	1.77E-17
Aniline	1.18E-16	5.86E-17	1.04E-21	1.76E-22	1.44E-18	2.15E-22	9.81E-19	1.79E-16
Benzene	3.44E-18	NA	NA	NA	NA	NA	NA	3.44E-18
Bis(2-ethylhexyl)phthalate	3.56E-19	2.05E-19	2.32E-19	1.20E-20	4.33E-21	7.34E-27	2.95E-21	8.12E-19
Carbazole	4.15E-18	2.73E-19	3.77E-22	6.28E-23	5.05E-20	1.07E-23	3.44E-20	4.51E-18
Carbon Tetrachloride	7.82E-17	NA	NA	NA	NA	NA	NA	7.82E-17
Chloroform	4.14E-16	NA	NA	NA	NA	NA	NA	4.14E-16
1,4-Dichlorobenzene	1.80E-19	NA	NA	NA	NA	NA	NA	1.80E-19
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	9.66E-18	6.06E-18	1.49E-22	2.52E-23	1.18E-19	8.40E-25	8.01E-20	1.59E-17
1,1-Dichloroethene	2.18E-16	NA	NA	NA	NA	NA	NA	2.18E-16
1,2-Dichloropropane	4.58E-18	NA	NA	NA	NA	NA	NA	4.58E-18
Dieldrin	1.68E-17	8.58E-17	5.64E-20	5.74E-21	2.05E-19	2.78E-24	1.40E-19	1.03E-16
Hexachlorobenzene	4.45E-15	2.30E-16	4.80E-18	6.25E-19	5.42E-17	1.11E-19	3.69E-17	4.77E-15
Hydrazine	6.14E-11	1.37E-09	2.02E-18	3.42E-19	1.31E-13	1.70E-20	8.94E-14	1.43E-09
Lindane	6.35E-19	4.77E-20	5.84E-23	9.71E-24	7.73E-21	9.91E-27	5.27E-21	6.96E-19
Methyl chloride	8.89E-19	NA	NA	NA	NA	NA	NA	8.89E-19
Methylene chloride	1.19E-16	NA	NA	NA	NA	NA	NA	1.19E-16
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	1.25E-12	1.19E-10	2.33E-19	3.95E-20	1.52E-14	1.98E-21	1.03E-14	1.20E-10
n-Nitrosodimethylamine	5.87E-14	2.56E-12	1.12E-19	1.90E-20	7.15E-16	0.00E+00	4.87E-16	2.62E-12
PAHs								
Benzo(a)pyrene	5.62E-14	6.06E-16	5.24E-16	4.88E-17	1.29E-15	2.60E-19	8.80E-16	5.96E-14
Chrysene	5.62E-15	2.62E-16	1.83E-17	2.16E-18	1.29E-16	6.58E-19	8.80E-17	6.12E-15
Dibenzo(a,h)anthracene	5.62E-14	8.30E-16	6.06E-16	5.47E-17	1.29E-15	1.47E-16	8.80E-16	6.01E-14
Parathion	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	1.25E-14	2.69E-15	3.28E-19	5.54E-20	1.52E-16	1.23E-20	1.03E-16	1.54E-14
Tetrachloroethene	6.42E-20	NA	NA	NA	NA	NA	NA	6.42E-20
Trichloroethene	2.28E-18	NA	NA	NA	NA	NA	NA	2.28E-18
Vapona	2.62E-18	6.92E-19	3.74E-23	6.33E-24	3.19E-20	9.89E-27	2.17E-20	3.36E-18
Vinyl chloride	3.50E-17	NA	NA	NA	NA	NA	NA	3.50E-17
INORGANICS								
Arsenic	2.06E-12	8.23E-16	1.65E-15	9.31E-18	2.92E-15	1.38E-15	1.99E-15	2.07E-12
Cadmium	6.12E-15	NA	NA	NA	NA	NA	NA	6.12E-15
Chromium (VI)	5.86E-15	NA	NA	NA	NA	NA	NA	5.86E-15
Total	6.50E-11	1.49E-09	2.80E-15	1.16E-16	1.53E-13	1.53E-15	1.04E-13	1.55E-09

TABLE 31
INFANT CARCINOGENIC RISK

RES-A SENSITIVITY CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	TOTAL INFANT CARC. RISK
ORGANICS			
Acrylonitrile	2.46E-14	1.71E-16	2.48E-14
Aldrin	6.37E-18	2.12E-17	2.76E-17
Aniline	7.74E-17	2.17E-16	2.94E-16
Benzene	2.25E-18	2.61E-21	2.26E-18
Bis(2-ethylhexyl)phthalate	2.33E-19	1.80E-18	2.03E-18
Carbazole	2.71E-18	6.99E-18	9.70E-18
Carbon Tetrachloride	5.12E-17	8.89E-19	5.21E-17
Chloroform	2.71E-16	3.54E-19	2.71E-16
1,4-Dichlorobenzene	1.18E-19	2.05E-21	1.20E-19
1,1-Dichloroethane	NE	NE	NE
1,2-Dichloroethane	6.32E-18	1.87E-17	2.50E-17
1,1-Dichloroethene	1.43E-16	1.24E-18	1.44E-16
1,2-Dichloropropane	2.99E-18	5.20E-20	3.05E-18
Dieldrin	1.10E-17	7.03E-17	8.13E-17
Hexachlorobenzene	2.91E-15	1.69E-15	4.60E-15
Hydrazine	4.02E-11	5.56E-10	5.96E-10
Lindane	4.16E-19	1.07E-18	1.49E-18
Methyl chloride	5.82E-19	2.08E-20	6.02E-19
Methylene chloride	7.80E-17	7.25E-19	7.87E-17
4-Methylphenol	NE	NE	NE
Monomethyl hydrazine	8.15E-13	4.48E-11	4.56E-11
n-Nitrosodimethylamine	3.84E-14	1.33E-12	1.37E-12
PAHs			
Benzo(a)pyrene	3.68E-14	1.77E-13	2.14E-13
Chrysene	3.68E-15	1.77E-14	2.14E-14
Dibenzo(a,h)anthracene	3.68E-14	1.78E-13	2.15E-13
Parathion	NE	NE	NE
Quinoline	8.16E-15	2.18E-14	2.99E-14
Tetrachloroethene	4.20E-20	1.13E-20	5.33E-20
Trichloroethene	1.49E-18	2.59E-20	1.52E-18
Vapona	1.71E-18	4.59E-18	6.30E-18
Vinyl chloride	2.29E-17	3.10E-18	2.60E-17
INORGANICS			
Arsenic	1.35E-12	NA	1.35E-12
Cadmium	4.00E-15	NA	4.00E-15
Chromium (VI)	3.84E-15	NA	3.84E-15
Total	4.25E-11	6.03E-10	6.45E-10

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 32
TOTAL LIFETIME CARCINOGENIC RISK

RES-A SENSITIVITY CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS									
Acrylonitrile	6.23E-14	1.71E-16	NA	NA	NA	NA	NA	NA	6.25E-14
Aldrin	1.61E-17	2.12E-17	7.06E-17	1.08E-18	1.34E-19	2.87E-19	5.13E-26	2.04E-19	1.10E-16
Aniline	1.96E-16	2.17E-16	4.32E-16	3.35E-21	1.08E-21	3.48E-18	1.43E-21	2.48E-18	8.51E-16
Benzene	5.70E-18	2.61E-21	NA	NA	NA	NA	NA	NA	5.70E-18
Bis(2-ethylhexyl)phthalate	5.88E-19	1.80E-18	1.96E-18	7.46E-19	7.33E-20	1.05E-20	4.89E-26	7.46E-21	5.18E-18
Carbazole	6.86E-18	6.99E-18	2.40E-18	1.21E-21	3.85E-22	1.22E-19	7.11E-23	8.71E-20	1.65E-17
Carbon Tetrachloride	1.29E-16	8.89E-19	NA	NA	NA	NA	NA	NA	1.30E-16
Chloroform	6.85E-16	3.54E-19	NA	NA	NA	NA	NA	NA	6.85E-16
1,4-Dichlorobenzene	2.98E-19	2.05E-21	NA	NA	NA	NA	NA	NA	3.00E-19
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	1.60E-17	1.87E-17	5.30E-17	4.80E-22	1.55E-22	2.84E-19	5.60E-24	2.03E-19	8.81E-17
1,1-Dichloroethene	3.61E-16	1.24E-18	NA	NA	NA	NA	NA	NA	3.62E-16
1,2-Dichloropropane	7.57E-18	5.20E-20	NA	NA	NA	NA	NA	NA	7.62E-18
Dieldrin	2.78E-17	7.03E-17	8.19E-16	1.81E-19	3.52E-20	4.95E-19	1.86E-23	3.53E-19	9.18E-16
Hexachlorobenzene	7.36E-15	1.69E-15	2.16E-15	1.54E-17	3.83E-18	1.31E-16	7.40E-19	9.33E-17	1.14E-14
Hydrazine	1.02E-10	5.56E-10	1.07E-08	6.49E-18	2.10E-18	3.17E-13	1.14E-19	2.26E-13	1.14E-08
Lindane	1.05E-18	1.07E-18	4.25E-19	1.88E-22	5.95E-23	1.87E-20	6.61E-26	1.33E-20	2.58E-18
Methyl chloride	1.47E-18	2.08E-20	NA	NA	NA	NA	NA	NA	1.49E-18
Methylene chloride	1.97E-16	7.25E-19	NA	NA	NA	NA	NA	NA	1.98E-16
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	2.06E-12	4.48E-11	8.60E-10	7.50E-19	2.42E-19	3.67E-14	1.32E-20	2.61E-14	9.07E-10
n-Nitrosodimethylamine	9.72E-14	1.33E-12	2.39E-11	3.61E-19	1.16E-19	1.73E-15	0.00E+00	1.23E-15	2.53E-11
PAHs									
Benzo(a)pyrene	9.30E-14	1.77E-13	5.17E-15	1.69E-15	2.99E-16	3.12E-15	1.73E-18	2.23E-15	2.83E-13
Chrysene	9.30E-15	1.77E-14	2.43E-15	5.88E-17	1.33E-17	3.12E-16	4.39E-18	2.23E-16	3.01E-14
Dibenzo(a,h)anthracene	9.30E-14	1.78E-13	7.32E-15	1.95E-15	3.35E-16	3.12E-15	9.83E-16	2.23E-15	2.87E-13
Parathion	NE	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	2.06E-14	2.18E-14	2.26E-14	1.06E-18	3.40E-19	3.67E-16	8.19E-20	2.62E-16	6.56E-14
Tetrachloroethene	1.06E-19	1.13E-20	NA	NA	NA	NA	NA	NA	1.17E-19
Trichloroethene	3.77E-18	2.59E-20	NA	NA	NA	NA	NA	NA	3.80E-18
Vapona	4.33E-18	4.59E-18	5.16E-18	1.20E-22	3.88E-23	7.71E-20	6.60E-26	5.49E-20	1.42E-17
Vinyl chloride	5.79E-17	3.10E-18	NA	NA	NA	NA	NA	NA	6.10E-17
INORGANICS									
Arsenic	3.40E-12	NA	6.66E-15	5.29E-15	5.71E-17	7.07E-15	9.20E-15	5.04E-15	3.44E-12
Cadmium	1.01E-14	NA	NA	NA	NA	NA	NA	NA	1.01E-14
Chromium (VI)	9.70E-15	NA	NA	NA	NA	NA	NA	NA	9.70E-15
Total	1.07E-10	6.03E-10	1.16E-08	9.01E-15	7.12E-16	3.70E-13	1.02E-14	2.64E-13	1.23E-08

TABLE 33
TOTAL LIFETIME CARCINOGENIC RISK

RES-A SENSITIVITY CASE	INHALATION CARC. RISK	INGESTION CARC. RISK	DERMAL CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS				
Acrylonitrile	6.23E-14	1.71E-16	NA	6.25E-14
Aldrin	1.61E-17	9.33E-17	2.04E-19	1.10E-16
Aniline	1.96E-16	6.53E-16	2.48E-18	8.51E-16
Benzene	5.70E-18	2.61E-21	NA	5.70E-18
Bis(2-ethylhexyl)phthalate	5.88E-19	4.59E-18	7.46E-21	5.18E-18
Carbazole	6.86E-18	9.51E-18	8.71E-20	1.65E-17
Carbon Tetrachloride	1.29E-16	8.89E-19	NA	1.30E-16
Chloroform	6.85E-16	3.54E-19	NA	6.85E-16
1,4-Dichlorobenzene	2.98E-19	2.05E-21	NA	3.00E-19
1,1-Dichloroethane	NE	NE	NE	NE
1,2-Dichloroethane	1.60E-17	7.20E-17	2.03E-19	8.81E-17
1,1-Dichloroethene	3.61E-16	1.24E-18	NA	3.62E-16
1,2-Dichloropropane	7.57E-18	5.20E-20	NA	7.62E-18
Dieldrin	2.78E-17	8.90E-16	3.53E-19	9.18E-16
Hexachlorobenzene	7.36E-15	4.00E-15	9.33E-17	1.14E-14
Hydrazine	1.02E-10	1.13E-08	2.26E-13	1.14E-08
Lindane	1.05E-18	1.52E-18	1.33E-20	2.58E-18
Methyl chloride	1.47E-18	2.08E-20	NA	1.49E-18
Methylene chloride	1.97E-16	7.25E-19	NA	1.98E-16
4-Methylphenol	NE	NE	NE	NE
Monomethyl hydrazine	2.06E-12	9.05E-10	2.61E-14	9.07E-10
n-Nitrosodimethylamine	9.72E-14	2.52E-11	1.23E-15	2.53E-11
PAHs				
Benzo(a)pyrene	9.30E-14	1.88E-13	2.23E-15	2.83E-13
Chrysene	9.30E-15	2.05E-14	2.23E-16	3.01E-14
Dibenzo(a,h)anthracene	9.30E-14	1.92E-13	2.23E-15	2.87E-13
Parathion	NE	NE	NE	NE
Quinoline	2.06E-14	4.48E-14	2.62E-16	6.56E-14
Tetrachloroethene	1.06E-19	1.13E-20	NA	1.17E-19
Trichloroethene	3.77E-18	2.59E-20	NA	3.80E-18
Vapona	4.33E-18	9.82E-18	5.49E-20	1.42E-17
Vinyl chloride	5.79E-17	3.10E-18	NA	6.10E-17
INORGANICS				
Arsenic	3.40E-12	2.83E-14	5.04E-15	3.44E-12
Cadmium	1.01E-14	NA	NA	1.01E-14
Chromium (VI)	9.70E-15	NA	NA	9.70E-15
Total	1.07E-10	1.22E-08	2.64E-13	1.23E-08

TABLE 34
REFERENCE DOSES FOR NONCARCINOGENIC EFFECTS (mg/kg-day)

RES-A SENSITIVITY CASE	Inhalation RfD	Oral RfD	Dermal RfD
ORGANICS			
Acetone	1.82E+00	1.00E-01	NC
Acetonitrile	1.00E-02	6.00E-02	3.00E-02
Acrylonitrile	4.39E-03	2.70E-04	NC
Aldrin	2.55E-04	3.00E-05	1.50E-05
Aniline	7.76E-03	1.95E-03	9.75E-04
Atrazine	5.10E-03	5.00E-03	2.50E-03
Benzaldehyde	1.00E-01	1.00E-01	5.00E-02
Benzene	3.26E-02	1.00E-03	NC
Benzofuran	5.00E-03	5.00E-03	2.50E-03
Benzoic Acid	4.00E+00	4.00E+00	2.00E+00
Benzonitrile	8.00E-03	8.00E-03	4.00E-03
Benzothiazole	1.00E-03	1.00E-03	5.00E-04
Biphenyl	1.33E-03	5.00E-02	NC
Bis(2-ethylhexyl)phthalate	5.10E-03	4.00E-03	1.00E-02
Carbazole	5.00E-03	5.00E-03	2.50E-03
Carbon Tetrachloride	3.16E-02	7.00E-04	NC
4-Chloroaniline	4.00E-03	4.00E-03	2.00E-03
Chlorobenzene	5.00E-03	2.00E-02	NC
4-Chlorobiphenyl	2.45E-02	2.45E-02	1.22E-02
4,4-Chlorobiphenyl	2.33E-02	2.33E-02	1.16E-02
Chloroethane	2.65E+00	NA	NC
Chloroform	5.00E-02	1.00E-02	NC
Dibenzofuran	NA	NA	NA
Dichlorobenzenes (total)	4.00E-02	9.00E-02	NC
1,1-Dichloroethane	1.00E-01	1.00E-01	NC
1,2-Dichloroethane	4.08E-02	4.89E-03	2.45E-03
1,1-Dichloroethene	2.04E-02	9.00E-03	NC
1,2-Dichloroethene	8.10E-01	2.00E-02	NC
1,2-Dichloropropane	3.54E-01	8.60E-03	NC
Dieldrin	2.55E-04	5.00E-05	2.50E-05
Dimethyldisulfide	8.10E-03	8.10E-03	NC
Hexachlorobenzene	8.00E-04	8.00E-04	4.00E-04
Hydrazine	1.33E-04	6.00E-04	3.00E-04
Lindane	5.10E-04	3.00E-04	1.50E-04
Malathion	1.02E-02	2.00E-02	1.00E-02
Methyl chloride	1.05E-01	1.80E-02	NC
Methylene chloride	8.57E-01	6.00E-02	NC
Methyl ethyl ketone	9.00E-02	5.00E-01	2.50E-01
4-Methylphenol	1.02E-02	5.00E-02	2.50E-02
Monomethyl hydrazine	1.94E-05	2.20E-04	1.10E-04
Naphthalene	5.10E-02	4.00E-03	2.00E-03
Naphthalene carbonitrile	5.10E-02	4.00E-03	2.00E-03
n-Nitrosodimethylamine	2.80E-04	2.80E-04	1.40E-04
PAHs			
Acenaphthalene	6.00E-02	6.00E-02	3.00E-02
Acenaphthene	6.00E-02	6.00E-02	3.00E-02
Benzo(a)pyrene	3.00E-02	3.00E-02	1.50E-02
Chrysene	3.00E-02	3.00E-02	1.50E-02

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

	B	C	D	E	F
155			TABLE 34		
215		Dibenzo(a,h)anthracene	3.00E-02	3.00E-02	1.50E-02
216		Fluoranthene	4.00E-02	4.00E-02	2.00E-02
217		Fluorene	4.00E-02	4.00E-02	2.00E-02
218		Phenanthrene	3.00E-02	3.00E-02	1.50E-02
219		Pyrene	3.00E-02	3.00E-02	1.50E-02
220		Parathion	5.10E-05	6.00E-03	3.00E-03
221		Pentachlorobenzene	8.00E-04	8.00E-04	4.00E-04
222		Phenol	1.94E-02	6.00E-01	3.00E-01
223		Pyridine	1.63E-02	1.00E-03	NC
224		Quinoline	2.00E-01	2.00E-01	1.00E-01
225		Tetrachlorobenzene	3.00E-04	3.00E-04	1.50E-04
226		Tetrachloroethene	3.46E-01	1.00E-02	NC
227		Toluene	5.71E-01	2.00E-01	NC
228		Trichlorobenzene	3.00E-03	2.00E-02	1.00E-02
229		Trichloroethene	2.74E-01	7.35E-03	NC
230		Unsym. dimethyl hydrazine	1.22E-03	1.22E-03	6.10E-04
231		Vapona	8.00E-04	8.00E-04	4.00E-04
232		Vinyl acetate	2.00E-01	1.00E+00	NC
233		Vinyl chloride	1.33E-02	1.30E-03	NC
234		Xylenes (total)	8.57E-02	2.00E+00	NC
235					
236	INORGANICS				
237		Arsenic	2.04E-04	1.00E-03	5.00E-05
238		Cadmium	5.10E-05	1.00E-03	5.00E-05
239		Chromium (III)	5.10E-04	NC	NC
240		Chromium (VI)	5.10E-05	NC	NC
241		Copper	1.00E-02	3.80E-02	NC
242		Iron	1.02E-03	NC	NC
243		Mercury	8.57E-05	3.00E-04	1.50E-05
244		Selenium	2.04E-04	NC	NC
245		Silver	1.02E-05	NC	NC
246		Zinc	8.19E-03	2.00E-01	NC

TABLE 35
ADULT HAZARD INDEX

RES-A SENSITIVITY CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL ADULT HAZARD INDEX
ORGANICS								
Acetone	6.94E-15	NA	NA	NA	NA	NA	NA	6.94E-15
Acetonitrile	1.14E-09	2.05E-10	4.04E-17	1.57E-17	1.18E-13	1.29E-19	8.66E-14	1.35E-09
Acrylonitrile	1.11E-09	NA	NA	NA	NA	NA	NA	1.11E-09
Aldrin	6.96E-14	1.53E-13	4.83E-14	5.48E-15	3.66E-16	9.36E-23	2.69E-16	2.77E-13
Aniline	8.28E-11	4.58E-11	2.38E-16	9.12E-17	2.04E-13	1.20E-16	1.50E-13	1.29E-10
Atrazine	7.79E-13	4.38E-14	4.33E-18	1.35E-18	4.91E-16	0.00E+00	3.61E-16	8.23E-13
Benzaldehyde	2.93E-12	2.39E-13	3.87E-18	1.44E-18	1.81E-15	2.51E-19	1.33E-15	3.17E-12
Benzene	1.13E-13	NA	NA	NA	NA	NA	NA	1.13E-13
Benzofuran	2.85E-10	1.58E-11	1.53E-15	4.80E-16	1.76E-13	1.11E-16	1.29E-13	3.01E-10
Benzoic Acid	3.59E-14	2.22E-15	7.25E-20	2.60E-20	2.21E-17	5.49E-21	1.63E-17	3.81E-14
Benzonitrile	3.91E-10	2.99E-11	5.63E-16	2.08E-16	2.42E-13	3.73E-17	1.78E-13	4.21E-10
Benzothiazole	1.33E-12	7.62E-14	3.16E-18	1.12E-18	8.24E-16	2.51E-21	6.06E-16	1.41E-12
Biphenyl	1.08E-09	NA	NA	NA	NA	NA	NA	1.08E-09
Bis(2-ethylhexyl)phthalate	1.54E-13	3.98E-14	3.42E-13	3.84E-14	1.22E-16	8.13E-22	1.79E-17	5.75E-13
Carbazole	1.29E-12	5.68E-14	1.72E-17	4.46E-18	7.94E-16	6.61E-19	5.84E-16	1.34E-12
Carbon Tetrachloride	5.90E-13	NA	NA	NA	NA	NA	NA	5.90E-13
4-Chloroaniline	9.20E-14	5.54E-15	1.78E-19	6.41E-20	5.68E-17	2.36E-19	4.18E-17	9.76E-14
Chlorobenzene	1.77E-13	NA	NA	NA	NA	NA	NA	1.77E-13
4-Chlorobiphenyl	3.70E-14	1.26E-15	1.07E-17	1.55E-18	2.29E-17	1.39E-20	1.69E-17	3.83E-14
4,4-Chlorobiphenyl	1.96E-15	6.28E-17	2.54E-18	3.20E-19	1.21E-18	2.45E-22	8.94E-19	2.03E-15
Chloroethane	1.23E-14	NE	NE	NE	NE	NE	NE	1.23E-14
Chloroform	3.17E-12	NA	NA	NA	NA	NA	NA	3.17E-12
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	9.20E-14	NA	NA	NA	NA	NA	NA	9.20E-14
1,1-Dichloroethane	1.05E-13	NA	NA	NA	NA	NA	NA	1.05E-13
1,2-Dichloroethane	8.06E-14	1.34E-13	8.88E-19	3.30E-19	4.16E-16	1.17E-20	3.06E-16	2.16E-13
1,1-Dichloroethene	2.76E-13	NA	NA	NA	NA	NA	NA	2.76E-13
1,2-Dichloroethene	6.02E-15	NA	NA	NA	NA	NA	NA	6.02E-15
1,2-Dichloropropane	5.89E-15	NA	NA	NA	NA	NA	NA	5.89E-15
Dieldrin	1.28E-13	1.03E-12	3.42E-15	4.05E-16	4.03E-16	2.16E-20	2.96E-16	1.17E-12
Dimethyldisulfide	1.11E-12	NA	NA	NA	NA	NA	NA	1.11E-12
Hexachlorobenzene	1.08E-10	4.46E-12	1.09E-13	1.40E-14	6.65E-14	5.38E-16	4.89E-14	1.12E-10
Hydrazine	8.37E-07	5.76E-06	2.76E-15	1.08E-15	1.15E-10	5.87E-17	8.43E-11	6.59E-06
Lindane	2.97E-14	2.38E-15	6.85E-19	1.77E-19	3.12E-17	1.58E-22	2.29E-17	3.21E-14
Malathion	4.39E-15	8.49E-17	1.63E-20	4.82E-21	1.38E-18	0.00E+00	1.02E-18	4.47E-15
Methyl chloride	4.16E-14	NA	NA	NA	NA	NA	NA	4.16E-14
Methylene chloride	3.08E-13	NA	NA	NA	NA	NA	NA	3.08E-13
Methyl ethyl ketone	6.14E-14	5.85E-15	4.22E-21	1.64E-21	6.83E-18	0.00E+00	5.02E-18	6.73E-14
4-Methylphenol	4.92E-13	1.03E-14	2.20E-19	7.82E-20	6.20E-17	5.43E-22	4.56E-17	5.02E-13
Monomethyl hydrazine	1.81E-06	3.40E-06	2.37E-15	9.30E-16	9.86E-11	5.07E-17	7.25E-11	5.21E-06
Naphthalene	1.16E-14	7.54E-15	2.18E-18	5.53E-19	9.14E-17	3.71E-17	6.72E-17	1.93E-14
Naphthalene carbonitrile	6.14E-11	3.99E-11	1.15E-14	2.92E-15	4.83E-13	8.55E-16	3.56E-13	1.02E-10
n-Nitrosodimethylamine	1.28E-10	1.66E-09	1.94E-17	7.58E-18	7.88E-14	0.00E+00	5.79E-14	1.79E-09
PAHs								
Acenaphthalene	2.37E-12	1.25E-13	1.26E-16	2.40E-17	1.47E-15	1.75E-18	1.08E-15	2.50E-12
Acenaphthene	2.37E-12	9.17E-14	9.46E-17	1.92E-17	1.47E-15	6.78E-19	1.08E-15	2.47E-12
Benzo(a)pyrene	9.53E-12	2.61E-13	8.25E-14	9.63E-15	5.89E-15	4.67E-18	4.33E-15	9.89E-12
Chrysene	9.53E-13	3.16E-14	1.98E-15	2.43E-16	5.89E-16	1.18E-17	4.33E-16	9.88E-13

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

	B	C	H	I	J	K	L	M	N	O
155										
156			TABLE 35							
215		Dibenzo(a,h)anthracene	9.53E-12	2.67E-13	9.90E-14	1.15E-14	5.89E-15	2.65E-15	4.33E-15	9.92E-12
216		Fluoranthene	7.15E-12	2.80E-13	4.16E-15	5.58E-16	4.41E-15	NA	3.25E-15	7.44E-12
217		Fluorene	7.15E-13	3.01E-14	6.99E-17	1.19E-17	4.41E-16	7.30E-19	3.25E-16	7.45E-13
218		Phenanthrene	3.71E-15	1.41E-16	5.36E-19	8.53E-20	2.29E-18	3.35E-18	1.69E-18	3.86E-15
219		Pyrene	1.91E-11	7.31E-13	1.02E-14	1.37E-15	1.18E-14	5.35E-17	8.66E-15	1.98E-11
220		Parathion	1.39E-12	4.64E-16	3.84E-19	8.15E-20	7.29E-18	5.29E-23	5.36E-18	1.39E-12
221		Pentachlorobenzene	4.39E-11	2.41E-12	1.88E-14	2.60E-15	2.71E-14	NA	1.99E-14	4.64E-11
222		Phenol	2.89E-14	1.87E-16	1.21E-21	4.50E-22	5.78E-19	NA	4.25E-19	2.91E-14
223		Pyridine	1.92E-10	NA	NA	NA	NA	NA	NA	1.92E-10
224		Quinoline	1.61E-13	1.34E-14	3.91E-19	1.38E-19	9.94E-17	3.17E-20	7.32E-17	1.75E-13
225		Tetrachlorobenzene	5.75E-11	5.34E-12	5.51E-15	9.40E-16	3.55E-14	NA	2.61E-14	6.29E-11
226		Tetrachloroethene	1.74E-15	NA	NA	NA	NA	NA	NA	1.74E-15
227		Toluene	1.68E-14	NA	NA	NA	NA	NA	NA	1.68E-14
228		Trichlorobenzene	2.91E-12	1.48E-14	1.95E-17	3.86E-18	2.70E-16	4.80E-19	1.98E-16	2.93E-12
229		Trichloroethene	2.35E-14	NA	NA	NA	NA	NA	NA	2.35E-14
230		Unsym. dimethyl hydrazine	1.13E-07	1.58E-06	3.19E-15	1.25E-15	7.01E-11	3.60E-17	5.16E-11	1.69E-06
231		Vapona	3.50E-13	3.04E-14	4.24E-19	1.58E-19	2.16E-16	2.64E-22	1.59E-16	3.81E-13
232		Vinyl acetate	1.99E-14	NA	NA	NA	NA	NA	NA	1.99E-14
233		Vinyl chloride	2.77E-13	NA	NA	NA	NA	NA	NA	2.77E-13
234		Xylenes (total)	8.00E-15	NA	NA	NA	NA	NA	NA	8.00E-15
235										
236	INORGANICS									
237		Arsenic	2.08E-08	1.14E-10	1.22E-11	1.50E-13	2.63E-12	4.89E-12	1.93E-12	2.10E-08
238		Cadmium	6.10E-10	8.90E-13	1.80E-14	5.03E-16	1.92E-14	NA	1.41E-14	6.11E-10
239		Chromium (III)	2.47E-10	NA	NA	NA	NA	NA	NA	2.47E-10
240		Chromium (VI)	8.69E-11	NA	NA	NA	NA	NA	NA	8.69E-11
241		Copper	3.18E-11	NA	NA	NA	NA	3.08E-14	NA	3.18E-11
242		Iron	9.52E-06	NA	NA	NA	NA	NA	NA	9.52E-06
243		Mercury	2.36E-09	1.99E-11	1.69E-13	6.23E-12	4.17E-13	NA	3.07E-13	2.39E-09
244		Selenium	2.56E-09	NA	NA	NA	NA	NA	NA	2.56E-09
245		Silver	3.19E-10	NA	NA	NA	NA	NA	NA	3.19E-10
246		Zinc	1.75E-10	NA	NA	NA	NA	1.29E-14	NA	1.75E-10
247										
248		Total (Hazard Index)	1.23E-05	1.07E-05	1.31E-11	6.48E-12	2.88E-10	4.94E-12	2.12E-10	2.31E-05

TABLE 36
CHILD HAZARD INDEX

RES-A SENSITIVITY CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL CHILD HAZARD INDEX
ORGANICS								
Acetone	1.57E-14	NA	NA	NA	NA	NA	NA	1.57E-14
Acetonitrile	2.58E-09	3.66E-10	2.33E-16	3.93E-17	1.06E-12	2.92E-19	7.24E-13	2.95E-09
Acrylonitrile	2.50E-09	NA	NA	NA	NA	NA	NA	2.50E-09
Aldrin	1.57E-13	2.35E-13	2.79E-13	1.37E-14	3.30E-15	2.11E-22	2.25E-15	6.90E-13
Aniline	1.87E-10	9.07E-11	1.38E-15	2.27E-16	1.84E-12	2.70E-16	1.25E-12	2.81E-10
Atrazine	1.76E-12	7.74E-14	2.50E-17	3.38E-18	4.43E-15	0.00E+00	3.02E-15	1.84E-12
Benzaldehyde	6.61E-12	4.63E-13	2.23E-17	3.58E-18	1.63E-14	5.67E-19	1.11E-14	7.10E-12
Benzene	2.55E-13	NA	NA	NA	NA	NA	NA	2.55E-13
Benzofuran	6.43E-10	2.79E-11	8.85E-15	1.20E-15	1.59E-12	2.50E-16	1.08E-12	6.74E-10
Benzoic Acid	8.10E-14	4.23E-15	4.19E-19	6.49E-20	2.00E-16	1.24E-20	1.36E-16	8.55E-14
Benzonitrile	8.83E-10	5.78E-11	3.25E-15	5.18E-16	2.18E-12	8.43E-17	1.49E-12	9.45E-10
Benzothiazole	3.01E-12	1.44E-13	1.83E-17	2.79E-18	7.44E-15	5.67E-21	5.07E-15	3.17E-12
Biphenyl	2.43E-09	NA	NA	NA	NA	NA	NA	2.43E-09
Bis(2-ethylhexyl)phthalate	3.49E-13	6.15E-14	1.98E-12	9.59E-14	1.10E-15	1.83E-21	1.50E-16	2.48E-12
Carbazole	2.90E-12	1.00E-13	9.91E-17	1.11E-17	7.17E-15	1.49E-18	4.89E-15	3.02E-12
Carbon Tetrachloride	1.33E-12	NA	NA	NA	NA	NA	NA	1.33E-12
4-Chloroaniline	2.08E-13	1.07E-14	1.03E-18	1.60E-19	5.13E-16	5.34E-19	3.50E-16	2.19E-13
Chlorobenzene	3.99E-13	NA	NA	NA	NA	NA	NA	3.99E-13
4-Chlorobiphenyl	8.36E-14	2.24E-15	6.21E-17	3.87E-18	2.06E-16	3.13E-20	1.41E-16	8.62E-14
4,4-Chlorobiphenyl	4.42E-15	1.13E-16	1.46E-17	7.97E-19	1.09E-17	5.53E-22	7.48E-18	4.57E-15
Chloroethane	2.77E-14	NE	NE	NE	NE	NE	NE	2.77E-14
Chloroform	7.16E-12	NA	NA	NA	NA	NA	NA	7.16E-12
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	2.08E-13	NA	NA	NA	NA	NA	NA	2.08E-13
1,1-Dichloroethane	2.38E-13	NA	NA	NA	NA	NA	NA	2.38E-13
1,2-Dichloroethane	1.82E-13	2.25E-13	5.13E-18	8.23E-19	3.75E-15	2.64E-20	2.56E-15	4.14E-13
1,1-Dichloroethene	6.24E-13	NA	NA	NA	NA	NA	NA	6.24E-13
1,2-Dichloroethene	1.36E-14	NA	NA	NA	NA	NA	NA	1.36E-14
1,2-Dichloropropane	1.33E-14	NA	NA	NA	NA	NA	NA	1.33E-14
Dieldrin	2.89E-13	1.55E-12	1.98E-14	1.01E-15	3.64E-15	4.87E-20	2.48E-15	1.87E-12
Dimethyldisulfide	2.50E-12	NA	NA	NA	NA	NA	NA	2.50E-12
Hexachlorobenzene	2.43E-10	7.71E-12	6.30E-13	3.48E-14	6.01E-13	1.21E-15	4.09E-13	2.53E-10
Hydrazine	1.89E-06	1.08E-05	1.59E-14	2.70E-15	1.04E-09	1.33E-16	7.05E-10	1.27E-05
Lindane	6.70E-14	4.16E-15	3.95E-18	4.42E-19	2.82E-16	3.56E-22	1.92E-16	7.17E-14
Malathion	9.90E-15	1.57E-16	9.42E-20	1.20E-20	1.25E-17	0.00E+00	8.50E-18	1.01E-14
Methyl chloride	9.40E-14	NA	NA	NA	NA	NA	NA	9.40E-14
Methylene chloride	6.95E-13	NA	NA	NA	NA	NA	NA	6.95E-13
Methyl ethyl ketone	1.39E-13	1.04E-14	2.44E-20	4.08E-21	6.17E-17	0.00E+00	4.20E-17	1.49E-13
4-Methylphenol	1.11E-12	1.78E-14	1.27E-18	1.95E-19	5.60E-16	1.23E-21	3.81E-16	1.13E-12
Monomethyl hydrazine	4.09E-06	6.96E-06	1.37E-14	2.32E-15	8.90E-10	1.14E-16	6.06E-10	1.11E-05
Naphthalene	2.62E-14	1.30E-14	1.26E-17	1.38E-18	8.25E-16	8.38E-17	5.62E-16	4.07E-14
Naphthalene carbonitrile	1.39E-10	6.88E-11	6.64E-14	7.29E-15	4.36E-12	1.93E-15	2.97E-12	2.15E-10
n-Nitrosodimethylamine	2.88E-10	2.55E-09	1.12E-16	1.89E-17	7.11E-13	0.00E+00	4.85E-13	2.84E-09
PAHs								
Acenaphthalene	5.36E-12	2.12E-13	7.26E-16	6.00E-17	1.32E-14	3.95E-18	9.02E-15	5.59E-12
Acenaphthene	5.36E-12	1.62E-13	5.46E-16	4.79E-17	1.32E-14	1.53E-18	9.02E-15	5.54E-12
Benzo(a)pyrene	2.15E-11	4.81E-13	4.76E-13	2.40E-14	5.32E-14	1.06E-17	3.62E-14	2.26E-11
Chrysene	2.15E-12	5.64E-14	1.14E-14	6.05E-16	5.32E-15	2.67E-17	3.62E-15	2.23E-12

	B	C	Q	R	S	T	U	V	W	X
155			TABLE 36							
156										
215		Dibenzo(a,h)anthracene	2.15E-11	4.91E-13	5.72E-13	2.87E-14	5.32E-14	5.98E-15	3.62E-14	2.27E-11
216		Fluoranthene	1.61E-11	4.89E-13	2.40E-14	1.39E-15	3.99E-14	NA	2.72E-14	1.67E-11
217		Fluorene	1.61E-12	5.22E-14	4.04E-16	2.96E-17	3.99E-15	1.65E-18	2.72E-15	1.67E-12
218		Phenanthrene	8.38E-15	2.47E-16	3.10E-18	2.13E-19	2.07E-17	7.57E-18	1.41E-17	8.67E-15
219		Pyrene	4.30E-11	1.28E-12	5.87E-14	3.42E-15	1.06E-13	1.21E-16	7.24E-14	4.45E-11
220		Parathion	3.13E-12	8.20E-16	2.22E-18	2.03E-19	6.58E-17	1.19E-22	4.49E-17	3.14E-12
221		Pentachlorobenzene	9.91E-11	4.04E-12	1.09E-13	6.48E-15	2.45E-13	NA	1.67E-13	1.04E-10
222		Phenol	6.54E-14	3.14E-16	6.99E-21	1.12E-21	5.22E-18	NA	3.56E-18	6.57E-14
223		Pyridine	4.33E-10	NA	NA	NA	NA	NA	NA	4.33E-10
224		Quinoline	3.63E-13	2.36E-14	2.26E-18	3.43E-19	8.98E-16	7.16E-20	6.12E-16	3.89E-13
225		Tetrachlorobenzene	1.30E-10	8.57E-12	3.18E-14	2.34E-15	3.21E-13	NA	2.19E-13	1.39E-10
226		Tetrachloroethene	3.93E-15	NA	NA	NA	NA	NA	NA	3.93E-15
227		Toluene	3.80E-14	NA	NA	NA	NA	NA	NA	3.80E-14
228		Trichlorobenzene	6.57E-12	2.67E-14	1.13E-16	9.63E-18	2.44E-15	1.08E-18	1.66E-15	6.61E-12
229		Trichloroethene	5.30E-14	NA	NA	NA	NA	NA	NA	5.30E-14
230		Unsym. dimethyl hydrazine	2.56E-07	2.91E-06	1.84E-14	3.12E-15	6.33E-10	8.13E-17	4.31E-10	3.17E-06
231		Vapona	7.90E-13	5.91E-14	2.45E-18	3.95E-19	1.95E-15	5.97E-22	1.33E-15	8.52E-13
232		Vinyl acetate	4.48E-14	NA	NA	NA	NA	NA	NA	4.48E-14
233		Vinyl chloride	6.25E-13	NA	NA	NA	NA	NA	NA	6.25E-13
234		Xylenes (total)	1.81E-14	NA	NA	NA	NA	NA	NA	1.81E-14
235										
236	INORGANICS									
237		Arsenic	4.71E-08	2.10E-10	7.03E-11	3.73E-13	2.37E-11	1.10E-11	1.62E-11	4.74E-08
238		Cadmium	1.38E-09	1.64E-12	1.04E-13	1.25E-15	1.73E-13	NA	1.18E-13	1.38E-09
239		Chromium (III)	5.58E-10	NA	NA	NA	NA	NA	NA	5.58E-10
240		Chromium (VI)	1.96E-10	NA	NA	NA	NA	NA	NA	1.96E-10
241		Copper	7.18E-11	NA	NA	NA	NA	6.95E-14	NA	7.19E-11
242		Iron	2.15E-05	NA	NA	NA	NA	NA	NA	2.15E-05
243		Mercury	5.34E-09	3.63E-11	9.76E-13	1.55E-11	3.77E-12	NA	2.57E-12	5.40E-09
244		Selenium	5.78E-09	NA	NA	NA	NA	NA	NA	5.78E-09
245		Silver	7.19E-10	NA	NA	NA	NA	NA	NA	7.19E-10
246		Zinc	3.95E-10	NA	NA	NA	NA	2.92E-14	NA	3.95E-10
247										
248		Total (Hazard Index)	2.78E-05	2.07E-05	7.57E-11	1.62E-11	2.60E-09	1.11E-11	1.77E-09	4.85E-05

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 37
INFANT HAZARD INDEX

RES-A SENSITIVITY CASE	INHALATION HAZARD QUOTIENT	BREAST MILK INGESTION HAZARD QUOTIENT	TOTAL INFANT HAZARD INDEX
ORGANICS			
Acetone	1.03E-14	3.24E-15	1.35E-14
Acetonitrile	1.69E-09	1.44E-09	3.13E-09
Acrylonitrile	1.64E-09	8.22E-11	1.72E-09
Aldrin	1.03E-13	2.91E-12	3.01E-12
Aniline	1.22E-10	1.37E-09	1.49E-09
Atrazine	1.15E-12	3.05E-12	4.20E-12
Benzaldehyde	4.33E-12	1.15E-11	1.59E-11
Benzene	1.67E-13	6.29E-15	1.73E-13
Benzofuran	4.21E-10	1.09E-09	1.52E-09
Benzoic Acid	5.30E-14	1.39E-13	1.92E-13
Benzonitrile	5.78E-10	1.53E-09	2.11E-09
Benzothiazole	1.97E-12	5.14E-12	7.11E-12
Biphenyl	1.59E-09	7.36E-13	1.59E-09
Bis(2-ethylhexyl)phthalate	2.28E-13	2.25E-12	2.48E-12
Carbazole	1.90E-12	4.89E-12	6.79E-12
Carbon Tetrachloride	8.72E-13	6.84E-13	1.56E-12
4-Chloroaniline	1.36E-13	3.55E-13	4.91E-13
Chlorobenzene	2.61E-13	1.13E-15	2.63E-13
4-Chlorobiphenyl	5.47E-14	1.39E-13	1.94E-13
4,4-Chlorobiphenyl	2.89E-15	7.37E-15	1.03E-14
Chloroethane	1.81E-14	NE	1.81E-14
Chloroform	4.68E-12	4.06E-13	5.09E-12
Dibenzofuran	NE	NE	NE
Dichlorobenzenes (total)	1.36E-13	1.05E-15	1.37E-13
1,1-Dichloroethane	1.56E-13	2.70E-15	1.58E-13
1,2-Dichloroethane	1.19E-13	2.94E-12	3.06E-12
1,1-Dichloroethene	4.08E-13	1.61E-14	4.24E-13
1,2-Dichloroethene	8.89E-15	6.25E-15	1.51E-14
1,2-Dichloropropane	8.71E-15	6.22E-15	1.49E-14
Dieldrin	1.89E-13	6.15E-12	6.34E-12
Dimethyldisulfide	1.63E-12	2.84E-14	1.66E-12
Hexachlorobenzene	1.59E-10	9.22E-11	2.51E-10
Hydrazine	1.24E-06	2.16E-05	2.29E-05
Lindane	4.39E-14	1.93E-13	2.36E-13
Malathion	6.48E-15	8.45E-15	1.49E-14
Methyl chloride	6.15E-14	6.23E-15	6.78E-14
Methylene chloride	4.55E-13	1.13E-13	5.68E-13
Methyl ethyl ketone	9.07E-14	6.16E-14	1.52E-13
4-Methylphenol	7.26E-13	4.03E-13	1.13E-12
Monomethyl hydrazine	2.67E-06	1.30E-05	1.56E-05
Naphthalene	1.71E-14	5.66E-13	5.84E-13
Naphthalene carbonitrile	9.07E-11	2.99E-09	3.09E-09
n-Nitrosodimethylamine	1.88E-10	6.51E-09	6.70E-09
PAHs			
Acenaphthalene	3.51E-12	9.10E-12	1.26E-11
Acenaphthene	3.51E-12	8.98E-12	1.25E-11
Benzo(a)pyrene	1.41E-11	3.60E-11	5.01E-11
Chrysene	1.41E-12	3.59E-12	5.00E-12

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

155	B	C	Z	AA	AB
156			TABLE 37		
215		Dibenzo(a,h)anthracene	1.41E-11	3.61E-11	5.02E-11
216		Fluoranthene	1.06E-11	2.71E-11	3.76E-11
217		Fluorene	1.06E-12	2.71E-12	3.77E-12
218		Phenanthrene	5.48E-15	1.40E-14	1.95E-14
219		Pyrene	2.82E-11	7.21E-11	1.00E-10
220		Parathion	2.05E-12	4.47E-14	2.10E-12
221		Pentachlorobenzene	6.48E-11	3.80E-11	1.03E-10
222		Phenol	4.28E-14	4.09E-15	4.69E-14
223		Pyridine	2.84E-10	8.03E-11	3.64E-10
224		Quinoline	2.38E-13	6.35E-13	8.73E-13
225		Tetrachlorobenzene	8.50E-11	5.16E-11	1.37E-10
226		Tetrachloroethene	2.57E-15	1.55E-15	4.12E-15
227		Toluene	2.49E-14	2.05E-16	2.51E-14
228		Trichlorobenzene	4.30E-12	3.71E-13	4.67E-12
229		Trichloroethene	3.47E-14	2.24E-14	5.71E-14
230		Unsym. dimethyl hydrazine	1.68E-07	6.16E-06	6.32E-06
231		Vapona	5.17E-13	1.38E-12	1.90E-12
232		Vinyl acetate	2.93E-14	1.02E-16	2.94E-14
233		Vinyl chloride	4.09E-13	7.26E-14	4.82E-13
234		Xylenes (total)	1.18E-14	2.93E-19	1.18E-14
235					
236	INORGANICS				
237		Arsenic	3.08E-08	NE	3.08E-08
238		Cadmium	9.01E-10	NE	9.01E-10
239		Chromium (III)	3.65E-10	NE	3.65E-10
240		Chromium (VI)	1.28E-10	NE	1.28E-10
241		Copper	4.70E-11	NE	4.70E-11
242		Iron	1.41E-05	NE	1.41E-05
243		Mercury	3.49E-09	NE	3.49E-09
244		Selenium	3.78E-09	NE	3.78E-09
245		Silver	4.71E-10	NE	4.71E-10
246		Zinc	2.59E-10	NE	2.59E-10
247					
248		Total (Hazard Index)	1.82E-05	4.08E-05	5.90E-05

A	B	C	D
253		TABLE 38	
254		CARCINOGENIC RISK	
255		CONTRIBUTION BY PATHWAY	
256			
257		RES-A	
258		SENSITIVITY CASE	
259			
260		Adult	
261		Inhalation	NA
262			
263		Ingestion	82.1174
264		Vegetables	82.1155
265		Milk	0.0001
266		Beef	0.0000
267		Soil\Dust	0.0018
268		Fish	0.0001
269			
270		Dermal	0.0013
271			
272		Child	
273		Inhalation	C.5283
274			
275		Ingestion	12.1035
276		Vegetables	12.1022
277		Milk	0.0000
278		Beef	0.0000
279		Soil\Dust	0.0012
280		Fish	0.0000
281			
282		Dermal	0.0008
283			
284		Infant	
285		Inhalation	0.3458
286			
287		Breast Milk Ingestion	4.9029
288			
290		Total	100.0000

A	B	C	AS	AT
98			TABLE 39	
99			ADULT INHALATION CARCINOGENIC RISK	
100			(These numbers are for sensitivity	
101			analysis)	
102				
103	RES-A		INHALATION	
104	SENSITIVITY CASE		ADULT	
105			CARC.	
106			RISK	
107				
108	ORGANICS			
109		Acrylonitrile	3.34E-14	
110		Aldrin	8.62E-18	
111		Aniline	1.05E-16	
112		Benzene	3.05E-18	
113		Bis(2-ethylhexyl)phthalate	3.15E-19	
114		Carbazole	3.67E-18	
115		Carbon Tetrachloride	6.93E-17	
116		Chloroform	3.67E-16	
117		1,4-Dichlorobenzene	1.60E-19	
118		1,1-Dichloroethane	NE	
119		1,2-Dichloroethane	8.55E-18	
120		1,1-Dichloroethene	1.93E-16	
121		1,2-Dichloropropane	4.05E-18	
122		Dieldrin	1.49E-17	
123		Hexachlorobenzene	3.94E-15	
124		Hydrazine	5.44E-11	
125		Lindane	5.62E-19	
126		Methyl chloride	7.87E-19	
127		Methylene chloride	1.06E-16	
128		4-Methylphenol	NE	
129		Monomethyl hydrazine	1.10E-12	
130		n-Nitrosodimethylamine	5.20E-14	
131		PAHs		
132		Benzo(a)pyrene	4.98E-14	
133		Chrysene	4.98E-15	
134		Dibenzo(a,h)anthracene	4.98E-14	
135		Parathion	NE	
136		Quinoline	1.10E-14	
137		Tetrachloroethene	5.68E-20	
138		Trichloroethene	2.02E-18	
139		Vapona	2.32E-18	
140		Vinyl chloride	3.10E-17	
141				
142	INORGANICS			
143		Arsenic	1.82E-12	
144		Cadmium	5.42E-15	
145		Chromium (VI)	5.19E-15	
146				
147		Total	5.75E-11	
148				
149			INHALATION	2 YEARS
150			EXPOSURE DURATION	

9.2 RESIDENT B SCENARIO

9.2.1 Base Case Emissions — Resident B

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
3										
4		BASE CASE	ER	AC	D	D	CO	CO	CO	CO
5							AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6				AVG. ANN.	TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	EMISSION	AMBIENT	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:32:20	RATE	CONC.	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		RES-B	g/sec	ug/M3	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10							mg/Kg	mg/Kg	mg/Kg	mg/Kg
11										
12	ORGANICS									
13		Acetone	1.26E-10	8.77E-12	NA	NA	NA	NA	NA	NA
14		Acetonitrile	1.14E-07	7.93E-09	5.72E-10	2.91E-11	3.96E-09	4.02E-09	7.92E-09	8.03E-09
15		Acrylonitrile	4.85E-08	3.38E-09	NA	NA	NA	NA	NA	NA
16		Aldrin	1.77E-13	1.23E-14	8.89E-16	4.51E-17	6.15E-15	6.24E-15	1.23E-14	1.25E-14
17		Aniline	6.41E-09	4.46E-10	3.22E-11	1.63E-12	2.23E-10	2.26E-10	4.45E-10	4.52E-10
18		Atrazine	3.96E-11	2.76E-12	1.99E-13	1.01E-14	1.38E-12	1.40E-12	2.75E-12	2.79E-12
19		Benzaldehyde	2.92E-09	2.03E-10	1.47E-11	7.45E-13	1.01E-10	1.03E-10	2.03E-10	2.06E-10
20		Benzene	3.67E-11	2.55E-12	NA	NA	NA	NA	NA	NA
21		Benzofuran	1.42E-08	9.88E-10	7.13E-11	3.62E-12	4.93E-10	5.00E-10	9.86E-10	1.00E-09
22		Benzoic Acid	1.43E-09	9.95E-11	7.18E-12	3.65E-13	4.97E-11	5.04E-11	9.93E-11	1.01E-10
23		Benzonitrile	3.12E-08	2.17E-09	1.57E-10	7.96E-12	1.08E-09	1.10E-09	2.17E-09	2.20E-09
24		Benzothiazole	1.33E-11	9.26E-13	6.68E-14	3.39E-15	4.62E-13	4.69E-13	9.24E-13	9.37E-13
25		Biphenyl	1.43E-08	9.95E-10	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	7.85E-12	5.46E-13	3.94E-14	2.00E-15	2.73E-13	2.77E-13	5.45E-13	5.53E-13
27		Carbazole	6.41E-11	4.46E-12	3.22E-13	1.63E-14	2.23E-12	2.26E-12	4.45E-12	4.52E-12
28		Carbon Tetrachloride	1.86E-10	1.29E-11	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	3.67E-12	2.55E-13	1.84E-14	9.36E-16	1.27E-13	1.29E-13	2.55E-13	2.59E-13
30		Chlorobenzene	8.82E-12	6.14E-13	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	9.04E-12	6.29E-13	4.54E-14	2.31E-15	3.14E-13	3.18E-13	6.28E-13	6.37E-13
32		4,4-Chlorobiphenyl	4.55E-13	3.17E-14	2.28E-15	1.16E-16	1.58E-14	1.60E-14	3.16E-14	3.21E-14
33		Chloroethane	3.24E-10	2.26E-11	1.63E-12	8.26E-14	1.13E-11	1.14E-11	2.25E-11	2.28E-11
34		Chloroform	1.58E-09	1.10E-10	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	2.85E-10	1.98E-11	1.43E-12	7.27E-14	9.90E-12	1.00E-11	1.98E-11	2.01E-11
36		Dichlorobenzenes (total)	3.67E-11	2.55E-12	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	2.32E-12	1.61E-13	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	1.05E-10	7.31E-12	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	3.28E-11	2.28E-12	1.65E-13	8.36E-15	1.14E-12	1.16E-12	2.28E-12	2.31E-12
40		1,1-Dichloroethene	5.62E-11	3.91E-12	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	4.86E-11	3.38E-12	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	2.08E-11	1.45E-12	NA	NA	NA	NA	NA	NA
43		Dieldrin	3.25E-13	2.26E-14	1.63E-15	8.29E-17	1.13E-14	1.14E-14	2.26E-14	2.29E-14
44		Dimethyldisulfide	8.93E-11	6.22E-12	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	8.59E-10	5.98E-11	4.31E-12	2.19E-13	2.98E-11	3.03E-11	5.97E-11	6.05E-11
46		Hydrazine	1.11E-06	7.73E-08	5.57E-09	2.83E-10	3.85E-08	3.91E-08	7.71E-08	7.82E-08
47		Lindane	1.51E-13	1.05E-14	7.58E-16	3.85E-17	5.24E-15	5.32E-15	1.05E-14	1.06E-14
48		Malathion	4.46E-13	3.10E-14	2.24E-15	1.14E-16	1.55E-14	1.57E-14	3.10E-14	3.14E-14
49		Methyl chloride	4.36E-11	3.03E-12	NA	NA	NA	NA	NA	NA
50		Methylene chloride	2.63E-09	1.83E-10	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	5.51E-11	3.83E-12	2.77E-13	1.41E-14	1.91E-12	1.94E-12	3.83E-12	3.88E-12
52		4-Methylphenol	5.00E-11	3.48E-12	2.51E-13	1.28E-14	1.74E-12	1.76E-12	3.47E-12	3.52E-12
53		Monomethyl hydrazine	3.50E-07	2.44E-08	1.76E-09	8.93E-11	1.22E-08	1.23E-08	2.43E-08	2.47E-08
54		Naphthalene	5.90E-12	4.11E-13	2.96E-14	1.50E-15	2.05E-13	2.08E-13	4.10E-13	4.16E-13
55		Naphthalene carbonitrile	3.12E-08	2.17E-09	1.57E-10	7.96E-12	1.08E-09	1.10E-09	2.17E-09	2.20E-09
56		n-Nitrosodimethylamine	3.56E-10	2.48E-11	1.79E-12	9.08E-14	1.24E-11	1.25E-11	2.47E-11	2.51E-11
57		PAHs								
58		Acenaphthalene	1.42E-09	9.88E-11	7.13E-12	3.62E-13	4.93E-11	5.00E-11	9.86E-11	1.00E-10
59		Acenaphthene	1.42E-09	9.88E-11	7.13E-12	3.62E-13	4.93E-11	5.00E-11	9.86E-11	1.00E-10
60		Benzo(a)pyrene	2.85E-09	1.98E-10	1.43E-11	7.27E-13	9.90E-11	1.00E-10	1.98E-10	2.01E-10

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
61		Chrysene	2.85E-10	1.98E-11	1.43E-12	7.27E-14	9.90E-12	1.00E-11	1.98E-11	2.01E-11
62		Dibenzo(a,h)anthracene	2.85E-09	1.98E-10	1.43E-11	7.27E-13	9.90E-11	1.00E-10	1.98E-10	2.01E-10
63		Fluoranthene	2.85E-09	1.98E-10	1.43E-11	7.27E-13	9.90E-11	1.00E-10	1.98E-10	2.01E-10
64		Fluorene	2.85E-10	1.98E-11	1.43E-12	7.27E-14	9.90E-12	1.00E-11	1.98E-11	2.01E-11
65		Phenanthrene	1.11E-12	7.73E-14	5.57E-15	2.83E-16	3.85E-14	3.91E-14	7.71E-14	7.82E-14
66		Pyrene	5.70E-09	3.97E-10	2.86E-11	1.45E-12	1.98E-10	2.01E-10	3.96E-10	4.02E-10
67		Parathion	7.06E-13	4.91E-14	3.54E-15	1.80E-16	2.45E-14	2.49E-14	4.90E-14	4.97E-14
68		Pentachlorobenzene	3.50E-10	2.44E-11	1.76E-12	8.92E-14	1.22E-11	1.23E-11	2.43E-11	2.47E-11
69		Phenol	5.60E-12	3.90E-13	2.81E-14	1.43E-15	1.94E-13	1.97E-13	3.89E-13	3.95E-13
70		Pyridine	3.12E-08	2.17E-09	NA	NA	NA	NA	NA	NA
71		Quinoline	3.21E-10	2.23E-11	1.61E-12	8.19E-14	1.11E-11	1.13E-11	2.23E-11	2.26E-11
72		Tetrachlorobenzene	1.72E-10	1.20E-11	8.63E-13	4.39E-14	5.97E-12	6.06E-12	1.19E-11	1.21E-11
73		Tetrachloroethene	6.01E-12	4.18E-13	NA	NA	NA	NA	NA	NA
74		Toluene	9.58E-11	6.67E-12	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	8.71E-11	6.06E-12	4.37E-13	2.22E-14	3.02E-12	3.07E-12	6.05E-12	6.14E-12
76		Trichloroethene	6.41E-11	4.46E-12	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	1.38E-06	9.60E-08	6.93E-09	3.52E-10	4.79E-08	4.86E-08	9.58E-08	9.72E-08
78		Vapona	2.79E-12	1.94E-13	1.40E-14	7.11E-16	9.69E-14	9.83E-14	1.94E-13	1.97E-13
79		Vinyl acetate	3.96E-11	2.76E-12	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	3.67E-11	2.55E-12	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	6.84E-12	4.76E-13	NA	NA	NA	NA	NA	NA
82										
83	INORGANICS									
84		Arsenic	3.76E-08	2.62E-09	1.89E-10	9.59E-12	1.31E-09	1.32E-09	2.61E-09	2.65E-09
85		Cadmium	2.18E-10	1.52E-11	1.09E-12	5.56E-14	7.57E-12	7.68E-12	1.51E-11	1.54E-11
86		Chromium (III)	9.66E-10	6.72E-11	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	3.40E-11	2.37E-12	NA	NA	NA	NA	NA	NA
88		Copper	1.43E-09	9.95E-11	NA	NA	NA	NA	NA	NA
89		Iron	3.47E-05	2.42E-06	NA	NA	NA	NA	NA	NA
90		Lead	1.41E-09	9.81E-11	7.08E-12	3.60E-13	4.90E-11	4.97E-11	9.79E-11	9.93E-11
91		Mercury	1.41E-09	9.81E-11	7.08E-12	3.60E-13	4.90E-11	4.97E-11	9.79E-11	9.93E-11
92		Selenium	4.27E-09	2.97E-10	NA	NA	NA	NA	NA	NA
93		Silver	1.95E-11	1.36E-12	NA	NA	NA	NA	NA	NA
94		Zinc	1.12E-08	7.80E-10	NA	NA	NA	NA	NA	NA
95										
96										
97						2	yrs	ACCUMULATION TIME		AT
98						0.2	M	SOIL DEPTH OF MIXING		SD
99						0.1	M	SOIL DEPTH OF MIXING		SD
100						1.43E+03	Kg/M3	SOIL BULK DENSITY		BD
101						1.00E+03	mg/g			
102						3.15E+07	sec/yr			
103										
104										
105						Dilution Factor				
106						6.96E-02	INHALATION	DFI		
107						Deposition Factor		DF		
108						2.55E-04	DRY	DDF		
109						5.02E-03	DRY/WET	TDF		
110										
111										

$$CO = \frac{D*AT*1000}{SD*BD}$$

AC = ER * DFI

D = ER * x DF

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
3			CATTLE FEED					
4	BASE CASE		D	D	CO	CO	CO	CO
5					AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6			TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:34:53	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		RES-B	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10					mg/Kg	mg/Kg	mg/Kg	mg/Kg
11								
12	ORGANICS							
13		Acetone	NA	NA	NA	NA	NA	NA
14		Acetonitrile	3.42E-10	5.76E-11	2.37E-09	2.40E-09	4.73E-09	4.80E-09
15		Acrylonitrile	NA	NA	NA	NA	NA	NA
16		Aldrin	5.31E-16	8.94E-17	3.67E-15	3.73E-15	7.35E-15	7.45E-15
17		Aniline	1.92E-11	3.24E-12	1.33E-10	1.35E-10	2.66E-10	2.70E-10
18		Atrazine	1.19E-13	2.00E-14	8.22E-13	8.34E-13	1.64E-12	1.67E-12
19		Benzaldehyde	8.76E-12	1.47E-12	6.06E-11	6.15E-11	1.21E-10	1.23E-10
20		Benzene	NA	NA	NA	NA	NA	NA
21		Benzofuran	4.26E-11	7.17E-12	2.95E-10	2.99E-10	5.89E-10	5.98E-10
22		Benzoic Acid	4.29E-12	7.22E-13	2.97E-11	3.01E-11	5.94E-11	6.02E-11
23		Benzonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
24		Benzothiazole	3.99E-14	6.72E-15	2.76E-13	2.80E-13	5.52E-13	5.60E-13
25		Biphenyl	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	2.36E-14	3.96E-15	1.63E-13	1.65E-13	3.26E-13	3.31E-13
27		Carbazole	1.92E-13	3.24E-14	1.33E-12	1.35E-12	2.66E-12	2.70E-12
28		Carbon Tetrachloride	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	1.10E-14	1.85E-15	7.62E-14	7.73E-14	1.52E-13	1.55E-13
30		Chlorobenzene	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	2.71E-14	4.57E-15	1.88E-13	1.90E-13	3.75E-13	3.81E-13
32		4,4-Chlorobiphenyl	1.36E-15	2.30E-16	9.44E-15	9.58E-15	1.89E-14	1.92E-14
33		Chloroethane	9.72E-13	1.64E-13	6.72E-12	6.82E-12	1.34E-11	1.36E-11
34		Chloroform	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
36		Dichlorobenzenes (total)	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	9.84E-14	1.66E-14	6.81E-13	6.91E-13	1.36E-12	1.38E-12
40		1,1-Dichloroethene	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	NA	NA	NA	NA	NA	NA
43		Dieldrin	9.75E-16	1.64E-16	6.74E-15	6.84E-15	1.35E-14	1.37E-14
44		Dimethyldisulfide	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	2.58E-12	4.34E-13	1.78E-11	1.81E-11	3.57E-11	3.62E-11
46		Hydrazine	3.33E-09	5.61E-10	2.30E-08	2.34E-08	4.61E-08	4.67E-08
47		Lindane	4.53E-16	7.63E-17	3.13E-15	3.18E-15	6.27E-15	6.36E-15
48		Malathion	1.34E-15	2.25E-16	9.26E-15	9.39E-15	1.85E-14	1.88E-14
49		Methyl chloride	NA	NA	NA	NA	NA	NA
50		Methylene chloride	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	1.65E-13	2.78E-14	1.14E-12	1.16E-12	2.29E-12	2.32E-12
52		4-Methylphenol	1.50E-13	2.53E-14	1.04E-12	1.05E-12	2.08E-12	2.11E-12
53		Monomethyl hydrazine	1.05E-09	1.77E-10	7.26E-09	7.37E-09	1.45E-08	1.47E-08
54		Naphthalene	1.77E-14	2.98E-15	1.22E-13	1.24E-13	2.45E-13	2.48E-13
55		Naphthalene carbonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
56		n-Nitrosodimethylamine	1.07E-12	1.80E-13	7.39E-12	7.49E-12	1.48E-11	1.50E-11
57		PAHs						
58		Acenaphthalene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
59		Acenaphthene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
60		Benzo(a)pyrene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
61		Chrysene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
62		Dibenzo(a,h)anthracene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
63		Fluoranthene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
64		Fluorene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
65		Phenanthrene	3.33E-15	5.61E-16	2.30E-14	2.34E-14	4.61E-14	4.67E-14
66		Pyrene	1.71E-11	2.88E-12	1.18E-10	1.20E-10	2.37E-10	2.40E-10
67		Parathion	2.12E-15	3.57E-16	1.47E-14	1.49E-14	2.93E-14	2.97E-14
68		Pentachlorobenzene	1.05E-12	1.77E-13	7.26E-12	7.37E-12	1.45E-11	1.47E-11
69		Phenol	1.68E-14	2.83E-15	1.16E-13	1.18E-13	2.32E-13	2.36E-13
70		Pyridine	NA	NA	NA	NA	NA	NA
71		Quinoline	9.63E-13	1.62E-13	6.66E-12	6.76E-12	1.33E-11	1.35E-11
72		Tetrachlorobenzene	5.16E-13	8.69E-14	3.57E-12	3.62E-12	7.14E-12	7.24E-12
73		Tetrachloroethene	NA	NA	NA	NA	NA	NA
74		Toluene	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	2.61E-13	4.40E-14	1.81E-12	1.83E-12	3.61E-12	3.67E-12
76		Trichloroethene	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	4.14E-09	6.97E-10	2.86E-08	2.91E-08	5.73E-08	5.81E-08
78		Vapona	8.37E-15	1.41E-15	5.79E-14	5.87E-14	1.16E-13	1.17E-13
79		Vinyl acetate	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	NA	NA	NA	NA	NA	NA
82								
83	INORGANICS							
84		Arsenic	1.13E-10	1.90E-11	7.80E-10	7.92E-10	1.56E-09	1.58E-09
85		Cadmium	6.54E-13	1.10E-13	4.52E-12	4.59E-12	9.05E-12	9.18E-12
86		Chromium (III)	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	NA	NA	NA	NA	NA	NA
88		Copper	NA	NA	NA	NA	NA	NA
89		Iron	NA	NA	NA	NA	NA	NA
90		Lead	4.23E-12	7.12E-13	2.93E-11	2.97E-11	5.85E-11	5.94E-11
91		Mercury	4.23E-12	7.12E-13	2.93E-11	2.97E-11	5.85E-11	5.94E-11
92		Selenium	NA	NA	NA	NA	NA	NA
93		Silver	NA	NA	NA	NA	NA	NA
94		Zinc	NA	NA	NA	NA	NA	NA
95								
96								
97				2.0 yrs ACCUMULATION TIME		AT		
98				0.2 M SOIL DEPTH OF MIXING		SD		
99				0.1 M SOIL DEPTH OF MIXING		SD		
100				1.43E+03 Kg/M3 SOIL BULK DENSITY		BD		
101				1.00E+03 mg/g				
102				3.15E+07 sec/yr				
103								
104								
105				Dilution Factor				D*AT*1000
106				1.22E-01 INHALATION	DFI		CO =	---------
107				Deposition Factor	DF			SD*BD
108				5.05E-04 DRY	DDF			
109				3.00E-03 DRY/WET	TDF		D =	ER * x DF

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 2
ADULT TOTAL EXPOSURE - AVERAGE

BASE CASE

	18-Jun-91 14:39:20 RES-B	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS									
Acetone		2.51E-15	NA	NA	NA	NA	NA	NA	2.51E-15
Acetonitrile		2.27E-12	1.92E-11	2.37E-18	9.30E-19	1.13E-14	7.76E-21	4.16E-15	2.15E-11
Acrylonitrile		9.64E-13	NA	NA	NA	NA	NA	NA	9.64E-13
Aldrin		3.52E-18	6.59E-18	4.78E-20	7.19E-21	1.76E-20	2.81E-27	6.46E-21	1.02E-17
Aniline		1.27E-13	1.16E-13	4.43E-19	1.73E-19	6.36E-16	2.33E-19	2.34E-16	2.44E-13
Atrazine		7.87E-16	1.82E-16	1.54E-20	6.01E-21	3.93E-18	0.00E+00	1.45E-18	9.75E-16
Benzaldehyde		5.81E-14	2.58E-14	3.54E-19	1.38E-19	2.90E-16	2.51E-20	1.07E-16	8.42E-14
Benzene		7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
Benzofuran		2.82E-13	6.59E-14	5.49E-18	2.13E-18	1.41E-15	5.53E-19	5.18E-16	3.50E-13
Benzoic Acid		2.84E-14	8.12E-15	2.53E-19	9.89E-20	1.42E-16	2.20E-20	5.22E-17	3.67E-14
Benzonitrile		6.20E-13	2.50E-13	4.08E-18	1.60E-18	3.10E-15	2.99E-19	1.14E-15	8.75E-13
Benzothiazole		2.64E-16	6.54E-17	2.70E-21	1.05E-21	1.32E-18	2.51E-24	4.85E-19	3.32E-16
Biphenyl		2.84E-13	NA	NA	NA	NA	NA	NA	2.84E-13
Bis(2-ethylhexyl)phthalate		1.56E-16	2.22E-16	4.02E-17	4.79E-18	7.79E-19	3.25E-24	2.86E-19	4.24E-16
Carbazole		1.27E-15	1.82E-16	4.58E-20	1.76E-20	6.36E-18	3.31E-21	2.34E-18	1.47E-15
Carbon Tetrachloride		3.70E-15	NA	NA	NA	NA	NA	NA	3.70E-15
4-Chloroaniline		7.30E-17	1.98E-17	6.24E-22	2.44E-22	3.64E-19	9.45E-22	1.34E-19	9.33E-17
Chlorobenzene		1.75E-16	NA	NA	NA	NA	NA	NA	1.75E-16
4-Chlorobiphenyl		1.80E-16	1.08E-17	3.65E-20	1.24E-20	8.97E-19	3.39E-22	3.30E-19	1.92E-16
4,4-Chlorobiphenyl		9.05E-18	4.06E-19	4.50E-21	1.32E-21	4.51E-20	5.71E-24	1.66E-20	9.52E-18
Chloroethane		6.44E-15	2.87E-15	3.96E-20	1.55E-20	3.21E-17	1.91E-23	1.18E-17	9.36E-15
Chloroform		3.14E-14	NA	NA	NA	NA	NA	NA	3.14E-14
Dibenzofuran		5.67E-15	4.94E-16	4.77E-19	1.77E-19	2.83E-17	2.19E-20	1.04E-17	6.20E-15
Dichlorobenzenes (total)		7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
1,4-Dichlorobenzene		4.61E-17	NA	NA	NA	NA	NA	NA	4.61E-17
1,1-Dichloroethane		2.09E-15	NA	NA	NA	NA	NA	NA	2.09E-15
1,2-Dichloroethane		6.52E-16	9.13E-16	3.97E-21	1.56E-21	3.25E-18	5.73E-23	1.20E-18	1.57E-15
1,1-Dichloroethene		1.12E-15	NA	NA	NA	NA	NA	NA	1.12E-15
1,2-Dichloroethene		9.66E-16	NA	NA	NA	NA	NA	NA	9.66E-16
1,2-Dichloropropane		4.14E-16	NA	NA	NA	NA	NA	NA	4.14E-16
Dieldrin		6.46E-18	8.14E-17	8.55E-21	2.01E-21	3.22E-20	1.08E-24	1.19E-20	8.79E-17
Dimethyldisulfide		1.78E-15	NA	NA	NA	NA	NA	NA	1.78E-15
Hexachlorobenzene		1.71E-14	2.05E-15	7.27E-18	2.19E-18	8.52E-17	4.30E-19	3.13E-17	1.93E-14
Hydrazine		2.21E-11	5.53E-09	1.63E-18	6.40E-19	1.10E-13	3.52E-20	4.05E-14	5.55E-09
Lindane		3.00E-18	4.98E-19	1.09E-22	4.19E-23	1.50E-20	4.73E-26	5.51E-21	3.52E-18
Malathion		8.87E-18	8.19E-19	2.14E-22	8.30E-23	4.42E-20	0.00E+00	1.63E-20	9.75E-18
Methyl chloride		8.67E-16	NA	NA	NA	NA	NA	NA	8.67E-16
Methylene chloride		5.23E-14	NA	NA	NA	NA	NA	NA	5.23E-14
Methyl ethyl ketone		1.10E-15	4.45E-15	2.05E-21	8.03E-22	5.47E-18	0.00E+00	2.01E-18	5.56E-15
4-Methylphenol		9.94E-16	6.13E-16	9.47E-21	3.70E-21	4.96E-18	2.71E-23	1.82E-18	1.61E-15
Monomethyl hydrazine		6.96E-12	1.20E-09	5.14E-19	2.02E-19	3.47E-14	1.12E-20	1.28E-14	1.20E-09
Naphthalene		1.17E-16	2.32E-17	4.47E-21	1.72E-21	5.85E-19	1.48E-19	2.15E-19	1.41E-16
Naphthalene carbonitrile		6.20E-13	1.22E-13	2.37E-17	9.09E-18	3.10E-15	3.42E-18	1.14E-15	7.47E-13
n-Nitrosodimethylamine		7.08E-15	7.43E-13	5.33E-21	2.09E-21	3.53E-17	0.00E+00	1.30E-17	7.51E-13
PAHs									
Acenaphthalene		2.82E-14	5.97E-15	2.26E-18	8.41E-19	1.41E-16	1.05E-19	5.18E-17	3.44E-14
Acenaphthene		2.82E-14	2.76E-15	1.93E-18	7.25E-19	1.41E-16	4.07E-20	5.18E-17	3.12E-14
Benzo(a)pyrene		5.67E-14	3.90E-16	1.10E-16	2.38E-17	2.83E-16	1.40E-19	1.04E-16	5.76E-14

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	T	U	V	W	X	Y	Z	AA
2			TABLE 2							
61		Chrysene	5.67E-15	3.03E-16	3.85E-18	1.06E-18	2.83E-17	3.55E-19	1.04E-17	6.01E-15
62		Dibenzo(a,h)anthracene	5.67E-14	6.87E-16	1.28E-16	2.67E-17	2.83E-16	7.95E-17	1.04E-16	5.80E-14
63		Fluoranthene	5.67E-14	5.80E-15	1.72E-17	5.52E-18	2.83E-16	NA	1.04E-16	6.29E-14
64		Fluorene	5.67E-15	7.11E-16	6.32E-19	2.30E-19	2.83E-17	2.92E-20	1.04E-17	6.42E-15
65		Phenanthrene	2.21E-17	2.03E-18	3.05E-21	1.09E-21	1.10E-19	1.01E-19	4.05E-20	2.44E-17
66		Pyrene	1.13E-13	1.08E-14	3.27E-17	1.06E-17	5.66E-16	1.60E-18	2.08E-16	1.25E-13
67		Parathion	1.40E-17	1.45E-18	8.54E-22	3.23E-22	7.00E-20	3.17E-25	2.58E-20	1.56E-17
68		Pentachlorobenzene	6.96E-15	1.60E-15	1.77E-18	5.83E-19	3.47E-17	NA	1.28E-17	8.61E-15
69		Phenol	1.11E-16	1.56E-16	6.65E-22	2.60E-22	5.56E-19	NA	2.04E-19	2.68E-16
70		Pyridine	6.20E-13	NA	NA	NA	NA	NA	NA	6.20E-13
71		Quinoline	6.38E-15	2.92E-15	6.63E-20	2.59E-20	3.18E-17	6.35E-21	1.17E-17	9.34E-15
72		Tetrachlorobenzene	3.42E-15	1.83E-15	3.77E-19	1.38E-19	1.71E-17	NA	6.28E-18	5.28E-15
73		Tetrachloroethene	1.20E-16	NA	NA	NA	NA	NA	NA	1.20E-16
74		Toluene	1.91E-15	NA	NA	NA	NA	NA	NA	1.91E-15
75		Trichlorobenzene	1.73E-15	1.03E-16	1.26E-19	4.72E-20	8.64E-18	9.59E-21	3.18E-18	1.85E-15
76		Trichloroethene	1.27E-15	NA	NA	NA	NA	NA	NA	1.27E-15
77		Unsym. dimethyl hydrazine	2.74E-11	3.08E-09	3.84E-18	1.51E-18	1.37E-13	4.39E-20	5.04E-14	3.10E-09
78		Vapona	5.55E-17	2.71E-17	3.13E-22	1.22E-22	2.77E-19	2.12E-25	1.02E-19	8.29E-17
79		Vinyl acetate	7.87E-16	NA	NA	NA	NA	NA	NA	7.87E-16
80		Vinyl chloride	7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
81		Xylenes (total)	1.36E-16	NA	NA	NA	NA	NA	NA	1.36E-16
82										
83	INORGANICS									
84		Arsenic	7.48E-13	1.10E-15	2.02E-15	2.65E-17	3.73E-15	4.36E-15	1.37E-16	7.59E-13
85		Cadmium	4.34E-15	7.27E-17	4.18E-18	1.83E-19	2.16E-17	NA	7.96E-19	4.43E-15
86		Chromium (III)	1.92E-14	NA	NA	NA	NA	NA	NA	1.92E-14
87		Chromium (VI)	6.76E-16	NA	NA	NA	NA	NA	NA	6.76E-16
88		Copper	2.84E-14	NA	NA	NA	NA	5.29E-16	NA	2.90E-14
89		Iron	6.90E-10	NA	NA	NA	NA	NA	NA	6.90E-10
90		Lead	2.80E-14	NA	NA	NA	NA	NA	NA	2.80E-14
91		Mercury	2.80E-14	6.61E-16	1.06E-17	7.98E-16	1.40E-16	NA	5.15E-18	2.97E-14
92		Selenium	8.49E-14	NA	NA	NA	NA	NA	NA	8.49E-14
93		Silver	3.88E-16	NA	NA	NA	NA	NA	NA	3.88E-16
94		Zinc	2.23E-13	NA	NA	NA	NA	2.03E-15	NA	2.25E-13
95										
96										
97										
98			br	20 M3/day			D*AT*1000			
99			bw	70 Kg			---------			
100			ef	365 days/yr			SD*BD			
101			cf	365000 (1000 ug/mg)*(365 day/yr)						
102							AC = ER * DFI			
103			Inhalation dose = Cair*br*ef/bw/cf							
104							D = ER * x DF			

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 3
ADULT TOTAL EXPOSURE - MAXIMUM

BASE CASE

18-Jun-91
14:39:20
RES-B

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	2.51E-15	NA	NA	NA	NA	NA	NA	2.51E-15
Acetonitrile	2.27E-12	1.95E-11	2.42E-18	9.45E-19	1.15E-14	7.76E-21	4.22E-15	2.18E-11
Acrylonitrile	9.64E-13	NA	NA	NA	NA	NA	NA	9.64E-13
Aldrin	3.52E-18	6.76E-18	1.45E-18	1.64E-19	1.78E-20	2.81E-27	6.55E-21	1.19E-17
Aniline	1.27E-13	1.20E-13	4.65E-19	1.78E-19	6.45E-16	2.33E-19	2.37E-16	2.49E-13
Atrazine	7.87E-16	2.02E-16	2.16E-20	6.77E-21	3.99E-18	0.00E+00	1.47E-18	9.95E-16
Benzaldehyde	5.81E-14	2.74E-14	3.87E-19	1.44E-19	2.94E-16	2.51E-20	1.08E-16	8.59E-14
Benzene	7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
Benzofuran	2.82E-13	7.32E-14	7.66E-18	2.40E-18	1.43E-15	5.53E-19	5.26E-16	3.58E-13
Benzoic Acid	2.84E-14	8.88E-15	2.90E-19	1.04E-19	1.44E-16	2.20E-20	5.29E-17	3.75E-14
Benzonitrile	6.20E-13	2.68E-13	4.50E-18	1.66E-18	3.14E-15	2.99E-19	1.16E-15	8.93E-13
Benzothiazole	2.64E-16	7.23E-17	3.16E-21	1.12E-21	1.34E-18	2.51E-24	4.92E-19	3.39E-16
Biphenyl	2.84E-13	NA	NA	NA	NA	NA	NA	2.84E-13
Bis(2-ethylhexyl)phthalate	1.56E-16	2.29E-16	1.37E-15	1.54E-16	7.90E-19	3.25E-24	2.91E-19	1.91E-15
Carbazole	1.27E-15	2.13E-16	8.58E-20	2.23E-20	6.45E-18	3.31E-21	2.37E-18	1.50E-15
Carbon Tetrachloride	3.70E-15	NA	NA	NA	NA	NA	NA	3.70E-15
4-Chloroaniline	7.30E-17	2.18E-17	7.12E-22	2.57E-22	3.69E-19	9.45E-22	1.36E-19	9.53E-17
Chlorobenzene	1.75E-16	NA	NA	NA	NA	NA	NA	1.75E-16
4-Chlorobiphenyl	1.80E-16	1.50E-17	2.63E-19	3.80E-20	9.10E-19	3.39E-22	3.35E-19	1.96E-16
4,4-Chlorobiphenyl	9.05E-18	6.17E-19	5.91E-20	7.45E-21	4.58E-20	5.71E-24	1.68E-20	9.79E-18
Chloroethane	6.44E-15	3.06E-15	4.34E-20	1.61E-20	3.26E-17	1.91E-23	1.20E-17	9.55E-15
Chloroform	3.14E-14	NA	NA	NA	NA	NA	NA	3.14E-14
Dibenzofuran	5.67E-15	6.29E-16	1.67E-18	3.13E-19	2.87E-17	2.19E-20	1.06E-17	6.34E-15
Dichlorobenzenes (total)	7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
1,4-Dichlorobenzene	4.61E-17	NA	NA	NA	NA	NA	NA	4.61E-17
1,1-Dichloroethane	2.09E-15	NA	NA	NA	NA	NA	NA	2.09E-15
1,2-Dichloroethane	6.52E-16	9.41E-16	4.34E-21	1.61E-21	3.30E-18	5.73E-23	1.21E-18	1.60E-15
1,1-Dichloroethene	1.12E-15	NA	NA	NA	NA	NA	NA	1.12E-15
1,2-Dichloroethene	9.66E-16	NA	NA	NA	NA	NA	NA	9.66E-16
1,2-Dichloropropane	4.14E-16	NA	NA	NA	NA	NA	NA	4.14E-16
Dieldrin	6.46E-18	8.27E-17	1.71E-19	2.02E-20	3.27E-20	1.08E-24	1.20E-20	8.94E-17
Dimethyldisulfide	1.78E-15	NA	NA	NA	NA	NA	NA	1.78E-15
Hexachlorobenzene	1.71E-14	2.46E-15	8.73E-17	1.12E-17	8.65E-17	4.30E-19	3.18E-17	1.98E-14
Hydrazine	2.21E-11	5.61E-09	1.65E-18	6.49E-19	1.12E-13	3.52E-20	4.11E-14	5.63E-09
Lindane	3.00E-18	5.74E-19	2.05E-22	5.32E-23	1.52E-20	4.73E-26	5.59E-21	3.60E-18
Malathion	8.87E-18	1.03E-18	3.26E-22	9.64E-23	4.49E-20	0.00E+00	1.65E-20	9.96E-18
Methyl chloride	8.67E-16	NA	NA	NA	NA	NA	NA	8.67E-16
Methylene chloride	5.23E-14	NA	NA	NA	NA	NA	NA	5.23E-14
Methyl ethyl ketone	1.10E-15	4.54E-15	2.11E-21	8.18E-22	5.55E-18	0.00E+00	2.04E-18	5.65E-15
4-Methylphenol	9.94E-16	6.44E-16	1.10E-20	3.91E-21	5.03E-18	2.71E-23	1.85E-18	1.65E-15
Monomethyl hydrazine	6.96E-12	1.22E-09	5.22E-19	2.05E-19	3.52E-14	1.12E-20	1.30E-14	1.22E-09
Naphthalene	1.17E-16	2.61E-17	8.70E-21	2.21E-21	5.94E-19	1.48E-19	2.18E-19	1.44E-16
Naphthalene carbonitrile	6.20E-13	1.38E-13	4.60E-17	1.17E-17	3.14E-15	3.42E-18	1.16E-15	7.63E-13
n-Nitrosodimethylamine	7.08E-15	7.54E-13	5.43E-21	2.12E-21	3.58E-17	0.00E+00	1.32E-17	7.62E-13
PAHs								
Acenaphthalene	2.82E-14	6.70E-15	7.55E-18	1.44E-18	1.43E-16	1.05E-19	5.26E-17	3.51E-14
Acenaphthene	2.82E-14	3.44E-15	5.68E-18	1.15E-18	1.43E-16	4.07E-20	5.26E-17	3.19E-14
Benzo(a)pyrene	5.67E-14	1.68E-15	2.47E-15	2.89E-16	2.87E-16	1.40E-19	1.06E-16	6.15E-14

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AD	AE	AF	AG	AH	AI	AJ	AK
2			TABLE 3							
61		Chrysene	5.67E-15	4.36E-16	5.93E-17	7.28E-18	2.87E-17	3.55E-19	1.06E-17	6.21E-15
62		Dibenzo(a,h)anthracene	5.67E-14	1.98E-15	2.97E-15	3.45E-16	2.87E-16	7.95E-17	1.06E-16	6.24E-14
63		Fluoranthene	5.67E-14	7.17E-15	1.67E-16	2.23E-17	2.87E-16	NA	1.06E-16	6.44E-14
64		Fluorene	5.67E-15	8.50E-16	2.80E-18	4.75E-19	2.87E-17	2.92E-20	1.06E-17	6.56E-15
65		Phenanthrene	2.21E-17	2.56E-18	1.61E-20	2.56E-21	1.12E-19	1.01E-19	4.11E-20	2.49E-17
66		Pyrene	1.13E-13	1.36E-14	3.05E-16	4.12E-17	5.74E-16	1.60E-18	2.11E-16	1.28E-13
67		Parathion	1.40E-17	1.79E-18	2.30E-21	4.89E-22	7.11E-20	3.17E-25	2.61E-20	1.59E-17
68		Pentachlorobenzene	6.96E-15	1.78E-15	1.51E-17	2.08E-18	3.52E-17	NA	1.30E-17	8.81E-15
69		Phenol	1.11E-16	1.60E-16	7.26E-22	2.70E-22	5.64E-19	NA	2.07E-19	2.72E-16
70		Pyridine	6.20E-13	NA	NA	NA	NA	NA	NA	6.20E-13
71		Quinoline	6.38E-15	3.10E-15	7.82E-20	2.75E-20	3.23E-17	6.35E-21	1.19E-17	9.53E-15
72		Tetrachlorobenzene	3.42E-15	1.94E-15	1.65E-18	2.82E-19	1.73E-17	NA	6.37E-18	5.38E-15
73		Tetrachloroethene	1.20E-16	NA	NA	NA	NA	NA	NA	1.20E-16
74		Toluene	1.91E-15	NA	NA	NA	NA	NA	NA	1.91E-15
75		Trichlorobenzene	1.73E-15	1.44E-16	3.90E-19	7.72E-20	8.77E-18	9.59E-21	3.22E-18	1.89E-15
76		Trichloroethene	1.27E-15	NA	NA	NA	NA	NA	NA	1.27E-15
77		Unsym. dimethyl hydrazine	2.74E-11	3.12E-09	3.90E-18	1.53E-18	1.39E-13	4.39E-20	5.11E-14	3.15E-09
78		Vapona	5.55E-17	2.87E-17	3.39E-22	1.27E-22	2.81E-19	2.12E-25	1.03E-19	8.46E-17
79		Vinyl acetate	7.87E-16	NA	NA	NA	NA	NA	NA	7.87E-16
80		Vinyl chloride	7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
81		Xylenes (total)	1.36E-16	NA	NA	NA	NA	NA	NA	1.36E-16
82										
83	INORGANICS									
84		Arsenic	7.48E-13	1.80E-14	1.08E-14	1.33E-16	3.78E-15	4.36E-15	1.39E-16	7.85E-13
85		Cadmium	4.34E-15	1.72E-16	1.27E-17	3.54E-19	2.19E-17	NA	8.07E-19	4.54E-15
86		Chromium (III)	1.92E-14	NA	NA	NA	NA	NA	NA	1.92E-14
87		Chromium (VI)	6.76E-16	NA	NA	NA	NA	NA	NA	6.76E-16
88		Copper	2.84E-14	NA	NA	NA	NA	5.29E-16	NA	2.90E-14
89		Iron	6.90E-10	NA	NA	NA	NA	NA	NA	6.90E-10
90		Lead	2.80E-14	NA	NA	NA	NA	NA	NA	2.80E-14
91		Mercury	2.80E-14	1.30E-15	3.54E-17	1.31E-15	1.42E-16	NA	5.22E-18	3.08E-14
92		Selenium	8.49E-14	NA	NA	NA	NA	NA	NA	8.49E-14
93		Silver	3.88E-16	NA	NA	NA	NA	NA	NA	3.88E-16
94		Zinc	2.23E-13	NA	NA	NA	NA	2.03E-15	NA	2.25E-13
95										
96										
97										
98				br	20 M3/day					
99				bw	70 Kg					
100				ef	365 day/yr					
101				cf	365000 (1000 ug/mg)*(365 day/yr)					
102										
103			Inhalation dose = Cair*br*ef/bw/cf							

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 4
CHILD TOTAL EXPOSURE - AVERAGE

BASE CASE

	18-Jun-91 14:39:20 RES-B	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS									
Acetone		5.66E-15	NA	NA	NA	NA	NA	NA	5.66E-15
Acetonitrile		5.12E-12	3.42E-11	1.37E-17	2.32E-18	1.02E-13	1.75E-20	3.48E-14	3.95E-11
Acrylonitrile		2.18E-12	NA	NA	NA	NA	NA	NA	2.18E-12
Aldrin		7.95E-18	9.87E-18	2.76E-19	1.79E-20	1.59E-19	6.34E-27	5.40E-20	1.83E-17
Aniline		2.88E-13	2.33E-13	2.56E-18	4.33E-19	5.74E-15	5.27E-19	1.96E-15	5.28E-13
Atrazine		1.78E-15	3.07E-16	8.92E-20	1.50E-20	3.55E-17	0.00E+00	1.21E-17	2.13E-15
Benzaldehyde		1.31E-13	5.10E-14	2.04E-18	3.45E-19	2.62E-15	5.67E-20	8.91E-16	1.86E-13
Benzene		1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
Benzofuran		6.38E-13	1.11E-13	3.17E-17	5.32E-18	1.27E-14	1.25E-18	4.33E-15	7.66E-13
Benzoic Acid		6.42E-14	1.58E-14	1.46E-18	2.47E-19	1.28E-15	4.96E-20	4.36E-16	8.17E-14
Benzonitrile		1.40E-12	4.95E-13	2.36E-17	3.99E-18	2.80E-14	6.74E-19	9.52E-15	1.93E-12
Benzothiazole		5.97E-16	1.26E-16	1.56E-20	2.63E-21	1.19E-17	5.67E-24	4.06E-18	7.39E-16
Biphenyl		6.42E-13	NA	NA	NA	NA	NA	NA	6.42E-13
Bis(2-ethylhexyl)phthalate		3.52E-16	3.32E-16	2.32E-16	1.20E-17	7.03E-18	7.34E-24	2.40E-18	9.38E-16
Carbazole		2.88E-15	2.97E-16	2.64E-19	4.39E-20	5.74E-17	7.46E-21	1.96E-17	3.25E-15
Carbon Tetrachloride		8.35E-15	NA	NA	NA	NA	NA	NA	8.35E-15
4-Chloroaniline		1.65E-16	3.95E-17	3.61E-21	6.09E-22	3.29E-18	2.13E-21	1.12E-18	2.09E-16
Chlorobenzene		3.96E-16	NA	NA	NA	NA	NA	NA	3.96E-16
4-Chlorobiphenyl		4.06E-16	1.66E-17	2.11E-19	3.10E-20	8.10E-18	7.66E-22	2.76E-18	4.34E-16
4,4-Chlorobiphenyl		2.04E-17	6.18E-19	2.60E-20	3.28E-21	4.08E-19	1.29E-23	1.39E-19	2.16E-17
Chloroethane		1.45E-14	5.66E-15	2.29E-19	3.87E-20	2.90E-16	4.32E-23	9.89E-17	2.06E-14
Chloroform		7.09E-14	NA	NA	NA	NA	NA	NA	7.09E-14
Dibenzofuran		1.28E-14	7.76E-16	2.76E-18	4.43E-19	2.55E-16	4.94E-20	8.70E-17	1.39E-14
Dichlorobenzenes (total)		1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
1,4-Dichlorobenzene		1.04E-16	NA	NA	NA	NA	NA	NA	1.04E-16
1,1-Dichloroethane		4.71E-15	NA	NA	NA	NA	NA	NA	4.71E-15
1,2-Dichloroethane		1.47E-15	1.51E-15	2.29E-20	3.88E-21	2.94E-17	1.29E-22	1.00E-17	3.02E-15
1,1-Dichloroethene		2.52E-15	NA	NA	NA	NA	NA	NA	2.52E-15
1,2-Dichloroethene		2.18E-15	NA	NA	NA	NA	NA	NA	2.18E-15
1,2-Dichloropropane		9.34E-16	NA	NA	NA	NA	NA	NA	9.34E-16
Dieldrin		1.46E-17	1.22E-16	4.94E-20	5.02E-21	2.91E-19	2.44E-24	9.92E-20	1.37E-16
Dimethyldisulfide		4.01E-15	NA	NA	NA	NA	NA	NA	4.01E-15
Hexachlorobenzene		3.86E-14	3.09E-15	4.20E-17	5.47E-18	7.70E-16	9.71E-19	2.62E-16	4.27E-14
Hydrazine		4.98E-11	1.04E-08	9.42E-18	1.59E-18	9.95E-13	7.96E-20	3.39E-13	1.04E-08
Lindane		6.78E-18	8.04E-19	6.29E-22	1.05E-22	1.35E-19	1.07E-25	4.61E-20	7.77E-18
Malathion		2.00E-17	1.52E-18	1.24E-21	2.07E-22	4.00E-19	0.00E+00	1.36E-19	2.21E-17
Methyl chloride		1.96E-15	NA	NA	NA	NA	NA	NA	1.96E-15
Methylene chloride		1.18E-13	NA	NA	NA	NA	NA	NA	1.18E-13
Methyl ethyl ketone		2.47E-15	7.86E-15	1.18E-20	2.00E-21	4.94E-17	0.00E+00	1.68E-17	1.04E-14
4-Methylphenol		2.25E-15	1.03E-15	5.47E-20	9.23E-21	4.48E-17	6.13E-23	1.53E-17	3.34E-15
Monomethyl hydrazine		1.57E-11	2.45E-09	2.97E-18	5.03E-19	3.14E-13	2.52E-20	1.07E-13	2.47E-09
Naphthalene		2.65E-16	3.68E-17	2.58E-20	4.29E-21	5.29E-18	3.35E-19	1.80E-18	3.09E-16
Naphthalene carbonitrile		1.40E-12	1.94E-13	1.37E-16	2.27E-17	2.80E-14	7.72E-18	9.52E-15	1.63E-12
n-Nitrosodimethylamine		1.60E-14	1.14E-12	3.08E-20	5.21E-21	3.19E-16	0.00E+00	1.09E-16	1.16E-12
PAHs									
Acenaphthalene		6.38E-14	9.14E-15	1.30E-17	2.10E-18	1.27E-15	2.37E-19	4.33E-16	7.46E-14
Acenaphthene		6.38E-14	4.37E-15	1.11E-17	1.81E-18	1.27E-15	9.18E-20	4.33E-16	6.99E-14
Benzo(a)pyrene		1.28E-13	6.14E-16	6.38E-16	5.94E-17	2.55E-15	3.17E-19	8.70E-16	1.33E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AN	AO	AP	AQ	AR	AS	AT	AU
2			TABLE 4							
61		Chrysene	1.28E-14	4.59E-16	2.23E-17	2.63E-18	2.55E-16	8.01E-19	8.70E-17	1.36E-14
62		Dibenzo(a,h)anthracene	1.28E-13	1.06E-15	7.38E-16	6.66E-17	2.55E-15	1.79E-16	8.70E-16	1.33E-13
63		Fluoranthene	1.28E-13	8.78E-15	9.94E-17	1.38E-17	2.55E-15	NA	8.70E-16	1.40E-13
64		Fluorene	1.28E-14	1.09E-15	3.65E-18	5.74E-19	2.55E-16	6.60E-20	8.70E-17	1.42E-14
65		Phenanthrene	4.98E-17	3.12E-18	1.76E-20	2.71E-21	9.95E-19	2.27E-19	3.39E-19	5.45E-17
66		Pyrene	2.56E-13	1.64E-14	1.89E-16	2.64E-17	5.11E-15	3.62E-18	1.74E-15	2.79E-13
67		Parathion	3.17E-17	2.30E-18	4.93E-21	8.06E-22	6.33E-19	7.17E-25	2.15E-19	3.49E-17
68		Pentachlorobenzene	1.57E-14	2.41E-15	1.02E-17	1.45E-18	3.14E-16	NA	1.07E-16	1.86E-14
69		Phenol	2.51E-16	2.57E-16	3.84E-21	6.50E-22	5.02E-18	NA	1.71E-18	5.16E-16
70		Pyridine	1.40E-12	NA	NA	NA	NA	NA	NA	1.40E-12
71		Quinoline	1.44E-14	5.02E-15	3.83E-19	6.47E-20	2.88E-16	1.43E-20	9.80E-17	1.98E-14
72		Tetrachlorobenzene	7.72E-15	2.76E-15	2.18E-18	3.43E-19	1.54E-16	NA	5.25E-17	1.07E-14
73		Tetrachloroethene	2.70E-16	NA	NA	NA	NA	NA	NA	2.70E-16
74		Toluene	4.30E-15	NA	NA	NA	NA	NA	NA	4.30E-15
75		Trichlorobenzene	3.91E-15	1.68E-16	7.27E-19	1.18E-19	7.81E-17	2.17E-20	2.66E-17	4.18E-15
76		Trichloroethene	2.88E-15	NA	NA	NA	NA	NA	NA	2.88E-15
77		Unsym. dimethyl hydrazine	6.20E-11	5.68E-09	2.22E-17	3.75E-18	1.24E-12	9.92E-20	4.21E-13	5.74E-09
78		Vapona	1.25E-16	5.37E-17	1.81E-21	3.05E-22	2.50E-18	4.78E-25	8.52E-19	1.82E-16
79		Vinyl acetate	1.78E-15	NA	NA	NA	NA	NA	NA	1.78E-15
80		Vinyl chloride	1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
81		Xylenes (total)	3.07E-16	NA	NA	NA	NA	NA	NA	3.07E-16
82										
83	INORGANICS									
84		Arsenic	1.69E-12	1.77E-15	1.17E-14	6.61E-17	3.37E-14	9.84E-15	1.15E-15	1.75E-12
85		Cadmium	9.79E-15	1.20E-16	2.41E-17	4.55E-19	1.95E-16	NA	6.65E-18	1.01E-14
86		Chromium (III)	4.34E-14	NA	NA	NA	NA	NA	NA	4.34E-14
87		Chromium (VI)	1.53E-15	NA	NA	NA	NA	NA	NA	1.53E-15
88		Copper	6.42E-14	NA	NA	NA	NA	1.20E-15	NA	6.54E-14
89		Iron	1.56E-09	NA	NA	NA	NA	NA	NA	1.56E-09
90		Lead	6.33E-14	NA	NA	NA	NA	NA	NA	6.33E-14
91		Mercury	6.33E-14	1.05E-15	6.15E-17	1.99E-15	1.26E-15	NA	4.30E-17	6.77E-14
92		Selenium	1.92E-13	NA	NA	NA	NA	NA	NA	1.92E-13
93		Silver	8.76E-16	NA	NA	NA	NA	NA	NA	8.76E-16
94		Zinc	5.03E-13	NA	NA	NA	NA	4.58E-15	NA	5.07E-13
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair *br/bw/ugmg							

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 5
CHILD TOTAL EXPOSURE - MAXIMUM

BASE CASE

	18-Jun-91 14:39:20 RES-B	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS									
Acetone		5.66E-15	NA	NA	NA	NA	NA	NA	5.66E-15
Acetonitrile		5.12E-12	3.48E-11	1.40E-17	2.36E-18	1.04E-13	1.75E-20	3.53E-14	4.01E-11
Acrylonitrile		2.18E-12	NA	NA	NA	NA	NA	NA	2.18E-12
Aldrin		7.95E-18	1.02E-17	8.37E-18	4.10E-19	1.61E-19	6.34E-27	5.48E-20	2.71E-17
Aniline		2.88E-13	2.41E-13	2.69E-18	4.43E-19	5.83E-15	5.27E-19	1.98E-15	5.37E-13
Atrazine		1.78E-15	3.44E-16	1.25E-19	1.69E-20	3.60E-17	0.00E+00	1.23E-17	2.17E-15
Benzaldehyde		1.31E-13	5.42E-14	2.23E-18	3.58E-19	2.65E-15	5.67E-20	9.04E-16	1.89E-13
Benzene		1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
Benzofuran		6.38E-13	1.24E-13	4.42E-17	5.98E-18	1.29E-14	1.25E-18	4.40E-15	7.79E-13
Benzoic Acid		6.42E-14	1.72E-14	1.67E-18	2.60E-19	1.30E-15	4.96E-20	4.43E-16	8.32E-14
Benzonitrile		1.40E-12	5.28E-13	2.60E-17	4.15E-18	2.84E-14	6.74E-19	9.66E-15	1.97E-12
Benzothiazole		5.97E-16	1.39E-16	1.83E-20	2.79E-21	1.21E-17	5.67E-24	4.12E-18	7.52E-16
Biphenyl		6.42E-13	NA	NA	NA	NA	NA	NA	6.42E-13
Bis(2-ethylhexyl)phthalate		3.52E-16	3.44E-16	7.91E-15	3.83E-16	7.14E-18	7.34E-24	2.43E-18	9.00E-15
Carbazole		2.88E-15	3.55E-16	4.96E-19	5.56E-20	5.83E-17	7.46E-21	1.98E-17	3.31E-15
Carbon Tetrachloride		8.35E-15	NA	NA	NA	NA	NA	NA	8.35E-15
4-Chloroaniline		1.65E-16	4.31E-17	4.11E-21	6.40E-22	3.34E-18	2.13E-21	1.14E-18	2.12E-16
Chlorobenzene		3.96E-16	NA	NA	NA	NA	NA	NA	3.96E-16
4-Chlorobiphenyl		4.06E-16	2.44E-17	1.52E-18	9.48E-20	8.22E-18	7.66E-22	2.80E-18	4.43E-16
4,4-Chlorobiphenyl		2.04E-17	1.01E-18	3.41E-19	1.86E-20	4.14E-19	1.29E-23	1.41E-19	2.24E-17
Chloroethane		1.45E-14	6.01E-15	2.50E-19	4.01E-20	2.95E-16	4.32E-23	1.00E-16	2.10E-14
Chloroform		7.09E-14	NA	NA	NA	NA	NA	NA	7.09E-14
Dibenzofuran		1.28E-14	1.02E-15	9.63E-18	7.80E-19	2.59E-16	4.94E-20	8.82E-17	1.42E-14
Dichlorobenzenes (total)		1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
1,4-Dichlorobenzene		1.04E-16	NA	NA	NA	NA	NA	NA	1.04E-16
1,1-Dichloroethane		4.71E-15	NA	NA	NA	NA	NA	NA	4.71E-15
1,2-Dichloroethane		1.47E-15	1.56E-15	2.51E-20	4.02E-21	2.98E-17	1.29E-22	1.02E-17	3.07E-15
1,1-Dichloroethene		2.52E-15	NA	NA	NA	NA	NA	NA	2.52E-15
1,2-Dichloroethene		2.18E-15	NA	NA	NA	NA	NA	NA	2.18E-15
1,2-Dichloropropane		9.34E-16	NA	NA	NA	NA	NA	NA	9.34E-16
Dieldrin		1.46E-17	1.24E-16	9.88E-19	5.05E-20	2.95E-19	2.44E-24	1.01E-19	1.40E-16
Dimethyldisulfide		4.01E-15	NA	NA	NA	NA	NA	NA	4.01E-15
Hexachlorobenzene		3.86E-14	3.85E-15	5.04E-16	2.79E-17	7.81E-16	9.71E-19	2.66E-16	4.40E-14
Hydrazine		4.98E-11	1.05E-08	9.55E-18	1.62E-18	1.01E-12	7.96E-20	3.44E-13	1.06E-08
Lindane		6.78E-18	9.41E-19	1.19E-21	1.33E-22	1.37E-19	1.07E-25	4.68E-20	7.91E-18
Malathion		2.00E-17	1.91E-18	1.88E-21	2.41E-22	4.05E-19	0.00E+00	1.38E-19	2.25E-17
Methyl chloride		1.96E-15	NA	NA	NA	NA	NA	NA	1.96E-15
Methylene chloride		1.18E-13	NA	NA	NA	NA	NA	NA	1.18E-13
Methyl ethyl ketone		2.47E-15	8.02E-15	1.22E-20	2.04E-21	5.01E-17	0.00E+00	1.71E-17	1.06E-14
4-Methylphenol		2.25E-15	1.09E-15	6.34E-20	9.75E-21	4.55E-17	6.13E-23	1.55E-17	3.40E-15
Monomethyl hydrazine		1.57E-11	2.49E-09	3.01E-18	5.10E-19	3.18E-13	2.52E-20	1.08E-13	2.50E-09
Naphthalene		2.65E-16	4.22E-17	5.02E-20	5.51E-21	5.36E-18	3.35E-19	1.83E-18	3.15E-16
Naphthalene carbonitrile		1.40E-12	2.23E-13	2.66E-16	2.92E-17	2.84E-14	7.72E-18	9.66E-15	1.66E-12
n-Nitrosodimethylamine		1.60E-14	1.16E-12	3.13E-20	5.29E-21	3.24E-16	0.00E+00	1.10E-16	1.17E-12
PAHs									
Acenaphthalene		6.38E-14	1.05E-14	4.36E-17	3.60E-18	1.29E-15	2.37E-19	4.40E-16	7.60E-14
Acenaphthene		6.38E-14	5.62E-15	3.28E-17	2.87E-18	1.29E-15	9.18E-20	4.40E-16	7.11E-14
Benzo(a)pyrene		1.28E-13	3.00E-15	1.43E-14	7.21E-16	2.59E-15	3.17E-19	8.82E-16	1.49E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AX	AY	AZ	BA	BB	BC	BD	BE
2			TABLE 5							
61		Chrysene	1.28E-14	7.04E-16	3.42E-16	1.81E-17	2.59E-16	8.01E-19	8.82E-17	1.42E-14
62		Dibenzo(a,h)anthracene	1.28E-13	3.45E-15	1.72E-14	8.61E-16	2.59E-15	1.79E-16	8.82E-16	1.53E-13
63		Fluoranthene	1.28E-13	1.13E-14	9.62E-16	5.56E-17	2.59E-15	NA	8.82E-16	1.44E-13
64		Fluorene	1.28E-14	1.35E-15	1.61E-17	1.18E-18	2.59E-16	6.60E-20	8.82E-17	1.45E-14
65		Phenanthrene	4.98E-17	4.09E-18	9.29E-20	6.38E-21	1.01E-18	2.27E-19	3.44E-19	5.56E-17
66		Pyrene	2.56E-13	2.14E-14	1.76E-15	1.03E-16	5.18E-15	3.62E-18	1.76E-15	2.86E-13
67		Parathion	3.17E-17	2.93E-18	1.33E-20	1.22E-21	6.42E-19	7.17E-25	2.19E-19	3.55E-17
68		Pentachlorobenzene	1.57E-14	2.74E-15	8.69E-17	5.18E-18	3.18E-16	NA	1.08E-16	1.90E-14
69		Phenol	2.51E-16	2.66E-16	4.19E-21	6.73E-22	5.09E-18	NA	1.73E-18	5.24E-16
70		Pyridine	1.40E-12	NA	NA	NA	NA	NA	NA	1.40E-12
71		Quinoline	1.44E-14	5.37E-15	4.51E-19	6.86E-20	2.92E-16	1.43E-20	9.94E-17	2.02E-14
72		Tetrachlorobenzene	7.72E-15	2.94E-15	9.55E-18	7.03E-19	1.56E-16	NA	5.33E-17	1.09E-14
73		Tetrachloroethene	2.70E-16	NA	NA	NA	NA	NA	NA	2.70E-16
74		Toluene	4.30E-15	NA	NA	NA	NA	NA	NA	4.30E-15
75		Trichlorobenzene	3.91E-15	2.43E-16	2.25E-18	1.93E-19	7.92E-17	2.17E-20	2.70E-17	4.26E-15
76		Trichloroethene	2.88E-15	NA	NA	NA	NA	NA	NA	2.88E-15
77		Unsym. dimethyl hydrazine	6.20E-11	5.76E-09	2.25E-17	3.81E-18	1.25E-12	9.92E-20	4.27E-13	5.83E-09
78		Vapona	1.25E-16	5.68E-17	1.96E-21	3.16E-22	2.54E-18	4.78E-25	8.64E-19	1.86E-16
79		Vinyl acetate	1.78E-15	NA	NA	NA	NA	NA	NA	1.78E-15
80		Vinyl chloride	1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
81		Xylenes (total)	3.07E-16	NA	NA	NA	NA	NA	NA	3.07E-16
82										
83	INORGANICS									
84		Arsenic	1.69E-12	3.31E-14	6.24E-14	3.31E-16	3.42E-14	9.84E-15	1.16E-15	1.83E-12
85		Cadmium	9.79E-15	3.04E-16	7.33E-17	8.82E-19	1.98E-16	NA	6.75E-18	1.04E-14
86		Chromium (III)	4.34E-14	NA	NA	NA	NA	NA	NA	4.34E-14
87		Chromium (VI)	1.53E-15	NA	NA	NA	NA	NA	NA	1.53E-15
88		Copper	6.42E-14	NA	NA	NA	NA	1.20E-15	NA	6.54E-14
89		Iron	1.56E-09	NA	NA	NA	NA	NA	NA	1.56E-09
90		Lead	6.33E-14	NA	NA	NA	NA	NA	NA	6.33E-14
91		Mercury	6.33E-14	2.24E-15	2.04E-16	3.26E-15	1.28E-15	NA	4.37E-17	7.03E-14
92		Selenium	1.92E-13	NA	NA	NA	NA	NA	NA	1.92E-13
93		Silver	8.76E-16	NA	NA	NA	NA	NA	NA	8.76E-16
94		Zinc	5.03E-13	NA	NA	NA	NA	4.58E-15	NA	5.07E-13
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair*br/bw/ugmg							

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 6
INFANT TOTAL EXPOSURE

BASE CASE

	18-Jun-91 14:39:20 RES-B	BH MAXIMUM INHALATION (mg/kg/day)	BI MAXIMUM BREAST MILK (mg/kg/day)	BJ MAXIMUM TOTAL (mg/kg/day)
ORGANICS				
Acetone		3.70E-15	6.43E-17	3.77E-15
Acetonitrile		3.35E-12	7.93E-11	8.27E-11
Acrylonitrile		1.43E-12	4.40E-15	1.43E-12
Aldrin		5.20E-18	4.34E-17	4.86E-17
Aniline		1.88E-13	9.05E-13	1.09E-12
Atrazine		1.16E-15	3.62E-15	4.79E-15
Benzaldehyde		8.58E-14	3.13E-13	3.98E-13
Benzene		1.08E-15	1.25E-18	1.08E-15
Benzofuran		4.17E-13	1.30E-12	1.72E-12
Benzoic Acid		4.20E-14	1.37E-13	1.79E-13
Benzonitrile		9.17E-13	3.25E-12	4.17E-12
Benzothiazole		3.91E-16	1.23E-15	1.62E-15
Biphenyl		4.20E-13	7.29E-15	4.28E-13
Bis(2-ethylhexyl)phthalate		2.31E-16	6.95E-15	7.18E-15
Carbazole		1.88E-15	5.45E-15	7.33E-15
Carbon Tetrachloride		5.47E-15	9.49E-17	5.56E-15
4-Chloroaniline		1.08E-16	3.47E-16	4.55E-16
Chlorobenzene		2.59E-16	4.50E-18	2.64E-16
4-Chlorobiphenyl		2.66E-16	7.14E-16	9.80E-16
4,4-Chlorobiphenyl		1.34E-17	3.56E-17	4.90E-17
Chloroethane		9.52E-15	3.47E-14	4.43E-14
Chloroform		4.64E-14	8.06E-16	4.72E-14
Dibenzofuran		8.38E-15	2.31E-14	3.14E-14
Dichlorobenzenes (total)		1.08E-15	1.87E-17	1.10E-15
1,4-Dichlorobenzene		6.82E-17	1.18E-18	6.93E-17
1,1-Dichloroethane		3.09E-15	5.36E-17	3.14E-15
1,2-Dichloroethane		9.64E-16	5.81E-15	6.78E-15
1,1-Dichloroethene		1.65E-15	2.87E-17	1.68E-15
1,2-Dichloroethene		1.43E-15	2.48E-17	1.45E-15
1,2-Dichloropropane		6.11E-16	1.06E-17	6.22E-16
Dieldrin		9.55E-18	3.25E-16	3.35E-16
Dimethyldisulfide		2.62E-15	4.56E-17	2.67E-15
Hexachlorobenzene		2.52E-14	1.62E-14	4.15E-14
Hydrazine		3.26E-11	2.05E-08	2.05E-08
Lindane		4.44E-18	1.31E-17	1.75E-17
Malathion		1.31E-17	3.63E-17	4.94E-17
Methyl chloride		1.28E-15	2.22E-17	1.30E-15
Methylene chloride		7.73E-14	1.34E-15	7.86E-14
Methyl ethyl ketone		1.62E-15	2.05E-14	2.22E-14
4-Methylphenol		1.47E-15	5.99E-15	7.46E-15
Monomethyl hydrazine		1.03E-11	4.45E-09	4.46E-09
Naphthalene		1.73E-16	5.26E-16	6.99E-16
Naphthalene carbonitrile		9.17E-13	2.78E-12	3.69E-12
n-Nitrosodimethylamine		1.05E-14	2.77E-12	2.78E-12
PAHs				
Acenaphthalene		4.17E-14	1.28E-13	1.70E-13
Acenaphthene		4.17E-14	1.16E-13	1.58E-13
Benzo(a)pyrene		8.38E-14	2.24E-13	3.08E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
61		Chrysene	8.38E-15	2.26E-14	3.10E-14
62		Dibenzo(a,h)anthracene	8.38E-14	2.27E-13	3.11E-13
63		Fluoranthene	8.38E-14	2.34E-13	3.18E-13
64		Fluorene	8.38E-15	2.39E-14	3.22E-14
65		Phenanthrene	3.26E-17	9.06E-17	1.23E-16
66		Pyrene	1.68E-13	4.66E-13	6.34E-13
67		Parathion	2.07E-17	5.80E-17	7.87E-17
68		Pentachlorobenzene	1.03E-14	7.23E-15	1.75E-14
69		Phenol	1.65E-16	9.91E-16	1.16E-15
70		Pyridine	9.17E-13	1.59E-14	9.33E-13
71		Quinoline	9.43E-15	3.47E-14	4.41E-14
72		Tetrachlorobenzene	5.05E-15	4.42E-15	9.47E-15
73		Tetrachloroethene	1.77E-16	3.07E-18	1.80E-16
74		Toluene	2.82E-15	8.15E-18	2.82E-15
75		Trichlorobenzene	2.56E-15	1.55E-15	4.11E-15
76		Trichloroethene	1.88E-15	3.27E-17	1.92E-15
77		Unsym. dimethyl hydrazine	4.06E-11	1.15E-08	1.15E-08
78		Vapona	8.20E-17	3.08E-16	3.90E-16
79		Vinyl acetate	1.16E-15	2.02E-17	1.18E-15
80		Vinyl chloride	1.08E-15	1.87E-17	1.10E-15
81		Xylenes (total)	2.01E-16	1.16E-19	2.01E-16
82					
83	INORGANICS				
84		Arsenic	1.10E-12	NE	1.10E-12
85		Cadmium	6.41E-15	NE	6.41E-15
86		Chromium (III)	2.84E-14	NE	2.84E-14
87		Chromium (VI)	9.99E-16	NE	9.99E-16
88		Copper	4.20E-14	NE	4.20E-14
89		Iron	1.02E-09	NE	1.02E-09
90		Lead	4.14E-14	NE	4.14E-14
91		Mercury	4.14E-14	NE	4.14E-14
92		Selenium	1.25E-13	NE	1.25E-13
93		Silver	5.73E-16	NE	5.73E-16
94		Zinc	3.29E-13	NE	3.29E-13
95					
96					
97					
98			br	3.80E+00 M3/day	
99			bw	9.00E+00 Kg	
100			um	1.00E+03 ug/mg	
101					
102					
103			Inhalation dose = Cair *br/bw/ugmg		

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BL	BM	BN	BO	BP	BQ	BR
2			TABLE 7						
3									
4		BASE CASE	MOTHER'S MILK PATHWAY						
5									
6				DI	DI				
7		18-Jun-91	Average	Maximum	TF	Average	Maximum	Average	Maximum
8		14:39:20	Total	Total	Breast milk	Breast milk	Breast milk	Estimated	Estimated
9		RES-B	Daily Intake	Daily Intake	Transfer	Conc.	Conc.	Daily Intake	Daily Intake
10			(mg/kg/day)	(mg/kg/day)	Factor	mg/kg	mg/kg	mg/kg/day	mg/kg/day
11					(day)				
12	ORGANICS								
13		Acetone	2.51E-15	2.51E-15	2.89E-01	7.23E-16	7.23E-16	6.43E-17	6.43E-17
14		Acetonitrile	2.15E-11	2.18E-11	4.09E+01	8.79E-10	8.93E-10	7.81E-11	7.93E-11
15		Acrylonitrile	9.64E-13	9.64E-13	5.13E-02	4.95E-14	4.95E-14	4.40E-15	4.40E-15
16		Aldrin	1.02E-17	1.19E-17	4.09E+01	4.17E-16	4.88E-16	3.71E-17	4.34E-17
17		Aniline	2.44E-13	2.49E-13	4.09E+01	9.99E-12	1.02E-11	8.88E-13	9.05E-13
18		Atrazine	9.75E-16	9.95E-16	4.09E+01	3.99E-14	4.08E-14	3.55E-15	3.62E-15
19		Benzaldehyde	8.42E-14	8.59E-14	4.09E+01	3.45E-12	3.52E-12	3.06E-13	3.13E-13
20		Benzene	7.30E-16	7.30E-16	1.92E-02	1.40E-17	1.40E-17	1.25E-18	1.25E-18
21		Benzofuran	3.50E-13	3.58E-13	4.09E+01	1.43E-11	1.46E-11	1.27E-12	1.30E-12
22		Benzoic Acid	3.67E-14	3.75E-14	4.09E+01	1.50E-12	1.54E-12	1.34E-13	1.37E-13
23		Benzonitrile	8.75E-13	8.93E-13	4.09E+01	3.58E-11	3.66E-11	3.18E-12	3.25E-12
24		Benzothiazole	3.32E-16	3.39E-16	4.09E+01	1.36E-14	1.39E-14	1.21E-15	1.23E-15
25		Biphenyl	2.84E-13	2.84E-13	2.89E-01	8.21E-14	8.21E-14	7.29E-15	7.29E-15
26		Bis(2-ethylhexyl)phthalate	4.24E-16	1.91E-15	4.09E+01	1.74E-14	7.82E-14	1.54E-15	6.95E-15
27		Carbazole	1.47E-15	1.50E-15	4.09E+01	6.00E-14	6.13E-14	5.33E-15	5.45E-15
28		Carbon Tetrachloride	3.70E-15	3.70E-15	2.89E-01	1.07E-15	1.07E-15	9.49E-17	9.49E-17
29		4-Chloroaniline	9.33E-17	9.53E-17	4.09E+01	3.82E-15	3.90E-15	3.40E-16	3.47E-16
30		Chlorobenzene	1.75E-16	1.75E-16	2.89E-01	5.06E-17	5.06E-17	4.50E-18	4.50E-18
31		4-Chlorobiphenyl	1.92E-16	1.96E-16	4.09E+01	7.85E-15	8.04E-15	6.98E-16	7.14E-16
32		4,4-Chlorobiphenyl	9.52E-18	9.79E-18	4.09E+01	3.90E-16	4.01E-16	3.47E-17	3.56E-17
33		Chloroethane	9.36E-15	9.55E-15	4.09E+01	3.83E-13	3.91E-13	3.41E-14	3.47E-14
34		Chloroform	3.14E-14	3.14E-14	2.89E-01	9.07E-15	9.07E-15	8.06E-16	8.06E-16
35		Dibenzofuran	6.20E-15	6.34E-15	4.09E+01	2.54E-13	2.59E-13	2.26E-14	2.31E-14
36		Dichlorobenzenes (total)	7.30E-16	7.30E-16	2.89E-01	2.11E-16	2.11E-16	1.87E-17	1.87E-17
37		1,4-Dichlorobenzene	4.61E-17	4.61E-17	2.89E-01	1.33E-17	1.33E-17	1.18E-18	1.18E-18
38		1,1-Dichloroethane	2.09E-15	2.09E-15	2.89E-01	6.03E-16	6.03E-16	5.36E-17	5.36E-17
39		1,2-Dichloroethane	1.57E-15	1.60E-15	4.09E+01	6.43E-14	6.54E-14	5.71E-15	5.81E-15
40		1,1-Dichloroethene	1.12E-15	1.12E-15	2.89E-01	3.23E-16	3.23E-16	2.87E-17	2.87E-17
41		1,2-Dichloroethene	9.66E-16	9.66E-16	2.89E-01	2.79E-16	2.79E-16	2.48E-17	2.48E-17
42		1,2-Dichloropropane	4.14E-16	4.14E-16	2.89E-01	1.19E-16	1.19E-16	1.06E-17	1.06E-17
43		Dieldrin	8.79E-17	8.94E-17	4.09E+01	3.60E-15	3.66E-15	3.20E-16	3.25E-16
44		Dimethyldisulfide	1.78E-15	1.78E-15	2.89E-01	5.12E-16	5.12E-16	4.56E-17	4.56E-17
45		Hexachlorobenzene	1.93E-14	1.98E-14	9.24E+00	1.78E-13	1.83E-13	1.58E-14	1.62E-14
46		Hydrazine	5.55E-09	5.63E-09	4.09E+01	2.27E-07	2.31E-07	2.02E-08	2.05E-08
47		Lindane	3.52E-18	3.60E-18	4.09E+01	1.44E-16	1.47E-16	1.28E-17	1.31E-17
48		Malathion	9.75E-18	9.96E-18	4.09E+01	3.99E-16	4.08E-16	3.55E-17	3.63E-17
49		Methyl chloride	8.67E-16	8.67E-16	2.89E-01	2.50E-16	2.50E-16	2.22E-17	2.22E-17
50		Methylene chloride	5.23E-14	5.23E-14	2.89E-01	1.51E-14	1.51E-14	1.34E-15	1.34E-15
51		Methyl ethyl ketone	5.56E-15	5.65E-15	4.09E+01	2.27E-13	2.31E-13	2.02E-14	2.05E-14
52		4-Methylphenol	1.61E-15	1.65E-15	4.09E+01	6.61E-14	6.74E-14	5.87E-15	5.99E-15
53		Monomethyl hydrazine	1.20E-09	1.22E-09	4.09E+01	4.93E-08	5.00E-08	4.38E-09	4.45E-09
54		Naphthalene	1.41E-16	1.44E-16	4.09E+01	5.79E-15	5.91E-15	5.15E-16	5.26E-16
55		Naphthalene carbonitrile	7.47E-13	7.63E-13	4.09E+01	3.06E-11	3.12E-11	2.72E-12	2.78E-12
56		n-Nitrosodimethylamine	7.51E-13	7.62E-13	4.09E+01	3.07E-11	3.12E-11	2.73E-12	2.77E-12
57		PAHs							
58		Acenaphthalene	3.44E-14	3.51E-14	4.09E+01	1.41E-12	1.44E-12	1.25E-13	1.28E-13
59		Acenaphthene	3.12E-14	3.19E-14	4.09E+01	1.28E-12	1.31E-12	1.14E-13	1.16E-13
60		Benzo(a)pyrene	5.76E-14	6.15E-14	4.09E+01	2.36E-12	2.52E-12	2.10E-13	2.24E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BL	BM	BN	BO	BP	BQ	BR
2			TABLE 7						
61		Chrysene	6.01E-15	6.21E-15	4.09E+01	2.46E-13	2.54E-13	2.19E-14	2.26E-14
62		Dibenzo(a,h)anthracene	5.80E-14	6.24E-14	4.09E+01	2.37E-12	2.56E-12	2.11E-13	2.27E-13
63		Fluoranthene	6.29E-14	6.44E-14	4.09E+01	2.57E-12	2.64E-12	2.29E-13	2.34E-13
64		Fluorene	6.42E-15	6.56E-15	4.09E+01	2.63E-13	2.69E-13	2.34E-14	2.39E-14
65		Phenanthrene	2.44E-17	2.49E-17	4.09E+01	9.97E-16	1.02E-15	8.86E-17	9.06E-17
66		Pyrene	1.25E-13	1.28E-13	4.09E+01	5.12E-12	5.24E-12	4.55E-13	4.66E-13
67		Parathion	1.56E-17	1.59E-17	4.09E+01	6.38E-16	6.52E-16	5.67E-17	5.80E-17
68		Pentachlorobenzene	8.61E-15	8.81E-15	9.24E+00	7.95E-14	8.13E-14	7.07E-15	7.23E-15
69		Phenol	2.68E-16	2.72E-16	4.09E+01	1.10E-14	1.12E-14	9.74E-16	9.91E-16
70		Pyridine	6.20E-13	6.20E-13	2.89E-01	1.79E-13	1.79E-13	1.59E-14	1.59E-14
71		Quinoline	9.34E-15	9.53E-15	4.09E+01	3.83E-13	3.90E-13	3.40E-14	3.47E-14
72		Tetrachlorobenzene	5.28E-15	5.38E-15	9.24E+00	4.87E-14	4.97E-14	4.33E-15	4.42E-15
73		Tetrachloroethene	1.20E-16	1.20E-16	2.89E-01	3.45E-17	3.45E-17	3.07E-18	3.07E-18
74		Toluene	1.91E-15	1.91E-15	4.81E-02	9.16E-17	9.16E-17	8.15E-18	8.15E-18
75		Trichlorobenzene	1.85E-15	1.89E-15	9.24E+00	1.71E-14	1.74E-14	1.52E-15	1.55E-15
76		Trichloroethene	1.27E-15	1.27E-15	2.89E-01	3.68E-16	3.68E-16	3.27E-17	3.27E-17
77		Unsym. dimethyl hydrazine	3.10E-09	3.15E-09	4.09E+01	1.27E-07	1.29E-07	1.13E-08	1.15E-08
78		Vapona	8.29E-17	8.46E-17	4.09E+01	3.39E-15	3.46E-15	3.02E-16	3.08E-16
79		Vinyl acetate	7.87E-16	7.87E-16	2.89E-01	2.27E-16	2.27E-16	2.02E-17	2.02E-17
80		Vinyl chloride	7.30E-16	7.30E-16	2.89E-01	2.11E-16	2.11E-16	1.87E-17	1.87E-17
81		Xylenes (total)	1.36E-16	1.36E-16	9.62E-03	1.31E-18	1.31E-18	1.16E-19	1.16E-19
82									
83	INORGANICS								
84		Arsenic	7.59E-13	7.85E-13	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
85		Cadmium	4.43E-15	4.54E-15	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86		Chromium (III)	1.92E-14	1.92E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87		Chromium (VI)	6.76E-16	6.76E-16	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88		Copper	2.90E-14	2.90E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89		Iron	6.90E-10	6.90E-10	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90		Lead	2.80E-14	2.80E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91		Mercury	2.97E-14	3.08E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92		Selenium	8.49E-14	8.49E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
93		Silver	3.88E-16	3.88E-16	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94		Zinc	2.25E-13	2.25E-13	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95									
96									
97			TF = 0.8*0.04/0.3/k						
98			Breast Milk = DI*TF(day)						
99			EDI = BMC*IR/BW(infant)						
100									
101			8.00E-01 Ingestion Rate (kg/day)						
102			9.00E+00 Body Weight (kg) - infant						
103									
104			HALF LIVES	k					
105			0.33	2.08E+00 Acrylonitrile					
106			0.125	5.54E+00 Benzene					
107			240	2.89E-03 DDE					
108			120	5.77E-03 DDT					
109			1.875	3.70E-01 1,1-DCE & Phenol					
110			266	2.61E-03 Dieldrin					
111			2120	3.27E-04 Dioxin					
112			60	1.15E-02 Hexachlorobenzene					
113			0.3125	2.22E+00 Toluene					
114			0.0625	1.11E+01 Xylene					

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

B	C	D	E	F	G	H	I	J	K
BASE CASE		TABLE 8							
		TOMATO CONSUMPTION - AVERAGE							
	18-Jun-91 14:39:23	D DRY DEPOSITION RATE g/M2/yr	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CONC.DUE TO UPTAKE mg/Kg	Cs AVERAGE CONC. ON PLANT SURFACE mg/Kg	Ct AVERAGE CONC ON PLANT mg/Kg	EDI ADULT AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS									
	Acetonitrile	2.91E-11	3.96E-09	3.68E+00	1.45E-08	2.07E-12	1.46E-08	7.72E-12	1.83E-11
	Aldrin	4.51E-17	6.15E-15	1.19E-04	7.32E-19	3.21E-18	3.95E-18	2.09E-21	4.96E-21
	Aniline	1.63E-12	2.23E-10	7.02E-01	1.56E-10	1.16E-13	1.56E-10	8.29E-14	1.96E-13
	Atrazine	1.01E-14	1.38E-12	6.51E-02	8.95E-14	7.19E-16	9.03E-14	4.79E-17	1.13E-16
	Benzaldehyde	7.45E-13	1.01E-10	3.23E-01	3.28E-11	5.30E-14	3.28E-11	1.74E-14	4.13E-14
	Benzofuran	3.62E-12	4.93E-10	6.60E-02	3.25E-11	2.58E-13	3.28E-11	1.74E-14	4.12E-14
	Benzoic Acid	3.65E-13	4.97E-11	1.92E-01	9.54E-12	2.60E-14	9.56E-12	5.07E-15	1.20E-14
	Benzonitrile	7.96E-12	1.08E-09	2.91E-01	3.15E-10	5.67E-13	3.15E-10	1.67E-13	3.97E-13
	Benzothiazole	3.39E-15	4.62E-13	1.59E-01	7.36E-14	2.42E-16	7.38E-14	3.91E-17	9.28E-17
	Bis(2-ethylhexyl)phthalate	2.00E-15	2.73E-13	2.02E-05	5.50E-18	1.43E-16	1.48E-16	7.85E-20	1.86E-19
	Carbazole	1.63E-14	2.23E-12	2.88E-02	6.42E-14	1.16E-15	6.53E-14	3.47E-17	8.22E-17
	4-Chloroaniline	9.36E-16	1.27E-13	2.03E-01	2.58E-14	6.66E-17	2.59E-14	1.37E-17	3.26E-17
	4-Chlorobiphenyl	2.31E-15	3.14E-13	3.36E-03	1.05E-15	1.64E-16	1.22E-15	6.46E-19	1.53E-18
	4,4-Chlorobiphenyl	1.16E-16	1.58E-14	1.35E-03	2.14E-17	8.26E-18	2.97E-17	1.57E-20	3.73E-20
	Chloroethane	8.26E-14	1.13E-11	3.19E-01	3.59E-12	5.88E-15	3.60E-12	1.91E-15	4.52E-15
	Dibenzofuran	7.27E-14	9.90E-12	9.52E-03	9.42E-14	5.18E-15	9.94E-14	5.27E-17	1.25E-16
	1,2-Dichloroethane	8.36E-15	1.14E-12	3.23E-01	3.68E-13	5.96E-16	3.69E-13	1.96E-16	4.64E-16
	Dieldrin	8.29E-17	1.13E-14	5.92E-04	6.68E-18	5.90E-18	1.26E-17	6.67E-21	1.58E-20
	Hexachlorobenzene	2.19E-13	2.98E-11	1.57E-03	4.68E-14	1.56E-14	6.24E-14	3.31E-17	7.84E-17
	Hydrazine	2.83E-10	3.85E-08	1.43E+02	5.50E-06	2.02E-11	5.50E-06	2.92E-09	6.92E-09
	Lindane	3.85E-17	5.24E-15	2.85E-02	1.49E-16	2.74E-18	1.52E-16	8.06E-20	1.91E-19
	Malathion	1.14E-16	1.55E-14	4.92E-02	7.62E-16	8.10E-18	7.70E-16	4.08E-19	9.68E-19
	Methyl ethyl ketone	1.41E-14	1.91E-12	1.65E+00	3.16E-12	1.00E-15	3.16E-12	1.67E-15	3.97E-15
	4-Methylphenol	1.28E-14	1.74E-12	1.75E-01	3.04E-13	9.08E-16	3.05E-13	1.62E-16	3.83E-16
	Monomethyl hydrazine	8.93E-11	1.22E-08	1.43E+02	1.73E-06	6.36E-12	1.73E-06	9.20E-10	2.18E-09
	Naphthalene	1.50E-15	2.05E-13	2.66E-02	5.45E-15	1.07E-16	5.56E-15	2.95E-18	6.99E-18
	Naphthalene carbonitrile	7.96E-12	1.08E-09	2.66E-02	2.88E-11	5.67E-13	2.94E-11	1.56E-14	3.70E-14
	n-Nitrosodimethylamine	9.08E-14	1.24E-11	5.79E+00	7.15E-11	6.47E-15	7.16E-11	3.79E-14	9.00E-14
	PAHs								
	Acenaphthalene	3.62E-13	4.93E-11	1.02E-02	5.02E-13	2.58E-14	5.27E-13	2.80E-16	6.63E-16
	Acenaphthene	3.62E-13	4.93E-11	1.24E-02	6.13E-13	2.58E-14	6.39E-13	3.39E-16	8.03E-16
	Benzo(a)pyrene	7.27E-13	9.90E-11	4.41E-04	4.37E-14	5.18E-14	9.54E-14	5.06E-17	1.20E-16
	Chrysene	7.27E-14	9.90E-12	1.02E-03	1.01E-14	5.18E-15	1.53E-14	8.11E-18	1.92E-17
	Dibenzo(a,h)anthracene	7.27E-13	9.90E-11	3.96E-04	3.92E-14	5.18E-14	9.10E-14	4.82E-17	1.14E-16
	Fluoranthene	7.27E-13	9.90E-11	2.19E-03	2.17E-13	5.18E-14	2.69E-13	1.42E-16	3.38E-16
	Fluorene	7.27E-14	9.90E-12	6.73E-03	6.66E-14	5.18E-15	7.17E-14	3.80E-17	9.02E-17
	Phenanthrene	2.83E-16	3.85E-14	5.22E-03	2.01E-16	2.02E-17	2.21E-16	1.17E-19	2.78E-19
	Pyrene	1.45E-12	1.98E-10	2.31E-03	4.57E-13	1.04E-13	5.61E-13	2.97E-16	7.05E-16
	Parathion	1.80E-16	2.45E-14	1.44E-02	3.53E-16	1.28E-17	3.66E-16	1.94E-19	4.60E-19
	Pentachlorobenzene	8.92E-14	1.22E-11	2.64E-03	3.21E-14	6.36E-15	3.84E-14	2.04E-17	4.83E-17
	Phenol	1.43E-15	1.94E-13	3.32E-01	6.46E-14	1.02E-16	6.47E-14	3.43E-17	8.13E-17
	Quinoline	8.19E-14	1.11E-11	1.55E-01	1.73E-12	5.83E-15	1.74E-12	9.20E-16	2.18E-15
	Tetrachlorobenzene	4.39E-14	5.97E-12	6.82E-03	4.07E-14	3.12E-15	4.38E-14	2.32E-17	5.51E-17
	Trichlorobenzene	2.22E-14	3.02E-12	1.15E-02	3.47E-14	1.58E-15	3.63E-14	1.92E-17	4.56E-17
	Unsym. dimethyl hydrazine	3.52E-10	4.79E-08	5.91E+01	2.83E-06	2.51E-11	2.83E-06	1.50E-09	3.56E-09
	Vapona	7.11E-16	9.69E-14	3.60E-01	3.49E-14	5.07E-17	3.49E-14	1.85E-17	4.39E-17

	B	C	D	E	F	G	H	I	J	K
117										
118	BASE CASE		TABLE 8							
177										
178	INORGANICS									
179	Arsenic		9.59E-12	1.31E-09	3.60E-04	4.70E-13	6.83E-13	1.15E-12	6.11E-16	1.45E-15
180	Cadmium		5.56E-14	7.57E-12	9.00E-03	6.81E-14	3.96E-15	7.21E-14	3.82E-17	9.06E-17
181	Mercury		3.60E-13	4.90E-11	1.20E-02	5.88E-13	2.56E-14	6.13E-13	3.25E-16	7.71E-16
182										
183					ADULT	CHILD				
184					6.40E-02	3.36E-02	TOMATO INGESTION RATE ,Kg/day			ADITOM
185					7.00E+01	1.55E+01	BODY WEIGHT, KG			ADWT
186					6.80E-02	6.80E-02	r tomato			r
187					5.78E-07	5.78E-07	k tomato, 1/s			k
188					3.89E+06	3.89E+06	t tomato, s			t
189					1.34E+00	1.34E+00	Y tomato, Kg/M2			y
190					7.85E+04	7.85E+04	VSDF tomato, M2s/Kg			VSDF
191					0.58	5.80E-01	FRACT. CONSUMED FROM RURAL SOURCE.			HG
192					3.15E+07	3.15E+07	sec/yr			secyr
193					1.00E+03	1.00E+03	mg/g			mgg
194										
195										
196										
197										
198										
199										

$$VSDF = r*(1-e^{-kt}_{Y*k})$$

Cs = VSDF*Deposition*mgg/secyr

Cu = PUF*Csoil

EDI = (Ct)*ADITOM*HG/ADWT

B C M N O P Q R S T

BASE CASE

TABLE 9
TOMATO CONSUMPTION - MAXIMUM

18-Jun-91
14:39:23

	D DRY DEPOSITION RATE g/M2/yr	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	PUF PLANT UPTAKE FACTOR	Cu MAXIMUM CONC.DUE TO UPTAKE mg/Kg	Cs MAXIMUM CONC. ON PLANT SURFACE mg/Kg	Ct MAXIMUM CONC ON PLANT mg/Kg	EDI ADULT MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS								
Acetonitrile	2.91E-11	4.02E-09	3.68E+00	1.48E-08	7.25E-11	1.48E-08	7.87E-12	1.86E-11
Aldrin	4.51E-17	6.24E-15	1.19E-04	7.43E-19	1.13E-16	1.13E-16	6.01E-20	1.42E-19
Aniline	1.63E-12	2.26E-10	7.02E-01	1.58E-10	4.07E-12	1.63E-10	8.62E-14	2.04E-13
Atrazine	1.01E-14	1.40E-12	6.51E-02	9.08E-14	2.52E-14	1.16E-13	6.15E-17	1.46E-16
Benzaldehyde	7.45E-13	1.03E-10	3.23E-01	3.33E-11	1.86E-12	3.51E-11	1.86E-14	4.42E-14
Benzofuran	3.62E-12	5.00E-10	6.60E-02	3.30E-11	9.03E-12	4.20E-11	2.23E-14	5.29E-14
Benzoic Acid	3.65E-13	5.04E-11	1.92E-01	9.68E-12	9.09E-13	1.06E-11	5.61E-15	1.33E-14
Benzonitrile	7.96E-12	1.10E-09	2.91E-01	3.19E-10	1.98E-11	3.39E-10	1.80E-13	4.27E-13
Benzothiazole	3.39E-15	4.69E-13	1.59E-01	7.47E-14	8.45E-15	8.31E-14	4.41E-17	1.04E-16
Bis(2-ethylhexyl)phthalate	2.00E-15	2.77E-13	2.02E-05	5.58E-18	4.99E-15	5.00E-15	2.65E-18	6.28E-18
Carbazole	1.63E-14	2.26E-12	2.88E-02	6.51E-14	4.07E-14	1.06E-13	5.61E-17	1.33E-16
4-Chloroaniline	9.36E-16	1.29E-13	2.03E-01	2.62E-14	2.33E-15	2.85E-14	1.51E-17	3.59E-17
4-Chlorobiphenyl	2.31E-15	3.18E-13	3.36E-03	1.07E-15	5.75E-15	6.82E-15	3.61E-18	8.57E-18
4,4-Chlorobiphenyl	1.16E-16	1.60E-14	1.35E-03	2.17E-17	2.89E-16	3.11E-16	1.65E-19	3.91E-19
Chloroethane	8.26E-14	1.14E-11	3.19E-01	3.64E-12	2.06E-13	3.85E-12	2.04E-15	4.84E-15
Dibenzofuran	7.27E-14	1.00E-11	9.52E-03	9.56E-14	1.81E-13	2.77E-13	1.47E-16	3.48E-16
1,2-Dichloroethane	8.36E-15	1.16E-12	3.23E-01	3.74E-13	2.08E-14	3.94E-13	2.09E-16	4.96E-16
Dieldrin	8.29E-17	1.14E-14	5.92E-04	6.77E-18	2.07E-16	2.13E-16	1.13E-19	2.68E-19
Hexachlorobenzene	2.19E-13	3.03E-11	1.57E-03	4.75E-14	5.46E-13	5.93E-13	3.15E-16	7.46E-16
Hydrazine	2.83E-10	3.91E-08	1.43E+02	5.58E-06	7.06E-10	5.58E-06	2.96E-09	7.02E-09
Lindane	3.85E-17	5.32E-15	2.85E-02	1.51E-16	9.60E-17	2.47E-16	1.31E-19	3.11E-19
Malathion	1.14E-16	1.57E-14	4.92E-02	7.73E-16	2.83E-16	1.06E-15	5.60E-19	1.33E-18
Methyl ethyl ketone	1.41E-14	1.94E-12	1.65E+00	3.20E-12	3.50E-14	3.24E-12	1.72E-15	4.07E-15
4-Methylphenol	1.28E-14	1.76E-12	1.75E-01	3.08E-13	3.18E-14	3.40E-13	1.80E-16	4.27E-16
Monomethyl hydrazine	8.93E-11	1.23E-08	1.43E+02	1.76E-06	2.22E-10	1.76E-06	9.33E-10	2.21E-09
Naphthalene	1.50E-15	2.08E-13	2.66E-02	5.53E-15	3.75E-15	9.28E-15	4.92E-18	1.17E-17
Naphthalene carbonitrile	7.96E-12	1.10E-09	2.66E-02	2.93E-11	1.98E-11	4.91E-11	2.60E-14	6.17E-14
n-Nitrosodimethylamine	9.08E-14	1.25E-11	5.79E+00	7.26E-11	2.26E-13	7.28E-11	3.86E-14	9.15E-14
PAHs								
Acenaphthalene	3.62E-13	5.00E-11	1.02E-02	5.09E-13	9.03E-13	1.41E-12	7.49E-16	1.77E-15
Acenaphthene	3.62E-13	5.00E-11	1.24E-02	6.22E-13	9.03E-13	1.52E-12	8.08E-16	1.92E-15
Benzo(a)pyrene	7.27E-13	1.00E-10	4.41E-04	4.43E-14	1.81E-12	1.86E-12	9.84E-16	2.33E-15
Chrysene	7.27E-14	1.00E-11	1.02E-03	1.03E-14	1.81E-13	1.91E-13	1.02E-16	2.41E-16
Dibenzo(a,h)anthracene	7.27E-13	1.00E-10	3.96E-04	3.98E-14	1.81E-12	1.85E-12	9.82E-16	2.33E-15
Fluoranthene	7.27E-13	1.00E-10	2.19E-03	2.20E-13	1.81E-12	2.03E-12	1.08E-15	2.55E-15
Fluorene	7.27E-14	1.00E-11	6.73E-03	6.75E-14	1.81E-13	2.49E-13	1.32E-16	3.13E-16
Phenanthrene	2.83E-16	3.91E-14	5.22E-03	2.04E-16	7.06E-16	9.10E-16	4.82E-19	1.14E-18
Pyrene	1.45E-12	2.01E-10	2.31E-03	4.64E-13	3.62E-12	4.09E-12	2.17E-15	5.14E-15
Parathion	1.80E-16	2.49E-14	1.44E-02	3.58E-16	4.49E-16	8.07E-16	4.28E-19	1.01E-18
Pentachlorobenzene	8.92E-14	1.23E-11	2.64E-03	3.26E-14	2.22E-13	2.55E-13	1.35E-16	3.21E-16
Phenol	1.43E-15	1.97E-13	3.32E-01	6.55E-14	3.56E-15	6.91E-14	3.66E-17	8.69E-17
Quinoline	8.19E-14	1.13E-11	1.55E-01	1.75E-12	2.04E-13	1.96E-12	1.04E-15	2.46E-15
Tetrachlorobenzene	4.39E-14	6.06E-12	6.82E-03	4.13E-14	1.09E-13	1.51E-13	7.99E-17	1.89E-16
Trichlorobenzene	2.22E-14	3.07E-12	1.15E-02	3.52E-14	5.54E-14	9.06E-14	4.80E-17	1.14E-16
Unsym. dimethyl hydrazine	3.52E-10	4.86E-08	5.91E+01	2.87E-06	8.77E-10	2.87E-06	1.52E-09	3.61E-09
Vapona	7.11E-16	9.83E-14	3.60E-01	3.54E-14	1.77E-15	3.71E-14	1.97E-17	4.67E-17

	B	C	M	N	O	P	Q	R	S	T
118	BASE CASE		TABLE 9							
177										
178	INORGANICS									
179	Arsenic		9.59E-12	1.32E-09	3.60E-04	4.77E-13	2.39E-11	2.44E-11	1.29E-14	3.06E-14
180	Cadmium		5.56E-14	7.68E-12	9.00E-03	6.91E-14	1.39E-13	2.08E-13	1.10E-16	2.61E-16
181	Mercury		3.60E-13	4.97E-11	1.20E-02	5.96E-13	8.96E-13	1.49E-12	7.91E-16	1.88E-15
182										
183					ADULT	CHILD				
184					6.40E-02	3.36E-02	TOMATO INGESTION RATE ,Kg/day			ADITOM
185					7.00E+01	1.55E+01	BODY WEIGHT, KG			ADWT
186					6.80E-02	6.80E-02	r tomato			r
187					5.78E-07	5.78E-07	k tomato, 1/s			k
188					3.89E+06	3.89E+06	t tomato, s			t
189					1.34E+00	1.34E+00	Y tomato, Kg/M2			y
190					7.85E+04	7.85E+04	VSDF tomato, M2s/Kg			VSDF
191					5.80E-01	5.80E-01	FRACT. CONSUMED FROM RURAL SOURCE.			HG
192					3.15E+07	3.15E+07	sec/yr			secyr
193					1.00E+03	1.00E+03	mg/g			mgg
194							-kt			
195						VSDF = r*(1-e	)			
196							Y*k			
197						Cs = VSDF*Deposition*mgg/secyr				
198						Cu = PUF*Csoil				
199						EDI = (Ct)*ADITOM*HG/ADWT				

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

117	B	C	V	W	X	Y	Z	AA	AB	AC
118	BASE CASE		TABLE 10							
119			LETTUCE CONSUMPTION - AVERAGE							
120										
121										
122		18-Jun-91	D	C soil	PUF	Cu	Cs	Ct	EDI	EDI
123		14:39:23	DRY	AVERAGE		AVERAGE	AVERAGE	AVERAGE	ADULT	CHILD
124			DEPOSITION	CALCULATED	PLANT UPTAKE	CONC.DUE	CONC. ON	CONC ON	AVERAGE	AVERAGE
125			RATE	CONC IN	FACTOR	TO UPTAKE	PLANT	PLANT	ESTIMATED	ESTIMATED
126			g/M2/yr	SOIL		mg/Kg	SURFACE	mg/Kg	DAILY	DAILY
127				.2M			mg/Kg		INTAKE	INTAKE
128				mg/Kg					mg/Kg/day	mg/Kg/day
129										
130	ORGANICS									
131		Acetonitrile	2.91E-11	3.96E-09	3.06E+00	1.21E-08	4.16E-12	1.21E-08	1.20E-12	5.63E-13
132		Aldrin	4.51E-17	6.15E-15	9.93E-05	6.10E-19	6.46E-18	7.07E-18	6.97E-22	3.28E-22
133		Aniline	1.63E-12	2.23E-10	5.85E-01	1.30E-10	2.34E-13	1.30E-10	1.29E-14	6.05E-15
134		Atrazine	1.01E-14	1.38E-12	5.43E-02	7.46E-14	1.45E-15	7.61E-14	7.50E-18	3.53E-18
135		Benzaldehyde	7.45E-13	1.01E-10	2.69E-01	2.73E-11	1.07E-13	2.74E-11	2.70E-15	1.27E-15
136		Benzofuran	3.62E-12	4.93E-10	5.50E-02	2.71E-11	5.19E-13	2.76E-11	2.72E-15	1.28E-15
137		Benzoic Acid	3.65E-13	4.97E-11	1.60E-01	7.95E-12	5.22E-14	8.00E-12	7.89E-16	3.71E-16
138		Benzonitrile	7.96E-12	1.08E-09	2.42E-01	2.62E-10	1.14E-12	2.64E-10	2.60E-14	1.22E-14
139		Benzothiazole	3.39E-15	4.62E-13	1.33E-01	6.13E-14	4.86E-16	6.18E-14	6.09E-18	2.87E-18
140		Bis(2-ethylhexyl)phthalate	2.00E-15	2.73E-13	1.68E-05	4.58E-18	2.87E-16	2.91E-16	2.87E-20	1.35E-20
141		Carbazole	1.63E-14	2.23E-12	2.40E-02	5.35E-14	2.34E-15	5.58E-14	5.50E-18	2.59E-18
142		4-Chloroaniline	9.36E-16	1.27E-13	1.69E-01	2.15E-14	1.34E-16	2.17E-14	2.14E-18	1.00E-18
143		4-Chlorobiphenyl	2.31E-15	3.14E-13	2.80E-03	8.78E-16	3.30E-16	1.21E-15	1.19E-19	5.61E-20
144		4,4-Chlorobiphenyl	1.16E-16	1.58E-14	1.13E-03	1.78E-17	1.66E-17	3.44E-17	3.40E-21	1.60E-21
145		Chloroethane	8.26E-14	1.13E-11	2.66E-01	2.99E-12	1.18E-14	3.00E-12	2.96E-16	1.39E-16
146		Dibenzofuran	7.27E-14	9.90E-12	7.93E-03	7.85E-14	1.04E-14	8.89E-14	8.77E-18	4.12E-18
147		1,2-Dichloroethane	8.36E-15	1.14E-12	2.69E-01	3.07E-13	1.20E-15	3.08E-13	3.04E-17	1.43E-17
148		Dieldrin	8.29E-17	1.13E-14	4.93E-04	5.56E-18	1.19E-17	1.74E-17	1.72E-21	8.09E-22
149		Hexachlorobenzene	2.19E-13	2.98E-11	1.31E-03	3.90E-14	3.14E-14	7.04E-14	6.94E-18	3.26E-18
150		Hydrazine	2.83E-10	3.85E-08	1.19E+02	4.58E-06	4.05E-11	4.58E-06	4.52E-10	2.13E-10
151		Lindane	3.85E-17	5.24E-15	2.37E-02	1.24E-16	5.51E-18	1.30E-16	1.28E-20	6.02E-21
152		Malathion	1.14E-16	1.55E-14	4.10E-02	6.35E-16	1.63E-17	6.51E-16	6.42E-20	3.02E-20
153		Methyl ethyl ketone	1.41E-14	1.91E-12	1.37E+00	2.63E-12	2.01E-15	2.63E-12	2.59E-16	1.22E-16
154		4-Methylphenol	1.28E-14	1.74E-12	1.46E-01	2.53E-13	1.83E-15	2.55E-13	2.51E-17	1.18E-17
155		Monomethyl hydrazine	8.93E-11	1.22E-08	1.19E+02	1.45E-06	1.28E-11	1.45E-06	1.43E-10	6.71E-11
156		Naphthalene	1.50E-15	2.05E-13	2.22E-02	4.54E-15	2.15E-16	4.76E-15	4.69E-19	2.21E-19
157		Naphthalene carbonitrile	7.96E-12	1.08E-09	2.22E-02	2.40E-11	1.14E-12	2.52E-11	2.48E-15	1.17E-15
158		n-Nitrosodimethylamine	9.08E-14	1.24E-11	4.82E+00	5.96E-11	1.30E-14	5.96E-11	5.88E-15	2.77E-15
159		PAHs								
160		Acenaphthalene	3.62E-13	4.93E-11	8.48E-03	4.18E-13	5.19E-14	4.70E-13	4.63E-17	2.18E-17
161		Acenaphthene	3.62E-13	4.93E-11	1.04E-02	5.11E-13	5.19E-14	5.63E-13	5.55E-17	2.61E-17
162		Benzo(a)pyrene	7.27E-13	9.90E-11	3.68E-04	3.64E-14	1.04E-13	1.40E-13	1.38E-17	6.52E-18
163		Chrysene	7.27E-14	9.90E-12	8.53E-04	8.44E-15	1.04E-14	1.88E-14	1.86E-18	8.74E-19
164		Dibenzo(a,h)anthracene	7.27E-13	9.90E-11	3.30E-04	3.27E-14	1.04E-13	1.37E-13	1.35E-17	6.35E-18
165		Fluoranthene	7.27E-13	9.90E-11	1.83E-03	1.81E-13	1.04E-13	2.85E-13	2.81E-17	1.32E-17
166		Fluorene	7.27E-14	9.90E-12	5.60E-03	5.55E-14	1.04E-14	6.59E-14	6.49E-18	3.06E-18
167		Phenanthrene	2.83E-16	3.85E-14	4.35E-03	1.68E-16	4.05E-17	2.08E-16	2.05E-20	9.66E-21
168		Pyrene	1.45E-12	1.98E-10	1.93E-03	3.81E-13	2.08E-13	5.89E-13	5.81E-17	2.73E-17
169		Parathion	1.80E-16	2.45E-14	1.20E-02	2.94E-16	2.58E-17	3.20E-16	3.15E-20	1.48E-20
170		Pentachlorobenzene	8.92E-14	1.22E-11	2.20E-03	2.67E-14	1.28E-14	3.95E-14	3.90E-18	1.83E-18
171		Phenol	1.43E-15	1.94E-13	2.77E-01	5.38E-14	2.04E-16	5.40E-14	5.33E-18	2.51E-18
172		Quinoline	8.19E-14	1.11E-11	1.29E-01	1.44E-12	1.17E-14	1.45E-12	1.43E-16	6.74E-17
173		Tetrachlorobenzene	4.39E-14	5.97E-12	5.68E-03	3.39E-14	6.28E-15	4.02E-14	3.96E-18	1.87E-18
174		Trichlorobenzene	2.22E-14	3.02E-12	9.56E-03	2.89E-14	3.18E-15	3.21E-14	3.16E-18	1.49E-18
175		Unsym. dimethyl hydrazine	3.52E-10	4.79E-08	4.93E+01	2.36E-06	5.04E-11	2.36E-06	2.33E-10	1.10E-10
176		Vapona	7.11E-16	9.69E-14	3.00E-01	2.91E-14	1.02E-16	2.92E-14	2.87E-18	1.35E-18

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	V	W	X	Y	Z	AA	AB	AC
117										
118	BASE CASE		TABLE 10							
177										
178	INORGANICS									
179	Arsenic		9.59E-12	1.31E-09	2.00E-03	2.61E-12	1.37E-12	3.98E-12	3.93E-16	1.85E-16
180	Cadmium		5.56E-14	7.57E-12	2.75E-02	2.08E-13	7.96E-15	2.16E-13	2.13E-17	1.00E-17
181	Mercury		3.60E-13	4.90E-11	4.50E-02	2.20E-12	5.15E-14	2.25E-12	2.22E-16	1.05E-16
182										

	ADULT	CHILD		
183				
184	1.19E-02	1.24E-03	LETTUCE INGESTION RATE ,Kg/day	ADILET
185	7.00E+01	1.55E+01	BODY WEIGHT, KG	ADWT
186	1.50E-01	1.50E-01	r lettuce	r
187	5.78E-07	5.78E-07	k lettuce, 1/s	k
188	5.62E+06	5.62E+06	t lettuce, s	t
189	1.58E+00	1.58E+00	y lettuce, Kg/M2	y
190	1.58E+05	1.58E+05	VSDF lettuce, M2s/Kg	VSDF
191	5.80E-01	5.80E-01	FRACT. CONSUMED FROM RURAL SOURCE.	HG
192	3.15E+07	3.15E+07	sec/yr	secyr
193	1.00E+03	1.00E+03	mg/g	mgg
194				
195			$VSDF = r*(1-e^{-kt \over Y*k})$	
196				
197			Cs = VSDF*Deposition*mgg/secyr	
198			Cu = PUF*Csoil	
199			EDI = (Cs+Cu)*ADILET*HG/ADWT	

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

117 B	C	AE	AF	AG	AH	AI	AJ	AK	AL
118 BASE CASE		TABLE 11							
119		LETTUCE CONSUMPTION - MAXIMUM							
120									
121									
122	18-Jun-91	D	C soil	PUF	Cu	Cs	Ct	EDI	EDI
123	14:39:23	DRY	MAXIMUM		MAXIMUM	MAXIMUM	MAXIMUM	ADULT	CHILD
124		DEPOSITION	CALCULATED	PLANT UPTAKE	CONC.DUE	CONC. ON	CONC ON	MAXIMUM	MAXIMUM
125		RATE	CONC IN	FACTOR	TO UPTAKE	PLANT	PLANT	ESTIMATED	ESTIMATED
126		g/M2/yr	SOIL		mg/Kg	SURFACE	mg/Kg	DAILY	DAILY
127			.2M			mg/Kg		INTAKE	INTAKE
128			mg/Kg					mg/Kg/day	mg/Kg/day
129									
130 ORGANICS									
131	Acetonitrile	2.91E-11	4.02E-09	3.06E+00	1.23E-08	1.46E-10	1.24E-08	1.23E-12	5.77E-13
132	Aldrin	4.51E-17	6.24E-15	9.93E-05	6.19E-19	2.26E-16	2.27E-16	2.24E-20	1.05E-20
133	Aniline	1.63E-12	2.26E-10	5.85E-01	1.32E-10	8.19E-12	1.40E-10	1.38E-14	6.51E-15
134	Atrazine	1.01E-14	1.40E-12	5.43E-02	7.57E-14	5.06E-14	1.26E-13	1.25E-17	5.86E-18
135	Benzaldehyde	7.45E-13	1.03E-10	2.69E-01	2.77E-11	3.73E-12	3.15E-11	3.10E-15	1.46E-15
136	Benzofuran	3.62E-12	5.00E-10	5.50E-02	2.75E-11	1.81E-11	4.57E-11	4.50E-15	2.12E-15
137	Benzoic Acid	3.65E-13	5.04E-11	1.60E-01	8.06E-12	1.83E-12	9.89E-12	9.75E-16	4.59E-16
138	Benzonitrile	7.96E-12	1.10E-09	2.42E-01	2.66E-10	3.99E-11	3.06E-10	3.02E-14	1.42E-14
139	Benzothiazole	3.39E-15	4.69E-13	1.33E-01	6.22E-14	1.70E-14	7.92E-14	7.81E-18	3.68E-18
140	Bis(2-ethylhexyl)phthalate	2.00E-15	2.77E-13	1.68E-05	4.65E-18	1.00E-14	1.00E-14	9.90E-19	4.66E-19
141	Carbazole	1.63E-14	2.26E-12	2.40E-02	5.43E-14	8.19E-14	1.36E-13	1.34E-17	6.32E-18
142	4-Chloroaniline	9.36E-16	1.29E-13	1.69E-01	2.18E-14	4.69E-15	2.65E-14	2.62E-18	1.23E-18
143	4-Chlorobiphenyl	2.31E-15	3.18E-13	2.80E-03	8.91E-16	1.16E-14	1.24E-14	1.23E-18	5.77E-19
144	4,4-Chlorobiphenyl	1.16E-16	1.60E-14	1.13E-03	1.81E-17	5.81E-16	6.00E-16	5.91E-20	2.78E-20
145	Chloroethane	8.26E-14	1.14E-11	2.66E-01	3.03E-12	4.14E-13	3.45E-12	3.40E-16	1.60E-16
146	Dibenzofuran	7.27E-14	1.00E-11	7.93E-03	7.96E-14	3.64E-13	4.44E-13	4.38E-17	2.06E-17
147	1,2-Dichloroethane	8.36E-15	1.16E-12	2.69E-01	3.11E-13	4.19E-14	3.53E-13	3.48E-17	1.64E-17
148	Dieldrin	8.29E-17	1.14E-14	4.93E-04	5.65E-18	4.15E-16	4.21E-16	4.15E-20	1.95E-20
149	Hexachlorobenzene	2.19E-13	3.03E-11	1.31E-03	3.96E-14	1.10E-12	1.14E-12	1.12E-16	5.28E-17
150	Hydrazine	2.83E-10	3.91E-08	1.19E+02	4.65E-06	1.42E-09	4.65E-06	4.59E-10	2.16E-10
151	Lindane	3.85E-17	5.32E-15	2.37E-02	1.26E-16	1.93E-16	3.19E-16	3.15E-20	1.48E-20
152	Malathion	1.14E-16	1.57E-14	4.10E-02	6.44E-16	5.70E-16	1.21E-15	1.20E-19	5.63E-20
153	Methyl ethyl ketone	1.41E-14	1.94E-12	1.37E+00	2.67E-12	7.04E-14	2.74E-12	2.70E-16	1.27E-16
154	4-Methylphenol	1.28E-14	1.76E-12	1.46E-01	2.57E-13	6.39E-14	3.21E-13	3.16E-17	1.49E-17
155	Monomethyl hydrazine	8.93E-11	1.23E-08	1.19E+02	1.47E-06	4.47E-10	1.47E-06	1.45E-10	6.81E-11
156	Naphthalene	1.50E-15	2.08E-13	2.22E-02	4.61E-15	7.54E-15	1.21E-14	1.20E-18	5.64E-19
157	Naphthalene carbonitrile	7.96E-12	1.10E-09	2.22E-02	2.44E-11	3.99E-11	6.42E-11	6.34E-15	2.98E-15
158	n-Nitrosodimethylamine	9.08E-14	1.25E-11	4.82E+00	6.05E-11	4.55E-13	6.09E-11	6.01E-15	2.83E-15
159	PAHs								
160	Acenaphthalene	3.62E-13	5.00E-11	8.48E-03	4.24E-13	1.81E-12	2.24E-12	2.21E-16	1.04E-16
161	Acenaphthene	3.62E-13	5.00E-11	1.04E-02	5.18E-13	1.81E-12	2.33E-12	2.30E-16	1.08E-16
162	Benzo(a)pyrene	7.27E-13	1.00E-10	3.68E-04	3.69E-14	3.64E-12	3.68E-12	3.63E-16	1.71E-16
163	Chrysene	7.27E-14	1.00E-11	8.53E-04	8.56E-15	3.64E-13	3.73E-13	3.68E-17	1.73E-17
164	Dibenzo(a,h)anthracene	7.27E-13	1.00E-10	3.30E-04	3.32E-14	3.64E-12	3.68E-12	3.62E-16	1.71E-16
165	Fluoranthene	7.27E-13	1.00E-10	1.83E-03	1.83E-13	3.64E-12	3.83E-12	3.77E-16	1.78E-16
166	Fluorene	7.27E-14	1.00E-11	5.60E-03	5.63E-14	3.64E-13	4.20E-13	4.15E-17	1.95E-17
167	Phenanthrene	2.83E-16	3.91E-14	4.35E-03	1.70E-16	1.42E-15	1.59E-15	1.57E-19	7.37E-20
168	Pyrene	1.45E-12	2.01E-10	1.93E-03	3.87E-13	7.28E-12	7.67E-12	7.56E-16	3.56E-16
169	Parathion	1.80E-16	2.49E-14	1.20E-02	2.98E-16	9.02E-16	1.20E-15	1.18E-19	5.57E-20
170	Pentachlorobenzene	8.92E-14	1.23E-11	2.20E-03	2.71E-14	4.47E-13	4.74E-13	4.68E-17	2.20E-17
171	Phenol	1.43E-15	1.97E-13	2.77E-01	5.46E-14	7.16E-15	6.18E-14	6.09E-18	2.87E-18
172	Quinoline	8.19E-14	1.13E-11	1.29E-01	1.46E-12	4.10E-13	1.87E-12	1.85E-16	8.69E-17
173	Tetrachlorobenzene	4.39E-14	6.06E-12	5.68E-03	3.44E-14	2.20E-13	2.54E-13	2.51E-17	1.18E-17
174	Trichlorobenzene	2.22E-14	3.07E-12	9.56E-03	2.93E-14	1.11E-13	1.41E-13	1.39E-17	6.53E-18
175	Unsym. dimethyl hydrazine	3.52E-10	4.86E-08	4.93E+01	2.39E-06	1.76E-09	2.40E-06	2.36E-10	1.11E-10
176	Vapona	7.11E-16	9.83E-14	3.00E-01	2.95E-14	3.57E-15	3.30E-14	3.26E-18	1.53E-18

	B	C	AE	AF	AG	AH	AI	AJ	AK	AL
118	BASE CASE		TABLE 11							
177										
178	INORGANICS									
179	Arsenic		9.59E-12	1.32E-09	2.00E-03	2.65E-12	4.81E-11	5.07E-11	5.00E-15	2.35E-15
180	Cadmium		5.56E-14	7.68E-12	2.75E-02	2.11E-13	2.79E-13	4.90E-13	4.83E-17	2.27E-17
181	Mercury		3.60E-13	4.97E-11	4.50E-02	2.24E-12	1.80E-12	4.04E-12	3.98E-16	1.87E-16
182										
183					ADULT	CHILD				
184					1.19E-02	1.24E-03	LETTUCE INGESTION RATE ,Kg/day			ADILET
185					7.00E+01	1.55E+01	BODY WEIGHT, KG			ADWT
186					1.50E-01	1.50E-01	r lettuce			r
187					5.78E-07	5.78E-07	k lettuce, 1/s			k
188					5.62E+06	5.62E+06	t lettuce, s			t
189					1.58E+00	1.58E+00	y lettuce, Kg/M2			y
190					1.58E+05	1.58E+05	VSDF lettuce, M2s/Kg			VSDF
191					5.80E-01	5.80E-01	FRACT. CONSUMED FROM RURAL SOURCE.			HG
192					3.15E+07	3.15E+07	sec/yr			secyr
193					1.00E+03	1.00E+03	mg/g			mgg
194							-kt			
195						VSDF = r*(1-e	)			
196							Y*k			
197						Cs = VSDF*Deposition*mgg/secyr				
198						Cu = PUF*Csoil				
199						EDI = (Cs+Cu)*ADILET*HG/ADWT				

117 B	C	AO	AP	AQ	AR	AS	AT	AU
118	BASE CASE	TABLE 12						
119		CARROT CONSUMPTION - AVERAGE						
120								
121								
122	18-Jun-91	C soil			RUF	C plant	EDI	EDI
123	14:39:23	AVERAGE				AVERAGE	ADULT	CHILD
124		CALCULATED	log Kow	Koc	ROOT UPTAKE	CONC.DUE	AVERAGE	AVERAGE
125		CONC IN			FACTOR	TO UPTAKE	ESTIMATED	ESTIMATED
126		SOIL				mg/Kg	DAILY	DAILY
127		.2M					INTAKE	INTAKE
128		mg/Kg					mg/Kg/day	mg/Kg/day
129								
130 ORGANICS								
131	Acetonitrile	3.96E-09	-0.34	2.2	2.68E+01	1.06E-07	1.03E-11	1.54E-11
132	Aldrin	6.15E-15	7.4	96000	1.11E+01	6.79E-14	6.59E-18	9.86E-18
133	Aniline	2.23E-10	0.9	73.553	9.28E-01	2.06E-10	2.00E-14	3.00E-14
134	Atrazine	1.38E-12	2.68	320	9.50E-01	1.31E-12	1.27E-16	1.90E-16
135	Benzaldehyde	1.01E-10	1.48	152	5.73E-01	5.81E-11	5.63E-15	8.43E-15
136	Benzofuran	4.93E-10	2.67	313	9.57E-01	4.72E-10	4.58E-14	6.85E-14
137	Benzoic Acid	4.97E-11	1.87	248	4.69E-01	2.33E-11	2.26E-15	3.38E-15
138	Benzonitrile	1.08E-09	1.56	168	5.45E-01	5.90E-10	5.72E-14	8.57E-14
139	Benzothiazole	4.62E-13	2.01	295.42	4.50E-01	2.08E-13	2.01E-17	3.01E-17
140	Bis(2-ethylhexyl)phthalate	2.73E-13	8.73	1336965	8.39E+00	2.29E-12	2.22E-16	3.32E-16
141	Carbazole	2.23E-12	3.29	1193	6.57E-01	1.46E-12	1.42E-16	2.12E-16
142	4-Chloroaniline	1.27E-13	1.83	349.5	3.21E-01	4.09E-14	3.97E-18	5.95E-18
143	4-Chlorobiphenyl	3.14E-13	4.9	38486	3.29E-01	1.03E-13	1.00E-17	1.50E-17
144	4,4-Chlorobiphenyl	1.58E-14	5.58	166901	2.53E-01	3.99E-15	3.87E-19	5.79E-19
145	Chloroethane	1.13E-11	1.49	143	6.13E-01	6.89E-12	6.68E-16	1.00E-15
146	Dibenzofuran	9.90E-12	4.12	7152	4.50E-01	4.46E-12	4.32E-16	6.47E-16
147	1,2-Dichloroethane	1.14E-12	1.48	14	6.22E+00	7.08E-12	6.87E-16	1.03E-15
148	Dieldrin	1.13E-14	6.2	1700	7.44E+01	8.39E-13	8.14E-17	1.22E-16
149	Hexachlorobenzene	2.98E-11	5.47	50000	6.94E-01	2.07E-11	2.01E-15	3.01E-15
150	Hydrazine	3.85E-08	-3.08	0.1	5.78E+02	2.23E-05	2.16E-09	3.23E-09
151	Lindane	5.24E-15	3.3	1000	7.97E-01	4.18E-15	4.05E-19	6.07E-19
152	Malathion	1.55E-14	2.89	1800	2.31E-01	3.57E-15	3.46E-19	5.18E-19
153	Methyl ethyl ketone	1.91E-12	0.26	4.5	1.36E+01	2.60E-11	2.52E-15	3.77E-15
154	4-Methylphenol	1.74E-12	1.94	49	2.53E+00	4.40E-12	4.26E-16	6.38E-16
155	Monomethyl hydrazine	1.22E-08	-3.08	0.503	1.15E+02	1.40E-06	1.35E-10	2.03E-10
156	Naphthalene	2.05E-13	3.35	871	9.94E-01	2.04E-13	1.97E-17	2.96E-17
157	Naphthalene carbonitrile	1.08E-09	3.35	871	9.94E-01	1.08E-09	1.04E-13	1.56E-13
158	n-Nitrosodimethylamine	1.24E-11	-0.68	0.1	5.84E+02	7.22E-09	7.00E-13	1.05E-12
159	PAHs							
160	Acenaphthalene	4.93E-11	4.07	2500	1.18E+00	5.82E-11	5.65E-15	8.45E-15
161	Acenaphthene	4.93E-11	3.92	4600	4.95E-01	2.44E-11	2.37E-15	3.54E-15
162	Benzo(a)pyrene	9.90E-11	6.42	5500000	3.40E-02	3.36E-12	3.26E-16	4.88E-16
163	Chrysene	9.90E-12	5.79	200000	3.06E-01	3.03E-12	2.93E-16	4.39E-16
164	Dibenzo(a,h)anthracene	9.90E-11	6.5	3300000	6.52E-02	6.45E-12	6.26E-16	9.37E-16
165	Fluoranthene	9.90E-11	5.22	38000	5.87E-01	5.81E-11	5.63E-15	8.43E-15
166	Fluorene	9.90E-12	4.38	7300	6.95E-01	6.88E-12	6.67E-16	9.99E-16
167	Phenanthrene	3.85E-14	4.57	14000	5.06E-01	1.95E-14	1.89E-18	2.83E-18
168	Pyrene	1.98E-10	5.18	38000	5.47E-01	1.08E-10	1.05E-14	1.57E-14
169	Parathion	2.45E-14	3.81	3664	5.14E-01	1.26E-14	1.22E-18	1.83E-18
170	Pentachlorobenzene	1.22E-11	5.08	13000	1.34E+00	1.63E-11	1.58E-15	2.36E-15
171	Phenol	1.94E-13	1.46	14	6.15E+00	1.20E-12	1.16E-16	1.74E-16
172	Quinoline	1.11E-11	2.03	79	1.72E+00	1.91E-11	1.85E-15	2.78E-15
173	Tetrachlorobenzene	5.97E-12	4.37	1600	3.12E+00	1.86E-11	1.80E-15	2.70E-15
174	Trichlorobenzene	3.02E-12	3.98	9200	2.75E-01	8.30E-13	8.05E-17	1.21E-16
175	Unsym. dimethyl hydrazine	4.79E-08	-2.42	0.2	2.89E+02	1.38E-05	1.34E-09	2.01E-09
176	Vapona	9.69E-14	1.4	138	6.03E-01	5.84E-14	5.66E-18	8.48E-18

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

117	B	C	AO	AP	AQ	AR	AS	AT	AU
118	BASE CASE		TABLE 12						
177									
178	INORGANICS								
179	Arsenic		1.31E-09			7.20E-04	9.40E-13	9.11E-17	1.36E-16
180	Cadmium		7.57E-12			1.80E-02	1.36E-13	1.32E-17	1.98E-17
181	Mercury		4.90E-11			2.40E-02	1.18E-12	1.14E-16	1.71E-16
182									
183									
184									

185		ADULT	CHILD	
186	Foc	1.42E-02	1.42E-02	SOIL ORGANIC CARBON CONTENT
187	ADICAR	0.0117	0.00388	CARROT INGESTION RATE ,Kg/day
188	ADWT	7.00E+01	1.55E+01	BODY WEIGHT, KG
189	HG	5.80E-01	5.80E-01	FRACTION OF CARROTS HOMEGROWN

190

191 log(RCF-0.82) = 0.77log Kow-1.52

192 RUF = RCF

193 (Koc*Foc)

194 Cplant = RUF*Csoil

195 EDI = C plant * ADICAR * HG / ADWT

196 EDI (total) = DI tomato + DI lettuce + DI carrot

117 B	C	AW	AX	AY	AZ	BA	BB	BC
118 BASE CASE		TABLE 13						
119		CARROT CONSUMPTION - MAXIMUM						
120								
121								
122	18-Jun-91	C soil			RUF	C plant	EDI	EDI
123	14:39:23	MAXIMUM				MAXIMUM	ADULT	CHILD
124		CALCULATED	log Kow	Koc	ROOT UPTAKE	CONC.DUE	MAXIMUM	MAXIMUM
125		CONC IN			FACTOR	TO UPTAKE	ESTIMATED	ESTIMATED
126		SOIL				mg/Kg	DAILY	DAILY
127		.2M					INTAKE	INTAKE
128		mg/Kg					mg/Kg/day	mg/Kg/day
129								
130 ORGANICS								
131 Acetonitrile		4.02E-09	-3.40E-01	2.20E+00	2.68E+01	1.08E-07	1.04E-11	1.56E-11
132 Aldrin		6.24E-15	7.40E+00	9.60E+04	1.11E+01	6.89E-14	6.68E-18	1.00E-17
133 Aniline		2.26E-10	9.00E-01	7.36E+01	9.28E-01	2.09E-10	2.03E-14	3.04E-14
134 Atrazine		1.40E-12	2.68E+00	3.20E+02	9.50E-01	1.33E-12	1.28E-16	1.92E-16
135 Benzaldehyde		1.03E-10	1.48E+00	1.52E+02	5.73E-01	5.89E-11	5.71E-15	8.56E-15
136 Benzofuran		5.00E-10	2.67E+00	3.13E+02	9.57E-01	4.79E-10	4.64E-14	6.95E-14
137 Benzoic Acid		5.04E-11	1.87E+00	2.48E+02	4.69E-01	2.36E-11	2.29E-15	3.43E-15
138 Benzonitrile		1.10E-09	1.56E+00	1.55E+02	5.45E-01	5.99E-10	5.81E-14	8.70E-14
139 Benzothiazole		4.69E-13	2.01E+00	2.95E+02	4.50E-01	2.11E-13	2.04E-17	3.06E-17
140 Bis(2-ethylhexyl)phthalate		2.77E-13	8.73E+00	1.34E+06	8.39E+00	2.32E-12	2.25E-16	3.37E-16
141 Carbazole		2.26E-12	3.29E+00	1.19E+03	6.57E-01	1.48E-12	1.44E-16	2.15E-16
142 4-Chloroaniline		1.29E-13	1.83E+00	3.50E+02	3.21E-01	4.15E-14	4.03E-18	6.03E-18
143 4-Chlorobiphenyl		3.18E-13	4.90E+00	3.85E+04	3.29E-01	1.05E-13	1.02E-17	1.52E-17
144 4,4-Chlorobiphenyl		1.60E-14	5.58E+00	1.67E+05	2.53E-01	4.05E-15	3.93E-19	5.88E-19
145 Chloroethane		1.14E-11	1.49E+00	1.43E+02	6.13E-01	6.99E-12	6.78E-16	1.02E-15
146 Dibenzofuran		1.00E-11	4.12E+00	7.15E+03	4.50E-01	4.52E-12	4.38E-16	6.56E-16
147 1,2-Dichloroethane		1.16E-12	1.48E+00	1.40E+01	6.22E+00	7.19E-12	6.97E-16	1.04E-15
148 Dieldrin		1.14E-14	6.20E+00	1.70E+03	7.44E+01	8.52E-13	8.26E-17	1.24E-16
149 Hexachlorobenzene		3.03E-11	5.47E+00	5.00E+04	6.94E-01	2.10E-11	2.04E-15	3.05E-15
150 Hydrazine		3.91E-08	-3.08E+00	1.00E-01	5.78E+02	2.26E-05	2.19E-09	3.28E-09
151 Lindane		5.32E-15	3.30E+00	1.00E+03	7.97E-01	4.24E-15	4.11E-19	6.15E-19
152 Malathion		1.57E-14	2.89E+00	1.80E+03	2.31E-01	3.62E-15	3.51E-19	5.26E-19
153 Methyl ethyl ketone		1.94E-12	2.60E-01	4.50E+00	1.36E+01	2.64E-11	2.56E-15	3.83E-15
154 4-Methylphenol		1.76E-12	1.94E+00	4.90E+01	2.53E+00	4.46E-12	4.32E-16	6.47E-16
155 Monomethyl hydrazine		1.23E-08	-3.08E+00	5.03E-01	1.15E+02	1.42E-06	1.37E-10	2.06E-10
156 Naphthalene		2.08E-13	3.35E+00	8.71E+02	9.94E-01	2.07E-13	2.00E-17	3.00E-17
157 Naphthalene carbonitrile		1.10E-09	3.35E+00	8.71E+02	9.94E-01	1.09E-09	1.06E-13	1.59E-13
158 n-Nitrosodimethylamine		1.25E-11	-6.80E-01	1.00E-01	5.84E+02	7.32E-09	7.10E-13	1.06E-12
159 PAHs								
160 Acenaphthalene		5.00E-11	4.07E+00	2.50E+03	1.18E+00	5.91E-11	5.73E-15	8.58E-15
161 Acenaphthene		5.00E-11	3.92E+00	4.60E+03	4.95E-01	2.48E-11	2.40E-15	3.59E-15
162 Benzo(a)pyrene		1.00E-10	6.42E+00	5.50E+06	3.40E-02	3.41E-12	3.30E-16	4.95E-16
163 Chrysene		1.00E-11	5.79E+00	2.00E+05	3.06E-01	3.07E-12	2.98E-16	4.46E-16
164 Dibenzo(a,h)anthracene		1.00E-10	6.50E+00	3.30E+06	6.52E-02	6.55E-12	6.35E-16	9.51E-16
165 Fluoranthene		1.00E-10	5.22E+00	3.80E+04	5.87E-01	5.89E-11	5.71E-15	8.55E-15
166 Fluorene		1.00E-11	4.38E+00	7.30E+03	6.95E-01	6.98E-12	6.76E-16	1.01E-15
167 Phenanthrene		3.91E-14	4.57E+00	1.40E+04	5.06E-01	1.98E-14	1.92E-18	2.87E-18
168 Pyrene		2.01E-10	5.18E+00	3.80E+04	5.47E-01	1.10E-10	1.06E-14	1.59E-14
169 Parathion		2.49E-14	3.81E+00	3.66E+03	5.14E-01	1.28E-14	1.24E-18	1.86E-18
170 Pentachlorobenzene		1.23E-11	5.08E+00	1.30E+04	1.34E+00	1.65E-11	1.60E-15	2.40E-15
171 Phenol		1.97E-13	1.46E+00	1.40E+01	6.15E+00	1.21E-12	1.18E-16	1.76E-16
172 Quinoline		1.13E-11	2.03E+00	7.90E+01	1.72E+00	1.94E-11	1.88E-15	2.82E-15
173 Tetrachlorobenzene		6.06E-12	4.37E+00	1.60E+03	3.12E+00	1.89E-11	1.83E-15	2.74E-15
174 Trichlorobenzene		3.07E-12	3.98E+00	9.20E+03	2.75E-01	8.42E-13	8.17E-17	1.22E-16
175 Unsym. dimethyl hydrazine		4.86E-08	-2.42E+00	2.00E-01	2.89E+02	1.40E-05	1.36E-09	2.04E-09
176 Vapona		9.83E-14	1.40E+00	1.38E+02	6.03E-01	5.93E-14	5.74E-18	8.60E-18

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AW	AX	AY	AZ	BA	BB	BC
117									
118	BASE CASE		TABLE 13						
177									
178	INORGANICS								
179	Arsenic		1.32E-09			7.20E-04	9.54E-13	9.25E-17	1.38E-16
180	Cadmium		7.68E-12			1.80E-02	1.38E-13	1.34E-17	2.01E-17
181	Mercury		4.97E-11			2.40E-02	1.19E-12	1.16E-16	1.73E-16
182									
183									
184									

		ADULT	CHILD	
185				
186	Foc	1.42E-02	1.42E-02	SOIL ORGANIC CARBON CONTENT
187	ADICAR	1.17E-02	3.88E-03	INGESTION RATE ,Kg/day
188	ADWT	7.00E+01	1.55E+01	BODY WEIGHT, KG
189	HG	5.80E-01	5.80E-01	FRACTION OF CARROTS HOMEGROWN
190				

191 log(RCF-0.82) = 0.77log Kow-1.52

192 RUF = RCF

193 (Koc*Foc)

194 Cplant = RUF*Csoil

195 EDI = C plant * ADICAR * HG / ADWT

196 EDI (total) = DI tomato + DI lettuce + DI carrot

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BE	BF	BG	BH
118	BASE CASE		TABLE 14			
119			TOTAL VEGETABLE CONSUMPTION			
120			(carrots, lettuce, and tomatoes)			
121						
122		18-Jun-91				
123		14:39:23	-------ADULT-------		-------CHILD-------	
124			AVERAGE ESTIMATED DAILY INTAKE	MAXIMUM ESTIMATED DAILY INTAKE	AVERAGE ESTIMATED DAILY INTAKE	MAXIMUM ESTIMATED DAILY INTAKE
125			mg/Kg/day	mg/Kg/day	mg/Kg/day	mg/Kg/day
129						
130	ORGANICS					
131		Acetonitrile	1.92E-11	1.95E-11	3.42E-11	3.48E-11
132		Aldrin	6.59E-18	6.76E-18	9.87E-18	1.02E-17
133		Aniline	1.16E-13	1.20E-13	2.33E-13	2.41E-13
134		Atrazine	1.82E-16	2.02E-16	3.07E-16	3.44E-16
135		Benzaldehyde	2.58E-14	2.74E-14	5.10E-14	5.42E-14
136		Benzofuran	6.59E-14	7.32E-14	1.11E-13	1.24E-13
137		Benzoic Acid	8.12E-15	8.88E-15	1.58E-14	1.72E-14
138		Benzonitrile	2.50E-13	2.68E-13	4.95E-13	5.28E-13
139		Benzothiazole	6.54E-17	7.23E-17	1.26E-16	1.39E-16
140		Bis(2-ethylhexyl)phthalate	2.22E-16	2.29E-16	3.32E-16	3.44E-16
141		Carbazole	1.82E-16	2.13E-16	2.97E-16	3.55E-16
142		4-Chloroaniline	1.98E-17	2.18E-17	3.95E-17	4.31E-17
143		4-Chlorobiphenyl	1.08E-17	1.50E-17	1.66E-17	2.44E-17
144		4,4-Chlorobiphenyl	4.06E-19	6.17E-19	6.18E-19	1.01E-18
145		Chloroethane	2.87E-15	3.06E-15	5.66E-15	6.01E-15
146		Dibenzofuran	4.94E-16	6.29E-16	7.76E-16	1.02E-15
147		1,2-Dichloroethane	9.13E-16	9.41E-16	1.51E-15	1.56E-15
148		Dieldrin	8.14E-17	8.27E-17	1.22E-16	1.24E-16
149		Hexachlorobenzene	2.05E-15	2.46E-15	3.09E-15	3.85E-15
150		Hydrazine	5.53E-09	5.61E-09	1.04E-08	1.05E-08
151		Lindane	4.98E-19	5.74E-19	8.04E-19	9.41E-19
152		Malathion	8.19E-19	1.03E-18	1.52E-18	1.91E-18
153		Methyl ethyl ketone	4.45E-15	4.54E-15	7.86E-15	8.02E-15
154		4-Methylphenol	6.13E-16	6.44E-16	1.03E-15	1.09E-15
155		Monomethyl hydrazine	1.20E-09	1.22E-09	2.45E-09	2.49E-09
156		Naphthalene	2.32E-17	2.61E-17	3.68E-17	4.22E-17
157		Naphthalene carbonitrile	1.22E-13	1.38E-13	1.94E-13	2.23E-13
158		n-Nitrosodimethylamine	7.43E-13	7.54E-13	1.14E-12	1.16E-12
159		PAHs				
160		Acenaphthalene	5.97E-15	6.70E-15	9.14E-15	1.05E-14
161		Acenaphthene	2.76E-15	3.44E-15	4.37E-15	5.62E-15
162		Benzo(a)pyrene	3.90E-16	1.68E-15	6.14E-16	3.00E-15
163		Chrysene	3.03E-16	4.36E-16	4.59E-16	7.04E-16
164		Dibenzo(a,h)anthracene	6.87E-16	1.98E-15	1.06E-15	3.45E-15
165		Fluoranthene	5.80E-15	7.17E-15	8.78E-15	1.13E-14
166		Fluorene	7.11E-16	8.50E-16	1.09E-15	1.35E-15
167		Phenanthrene	2.03E-18	2.56E-18	3.12E-18	4.09E-18
168		Pyrene	1.08E-14	1.36E-14	1.64E-14	2.14E-14
169		Parathion	1.45E-18	1.79E-18	2.30E-18	2.93E-18
170		Pentachlorobenzene	1.60E-15	1.78E-15	2.41E-15	2.74E-15
171		Phenol	1.56E-16	1.60E-16	2.57E-16	2.66E-16
172		Quinoline	2.92E-15	3.10E-15	5.02E-15	5.37E-15
173		Tetrachlorobenzene	1.83E-15	1.94E-15	2.76E-15	2.94E-15
174		Trichlorobenzene	1.03E-16	1.44E-16	1.68E-16	2.43E-16
175		Unsym. dimethyl hydrazine	3.08E-09	3.12E-09	5.68E-09	5.76E-09
176		Vapona	2.71E-17	2.87E-17	5.37E-17	5.68E-17

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

117	B	C	BE	BF	BG	BH
118	BASE CASE		TABLE 14			
177						
178	INORGANICS					
179	Arsenic		1.10E-15	1.80E-14	1.77E-15	3.31E-14

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

B	C	BJ	BK	BL	BM
BASE CASE		TABLE 15			
		SOIL/DUST INGESTION CHILD			
	18-Jun-91	--------AVERAGE---------		--------MAXIMUM---------	
	14:39:23	C soil CALCULATED CONC IN SOIL .1M mg/Kg	EDI ESTIMATED DAILY INTAKE mg/Kg/day	C soil CALCULATED CONC IN SOIL .1M mg/Kg	EDI ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS					
Acetonitrile		7.92E-09	1.02E-13	8.03E-09	1.04E-13
Aldrin		1.23E-14	1.59E-19	1.25E-14	1.61E-19
Aniline		4.45E-10	5.74E-15	4.52E-10	5.83E-15
Atrazine		2.75E-12	3.55E-17	2.79E-12	3.60E-17
Benzaldehyde		2.03E-10	2.62E-15	2.06E-10	2.65E-15
Benzofuran		9.86E-10	1.27E-14	1.00E-09	1.29E-14
Benzoic Acid		9.93E-11	1.28E-15	1.01E-10	1.30E-15
Benzonitrile		2.17E-09	2.80E-14	2.20E-09	2.84E-14
Benzothiazole		9.24E-13	1.19E-17	9.37E-13	1.21E-17
Bis(2-ethylhexyl)phthalate		5.45E-13	7.03E-18	5.53E-13	7.14E-18
Carbazole		4.45E-12	5.74E-17	4.52E-12	5.83E-17
4-Chloroaniline		2.55E-13	3.29E-18	2.59E-13	3.34E-18
4-Chlorobiphenyl		6.28E-13	8.10E-18	6.37E-13	8.22E-18
4,4-Chlorobiphenyl		3.16E-14	4.08E-19	3.21E-14	4.14E-19
Chloroethane		2.25E-11	2.90E-16	2.28E-11	2.95E-16
Dibenzofuran		1.98E-11	2.55E-16	2.01E-11	2.59E-16
1,2-Dichloroethane		2.28E-12	2.94E-17	2.31E-12	2.98E-17
Dieldrin		2.26E-14	2.91E-19	2.29E-14	2.95E-19
Hexachlorobenzene		5.97E-11	7.70E-16	6.05E-11	7.81E-16
Hydrazine		7.71E-08	9.95E-13	7.82E-08	1.01E-12
Lindane		1.05E-14	1.35E-19	1.06E-14	1.37E-19
Malathion		3.10E-14	4.00E-19	3.14E-14	4.05E-19
Methyl ethyl ketone		3.83E-12	4.94E-17	3.88E-12	5.01E-17
4-Methylphenol		3.47E-12	4.48E-17	3.52E-12	4.55E-17
Monomethyl hydrazine		2.43E-08	3.14E-13	2.47E-08	3.18E-13
Naphthalene		4.10E-13	5.29E-18	4.16E-13	5.36E-18
Naphthalene carbonitrile		2.17E-09	2.80E-14	2.20E-09	2.84E-14
n-Nitrosodimethylamine		2.47E-11	3.19E-16	2.51E-11	3.24E-16
PAHs					
Acenaphthalene		9.86E-11	1.27E-15	1.00E-10	1.29E-15
Acenaphthene		9.86E-11	1.27E-15	1.00E-10	1.29E-15
Benzo(a)pyrene		1.98E-10	2.55E-15	2.01E-10	2.59E-15
Chrysene		1.98E-11	2.55E-16	2.01E-11	2.59E-16
Dibenzo(a,h)anthracene		1.98E-10	2.55E-15	2.01E-10	2.59E-15
Fluoranthene		1.98E-10	2.55E-15	2.01E-10	2.59E-15
Fluorene		1.98E-11	2.55E-16	2.01E-11	2.59E-16
Phenanthrene		7.71E-14	9.95E-19	7.82E-14	1.01E-18
Pyrene		3.96E-10	5.11E-15	4.02E-10	5.18E-15
Parathion		4.90E-14	6.33E-19	4.97E-14	6.42E-19
Pentachlorobenzene		2.43E-11	3.14E-16	2.47E-11	3.18E-16
Phenol		3.89E-13	5.02E-18	3.95E-13	5.09E-18
Quinoline		2.23E-11	2.88E-16	2.26E-11	2.92E-16
Tetrachlorobenzene		1.19E-11	1.54E-16	1.21E-11	1.56E-16
Trichlorobenzene		6.05E-12	7.81E-17	6.14E-12	7.92E-17
Unsym. dimethyl hydrazine		9.58E-08	1.24E-12	9.72E-08	1.25E-12
Vapona		1.94E-13	2.50E-18	1.97E-13	2.54E-18

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BJ	BK	BL	BM
118	BASE CASE		TABLE 15			
177						
178	INORGANICS					
179		Arsenic	2.61E-09	3.37E-14	2.65E-09	3.42E-14
180		Cadmium	1.51E-11	1.95E-16	1.54E-11	1.98E-16
181		Mercury	9.79E-11	1.26E-15	9.93E-11	1.28E-15
182						
183						
184						
185						
186						
187						
188			0.2	Soil/dust ingestion rate (g/day)		
189			15.5	Body weight (Kg)		
190			365	days/yr		
191			365000	g/Kg*day/yr		
192						
193			EDI = Csoil*SIR*EF/BW/CF			

	B	C	BO	BP	BQ	BR
118	BASE CASE		TABLE 16			
119			SOIL INGESTION ADULT			
120						
121						
122		18-Jun-91	--------AVERAGE---------		--------MAXIMUM---------	
123		14:39:23	C soil	EDI	C soil	EDI
124			CALCULATED	ESTIMATED	CALCULATED	ESTIMATED
125			CONC IN	DAILY	CONC IN	DAILY
126			SOIL	INTAKE	SOIL	INTAKE
127			.1M	mg/Kg/day	.1M	mg/Kg/day
128			mg/Kg		mg/Kg	
129						
130	ORGANICS					
131		Acetonitrile	7.92E-09	1.13E-14	8.03E-09	1.15E-14
132		Aldrin	1.23E-14	1.76E-20	1.25E-14	1.78E-20
133		Aniline	4.45E-10	6.36E-16	4.52E-10	6.45E-16
134		Atrazine	2.75E-12	3.93E-18	2.79E-12	3.99E-18
135		Benzaldehyde	2.03E-10	2.90E-16	2.06E-10	2.94E-16
136		Benzofuran	9.86E-10	1.41E-15	1.00E-09	1.43E-15
137		Benzoic Acid	9.93E-11	1.42E-16	1.01E-10	1.44E-16
138		Benzonitrile	2.17E-09	3.10E-15	2.20E-09	3.14E-15
139		Benzothiazole	9.24E-13	1.32E-18	9.37E-13	1.34E-18
140		Bis(2-ethylhexyl)phthalate	5.45E-13	7.79E-19	5.53E-13	7.90E-19
141		Carbazole	4.45E-12	6.36E-18	4.52E-12	6.45E-18
142		4-Chloroaniline	2.55E-13	3.64E-19	2.59E-13	3.69E-19
143		4-Chlorobiphenyl	6.28E-13	8.97E-19	6.37E-13	9.10E-19
144		4,4-Chlorobiphenyl	3.16E-14	4.51E-20	3.21E-14	4.58E-20
145		Chloroethane	2.25E-11	3.21E-17	2.28E-11	3.26E-17
146		Dibenzofuran	1.98E-11	2.83E-17	2.01E-11	2.87E-17
147		1,2-Dichloroethane	2.28E-12	3.25E-18	2.31E-12	3.30E-18
148		Dieldrin	2.26E-14	3.22E-20	2.29E-14	3.27E-20
149		Hexachlorobenzene	5.97E-11	8.52E-17	6.05E-11	8.65E-17
150		Hydrazine	7.71E-08	1.10E-13	7.82E-08	1.12E-13
151		Lindane	1.05E-14	1.50E-20	1.06E-14	1.52E-20
152		Malathion	3.10E-14	4.42E-20	3.14E-14	4.49E-20
153		Methyl ethyl ketone	3.83E-12	5.47E-18	3.88E-12	5.55E-18
154		4-Methylphenol	3.47E-12	4.96E-18	3.52E-12	5.03E-18
155		Monomethyl hydrazine	2.43E-08	3.47E-14	2.47E-08	3.52E-14
156		Naphthalene	4.10E-13	5.85E-19	4.16E-13	5.94E-19
157		Naphthalene carbonitrile	2.17E-09	3.10E-15	2.20E-09	3.14E-15
158		n-Nitrosodimethylamine	2.47E-11	3.53E-17	2.51E-11	3.58E-17
159		PAHs				
160		Acenaphthalene	9.86E-11	1.41E-16	1.00E-10	1.43E-16
161		Acenaphthene	9.86E-11	1.41E-16	1.00E-10	1.43E-16
162		Benzo(a)pyrene	1.98E-10	2.83E-16	2.01E-10	2.87E-16
163		Chrysene	1.98E-11	2.83E-17	2.01E-11	2.87E-17
164		Dibenzo(a,h)anthracene	1.98E-10	2.83E-16	2.01E-10	2.87E-16
165		Fluoranthene	1.98E-10	2.83E-16	2.01E-10	2.87E-16
166		Fluorene	1.98E-11	2.83E-17	2.01E-11	2.87E-17
167		Phenanthrene	7.71E-14	1.10E-19	7.82E-14	1.12E-19
168		Pyrene	3.96E-10	5.66E-16	4.02E-10	5.74E-16
169		Parathion	4.90E-14	7.00E-20	4.97E-14	7.11E-20
170		Pentachlorobenzene	2.43E-11	3.47E-17	2.47E-11	3.52E-17
171		Phenol	3.89E-13	5.56E-19	3.95E-13	5.64E-19
172		Quinoline	2.23E-11	3.18E-17	2.26E-11	3.23E-17
173		Tetrachlorobenzene	1.19E-11	1.71E-17	1.21E-11	1.73E-17
174		Trichlorobenzene	6.05E-12	8.64E-18	6.14E-12	8.77E-18
175		Unsym. dimethyl hydrazine	9.58E-08	1.37E-13	9.72E-08	1.39E-13
176		Vapona	1.94E-13	2.77E-19	1.97E-13	2.81E-19

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BO	BP	BQ	BR
118	BASE CASE		TABLE 16			
177						
178	INORGANICS					
179	Arsenic		2.61E-09	3.73E-15	2.65E-09	3.78E-15
180	Cadmium		1.51E-11	2.16E-17	1.54E-11	2.19E-17
181	Mercury		9.79E-11	1.40E-16	9.93E-11	1.42E-16
182						
183						
184						
185						
186						
187						
188				0.1	Soil ingestion rate (g/day)	
189				70	Body weight (Kg)	
190				365	days/yr	
191				365000	g/Kg*day/yr	
192						
193			EDI = Csoil*SIR*EF/BW/CF			

BASE CASE

TABLE 17
CONTAMINANT CONCENTRATION IN GRAIN

18-Jun-91
14:39:23

	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CALCULATED CONC. IN GRAIN mg/Kg	Cu MAXIMUM CALCULATED CONC. IN GRAIN mg/Kg
ORGANICS					
Acetonitrile	2.37E-09	2.40E-09	6.13E+01	1.45E-07	1.47E-07
Aldrin	3.67E-15	3.73E-15	1.99E-03	7.29E-18	7.40E-18
Aniline	1.33E-10	1.35E-10	1.17E+01	1.56E-09	1.58E-09
Atrazine	8.22E-13	8.34E-13	1.09E+00	8.92E-13	9.05E-13
Benzaldehyde	6.06E-11	6.15E-11	5.39E+00	3.27E-10	3.31E-10
Benzofuran	2.95E-10	2.99E-10	1.10E+00	3.24E-10	3.29E-10
Benzoic Acid	2.97E-11	3.01E-11	3.20E+00	9.50E-11	9.64E-11
Benzonitrile	6.47E-10	6.57E-10	4.84E+00	3.14E-09	3.18E-09
Benzothiazole	2.76E-13	2.80E-13	2.66E+00	7.33E-13	7.44E-13
Bis(2-ethylhexyl)phthalate	1.63E-13	1.65E-13	3.36E-04	5.48E-17	5.56E-17
Carbazole	1.33E-12	1.35E-12	4.81E-01	6.39E-13	6.49E-13
4-Chloroaniline	7.62E-14	7.73E-14	3.38E+00	2.57E-13	2.61E-13
4-Chlorobiphenyl	1.88E-13	1.90E-13	5.60E-02	1.05E-14	1.07E-14
4,4-Chlorobiphenyl	9.44E-15	9.58E-15	2.26E-02	2.13E-16	2.16E-16
Chloroethane	6.72E-12	6.82E-12	5.32E+00	3.58E-11	3.63E-11
Dibenzofuran	5.91E-12	6.00E-12	1.59E-01	9.38E-13	9.52E-13
1,2-Dichloroethane	6.81E-13	6.91E-13	5.39E+00	3.67E-12	3.72E-12
Dieldrin	6.74E-15	6.84E-15	9.86E-03	6.65E-17	6.75E-17
Hexachlorobenzene	1.78E-11	1.81E-11	2.61E-02	4.66E-13	4.73E-13
Hydrazine	2.30E-08	2.34E-08	2.38E+03	5.48E-05	5.56E-05
Lindane	3.13E-15	3.18E-15	4.74E-01	1.49E-15	1.51E-15
Malathion	9.26E-15	9.39E-15	8.20E-01	7.59E-15	7.70E-15
Methyl ethyl ketone	1.14E-12	1.16E-12	2.75E+01	3.14E-11	3.19E-11
4-Methylphenol	1.04E-12	1.05E-12	2.92E+00	3.03E-12	3.07E-12
Monomethyl hydrazine	7.26E-09	7.37E-09	2.38E+03	1.73E-05	1.75E-05
Naphthalene	1.22E-13	1.24E-13	4.44E-01	5.43E-14	5.51E-14
Naphthalene carbonitrile	6.47E-10	6.57E-10	4.44E-01	2.87E-10	2.91E-10
n-Nitrosodimethylamine	7.39E-12	7.49E-12	9.65E+01	7.13E-10	7.23E-10
PAHs					
Acenaphthalene	2.95E-11	2.99E-11	1.70E-01	5.00E-12	5.07E-12
Acenaphthene	2.95E-11	2.99E-11	2.07E-01	6.11E-12	6.19E-12
Benzo(a)pyrene	5.91E-11	6.00E-11	7.35E-03	4.35E-13	4.41E-13
Chrysene	5.91E-12	6.00E-12	1.71E-02	1.01E-13	1.02E-13
Dibenzo(a,h)anthracene	5.91E-11	6.00E-11	6.61E-03	3.91E-13	3.96E-13
Fluoranthene	5.91E-11	6.00E-11	3.65E-02	2.16E-12	2.19E-12
Fluorene	5.91E-12	6.00E-12	1.12E-01	6.63E-13	6.73E-13
Phenanthrene	2.30E-14	2.34E-14	8.70E-02	2.00E-15	2.03E-15
Pyrene	1.18E-10	1.20E-10	3.85E-02	4.55E-12	4.62E-12
Parathion	1.47E-14	1.49E-14	2.40E-01	3.52E-15	3.57E-15
Pentachlorobenzene	7.26E-12	7.37E-12	4.40E-02	3.20E-13	3.24E-13
Phenol	1.16E-13	1.18E-13	5.54E+00	6.43E-13	6.53E-13
Quinoline	6.66E-12	6.76E-12	2.59E+00	1.72E-11	1.75E-11
Tetrachlorobenzene	3.57E-12	3.62E-12	1.14E-01	4.05E-13	4.11E-13
Trichlorobenzene	1.81E-12	1.83E-12	1.91E-01	3.46E-13	3.51E-13
Unsym. dimethyl hydrazine	2.86E-08	2.91E-08	9.85E+02	2.82E-05	2.86E-05
Vapona	5.79E-14	5.87E-14	6.00E+00	3.47E-13	3.52E-13

	B	C	D	E	F	G	H
202							
203	BASE CASE		TABLE 17				
262	INORGANICS						
263	Arsenic		7.80E-10	7.92E-10	3.30E-03	2.57E-12	2.61E-12
264	Cadmium		4.52E-12	4.59E-12	1.00E-01	4.52E-13	4.59E-13
265	Mercury		2.93E-11	2.97E-11	2.00E-01	5.85E-12	5.94E-12
266							
267							
268			Cgrain = Csoil*RUF				

B C

BASE CASE

TABLE 18
CONTAMINANT CONCENTRATION IN HAY mg/Kg

18-Jun-91
14:39:23

	J	K	L	M	N	O	P	Q	R	S
	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	D DRY DEPOSITION RATE g/M2/yr	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CONC. DUE TO UPTAKE mg/Kg	Cu MAXIMUM CONC. DUE TO UPTAKE mg/Kg	Cs AVERAGE CONC. ON PLANT SURFACE mg/Kg	Cs MAXIMUM CONC. ON PLANT SURFACE mg/Kg	C hay AVERAGE CALCULATED CONC IN HAY mg/Kg	C hay MAXIMUM CALCULATED CONC IN HAY mg/Kg
ORGANICS										
Acetonitrile	2.37E-09	2.40E-09	5.76E-11	6.13E+01	1.45E-07	1.47E-07	1.30E-10	4.55E-09	1.45E-07	1.52E-07
Aldrin	3.67E-15	3.73E-15	8.94E-17	1.99E-03	7.29E-18	7.40E-18	2.02E-16	7.06E-15	2.09E-16	7.07E-15
Aniline	1.33E-10	1.35E-10	3.24E-12	1.17E+01	1.56E-09	1.58E-09	7.31E-12	2.56E-10	1.56E-09	1.83E-09
Atrazine	8.22E-13	8.34E-13	2.00E-14	1.09E+00	8.92E-13	9.05E-13	4.51E-14	1.58E-12	9.37E-13	2.48E-12
Benzaldehyde	6.06E-11	6.15E-11	1.47E-12	5.39E+00	3.27E-10	3.31E-10	3.33E-12	1.16E-10	3.30E-10	4.48E-10
Benzofuran	2.95E-10	2.99E-10	7.17E-12	1.10E+00	3.24E-10	3.29E-10	1.62E-11	5.66E-10	3.40E-10	8.95E-10
Benzoic Acid	2.97E-11	3.01E-11	7.22E-13	3.20E+00	9.50E-11	9.64E-11	1.63E-12	5.70E-11	9.66E-11	1.53E-10
Benzonitrile	6.47E-10	6.57E-10	1.58E-11	4.84E+00	3.14E-09	3.18E-09	3.56E-11	1.24E-09	3.17E-09	4.43E-09
Benzothiazole	2.76E-13	2.80E-13	6.72E-15	2.66E+00	7.33E-13	7.44E-13	1.52E-14	5.31E-13	7.48E-13	1.27E-12
Bis(2-ethylhexyl)phthalate	1.63E-13	1.65E-13	3.96E-15	3.36E-04	5.48E-17	5.56E-17	8.95E-15	3.13E-13	9.00E-15	3.13E-13
Carbazole	1.33E-12	1.35E-12	3.24E-14	4.81E-01	6.39E-13	6.49E-13	7.31E-14	2.56E-12	7.12E-13	3.21E-12
4-Chloroaniline	7.62E-14	7.73E-14	1.85E-15	3.38E+00	2.57E-13	2.61E-13	4.18E-15	1.46E-13	2.61E-13	4.07E-13
4-Chlorobiphenyl	1.88E-13	1.90E-13	4.57E-15	5.60E-02	1.05E-14	1.07E-14	1.03E-14	3.61E-13	2.08E-14	3.71E-13
4,4-Chlorobiphenyl	9.44E-15	9.58E-15	2.30E-16	2.26E-02	2.13E-16	2.16E-16	5.19E-16	1.81E-14	7.32E-16	1.84E-14
Chloroethane	6.72E-12	6.82E-12	1.64E-13	5.32E+00	3.58E-11	3.63E-11	3.69E-13	1.29E-11	3.61E-11	4.92E-11
Dibenzofuran	5.91E-12	6.00E-12	1.44E-13	1.59E-01	9.38E-13	9.52E-13	3.25E-13	1.14E-11	1.26E-12	1.23E-11
1,2-Dichloroethane	6.81E-13	6.91E-13	1.66E-14	5.39E+00	3.67E-12	3.72E-12	3.74E-14	1.31E-12	3.71E-12	5.03E-12
Dieldrin	6.74E-15	6.84E-15	1.64E-16	9.86E-03	6.65E-17	6.75E-17	3.70E-16	1.30E-14	4.37E-16	1.30E-14
Hexachlorobenzene	1.78E-11	1.81E-11	4.34E-13	2.61E-02	4.66E-13	4.73E-13	9.79E-13	3.43E-11	1.44E-12	3.47E-11
Hydrazine	2.30E-08	2.34E-08	5.61E-10	2.38E+03	5.48E-05	5.56E-05	1.27E-09	4.43E-08	5.48E-05	5.56E-05
Lindane	3.13E-15	3.18E-15	7.63E-17	4.74E-01	1.49E-15	1.51E-15	1.72E-16	6.02E-15	1.66E-15	7.53E-15
Malathion	9.26E-15	9.39E-15	2.25E-16	8.20E-01	7.59E-15	7.70E-15	5.08E-16	1.78E-14	8.10E-15	2.55E-14
Methyl ethyl ketone	1.14E-12	1.16E-12	2.78E-14	2.75E+01	3.14E-11	3.19E-11	6.28E-14	2.20E-12	3.15E-11	3.41E-11
4-Methylphenol	1.04E-12	1.05E-12	2.53E-14	2.92E+00	3.03E-12	3.07E-12	5.70E-14	1.99E-12	3.08E-12	5.06E-12
Monomethyl hydrazine	7.26E-09	7.37E-09	1.77E-10	2.38E+03	1.73E-05	1.75E-05	3.99E-10	1.40E-08	1.73E-05	1.75E-05
Naphthalene	1.22E-13	1.24E-13	2.98E-15	4.44E-01	5.43E-14	5.51E-14	6.72E-15	2.35E-13	6.10E-14	2.90E-13
Naphthalene carbonitrile	6.47E-10	6.57E-10	1.58E-11	4.44E-01	2.87E-10	2.91E-10	3.56E-11	1.24E-09	3.23E-10	1.54E-09
n-Nitrosodimethylamine	7.39E-12	7.49E-12	1.80E-13	9.65E+01	7.13E-10	7.23E-10	4.06E-13	1.42E-11	7.13E-10	7.37E-10
PAHs										
Acenaphthalene	2.95E-11	2.99E-11	7.17E-13	1.70E-01	5.00E-12	5.07E-12	1.62E-12	5.66E-11	6.62E-12	6.17E-11
Acenaphthene	2.95E-11	2.99E-11	7.17E-13	2.07E-01	6.11E-12	6.19E-12	1.62E-12	5.66E-11	7.72E-12	6.28E-11
Benzo(a)pyrene	5.91E-11	6.00E-11	1.44E-12	7.35E-03	4.35E-13	4.41E-13	3.25E-12	1.14E-10	3.68E-12	1.14E-10
Chrysene	5.91E-12	6.00E-12	1.44E-13	1.71E-02	1.01E-13	1.02E-13	3.25E-13	1.14E-11	4.26E-13	1.15E-11
Dibenzo(a,h)anthracene	5.91E-11	6.00E-11	1.44E-12	6.61E-03	3.91E-13	3.96E-13	3.25E-12	1.14E-10	3.64E-12	1.14E-10
Fluoranthene	5.91E-11	6.00E-11	1.44E-12	3.65E-02	2.16E-12	2.19E-12	3.25E-12	1.14E-10	5.41E-12	1.16E-10
Fluorene	5.91E-12	6.00E-12	1.44E-13	1.12E-01	6.63E-13	6.73E-13	3.25E-13	1.14E-11	9.88E-13	1.20E-11
Phenanthrene	2.30E-14	2.34E-14	5.61E-16	8.70E-02	2.00E-15	2.03E-15	1.27E-15	4.43E-14	3.27E-15	4.63E-14
Pyrene	1.18E-10	1.20E-10	2.88E-12	3.85E-02	4.55E-12	4.62E-12	6.50E-12	2.27E-10	1.11E-11	2.32E-10
Parathion	1.47E-14	1.49E-14	3.57E-16	2.40E-01	3.52E-15	3.57E-15	8.05E-16	2.82E-14	4.32E-15	3.17E-14
Pentachlorobenzene	7.26E-12	7.37E-12	1.77E-13	4.40E-02	3.20E-13	3.24E-13	3.99E-13	1.40E-11	7.19E-13	1.43E-11
Phenol	1.16E-13	1.18E-13	2.83E-15	5.54E+00	6.43E-13	6.53E-13	6.38E-15	2.23E-13	6.50E-13	8.76E-13
Quinoline	6.66E-12	6.76E-12	1.62E-13	2.59E+00	1.72E-11	1.75E-11	3.66E-13	1.28E-11	1.76E-11	3.03E-11
Tetrachlorobenzene	3.57E-12	3.62E-12	8.69E-14	1.14E-01	4.05E-13	4.11E-13	1.96E-13	6.86E-12	6.01E-13	7.27E-12
Trichlorobenzene	1.81E-12	1.83E-12	4.40E-14	1.91E-01	3.46E-13	3.51E-13	9.93E-14	3.47E-12	4.45E-13	3.82E-12
Unsym. dimethyl hydrazine	2.86E-08	2.91E-08	6.97E-10	9.85E+02	2.82E-05	2.86E-05	1.57E-09	5.50E-08	2.82E-05	2.87E-05
Vapona	5.79E-14	5.87E-14	1.41E-15	6.00E+00	3.47E-13	3.52E-13	3.18E-15	1.11E-13	3.50E-13	4.64E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	J	K	L	M	N	O	P	Q	R	S
202												
203	BASE CASE		TABLE 18									
262	INORGANICS											
263	Arsenic		7.80E-10	7.92E-10	1.90E-11	2.00E-01	1.56E-10	1.58E-10	4.29E-11	1.50E-09	1.99E-10	1.66E-09
264	Cadmium		4.52E-12	4.59E-12	1.10E-13	5.50E-01	2.49E-12	2.52E-12	2.48E-13	8.70E-12	2.74E-12	1.12E-11
265	Mercury		2.93E-11	2.97E-11	7.12E-13	2.30E-01	6.73E-12	6.83E-12	1.61E-12	5.62E-11	8.34E-12	6.31E-11
266												
267							6.35E-01 r hay					
268							5.78E-07 k hay, 1/s					
269							2.72E+06 t hay, s					
270							3.50E-01 Y hay, Kg/M2					
271							2.49E+06 SDF hay, sec*mg/Kg					
272							3.15E+07 sec/yr					
273							1.00E+03 mg/g					
274												
275								-kt				
276							SDF = r*(1-e	)				
277								Y*k				
278							Cs = SDF*Deposition*mgg/secyr					
279												
280							Cu = RUF*Csoil					
281							C hay = Cs+Cu					

	B	C	U	V	W	X	Y	Z	AA	AB	AC	AD
202												
203		BASE CASE	TABLE 19									
204			CONTAMINANT CONCENTRATION IN CORN SILAGE mg/Kg									
205												
206												
207				C soil	C soil	D	PUF	Cu	Cu	Cs	Cs	C corn	C corn
208			18-Jun-91	AVERAGE	MAXIMUM	DRY		AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
209			14:39:23	CALCULATED	CALCULATED	DEPOSITION	PLANT UPTAKE	CONC.DUE	CONC.DUE	CONC. ON	CONC. ON	CALCULATED	CALCULATED
210				CONC IN	CONC IN	RATE	FACTOR	TO UPTAKE	TO UPTAKE	PLANT	PLANT	CONC IN	CONC IN
211				SOIL	SOIL	g/M2/yr		mg/Kg	mg/Kg	SURFACE	SURFACE	CORN SILAGE	CORN SILAGE
212				.2M	.2M					mg/Kg	mg/Kg	mg/Kg	mg/Kg
213				mg/Kg	mg/Kg								
214	ORGANICS												
215		Acetonitrile	2.37E-09	2.40E-09	5.76E-11	6.13E+01	1.45E-07	1.47E-07	2.21E-11	7.72E-10	1.45E-07	1.48E-07
216		Aldrin	3.67E-15	3.73E-15	8.94E-17	1.99E-03	7.29E-18	7.40E-18	3.42E-17	1.20E-15	4.15E-17	1.21E-15
217		Aniline	1.33E-10	1.35E-10	3.24E-12	1.17E+01	1.56E-09	1.58E-09	1.24E-12	4.34E-11	1.56E-09	1.62E-09
218		Atrazine	8.22E-13	8.34E-13	2.00E-14	1.09E+00	8.92E-13	9.05E-13	7.66E-15	2.68E-13	9.00E-13	1.17E-12
219		Benzaldehyde	6.06E-11	6.15E-11	1.47E-12	5.39E+00	3.27E-10	3.31E-10	5.65E-13	1.98E-11	3.27E-10	3.51E-10
220		Benzofuran	2.95E-10	2.99E-10	7.17E-12	1.10E+00	3.24E-10	3.29E-10	2.75E-12	9.61E-11	3.27E-10	4.25E-10
221		Benzoic Acid	2.97E-11	3.01E-11	7.22E-13	3.20E+00	9.50E-11	9.64E-11	2.77E-13	9.68E-12	9.53E-11	1.06E-10
222		Benzonitrile	6.47E-10	6.57E-10	1.58E-11	4.84E+00	3.14E-09	3.18E-09	6.03E-12	2.11E-10	3.14E-09	3.39E-09
223		Benzothiazole	2.76E-13	2.80E-13	6.72E-15	2.66E+00	7.33E-13	7.44E-13	2.57E-15	9.00E-14	7.35E-13	8.34E-13
224		Bis(2-ethylhexyl)phthalate	1.63E-13	1.65E-13	3.96E-15	3.36E-04	5.48E-17	5.56E-17	1.52E-15	5.31E-14	1.57E-15	5.32E-14
225		Carbazole	1.33E-12	1.35E-12	3.24E-14	4.81E-01	6.39E-13	6.49E-13	1.24E-14	4.34E-13	6.52E-13	1.08E-12
226		4-Chloroaniline	7.62E-14	7.73E-14	1.85E-15	3.38E+00	2.57E-13	2.61E-13	7.10E-16	2.48E-14	2.58E-13	2.86E-13
227		4-Chlorobiphenyl	1.88E-13	1.90E-13	4.57E-15	5.60E-02	1.05E-14	1.07E-14	1.75E-15	6.12E-14	1.22E-14	7.19E-14
228		4,4-Chlorobiphenyl	9.44E-15	9.58E-15	2.30E-16	2.26E-02	2.13E-16	2.16E-16	8.80E-17	3.08E-15	3.01E-16	3.30E-15
229		Chloroethane	6.72E-12	6.82E-12	1.64E-13	5.32E+00	3.58E-11	3.63E-11	6.27E-14	2.19E-12	3.58E-11	3.85E-11
230		Dibenzofuran	5.91E-12	6.00E-12	1.44E-13	1.59E-01	9.38E-13	9.52E-13	5.51E-14	1.93E-12	9.93E-13	2.88E-12
231		1,2-Dichloroethane	6.81E-13	6.91E-13	1.66E-14	5.39E+00	3.67E-12	3.72E-12	6.34E-15	2.22E-13	3.67E-12	3.94E-12
232		Dieldrin	6.74E-15	6.84E-15	1.64E-16	9.86E-03	6.65E-17	6.75E-17	6.29E-17	2.20E-15	1.29E-16	2.27E-15
233		Hexachlorobenzene	1.78E-11	1.81E-11	4.34E-13	2.61E-02	4.66E-13	4.73E-13	1.66E-13	5.82E-12	6.32E-13	6.29E-12
234		Hydrazine	2.30E-08	2.34E-08	5.61E-10	2.38E+03	5.48E-05	5.56E-05	2.15E-10	7.51E-09	5.48E-05	5.56E-05
235		Lindane	3.13E-15	3.18E-15	7.63E-17	4.74E-01	1.49E-15	1.51E-15	2.92E-17	1.02E-15	1.52E-15	2.53E-15
236		Malathion	9.26E-15	9.39E-15	2.25E-16	8.20E-01	7.59E-15	7.70E-15	8.63E-17	3.02E-15	7.67E-15	1.07E-14
237		Methyl ethyl ketone	1.14E-12	1.16E-12	2.78E-14	2.75E+01	3.14E-11	3.19E-11	1.07E-14	3.73E-13	3.14E-11	3.23E-11
238		4-Methylphenol	1.04E-12	1.05E-12	2.53E-14	2.92E+00	3.03E-12	3.07E-12	9.67E-15	3.38E-13	3.04E-12	3.41E-12
239		Monomethyl hydrazine	7.26E-09	7.37E-09	1.77E-10	2.38E+03	1.73E-05	1.75E-05	6.77E-11	2.37E-09	1.73E-05	1.75E-05
240		Naphthalene	1.22E-13	1.24E-13	2.98E-15	4.44E-01	5.43E-14	5.51E-14	1.14E-15	3.99E-14	5.54E-14	9.50E-14
241		Naphthalene carbonitrile	6.47E-10	6.57E-10	1.58E-11	4.44E-01	2.87E-10	2.91E-10	6.03E-12	2.11E-10	2.93E-10	5.03E-10
242		n-Nitrosodimethylamine	7.39E-12	7.49E-12	1.80E-13	9.65E+01	7.13E-10	7.23E-10	6.89E-14	2.41E-12	7.13E-10	7.25E-10
243		PAHs										
244		Acenaphthalene	2.95E-11	2.99E-11	7.17E-13	1.70E-01	5.00E-12	5.07E-12	2.75E-13	9.61E-12	5.27E-12	1.47E-11
245		Acenaphthene	2.95E-11	2.99E-11	7.17E-13	2.07E-01	6.11E-12	6.19E-12	2.75E-13	9.61E-12	6.38E-12	1.58E-11
246		Benzo(a)pyrene	5.91E-11	6.00E-11	1.44E-12	7.35E-03	4.35E-13	4.41E-13	5.51E-13	1.93E-11	9.86E-13	1.97E-11
247		Chrysene	5.91E-12	6.00E-12	1.44E-13	1.71E-02	1.01E-13	1.02E-13	5.51E-14	1.93E-12	1.56E-13	2.03E-12
248		Dibenzo(a,h)anthracene	5.91E-11	6.00E-11	1.44E-12	6.61E-03	3.91E-13	3.96E-13	5.51E-13	1.93E-11	9.42E-13	1.97E-11
249		Fluoranthene	5.91E-11	6.00E-11	1.44E-12	3.65E-02	2.16E-12	2.19E-12	5.51E-13	1.93E-11	2.71E-12	2.15E-11
250		Fluorene	5.91E-12	6.00E-12	1.44E-13	1.12E-01	6.63E-13	6.73E-13	5.51E-14	1.93E-12	7.18E-13	2.60E-12
251		Phenanthrene	2.30E-14	2.34E-14	5.61E-16	8.70E-02	2.00E-15	2.03E-15	2.15E-16	7.51E-15	2.22E-15	9.55E-15
252		Pyrene	1.18E-10	1.20E-10	2.88E-12	3.85E-02	4.55E-12	4.62E-12	1.10E-12	3.86E-11	5.66E-12	4.32E-11
253		Parathion	1.47E-14	1.49E-14	3.57E-16	2.40E-01	3.52E-15	3.57E-15	1.37E-16	4.78E-15	3.65E-15	8.35E-15
254		Pentachlorobenzene	7.26E-12	7.37E-12	1.77E-13	4.40E-02	3.20E-13	3.24E-13	6.77E-14	2.37E-12	3.87E-13	2.69E-12
255		Phenol	1.16E-13	1.18E-13	2.83E-15	5.54E+00	6.43E-13	6.53E-13	1.08E-15	3.79E-14	6.44E-13	6.91E-13
256		Quinoline	6.66E-12	6.76E-12	1.62E-13	2.59E+00	1.72E-11	1.75E-11	6.21E-14	2.17E-12	1.73E-11	1.96E-11
257		Tetrachlorobenzene	3.57E-12	3.62E-12	8.69E-14	1.14E-01	4.05E-13	4.11E-13	3.33E-14	1.16E-12	4.39E-13	1.58E-12
258		Trichlorobenzene	1.81E-12	1.83E-12	4.40E-14	1.91E-01	3.46E-13	3.51E-13	1.68E-14	5.90E-13	3.62E-13	9.40E-13
259		Unsym. dimethyl hydrazine	2.86E-08	2.91E-08	6.97E-10	9.85E+02	2.82E-05	2.86E-05	2.67E-10	9.34E-09	2.82E-05	2.86E-05
260		Vapona	5.79E-14	5.87E-14	1.41E-15	6.00E+00	3.47E-13	3.52E-13	5.40E-16	1.89E-14	3.48E-13	3.71E-13
261												

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	U	V	W	X	Y	Z	AA	AB	AC	AD
202												
203	BASE CASE		TABLE 19									
262	INORGANICS											
263	Arsenic		7.80E-10	7.92E-10	1.90E-11	2.30E-01	1.79E-10	1.82E-10	7.27E-12	2.55E-10	1.87E-10	4.37E-10
264	Cadmium		4.52E-12	4.59E-12	1.10E-13	1.50E-01	6.79E-13	6.88E-13	4.22E-14	1.48E-12	7.21E-13	2.16E-12
265	Mercury		2.93E-11	2.97E-11	7.12E-13	2.20E-02	6.44E-13	6.53E-13	2.73E-13	9.55E-12	9.16E-13	1.02E-11
266												
267					4.40E-01	r corn						
268					5.78E-07	k corn, 1/s						
269					1.12E+07	t corn, s						
270					1.80E+00	Y corn, Kg/M2						
271					4.22E+05	SDF corn, sec/mg/Kg						
272					3.15E+07	sec/yr						
273					1.00E+03	mg/g						
274												
275							-kt					
276						SDF = r*(1-e	)					
277							Y*k					
278						Cs = SDF*Deposition*mgg/secyr						
279						Cu = RUF*Csoil						
280						C corn = Cs+Cu						

B	C	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
BASE CASE		TABLE 20									
		CONTAMINANT CONCENTRATION IN GRASS mg/Kg									
	18-Jun-91 14:39:23	C soil AVERAGE CALCULATED CONC IN SOIL .1M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .1M mg/Kg	D DRY DEPOSITION RATE g/M2/yr	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CONC.DUE TO UPTAKE mg/Kg	Cu MAXIMUM CONC.DUE TO UPTAKE mg/Kg	Cs AVERAGE CONC. ON PLANT SURFACE mg/Kg	Cs MAXIMUM CONC. ON PLANT SURFACE mg/Kg	C grass AVERAGE CALCULATED CONC IN GRASS mg/Kg	C grass MAXIMUM CALCULATED CONC IN GRASS mg/Kg
ORGANICS											
	Acetonitrile	7.92E-09	8.03E-09	2.91E-11	6.13E+01	4.85E-07	4.92E-07	1.05E-10	3.67E-09	4.85E-07	4.96E-07
	Aldrin	1.23E-14	1.25E-14	4.51E-17	1.99E-03	2.44E-17	2.48E-17	1.63E-16	5.69E-15	1.87E-16	5.72E-15
	Aniline	4.45E-10	4.52E-10	1.63E-12	1.17E+01	5.21E-09	5.28E-09	5.89E-12	2.06E-10	5.21E-09	5.49E-09
	Atrazine	2.75E-12	2.79E-12	1.01E-14	1.09E+00	2.98E-12	3.03E-12	3.64E-14	1.27E-12	3.02E-12	4.30E-12
	Benzaldehyde	2.03E-10	2.06E-10	7.45E-13	5.39E+00	1.09E-09	1.11E-09	2.68E-12	9.39E-11	1.10E-09	1.20E-09
	Benzofuran	9.86E-10	1.00E-09	3.62E-12	1.10E+00	1.08E-09	1.10E-09	1.31E-11	4.57E-10	1.10E-09	1.56E-09
	Benzoic Acid	9.93E-11	1.01E-10	3.65E-13	3.20E+00	3.18E-10	3.23E-10	1.31E-12	4.60E-11	3.19E-10	3.69E-10
	Benzonitrile	2.17E-09	2.20E-09	7.96E-12	4.84E+00	1.05E-08	1.06E-08	2.87E-11	1.00E-09	1.05E-08	1.17E-08
	Benzothiazole	9.24E-13	9.37E-13	3.39E-15	2.66E+00	2.45E-12	2.49E-12	1.22E-14	4.28E-13	2.47E-12	2.92E-12
	Bis(2-ethylhexyl)phthalate	5.45E-13	5.53E-13	2.00E-15	3.36E-04	1.83E-16	1.86E-16	7.21E-15	2.53E-13	7.40E-15	2.53E-13
	Carbazole	4.45E-12	4.52E-12	1.63E-14	4.81E-01	2.14E-12	2.17E-12	5.89E-14	2.06E-12	2.20E-12	4.23E-12
	4-Chloroaniline	2.55E-13	2.59E-13	9.36E-16	3.38E+00	8.61E-13	8.73E-13	3.37E-15	1.18E-13	8.64E-13	9.91E-13
	4-Chlorobiphenyl	6.28E-13	6.37E-13	2.31E-15	5.60E-02	3.51E-14	3.56E-14	8.31E-15	2.91E-13	4.34E-14	3.26E-13
	4,4-Chlorobiphenyl	3.16E-14	3.21E-14	1.16E-16	2.26E-02	7.13E-16	7.24E-16	4.18E-16	1.46E-14	1.13E-15	1.54E-14
	Chloroethane	2.25E-11	2.28E-11	8.26E-14	5.32E+00	1.20E-10	1.21E-10	2.98E-13	1.04E-11	1.20E-10	1.32E-10
	Dibenzofuran	1.98E-11	2.01E-11	7.27E-14	1.59E-01	3.14E-12	3.19E-12	2.62E-13	9.17E-12	3.40E-12	1.24E-11
	1,2-Dichloroethane	2.28E-12	2.31E-12	8.36E-15	5.39E+00	1.23E-11	1.25E-11	3.01E-14	1.06E-12	1.23E-11	1.35E-11
	Dieldrin	2.26E-14	2.29E-14	8.29E-17	9.86E-03	2.23E-16	2.26E-16	2.99E-16	1.05E-14	5.21E-16	1.07E-14
	Hexachlorobenzene	5.97E-11	6.05E-11	2.19E-13	2.61E-02	1.56E-12	1.58E-12	7.89E-13	2.76E-11	2.35E-12	2.92E-11
	Hydrazine	7.71E-08	7.82E-08	2.83E-10	2.38E+03	1.83E-04	1.86E-04	1.02E-09	3.57E-08	1.83E-04	1.86E-04
	Lindane	1.05E-14	1.06E-14	3.85E-17	4.74E-01	4.97E-15	5.04E-15	1.39E-16	4.86E-15	5.11E-15	9.90E-15
	Malathion	3.10E-14	3.14E-14	1.14E-16	8.20E-01	2.54E-14	2.58E-14	4.10E-16	1.43E-14	2.58E-14	4.01E-14
	Methyl ethyl ketone	3.83E-12	3.88E-12	1.41E-14	2.75E+01	1.05E-10	1.07E-10	5.06E-14	1.77E-12	1.05E-10	1.08E-10
	4-Methylphenol	3.47E-12	3.52E-12	1.28E-14	2.92E+00	1.01E-11	1.03E-11	4.60E-14	1.61E-12	1.02E-11	1.19E-11
	Monomethyl hydrazine	2.43E-08	2.47E-08	8.93E-11	2.38E+03	5.78E-05	5.87E-05	3.22E-10	1.13E-08	5.78E-05	5.87E-05
	Naphthalene	4.10E-13	4.16E-13	1.50E-15	4.44E-01	1.82E-13	1.84E-13	5.42E-15	1.90E-13	1.87E-13	3.74E-13
	Naphthalene carbonitrile	2.17E-09	2.20E-09	7.96E-12	4.44E-01	9.61E-10	9.75E-10	2.87E-11	1.00E-09	9.90E-10	1.98E-09
	n-Nitrosodimethylamine	2.47E-11	2.51E-11	9.08E-14	9.65E+01	2.38E-09	2.42E-09	3.27E-13	1.15E-11	2.39E-09	2.43E-09
	PAHs										
	Acenaphthalene	9.86E-11	1.00E-10	3.62E-13	1.70E-01	1.67E-11	1.70E-11	1.31E-12	4.57E-11	1.80E-11	6.26E-11
	Acenaphthene	9.86E-11	1.00E-10	3.62E-13	2.07E-01	2.04E-11	2.07E-11	1.31E-12	4.57E-11	2.17E-11	6.64E-11
	Benzo(a)pyrene	1.98E-10	2.01E-10	7.27E-13	7.35E-03	1.46E-12	1.48E-12	2.62E-12	9.17E-11	4.07E-12	9.32E-11
	Chrysene	1.98E-11	2.01E-11	7.27E-14	1.71E-02	3.37E-13	3.42E-13	2.62E-13	9.17E-12	5.99E-13	9.51E-12
	Dibenzo(a,h)anthracene	1.98E-10	2.01E-10	7.27E-13	6.61E-03	1.31E-12	1.33E-12	2.62E-12	9.17E-11	3.93E-12	9.30E-11
	Fluoranthene	1.98E-10	2.01E-10	7.27E-13	3.65E-02	7.23E-12	7.33E-12	2.62E-12	9.17E-11	9.84E-12	9.90E-11
	Fluorene	1.98E-11	2.01E-11	7.27E-14	1.12E-01	2.22E-12	2.25E-12	2.62E-13	9.17E-12	2.48E-12	1.14E-11
	Phenanthrene	7.71E-14	7.82E-14	2.83E-16	8.70E-02	6.70E-15	6.80E-15	1.02E-15	3.57E-14	7.72E-15	4.25E-14
	Pyrene	3.96E-10	4.02E-10	1.45E-12	3.85E-02	1.52E-11	1.55E-11	5.24E-12	1.83E-10	2.05E-11	1.99E-10
	Parathion	4.90E-14	4.97E-14	1.80E-16	2.40E-01	1.18E-14	1.19E-14	6.49E-16	2.27E-14	1.24E-14	3.46E-14
	Pentachlorobenzene	2.43E-11	2.47E-11	8.92E-14	4.40E-02	1.07E-12	1.09E-12	3.22E-13	1.13E-11	1.39E-12	1.23E-11
	Phenol	3.89E-13	3.95E-13	1.43E-15	5.54E+00	2.15E-12	2.18E-12	5.15E-15	1.80E-13	2.16E-12	2.36E-12
	Quinoline	2.23E-11	2.26E-11	8.19E-14	2.59E+00	5.76E-11	5.85E-11	2.95E-13	1.03E-11	5.79E-11	6.88E-11
	Tetrachlorobenzene	1.19E-11	1.21E-11	4.39E-14	1.14E-01	1.36E-12	1.38E-12	1.58E-13	5.53E-12	1.51E-12	6.91E-12
	Trichlorobenzene	6.05E-12	6.14E-12	2.22E-14	1.91E-01	1.16E-12	1.17E-12	8.00E-14	2.80E-12	1.24E-12	3.98E-12
	Unsym. dimethyl hydrazine	9.58E-08	9.72E-08	3.52E-10	9.85E+02	9.44E-05	9.58E-05	1.27E-09	4.44E-08	9.44E-05	9.58E-05
	Vapona	1.94E-13	1.97E-13	7.11E-16	6.00E+00	1.16E-12	1.18E-12	2.56E-15	8.97E-14	1.16E-12	1.27E-12

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
202												
203	BASE CASE		TABLE 20									
262	INORGANICS											
263	Arsenic		2.61E-09	2.65E-09	9.59E-12	1.30E-02	3.39E-11	3.44E-11	3.46E-11	1.21E-09	6.85E-11	1.24E-09
264	Cadmium		1.51E-11	1.54E-11	5.56E-14	5.50E-01	8.33E-12	8.45E-12	2.00E-13	7.01E-12	8.53E-12	1.55E-11
265	Mercury		9.79E-11	9.93E-11	3.60E-13	5.90E-01	5.78E-11	5.86E-11	1.30E-12	4.54E-11	5.91E-11	1.04E-10
266												
267						6.71E-02	r grass			r		
268						5.78E-07	k grass, 1/s			k		
269						3.02E+06	t grass, s			t		
270						2.41E-02	Y grass, Kg/M2		Y			
271						3.97E+06	SDF grass, sec*mg/kg		SDF			
272						3.15E+07	sec/yr		secyr			
273						1.00E+03	mg/g		mgg			
274												
275							-kt					
276						SDF = r*(1-e	)					
277							Y*k					
278												
279						Cs = SDF*Deposition*mgg/secyr						
280						Cu = RUF*Csoil						
281						C grass = Cs+Cu						

B	C	AQ	AR	AS	AT	AU	AV	AW
BASE CASE		TABLE 21						
		MILK INGESTION - AVERAGE						
	18-Jun-91 14:39:23	C diet AVERAGE CALCULATED CONC IN DIET (milk) mg/Kg	DUFm DIET UPTAKE MILK Unitless	TC TRANSFER COEFFICIENT MILK Day/Kg	C milk AVERAGE CALCULATED CONC IN MILK mg/Kg	C milkfat AVERAGE CALCULATED CONC IN MILK FAT mg/Kg	EDI ADULT AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS								
Acetonitrile		1.30E-07		3.72E-09	1.09E-14		2.37E-18	1.37E-17
Aldrin		4.79E-17		2.04E-01	2.19E-16		4.78E-20	2.76E-19
Aniline		1.40E-09		6.46E-08	2.03E-15		4.43E-19	2.56E-18
Atrazine		8.12E-13		3.89E-06	7.09E-17		1.54E-20	8.92E-20
Benzaldehyde		2.95E-10		2.45E-07	1.62E-15		3.54E-19	2.04E-18
Benzofuran		2.95E-10		3.80E-06	2.52E-14		5.49E-18	3.17E-17
Benzoic Acid		8.58E-11		6.03E-07	1.16E-15		2.53E-19	1.46E-18
Benzonitrile		2.83E-09		2.95E-07	1.87E-14		4.08E-18	2.36E-17
Benzothiazole		6.63E-13		8.32E-07	1.24E-17		2.70E-21	1.56E-20
Bis(2-ethylhexyl)phthalate		1.88E-15		4.37E+00	1.84E-13		4.02E-17	2.32E-16
Carbazole		5.90E-13		1.58E-05	2.10E-16		4.58E-20	2.64E-19
4-Chloroaniline		2.32E-13		5.50E-07	2.87E-18		6.24E-22	3.61E-21
4-Chlorobiphenyl		1.16E-14		6.46E-04	1.68E-16		3.65E-20	2.11E-19
4,4-Chlorobiphenyl		2.98E-16		3.09E-03	2.07E-17		4.50E-21	2.60E-20
Chloroethane		3.23E-11		2.51E-07	1.82E-16		3.96E-20	2.29E-19
Dibenzofuran		9.11E-13		1.07E-04	2.19E-15		4.77E-19	2.76E-18
1,2-Dichloroethane		3.31E-12		2.45E-07	1.82E-17		3.97E-21	2.29E-20
Dieldrin		1.36E-16		1.29E-02	3.92E-17		8.55E-21	4.94E-20
Hexachlorobenzene		6.20E-13		2.40E-03	3.34E-14		7.27E-18	4.20E-17
Hydrazine		4.93E-05		6.76E-12	7.48E-15		1.63E-18	9.42E-18
Lindane		1.37E-15		1.62E-05	5.00E-19		1.09E-22	6.29E-22
Malathion		6.93E-15		6.31E-06	9.82E-19		2.14E-22	1.24E-21
Methyl ethyl ketone		2.83E-11		1.48E-08	9.40E-18		2.05E-21	1.18E-20
4-Methylphenol		2.73E-12		7.08E-07	4.35E-17		9.47E-21	5.47E-20
Monomethyl hydrazine		1.55E-05		6.76E-12	2.36E-15		5.14E-19	2.97E-18
Naphthalene		5.03E-14		1.82E-05	2.05E-17		4.47E-21	2.58E-20
Naphthalene carbonitrile		2.66E-10		1.82E-05	1.09E-13		2.37E-17	1.37E-16
n-Nitrosodimethylamine		6.41E-10		1.70E-09	2.45E-17		5.33E-21	3.08E-20
PAHs								
Acenaphthalene		4.83E-12		9.55E-05	1.04E-14		2.26E-18	1.30E-17
Acenaphthene		5.83E-12		6.76E-05	8.84E-15		1.93E-18	1.11E-17
Benzo(a)pyrene		1.06E-12		2.14E-02	5.07E-13		1.10E-16	6.38E-16
Chrysene		1.57E-13		5.01E-03	1.77E-14		3.85E-18	2.23E-17
Dibenzo(a,h)anthracene		1.02E-12		2.57E-02	5.87E-13		1.28E-16	7.38E-16
Fluoranthene		2.61E-12		1.35E-03	7.90E-14		1.72E-17	9.94E-17
Fluorene		6.63E-13		1.95E-04	2.90E-15		6.32E-19	3.65E-18
Phenanthrene		2.06E-15		3.02E-04	1.40E-17		3.05E-21	1.76E-20
Pyrene		5.43E-12		1.23E-03	1.50E-13		3.27E-17	1.89E-16
Parathion		3.33E-15		5.25E-05	3.92E-18		8.54E-22	4.93E-21
Pentachlorobenzene		3.69E-13		9.77E-04	8.10E-15		1.77E-18	1.02E-17
Phenol		5.80E-13		2.34E-07	3.05E-18		6.65E-22	3.84E-21
Quinoline		1.56E-11		8.71E-07	3.05E-16		6.63E-20	3.83E-19
Tetrachlorobenzene		4.05E-13		1.91E-04	1.73E-15		3.77E-19	2.18E-18
Trichlorobenzene		3.31E-13		7.76E-05	5.78E-16		1.26E-19	7.27E-19
Unsym. dimethyl hydrazine		2.54E-05		3.09E-11	1.76E-14		3.84E-18	2.22E-17
Vapona		3.13E-13		2.04E-07	1.44E-18		3.13E-22	1.81E-21

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AQ	AR	AS	AT	AU	AV	AW
203	BASE CASE		TABLE 21						
262	INORGANICS								
263	Arsenic		6.89E-11		6.00E-03	9.28E-12		2.02E-15	1.17E-14
264	Cadmium		8.54E-13		1.00E-03	1.92E-14		4.18E-18	2.41E-17
265	Mercury		4.84E-12		4.50E-04	4.89E-14		1.06E-17	6.15E-17
266									
267			ADULT	CHILD					
268			0.55		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.175		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.175		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % oF GRASS INTAKE				SI
273			22.45		TOTAL FEED INTAKE Kg/day				TI
274			0.305	0.39	CONSUMPTION RATE OF MILK PER DAY Kg/day				CRm
275			0.011	0.016	CONSUMPTION RATE OF MILK FAT PER DAY Kg/day				CRmf
276			0.05	0.05	FRACTION OF MILK CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	BODY WEIGHT Kg				WT
278									
279			C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))						

B	C	AY	AZ	BA	BB	BC	BD	BE
BASE CASE		TABLE 22 MILK INGESTION - MAXIMUM						
	18-Jun-91 14:39:23	C diet MAXIMUM CALCULATED CONC IN DIET (milk) mg/Kg	DUFm DIET UPTAKE MILK Unitless	TC TRANSFER COEFFICIENT MILK Day/Kg	C milk MAXIMUM CALCULATED CONC IN MILK mg/Kg	C milkfat MAXIMUM CALCULATED CONC IN MILK FAT mg/Kg	EDI ADULT MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS								
Acetonitrile		1.33E-07		3.72E-09	1.11E-14		2.42E-18	1.40E-17
Aldrin		1.45E-15		2.04E-01	6.66E-15		1.45E-18	8.37E-18
Aniline		1.47E-09		6.46E-08	2.13E-15		4.65E-19	2.69E-18
Atrazine		1.14E-12		3.89E-06	9.94E-17		2.16E-20	1.25E-19
Benzaldehyde		3.22E-10		2.45E-07	1.77E-15		3.87E-19	2.23E-18
Benzofuran		4.12E-10		3.80E-06	3.52E-14		7.66E-18	4.42E-17
Benzoic Acid		9.84E-11		6.03E-07	1.33E-15		2.90E-19	1.67E-18
Benzonitrile		3.12E-09		2.95E-07	2.07E-14		4.50E-18	2.60E-17
Benzothiazole		7.78E-13		8.32E-07	1.45E-17		3.16E-21	1.83E-20
Bis(2-ethylhexyl)phthalate		6.41E-14		4.37E+00	6.29E-12		1.37E-15	7.91E-15
Carbazole		1.11E-12		1.58E-05	3.94E-16		8.58E-20	4.96E-19
4-Chloroaniline		2.65E-13		5.50E-07	3.27E-18		7.12E-22	4.11E-21
4-Chlorobiphenyl		8.34E-14		6.46E-04	1.21E-15		2.63E-19	1.52E-18
4,4-Chlorobiphenyl		3.91E-15		3.09E-03	2.71E-16		5.91E-20	3.41E-19
Chloroethane		3.53E-11		2.51E-07	1.99E-16		4.34E-20	2.50E-19
Dibenzofuran		3.18E-12		1.07E-04	7.66E-15		1.67E-18	9.63E-18
1,2-Dichloroethane		3.62E-12		2.45E-07	1.99E-17		4.34E-21	2.51E-20
Dieldrin		2.71E-15		1.29E-02	7.85E-16		1.71E-19	9.88E-19
Hexachlorobenzene		7.44E-12		2.40E-03	4.01E-13		8.73E-17	5.04E-16
Hydrazine		5.00E-05		6.76E-12	7.59E-15		1.65E-18	9.55E-18
Lindane		2.59E-15		1.62E-05	9.43E-19		2.05E-22	1.19E-21
Malathion		1.06E-14		6.31E-06	1.50E-18		3.26E-22	1.88E-21
Methyl ethyl ketone		2.91E-11		1.48E-08	9.68E-18		2.11E-21	1.22E-20
4-Methylphenol		3.17E-12		7.08E-07	5.04E-17		1.10E-20	6.34E-20
Monomethyl hydrazine		1.58E-05		6.76E-12	2.39E-15		5.22E-19	3.01E-18
Naphthalene		9.78E-14		1.82E-05	3.99E-17		8.70E-21	5.02E-20
Naphthalene carbonitrile		5.17E-10		1.82E-05	2.11E-13		4.60E-17	2.66E-16
n-Nitrosodimethylamine		6.54E-10		1.70E-09	2.49E-17		5.43E-21	3.13E-20
PAHs								
Acenaphthalene		1.62E-11		9.55E-05	3.46E-14		7.55E-18	4.36E-17
Acenaphthene		1.72E-11		6.76E-05	2.61E-14		5.68E-18	3.28E-17
Benzo(a)pyrene		2.37E-11		2.14E-02	1.14E-11		2.47E-15	1.43E-14
Chrysene		2.42E-12		5.01E-03	2.72E-13		5.93E-17	3.42E-16
Dibenzo(a,h)anthracene		2.36E-11		2.57E-02	1.36E-11		2.97E-15	1.72E-14
Fluoranthene		2.52E-11		1.35E-03	7.64E-13		1.67E-16	9.62E-16
Fluorene		2.93E-12		1.95E-04	1.28E-14		2.80E-18	1.61E-17
Phenanthrene		1.09E-14		3.02E-04	7.38E-17		1.61E-20	9.29E-20
Pyrene		5.07E-11		1.23E-03	1.40E-12		3.05E-16	1.76E-15
Parathion		8.97E-15		5.25E-05	1.06E-17		2.30E-21	1.33E-20
Pentachlorobenzene		3.15E-12		9.77E-04	6.91E-14		1.51E-17	8.69E-17
Phenol		6.33E-13		2.34E-07	3.33E-18		7.26E-22	4.19E-21
Quinoline		1.83E-11		8.71E-07	3.59E-16		7.82E-20	4.51E-19
Tetrachlorobenzene		1.77E-12		1.91E-04	7.59E-15		1.65E-18	9.55E-18
Trichlorobenzene		1.03E-12		7.76E-05	1.79E-15		3.90E-19	2.25E-18
Unsym. dimethyl hydrazine		2.58E-05		3.09E-11	1.79E-14		3.90E-18	2.25E-17
Vapona		3.40E-13		2.04E-07	1.56E-18		3.39E-22	1.96E-21

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AY	AZ	BA	BB	BC	BD	BE
202									
203	BASE CASE		TABLE 22						
262	INORGANICS								
263	Arsenic		3.68E-10		6.00E-03	4.96E-11		1.08E-14	6.24E-14
264	Cadmium		2.59E-12		1.00E-03	5.82E-14		1.27E-17	7.33E-17
265	Mercury		1.61E-11		4.50E-04	1.63E-13		3.54E-17	2.04E-16
266									
267			ADULT	CHILD					
268			0.55		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.175		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.175		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % oF GRASS INTAKE				SI
273			22.45		TOTAL FEED INTAKE Kg/day				TI
274			0.305	0.39	CONSUMPTION RATE OF MILK PER DAY Kg/day				CRm
275			0.011	0.016	CONSUMPTION RATE OF MILK FAT PER DAY Kg/day				CRmf
276			0.05	0.05	FRACTION OF MILK CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	ADULT WEIGHT Kg				WT
278									
279			C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))						
280			C milkfat = DUFm*C diet (dioxins)						

B	C	BG	BH	BI	BJ	BK	BL	BM
BASE CASE		TABLE 23						
		BEEF INGESTION - AVERAGE						
	18-Jun-91 14:39:23	C diet AVERAGE CALCULATED CONC IN DIET (beef) mg/Kg	DUFb DIET UPTAKE BEEF Unitless	TC TRANSFER COEFFICIENT BEEF Day/Kg	C beef AVERAGE CALCULATED CONC IN BEEF mg/Kg	C beeffat AVERAGE CALCULATED CONC IN BEEFFAT mg/Kg	EDI ADULT AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS								
Acetonitrile		1.30E-07		1.15E-08	1.94E-14		9.30E-19	2.32E-18
Aldrin		1.84E-17		6.31E-01	1.50E-16		7.19E-21	1.79E-20
Aniline		1.40E-09		2.00E-07	3.62E-15		1.73E-19	4.33E-19
Atrazine		8.05E-13		1.20E-05	1.26E-16		6.01E-21	1.50E-20
Benzaldehyde		2.94E-10		7.59E-07	2.89E-15		1.38E-19	3.45E-19
Benzofuran		2.93E-10		1.17E-05	4.46E-14		2.13E-18	5.32E-18
Benzoic Acid		8.56E-11		1.86E-06	2.07E-15		9.89E-20	2.47E-19
Benzonitrile		2.82E-09		9.12E-07	3.34E-14		1.60E-18	3.99E-18
Benzothiazole		6.61E-13		2.57E-06	2.20E-17		1.05E-21	2.63E-21
Bis(2-ethylhexyl)phthalate		5.73E-16		1.35E+01	1.00E-13		4.79E-18	1.20E-17
Carbazole		5.80E-13		4.90E-05	3.68E-16		1.76E-20	4.39E-20
4-Chloroaniline		2.32E-13		1.70E-06	5.10E-18		2.44E-22	6.09E-22
4-Chlorobiphenyl		1.01E-14		2.00E-03	2.60E-16		1.24E-20	3.10E-20
4,4-Chlorobiphenyl		2.22E-16		9.55E-03	2.75E-17		1.32E-21	3.28E-21
Chloroethane		3.22E-11		7.76E-07	3.24E-16		1.55E-20	3.87E-20
Dibenzofuran		8.63E-13		3.31E-04	3.71E-15		1.77E-19	4.43E-19
1,2-Dichloroethane		3.30E-12		7.59E-07	3.25E-17		1.56E-21	3.88E-21
Dieldrin		8.15E-17		3.98E-02	4.21E-17		2.01E-21	5.02E-21
Hexachlorobenzene		4.77E-13		7.41E-03	4.58E-14		2.19E-18	5.47E-18
Hydrazine		4.93E-05		2.09E-11	1.34E-14		6.40E-19	1.59E-18
Lindane		1.35E-15		5.01E-05	8.76E-19		4.19E-23	1.05E-22
Malathion		6.86E-15		1.95E-05	1.73E-18		8.30E-23	2.07E-22
Methyl ethyl ketone		2.83E-11		4.57E-08	1.68E-17		8.03E-22	2.00E-21
4-Methylphenol		2.73E-12		2.19E-06	7.74E-17		3.70E-21	9.23E-21
Monomethyl hydrazine		1.55E-05		2.09E-11	4.21E-15		2.02E-19	5.03E-19
Naphthalene		4.93E-14		5.62E-05	3.59E-17		1.72E-21	4.29E-21
Naphthalene carbonitrile		2.61E-10		5.62E-05	1.90E-13		9.09E-18	2.27E-17
n-Nitrosodimethylamine		6.41E-10		5.25E-09	4.37E-17		2.09E-21	5.21E-21
PAHs								
Acenaphthalene		4.59E-12		2.95E-04	1.76E-14		8.41E-19	2.10E-18
Acenaphthene		5.59E-12		2.09E-04	1.51E-14		7.25E-19	1.81E-18
Benzo(a)pyrene		5.81E-13		6.61E-02	4.98E-13		2.38E-17	5.94E-17
Chrysene		1.10E-13		1.55E-02	2.20E-14		1.06E-18	2.63E-18
Dibenzo(a,h)anthracene		5.42E-13		7.94E-02	5.58E-13		2.67E-17	6.66E-17
Fluoranthene		2.13E-12		4.17E-03	1.15E-13		5.52E-18	1.38E-17
Fluorene		6.16E-13		6.03E-04	4.81E-15		2.30E-19	5.74E-19
Phenanthrene		1.88E-15		9.33E-04	2.27E-17		1.09E-21	2.71E-21
Pyrene		4.48E-12		3.80E-03	2.21E-13		1.06E-17	2.64E-17
Parathion		3.21E-15		1.62E-04	6.75E-18		3.23E-22	8.06E-22
Pentachlorobenzene		3.11E-13		3.02E-03	1.22E-14		5.83E-19	1.45E-18
Phenol		5.79E-13		7.24E-07	5.44E-18		2.60E-22	6.50E-22
Quinoline		1.55E-11		2.69E-06	5.42E-16		2.59E-20	6.47E-20
Tetrachlorobenzene		3.76E-13		5.89E-04	2.87E-15		1.38E-19	3.43E-19
Trichlorobenzene		3.17E-13		2.40E-04	9.86E-16		4.72E-20	1.18E-19
Unsym. dimethyl hydrazine		2.54E-05		9.55E-11	3.15E-14		1.51E-18	3.75E-18
Vapona		3.13E-13		6.31E-07	2.56E-18		1.22E-22	3.05E-22

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BG	BH	BI	BJ	BK	BL	BM
202									
203	BASE CASE		TABLE 23						
262	INORGANICS								
263	Arsenic		2.13E-11		2.00E-03	5.54E-13		2.65E-17	6.61E-17
264	Cadmium		5.35E-13		5.50E-04	3.81E-15		1.83E-19	4.55E-19
265	Mercury		5.14E-12		2.50E-01	1.67E-11		7.98E-16	1.99E-15
266									
267			ADULT	CHILD					
268			0.8		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.05		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.05		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % of GRASS INTAKE				SI
273			12.97		TOTAL FEED INTAKE Kg/day				TI
274			0.067	0.037	CONSUMPTION RATE OF BEEF PER DAY Kg/day				CRb
275			0.015	0.009	CONSUMPTION RATE OF BEEF FAT PER DAY Kg/day				CRbf
276			0.05	0.05	FRACTION OF BEEF CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	BODY WEIGHT Kg				WT
278									
279			C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))						

B	C	BO	BP	BQ	BR	BS	BT	BU
BASE CASE		TABLE 24 BEEF INGESTION - MAXIMUM						
	18-Jun-91 14:39:23	C diet MAXIMUM CALCULATED CONC IN DIET (beef) mg/Kg	DUFb DIET UPTAKE BEEF Unitless	TC TRANSFER COEFFICIENT BEEF Day/Kg	C beef MAXIMUM CALCULATED CONC IN BEEF mg/Kg	C beeffat MAXIMUM CALCULATED CONC IN BEEFFAT mg/Kg	EDI ADULT MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS								
Acetonitrile		1.33E-07		1.15E-08	1.97E-14		9.45E-19	2.36E-18
Aldrin		4.20E-16		6.31E-01	3.43E-15		1.64E-19	4.10E-19
Aniline		1.44E-09		2.00E-07	3.71E-15		1.78E-19	4.43E-19
Atrazine		9.07E-13		1.20E-05	1.41E-16		6.77E-21	1.69E-20
Benzaldehyde		3.05E-10		7.59E-07	3.00E-15		1.44E-19	3.58E-19
Benzofuran		3.29E-10		1.17E-05	5.01E-14		2.40E-18	5.98E-18
Benzoic Acid		9.01E-11		1.86E-06	2.18E-15		1.04E-19	2.60E-19
Benzonitrile		2.94E-09		9.12E-07	3.47E-14		1.66E-18	4.15E-18
Benzothiazole		7.00E-13		2.57E-06	2.33E-17		1.12E-21	2.79E-21
Bis(2-ethylhexyl)phthalate		1.84E-14		1.35E+01	3.21E-12		1.54E-16	3.83E-16
Carbazole		7.33E-13		4.90E-05	4.66E-16		2.23E-20	5.56E-20
4-Chloroaniline		2.43E-13		1.70E-06	5.36E-18		2.57E-22	6.40E-22
4-Chlorobiphenyl		3.07E-14		2.00E-03	7.94E-16		3.80E-20	9.48E-20
4,4-Chlorobiphenyl		1.26E-15		9.55E-03	1.56E-16		7.45E-21	1.86E-20
Chloroethane		3.34E-11		7.76E-07	3.36E-16		1.61E-20	4.01E-20
Dibenzofuran		1.52E-12		3.31E-04	6.53E-15		3.13E-19	7.80E-19
1,2-Dichloroethane		3.43E-12		7.59E-07	3.37E-17		1.61E-21	4.02E-21
Dieldrin		8.19E-16		3.98E-02	4.23E-16		2.02E-20	5.05E-20
Hexachlorobenzene		2.43E-12		7.41E-03	2.34E-13		1.12E-17	2.79E-17
Hydrazine		5.00E-05		2.09E-11	1.36E-14		6.49E-19	1.62E-18
Lindane		1.71E-15		5.01E-05	1.11E-18		5.32E-23	1.33E-22
Malathion		7.97E-15		1.95E-05	2.02E-18		9.64E-23	2.41E-22
Methyl ethyl ketone		2.88E-11		4.57E-08	1.71E-17		8.18E-22	2.04E-21
4-Methylphenol		2.88E-12		2.19E-06	8.17E-17		3.91E-21	9.75E-21
Monomethyl hydrazine		1.58E-05		2.09E-11	4.27E-15		2.05E-19	5.10E-19
Naphthalene		6.33E-14		5.62E-05	4.62E-17		2.21E-21	5.51E-21
Naphthalene carbonitrile		3.35E-10		5.62E-05	2.44E-13		1.17E-17	2.92E-17
n-Nitrosodimethylamine		6.51E-10		5.25E-09	4.43E-17		2.12E-21	5.29E-21
PAHs								
Acenaphthalene		7.88E-12		2.95E-04	3.01E-14		1.44E-18	3.60E-18
Acenaphthene		8.89E-12		2.09E-04	2.41E-14		1.15E-18	2.87E-18
Benzo(a)pyrene		7.05E-12		6.61E-02	6.04E-12		2.89E-16	7.21E-16
Chrysene		7.57E-13		1.55E-02	1.52E-13		7.28E-18	1.81E-17
Dibenzo(a,h)anthracene		7.01E-12		7.94E-02	7.22E-12		3.45E-16	8.61E-16
Fluoranthene		8.62E-12		4.17E-03	4.66E-13		2.23E-17	5.56E-17
Fluorene		1.27E-12		6.03E-04	9.93E-15		4.75E-19	1.18E-18
Phenanthrene		4.42E-15		9.33E-04	5.35E-17		2.56E-21	6.38E-21
Pyrene		1.75E-11		3.80E-03	8.61E-13		4.12E-17	1.03E-16
Parathion		4.86E-15		1.62E-04	1.02E-17		4.89E-22	1.22E-21
Pentachlorobenzene		1.11E-12		3.02E-03	4.34E-14		2.08E-18	5.18E-18
Phenol		6.00E-13		7.24E-07	5.64E-18		2.70E-22	6.73E-22
Quinoline		1.65E-11		2.69E-06	5.75E-16		2.75E-20	6.86E-20
Tetrachlorobenzene		7.71E-13		5.89E-04	5.89E-15		2.82E-19	7.03E-19
Trichlorobenzene		5.19E-13		2.40E-04	1.61E-15		7.72E-20	1.93E-19
Unsym. dimethyl hydrazine		2.58E-05		9.55E-11	3.19E-14		1.53E-18	3.81E-18
Vapona		3.24E-13		6.31E-07	2.65E-18		1.27E-22	3.16E-22

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BO	BP	BQ	BR	BS	BT	BU
202									
203	BASE CASE		TABLE 24						
262	INORGANICS								
263	Arsenic		1.07E-10		2.00E-03	2.77E-12		1.33E-16	3.31E-16
264	Cadmium		1.04E-12		5.50E-04	7.39E-15		3.54E-19	8.82E-19
265	Mercury		8.41E-12		2.50E-01	2.73E-11		1.31E-15	3.26E-15
266									
267			ADULT	CHILD					
268			0.8		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.05		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.05		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % of GRASS INTAKE				SI
273			12.97		TOTAL FEED INTAKE Kg/day				TI
274			0.067	0.037	CONSUMPTION RATE OF BEEF PER DAY Kg/day				CRb
275			0.015	0.009	CONSUMPTION RATE OF BEEF FAT PER DAY Kg/day				CRbf
276			0.05	0.05	FRACTION OF BEEF CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	ADULT WEIGHT Kg				WT
278									
279					C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))				

B	C	E	F	G	H	I	J
BASE CASE		TABLE 25					
		DERMAL EXPOSURE CHILD					
		C soil	C soil	AF	EDI	EDI	
	18-Jun-91	AVERAGE	MAXIMUM		AVERAGE	MAXIMUM	
	14:39:23	CALCULATED	CALCULATED	ABSORPTION	ESTIMATED	ESTIMATED	
		CONC IN	CONC IN	FACTOR	DAILY	DAILY	
		SOIL	SOIL		INTAKE	INTAKE	
		.1M	.1M		mg/Kg/day	mg/Kg/day	
		mg/Kg	mg/Kg				
ORGANICS							
Acetonitrile		7.92E-09	8.03E-09	1.00E-01	3.48E-14	3.53E-14	
Aldrin		1.23E-14	1.25E-14	1.00E-01	5.40E-20	5.48E-20	
Aniline		4.45E-10	4.52E-10	1.00E-01	1.96E-15	1.98E-15	
Atrazine		2.75E-12	2.79E-12	1.00E-01	1.21E-17	1.23E-17	
Benzaldehyde		2.03E-10	2.06E-10	1.00E-01	8.91E-16	9.04E-16	
Benzofuran		9.86E-10	1.00E-09	1.00E-01	4.33E-15	4.40E-15	
Benzoic Acid		9.93E-11	1.01E-10	1.00E-01	4.36E-16	4.43E-16	
Benzonitrile		2.17E-09	2.20E-09	1.00E-01	9.52E-15	9.66E-15	
Benzothiazole		9.24E-13	9.37E-13	1.00E-01	4.06E-18	4.12E-18	
Bis(2-ethylhexyl)phthalate		5.45E-13	5.53E-13	1.00E-01	2.40E-18	2.43E-18	
Carbazole		4.45E-12	4.52E-12	1.00E-01	1.96E-17	1.98E-17	
4-Chloroaniline		2.55E-13	2.59E-13	1.00E-01	1.12E-18	1.14E-18	
4-Chlorobiphenyl		6.28E-13	6.37E-13	1.00E-01	2.76E-18	2.80E-18	
4,4-Chlorobiphenyl		3.16E-14	3.21E-14	1.00E-01	1.39E-19	1.41E-19	
Chloroethane		2.25E-11	2.28E-11	1.00E-01	9.89E-17	1.00E-16	
Dibenzofuran		1.98E-11	2.01E-11	1.00E-01	8.70E-17	8.82E-17	
1,2-Dichloroethane		2.28E-12	2.31E-12	1.00E-01	1.00E-17	1.02E-17	
Dieldrin		2.26E-14	2.29E-14	1.00E-01	9.92E-20	1.01E-19	
Hexachlorobenzene		5.97E-11	6.05E-11	1.00E-01	2.62E-16	2.66E-16	
Hydrazine		7.71E-08	7.82E-08	1.00E-01	3.39E-13	3.44E-13	
Lindane		1.05E-14	1.06E-14	1.00E-01	4.61E-20	4.68E-20	
Malathion		3.10E-14	3.14E-14	1.00E-01	1.36E-19	1.38E-19	
Methyl ethyl ketone		3.83E-12	3.88E-12	1.00E-01	1.68E-17	1.71E-17	
4-Methylphenol		3.47E-12	3.52E-12	1.00E-01	1.53E-17	1.55E-17	
Monomethyl hydrazine		2.43E-08	2.47E-08	1.00E-01	1.07E-13	1.08E-13	
Naphthalene		4.10E-13	4.16E-13	1.00E-01	1.80E-18	1.83E-18	
Naphthalene carbonitrile		2.17E-09	2.20E-09	1.00E-01	9.52E-15	9.66E-15	
n-Nitrosodimethylamine		2.47E-11	2.51E-11	1.00E-01	1.09E-16	1.10E-16	
PAHs							
Acenaphthalene		9.86E-11	1.00E-10	1.00E-01	4.33E-16	4.40E-16	
Acenaphthene		9.86E-11	1.00E-10	1.00E-01	4.33E-16	4.40E-16	
Benzo(a)pyrene		1.98E-10	2.01E-10	1.00E-01	8.70E-16	8.82E-16	
Chrysene		1.98E-11	2.01E-11	1.00E-01	8.70E-17	8.82E-17	
Dibenzo(a,h)anthracene		1.98E-10	2.01E-10	1.00E-01	8.70E-16	8.82E-16	
Fluoranthene		1.98E-10	2.01E-10	1.00E-01	8.70E-16	8.82E-16	
Fluorene		1.98E-11	2.01E-11	1.00E-01	8.70E-17	8.82E-17	
Phenanthrene		7.71E-14	7.82E-14	1.00E-01	3.39E-19	3.44E-19	
Pyrene		3.96E-10	4.02E-10	1.00E-01	1.74E-15	1.76E-15	
Parathion		4.90E-14	4.97E-14	1.00E-01	2.15E-19	2.19E-19	
Pentachlorobenzene		2.43E-11	2.47E-11	1.00E-01	1.07E-16	1.08E-16	
Phenol		3.89E-13	3.95E-13	1.00E-01	1.71E-18	1.73E-18	
Quinoline		2.23E-11	2.26E-11	1.00E-01	9.80E-17	9.94E-17	
Tetrachlorobenzene		1.19E-11	1.21E-11	1.00E-01	5.25E-17	5.33E-17	
Trichlorobenzene		6.05E-12	6.14E-12	1.00E-01	2.66E-17	2.70E-17	
Unsym. dimethyl hydrazine		9.58E-08	9.72E-08	1.00E-01	4.21E-13	4.27E-13	
Vapona		1.94E-13	1.97E-13	1.00E-01	8.52E-19	8.64E-19	

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	E	F	G	H	I	J
284								
285		BASE CASE	TABLE 25					
344	INORGANICS							
345		Arsenic	2.61E-09	2.65E-09	1.00E-02	1.15E-15	1.16E-15	
346		Cadmium	1.51E-11	1.54E-11	1.00E-02	6.65E-18	6.75E-18	
347		Mercury	9.79E-11	9.93E-11	1.00E-02	4.30E-17	4.37E-17	
348								
349			195	Number of exposure events per year (events/yr.)				NE
350			2500	Exposed surface area (cm2/event)				ESA
351			0.51	Skin adherence factor for soil (mg/cm2)				SAF
352			1	Soil matrix factor				SMF
353			15.5	Body weight (Kg)				BW
354			365	Days/yr				DAYR
355			1000000	mg/Kg				mgKg
356								
357			EDI = Csoil*AF*SAF*ESA*NE*SMF/BW/mgKg/DAYR					

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	K	L	M	N	O
BASE CASE	TABLE 26 DERMAL EXPOSURE ADULT				
18-Jun-91 14:39:23	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	AF ABSORPTION FACTOR	EDI AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day	EDI MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS					
Acetonitrile	3.96E-09	4.02E-09	1.00E-01	4.16E-15	4.22E-15
Aldrin	6.15E-15	6.24E-15	1.00E-01	6.46E-21	6.55E-21
Aniline	2.23E-10	2.26E-10	1.00E-01	2.34E-16	2.37E-16
Atrazine	1.38E-12	1.40E-12	1.00E-01	1.45E-18	1.47E-18
Benzaldehyde	1.01E-10	1.03E-10	1.00E-01	1.07E-16	1.08E-16
Benzofuran	4.93E-10	5.00E-10	1.00E-01	5.18E-16	5.26E-16
Benzoic Acid	4.97E-11	5.04E-11	1.00E-01	5.22E-17	5.29E-17
Benzonitrile	1.08E-09	1.10E-09	1.00E-01	1.14E-15	1.16E-15
Benzothiazole	4.62E-13	4.69E-13	1.00E-01	4.85E-19	4.92E-19
Bis(2-ethylhexyl)phthalate	2.73E-13	2.77E-13	1.00E-01	2.86E-19	2.91E-19
Carbazole	2.23E-12	2.26E-12	1.00E-01	2.34E-18	2.37E-18
4-Chloroaniline	1.27E-13	1.29E-13	1.00E-01	1.34E-19	1.36E-19
4-Chlorobiphenyl	3.14E-13	3.18E-13	1.00E-01	3.30E-19	3.35E-19
4,4-Chlorobiphenyl	1.58E-14	1.60E-14	1.00E-01	1.66E-20	1.68E-20
Chloroethane	1.13E-11	1.14E-11	1.00E-01	1.18E-17	1.20E-17
Dibenzofuran	9.90E-12	1.00E-11	1.00E-01	1.04E-17	1.06E-17
1,2-Dichloroethane	1.14E-12	1.16E-12	1.00E-01	1.20E-18	1.21E-18
Dieldrin	1.13E-14	1.14E-14	1.00E-01	1.19E-20	1.20E-20
Hexachlorobenzene	2.98E-11	3.03E-11	1.00E-01	3.13E-17	3.18E-17
Hydrazine	3.85E-08	3.91E-08	1.00E-01	4.05E-14	4.11E-14
Lindane	5.24E-15	5.32E-15	1.00E-01	5.51E-21	5.59E-21
Malathion	1.55E-14	1.57E-14	1.00E-01	1.63E-20	1.65E-20
Methyl ethyl ketone	1.91E-12	1.94E-12	1.00E-01	2.01E-18	2.04E-18
4-Methylphenol	1.74E-12	1.76E-12	1.00E-01	1.82E-18	1.85E-18
Monomethyl hydrazine	1.22E-08	1.23E-08	1.00E-01	1.28E-14	1.30E-14
Naphthalene	2.05E-13	2.08E-13	1.00E-01	2.15E-19	2.18E-19
Naphthalene carbonitrile	1.08E-09	1.10E-09	1.00E-01	1.14E-15	1.16E-15
n-Nitrosodimethylamine	1.24E-11	1.25E-11	1.00E-01	1.30E-17	1.32E-17
PAHs					
Acenaphthalene	4.93E-11	5.00E-11	1.00E-01	5.18E-17	5.26E-17
Acenaphthene	4.93E-11	5.00E-11	1.00E-01	5.18E-17	5.26E-17
Benzo(a)pyrene	9.90E-11	1.00E-10	1.00E-01	1.04E-16	1.06E-16
Chrysene	9.90E-12	1.00E-11	1.00E-01	1.04E-17	1.06E-17
Dibenzo(a,h)anthracene	9.90E-11	1.00E-10	1.00E-01	1.04E-16	1.06E-16
Fluoranthene	9.90E-11	1.00E-10	1.00E-01	1.04E-16	1.06E-16
Fluorene	9.90E-12	1.00E-11	1.00E-01	1.04E-17	1.06E-17
Phenanthrene	3.85E-14	3.91E-14	1.00E-01	4.05E-20	4.11E-20
Pyrene	1.98E-10	2.01E-10	1.00E-01	2.08E-16	2.11E-16
Parathion	2.45E-14	2.49E-14	1.00E-01	2.58E-20	2.61E-20
Pentachlorobenzene	1.22E-11	1.23E-11	1.00E-01	1.28E-17	1.30E-17
Phenol	1.94E-13	1.97E-13	1.00E-01	2.04E-19	2.07E-19
Quinoline	1.11E-11	1.13E-11	1.00E-01	1.17E-17	1.19E-17
Tetrachlorobenzene	5.97E-12	6.06E-12	1.00E-01	6.28E-18	6.37E-18
Trichlorobenzene	3.02E-12	3.07E-12	1.00E-01	3.18E-18	3.22E-18
Unsym. dimethyl hydrazine	4.79E-08	4.86E-08	1.00E-01	5.04E-14	5.11E-14
Vapona	9.69E-14	9.83E-14	1.00E-01	1.02E-19	1.03E-19

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	K	L	M	N	O
284							
285	BASE CASE		TABLE 26				
344	INORGANICS						
345	Arsenic		1.31E-09	1.32E-09	1.00E-02	1.37E-16	1.39E-16
346	Cadmium		7.57E-12	7.68E-12	1.00E-02	7.96E-19	8.07E-19
347	Mercury		4.90E-11	4.97E-11	1.00E-02	5.15E-18	5.22E-18
348							
349			117	Number of exposure events per year (events/yr)			NE
350			4500	Exposed surface area (cm2/event)			ESA
351			0.51	Skin adherence factor for soil (mg/cm2)			SAF
352			1	Soil matrix factor			SMF
353			70	Body weight (Kg)			BW
354			365	Days/yr			DAYR
355			1000000	mg/Kg			mgKg
356							
357			EDI = Csoil*AF*SAF*ESA*NE*SMF/BW/mgKg/DAYR				

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

B	C	D	E	F	G
BASE CASE		TABLE 27 FISH INGESTION			
	18-Jun-91 14:39:23	C water SURFACE WATER CONCENTRAT. mg/L	BCF BIO. CONC. FACTOR	EDI ADULT ESTIMATED DAILY INTAKE mg/kg/day	EDI CHILD ESTIMATED DAILY INTAKE mg/kg/day
ORGANICS					
Acetonitrile		1.87E-14	0.06	7.76E-21	1.75E-20
Aldrin		1.45E-23	28	2.81E-27	6.34E-27
Aniline		5.60E-15	6.03	2.33E-19	5.27E-19
Atrazine		3.15E-20	0	0.00E+00	0.00E+00
Benzaldehyde		4.54E-16	8	2.51E-20	5.67E-20
Benzofuran		1.27E-15	63	5.53E-19	1.25E-18
Benzoic Acid		2.05E-16	15.5	2.20E-20	4.96E-20
Benzonitrile		4.80E-15	9	2.99E-19	6.74E-19
Benzothiazole		1.83E-20	19.843	2.51E-24	5.67E-24
Bis(2-ethylhexyl)phthalate		5.53E-22	850	3.25E-24	7.34E-24
Carbazole		2.57E-18	186	3.31E-21	7.46E-21
4-Chloroaniline		9.43E-18	14.5	9.45E-22	2.13E-21
4-Chlorobiphenyl		8.32E-20	590	3.39E-22	7.66E-22
4,4-Chlorobiphenyl		3.84E-21	215	5.71E-24	1.29E-23
Chloroethane		5.03E-19	5.5	1.91E-23	4.32E-23
Dibenzofuran		3.97E-18	796.5	2.19E-20	4.94E-20
1,2-Dichloroethane		4.14E-18	2	5.73E-23	1.29E-22
Dieldrin		2.69E-23	5800	1.08E-24	2.44E-24
Hexachlorobenzene		7.16E-18	8690	4.30E-19	9.71E-19
Hydrazine		1.82E-15	2.8	3.52E-20	7.96E-20
Lindane		5.26E-23	130	4.73E-26	1.07E-25
Malathion		3.10E-22	0	0.00E+00	0.00E+00
Methyl ethyl ketone		9.04E-20	0	0.00E+00	0.00E+00
4-Methylphenol		2.18E-19	18	2.71E-23	6.13E-23
Monomethyl hydrazine		5.76E-16	2.8	1.12E-20	2.52E-20
Naphthalene		4.99E-17	430	1.48E-19	3.35E-19
Naphthalene carbonitrile		1.15E-15	430	3.42E-18	7.72E-18
n-Nitrosodimethylamine		5.08E-19	0	0.00E+00	0.00E+00
PAHs					
Acenaphthalene		2.08E-17	730	1.05E-19	2.37E-19
Acenaphthene		2.43E-17	242	4.07E-20	9.18E-20
Benzo(a)pyrene		2.18E-17	930	1.40E-19	3.17E-19
Chrysene		2.23E-18	23000	3.55E-19	8.01E-19
Dibenzo(a,h)anthracene		2.21E-17	520000	7.95E-17	1.79E-16
Fluorene		3.25E-18	1300	2.92E-20	6.60E-20
Phenanthrene		5.53E-18	2630	1.01E-19	2.27E-19
Pyrene		4.55E-17	5100	1.60E-18	3.62E-18
Parathion		1.37E-22	335	3.17E-25	7.17E-25
Quinoline		4.37E-17	21	6.35E-21	1.43E-20
Trichlorobenzene		1.40E-18	991	9.59E-21	2.17E-20
Unsym. dimethyl hydrazine		2.27E-15	2.8	4.39E-20	9.92E-20
Vapona		4.37E-21	7.0	2.12E-25	4.78E-25
INORGANICS					
Arsenic		1.80E-13	350	4.36E-15	9.84E-15
Copper		6.47E-15	1183	5.29E-16	1.20E-15
Zinc		5.07E-14	578	2.03E-15	4.58E-15

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	D	E	F	G
359						
360		BASE CASE	TABLE 27			
419						
420						
421			CHILD	ADULT		
422			2.42	4.84	FISH INGESTION RATE g/day	
423			15.5	70	ADULT BODY WEIGHT KG	
424			1000	1000	g/KG	
425			0.1	0.1	Fraction lipid in fillet	

TABLE 28
CARCINOGENIC SLOPE FACTORS ((mg/kg-day)-1)

RES-B
BASE CASE

	Inhalation Slope Factor	Oral Slope Factor	Dermal Slope Factor
ORGANICS			
Acrylonitrile	2.40E-01	5.40E-01	NC
Aldrin	1.70E+01	1.70E+01	3.40E+01
Aniline	5.70E-03	5.70E-03	1.14E-02
Benzene	2.90E-02	2.90E-02	NC
Bis(2-ethylhexyl)phthalate	1.40E-02	1.40E-02	2.80E-02
Carbazole	2.00E-02	2.00E-02	4.00E-02
Carbon Tetrachloride	1.30E-01	1.30E-01	NC
Chloroform	8.10E-02	6.10E-03	NC
1,4-Dichlorobenzene	2.40E-02	2.40E-02	NC
1,1-Dichloroethane			
1,2-Dichloroethane	9.10E-02	9.10E-02	1.82E-01
1,1-Dichloroethene	1.20E+00	6.00E-01	NC
1,2-Dichloropropane	6.80E-02	6.80E-02	NC
Dieldrin	1.60E+01	1.60E+01	3.20E+01
Hexachlorobenzene	1.60E+00	1.60E+00	3.20E+00
Hydrazine	1.71E+01	3.00E+00	6.00E+00
Lindane	1.30E+00	1.30E+00	2.60E+00
Methyl chloride	6.30E-03	1.30E-02	NC
Methylene chloride	1.40E-02	7.50E-03	NC
4-Methylphenol			
Monomethyl hydrazine	1.10E+00	1.10E+00	2.20E+00
n-Nitrosodimethylamine	5.10E+01	5.10E+01	1.02E+02
PAHs			
Benzo(a)pyrene	6.10E+00	1.15E+01	2.30E+01
Chrysene	6.10E+00	1.15E+01	2.30E+01
Dibenzo(a,h)anthracene	6.10E+00	1.15E+01	2.30E+01
Parathion			
Quinoline	1.20E+01	1.20E+01	2.40E+01
Tetrachloroethene	3.30E-03	5.10E-02	NC
Trichloroethene	1.10E-02	1.10E-02	NC
Vapona	2.90E-01	2.90E-01	5.80E-01
Vinyl chloride	2.95E-01	2.30E+00	NC
INORGANICS			
Arsenic	1.50E+01	1.75E+00	3.50E+01
Cadmium	6.10E+00	NC	NC
Chromium (VI)	4.10E+01	NC	NC
Total			

AED Adult Exposure Duration	64
CED Child Exposure Duration	5
CID Child Inhalation Duration	1
IED Infant Exposure Duration	1
IID Infant Inhalation Duration	1

TABLE 29
ADULT CARCINOGENIC RISK

RES-B BASE CASE	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL ADULT CARC. RISK
ORGANICS							
Acrylonitrile	NA	NA	NA	NA	NA	NA	NA
Aldrin	1.02E-16	7.43E-19	1.12E-19	2.73E-19	4.36E-26	2.01E-19	1.04E-16
Aniline	6.03E-16	2.31E-21	9.04E-22	3.31E-18	1.22E-21	2.44E-18	6.09E-16
Benzene	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	2.84E-18	5.14E-19	6.14E-20	9.97E-21	4.16E-26	7.33E-21	3.43E-18
Carbazole	3.33E-18	8.37E-22	3.22E-22	1.16E-19	6.04E-23	8.55E-20	3.53E-18
Carbon Tetrachloride	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	7.59E-17	3.31E-22	1.29E-22	2.71E-19	4.76E-24	1.99E-19	7.64E-17
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA
Dieldrin	1.19E-15	1.25E-19	2.95E-20	4.72E-19	1.58E-23	3.47E-19	1.19E-15
Hexachlorobenzene	2.99E-15	1.06E-17	3.21E-18	1.25E-16	6.29E-19	9.17E-17	3.23E-15
Hydrazine	1.52E-08	4.47E-18	1.75E-18	3.02E-13	9.66E-20	2.22E-13	1.52E-08
Lindane	5.92E-19	1.29E-22	4.98E-23	1.78E-20	5.62E-26	1.31E-20	6.23E-19
Methyl chloride	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	1.20E-09	5.17E-19	2.03E-19	3.49E-14	1.12E-20	2.57E-14	1.20E-09
n-Nitrosodimethylamine	3.47E-11	2.48E-19	9.74E-20	1.65E-15	0.00E+00	1.21E-15	3.47E-11
PAHs							
Benzo(a)pyrene	4.10E-15	1.16E-15	2.51E-16	2.97E-15	1.47E-18	2.19E-15	1.07E-14
Chrysene	3.19E-15	4.05E-17	1.11E-17	2.97E-16	3.73E-18	2.19E-16	3.76E-15
Dibenzo(a,h)anthracene	7.23E-15	1.34E-15	2.81E-16	2.97E-15	8.35E-16	2.19E-15	1.48E-14
Parathion	NE	NE	NE	NE	NE	NE	NE
Quinoline	3.20E-14	7.28E-19	2.85E-19	3.49E-16	6.96E-20	2.57E-16	3.26E-14
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Vapona	7.17E-18	8.29E-23	3.25E-23	7.34E-20	5.61E-26	5.40E-20	7.30E-18
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA
INORGANICS							
Arsenic	1.75E-15	3.24E-15	4.24E-17	5.97E-15	6.97E-15	4.39E-15	2.24E-14
Cadmium	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	NA	NA	NA	NA	NA	NA	NA
Total	1.64E-08	5.80E-15	5.91E-16	3.51E-13	7.81E-15	2.58E-13	1.64E-08

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 30
CHILD CARCINOGENIC RISK

RES-B BASE CASE	INHALATION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL CHILD CARC. RISK
ORGANICS								
Acrylonitrile	7.47E-15	NA	NA	NA	NA	NA	NA	7.47E-15
Aldrin	1.93E-18	1.20E-17	3.35E-19	2.18E-20	1.93E-19	7.70E-27	1.31E-19	1.46E-17
Aniline	2.34E-17	9.47E-17	1.04E-21	1.76E-22	2.34E-18	2.15E-22	1.59E-18	1.22E-16
Benzene	6.83E-19	NA	NA	NA	NA	NA	NA	6.83E-19
Bis(2-ethylhexyl)phthalate	7.05E-20	3.32E-19	2.32E-19	1.20E-20	7.03E-21	7.34E-27	4.79E-21	6.58E-19
Carbazole	8.22E-19	4.24E-19	3.77E-22	6.28E-23	8.21E-20	1.07E-23	5.59E-20	1.39E-18
Carbon Tetrachloride	1.55E-17	NA	NA	NA	NA	NA	NA	1.55E-17
Chloroform	8.21E-17	NA	NA	NA	NA	NA	NA	8.21E-17
1,4-Dichlorobenzene	3.57E-20	NA	NA	NA	NA	NA	NA	3.57E-20
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	1.91E-18	9.79E-18	1.49E-22	2.52E-23	1.91E-19	8.40E-25	1.30E-19	1.20E-17
1,1-Dichloroethene	4.33E-17	NA	NA	NA	NA	NA	NA	4.33E-17
1,2-Dichloropropane	9.07E-19	NA	NA	NA	NA	NA	NA	9.07E-19
Dieldrin	3.34E-18	1.39E-16	5.64E-20	5.74E-21	3.33E-19	2.78E-24	2.27E-19	1.43E-16
Hexachlorobenzene	8.82E-16	3.53E-16	4.80E-18	6.25E-19	8.80E-17	1.11E-19	5.99E-17	1.39E-15
Hydrazine	1.22E-11	2.22E-09	2.02E-18	3.42E-19	2.13E-13	1.70E-20	1.45E-13	2.23E-09
Lindane	1.26E-19	7.46E-20	5.84E-23	9.71E-24	1.26E-20	9.91E-27	8.56E-21	2.22E-19
Methyl chloride	1.76E-19	NA	NA	NA	NA	NA	NA	1.76E-19
Methylene chloride	2.36E-17	NA	NA	NA	NA	NA	NA	2.36E-17
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	2.47E-13	1.93E-10	2.33E-19	3.95E-20	2.46E-14	1.98E-21	1.68E-14	1.93E-10
n-Nitrosodimethylamine	1.16E-14	4.16E-12	1.12E-19	1.90E-20	1.16E-15	0.00E+00	7.92E-16	4.17E-12
PAHs								
Benzo(a)pyrene	1.12E-14	5.05E-16	5.24E-16	4.88E-17	2.10E-15	2.60E-19	1.43E-15	1.58E-14
Chrysene	1.12E-15	3.77E-16	1.83E-17	2.16E-18	2.10E-16	6.58E-19	1.43E-16	1.87E-15
Dibenzo(a,h)anthracene	1.12E-14	8.69E-16	6.06E-16	5.47E-17	2.10E-15	1.47E-16	1.43E-15	1.64E-14
Parathion	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	2.47E-15	4.31E-15	3.28E-19	5.54E-20	2.47E-16	1.23E-20	1.68E-16	7.19E-15
Tetrachloroethene	1.27E-20	NA	NA	NA	NA	NA	NA	1.27E-20
Trichloroethene	4.52E-19	NA	NA	NA	NA	NA	NA	4.52E-19
Vapona	5.19E-19	1.11E-18	3.74E-23	6.33E-24	5.18E-20	9.89E-27	3.53E-20	1.72E-18
Vinyl chloride	6.94E-18	NA	NA	NA	NA	NA	NA	6.94E-18
INORGANICS								
Arsenic	3.62E-13	2.21E-16	1.46E-15	8.26E-18	4.21E-15	1.23E-15	2.87E-15	3.72E-13
Cadmium	8.53E-16	NA	NA	NA	NA	NA	NA	8.53E-16
Chromium (VI)	8.94E-16	NA	NA	NA	NA	NA	NA	8.94E-16
Total	1.28E-11	2.42E-09	2.62E-15	1.15E-16	2.48E-13	1.38E-15	1.69E-13	2.43E-09

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 31
INFANT CARCINOGENIC RISK

RES-B BASE CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	TOTAL INFANT CARC. RISK
ORGANICS			
Acrylonitrile	4.89E-15	3.39E-17	4.92E-15
Aldrin	1.26E-18	1.05E-17	1.18E-17
Aniline	1.53E-17	7.37E-17	8.90E-17
Benzene	4.47E-19	5.17E-22	4.47E-19
Bis(2-ethylhexyl)phthalate	4.61E-20	1.39E-18	1.44E-18
Carbazole	5.38E-19	1.56E-18	2.09E-18
Carbon Tetrachloride	1.02E-17	1.76E-19	1.03E-17
Chloroform	5.37E-17	7.02E-20	5.38E-17
1,4-Dichlorobenzene	2.34E-20	4.06E-22	2.38E-20
1,1-Dichloroethane	NE	NE	NE
1,2-Dichloroethane	1.25E-18	7.56E-18	8.81E-18
1,1-Dichloroethene	2.83E-17	2.46E-19	2.86E-17
1,2-Dichloropropane	5.94E-19	1.03E-20	6.04E-19
Dieldrin	2.18E-18	7.44E-17	7.66E-17
Hexachlorobenzene	5.77E-16	3.71E-16	9.48E-16
Hydrazine	7.97E-12	8.78E-10	8.86E-10
Lindane	8.24E-20	2.43E-19	3.26E-19
Methyl chloride	1.15E-19	4.13E-21	1.19E-19
Methylene chloride	1.55E-17	1.44E-19	1.56E-17
4-Methylphenol	NE	NE	NE
Monomethyl hydrazine	1.62E-13	6.99E-11	7.01E-11
n-Nitrosodimethylamine	7.62E-15	2.02E-12	2.03E-12
PAHs			
Benzo(a)pyrene	7.30E-15	3.68E-14	4.41E-14
Chrysene	7.30E-16	3.71E-15	4.44E-15
Dibenzo(a,h)anthracene	7.30E-15	3.73E-14	4.46E-14
Parathion	NE	NE	NE
Quinoline	1.62E-15	5.95E-15	7.56E-15
Tetrachloroethene	8.33E-21	2.23E-21	1.06E-20
Trichloroethene	2.96E-19	5.14E-21	3.01E-19
Vapona	3.40E-19	1.27E-18	1.61E-18
Vinyl chloride	4.55E-18	6.15E-19	5.16E-18
INORGANICS			
Arsenic	2.37E-13	NA	2.37E-13
Cadmium	5.58E-16	NA	5.58E-16
Chromium (VI)	5.85E-16	NA	5.85E-16
Total	8.40E-12	9.50E-10	9.59E-10

TABLE 32
TOTAL LIFETIME CARCINOGENIC RISK

RES-B BASE CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS									
Acrylonitrile	1.24E-14	3.39E-17	NA	NA	NA	NA	NA	NA	1.24E-14
Aldrin	3.19E-18	1.05E-17	1.14E-16	1.08E-18	1.34E-19	4.66E-19	5.13E-26	3.32E-19	1.30E-16
Aniline	3.88E-17	7.37E-17	6.98E-16	3.35E-21	1.08E-21	5.65E-18	1.43E-21	4.03E-18	8.20E-16
Benzene	1.13E-18	5.17E-22	NA	NA	NA	NA	NA	NA	1.13E-18
Bis(2-ethylhexyl)phthalate	1.17E-19	1.39E-18	3.17E-18	7.46E-19	7.33E-20	1.70E-20	4.89E-26	1.21E-20	5.53E-18
Carbazole	1.36E-18	1.56E-18	3.75E-18	1.21E-21	3.85E-22	1.98E-19	7.11E-23	1.41E-19	7.01E-18
Carbon Tetrachloride	2.57E-17	1.76E-19	NA	NA	NA	NA	NA	NA	2.58E-17
Chloroform	1.36E-16	7.02E-20	NA	NA	NA	NA	NA	NA	1.36E-16
1,4-Dichlorobenzene	5.91E-20	4.06E-22	NA	NA	NA	NA	NA	NA	5.95E-20
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	3.17E-18	7.56E-18	8.57E-17	4.80E-22	1.55E-22	4.62E-19	5.60E-24	3.29E-19	9.73E-17
1,1-Dichloroethene	7.16E-17	2.46E-19	NA	NA	NA	NA	NA	NA	7.18E-17
1,2-Dichloropropane	1.50E-18	1.03E-20	NA	NA	NA	NA	NA	NA	1.51E-18
Dieldrin	5.52E-18	7.44E-17	1.33E-15	1.81E-19	3.52E-20	8.05E-19	1.86E-23	5.74E-19	1.41E-15
Hexachlorobenzene	1.46E-15	3.71E-16	3.35E-15	1.54E-17	3.83E-18	2.13E-16	7.40E-19	1.52E-16	5.56E-15
Hydrazine	2.01E-11	8.78E-10	1.74E-08	6.49E-18	2.10E-18	5.15E-13	1.14E-19	3.67E-13	1.83E-08
Lindane	2.08E-19	2.43E-19	6.67E-19	1.88E-22	5.95E-23	3.04E-20	6.61E-26	2.17E-20	1.17E-18
Methyl chloride	2.92E-19	4.13E-21	NA	NA	NA	NA	NA	NA	2.96E-19
Methylene chloride	3.91E-17	1.44E-19	NA	NA	NA	NA	NA	NA	3.92E-17
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	4.09E-13	6.99E-11	1.40E-09	7.50E-19	2.42E-19	5.96E-14	1.32E-20	4.25E-14	1.47E-09
n-Nitrosodimethylamine	1.93E-14	2.02E-12	3.88E-11	3.61E-19	1.16E-19	2.81E-15	0.00E+00	2.00E-15	4.09E-11
PAHs									
Benzo(a)pyrene	1.85E-14	3.68E-14	4.61E-15	1.69E-15	2.99E-16	5.07E-15	1.73E-18	3.62E-15	7.05E-14
Chrysene	1.85E-15	3.71E-15	3.57E-15	5.88E-17	1.33E-17	5.07E-16	4.39E-18	3.62E-16	1.01E-14
Dibenzo(a,h)anthracene	1.85E-14	3.73E-14	8.10E-15	1.95E-15	3.35E-16	5.07E-15	9.83E-16	3.62E-15	7.58E-14
Parathion	NE	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	4.09E-15	5.95E-15	3.63E-14	1.06E-18	3.40E-19	5.96E-16	8.19E-20	4.25E-16	4.74E-14
Tetrachloroethene	2.10E-20	2.23E-21	NA	NA	NA	NA	NA	NA	2.33E-20
Trichloroethene	7.48E-19	5.14E-21	NA	NA	NA	NA	NA	NA	7.53E-19
Vapona	8.59E-19	1.27E-18	8.29E-18	1.20E-22	3.88E-23	1.25E-19	6.60E-26	8.93E-20	1.06E-17
Vinyl chloride	1.15E-17	6.15E-19	NA	NA	NA	NA	NA	NA	1.21E-17
INORGANICS									
Arsenic	5.99E-13	NA	1.97E-15	4.69E-15	5.07E-17	1.02E-14	8.20E-15	7.26E-15	6.31E-13
Cadmium	1.41E-15	NA	NA	NA	NA	NA	NA	NA	1.41E-15
Chromium (VI)	1.48E-15	NA	NA	NA	NA	NA	NA	NA	1.48E-15
Total	2.12E-11	9.50E-10	1.88E-08	8.41E-15	7.06E-16	5.99E-13	9.19E-15	4.27E-13	1.98E-08

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 33
TOTAL LIFETIME CARCINOGENIC RISK

RES-B BASE CASE	INHALATION CARC. RISK	INGESTION CARC. RISK	DERMAL CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS				
Acrylonitrile	1.24E-14	3.39E-17	NA	1.24E-14
Aldrin	3.19E-18	1.27E-16	3.32E-19	1.30E-16
Aniline	3.88E-17	7.77E-16	4.03E-18	8.20E-16
Benzene	1.13E-18	5.17E-22	NA	1.13E-18
Bis(2-ethylhexyl)phthalate	1.17E-19	5.40E-18	1.21E-20	5.53E-18
Carbazole	1.36E-18	5.51E-18	1.41E-19	7.01E-18
Carbon Tetrachloride	2.57E-17	1.76E-19	NA	2.58E-17
Chloroform	1.36E-16	7.02E-20	NA	1.36E-16
1,4-Dichlorobenzene	5.91E-20	4.06E-22	NA	5.95E-20
1,1-Dichloroethane	NE	NE	NE	NE
1,2-Dichloroethane	3.17E-18	9.38E-17	3.29E-19	9.73E-17
1,1-Dichloroethene	7.16E-17	2.46E-19	NA	7.18E-17
1,2-Dichloropropane	1.50E-18	1.03E-20	NA	1.51E-18
Dieldrin	5.52E-18	1.41E-15	5.74E-19	1.41E-15
Hexachlorobenzene	1.46E-15	3.95E-15	1.52E-16	5.56E-15
Hydrazine	2.01E-11	1.83E-08	3.67E-13	1.83E-08
Lindane	2.08E-19	9.41E-19	2.17E-20	1.17E-18
Methyl chloride	2.92E-19	4.13E-21	NA	2.96E-19
Methylene chloride	3.91E-17	1.44E-19	NA	3.92E-17
4-Methylphenol	NE	NE	NE	NE
Monomethyl hydrazine	4.09E-13	1.47E-09	4.25E-14	1.47E-09
n-Nitrosodimethylamine	1.93E-14	4.08E-11	2.00E-15	4.09E-11
PAHs				
Benzo(a)pyrene	1.85E-14	4.84E-14	3.62E-15	7.05E-14
Chrysene	1.85E-15	7.86E-15	3.62E-16	1.01E-14
Dibenzo(a,h)anthracene	1.85E-14	5.38E-14	3.62E-15	7.58E-14
Parathion	NE	NE	NE	NE
Quinoline	4.09E-15	4.29E-14	4.25E-16	4.74E-14
Tetrachloroethene	2.10E-20	2.23E-21	NA	2.33E-20
Trichloroethene	7.48E-19	5.14E-21	NA	7.53E-19
Vapona	8.59E-19	9.69E-18	8.93E-20	1.06E-17
Vinyl chloride	1.15E-17	6.15E-19	NA	1.21E-17
INORGANICS				
Arsenic	5.99E-13	2.51E-14	7.26E-15	6.31E-13
Cadmium	1.41E-15	NA	NA	1.41E-15
Chromium (VI)	1.48E-15	NA	NA	1.48E-15
Total	2.12E-11	1.98E-08	4.27E-13	1.98E-08

TABLE 34
REFERENCE DOSES FOR NONCARCINOGENIC EFFECTS (mg/kg-day)

RES-B BASE CASE	Inhalation RfD	Oral RfD	Dermal RfD
ORGANICS			
Acetone	1.82E+00	1.00E-01	NC
Acetonitrile	1.00E-02	6.00E-02	3.00E-02
Acrylonitrile	4.39E-03	2.70E-04	NC
Aldrin	2.55E-04	3.00E-05	1.50E-05
Aniline	7.76E-03	1.95E-03	9.75E-04
Atrazine	5.10E-03	5.00E-03	2.50E-03
Benzaldehyde	1.00E-01	1.00E-01	5.00E-02
Benzene	3.26E-02	1.00E-03	NC
Benzofuran	5.00E-03	5.00E-03	2.50E-03
Benzoic Acid	4.00E+00	4.00E+00	2.00E+00
Benzonitrile	8.00E-03	8.00E-03	4.00E-03
Benzothiazole	1.00E-03	1.00E-03	5.00E-04
Biphenyl	1.33E-03	5.00E-02	NC
Bis(2-ethylhexyl)phthalate	5.10E-03	4.00E-03	1.00E-02
Carbazole	5.00E-03	5.00E-03	2.50E-03
Carbon Tetrachloride	3.16E-02	7.00E-04	NC
4-Chloroaniline	4.00E-03	4.00E-03	2.00E-03
Chlorobenzene	5.00E-03	2.00E-02	NC
4-Chlorobiphenyl	2.45E-02	2.45E-02	1.22E-02
4,4-Chlorobiphenyl	2.33E-02	2.33E-02	1.16E-02
Chloroethane	2.65E+00	NA	NC
Chloroform	5.00E-02	1.00E-02	NC
Dibenzofuran	NA	NA	NA
Dichlorobenzenes (total)	4.00E-02	9.00E-02	NC
1,1-Dichloroethane	1.00E-01	1.00E-01	NC
1,2-Dichloroethane	4.08E-02	4.89E-03	2.45E-03
1,1-Dichloroethene	2.04E-02	9.00E-03	NC
1,2-Dichloroethene	8.10E-01	2.00E-02	NC
1,2-Dichloropropane	3.54E-01	8.60E-03	NC
Dieldrin	2.55E-04	5.00E-05	2.50E-05
Dimethyldisulfide	8.10E-03	8.10E-03	NC
Hexachlorobenzene	8.00E-04	8.00E-04	4.00E-04
Hydrazine	1.33E-04	6.00E-04	3.00E-04
Lindane	5.10E-04	3.00E-04	1.50E-04
Malathion	1.02E-02	2.00E-02	1.00E-02
Methyl chloride	1.05E-01	1.80E-02	NC
Methylene chloride	8.57E-01	6.00E-02	NC
Methyl ethyl ketone	9.00E-02	5.00E-01	2.50E-01
4-Methylphenol	1.02E-02	5.00E-02	2.50E-02
Monomethyl hydrazine	1.94E-05	2.20E-04	1.10E-04
Naphthalene	5.10E-02	4.00E-03	2.00E-03
Naphthalene carbonitrile	5.10E-02	4.00E-03	2.00E-03
n-Nitrosodimethylamine	2.80E-04	2.80E-04	1.40E-04
PAHs			
Acenaphthalene	6.00E-02	6.00E-02	3.00E-02
Acenaphthene	6.00E-02	6.00E-02	3.00E-02
Benzo(a)pyrene	3.00E-02	3.00E-02	1.50E-02
Chrysene	3.00E-02	3.00E-02	1.50E-02

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

B	C	D	E	F
		TABLE 34		
	Dibenzo(a,h)anthracene	3.00E-02	3.00E-02	1.50E-02
	Fluoranthene	4.00E-02	4.00E-02	2.00E-02
	Fluorene	4.00E-02	4.00E-02	2.00E-02
	Phenanthrene	3.00E-02	3.00E-02	1.50E-02
	Pyrene	3.00E-02	3.00E-02	1.50E-02
	Parathion	5.10E-05	6.00E-03	3.00E-03
	Pentachlorobenzene	8.00E-04	8.00E-04	4.00E-04
	Phenol	1.94E-02	6.00E-01	3.00E-01
	Pyridine	1.63E-02	1.00E-03	NC
	Quinoline	2.00E-01	2.00E-01	1.00E-01
	Tetrachlorobenzene	3.00E-04	3.00E-04	1.50E-04
	Tetrachloroethene	3.46E-01	1.00E-02	NC
	Toluene	5.71E-01	2.00E-01	NC
	Trichlorobenzene	3.00E-03	2.00E-02	1.00E-02
	Trichloroethene	2.74E-01	7.35E-03	NC
	Unsym. dimethyl hydrazine	1.22E-03	1.22E-03	6.10E-04
	Vapona	8.00E-04	8.00E-04	4.00E-04
	Vinyl acetate	2.00E-01	1.00E+00	NC
	Vinyl chloride	1.33E-02	1.30E-03	NC
	Xylenes (total)	8.57E-02	2.00E+00	NC
INORGANICS				
	Arsenic	2.04E-04	1.00E-03	5.00E-05
	Cadmium	5.10E-05	1.00E-03	5.00E-05
	Chromium (III)	5.10E-04	NC	NC
	Chromium (VI)	5.10E-05	NC	NC
	Copper	1.00E-02	3.80E-02	NC
	Iron	1.02E-03	NC	NC
	Mercury	8.57E-05	3.00E-04	1.50E-05
	Selenium	2.04E-04	NC	NC
	Silver	1.02E-05	NC	NC
	Zinc	8.19E-03	2.00E-01	NC

TABLE 35
ADULT HAZARD INDEX

RES-B
BASE CASE

	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL ADULT HAZARD INDEX
ORGANICS								
Acetone	1.38E-15	NA	NA	NA	NA	NA	NA	1.38E-15
Acetonitrile	2.27E-10	3.25E-10	4.04E-17	1.57E-17	1.91E-13	1.29E-19	1.41E-13	5.52E-10
Acrylonitrile	2.20E-10	NA	NA	NA	NA	NA	NA	2.20E-10
Aldrin	1.38E-14	2.25E-13	4.83E-14	5.48E-15	5.94E-16	9.36E-23	4.37E-16	2.94E-13
Aniline	1.64E-11	6.17E-11	2.38E-16	9.12E-17	3.31E-13	1.20E-16	2.43E-13	7.87E-11
Atrazine	1.54E-13	4.05E-14	4.33E-18	1.35E-18	7.97E-16	0.00E+00	5.86E-16	1.96E-13
Benzaldehyde	5.81E-13	2.74E-13	3.87E-18	1.44E-18	2.94E-15	2.51E-19	2.16E-15	8.60E-13
Benzene	2.24E-14	NA	NA	NA	NA	NA	NA	2.24E-14
Benzofuran	5.65E-11	1.46E-11	1.53E-15	4.80E-16	2.86E-13	1.11E-16	2.10E-13	7.16E-11
Benzoic Acid	7.11E-15	2.22E-15	7.25E-20	2.60E-20	3.60E-17	5.49E-21	2.65E-17	9.39E-15
Benzonitrile	7.76E-11	3.35E-11	5.63E-16	2.08E-16	3.93E-13	3.73E-17	2.89E-13	1.12E-10
Benzothiazole	2.64E-13	7.23E-14	3.16E-18	1.12E-18	1.34E-15	2.51E-21	9.85E-16	3.39E-13
Biphenyl	2.14E-10	NA	NA	NA	NA	NA	NA	2.14E-10
Bis(2-ethylhexyl)phthalate	3.06E-14	5.71E-14	3.42E-13	3.84E-14	1.98E-16	8.13E-22	2.91E-17	4.69E-13
Carbazole	2.55E-13	4.27E-14	1.72E-17	4.46E-18	1.29E-15	6.61E-19	9.49E-16	3.00E-13
Carbon Tetrachloride	1.17E-13	NA	NA	NA	NA	NA	NA	1.17E-13
4-Chloroaniline	1.82E-14	5.44E-15	1.78E-19	6.41E-20	9.23E-17	2.36E-19	6.79E-17	2.38E-14
Chlorobenzene	3.51E-14	NA	NA	NA	NA	NA	NA	3.51E-14
4-Chlorobiphenyl	7.34E-15	6.12E-16	1.07E-17	1.55E-18	3.71E-17	1.39E-20	2.74E-17	8.03E-15
4,4-Chlorobiphenyl	3.88E-16	2.65E-17	2.54E-18	3.20E-19	1.97E-18	2.45E-22	1.45E-18	4.21E-16
Chloroethane	2.43E-15	NE	NE	NE	NE	NE	NE	2.43E-15
Chloroform	6.28E-13	NA	NA	NA	NA	NA	NA	6.28E-13
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	1.82E-14	NA	NA	NA	NA	NA	NA	1.82E-14
1,1-Dichloroethane	2.09E-14	NA	NA	NA	NA	NA	NA	2.09E-14
1,2-Dichloroethane	1.60E-14	1.92E-13	8.88E-19	3.30E-19	6.75E-16	1.17E-20	4.97E-16	2.10E-13
1,1-Dichloroethene	5.48E-14	NA	NA	NA	NA	NA	NA	5.48E-14
1,2-Dichloroethene	1.19E-15	NA	NA	NA	NA	NA	NA	1.19E-15
1,2-Dichloropropane	1.17E-15	NA	NA	NA	NA	NA	NA	1.17E-15
Dieldrin	2.53E-14	1.65E-12	3.42E-15	4.05E-16	6.54E-16	2.16E-20	4.81E-16	1.68E-12
Dimethyldisulfide	2.19E-13	NA	NA	NA	NA	NA	NA	2.19E-13
Hexachlorobenzene	2.14E-11	3.08E-12	1.09E-13	1.40E-14	1.08E-13	5.38E-16	7.95E-14	2.47E-11
Hydrazine	1.66E-07	9.35E-06	2.76E-15	1.08E-15	1.86E-10	5.87E-17	1.37E-10	9.51E-06
Lindane	5.89E-15	1.91E-15	6.85E-19	1.77E-19	5.07E-17	1.58E-22	3.73E-17	7.89E-15
Malathion	8.70E-16	5.16E-17	1.63E-20	4.82E-21	2.24E-18	0.00E+00	1.65E-18	9.25E-16
Methyl chloride	8.26E-15	NA	NA	NA	NA	NA	NA	8.26E-15
Methylene chloride	6.10E-14	NA	NA	NA	NA	NA	NA	6.10E-14
Methyl ethyl ketone	1.22E-14	9.08E-15	4.22E-21	1.64E-21	1.11E-17	0.00E+00	8.16E-18	2.13E-14
4-Methylphenol	9.75E-14	1.29E-14	2.20E-19	7.82E-20	1.01E-16	5.43E-22	7.40E-17	1.11E-13
Monomethyl hydrazine	3.59E-07	5.52E-06	2.37E-15	9.30E-16	1.60E-10	5.07E-17	1.18E-10	5.88E-06
Naphthalene	2.30E-15	6.53E-15	2.18E-18	5.53E-19	1.48E-16	3.71E-17	1.09E-16	9.13E-15
Naphthalene carbonitrile	1.22E-11	3.46E-11	1.15E-14	2.92E-15	7.85E-13	8.55E-16	5.78E-13	4.81E-11
n-Nitrosodimethylamine	2.53E-11	2.69E-09	1.94E-17	7.58E-18	1.28E-13	0.00E+00	9.41E-14	2.72E-09
PAHs								
Acenaphthalene	4.71E-13	1.12E-13	1.26E-16	2.40E-17	2.38E-15	1.75E-18	1.75E-15	5.87E-13
Acenaphthene	4.71E-13	5.73E-14	9.46E-17	1.92E-17	2.38E-15	6.78E-19	1.75E-15	5.32E-13
Benzo(a)pyrene	1.89E-12	5.59E-14	8.25E-14	9.63E-15	9.56E-15	4.67E-18	7.03E-15	2.05E-12
Chrysene	1.89E-13	1.45E-14	1.98E-15	2.43E-16	9.56E-16	1.18E-17	7.03E-16	2.07E-13

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

	B	C	H	I	J	K	L	M	N	O
155										
156			TABLE 35							
215		Dibenzo(a,h)anthracene	1.89E-12	6.60E-14	9.90E-14	1.15E-14	9.56E-15	2.65E-15	7.03E-15	2.08E-12
216		Fluoranthene	1.42E-12	1.79E-13	4.16E-15	5.58E-16	7.17E-15	NA	5.28E-15	1.61E-12
217		Fluorene	1.42E-13	2.12E-14	6.99E-17	1.19E-17	7.17E-16	7.30E-19	5.28E-16	1.64E-13
218		Phenanthrene	7.36E-16	8.52E-17	5.36E-19	8.53E-20	3.72E-18	3.35E-18	2.74E-18	8.31E-16
219		Pyrene	3.78E-12	4.52E-13	1.02E-14	1.37E-15	1.91E-14	5.35E-17	1.41E-14	4.28E-12
220		Parathion	2.75E-13	2.98E-16	3.84E-19	8.15E-20	1.18E-17	5.29E-23	8.71E-18	2.76E-13
221		Pentachlorobenzene	8.70E-12	2.23E-12	1.88E-14	2.60E-15	4.40E-14	NA	3.24E-14	1.10E-11
222		Phenol	5.74E-15	2.67E-16	1.21E-21	4.50E-22	9.39E-19	NA	6.91E-19	6.01E-15
223		Pyridine	3.81E-11	NA	NA	NA	NA	NA	NA	3.81E-11
224		Quinoline	3.19E-14	1.55E-14	3.91E-19	1.38E-19	1.62E-16	3.17E-20	1.19E-16	4.77E-14
225		Tetrachlorobenzene	1.14E-11	6.45E-12	5.51E-15	9.40E-16	5.77E-14	NA	4.25E-14	1.80E-11
226		Tetrachloroethene	3.45E-16	NA	NA	NA	NA	NA	NA	3.45E-16
227		Toluene	3.34E-15	NA	NA	NA	NA	NA	NA	3.34E-15
228		Trichlorobenzene	5.77E-13	7.18E-15	1.95E-17	3.86E-18	4.38E-16	4.80E-19	3.22E-16	5.85E-13
229		Trichloroethene	4.65E-15	NA	NA	NA	NA	NA	NA	4.65E-15
230		Unsym. dimethyl hydrazine	2.25E-08	2.56E-06	3.19E-15	1.25E-15	1.14E-10	3.60E-17	8.38E-11	2.58E-06
231		Vapona	6.94E-14	3.59E-14	4.24E-19	1.58E-19	3.51E-16	2.64E-22	2.58E-16	1.06E-13
232		Vinyl acetate	3.94E-15	NA	NA	NA	NA	NA	NA	3.94E-15
233		Vinyl chloride	5.49E-14	NA	NA	NA	NA	NA	NA	5.49E-14
234		Xylenes (total)	1.59E-15	NA	NA	NA	NA	NA	NA	1.59E-15
235										
236	INORGANICS									
237		Arsenic	3.67E-09	1.80E-11	1.08E-11	1.33E-13	3.78E-12	4.36E-12	2.78E-12	3.71E-09
238		Cadmium	8.50E-11	1.72E-13	1.27E-14	3.54E-16	2.19E-14	NA	1.61E-14	8.52E-11
239		Chromium (III)	3.77E-11	NA	NA	NA	NA	NA	NA	3.77E-11
240		Chromium (VI)	1.33E-11	NA	NA	NA	NA	NA	NA	1.33E-11
241		Copper	2.84E-12	NA	NA	NA	NA	1.39E-14	NA	2.86E-12
242		Iron	6.77E-07	NA	NA	NA	NA	NA	NA	6.77E-07
243		Mercury	3.27E-10	4.35E-12	1.18E-13	4.35E-12	4.73E-13	NA	3.48E-13	3.37E-10
244		Selenium	4.16E-10	NA	NA	NA	NA	NA	NA	4.16E-10
245		Silver	3.80E-11	NA	NA	NA	NA	NA	NA	3.80E-11
246		Zinc	2.72E-11	NA	NA	NA	NA	1.01E-14	NA	2.72E-11
247										
248		Total (Hazard Index)	1.23E-06	1.74E-05	1.17E-11	4.58E-12	4.67E-10	4.38E-12	3.43E-10	1.87E-05

TABLE 36
CHILD HAZARD INDEX

RES-B BASE CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL CHILD HAZARD INDEX
ORGANICS								
Acetone	3.11E-15	NA	NA	NA	NA	NA	NA	3.11E-15
Acetonitrile	5.12E-10	5.81E-10	2.33E-16	3.93E-17	1.73E-12	2.92E-19	1.18E-12	1.10E-09
Acrylonitrile	4.96E-10	NA	NA	NA	NA	NA	NA	4.96E-10
Aldrin	3.12E-14	3.39E-13	2.79E-13	1.37E-14	5.36E-15	2.11E-22	3.65E-15	6.72E-13
Aniline	3.71E-11	1.24E-10	1.38E-15	2.27E-16	2.99E-12	2.70E-16	2.04E-12	1.66E-10
Atrazine	3.49E-13	6.88E-14	2.50E-17	3.38E-18	7.20E-15	0.00E+00	4.90E-15	4.30E-13
Benzaldehyde	1.31E-12	5.42E-13	2.23E-17	3.58E-18	2.65E-14	5.67E-19	1.81E-14	1.90E-12
Benzene	5.06E-14	NA	NA	NA	NA	NA	NA	5.06E-14
Benzofuran	1.28E-10	2.49E-11	8.85E-15	1.20E-15	2.58E-12	2.50E-16	1.76E-12	1.57E-10
Benzoic Acid	1.61E-14	4.30E-15	4.19E-19	6.49E-20	3.25E-16	1.24E-20	2.21E-16	2.09E-14
Benzonitrile	1.75E-10	6.60E-11	3.25E-15	5.18E-16	3.55E-12	8.43E-17	2.42E-12	2.47E-10
Benzothiazole	5.97E-13	1.39E-13	1.83E-17	2.79E-18	1.21E-14	5.67E-21	8.24E-15	7.56E-13
Biphenyl	4.83E-10	NA	NA	NA	NA	NA	NA	4.83E-10
Bis(2-ethylhexyl)phthalate	6.91E-14	8.59E-14	1.98E-12	9.59E-14	1.78E-15	1.83E-21	2.43E-16	2.23E-12
Carbazole	5.76E-13	7.10E-14	9.91E-17	1.11E-17	1.17E-14	1.49E-18	7.94E-15	6.66E-13
Carbon Tetrachloride	2.64E-13	NA	NA	NA	NA	NA	NA	2.64E-13
4-Chloroaniline	4.12E-14	1.08E-14	1.03E-18	1.60E-19	8.34E-16	5.34E-19	5.68E-16	5.34E-14
Chlorobenzene	7.92E-14	NA	NA	NA	NA	NA	NA	7.92E-14
4-Chlorobiphenyl	1.66E-14	9.94E-16	6.21E-17	3.87E-18	3.35E-16	3.13E-20	2.29E-16	1.82E-14
4,4-Chlorobiphenyl	8.77E-16	4.32E-17	1.46E-17	7.97E-19	1.78E-17	5.53E-22	1.21E-17	9.65E-16
Chloroethane	5.49E-15	NE	NE	NE	NE	NE	NE	5.49E-15
Chloroform	1.42E-12	NA	NA	NA	NA	NA	NA	1.42E-12
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	4.12E-14	NA	NA	NA	NA	NA	NA	4.12E-14
1,1-Dichloroethane	4.71E-14	NA	NA	NA	NA	NA	NA	4.71E-14
1,2-Dichloroethane	3.61E-14	3.18E-13	5.13E-18	8.23E-19	6.10E-15	2.64E-20	4.15E-15	3.65E-13
1,1-Dichloroethene	1.24E-13	NA	NA	NA	NA	NA	NA	1.24E-13
1,2-Dichloroethene	2.69E-15	NA	NA	NA	NA	NA	NA	2.69E-15
1,2-Dichloropropane	2.64E-15	NA	NA	NA	NA	NA	NA	2.64E-15
Dieldrin	5.72E-14	2.48E-12	1.98E-14	1.01E-15	5.91E-15	4.87E-20	4.03E-15	2.57E-12
Dimethyldisulfide	4.95E-13	NA	NA	NA	NA	NA	NA	4.95E-13
Hexachlorobenzene	4.82E-11	4.81E-12	6.30E-13	3.48E-14	9.76E-13	1.21E-15	6.65E-13	5.53E-11
Hydrazine	3.75E-07	1.75E-05	1.59E-14	2.70E-15	1.68E-09	1.33E-16	1.15E-09	1.79E-05
Lindane	1.33E-14	3.14E-15	3.95E-18	4.42E-19	4.58E-16	3.56E-22	3.12E-16	1.72E-14
Malathion	1.96E-15	9.55E-17	9.42E-20	1.20E-20	2.03E-17	0.00E+00	1.38E-17	2.09E-15
Methyl chloride	1.86E-14	NA	NA	NA	NA	NA	NA	1.86E-14
Methylene chloride	1.38E-13	NA	NA	NA	NA	NA	NA	1.38E-13
Methyl ethyl ketone	2.75E-14	1.60E-14	2.44E-20	4.08E-21	1.00E-16	0.00E+00	6.82E-17	4.37E-14
4-Methylphenol	2.20E-13	2.18E-14	1.27E-18	1.95E-19	9.09E-16	1.23E-21	6.19E-16	2.43E-13
Monomethyl hydrazine	8.10E-07	1.13E-05	1.37E-14	2.32E-15	1.45E-09	1.14E-16	9.85E-10	1.21E-05
Naphthalene	5.19E-15	1.06E-14	1.26E-17	1.38E-18	1.34E-15	8.38E-17	9.13E-16	1.81E-14
Naphthalene carbonitrile	2.75E-11	5.58E-11	6.64E-14	7.29E-15	7.09E-12	1.93E-15	4.83E-12	9.53E-11
n-Nitrosodimethylamine	5.71E-11	4.13E-09	1.12E-16	1.89E-17	1.16E-12	0.00E+00	7.87E-13	4.19E-09
PAHs								
Acenaphthalene	1.06E-12	1.74E-13	7.26E-16	6.00E-17	2.15E-14	3.95E-18	1.47E-14	1.27E-12
Acenaphthene	1.06E-12	9.37E-14	5.46E-16	4.79E-17	2.15E-14	1.53E-18	1.47E-14	1.19E-12
Benzo(a)pyrene	4.27E-12	1.00E-13	4.76E-13	2.40E-14	8.64E-14	1.06E-17	5.88E-14	5.01E-12
Chrysene	4.27E-13	2.35E-14	1.14E-14	6.05E-16	8.64E-15	2.67E-17	5.88E-15	4.77E-13

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

155	B	C	Q	R	S	T	U	V	W	X
156			TABLE 36							
215		Dibenzo(a,h)anthracene	4.27E-12	1.15E-13	5.72E-13	2.87E-14	8.64E-14	5.98E-15	5.88E-14	5.13E-12
216		Fluoranthene	3.20E-12	2.82E-13	2.40E-14	1.39E-15	6.48E-14	NA	4.41E-14	3.62E-12
217		Fluorene	3.20E-13	3.36E-14	4.04E-16	2.96E-17	6.48E-15	1.65E-18	4.41E-15	3.65E-13
218		Phenanthrene	1.66E-15	1.36E-16	3.10E-18	2.13E-19	3.36E-17	7.57E-18	2.29E-17	1.87E-15
219		Pyrene	8.53E-12	7.14E-13	5.87E-14	3.42E-15	1.73E-13	1.21E-16	1.18E-13	9.60E-12
220		Parathion	6.22E-13	4.88E-16	2.22E-18	2.03E-19	1.07E-16	1.19E-22	7.29E-17	6.22E-13
221		Pentachlorobenzene	1.96E-11	3.42E-12	1.09E-13	6.48E-15	3.98E-13	NA	2.71E-13	2.39E-11
222		Phenol	1.30E-14	4.43E-16	6.99E-21	1.12E-21	8.49E-18	NA	5.78E-18	1.34E-14
223		Pyridine	8.59E-11	NA	NA	NA	NA	NA	NA	8.59E-11
224		Quinoline	7.21E-14	2.68E-14	2.26E-18	3.43E-19	1.46E-15	7.16E-20	9.94E-16	1.01E-13
225		Tetrachlorobenzene	2.57E-11	9.81E-12	3.18E-14	2.34E-15	5.21E-13	NA	3.55E-13	3.65E-11
226		Tetrachloroethene	7.80E-16	NA	NA	NA	NA	NA	NA	7.80E-16
227		Toluene	7.53E-15	NA	NA	NA	NA	NA	NA	7.53E-15
228		Trichlorobenzene	1.30E-12	1.21E-14	1.13E-16	9.63E-18	3.96E-15	1.08E-18	2.70E-15	1.32E-12
229		Trichloroethene	1.05E-14	NA	NA	NA	NA	NA	NA	1.05E-14
230		Unsym. dimethyl hydrazine	5.08E-08	4.73E-06	1.84E-14	3.12E-15	1.03E-09	8.13E-17	7.00E-10	4.78E-06
231		Vapona	1.57E-13	7.10E-14	2.45E-18	3.95E-19	3.17E-15	5.97E-22	2.16E-15	2.33E-13
232		Vinyl acetate	8.89E-15	NA	NA	NA	NA	NA	NA	8.89E-15
233		Vinyl chloride	1.24E-13	NA	NA	NA	NA	NA	NA	1.24E-13
234		Xylenes (total)	3.58E-15	NA	NA	NA	NA	NA	NA	3.58E-15
235										
236	INORGANICS									
237		Arsenic	8.28E-09	3.31E-11	6.24E-11	3.31E-13	3.42E-11	9.84E-12	2.33E-11	8.44E-09
238		Cadmium	1.92E-10	3.04E-13	7.33E-14	8.82E-16	1.98E-13	NA	1.35E-13	1.93E-10
239		Chromium (III)	8.51E-11	NA	NA	NA	NA	NA	NA	8.51E-11
240		Chromium (VI)	2.99E-11	NA	NA	NA	NA	NA	NA	2.99E-11
241		Copper	6.42E-12	NA	NA	NA	NA	3.14E-14	NA	6.45E-12
242		Iron	1.53E-06	NA	NA	NA	NA	NA	NA	1.53E-06
243		Mercury	7.39E-10	7.46E-12	6.82E-13	1.09E-11	4.27E-12	NA	2.91E-12	7.65E-10
244		Selenium	9.40E-10	NA	NA	NA	NA	NA	NA	9.40E-10
245		Silver	8.58E-11	NA	NA	NA	NA	NA	NA	8.58E-11
246		Zinc	6.14E-11	NA	NA	NA	NA	2.29E-14	NA	6.14E-11
247										
248		Total (Hazard Index)	2.78E-06	3.36E-05	6.74E-11	1.14E-11	4.22E-09	9.90E-12	2.87E-09	3.63E-05

TABLE 37
INFANT HAZARD INDEX

RES-B
BASE CASE

	INHALATION HAZARD QUOTIENT	BREAST MILK INGESTION HAZARD QUOTIENT	TOTAL INFANT HAZARD INDEX
ORGANICS			
Acetone	2.03E-15	6.43E-16	2.68E-15
Acetonitrile	3.35E-10	1.32E-09	1.66E-09
Acrylonitrile	3.25E-10	1.63E-11	3.41E-10
Aldrin	2.04E-14	1.45E-12	1.47E-12
Aniline	2.43E-11	4.64E-10	4.88E-10
Atrazine	2.28E-13	7.25E-13	9.53E-13
Benzaldehyde	8.58E-13	3.13E-12	3.98E-12
Benzene	3.31E-14	1.25E-15	3.43E-14
Benzofuran	8.35E-11	2.60E-10	3.44E-10
Benzoic Acid	1.05E-14	3.41E-14	4.46E-14
Benzonitrile	1.15E-10	4.06E-10	5.21E-10
Benzothiazole	3.91E-13	1.23E-12	1.62E-12
Biphenyl	3.16E-10	1.46E-13	3.16E-10
Bis(2-ethylhexyl)phthalate	4.52E-14	1.74E-12	1.78E-12
Carbazole	3.77E-13	1.09E-12	1.47E-12
Carbon Tetrachloride	1.73E-13	1.36E-13	3.09E-13
4-Chloroaniline	2.70E-14	8.67E-14	1.14E-13
Chlorobenzene	5.18E-14	2.25E-16	5.21E-14
4-Chlorobiphenyl	1.08E-14	2.92E-14	4.00E-14
4,4-Chlorobiphenyl	5.74E-16	1.53E-15	2.10E-15
Chloroethane	3.59E-15	NE	3.59E-15
Chloroform	9.29E-13	8.06E-14	1.01E-12
Dibenzofuran	NE	NE	NE
Dichlorobenzenes (total)	2.70E-14	2.08E-16	2.72E-14
1,1-Dichloroethane	3.09E-14	5.36E-16	3.14E-14
1,2-Dichloroethane	2.36E-14	1.19E-12	1.21E-12
1,1-Dichloroethene	8.10E-14	3.19E-15	8.41E-14
1,2-Dichloroethene	1.76E-15	1.24E-15	3.00E-15
1,2-Dichloropropane	1.73E-15	1.23E-15	2.96E-15
Dieldrin	3.75E-14	6.51E-12	6.55E-12
Dimethyldisulfide	3.24E-13	5.62E-15	3.30E-13
Hexachlorobenzene	3.16E-11	2.03E-11	5.18E-11
Hydrazine	2.45E-07	3.42E-05	3.44E-05
Lindane	8.70E-15	4.36E-14	5.23E-14
Malathion	1.28E-15	1.81E-15	3.10E-15
Methyl chloride	1.22E-14	1.24E-15	1.34E-14
Methylene chloride	9.02E-14	2.24E-14	1.13E-13
Methyl ethyl ketone	1.80E-14	4.11E-14	5.91E-14
4-Methylphenol	1.44E-13	1.20E-13	2.64E-13
Monomethyl hydrazine	5.30E-07	2.02E-05	2.07E-05
Naphthalene	3.40E-15	1.31E-13	1.35E-13
Naphthalene carbonitrile	1.80E-11	6.94E-10	7.12E-10
n-Nitrosodimethylamine	3.74E-11	9.90E-09	9.94E-09
PAHs			
Acenaphthalene	6.95E-13	2.13E-12	2.83E-12
Acenaphthene	6.95E-13	1.93E-12	2.63E-12
Benzo(a)pyrene	2.79E-12	7.46E-12	1.03E-11
Chrysene	2.79E-13	7.53E-13	1.03E-12

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

	B	C	Z	AA	AB
156		TABLE 37			
215		Dibenzo(a,h)anthracene	2.79E-12	7.57E-12	1.04E-11
216		Fluoranthene	2.09E-12	5.86E-12	7.96E-12
217		Fluorene	2.09E-13	5.97E-13	8.06E-13
218		Phenanthrene	1.09E-15	3.02E-15	4.11E-15
219		Pyrene	5.58E-12	1.55E-11	2.11E-11
220		Parathion	4.07E-13	9.66E-15	4.16E-13
221		Pentachlorobenzene	1.29E-11	9.04E-12	2.19E-11
222		Phenol	8.48E-15	1.65E-15	1.01E-14
223		Pyridine	5.62E-11	1.59E-11	7.22E-11
224		Quinoline	4.72E-14	1.73E-13	2.21E-13
225		Tetrachlorobenzene	1.68E-11	1.47E-11	3.16E-11
226		Tetrachloroethene	5.10E-16	3.07E-16	8.17E-16
227		Toluene	4.93E-15	4.07E-17	4.97E-15
228		Trichlorobenzene	8.53E-13	7.75E-14	9.31E-13
229		Trichloroethene	6.87E-15	4.45E-15	1.13E-14
230		Unsym. dimethyl hydrazine	3.32E-08	9.40E-06	9.43E-06
231		Vapona	1.02E-13	3.85E-13	4.87E-13
232		Vinyl acetate	5.82E-15	2.02E-17	5.84E-15
233		Vinyl chloride	8.11E-14	1.44E-14	9.55E-14
234		Xylenes (total)	2.35E-15	5.82E-20	2.35E-15
235					
236	INORGANICS				
237		Arsenic	5.42E-09	NE	5.42E-09
238		Cadmium	1.26E-10	NE	1.26E-10
239		Chromium (III)	5.57E-11	NE	5.57E-11
240		Chromium (VI)	1.96E-11	NE	1.96E-11
241		Copper	4.20E-12	NE	4.20E-12
242		Iron	1.00E-06	NE	1.00E-06
243		Mercury	4.83E-10	NE	4.83E-10
244		Selenium	6.15E-10	NE	6.15E-10
245		Silver	5.62E-11	NE	5.62E-11
246		Zinc	4.02E-11	NE	4.02E-11
247					
248		Total (Hazard Index)	1.82E-06	6.38E-05	6.56E-05

A	B	C	D
253		TABLE 38	
254		CARCINOGENIC RISK	
255		CONTRIBUTION BY PATHWAY	
256			
257		RES-B	
258		BASE CASE	
259			
260		Adult	
261		Inhalation	NA
262			
263		Ingestion	82.8742
264		Vegetables	82.8724
265		Milk	0.0000
266		Beef	0.0000
267		Soil\Dust	0.0018
268		Fish	0.0000
269			
270		Dermal	0.0013
271			
272		Child	
273		Inhalation	0.0648
274			
275		Ingestion	12.2150
276		Vegetables	12.2137
277		Milk	0.0000
278		Beef	0.0000
279		Soil\Dust	0.0013
280		Fish	0.0000
281			
282		Dermal	0.0009
283			
284		Infant	
285		Inhalation	0.0424
286			
287		Breast Milk Ingestion	4.8013
288			
290		Total	100.0000

TABLE 39
ADULT INHALATION CARCINOGENIC RISK
(These numbers are for sensitivity analysis)

RES-B
BASE CASE

	INHALATION ADULT CARC. RISK
ORGANICS	
Acrylonitrile	6.61E-15
Aldrin	1.71E-18
Aniline	2.08E-17
Benzene	6.05E-19
Bis(2-ethylhexyl)phthalate	6.24E-20
Carbazole	7.28E-19
Carbon Tetrachloride	1.37E-17
Chloroform	7.27E-17
1,4-Dichlorobenzene	3.16E-20
1,1-Dichloroethane	NE
1,2-Dichloroethane	1.70E-18
1,1-Dichloroethene	3.83E-17
1,2-Dichloropropane	8.04E-19
Dieldrin	2.95E-18
Hexachlorobenzene	7.81E-16
Hydrazine	1.08E-11
Lindane	1.12E-19
Methyl chloride	1.56E-19
Methylene chloride	2.09E-17
4-Methylphenol	NE
Monomethyl hydrazine	2.19E-13
n-Nitrosodimethylamine	1.03E-14
PAHs	
Benzo(a)pyrene	9.88E-15
Chrysene	9.88E-16
Dibenzo(a,h)anthracene	9.88E-15
Parathion	NE
Quinoline	2.19E-15
Tetrachloroethene	1.13E-20
Trichloroethene	4.01E-19
Vapona	4.60E-19
Vinyl chloride	6.15E-18
INORGANICS	
Arsenic	3.20E-13
Cadmium	7.56E-16
Chromium (VI)	7.92E-16
Total	1.14E-11

INHALATION EXPOSURE DURATION 2 YEARS

9.2.2 Sensitivity Case Emissions — Resident B

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
3										
4		SENSITIVITY CASE	ER	AC	D	D	CO	CO	CO	CO
5							AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6				AVG. ANN.	TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	EMISSION	AMBIENT	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:36:28	RATE	CONC.	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		RES-B	g/sec	ug/M3	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10							mg/Kg	mg/Kg	mg/Kg	mg/Kg
11										
12	ORGANICS									
13		Acetone	1.26E-10	8.77E-12	NA	NA	NA	NA	NA	NA
14		Acetonitrile	1.14E-07	7.93E-09	5.72E-10	2.91E-11	3.96E-09	4.02E-09	7.92E-09	8.03E-09
15		Acrylonitrile	4.85E-08	3.38E-09	NA	NA	NA	NA	NA	NA
16		Aldrin	1.77E-13	1.23E-14	8.89E-16	4.51E-17	6.15E-15	6.24E-15	1.23E-14	1.25E-14
17		Aniline	6.41E-09	4.46E-10	3.22E-11	1.63E-12	2.23E-10	2.26E-10	4.45E-10	4.52E-10
18		Atrazine	3.96E-11	2.76E-12	1.99E-13	1.01E-14	1.38E-12	1.40E-12	2.75E-12	2.79E-12
19		Benzaldehyde	2.92E-09	2.03E-10	1.47E-11	7.45E-13	1.01E-10	1.03E-10	2.03E-10	2.06E-10
20		Benzene	3.67E-11	2.55E-12	NA	NA	NA	NA	NA	NA
21		Benzofuran	1.42E-08	9.88E-10	7.13E-11	3.62E-12	4.93E-10	5.00E-10	9.86E-10	1.00E-09
22		Benzoic Acid	1.43E-09	9.95E-11	7.18E-12	3.65E-13	4.97E-11	5.04E-11	9.93E-11	1.01E-10
23		Benzonitrile	3.12E-08	2.17E-09	1.57E-10	7.96E-12	1.08E-09	1.10E-09	2.17E-09	2.20E-09
24		Benzothiazole	1.33E-11	9.26E-13	6.68E-14	3.39E-15	4.62E-13	4.69E-13	9.24E-13	9.37E-13
25		Biphenyl	1.43E-08	9.95E-10	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	7.85E-12	5.46E-13	3.94E-14	2.00E-15	2.73E-13	2.77E-13	5.45E-13	5.53E-13
27		Carbazole	6.41E-11	4.46E-12	3.22E-13	1.63E-14	2.23E-12	2.26E-12	4.45E-12	4.52E-12
28		Carbon Tetrachloride	1.86E-10	1.29E-11	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	3.67E-12	2.55E-13	1.84E-14	9.36E-16	1.27E-13	1.29E-13	2.55E-13	2.59E-13
30		Chlorobenzene	8.82E-12	6.14E-13	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	9.04E-12	6.29E-13	4.54E-14	2.31E-15	3.14E-13	3.18E-13	6.28E-13	6.37E-13
32		4,4-Chlorobiphenyl	4.55E-13	3.17E-14	2.28E-15	1.16E-16	1.58E-14	1.60E-14	3.16E-14	3.21E-14
33		Chloroethane	3.24E-10	2.26E-11	1.63E-12	8.26E-14	1.13E-11	1.14E-11	2.25E-11	2.28E-11
34		Chloroform	1.58E-09	1.10E-10	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	2.85E-10	1.98E-11	1.43E-12	7.27E-14	9.90E-12	1.00E-11	1.98E-11	2.01E-11
36		Dichlorobenzenes (total)	3.67E-11	2.55E-12	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	2.32E-12	1.61E-13	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	1.05E-10	7.31E-12	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	3.28E-11	2.28E-12	1.65E-13	8.36E-15	1.14E-12	1.16E-12	2.28E-12	2.31E-12
40		1,1-Dichloroethene	5.62E-11	3.91E-12	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	4.86E-11	3.38E-12	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	2.08E-11	1.45E-12	NA	NA	NA	NA	NA	NA
43		Dieldrin	3.25E-13	2.26E-14	1.63E-15	8.29E-17	1.13E-14	1.14E-14	2.26E-14	2.29E-14
44		Dimethyldisulfide	8.93E-11	6.22E-12	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	8.59E-10	5.98E-11	4.31E-12	2.19E-13	2.98E-11	3.03E-11	5.97E-11	6.05E-11
46		Hydrazine	1.11E-06	7.73E-08	5.57E-09	2.83E-10	3.85E-08	3.91E-08	7.71E-08	7.82E-08
47		Lindane	1.51E-13	1.05E-14	7.58E-16	3.85E-17	5.24E-15	5.32E-15	1.05E-14	1.06E-14
48		Malathion	4.46E-13	3.10E-14	2.24E-15	1.14E-16	1.55E-14	1.57E-14	3.10E-14	3.14E-14
49		Methyl chloride	4.36E-11	3.03E-12	NA	NA	NA	NA	NA	NA
50		Methylene chloride	2.63E-09	1.83E-10	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	5.51E-11	3.83E-12	2.77E-13	1.41E-14	1.91E-12	1.94E-12	3.83E-12	3.88E-12
52		4-Methylphenol	5.00E-11	3.48E-12	2.51E-13	1.28E-14	1.74E-12	1.76E-12	3.47E-12	3.52E-12
53		Monomethyl hydrazine	3.50E-07	2.44E-08	1.76E-09	8.93E-11	1.22E-08	1.23E-08	2.43E-08	2.47E-08
54		Naphthalene	5.90E-12	4.11E-13	2.96E-14	1.50E-15	2.05E-13	2.08E-13	4.10E-13	4.16E-13
55		Naphthalene carbonitrile	3.12E-08	2.17E-09	1.57E-10	7.96E-12	1.08E-09	1.10E-09	2.17E-09	2.20E-09
56		n-Nitrosodimethylamine	3.56E-10	2.48E-11	1.79E-12	9.08E-14	1.24E-11	1.25E-11	2.47E-11	2.51E-11
57		PAHs								
58		Acenaphthalene	1.42E-09	9.88E-11	7.13E-12	3.62E-13	4.93E-11	5.00E-11	9.86E-11	1.00E-10
59		Acenaphthene	1.42E-09	9.88E-11	7.13E-12	3.62E-13	4.93E-11	5.00E-11	9.86E-11	1.00E-10
60		Benzo(a)pyrene	2.85E-09	1.98E-10	1.43E-11	7.27E-13	9.90E-11	1.00E-10	1.98E-10	2.01E-10

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
61		Chrysene	2.85E-10	1.98E-11	1.43E-12	7.27E-14	9.90E-12	1.00E-11	1.98E-11	2.01E-11
62		Dibenzo(a,h)anthracene	2.85E-09	1.98E-10	1.43E-11	7.27E-13	9.90E-11	1.00E-10	1.98E-10	2.01E-10
63		Fluoranthene	2.85E-09	1.98E-10	1.43E-11	7.27E-13	9.90E-11	1.00E-10	1.98E-10	2.01E-10
64		Fluorene	2.85E-10	1.98E-11	1.43E-12	7.27E-14	9.90E-12	1.00E-11	1.98E-11	2.01E-11
65		Phenanthrene	1.11E-12	7.73E-14	5.57E-15	2.83E-16	3.85E-14	3.91E-14	7.71E-14	7.82E-14
66		Pyrene	5.70E-09	3.97E-10	2.86E-11	1.45E-12	1.98E-10	2.01E-10	3.96E-10	4.02E-10
67		Parathion	7.06E-13	4.91E-14	3.54E-15	1.80E-16	2.45E-14	2.49E-14	4.90E-14	4.97E-14
68		Pentachlorobenzene	3.50E-10	2.44E-11	1.76E-12	8.92E-14	1.22E-11	1.23E-11	2.43E-11	2.47E-11
69		Phenol	5.60E-12	3.90E-13	2.81E-14	1.43E-15	1.94E-13	1.97E-13	3.89E-13	3.95E-13
70		Pyridine	3.12E-08	2.17E-09	NA	NA	NA	NA	NA	NA
71		Quinoline	3.21E-10	2.23E-11	1.61E-12	8.19E-14	1.11E-11	1.13E-11	2.23E-11	2.26E-11
72		Tetrachlorobenzene	1.72E-10	1.20E-11	8.63E-13	4.39E-14	5.97E-12	6.06E-12	1.19E-11	1.21E-11
73		Tetrachloroethene	6.01E-12	4.18E-13	NA	NA	NA	NA	NA	NA
74		Toluene	9.58E-11	6.67E-12	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	8.71E-11	6.06E-12	4.37E-13	2.22E-14	3.02E-12	3.07E-12	6.05E-12	6.14E-12
76		Trichloroethene	6.41E-11	4.46E-12	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	1.38E-06	9.60E-08	6.93E-09	3.52E-10	4.79E-08	4.86E-08	9.58E-08	9.72E-08
78		Vapona	2.79E-12	1.94E-13	1.40E-14	7.11E-16	9.69E-14	9.83E-14	1.94E-13	1.97E-13
79		Vinyl acetate	3.96E-11	2.76E-12	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	3.67E-11	2.55E-12	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	6.84E-12	4.76E-13	NA	NA	NA	NA	NA	NA
82										
83	INORGANICS									
84		Arsenic	4.24E-08	2.95E-09	2.13E-10	1.08E-11	1.47E-09	1.49E-09	2.94E-09	2.99E-09
85		Cadmium	3.10E-10	2.16E-11	1.56E-12	7.91E-14	1.08E-11	1.09E-11	2.15E-11	2.18E-11
86		Chromium (III)	1.26E-09	8.74E-11	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	4.42E-11	3.08E-12	NA	NA	NA	NA	NA	NA
88		Copper	3.17E-09	2.21E-10	NA	NA	NA	NA	NA	NA
89		Iron	9.68E-05	6.74E-06	NA	NA	NA	NA	NA	NA
90		Lead	1.63E-09	1.13E-10	8.18E-12	4.16E-13	5.66E-11	5.74E-11	1.13E-10	1.15E-10
91		Mercury	2.02E-09	1.41E-10	1.01E-11	5.15E-13	7.01E-11	7.12E-11	1.40E-10	1.42E-10
92		Selenium	5.21E-09	3.63E-10	NA	NA	NA	NA	NA	NA
93		Silver	3.24E-11	2.26E-12	NA	NA	NA	NA	NA	NA
94		Zinc	1.43E-08	9.95E-10	NA	NA	NA	NA	NA	NA
95										
96										
97						2 yrs	ACCUMULATION TIME		AT	
98						0.2 M	SOIL DEPTH OF MIXING		SD	
99						0.1 M	SOIL DEPTH OF MIXING		SD	
100						1.43E+03 Kg/M3	SOIL BULK DENSITY		BD	
101						1.00E+03 mg/g				
102						3.15E+07 sec/yr				
103										
104										
105						Dilution Factor				
106						6.96E-02 INHALATION	DFI		CO =	D*AT*1000
107						Deposition Factor	DF			SD*BD
108						2.55E-04 DRY	DDF			
109						5.02E-03 DRY/WET	TDF			AC = ER * DFI
110										D = ER * x DF
111										

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
3			CATTLE FEED					
4		SENSITIVITY CASE	D	D	CO	CO	CO	CO
5					AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6			TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:36:28	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		RES-B	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10					mg/Kg	mg/Kg	mg/Kg	mg/Kg
11								
12	ORGANICS							
13		Acetone	NA	NA	NA	NA	NA	NA
14		Acetonitrile	3.42E-10	5.76E-11	2.37E-09	2.40E-09	4.73E-09	4.80E-09
15		Acrylonitrile	NA	NA	NA	NA	NA	NA
16		Aldrin	5.31E-16	8.94E-17	3.67E-15	3.73E-15	7.35E-15	7.45E-15
17		Aniline	1.92E-11	3.24E-12	1.33E-10	1.35E-10	2.66E-10	2.70E-10
18		Atrazine	1.19E-13	2.00E-14	8.22E-13	8.34E-13	1.64E-12	1.67E-12
19		Benzaldehyde	8.76E-12	1.47E-12	6.06E-11	6.15E-11	1.21E-10	1.23E-10
20		Benzene	NA	NA	NA	NA	NA	NA
21		Benzofuran	4.26E-11	7.17E-12	2.95E-10	2.99E-10	5.89E-10	5.98E-10
22		Benzoic Acid	4.29E-12	7.22E-13	2.97E-11	3.01E-11	5.94E-11	6.02E-11
23		Benzonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
24		Benzothiazole	3.99E-14	6.72E-15	2.76E-13	2.80E-13	5.52E-13	5.60E-13
25		Biphenyl	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	2.36E-14	3.96E-15	1.63E-13	1.65E-13	3.26E-13	3.31E-13
27		Carbazole	1.92E-13	3.24E-14	1.33E-12	1.35E-12	2.66E-12	2.70E-12
28		Carbon Tetrachloride	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	1.10E-14	1.85E-15	7.62E-14	7.73E-14	1.52E-13	1.55E-13
30		Chlorobenzene	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	2.71E-14	4.57E-15	1.88E-13	1.90E-13	3.75E-13	3.81E-13
32		4,4-Chlorobiphenyl	1.36E-15	2.30E-16	9.44E-15	9.58E-15	1.89E-14	1.92E-14
33		Chloroethane	9.72E-13	1.64E-13	6.72E-12	6.82E-12	1.34E-11	1.36E-11
34		Chloroform	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
36		Dichlorobenzenes (total)	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	9.84E-14	1.66E-14	6.81E-13	6.91E-13	1.36E-12	1.38E-12
40		1,1-Dichloroethene	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	NA	NA	NA	NA	NA	NA
43		Dieldrin	9.75E-16	1.64E-16	6.74E-15	6.84E-15	1.35E-14	1.37E-14
44		Dimethyldisulfide	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	2.58E-12	4.34E-13	1.78E-11	1.81E-11	3.57E-11	3.62E-11
46		Hydrazine	3.33E-09	5.61E-10	2.30E-08	2.34E-08	4.61E-08	4.67E-08
47		Lindane	4.53E-16	7.63E-17	3.13E-15	3.18E-15	6.27E-15	6.36E-15
48		Malathion	1.34E-15	2.25E-16	9.26E-15	9.39E-15	1.85E-14	1.88E-14
49		Methyl chloride	NA	NA	NA	NA	NA	NA
50		Methylene chloride	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	1.65E-13	2.78E-14	1.14E-12	1.16E-12	2.29E-12	2.32E-12
52		4-Methylphenol	1.50E-13	2.53E-14	1.04E-12	1.05E-12	2.08E-12	2.11E-12
53		Monomethyl hydrazine	1.05E-09	1.77E-10	7.26E-09	7.37E-09	1.45E-08	1.47E-08
54		Naphthalene	1.77E-14	2.98E-15	1.22E-13	1.24E-13	2.45E-13	2.48E-13
55		Naphthalene carbonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
56		n-Nitrosodimethylamine	1.07E-12	1.80E-13	7.39E-12	7.49E-12	1.48E-11	1.50E-11
57		PAHs						
58		Acenaphthalene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
59		Acenaphthene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
60		Benzo(a)pyrene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
61		Chrysene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
62		Dibenzo(a,h)anthracene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
63		Fluoranthene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
64		Fluorene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
65		Phenanthrene	3.33E-15	5.61E-16	2.30E-14	2.34E-14	4.61E-14	4.67E-14
66		Pyrene	1.71E-11	2.88E-12	1.18E-10	1.20E-10	2.37E-10	2.40E-10
67		Parathion	2.12E-15	3.57E-16	1.47E-14	1.49E-14	2.93E-14	2.97E-14
68		Pentachlorobenzene	1.05E-12	1.77E-13	7.26E-12	7.37E-12	1.45E-11	1.47E-11
69		Phenol	1.68E-14	2.83E-15	1.16E-13	1.18E-13	2.32E-13	2.36E-13
70		Pyridine	NA	NA	NA	NA	NA	NA
71		Quinoline	9.63E-13	1.62E-13	6.66E-12	6.76E-12	1.33E-11	1.35E-11
72		Tetrachlorobenzene	5.16E-13	8.69E-14	3.57E-12	3.62E-12	7.14E-12	7.24E-12
73		Tetrachloroethene	NA	NA	NA	NA	NA	NA
74		Toluene	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	2.61E-13	4.40E-14	1.81E-12	1.83E-12	3.61E-12	3.67E-12
76		Trichloroethene	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	4.14E-09	6.97E-10	2.86E-08	2.91E-08	5.73E-08	5.81E-08
78		Vapona	8.37E-15	1.41E-15	5.79E-14	5.87E-14	1.16E-13	1.17E-13
79		Vinyl acetate	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	NA	NA	NA	NA	NA	NA
82								
83	INORGANICS							
84		Arsenic	1.27E-10	2.14E-11	8.80E-10	8.93E-10	1.76E-09	1.79E-09
85		Cadmium	9.30E-13	1.57E-13	6.43E-12	6.53E-12	1.29E-11	1.31E-11
86		Chromium (III)	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	NA	NA	NA	NA	NA	NA
88		Copper	NA	NA	NA	NA	NA	NA
89		Iron	NA	NA	NA	NA	NA	NA
90		Lead	4.89E-12	8.23E-13	3.38E-11	3.43E-11	6.77E-11	6.86E-11
91		Mercury	6.06E-12	1.02E-12	4.19E-11	4.25E-11	8.38E-11	8.51E-11
92		Selenium	NA	NA	NA	NA	NA	NA
93		Silver	NA	NA	NA	NA	NA	NA
94		Zinc	NA	NA	NA	NA	NA	NA
95								
96								
97			2.0 yrs	ACCUMULATION TIME	AT			
98			0.2 M	SOIL DEPTH OF MIXING	SD			
99			0.1 M	SOIL DEPTH OF MIXING	SD			
100			1.43E+03 Kg/M3	SOIL BULK DENSITY	BD			
101			1.00E+03 mg/g					
102			3.15E+07 sec/yr					
103								
104								
105			Dilution Factor					D*AT*1000
106			1.22E-01 INHALATION	DFI			CO =	---------
107			Deposition Factor	DF				SD*BD
108			5.05E-04 DRY	DDF				
109			3.00E-03 DRY/WET	TDF			D =	ER * x DF

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 2
ADULT TOTAL EXPOSURE - AVERAGE

SENSITIVITY CASE

18-Jun-91
16:31:23
RES-B

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	2.51E-15	NA	NA	NA	NA	NA	NA	2.51E-15
Acetonitrile	2.27E-12	1.92E-11	2.37E-18	9.30E-19	1.13E-14	7.76E-21	4.16E-15	2.15E-11
Acrylonitrile	9.64E-13	NA	NA	NA	NA	NA	NA	9.64E-13
Aldrin	3.52E-18	6.59E-18	4.78E-20	7.19E-21	1.76E-20	2.81E-27	6.46E-21	1.02E-17
Aniline	1.27E-13	1.16E-13	4.43E-19	1.73E-19	6.36E-16	2.33E-19	2.34E-16	2.44E-13
Atrazine	7.87E-16	1.82E-16	1.54E-20	6.01E-21	3.93E-18	0.00E+00	1.45E-18	9.75E-16
Benzaldehyde	5.81E-14	2.58E-14	3.54E-19	1.38E-19	2.90E-16	2.51E-20	1.07E-16	8.42E-14
Benzene	7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
Benzofuran	2.82E-13	6.59E-14	5.49E-18	2.13E-18	1.41E-15	5.53E-19	5.18E-16	3.50E-13
Benzoic Acid	2.84E-14	8.12E-15	2.53E-19	9.89E-20	1.42E-16	2.20E-20	5.22E-17	3.67E-14
Benzonitrile	6.20E-13	2.50E-13	4.08E-18	1.60E-18	3.10E-15	2.99E-19	1.14E-15	8.75E-13
Benzothiazole	2.64E-16	6.54E-17	2.70E-21	1.05E-21	1.32E-18	2.51E-24	4.85E-19	3.32E-16
Biphenyl	2.84E-13	NA	NA	NA	NA	NA	NA	2.84E-13
Bis(2-ethylhexyl)phthalate	1.56E-16	2.22E-16	4.02E-17	4.79E-18	7.79E-19	3.25E-24	2.86E-19	4.24E-16
Carbazole	1.27E-15	1.82E-16	4.58E-20	1.76E-20	6.36E-18	3.31E-21	2.34E-18	1.47E-15
Carbon Tetrachloride	3.70E-15	NA	NA	NA	NA	NA	NA	3.70E-15
4-Chloroaniline	7.30E-17	1.98E-17	6.24E-22	2.44E-22	3.64E-19	9.45E-22	1.34E-19	9.33E-17
Chlorobenzene	1.75E-16	NA	NA	NA	NA	NA	NA	1.75E-16
4-Chlorobiphenyl	1.80E-16	1.08E-17	3.65E-20	1.24E-20	8.97E-19	3.39E-22	3.30E-19	1.92E-16
4,4-Chlorobiphenyl	9.05E-18	4.06E-19	4.50E-21	1.32E-21	4.51E-20	5.71E-24	1.66E-20	9.52E-18
Chloroethane	6.44E-15	2.87E-15	3.96E-20	1.55E-20	3.21E-17	1.91E-23	1.18E-17	9.36E-15
Chloroform	3.14E-14	NA	NA	NA	NA	NA	NA	3.14E-14
Dibenzofuran	5.67E-15	4.94E-16	4.77E-19	1.77E-19	2.83E-17	2.19E-20	1.04E-17	6.20E-15
Dichlorobenzenes (total)	7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
1,4-Dichlorobenzene	4.61E-17	NA	NA	NA	NA	NA	NA	4.61E-17
1,1-Dichloroethane	2.09E-15	NA	NA	NA	NA	NA	NA	2.09E-15
1,2-Dichloroethane	6.52E-16	9.13E-16	3.97E-21	1.56E-21	3.25E-18	5.73E-23	1.20E-18	1.57E-15
1,1-Dichloroethene	1.12E-15	NA	NA	NA	NA	NA	NA	1.12E-15
1,2-Dichloroethene	9.66E-16	NA	NA	NA	NA	NA	NA	9.66E-16
1,2-Dichloropropane	4.14E-16	NA	NA	NA	NA	NA	NA	4.14E-16
Dieldrin	6.46E-18	8.14E-17	8.55E-21	2.01E-21	3.22E-20	1.08E-24	1.19E-20	8.79E-17
Dimethyldisulfide	1.78E-15	NA	NA	NA	NA	NA	NA	1.78E-15
Hexachlorobenzene	1.71E-14	2.05E-15	7.27E-18	2.19E-18	8.52E-17	4.30E-19	3.13E-17	1.93E-14
Hydrazine	2.21E-11	5.53E-09	1.63E-18	6.40E-19	1.10E-13	3.52E-20	4.05E-14	5.55E-09
Lindane	3.00E-18	4.98E-19	1.09E-22	4.19E-23	1.50E-20	4.73E-26	5.51E-21	3.52E-18
Malathion	8.87E-18	8.19E-19	2.14E-22	8.30E-23	4.42E-20	0.00E+00	1.63E-20	9.75E-18
Methyl chloride	8.67E-16	NA	NA	NA	NA	NA	NA	8.67E-16
Methylene chloride	5.23E-14	NA	NA	NA	NA	NA	NA	5.23E-14
Methyl ethyl ketone	1.10E-15	4.45E-15	2.05E-21	8.03E-22	5.47E-18	0.00E+00	2.01E-18	5.56E-15
4-Methylphenol	9.94E-16	6.13E-16	9.47E-21	3.70E-21	4.96E-18	2.71E-23	1.82E-18	1.61E-15
Monomethyl hydrazine	6.96E-12	1.20E-09	5.14E-19	2.02E-19	3.47E-14	1.12E-20	1.28E-14	1.20E-09
Naphthalene	1.17E-16	2.32E-17	4.47E-21	1.72E-21	5.85E-19	1.48E-19	2.15E-19	1.41E-16
Naphthalene carbonitrile	6.20E-13	1.22E-13	2.37E-17	9.09E-18	3.10E-15	3.42E-18	1.14E-15	7.47E-13
n-Nitrosodimethylamine	7.08E-15	7.43E-13	5.33E-21	2.09E-21	3.53E-17	0.00E+00	1.30E-17	7.51E-13
PAHs								
Acenaphthalene	2.82E-14	5.97E-15	2.26E-18	8.41E-19	1.41E-16	1.05E-19	5.18E-17	3.44E-14
Acenaphthene	2.82E-14	2.76E-15	1.93E-18	7.25E-19	1.41E-16	4.07E-20	5.18E-17	3.12E-14
Benzo(a)pyrene	5.67E-14	3.90E-16	1.10E-16	2.38E-17	2.83E-16	1.40E-19	1.04E-16	5.76E-14

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	T	U	V	W	X	Y	Z	AA
2			TABLE 2							
61		Chrysene	5.67E-15	3.03E-16	3.85E-18	1.06E-18	2.83E-17	3.55E-19	1.04E-17	6.01E-15
62		Dibenzo(a,h)anthracene	5.67E-14	6.87E-16	1.28E-16	2.67E-17	2.83E-16	7.95E-17	1.04E-16	5.80E-14
63		Fluoranthene	5.67E-14	5.80E-15	1.72E-17	5.52E-18	2.83E-16	NA	1.04E-16	6.29E-14
64		Fluorene	5.67E-15	7.11E-16	6.32E-19	2.30E-19	2.83E-17	2.92E-20	1.04E-17	6.42E-15
65		Phenanthrene	2.21E-17	2.03E-18	3.05E-21	1.09E-21	1.10E-19	1.01E-19	4.05E-20	2.44E-17
66		Pyrene	1.13E-13	1.08E-14	3.27E-17	1.06E-17	5.66E-16	1.60E-18	2.08E-16	1.25E-13
67		Parathion	1.40E-17	1.45E-18	8.54E-22	3.23E-22	7.00E-20	3.17E-25	2.58E-20	1.56E-17
68		Pentachlorobenzene	6.96E-15	1.60E-15	1.77E-18	5.83E-19	3.47E-17	NA	1.28E-17	8.61E-15
69		Phenol	1.11E-16	1.56E-16	6.65E-22	2.60E-22	5.56E-19	NA	2.04E-19	2.68E-16
70		Pyridine	6.20E-13	NA	NA	NA	NA	NA	NA	6.20E-13
71		Quinoline	6.38E-15	2.92E-15	6.63E-20	2.59E-20	3.18E-17	6.35E-21	1.17E-17	9.34E-15
72		Tetrachlorobenzene	3.42E-15	1.83E-15	3.77E-19	1.38E-19	1.71E-17	NA	6.28E-18	5.28E-15
73		Tetrachloroethene	1.20E-16	NA	NA	NA	NA	NA	NA	1.20E-16
74		Toluene	1.91E-15	NA	NA	NA	NA	NA	NA	1.91E-15
75		Trichlorobenzene	1.73E-15	1.03E-16	1.26E-19	4.72E-20	8.64E-18	9.59E-21	3.18E-18	1.85E-15
76		Trichloroethene	1.27E-15	NA	NA	NA	NA	NA	NA	1.27E-15
77		Unsym. dimethyl hydrazine	2.74E-11	3.08E-09	3.84E-18	1.51E-18	1.37E-13	4.39E-20	5.04E-14	3.10E-09
78		Vapona	5.55E-17	2.71E-17	3.13E-22	1.22E-22	2.77E-19	2.12E-25	1.02E-19	8.29E-17
79		Vinyl acetate	7.87E-16	NA	NA	NA	NA	NA	NA	7.87E-16
80		Vinyl chloride	7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
81		Xylenes (total)	1.36E-16	NA	NA	NA	NA	NA	NA	1.36E-16
82										
83	INORGANICS									
84		Arsenic	8.43E-13	1.24E-15	2.28E-15	2.99E-17	4.21E-15	4.89E-15	1.55E-16	8.56E-13
85		Cadmium	6.16E-15	1.03E-16	5.94E-18	2.60E-19	3.08E-17	NA	1.13E-18	6.31E-15
86		Chromium (III)	2.50E-14	NA	NA	NA	NA	NA	NA	2.50E-14
87		Chromium (VI)	8.79E-16	NA	NA	NA	NA	NA	NA	8.79E-16
88		Copper	6.30E-14	NA	NA	NA	NA	1.17E-15	NA	6.42E-14
89		Iron	1.92E-09	NA	NA	NA	NA	NA	NA	1.92E-09
90		Lead	3.24E-14	NA	NA	NA	NA	NA	NA	3.24E-14
91		Mercury	4.02E-14	9.48E-16	1.53E-17	1.14E-15	2.00E-16	NA	7.37E-18	4.25E-14
92		Selenium	1.04E-13	NA	NA	NA	NA	NA	NA	1.04E-13
93		Silver	6.44E-16	NA	NA	NA	NA	NA	NA	6.44E-16
94		Zinc	2.84E-13	NA	NA	NA	NA	2.59E-15	NA	2.87E-13
95										
96										
97										
98			br	20 M3/day			D*AT*1000			
99			bw	70 Kg			---------			
100			ef	365 days/yr			SD*BD			
101			cf	365000 (1000 ug/mg)*(365 day/yr)						
102							AC = ER * DFI			
103			Inhalation dose = Cair*br*ef/bw/cf							
104							D = ER * x DF			

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 3
ADULT TOTAL EXPOSURE - MAXIMUM

SENSITIVITY CASE

18-Jun-91
16:31:23
RES-B

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	2.51E-15	NA	NA	NA	NA	NA	NA	2.51E-15
Acetonitrile	2.27E-12	1.95E-11	2.42E-18	9.45E-19	1.15E-14	7.76E-21	4.22E-15	2.18E-11
Acrylonitrile	9.64E-13	NA	NA	NA	NA	NA	NA	9.64E-13
Aldrin	3.52E-18	6.76E-18	1.45E-18	1.64E-19	1.78E-20	2.81E-27	6.55E-21	1.19E-17
Aniline	1.27E-13	1.20E-13	4.65E-19	1.78E-19	6.45E-16	2.33E-19	2.37E-16	2.49E-13
Atrazine	7.87E-16	2.02E-16	2.16E-20	6.77E-21	3.99E-18	0.00E+00	1.47E-18	9.95E-16
Benzaldehyde	5.81E-14	2.74E-14	3.87E-19	1.44E-19	2.94E-16	2.51E-20	1.08E-16	8.59E-14
Benzene	7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
Benzofuran	2.82E-13	7.32E-14	7.66E-18	2.40E-18	1.43E-15	5.53E-19	5.26E-16	3.58E-13
Benzoic Acid	2.84E-14	8.88E-15	2.90E-19	1.04E-19	1.44E-16	2.20E-20	5.29E-17	3.75E-14
Benzonitrile	6.20E-13	2.68E-13	4.50E-18	1.66E-18	3.14E-15	2.99E-19	1.16E-15	8.93E-13
Benzothiazole	2.64E-16	7.23E-17	3.16E-21	1.12E-21	1.34E-18	2.51E-24	4.92E-19	3.39E-16
Biphenyl	2.84E-13	NA	NA	NA	NA	NA	NA	2.84E-13
Bis(2-ethylhexyl)phthalate	1.56E-16	2.29E-16	1.37E-15	1.54E-16	7.90E-19	3.25E-24	2.91E-19	1.91E-15
Carbazole	1.27E-15	2.13E-16	8.58E-20	2.23E-20	6.45E-18	3.31E-21	2.37E-18	1.50E-15
Carbon Tetrachloride	3.70E-15	NA	NA	NA	NA	NA	NA	3.70E-15
4-Chloroaniline	7.30E-17	2.18E-17	7.12E-22	2.57E-22	3.69E-19	9.45E-22	1.36E-19	9.53E-17
Chlorobenzene	1.75E-16	NA	NA	NA	NA	NA	NA	1.75E-16
4-Chlorobiphenyl	1.80E-16	1.50E-17	2.63E-19	3.80E-20	9.10E-19	3.39E-22	3.35E-19	1.96E-16
4,4-Chlorobiphenyl	9.05E-18	6.17E-19	5.91E-20	7.45E-21	4.58E-20	5.71E-24	1.68E-20	9.79E-18
Chloroethane	6.44E-15	3.06E-15	4.34E-20	1.61E-20	3.26E-17	1.91E-23	1.20E-17	9.55E-15
Chloroform	3.14E-14	NA	NA	NA	NA	NA	NA	3.14E-14
Dibenzofuran	5.67E-15	6.29E-16	1.67E-18	3.13E-19	2.87E-17	2.19E-20	1.06E-17	6.34E-15
Dichlorobenzenes (total)	7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
1,4-Dichlorobenzene	4.61E-17	NA	NA	NA	NA	NA	NA	4.61E-17
1,1-Dichloroethane	2.09E-15	NA	NA	NA	NA	NA	NA	2.09E-15
1,2-Dichloroethane	6.52E-16	9.41E-16	4.34E-21	1.61E-21	3.30E-18	5.73E-23	1.21E-18	1.60E-15
1,1-Dichloroethene	1.12E-15	NA	NA	NA	NA	NA	NA	1.12E-15
1,2-Dichloroethene	9.66E-16	NA	NA	NA	NA	NA	NA	9.66E-16
1,2-Dichloropropane	4.14E-16	NA	NA	NA	NA	NA	NA	4.14E-16
Dieldrin	6.46E-18	8.27E-17	1.71E-19	2.02E-20	3.27E-20	1.08E-24	1.20E-20	8.94E-17
Dimethyldisulfide	1.78E-15	NA	NA	NA	NA	NA	NA	1.78E-15
Hexachlorobenzene	1.71E-14	2.46E-15	8.73E-17	1.12E-17	8.65E-17	4.30E-19	3.18E-17	1.98E-14
Hydrazine	2.21E-11	5.61E-09	1.65E-18	6.49E-19	1.12E-13	3.52E-20	4.11E-14	5.63E-09
Lindane	3.00E-18	5.74E-19	2.05E-22	5.32E-23	1.52E-20	4.73E-26	5.59E-21	3.60E-18
Malathion	8.87E-18	1.03E-18	3.26E-22	9.64E-23	4.49E-20	0.00E+00	1.65E-20	9.96E-18
Methyl chloride	8.67E-16	NA	NA	NA	NA	NA	NA	8.67E-16
Methylene chloride	5.23E-14	NA	NA	NA	NA	NA	NA	5.23E-14
Methyl ethyl ketone	1.10E-15	4.54E-15	2.11E-21	8.18E-22	5.55E-18	0.00E+00	2.04E-18	5.65E-15
4-Methylphenol	9.94E-16	6.44E-16	1.10E-20	3.91E-21	5.03E-18	2.71E-23	1.85E-18	1.65E-15
Monomethyl hydrazine	6.96E-12	1.22E-09	5.22E-19	2.05E-19	3.52E-14	1.12E-20	1.30E-14	1.22E-09
Naphthalene	1.17E-16	2.61E-17	8.70E-21	2.21E-21	5.94E-19	1.48E-19	2.18E-19	1.44E-16
Naphthalene carbonitrile	6.20E-13	1.38E-13	4.60E-17	1.17E-17	3.14E-15	3.42E-18	1.16E-15	7.63E-13
n-Nitrosodimethylamine	7.08E-15	7.54E-13	5.43E-21	2.12E-21	3.58E-17	0.00E+00	1.32E-17	7.62E-13
PAHs								
Acenaphthalene	2.82E-14	6.70E-15	7.55E-18	1.44E-18	1.43E-16	1.05E-19	5.26E-17	3.51E-14
Acenaphthene	2.82E-14	3.44E-15	5.68E-18	1.15E-18	1.43E-16	4.07E-20	5.26E-17	3.19E-14
Benzo(a)pyrene	5.67E-14	1.68E-15	2.47E-15	2.89E-16	2.87E-16	1.40E-19	1.06E-16	6.15E-14

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AD	AE	AF	AG	AH	AI	AJ	AK
2			TABLE 3							
61		Chrysene	5.67E-15	4.36E-16	5.93E-17	7.28E-18	2.87E-17	3.55E-19	1.06E-17	6.21E-15
62		Dibenzo(a,h)anthracene	5.67E-14	1.98E-15	2.97E-15	3.45E-16	2.87E-16	7.95E-17	1.06E-16	6.24E-14
63		Fluoranthene	5.67E-14	7.17E-15	1.67E-16	2.23E-17	2.87E-16	NA	1.06E-16	6.44E-14
64		Fluorene	5.67E-15	8.50E-16	2.80E-18	4.75E-19	2.87E-17	2.92E-20	1.06E-17	6.56E-15
65		Phenanthrene	2.21E-17	2.56E-18	1.61E-20	2.56E-21	1.12E-19	1.01E-19	4.11E-20	2.49E-17
66		Pyrene	1.13E-13	1.36E-14	3.05E-16	4.12E-17	5.74E-16	1.60E-18	2.11E-16	1.28E-13
67		Parathion	1.40E-17	1.79E-18	2.30E-21	4.89E-22	7.11E-20	3.17E-25	2.61E-20	1.59E-17
68		Pentachlorobenzene	6.96E-15	1.78E-15	1.51E-17	2.08E-18	3.52E-17	NA	1.30E-17	8.81E-15
69		Phenol	1.11E-16	1.60E-16	7.26E-22	2.70E-22	5.64E-19	NA	2.07E-19	2.72E-16
70		Pyridine	6.20E-13	NA	NA	NA	NA	NA	NA	6.20E-13
71		Quinoline	6.38E-15	3.10E-15	7.82E-20	2.75E-20	3.23E-17	6.35E-21	1.19E-17	9.53E-15
72		Tetrachlorobenzene	3.42E-15	1.94E-15	1.65E-18	2.82E-19	1.73E-17	NA	6.37E-18	5.38E-15
73		Tetrachloroethene	1.20E-16	NA	NA	NA	NA	NA	NA	1.20E-16
74		Toluene	1.91E-15	NA	NA	NA	NA	NA	NA	1.91E-15
75		Trichlorobenzene	1.73E-15	1.44E-16	3.90E-19	7.72E-20	8.77E-18	9.59E-21	3.22E-18	1.89E-15
76		Trichloroethene	1.27E-15	NA	NA	NA	NA	NA	NA	1.27E-15
77		Unsym. dimethyl hydrazine	2.74E-11	3.12E-09	3.90E-18	1.53E-18	1.39E-13	4.39E-20	5.11E-14	3.15E-09
78		Vapona	5.55E-17	2.87E-17	3.39E-22	1.27E-22	2.81E-19	2.12E-25	1.03E-19	8.46E-17
79		Vinyl acetate	7.87E-16	NA	NA	NA	NA	NA	NA	7.87E-16
80		vinyl chloride	7.30E-16	NA	NA	NA	NA	NA	NA	7.30E-16
81		Xylenes (total)	1.36E-16	NA	NA	NA	NA	NA	NA	1.36E-16
82										
83	INORGANICS									
84		Arsenic	8.43E-13	2.03E-14	1.22E-14	1.50E-16	4.27E-15	4.89E-15	1.57E-16	8.85E-13
85		Cadmium	6.16E-15	2.44E-16	1.80E-17	5.03E-19	3.12E-17	NA	1.15E-18	6.46E-15
86		Chromium (III)	2.50E-14	NA	NA	NA	NA	NA	NA	2.50E-14
87		Chromium (VI)	8.79E-16	NA	NA	NA	NA	NA	NA	8.79E-16
88		Copper	6.30E-14	NA	NA	NA	NA	1.17E-15	NA	6.42E-14
89		Iron	1.92E-09	NA	NA	NA	NA	NA	NA	1.92E-09
90		Lead	3.24E-14	NA	NA	NA	NA	NA	NA	3.24E-14
91		Mercury	4.02E-14	1.87E-15	5.07E-17	1.87E-15	2.03E-16	NA	7.48E-18	4.42E-14
92		Selenium	1.04E-13	NA	NA	NA	NA	NA	NA	1.04E-13
93		Silver	6.44E-16	NA	NA	NA	NA	NA	NA	6.44E-16
94		Zinc	2.84E-13	NA	NA	NA	NA	2.59E-15	NA	2.87E-13
95										
96										
97										
98				br	20 M3/day					
99				bw	70 Kg					
100				ef	365 day/yr					
101				cf	365000 (1000 ug/mg)*(365 day/yr)					
102										
103			Inhalation dose = Cair*br*ef/bw/cf							

TABLE 4
CHILD TOTAL EXPOSURE - AVERAGE

SENSITIVITY CASE

18-Jun-91
16:31:23
RES-B

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	5.66E-15	NA	NA	NA	NA	NA	NA	5.66E-15
Acetonitrile	5.12E-12	3.42E-11	1.37E-17	2.32E-18	1.02E-13	1.75E-20	3.48E-14	3.95E-11
Acrylonitrile	2.18E-12	NA	NA	NA	NA	NA	NA	2.18E-12
Aldrin	7.95E-18	9.87E-18	2.76E-19	1.79E-20	1.59E-19	6.34E-27	5.40E-20	1.83E-17
Aniline	2.88E-13	2.33E-13	2.56E-18	4.33E-19	5.74E-15	5.27E-19	1.96E-15	5.28E-13
Atrazine	1.78E-15	3.07E-16	8.92E-20	1.50E-20	3.55E-17	0.00E+00	1.21E-17	2.13E-15
Benzaldehyde	1.31E-13	5.10E-14	2.04E-18	3.45E-19	2.62E-15	5.67E-20	8.91E-16	1.86E-13
Benzene	1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
Benzofuran	6.38E-13	1.11E-13	3.17E-17	5.32E-18	1.27E-14	1.25E-18	4.33E-15	7.66E-13
Benzoic Acid	6.42E-14	1.58E-14	1.46E-18	2.47E-19	1.28E-15	4.96E-20	4.36E-16	8.17E-14
Benzonitrile	1.40E-12	4.95E-13	2.36E-17	3.99E-18	2.80E-14	6.74E-19	9.52E-15	1.93E-12
Benzothiazole	5.97E-16	1.26E-16	1.56E-20	2.63E-21	1.19E-17	5.67E-24	4.06E-18	7.39E-16
Biphenyl	6.42E-13	NA	NA	NA	NA	NA	NA	6.42E-13
Bis(2-ethylhexyl)phthalate	3.52E-16	3.32E-16	2.32E-16	1.20E-17	7.03E-18	7.34E-24	2.40E-18	9.38E-16
Carbazole	2.88E-15	2.97E-16	2.64E-19	4.39E-20	5.74E-17	7.46E-21	1.96E-17	3.25E-15
Carbon Tetrachloride	8.35E-15	NA	NA	NA	NA	NA	NA	8.35E-15
4-Chloroaniline	1.65E-16	3.95E-17	3.61E-21	6.09E-22	3.29E-18	2.13E-21	1.12E-18	2.09E-16
Chlorobenzene	3.96E-16	NA	NA	NA	NA	NA	NA	3.96E-16
4-Chlorobiphenyl	4.06E-16	1.66E-17	2.11E-19	3.10E-20	8.10E-18	7.66E-22	2.76E-18	4.34E-16
4,4-Chlorobiphenyl	2.04E-17	6.18E-19	2.60E-20	3.28E-21	4.08E-19	1.29E-23	1.39E-19	2.16E-17
Chloroethane	1.45E-14	5.66E-15	2.29E-19	3.87E-20	2.90E-16	4.32E-23	9.89E-17	2.06E-14
Chloroform	7.09E-14	NA	NA	NA	NA	NA	NA	7.09E-14
Dibenzofuran	1.28E-14	7.76E-16	2.76E-18	4.43E-19	2.55E-16	4.94E-20	8.70E-17	1.39E-14
Dichlorobenzenes (total)	1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
1,4-Dichlorobenzene	1.04E-16	NA	NA	NA	NA	NA	NA	1.04E-16
1,1-Dichloroethane	4.71E-15	NA	NA	NA	NA	NA	NA	4.71E-15
1,2-Dichloroethane	1.47E-15	1.51E-15	2.29E-20	3.88E-21	2.94E-17	1.29E-22	1.00E-17	3.02E-15
1,1-Dichloroethene	2.52E-15	NA	NA	NA	NA	NA	NA	2.52E-15
1,2-Dichloroethene	2.18E-15	NA	NA	NA	NA	NA	NA	2.18E-15
1,2-Dichloropropane	9.34E-16	NA	NA	NA	NA	NA	NA	9.34E-16
Dieldrin	1.46E-17	1.22E-16	4.94E-20	5.02E-21	2.91E-19	2.44E-24	9.92E-20	1.37E-16
Dimethyldisulfide	4.01E-15	NA	NA	NA	NA	NA	NA	4.01E-15
Hexachlorobenzene	3.86E-14	3.09E-15	4.20E-17	5.47E-18	7.70E-16	9.71E-19	2.62E-16	4.27E-14
Hydrazine	4.98E-11	1.04E-08	9.42E-18	1.59E-18	9.95E-13	7.96E-20	3.39E-13	1.04E-08
Lindane	6.78E-18	8.04E-19	6.29E-22	1.05E-22	1.35E-19	1.07E-25	4.61E-20	7.77E-18
Malathion	2.00E-17	1.52E-18	1.24E-21	2.07E-22	4.00E-19	0.00E+00	1.36E-19	2.21E-17
Methyl chloride	1.96E-15	NA	NA	NA	NA	NA	NA	1.96E-15
Methylene chloride	1.18E-13	NA	NA	NA	NA	NA	NA	1.18E-13
Methyl ethyl ketone	2.47E-15	7.86E-15	1.18E-20	2.00E-21	4.94E-17	0.00E+00	1.68E-17	1.04E-14
4-Methylphenol	2.25E-15	1.03E-15	5.47E-20	9.23E-21	4.48E-17	6.13E-23	1.53E-17	3.34E-15
Monomethyl hydrazine	1.57E-11	2.45E-09	2.97E-18	5.03E-19	3.14E-13	2.52E-20	1.07E-13	2.47E-09
Naphthalene	2.65E-16	3.68E-17	2.58E-20	4.29E-21	5.29E-18	3.35E-19	1.80E-18	3.09E-16
Naphthalene carbonitrile	1.40E-12	1.94E-13	1.37E-16	2.27E-17	2.80E-14	7.72E-18	9.52E-15	1.63E-12
n-Nitrosodimethylamine	1.60E-14	1.14E-12	3.08E-20	5.21E-21	3.19E-16	0.00E+00	1.09E-16	1.16E-12
PAHs								
Acenaphthalene	6.38E-14	9.14E-15	1.30E-17	2.10E-18	1.27E-15	2.37E-19	4.33E-16	7.46E-14
Acenaphthene	6.38E-14	4.37E-15	1.11E-17	1.81E-18	1.27E-15	9.18E-20	4.33E-16	6.99E-14
Benzo(a)pyrene	1.28E-13	6.14E-16	6.38E-16	5.94E-17	2.55E-15	3.17E-19	8.70E-16	1.33E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AN	AO	AP	AQ	AR	AS	AT	AU
2			TABLE 4							
61		Chrysene	1.28E-14	4.59E-16	2.23E-17	2.63E-18	2.55E-16	8.01E-19	8.70E-17	1.36E-14
62		Dibenzo(a,h)anthracene	1.28E-13	1.06E-15	7.38E-16	6.66E-17	2.55E-15	1.79E-16	8.70E-16	1.33E-13
63		Fluoranthene	1.28E-13	8.78E-15	9.94E-17	1.38E-17	2.55E-15	NA	8.70E-16	1.40E-13
64		Fluorene	1.28E-14	1.09E-15	3.65E-18	5.74E-19	2.55E-16	6.60E-20	8.70E-17	1.42E-14
65		Phenanthrene	4.98E-17	3.12E-18	1.76E-20	2.71E-21	9.95E-19	2.27E-19	3.39E-19	5.45E-17
66		Pyrene	2.56E-13	1.64E-14	1.89E-16	2.64E-17	5.11E-15	3.62E-18	1.74E-15	2.79E-13
67		Parathion	3.17E-17	2.30E-18	4.93E-21	8.06E-22	6.33E-19	7.17E-25	2.15E-19	3.49E-17
68		Pentachlorobenzene	1.57E-14	2.41E-15	1.02E-17	1.45E-18	3.14E-16	NA	1.07E-16	1.86E-14
69		Phenol	2.51E-16	2.57E-16	3.84E-21	6.50E-22	5.02E-18	NA	1.71E-18	5.16E-16
70		Pyridine	1.40E-12	NA	NA	NA	NA	NA	NA	1.40E-12
71		Quinoline	1.44E-14	5.02E-15	3.83E-19	6.47E-20	2.88E-16	1.43E-20	9.80E-17	1.98E-14
72		Tetrachlorobenzene	7.72E-15	2.76E-15	2.18E-18	3.43E-19	1.54E-16	NA	5.25E-17	1.07E-14
73		Tetrachloroethene	2.70E-16	NA	NA	NA	NA	NA	NA	2.70E-16
74		Toluene	4.30E-15	NA	NA	NA	NA	NA	NA	4.30E-15
75		Trichlorobenzene	3.91E-15	1.68E-16	7.27E-19	1.18E-19	7.81E-17	2.17E-20	2.66E-17	4.18E-15
76		Trichloroethene	2.88E-15	NA	NA	NA	NA	NA	NA	2.88E-15
77		Unsym. dimethyl hydrazine	6.20E-11	5.68E-09	2.22E-17	3.75E-18	1.24E-12	9.92E-20	4.21E-13	5.74E-09
78		Vapona	1.25E-16	5.37E-17	1.81E-21	3.05E-22	2.50E-18	4.78E-25	8.52E-19	1.82E-16
79		Vinyl acetate	1.78E-15	NA	NA	NA	NA	NA	NA	1.78E-15
80		Vinyl chloride	1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
81		Xylenes (total)	3.07E-16	NA	NA	NA	NA	NA	NA	3.07E-16
82										
83	INORGANICS									
84		Arsenic	1.90E-12	2.00E-15	1.32E-14	7.45E-17	3.80E-14	1.10E-14	1.29E-15	1.97E-12
85		Cadmium	1.39E-14	1.71E-16	3.43E-17	6.47E-19	2.78E-16	NA	9.46E-18	1.44E-14
86		Chromium (III)	5.64E-14	NA	NA	NA	NA	NA	NA	5.64E-14
87		Chromium (VI)	1.98E-15	NA	NA	NA	NA	NA	NA	1.98E-15
88		Copper	1.42E-13	NA	NA	NA	NA	2.64E-15	NA	1.45E-13
89		Iron	4.35E-09	NA	NA	NA	NA	NA	NA	4.35E-09
90		Lead	7.32E-14	NA	NA	NA	NA	NA	NA	7.32E-14
91		Mercury	9.07E-14	1.50E-15	8.81E-17	2.85E-15	1.81E-15	NA	6.17E-17	9.70E-14
92		Selenium	2.34E-13	NA	NA	NA	NA	NA	NA	2.34E-13
93		Silver	1.45E-15	NA	NA	NA	NA	NA	NA	1.45E-15
94		Zinc	6.42E-13	NA	NA	NA	NA	5.84E-15	NA	6.48E-13
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair *br/bw/ugmg							

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 5
CHILD TOTAL EXPOSURE - MAXIMUM

SENSITIVITY CASE

18-Jun-91
16:31:23
RES-B

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	5.66E-15	NA	NA	NA	NA	NA	NA	5.66E-15
Acetonitrile	5.12E-12	3.48E-11	1.40E-17	2.36E-18	1.04E-13	1.75E-20	3.53E-14	4.01E-11
Acrylonitrile	2.18E-12	NA	NA	NA	NA	NA	NA	2.18E-12
Aldrin	7.95E-18	1.02E-17	8.37E-18	4.10E-19	1.61E-19	6.34E-27	5.48E-20	2.71E-17
Aniline	2.88E-13	2.41E-13	2.69E-18	4.43E-19	5.83E-15	5.27E-19	1.98E-15	5.37E-13
Atrazine	1.78E-15	3.44E-16	1.25E-19	1.69E-20	3.60E-17	0.00E+00	1.23E-17	2.17E-15
Benzaldehyde	1.31E-13	5.42E-14	2.23E-18	3.58E-19	2.65E-15	5.67E-20	9.04E-16	1.89E-13
Benzene	1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
Benzofuran	6.38E-13	1.24E-13	4.42E-17	5.98E-18	1.29E-14	1.25E-18	4.40E-15	7.79E-13
Benzoic Acid	6.42E-14	1.72E-14	1.67E-18	2.60E-19	1.30E-15	4.96E-20	4.43E-16	8.32E-14
Benzonitrile	1.40E-12	5.28E-13	2.60E-17	4.15E-18	2.84E-14	6.74E-19	9.66E-15	1.97E-12
Benzothiazole	5.97E-16	1.39E-16	1.83E-20	2.79E-21	1.21E-17	5.67E-24	4.12E-18	7.52E-16
Biphenyl	6.42E-13	NA	NA	NA	NA	NA	NA	6.42E-13
Bis(2-ethylhexyl)phthalate	3.52E-16	3.44E-16	7.91E-15	3.83E-16	7.14E-18	7.34E-24	2.43E-18	9.00E-15
Carbazole	2.88E-15	3.55E-16	4.96E-19	5.56E-20	5.83E-17	7.46E-21	1.98E-17	3.31E-15
Carbon Tetrachloride	8.35E-15	NA	NA	NA	NA	NA	NA	8.35E-15
4-Chloroaniline	1.65E-16	4.31E-17	4.11E-21	6.40E-22	3.34E-18	2.13E-21	1.14E-18	2.12E-16
Chlorobenzene	3.96E-16	NA	NA	NA	NA	NA	NA	3.96E-16
4-Chlorobiphenyl	4.06E-16	2.44E-17	1.52E-18	9.48E-20	8.22E-18	7.66E-22	2.80E-18	4.43E-16
4,4-Chlorobiphenyl	2.04E-17	1.01E-18	3.41E-19	1.86E-20	4.14E-19	1.29E-23	1.41E-19	2.24E-17
Chloroethane	1.45E-14	6.01E-15	2.50E-19	4.01E-20	2.95E-16	4.32E-23	1.00E-16	2.10E-14
Chloroform	7.09E-14	NA	NA	NA	NA	NA	NA	7.09E-14
Dibenzofuran	1.28E-14	1.02E-15	9.63E-18	7.80E-19	2.59E-16	4.94E-20	8.82E-17	1.42E-14
Dichlorobenzenes (total)	1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
1,4-Dichlorobenzene	1.04E-16	NA	NA	NA	NA	NA	NA	1.04E-16
1,1-Dichloroethane	4.71E-15	NA	NA	NA	NA	NA	NA	4.71E-15
1,2-Dichloroethane	1.47E-15	1.56E-15	2.51E-20	4.02E-21	2.98E-17	1.29E-22	1.02E-17	3.07E-15
1,1-Dichloroethene	2.52E-15	NA	NA	NA	NA	NA	NA	2.52E-15
1,2-Dichloroethene	2.18E-15	NA	NA	NA	NA	NA	NA	2.18E-15
1,2-Dichloropropane	9.34E-16	NA	NA	NA	NA	NA	NA	9.34E-16
Dieldrin	1.46E-17	1.24E-16	9.88E-19	5.05E-20	2.95E-19	2.44E-24	1.01E-19	1.40E-16
Dimethyldisulfide	4.01E-15	NA	NA	NA	NA	NA	NA	4.01E-15
Hexachlorobenzene	3.86E-14	3.85E-15	5.04E-16	2.79E-17	7.81E-16	9.71E-19	2.66E-16	4.40E-14
Hydrazine	4.98E-11	1.05E-08	9.55E-18	1.62E-18	1.01E-12	7.96E-20	3.44E-13	1.06E-08
Lindane	6.78E-18	9.41E-19	1.19E-21	1.33E-22	1.37E-19	1.07E-25	4.68E-20	7.91E-18
Malathion	2.00E-17	1.91E-18	1.88E-21	2.41E-22	4.05E-19	0.00E+00	1.38E-19	2.25E-17
Methyl chloride	1.96E-15	NA	NA	NA	NA	NA	NA	1.96E-15
Methylene chloride	1.18E-13	NA	NA	NA	NA	NA	NA	1.18E-13
Methyl ethyl ketone	2.47E-15	8.02E-15	1.22E-20	2.04E-21	5.01E-17	0.00E+00	1.71E-17	1.06E-14
4-Methylphenol	2.25E-15	1.09E-15	6.34E-20	9.75E-21	4.55E-17	6.13E-23	1.55E-17	3.40E-15
Monomethyl hydrazine	1.57E-11	2.49E-09	3.01E-18	5.10E-19	3.18E-13	2.52E-20	1.08E-13	2.50E-09
Naphthalene	2.65E-16	4.22E-17	5.02E-20	5.51E-21	5.36E-18	3.35E-19	1.83E-18	3.15E-16
Naphthalene carbonitrile	1.40E-12	2.23E-13	2.66E-16	2.92E-17	2.84E-14	7.72E-18	9.66E-15	1.66E-12
n-Nitrosodimethylamine	1.60E-14	1.16E-12	3.13E-20	5.29E-21	3.24E-16	0.00E+00	1.10E-16	1.17E-12
PAHs								
Acenaphthalene	6.38E-14	1.05E-14	4.36E-17	3.60E-18	1.29E-15	2.37E-19	4.40E-16	7.60E-14
Acenaphthene	6.38E-14	5.62E-15	3.28E-17	2.87E-18	1.29E-15	9.18E-20	4.40E-16	7.11E-14
Benzo(a)pyrene	1.28E-13	3.00E-15	1.43E-14	7.21E-16	2.59E-15	3.17E-19	8.82E-16	1.49E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AX	AY	AZ	BA	BB	BC	BD	BE
2			TABLE 5							
61		Chrysene	1.28E-14	7.04E-16	3.42E-16	1.81E-17	2.59E-16	8.01E-19	8.82E-17	1.42E-14
62		Dibenzo(a,h)anthracene	1.28E-13	3.45E-15	1.72E-14	8.61E-16	2.59E-15	1.79E-16	8.82E-16	1.53E-13
63		Fluoranthene	1.28E-13	1.13E-14	9.62E-16	5.56E-17	2.59E-15	NA	8.82E-16	1.44E-13
64		Fluorene	1.28E-14	1.35E-15	1.61E-17	1.18E-18	2.59E-16	6.60E-20	8.82E-17	1.45E-14
65		Phenanthrene	4.98E-17	4.09E-18	9.29E-20	6.38E-21	1.01E-18	2.27E-19	3.44E-19	5.56E-17
66		Pyrene	2.56E-13	2.14E-14	1.76E-15	1.03E-16	5.18E-15	3.62E-18	1.76E-15	2.86E-13
67		Parathion	3.17E-17	2.93E-18	1.33E-20	1.22E-21	6.42E-19	7.17E-25	2.19E-19	3.55E-17
68		Pentachlorobenzene	1.57E-14	2.74E-15	8.69E-17	5.18E-18	3.18E-16	NA	1.08E-16	1.90E-14
69		Phenol	2.51E-16	2.66E-16	4.19E-21	6.73E-22	5.09E-18	NA	1.73E-18	5.24E-16
70		Pyridine	1.40E-12	NA	NA	NA	NA	NA	NA	1.40E-12
71		Quinoline	1.44E-14	5.37E-15	4.51E-19	6.86E-20	2.92E-16	1.43E-20	9.94E-17	2.02E-14
72		Tetrachlorobenzene	7.72E-15	2.94E-15	9.55E-18	7.03E-19	1.56E-16	NA	5.33E-17	1.09E-14
73		Tetrachloroethene	2.70E-16	NA	NA	NA	NA	NA	NA	2.70E-16
74		Toluene	4.30E-15	NA	NA	NA	NA	NA	NA	4.30E-15
75		Trichlorobenzene	3.91E-15	2.43E-16	2.25E-18	1.93E-19	7.92E-17	2.17E-20	2.70E-17	4.26E-15
76		Trichloroethene	2.88E-15	NA	NA	NA	NA	NA	NA	2.88E-15
77		Unsym. dimethyl hydrazine	6.20E-11	5.76E-09	2.25E-17	3.81E-18	1.25E-12	9.92E-20	4.27E-13	5.83E-09
78		Vapona	1.25E-16	5.68E-17	1.96E-21	3.16E-22	2.54E-18	4.78E-25	8.64E-19	1.86E-16
79		Vinyl acetate	1.78E-15	NA	NA	NA	NA	NA	NA	1.78E-15
80		Vinyl chloride	1.65E-15	NA	NA	NA	NA	NA	NA	1.65E-15
81		Xylenes (total)	3.07E-16	NA	NA	NA	NA	NA	NA	3.07E-16
82										
83	INORGANICS									
84		Arsenic	1.90E-12	3.74E-14	7.03E-14	3.73E-16	3.85E-14	1.10E-14	1.31E-15	2.06E-12
85		Cadmium	1.39E-14	4.32E-16	1.04E-16	1.25E-18	2.82E-16	NA	9.60E-18	1.47E-14
86		Chromium (III)	5.64E-14	NA	NA	NA	NA	NA	NA	5.64E-14
87		Chromium (VI)	1.98E-15	NA	NA	NA	NA	NA	NA	1.98E-15
88		Copper	1.42E-13	NA	NA	NA	NA	2.64E-15	NA	1.45E-13
89		Iron	4.35E-09	NA	NA	NA	NA	NA	NA	4.35E-09
90		Lead	7.32E-14	NA	NA	NA	NA	NA	NA	7.32E-14
91		Mercury	9.07E-14	3.20E-15	2.93E-16	4.66E-15	1.84E-15	NA	6.25E-17	1.01E-13
92		Selenium	2.34E-13	NA	NA	NA	NA	NA	NA	2.34E-13
93		Silver	1.45E-15	NA	NA	NA	NA	NA	NA	1.45E-15
94		Zinc	6.42E-13	NA	NA	NA	NA	5.84E-15	NA	6.48E-13
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair*br/bw/ugmg							

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
3			INFANT TOTAL EXPOSURE		
4		SENSITIVITY CASE			
5					
6			----------MAXIMUM----------		
7		18-Jun-91	INHALATION	BREAST MILK	TOTAL
8		16:31:23	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)
9		RES-B			
10					
11					
12	ORGANICS				
13		Acetone	3.70E-15	6.43E-17	3.77E-15
14		Acetonitrile	3.35E-12	7.93E-11	8.27E-11
15		Acrylonitrile	1.43E-12	4.40E-15	1.43E-12
16		Aldrin	5.20E-18	4.34E-17	4.86E-17
17		Aniline	1.88E-13	9.05E-13	1.09E-12
18		Atrazine	1.16E-15	3.62E-15	4.79E-15
19		Benzaldehyde	8.58E-14	3.13E-13	3.98E-13
20		Benzene	1.08E-15	1.25E-18	1.08E-15
21		Benzofuran	4.17E-13	1.30E-12	1.72E-12
22		Benzoic Acid	4.20E-14	1.37E-13	1.79E-13
23		Benzonitrile	9.17E-13	3.25E-12	4.17E-12
24		Benzothiazole	3.91E-16	1.23E-15	1.62E-15
25		Biphenyl	4.20E-13	7.29E-15	4.28E-13
26		Bis(2-ethylhexyl)phthalate	2.31E-16	6.95E-15	7.18E-15
27		Carbazole	1.88E-15	5.45E-15	7.33E-15
28		Carbon Tetrachloride	5.47E-15	9.49E-17	5.56E-15
29		4-Chloroaniline	1.08E-16	3.47E-16	4.55E-16
30		Chlorobenzene	2.59E-16	4.50E-18	2.64E-16
31		4-Chlorobiphenyl	2.66E-16	7.14E-16	9.80E-16
32		4,4-Chlorobiphenyl	1.34E-17	3.56E-17	4.90E-17
33		Chloroethane	9.52E-15	3.47E-14	4.43E-14
34		Chloroform	4.64E-14	8.06E-16	4.72E-14
35		Dibenzofuran	8.38E-15	2.31E-14	3.14E-14
36		Dichlorobenzenes (total)	1.08E-15	1.87E-17	1.10E-15
37		1,4-Dichlorobenzene	6.82E-17	1.18E-18	6.93E-17
38		1,1-Dichloroethane	3.09E-15	5.36E-17	3.14E-15
39		1,2-Dichloroethane	9.64E-16	5.81E-15	6.78E-15
40		1,1-Dichloroethene	1.65E-15	2.87E-17	1.68E-15
41		1,2-Dichloroethene	1.43E-15	2.48E-17	1.45E-15
42		1,2-Dichloropropane	6.11E-16	1.06E-17	6.22E-16
43		Dieldrin	9.55E-18	3.25E-16	3.35E-16
44		Dimethyldisulfide	2.62E-15	4.56E-17	2.67E-15
45		Hexachlorobenzene	2.52E-14	1.62E-14	4.15E-14
46		Hydrazine	3.26E-11	2.05E-08	2.05E-08
47		Lindane	4.44E-18	1.31E-17	1.75E-17
48		Malathion	1.31E-17	3.63E-17	4.94E-17
49		Methyl chloride	1.28E-15	2.22E-17	1.30E-15
50		Methylene chloride	7.73E-14	1.34E-15	7.86E-14
51		Methyl ethyl ketone	1.62E-15	2.05E-14	2.22E-14
52		4-Methylphenol	1.47E-15	5.99E-15	7.46E-15
53		Monomethyl hydrazine	1.03E-11	4.45E-09	4.46E-09
54		Naphthalene	1.73E-16	5.26E-16	6.99E-16
55		Naphthalene carbonitrile	9.17E-13	2.78E-12	3.69E-12
56		n-Nitrosodimethylamine	1.05E-14	2.77E-12	2.78E-12
57		PAHs			
58		Acenaphthalene	4.17E-14	1.28E-13	1.70E-13
59		Acenaphthene	4.17E-14	1.16E-13	1.58E-13
60		Benzo(a)pyrene	8.38E-14	2.24E-13	3.08E-13

ROCKY MTN ARSENAL - RESIDENT SCENARIO B - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
61		Chrysene	8.38E-15	2.26E-14	3.10E-14
62		Dibenzo(a,h)anthracene	8.38E-14	2.27E-13	3.11E-13
63		Fluoranthene	8.38E-14	2.34E-13	3.18E-13
64		Fluorene	8.38E-15	2.39E-14	3.22E-14
65		Phenanthrene	3.26E-17	9.06E-17	1.23E-16
66		Pyrene	1.68E-13	4.66E-13	6.34E-13
67		Parathion	2.07E-17	5.80E-17	7.87E-17
68		Pentachlorobenzene	1.03E-14	7.23E-15	1.75E-14
69		Phenol	1.65E-16	9.91E-16	1.16E-15
70		Pyridine	9.17E-13	1.59E-14	9.33E-13
71		Quinoline	9.43E-15	3.47E-14	4.41E-14
72		Tetrachlorobenzene	5.05E-15	4.42E-15	9.47E-15
73		Tetrachloroethene	1.77E-16	3.07E-18	1.80E-16
74		Toluene	2.82E-15	8.15E-18	2.82E-15
75		Trichlorobenzene	2.56E-15	1.55E-15	4.11E-15
76		Trichloroethene	1.88E-15	3.27E-17	1.92E-15
77		Unsym. dimethyl hydrazine	4.06E-11	1.15E-08	1.15E-08
78		Vapona	8.20E-17	3.08E-16	3.90E-16
79		Vinyl acetate	1.16E-15	2.02E-17	1.18E-15
80		Vinyl chloride	1.08E-15	1.87E-17	1.10E-15
81		Xylenes (total)	2.01E-16	1.16E-19	2.01E-16
82					
83	INORGANICS				
84		Arsenic	1.25E-12	NE	1.25E-12
85		Cadmium	9.11E-15	NE	9.11E-15
86		Chromium (III)	3.69E-14	NE	3.69E-14
87		Chromium (VI)	1.30E-15	NE	1.30E-15
88		Copper	9.32E-14	NE	9.32E-14
89		Iron	2.84E-09	NE	2.84E-09
90		Lead	4.79E-14	NE	4.79E-14
91		Mercury	5.94E-14	NE	5.94E-14
92		Selenium	1.53E-13	NE	1.53E-13
93		Silver	9.52E-16	NE	9.52E-16
94		Zinc	4.20E-13	NE	4.20E-13
95					
96					
97					
98			br	3.80E+00 M3/day	
99			bw	9.00E+00 Kg	
100			um	1.00E+03 ug/mg	
101					
102					
103			Inhalation dose = Cair *br/bw/ugmg		

TABLE 28
CARCINOGENIC SLOPE FACTORS ((mg/kg-day)-1)

RES-B
SENSITIVITY CASE

	Inhalation Slope Factor	Oral Slope Factor	Dermal Slope Factor
ORGANICS			
Acrylonitrile	2.40E-01	5.40E-01	NC
Aldrin	1.70E+01	1.70E+01	3.40E+01
Aniline	5.70E-03	5.70E-03	1.14E-02
Benzene	2.90E-02	2.90E-02	NC
Bis(2-ethylhexyl)phthalate	1.40E-02	1.40E-02	2.80E-02
Carbazole	2.00E-02	2.00E-02	4.00E-02
Carbon Tetrachloride	1.30E-01	1.30E-01	NC
Chloroform	8.10E-02	6.10E-03	NC
1,4-Dichlorobenzene	2.40E-02	2.40E-02	NC
1,1-Dichloroethane			
1,2-Dichloroethane	9.10E-02	9.10E-02	1.82E-01
1,1-Dichloroethene	1.20E+00	6.00E-01	NC
1,2-Dichloropropane	6.80E-02	6.80E-02	NC
Dieldrin	1.60E+01	1.60E+01	3.20E+01
Hexachlorobenzene	1.60E+00	1.60E+00	3.20E+00
Hydrazine	1.71E+01	3.00E+00	6.00E+00
Lindane	1.30E+00	1.30E+00	2.60E+00
Methyl chloride	6.30E-03	1.30E-02	NC
Methylene chloride	1.40E-02	7.50E-03	NC
4-Methylphenol			
Monomethyl hydrazine	1.10E+00	1.10E+00	2.20E+00
n-Nitrosodimethylamine	5.10E+01	5.10E+01	1.02E+02
PAHs			
Benzo(a)pyrene	6.10E+00	1.15E+01	2.30E+01
Chrysene	6.10E+00	1.15E+01	2.30E+01
Dibenzo(a,h)anthracene	6.10E+00	1.15E+01	2.30E+01
Parathion			
Quinoline	1.20E+01	1.20E+01	2.40E+01
Tetrachloroethene	3.30E-03	5.10E-02	NC
Trichloroethene	1.10E-02	1.10E-02	NC
Vapona	2.90E-01	2.90E-01	5.80E-01
Vinyl chloride	2.95E-01	2.30E+00	NC
INORGANICS			
Arsenic	1.50E+01	1.75E+00	3.50E+01
Cadmium	6.10E+00	NC	NC
Chromium (VI)	4.10E+01	NC	NC
Total			

AED Adult Exposure Duration	64
CED Child Exposure Duration	5
CID Child Inhalation Duration	1
IED Infant Exposure Duration	1
IID Infant Inhalation Duration	1

TABLE 29
ADULT CARCINOGENIC RISK

RES-B SENSITIVITY CASE	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL ADULT CARC. RISK
ORGANICS							
Acrylonitrile	NA	NA	NA	NA	NA	NA	NA
Aldrin	1.02E-16	7.43E-19	1.12E-19	2.73E-19	4.36E-26	2.01E-19	1.04E-16
Aniline	6.03E-16	2.31E-21	9.04E-22	3.31E-18	1.22E-21	2.44E-18	6.09E-16
Benzene	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	2.84E-18	5.14E-19	6.14E-20	9.97E-21	4.16E-26	7.33E-21	3.43E-18
Carbazole	3.33E-18	8.37E-22	3.22E-22	1.16E-19	6.04E-23	8.55E-20	3.53E-18
Carbon Tetrachloride	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	7.59E-17	3.31E-22	1.29E-22	2.71E-19	4.76E-24	1.99E-19	7.64E-17
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA
Dieldrin	1.19E-15	1.25E-19	2.95E-20	4.72E-19	1.58E-23	3.47E-19	1.19E-15
Hexachlorobenzene	2.99E-15	1.06E-17	3.21E-18	1.25E-16	6.29E-19	9.17E-17	3.23E-15
Hydrazine	1.52E-08	4.47E-18	1.75E-18	3.02E-13	9.66E-20	2.22E-13	1.52E-08
Lindane	5.92E-19	1.29E-22	4.98E-23	1.78E-20	5.62E-26	1.31E-20	6.23E-19
Methyl chloride	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	1.20E-09	5.17E-19	2.03E-19	3.49E-14	1.12E-20	2.57E-14	1.20E-09
n-Nitrosodimethylamine	3.47E-11	2.48E-19	9.74E-20	1.65E-15	0.00E+00	1.21E-15	3.47E-11
PAHs							
Benzo(a)pyrene	4.10E-15	1.16E-15	2.51E-16	2.97E-15	1.47E-18	2.19E-15	1.07E-14
Chrysene	3.19E-15	4.05E-17	1.11E-17	2.97E-16	3.73E-18	2.19E-16	3.76E-15
Dibenzo(a,h)anthracene	7.23E-15	1.34E-15	2.81E-16	2.97E-15	8.35E-16	2.19E-15	1.48E-14
Parathion	NE	NE	NE	NE	NE	NE	NE
Quinoline	3.20E-14	7.28E-19	2.85E-19	3.49E-16	6.96E-20	2.57E-16	3.26E-14
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Vapona	7.17E-18	8.29E-23	3.25E-23	7.34E-20	5.61E-26	5.40E-20	7.30E-18
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA
INORGANICS							
Arsenic	1.98E-15	3.65E-15	4.78E-17	6.73E-15	7.82E-15	4.95E-15	2.52E-14
Cadmium	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	NA	NA	NA	NA	NA	NA	NA
Total	1.64E-08	6.21E-15	5.96E-16	3.52E-13	8.66E-15	2.59E-13	1.64E-08

TABLE 30
CHILD CARCINOGENIC RISK

RES-B SENSITIVITY CASE	INHALATION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL CHILD CARC. RISK
ORGANICS								
Acrylonitrile	7.47E-15	NA	NA	NA	NA	NA	NA	7.47E-15
Aldrin	1.93E-18	1.20E-17	3.35E-19	2.18E-20	1.93E-19	7.70E-27	1.31E-19	1.46E-17
Aniline	2.34E-17	9.47E-17	1.04E-21	1.76E-22	2.34E-18	2.15E-22	1.59E-18	1.22E-16
Benzene	6.83E-19	NA	NA	NA	NA	NA	NA	6.83E-19
Bis(2-ethylhexyl)phthalate	7.05E-20	3.32E-19	2.32E-19	1.20E-20	7.03E-21	7.34E-27	4.79E-21	6.58E-19
Carbazole	8.22E-19	4.24E-19	3.77E-22	6.28E-23	8.21E-20	1.07E-23	5.59E-20	1.39E-18
Carbon Tetrachloride	1.55E-17	NA	NA	NA	NA	NA	NA	1.55E-17
Chloroform	8.21E-17	NA	NA	NA	NA	NA	NA	8.21E-17
1,4-Dichlorobenzene	3.57E-20	NA	NA	NA	NA	NA	NA	3.57E-20
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	1.91E-18	9.79E-18	1.49E-22	2.52E-23	1.91E-19	8.40E-25	1.30E-19	1.20E-17
1,1-Dichloroethene	4.33E-17	NA	NA	NA	NA	NA	NA	4.33E-17
1,2-Dichloropropane	9.07E-19	NA	NA	NA	NA	NA	NA	9.07E-19
Dieldrin	3.34E-18	1.39E-16	5.64E-20	5.74E-21	3.33E-19	2.78E-24	2.27E-19	1.43E-16
Hexachlorobenzene	8.82E-16	3.53E-16	4.80E-18	6.25E-19	8.80E-17	1.11E-19	5.99E-17	1.39E-15
Hydrazine	1.22E-11	2.22E-09	2.02E-18	3.42E-19	2.13E-13	1.70E-20	1.45E-13	2.23E-09
Lindane	1.26E-19	7.46E-20	5.84E-23	9.71E-24	1.26E-20	9.91E-27	8.56E-21	2.22E-19
Methyl chloride	1.76E-19	NA	NA	NA	NA	NA	NA	1.76E-19
Methylene chloride	2.36E-17	NA	NA	NA	NA	NA	NA	2.36E-17
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	2.47E-13	1.93E-10	2.33E-19	3.95E-20	2.46E-14	1.98E-21	1.68E-14	1.93E-10
n-Nitrosodimethylamine	1.16E-14	4.16E-12	1.12E-19	1.90E-20	1.16E-15	0.00E+00	7.92E-16	4.17E-12
PAHs								
Benzo(a)pyrene	1.12E-14	5.05E-16	5.24E-16	4.88E-17	2.10E-15	2.60E-19	1.43E-15	1.58E-14
Chrysene	1.12E-15	3.77E-16	1.83E-17	2.16E-18	2.10E-16	6.58E-19	1.43E-16	1.87E-15
Dibenzo(a,h)anthracene	1.12E-14	8.69E-16	6.06E-16	5.47E-17	2.10E-15	1.47E-16	1.43E-15	1.64E-14
Parathion	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	2.47E-15	4.31E-15	3.28E-19	5.54E-20	2.47E-16	1.23E-20	1.68E-16	7.19E-15
Tetrachloroethene	1.27E-20	NA	NA	NA	NA	NA	NA	1.27E-20
Trichloroethene	4.52E-19	NA	NA	NA	NA	NA	NA	4.52E-19
Vapona	5.19E-19	1.11E-18	3.74E-23	6.33E-24	5.18E-20	9.89E-27	3.53E-20	1.72E-18
Vinyl chloride	6.94E-18	NA	NA	NA	NA	NA	NA	6.94E-18
INORGANICS								
Arsenic	4.08E-13	2.50E-16	1.65E-15	9.31E-18	4.75E-15	1.38E-15	3.24E-15	4.19E-13
Cadmium	1.21E-15	NA	NA	NA	NA	NA	NA	1.21E-15
Chromium (VI)	1.16E-15	NA	NA	NA	NA	NA	NA	1.16E-15
Total	1.29E-11	2.42E-09	2.80E-15	1.16E-16	2.48E-13	1.53E-15	1.69E-13	2.43E-09

TABLE 31
INFANT CARCINOGENIC RISK

RES-B SENSITIVITY CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	TOTAL INFANT CARC. RISK
ORGANICS			
Acrylonitrile	4.89E-15	3.39E-17	4.92E-15
Aldrin	1.26E-18	1.05E-17	1.18E-17
Aniline	1.53E-17	7.37E-17	8.90E-17
Benzene	4.47E-19	5.17E-22	4.47E-19
Bis(2-ethylhexyl)phthalate	4.61E-20	1.39E-18	1.44E-18
Carbazole	5.38E-19	1.56E-18	2.09E-18
Carbon Tetrachloride	1.02E-17	1.76E-19	1.03E-17
Chloroform	5.37E-17	7.02E-20	5.38E-17
1,4-Dichlorobenzene	2.34E-20	4.06E-22	2.38E-20
1,1-Dichloroethane	NE	NE	NE
1,2-Dichloroethane	1.25E-18	7.56E-18	8.81E-18
1,1-Dichloroethene	2.83E-17	2.46E-19	2.86E-17
1,2-Dichloropropane	5.94E-19	1.03E-20	6.04E-19
Dieldrin	2.18E-18	7.44E-17	7.66E-17
Hexachlorobenzene	5.77E-16	3.71E-16	9.48E-16
Hydrazine	7.97E-12	8.78E-10	8.86E-10
Lindane	8.24E-20	2.43E-19	3.26E-19
Methyl chloride	1.15E-19	4.13E-21	1.19E-19
Methylene chloride	1.55E-17	1.44E-19	1.56E-17
4-Methylphenol	NE	NE	NE
Monomethyl hydrazine	1.62E-13	6.99E-11	7.01E-11
n-Nitrosodimethylamine	7.62E-15	2.02E-12	2.03E-12
PAHs			
Benzo(a)pyrene	7.30E-15	3.68E-14	4.41E-14
Chrysene	7.30E-16	3.71E-15	4.44E-15
Dibenzo(a,h)anthracene	7.30E-15	3.73E-14	4.46E-14
Parathion	NE	NE	NE
Quinoline	1.62E-15	5.95E-15	7.56E-15
Tetrachloroethene	8.33E-21	2.23E-21	1.06E-20
Trichloroethene	2.96E-19	5.14E-21	3.01E-19
Vapona	3.40E-19	1.27E-18	1.61E-18
Vinyl chloride	4.55E-18	6.15E-19	5.16E-18
INORGANICS			
Arsenic	2.67E-13	NA	2.67E-13
Cadmium	7.94E-16	NA	7.94E-16
Chromium (VI)	7.61E-16	NA	7.61E-16
Total	8.43E-12	9.50E-10	9.59E-10

TABLE 32
TOTAL LIFETIME CARCINOGENIC RISK

RES-B SENSITIVITY CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS									
Acrylonitrile	1.24E-14	3.39E-17	NA	NA	NA	NA	NA	NA	1.24E-14
Aldrin	3.19E-18	1.05E-17	1.14E-16	1.08E-18	1.34E-19	4.66E-19	5.13E-26	3.32E-19	1.30E-16
Aniline	3.88E-17	7.37E-17	6.98E-16	3.35E-21	1.08E-21	5.65E-18	1.43E-21	4.03E-18	8.20E-16
Benzene	1.13E-18	5.17E-22	NA	NA	NA	NA	NA	NA	1.13E-18
Bis(2-ethylhexyl)phthalate	1.17E-19	1.39E-18	3.17E-18	7.46E-19	7.33E-20	1.70E-20	4.89E-26	1.21E-20	5.53E-18
Carbazole	1.36E-18	1.56E-18	3.75E-18	1.21E-21	3.85E-22	1.98E-19	7.11E-23	1.41E-19	7.01E-18
Carbon Tetrachloride	2.57E-17	1.76E-19	NA	NA	NA	NA	NA	NA	2.58E-17
Chloroform	1.36E-16	7.02E-20	NA	NA	NA	NA	NA	NA	1.36E-16
1,4-Dichlorobenzene	5.91E-20	4.06E-22	NA	NA	NA	NA	NA	NA	5.95E-20
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	3.17E-18	7.56E-18	8.57E-17	4.80E-22	1.55E-22	4.62E-19	5.60E-24	3.29E-19	9.73E-17
1,1-Dichloroethene	7.16E-17	2.46E-19	NA	NA	NA	NA	NA	NA	7.18E-17
1,2-Dichloropropane	1.50E-18	1.03E-20	NA	NA	NA	NA	NA	NA	1.51E-18
Dieldrin	5.52E-18	7.44E-17	1.33E-15	1.81E-19	3.52E-20	8.05E-19	1.86E-23	5.74E-19	1.41E-15
Hexachlorobenzene	1.46E-15	3.71E-16	3.35E-15	1.54E-17	3.83E-18	2.13E-16	7.40E-19	1.52E-16	5.56E-15
Hydrazine	2.01E-11	8.78E-10	1.74E-08	6.49E-18	2.10E-18	5.15E-13	1.14E-19	3.67E-13	1.83E-08
Lindane	2.08E-19	2.43E-19	6.67E-19	1.88E-22	5.95E-23	3.04E-20	6.61E-26	2.17E-20	1.17E-18
Methyl chloride	2.92E-19	4.13E-21	NA	NA	NA	NA	NA	NA	2.96E-19
Methylene chloride	3.91E-17	1.44E-19	NA	NA	NA	NA	NA	NA	3.92E-17
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	4.09E-13	6.99E-11	1.40E-09	7.50E-19	2.42E-19	5.96E-14	1.32E-20	4.25E-14	1.47E-09
n-Nitrosodimethylamine	1.93E-14	2.02E-12	3.88E-11	3.61E-19	1.16E-19	2.81E-15	0.00E+00	2.00E-15	4.09E-11
PAHs									
Benzo(a)pyrene	1.85E-14	3.68E-14	4.61E-15	1.69E-15	2.99E-16	5.07E-15	1.73E-18	3.62E-15	7.05E-14
Chrysene	1.85E-15	3.71E-15	3.57E-15	5.88E-17	1.33E-17	5.07E-16	4.39E-18	3.62E-16	1.01E-14
Dibenzo(a,h)anthracene	1.85E-14	3.73E-14	8.10E-15	1.95E-15	3.35E-16	5.07E-15	9.83E-16	3.62E-15	7.58E-14
Parathion	NE	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	4.09E-15	5.95E-15	3.63E-14	1.06E-18	3.40E-19	5.96E-16	8.19E-20	4.25E-16	4.74E-14
Tetrachloroethene	2.10E-20	2.23E-21	NA	NA	NA	NA	NA	NA	2.33E-20
Trichloroethene	7.48E-19	5.14E-21	NA	NA	NA	NA	NA	NA	7.53E-19
Vapona	8.59E-19	1.27E-18	8.29E-18	1.20E-22	3.88E-23	1.25E-19	6.60E-26	8.93E-20	1.06E-17
Vinyl chloride	1.15E-17	6.15E-19	NA	NA	NA	NA	NA	NA	1.21E-17
INORGANICS									
Arsenic	6.75E-13	NA	2.23E-15	5.29E-15	5.71E-17	1.15E-14	9.20E-15	8.19E-15	7.11E-13
Cadmium	2.01E-15	NA	NA	NA	NA	NA	NA	NA	2.01E-15
Chromium (VI)	1.92E-15	NA	NA	NA	NA	NA	NA	NA	1.92E-15
Total	2.13E-11	9.50E-10	1.88E-08	9.01E-15	7.12E-16	6.01E-13	1.02E-14	4.28E-13	1.98E-08

TABLE 33
TOTAL LIFETIME CARCINOGENIC RISK

RES-B SENSITIVITY CASE	INHALATION CARC. RISK	INGESTION CARC. RISK	DERMAL CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS				
Acrylonitrile	1.24E-14	3.39E-17	NA	1.24E-14
Aldrin	3.19E-18	1.27E-16	3.32E-19	1.30E-16
Aniline	3.88E-17	7.77E-16	4.03E-18	8.20E-16
Benzene	1.13E-18	5.17E-22	NA	1.13E-18
Bis(2-ethylhexyl)phthalate	1.17E-19	5.40E-18	1.21E-20	5.53E-18
Carbazole	1.36E-18	5.51E-18	1.41E-19	7.01E-18
Carbon Tetrachloride	2.57E-17	1.76E-19	NA	2.58E-17
Chloroform	1.36E-16	7.02E-20	NA	1.36E-16
1,4-Dichlorobenzene	5.91E-20	4.06E-22	NA	5.95E-20
1,1-Dichloroethane	NE	NE	NE	NE
1,2-Dichloroethane	3.17E-18	9.38E-17	3.29E-19	9.73E-17
1,1-Dichloroethene	7.16E-17	2.46E-19	NA	7.18E-17
1,2-Dichloropropane	1.50E-18	1.03E-20	NA	1.51E-18
Dieldrin	5.52E-18	1.41E-15	5.74E-19	1.41E-15
Hexachlorobenzene	1.46E-15	3.95E-15	1.52E-16	5.56E-15
Hydrazine	2.01E-11	1.83E-08	3.67E-13	1.83E-08
Lindane	2.08E-19	9.41E-19	2.17E-20	1.17E-18
Methyl chloride	2.92E-19	4.13E-21	NA	2.96E-19
Methylene chloride	3.91E-17	1.44E-19	NA	3.92E-17
4-Methylphenol	NE	NE	NE	NE
Monomethyl hydrazine	4.09E-13	1.47E-09	4.25E-14	1.47E-09
n-Nitrosodimethylamine	1.93E-14	4.08E-11	2.00E-15	4.09E-11
PAHs				
Benzo(a)pyrene	1.85E-14	4.84E-14	3.62E-15	7.05E-14
Chrysene	1.85E-15	7.86E-15	3.62E-16	1.01E-14
Dibenzo(a,h)anthracene	1.85E-14	5.38E-14	3.62E-15	7.58E-14
Parathion	NE	NE	NE	NE
Quinoline	4.09E-15	4.29E-14	4.25E-16	4.74E-14
Tetrachloroethene	2.10E-20	2.23E-21	NA	2.33E-20
Trichloroethene	7.48E-19	5.14E-21	NA	7.53E-19
Vapona	8.59E-19	9.69E-18	8.93E-20	1.06E-17
Vinyl chloride	1.15E-17	6.15E-19	NA	1.21E-17
INORGANICS				
Arsenic	6.75E-13	2.83E-14	8.19E-15	7.11E-13
Cadmium	2.01E-15	NA	NA	2.01E-15
Chromium (VI)	1.92E-15	NA	NA	1.92E-15
Total	2.13E-11	1.98E-08	4.28E-13	1.98E-08

TABLE 34
REFERENCE DOSES FOR NONCARCINOGENIC EFFECTS (mg/kg-day)

RES-B SENSITIVITY CASE	Inhalation RfD	Oral RfD	Dermal RfD
ORGANICS			
Acetone	1.82E+00	1.00E-01	NC
Acetonitrile	1.00E-02	6.00E-02	3.00E-02
Acrylonitrile	4.39E-03	2.70E-04	NC
Aldrin	2.55E-04	3.00E-05	1.50E-05
Aniline	7.76E-03	1.95E-03	9.75E-04
Atrazine	5.10E-03	5.00E-03	2.50E-03
Benzaldehyde	1.00E-01	1.00E-01	5.00E-02
Benzene	3.26E-02	1.00E-03	NC
Benzofuran	5.00E-03	5.00E-03	2.50E-03
Benzoic Acid	4.00E+00	4.00E+00	2.00E+00
Benzonitrile	8.00E-03	8.00E-03	4.00E-03
Benzothiazole	1.00E-03	1.00E-03	5.00E-04
Biphenyl	1.33E-03	5.00E-02	NC
Bis(2-ethylhexyl)phthalate	5.10E-03	4.00E-03	1.00E-02
Carbazole	5.00E-03	5.00E-03	2.50E-03
Carbon Tetrachloride	3.16E-02	7.00E-04	NC
4-Chloroaniline	4.00E-03	4.00E-03	2.00E-03
Chlorobenzene	5.00E-03	2.00E-02	NC
4-Chlorobiphenyl	2.45E-02	2.45E-02	1.22E-02
4,4-Chlorobiphenyl	2.33E-02	2.33E-02	1.16E-02
Chloroethane	2.65E+00	NA	NC
Chloroform	5.00E-02	1.00E-02	NC
Dibenzofuran	NA	NA	NA
Dichlorobenzenes (total)	4.00E-02	9.00E-02	NC
1,1-Dichloroethane	1.00E-01	1.00E-01	NC
1,2-Dichloroethane	4.08E-02	4.89E-03	2.45E-03
1,1-Dichloroethene	2.04E-02	9.00E-03	NC
1,2-Dichloroethene	8.10E-01	2.00E-02	NC
1,2-Dichloropropane	3.54E-01	8.60E-03	NC
Dieldrin	2.55E-04	5.00E-05	2.50E-05
Dimethyldisulfide	8.10E-03	8.10E-03	NC
Hexachlorobenzene	8.00E-04	8.00E-04	4.00E-04
Hydrazine	1.33E-04	6.00E-04	3.00E-04
Lindane	5.10E-04	3.00E-04	1.50E-04
Malathion	1.02E-02	2.00E-02	1.00E-02
Methyl chloride	1.05E-01	1.80E-02	NC
Methylene chloride	8.57E-01	6.00E-02	NC
Methyl ethyl ketone	9.00E-02	5.00E-01	2.50E-01
4-Methylphenol	1.02E-02	5.00E-02	2.50E-02
Monomethyl hydrazine	1.94E-05	2.20E-04	1.10E-04
Naphthalene	5.10E-02	4.00E-03	2.00E-03
Naphthalene carbonitrile	5.10E-02	4.00E-03	2.00E-03
n-Nitrosodimethylamine	2.80E-04	2.80E-04	1.40E-04
PAHs			
Acenaphthalene	6.00E-02	6.00E-02	3.00E-02
Acenaphthene	6.00E-02	6.00E-02	3.00E-02
Benzo(a)pyrene	3.00E-02	3.00E-02	1.50E-02
Chrysene	3.00E-02	3.00E-02	1.50E-02

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

	B	C	D	E	F
155					
156			TABLE 34		
215		Dibenzo(a,h)anthracene	3.00E-02	3.00E-02	1.50E-02
216		Fluoranthene	4.00E-02	4.00E-02	2.00E-02
217		Fluorene	4.00E-02	4.00E-02	2.00E-02
218		Phenanthrene	3.00E-02	3.00E-02	1.50E-02
219		Pyrene	3.00E-02	3.00E-02	1.50E-02
220		Parathion	5.10E-05	6.00E-03	3.00E-03
221		Pentachlorobenzene	8.00E-04	8.00E-04	4.00E-04
222		Phenol	1.94E-02	6.00E-01	3.00E-01
223		Pyridine	1.63E-02	1.00E-03	NC
224		Quinoline	2.00E-01	2.00E-01	1.00E-01
225		Tetrachlorobenzene	3.00E-04	3.00E-04	1.50E-04
226		Tetrachloroethene	3.46E-01	1.00E-02	NC
227		Toluene	5.71E-01	2.00E-01	NC
228		Trichlorobenzene	3.00E-03	2.00E-02	1.00E-02
229		Trichloroethene	2.74E-01	7.35E-03	NC
230		Unsym. dimethyl hydrazine	1.22E-03	1.22E-03	6.10E-04
231		Vapona	8.00E-04	8.00E-04	4.00E-04
232		Vinyl acetate	2.00E-01	1.00E+00	NC
233		Vinyl chloride	1.33E-02	1.30E-03	NC
234		Xylenes (total)	8.57E-02	2.00E+00	NC
235					
236	INORGANICS				
237		Arsenic	2.04E-04	1.00E-03	5.00E-05
238		Cadmium	5.10E-05	1.00E-03	5.00E-05
239		Chromium (III)	5.10E-04	NC	NC
240		Chromium (VI)	5.10E-05	NC	NC
241		Copper	1.00E-02	3.80E-02	NC
242		Iron	1.02E-03	NC	NC
243		Mercury	8.57E-05	3.00E-04	1.50E-05
244		Selenium	2.04E-04	NC	NC
245		Silver	1.02E-05	NC	NC
246		Zinc	8.19E-03	2.00E-01	NC

TABLE 35
ADULT HAZARD INDEX

RES-B SENSITIVITY CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL ADULT HAZARD INDEX
ORGANICS								
Acetone	1.38E-15	NA	NA	NA	NA	NA	NA	1.38E-15
Acetonitrile	2.27E-10	3.25E-10	4.04E-17	1.57E-17	1.91E-13	1.29E-19	1.41E-13	5.52E-10
Acrylonitrile	2.20E-10	NA	NA	NA	NA	NA	NA	2.20E-10
Aldrin	1.38E-14	2.25E-13	4.83E-14	5.48E-15	5.94E-16	9.36E-23	4.37E-16	2.94E-13
Aniline	1.64E-11	6.17E-11	2.38E-16	9.12E-17	3.31E-13	1.20E-16	2.43E-13	7.87E-11
Atrazine	1.54E-13	4.05E-14	4.33E-18	1.35E-18	7.97E-16	0.00E+00	5.86E-16	1.96E-13
Benzaldehyde	5.81E-13	2.74E-13	3.87E-18	1.44E-18	2.94E-15	2.51E-19	2.16E-15	8.60E-13
Benzene	2.24E-14	NA	NA	NA	NA	NA	NA	2.24E-14
Benzofuran	5.65E-11	1.46E-11	1.53E-15	4.80E-16	2.86E-13	1.11E-16	2.10E-13	7.16E-11
Benzoic Acid	7.11E-15	2.22E-15	7.25E-20	2.60E-20	3.60E-17	5.49E-21	2.65E-17	9.39E-15
Benzonitrile	7.76E-11	3.35E-11	5.63E-16	2.08E-16	3.93E-13	3.73E-17	2.89E-13	1.12E-10
Benzothiazole	2.64E-13	7.23E-14	3.16E-18	1.12E-18	1.34E-15	2.51E-21	9.85E-16	3.39E-13
Biphenyl	2.14E-10	NA	NA	NA	NA	NA	NA	2.14E-10
Bis(2-ethylhexyl)phthalate	3.06E-14	5.71E-14	3.42E-13	3.84E-14	1.98E-16	8.13E-22	2.91E-17	4.69E-13
Carbazole	2.55E-13	4.27E-14	1.72E-17	4.46E-18	1.29E-15	6.61E-19	9.49E-16	3.00E-13
Carbon Tetrachloride	1.17E-13	NA	NA	NA	NA	NA	NA	1.17E-13
4-Chloroaniline	1.82E-14	5.44E-15	1.78E-19	6.41E-20	9.23E-17	2.36E-19	6.79E-17	2.38E-14
Chlorobenzene	3.51E-14	NA	NA	NA	NA	NA	NA	3.51E-14
4-Chlorobiphenyl	7.34E-15	6.12E-16	1.07E-17	1.55E-18	3.71E-17	1.39E-20	2.74E-17	8.03E-15
4,4-Chlorobiphenyl	3.88E-16	2.65E-17	2.54E-18	3.20E-19	1.97E-18	2.45E-22	1.45E-18	4.21E-16
Chloroethane	2.43E-15	NE	NE	NE	NE	NE	NE	2.43E-15
Chloroform	6.28E-13	NA	NA	NA	NA	NA	NA	6.28E-13
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	1.82E-14	NA	NA	NA	NA	NA	NA	1.82E-14
1,1-Dichloroethane	2.09E-14	NA	NA	NA	NA	NA	NA	2.09E-14
1,2-Dichloroethane	1.60E-14	1.92E-13	8.88E-19	3.30E-19	6.75E-16	1.17E-20	4.97E-16	2.10E-13
1,1-Dichloroethene	5.48E-14	NA	NA	NA	NA	NA	NA	5.48E-14
1,2-Dichloroethene	1.19E-15	NA	NA	NA	NA	NA	NA	1.19E-15
1,2-Dichloropropane	1.17E-15	NA	NA	NA	NA	NA	NA	1.17E-15
Dieldrin	2.53E-14	1.65E-12	3.42E-15	4.05E-16	6.54E-16	2.16E-20	4.81E-16	1.68E-12
Dimethyldisulfide	2.19E-13	NA	NA	NA	NA	NA	NA	2.19E-13
Hexachlorobenzene	2.14E-11	3.08E-12	1.09E-13	1.40E-14	1.08E-13	5.38E-16	7.95E-14	2.47E-11
Hydrazine	1.66E-07	9.35E-06	2.76E-15	1.08E-15	1.86E-10	5.87E-17	1.37E-10	9.51E-06
Lindane	5.89E-15	1.91E-15	6.85E-19	1.77E-19	5.07E-17	1.58E-22	3.73E-17	7.89E-15
Malathion	8.70E-16	5.16E-17	1.63E-20	4.82E-21	2.24E-18	0.00E+00	1.65E-18	9.25E-16
Methyl chloride	8.26E-15	NA	NA	NA	NA	NA	NA	8.26E-15
Methylene chloride	6.10E-14	NA	NA	NA	NA	NA	NA	6.10E-14
Methyl ethyl ketone	1.22E-14	9.08E-15	4.22E-21	1.64E-21	1.11E-17	0.00E+00	8.16E-18	2.13E-14
4-Methylphenol	9.75E-14	1.29E-14	2.20E-19	7.82E-20	1.01E-16	5.43E-22	7.40E-17	1.11E-13
Monomethyl hydrazine	3.59E-07	5.52E-06	2.37E-15	9.30E-16	1.60E-10	5.07E-17	1.18E-10	5.88E-06
Naphthalene	2.30E-15	6.53E-15	2.18E-18	5.53E-19	1.48E-16	3.71E-17	1.09E-16	9.13E-15
Naphthalene carbonitrile	1.22E-11	3.46E-11	1.15E-14	2.92E-15	7.85E-13	8.55E-16	5.78E-13	4.81E-11
n-Nitrosodimethylamine	2.53E-11	2.69E-09	1.94E-17	7.58E-18	1.28E-13	0.00E+00	9.41E-14	2.72E-09
PAHs								
Acenaphthalene	4.71E-13	1.12E-13	1.26E-16	2.40E-17	2.38E-15	1.75E-18	1.75E-15	5.87E-13
Acenaphthene	4.71E-13	5.73E-14	9.46E-17	1.92E-17	2.38E-15	6.78E-19	1.75E-15	5.32E-13
Benzo(a)pyrene	1.89E-12	5.59E-14	8.25E-14	9.63E-15	9.56E-15	4.67E-18	7.03E-15	2.05E-12
Chrysene	1.89E-13	1.45E-14	1.98E-15	2.43E-16	9.56E-16	1.18E-17	7.03E-16	2.07E-13

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

B	C	H	I	J	K	L	M	N	O
		TABLE 35							
	Dibenzo(a,h)anthracene	1.89E-12	6.60E-14	9.90E-14	1.15E-14	9.56E-15	2.65E-15	7.03E-15	2.08E-12
	Fluoranthene	1.42E-12	1.79E-13	4.16E-15	5.58E-16	7.17E-15	NA	5.28E-15	1.61E-12
	Fluorene	1.42E-13	2.12E-14	6.99E-17	1.19E-17	7.17E-16	7.30E-19	5.28E-16	1.64E-13
	Phenanthrene	7.36E-16	8.52E-17	5.36E-19	8.53E-20	3.72E-18	3.35E-18	2.74E-18	8.31E-16
	Pyrene	3.78E-12	4.52E-13	1.02E-14	1.37E-15	1.91E-14	5.35E-17	1.41E-14	4.28E-12
	Parathion	2.75E-13	2.98E-16	3.84E-19	8.15E-20	1.18E-17	5.29E-23	8.71E-18	2.76E-13
	Pentachlorobenzene	8.70E-12	2.23E-12	1.88E-14	2.60E-15	4.40E-14	NA	3.24E-14	1.10E-11
	Phenol	5.74E-15	2.67E-16	1.21E-21	4.50E-22	9.39E-19	NA	6.91E-19	6.01E-15
	Pyridine	3.81E-11	NA	NA	NA	NA	NA	NA	3.81E-11
	Quinoline	3.19E-14	1.55E-14	3.91E-19	1.38E-19	1.62E-16	3.17E-20	1.19E-16	4.77E-14
	Tetrachlorobenzene	1.14E-11	6.45E-12	5.51E-15	9.40E-16	5.77E-14	NA	4.25E-14	1.80E-11
	Tetrachloroethene	3.45E-16	NA	NA	NA	NA	NA	NA	3.45E-16
	Toluene	3.34E-15	NA	NA	NA	NA	NA	NA	3.34E-15
	Trichlorobenzene	5.77E-13	7.18E-15	1.95E-17	3.86E-18	4.38E-16	4.80E-19	3.22E-16	5.85E-13
	Trichloroethene	4.65E-15	NA	NA	NA	NA	NA	NA	4.65E-15
	Unsym. dimethyl hydrazine	2.25E-08	2.56E-06	3.19E-15	1.25E-15	1.14E-10	3.60E-17	8.38E-11	2.58E-06
	Vapona	6.94E-14	3.59E-14	4.24E-19	1.58E-19	3.51E-16	2.64E-22	2.58E-16	1.06E-13
	Vinyl acetate	3.94E-15	NA	NA	NA	NA	NA	NA	3.94E-15
	Vinyl chloride	5.49E-14	NA	NA	NA	NA	NA	NA	5.49E-14
	Xylenes (total)	1.59E-15	NA	NA	NA	NA	NA	NA	1.59E-15
	INORGANICS								
	Arsenic	4.13E-09	2.03E-11	1.22E-11	1.50E-13	4.27E-12	4.89E-12	3.14E-12	4.18E-09
	Cadmium	1.21E-10	2.44E-13	1.80E-14	5.03E-16	3.12E-14	NA	2.30E-14	1.21E-10
	Chromium (III)	4.90E-11	NA	NA	NA	NA	NA	NA	4.90E-11
	Chromium (VI)	1.72E-11	NA	NA	NA	NA	NA	NA	1.72E-11
	Copper	6.30E-12	NA	NA	NA	NA	3.08E-14	NA	6.33E-12
	Iron	1.89E-06	NA	NA	NA	NA	NA	NA	1.89E-06
	Mercury	4.69E-10	6.23E-12	1.69E-13	6.23E-12	6.78E-13	NA	4.99E-13	4.83E-10
	Selenium	5.08E-10	NA	NA	NA	NA	NA	NA	5.08E-10
	Silver	6.32E-11	NA	NA	NA	NA	NA	NA	6.32E-11
	Zinc	3.47E-11	NA	NA	NA	NA	1.29E-14	NA	3.47E-11
	Total (Hazard Index)	2.44E-06	1.74E-05	1.31E-11	6.48E-12	4.68E-10	4.94E-12	3.44E-10	1.99E-05

TABLE 36
CHILD HAZARD INDEX

RES-B SENSITIVITY CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL CHILD HAZARD INDEX
ORGANICS								
Acetone	3.11E-15	NA	NA	NA	NA	NA	NA	3.11E-15
Acetonitrile	5.12E-10	5.81E-10	2.33E-16	3.93E-17	1.73E-12	2.92E-19	1.18E-12	1.10E-09
Acrylonitrile	4.96E-10	NA	NA	NA	NA	NA	NA	4.96E-10
Aldrin	3.12E-14	3.39E-13	2.79E-13	1.37E-14	5.36E-15	2.11E-22	3.65E-15	6.72E-13
Aniline	3.71E-11	1.24E-10	1.38E-15	2.27E-16	2.99E-12	2.70E-16	2.04E-12	1.66E-10
Atrazine	3.49E-13	6.88E-14	2.50E-17	3.38E-18	7.20E-15	0.00E+00	4.90E-15	4.30E-13
Benzaldehyde	1.31E-12	5.42E-13	2.23E-17	3.58E-18	2.65E-14	5.67E-19	1.81E-14	1.90E-12
Benzene	5.06E-14	NA	NA	NA	NA	NA	NA	5.06E-14
Benzofuran	1.28E-10	2.49E-11	8.85E-15	1.20E-15	2.58E-12	2.50E-16	1.76E-12	1.57E-10
Benzoic Acid	1.61E-14	4.30E-15	4.19E-19	6.49E-20	3.25E-16	1.24E-20	2.21E-16	2.09E-14
Benzonitrile	1.75E-10	6.60E-11	3.25E-15	5.18E-16	3.55E-12	8.43E-17	2.42E-12	2.47E-10
Benzothiazole	5.97E-13	1.39E-13	1.83E-17	2.79E-18	1.21E-14	5.67E-21	8.24E-15	7.56E-13
Biphenyl	4.83E-10	NA	NA	NA	NA	NA	NA	4.83E-10
Bis(2-ethylhexyl)phthalate	6.91E-14	8.59E-14	1.98E-12	9.59E-14	1.78E-15	1.83E-21	2.43E-16	2.23E-12
Carbazole	5.76E-13	7.10E-14	9.91E-17	1.11E-17	1.17E-14	1.49E-18	7.94E-15	6.66E-13
Carbon Tetrachloride	2.64E-13	NA	NA	NA	NA	NA	NA	2.64E-13
4-Chloroaniline	4.12E-14	1.08E-14	1.03E-18	1.60E-19	8.34E-16	5.34E-19	5.68E-16	5.34E-14
Chlorobenzene	7.92E-14	NA	NA	NA	NA	NA	NA	7.92E-14
4-Chlorobiphenyl	1.66E-14	9.94E-16	6.21E-17	3.87E-18	3.35E-16	3.13E-20	2.29E-16	1.82E-14
4,4-Chlorobiphenyl	8.77E-16	4.32E-17	1.46E-17	7.97E-19	1.78E-17	5.53E-22	1.21E-17	9.65E-16
Chloroethane	5.49E-15	NE	NE	NE	NE	NE	NE	5.49E-15
Chloroform	1.42E-12	NA	NA	NA	NA	NA	NA	1.42E-12
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	4.12E-14	NA	NA	NA	NA	NA	NA	4.12E-14
1,1-Dichloroethane	4.71E-14	NA	NA	NA	NA	NA	NA	4.71E-14
1,2-Dichloroethane	3.61E-14	3.18E-13	5.13E-18	8.23E-19	6.10E-15	2.64E-20	4.15E-15	3.65E-13
1,1-Dichloroethene	1.24E-13	NA	NA	NA	NA	NA	NA	1.24E-13
1,2-Dichloroethene	2.69E-15	NA	NA	NA	NA	NA	NA	2.69E-15
1,2-Dichloropropane	2.64E-15	NA	NA	NA	NA	NA	NA	2.64E-15
Dieldrin	5.72E-14	2.48E-12	1.98E-14	1.01E-15	5.91E-15	4.87E-20	4.03E-15	2.57E-12
Dimethyldisulfide	4.95E-13	NA	NA	NA	NA	NA	NA	4.95E-13
Hexachlorobenzene	4.82E-11	4.81E-12	6.30E-13	3.48E-14	9.76E-13	1.21E-15	6.65E-13	5.53E-11
Hydrazine	3.75E-07	1.75E-05	1.59E-14	2.70E-15	1.68E-09	1.33E-16	1.15E-09	1.79E-05
Lindane	1.33E-14	3.14E-15	3.95E-18	4.42E-19	4.58E-16	3.56E-22	3.12E-16	1.72E-14
Malathion	1.96E-15	9.55E-17	9.42E-20	1.20E-20	2.03E-17	0.00E+00	1.38E-17	2.09E-15
Methyl chloride	1.86E-14	NA	NA	NA	NA	NA	NA	1.86E-14
Methylene chloride	1.38E-13	NA	NA	NA	NA	NA	NA	1.38E-13
Methyl ethyl ketone	2.75E-14	1.60E-14	2.44E-20	4.08E-21	1.00E-16	0.00E+00	6.82E-17	4.37E-14
4-Methylphenol	2.20E-13	2.18E-14	1.27E-18	1.95E-19	9.09E-16	1.23E-21	6.19E-16	2.43E-13
Monomethyl hydrazine	8.10E-07	1.13E-05	1.37E-14	2.32E-15	1.45E-09	1.14E-16	9.85E-10	1.21E-05
Naphthalene	5.19E-15	1.06E-14	1.26E-17	1.38E-18	1.34E-15	8.38E-17	9.13E-16	1.81E-14
Naphthalene carbonitrile	2.75E-11	5.58E-11	6.64E-14	7.29E-15	7.09E-12	1.93E-15	4.83E-12	9.53E-11
n-Nitrosodimethylamine	5.71E-11	4.13E-09	1.12E-16	1.89E-17	1.16E-12	0.00E+00	7.87E-13	4.19E-09
PAHs								
Acenaphthalene	1.06E-12	1.74E-13	7.26E-16	6.00E-17	2.15E-14	3.95E-18	1.47E-14	1.27E-12
Acenaphthene	1.06E-12	9.37E-14	5.46E-16	4.79E-17	2.15E-14	1.53E-18	1.47E-14	1.19E-12
Benzo(a)pyrene	4.27E-12	1.00E-13	4.76E-13	2.40E-14	8.64E-14	1.06E-17	5.88E-14	5.01E-12
Chrysene	4.27E-13	2.35E-14	1.14E-14	6.05E-16	8.64E-15	2.67E-17	5.88E-15	4.77E-13

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

B	C	Q	R	S	T	U	V	W	X
		TABLE 36							
	Dibenzo(a,h)anthracene	4.27E-12	1.15E-13	5.72E-13	2.87E-14	8.64E-14	5.98E-15	5.88E-14	5.13E-12
	Fluoranthene	3.20E-12	2.82E-13	2.40E-14	1.39E-15	6.48E-14	NA	4.41E-14	3.62E-12
	Fluorene	3.20E-13	3.36E-14	4.04E-16	2.96E-17	6.48E-15	1.65E-18	4.41E-15	3.65E-13
	Phenanthrene	1.66E-15	1.36E-16	3.10E-18	2.13E-19	3.36E-17	7.57E-18	2.29E-17	1.87E-15
	Pyrene	8.53E-12	7.14E-13	5.87E-14	3.42E-15	1.73E-13	1.21E-16	1.18E-13	9.60E-12
	Parathion	6.22E-13	4.88E-16	2.22E-18	2.03E-19	1.07E-16	1.19E-22	7.29E-17	6.22E-13
	Pentachlorobenzene	1.96E-11	3.42E-12	1.09E-13	6.48E-15	3.98E-13	NA	2.71E-13	2.39E-11
	Phenol	1.30E-14	4.43E-16	6.99E-21	1.12E-21	8.49E-18	NA	5.78E-18	1.34E-14
	Pyridine	8.59E-11	NA	NA	NA	NA	NA	NA	8.59E-11
	Quinoline	7.21E-14	2.68E-14	2.26E-18	3.43E-19	1.46E-15	7.16E-20	9.94E-16	1.01E-13
	Tetrachlorobenzene	2.57E-11	9.81E-12	3.18E-14	2.34E-15	5.21E-13	NA	3.55E-13	3.65E-11
	Tetrachloroethene	7.80E-16	NA	NA	NA	NA	NA	NA	7.80E-16
	Toluene	7.53E-15	NA	NA	NA	NA	NA	NA	7.53E-15
	Trichlorobenzene	1.30E-12	1.21E-14	1.13E-16	9.63E-18	3.96E-15	1.08E-18	2.70E-15	1.32E-12
	Trichloroethene	1.05E-14	NA	NA	NA	NA	NA	NA	1.05E-14
	Unsym. dimethyl hydrazine	5.08E-08	4.73E-06	1.84E-14	3.12E-15	1.03E-09	8.13E-17	7.00E-10	4.78E-06
	Vapona	1.57E-13	7.10E-14	2.45E-18	3.95E-19	3.17E-15	5.97E-22	2.16E-15	2.33E-13
	Vinyl acetate	8.89E-15	NA	NA	NA	NA	NA	NA	8.89E-15
	Vinyl chloride	1.24E-13	NA	NA	NA	NA	NA	NA	1.24E-13
	Xylenes (total)	3.58E-15	NA	NA	NA	NA	NA	NA	3.58E-15
	INORGANICS								
	Arsenic	9.33E-09	3.74E-11	7.03E-11	3.73E-13	3.85E-11	1.10E-11	2.63E-11	9.52E-09
	Cadmium	2.73E-10	4.32E-13	1.04E-13	1.25E-15	2.82E-13	NA	1.92E-13	2.74E-10
	Chromium (III)	1.11E-10	NA	NA	NA	NA	NA	NA	1.11E-10
	Chromium (VI)	3.89E-11	NA	NA	NA	NA	NA	NA	3.89E-11
	Copper	1.42E-11	NA	NA	NA	NA	6.95E-14	NA	1.43E-11
	Iron	4.26E-06	NA	NA	NA	NA	NA	NA	4.26E-06
	Mercury	1.06E-09	1.07E-11	9.76E-13	1.55E-11	6.12E-12	NA	4.17E-12	1.10E-09
	Selenium	1.15E-09	NA	NA	NA	NA	NA	NA	1.15E-09
	Silver	1.43E-10	NA	NA	NA	NA	NA	NA	1.43E-10
	Zinc	7.84E-11	NA	NA	NA	NA	2.92E-14	NA	7.84E-11
	Total (Hazard Index)	5.51E-06	3.36E-05	7.57E-11	1.62E-11	4.22E-09	1.11E-11	2.88E-09	3.91E-05

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 37
INFANT HAZARD INDEX

RES-B SENSITIVITY CASE	INHALATION HAZARD QUOTIENT	BREAST MILK INGESTION HAZARD QUOTIENT	TOTAL INFANT HAZARD INDEX
ORGANICS			
Acetone	2.03E-15	6.43E-16	2.68E-15
Acetonitrile	3.35E-10	1.32E-09	1.66E-09
Acrylonitrile	3.25E-10	1.63E-11	3.41E-10
Aldrin	2.04E-14	1.45E-12	1.47E-12
Aniline	2.43E-11	4.64E-10	4.88E-10
Atrazine	2.28E-13	7.25E-13	9.53E-13
Benzaldehyde	8.58E-13	3.13E-12	3.98E-12
Benzene	3.31E-14	1.25E-15	3.43E-14
Benzofuran	8.35E-11	2.60E-10	3.44E-10
Benzoic Acid	1.05E-14	3.41E-14	4.46E-14
Benzonitrile	1.15E-10	4.06E-10	5.21E-10
Benzothiazole	3.91E-13	1.23E-12	1.62E-12
Biphenyl	3.16E-10	1.46E-13	3.16E-10
Bis(2-ethylhexyl)phthalate	4.52E-14	1.74E-12	1.78E-12
Carbazole	3.77E-13	1.09E-12	1.47E-12
Carbon Tetrachloride	1.73E-13	1.36E-13	3.09E-13
4-Chloroaniline	2.70E-14	8.67E-14	1.14E-13
Chlorobenzene	5.18E-14	2.25E-16	5.21E-14
4-Chlorobiphenyl	1.08E-14	2.92E-14	4.00E-14
4,4-Chlorobiphenyl	5.74E-16	1.53E-15	2.10E-15
Chloroethane	3.59E-15	NE	3.59E-15
Chloroform	9.29E-13	8.06E-14	1.01E-12
Dibenzofuran	NE	NE	NE
Dichlorobenzenes (total)	2.70E-14	2.08E-16	2.72E-14
1,1-Dichloroethane	3.09E-14	5.36E-16	3.14E-14
1,2-Dichloroethane	2.36E-14	1.19E-12	1.21E-12
1,1-Dichloroethene	8.10E-14	3.19E-15	8.41E-14
1,2-Dichloroethene	1.76E-15	1.24E-15	3.00E-15
1,2-Dichloropropane	1.73E-15	1.23E-15	2.96E-15
Dieldrin	3.75E-14	6.51E-12	6.55E-12
Dimethyldisulfide	3.24E-13	5.62E-15	3.30E-13
Hexachlorobenzene	3.16E-11	2.03E-11	5.18E-11
Hydrazine	2.45E-07	3.42E-05	3.44E-05
Lindane	8.70E-15	4.36E-14	5.23E-14
Malathion	1.28E-15	1.81E-15	3.10E-15
Methyl chloride	1.22E-14	1.24E-15	1.34E-14
Methylene chloride	9.02E-14	2.24E-14	1.13E-13
Methyl ethyl ketone	1.80E-14	4.11E-14	5.91E-14
4-Methylphenol	1.44E-13	1.20E-13	2.64E-13
Monomethyl hydrazine	5.30E-07	2.02E-05	2.07E-05
Naphthalene	3.40E-15	1.31E-13	1.35E-13
Naphthalene carbonitrile	1.80E-11	6.94E-10	7.12E-10
n-Nitrosodimethylamine	3.74E-11	9.90E-09	9.94E-09
PAHs			
Acenaphthalene	6.95E-13	2.13E-12	2.83E-12
Acenaphthene	6.95E-13	1.93E-12	2.63E-12
Benzo(a)pyrene	2.79E-12	7.46E-12	1.03E-11
Chrysene	2.79E-13	7.53E-13	1.03E-12

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

155	B	C	Z	AA	AB
156			TABLE 37		
215		Dibenzo(a,h)anthracene	2.79E-12	7.57E-12	1.04E-11
216		Fluoranthene	2.09E-12	5.86E-12	7.96E-12
217		Fluorene	2.09E-13	5.97E-13	8.06E-13
218		Phenanthrene	1.09E-15	3.02E-15	4.11E-15
219		Pyrene	5.58E-12	1.55E-11	2.11E-11
220		Parathion	4.07E-13	9.66E-15	4.16E-13
221		Pentachlorobenzene	1.29E-11	9.04E-12	2.19E-11
222		Phenol	8.48E-15	1.65E-15	1.01E-14
223		Pyridine	5.62E-11	1.59E-11	7.22E-11
224		Quinoline	4.72E-14	1.73E-13	2.21E-13
225		Tetrachlorobenzene	1.68E-11	1.47E-11	3.16E-11
226		Tetrachloroethene	5.10E-16	3.07E-16	8.17E-16
227		Toluene	4.93E-15	4.07E-17	4.97E-15
228		Trichlorobenzene	8.53E-13	7.75E-14	9.31E-13
229		Trichloroethene	6.87E-15	4.45E-15	1.13E-14
230		Unsym. dimethyl hydrazine	3.32E-08	9.40E-06	9.43E-06
231		Vapona	1.02E-13	3.85E-13	4.87E-13
232		Vinyl acetate	5.82E-15	2.02E-17	5.84E-15
233		Vinyl chloride	8.11E-14	1.44E-14	9.55E-14
234		Xylenes (total)	2.35E-15	5.82E-20	2.35E-15
235					
236	INORGANICS				
237		Arsenic	6.11E-09	NE	6.11E-09
238		Cadmium	1.79E-10	NE	1.79E-10
239		Chromium (III)	7.24E-11	NE	7.24E-11
240		Chromium (VI)	2.55E-11	NE	2.55E-11
241		Copper	9.32E-12	NE	9.32E-12
242		Iron	2.79E-06	NE	2.79E-06
243		Mercury	6.93E-10	NE	6.93E-10
244		Selenium	7.51E-10	NE	7.51E-10
245		Silver	9.33E-11	NE	9.33E-11
246		Zinc	5.13E-11	NE	5.13E-11
247					
248		Total (Hazard Index)	3.61E-06	6.38E-05	6.74E-05

A	B	C	D
253		TABLE 38	
254		CARCINOGENIC RISK	
255		CONTRIBUTION BY PATHWAY	
256			
257		RES-B	
258		SENSITIVITY CASE	
259			
260		Adult	
261		Inhalation	NA
262			
263		Ingestion	82.8739
264		Vegetables	82.8720
265		Milk	0.0000
266		Beef	0.0000
267		Soil\Dust	0.0018
268		Fish	0.0000
269			
270		Dermal	0.0013
271			
272		Child	
273		Inhalation	0.0651
274			
275		Ingestion	12.2150
276		Vegetables	12.2137
277		Milk	0.0000
278		Beef	0.0000
279		Soil\Dust	0.0013
280		Fish	0.0000
281			
282		Dermal	0.0009
283			
284		Infant	
285		Inhalation	0.0426
286			
287		Breast Milk Ingestion	4.8013
288			
290		Total	100.0000

TABLE 39
ADULT INHALATION CARCINOGENIC RISK
(These numbers are for sensitivity analysis)

RES-B SENSITIVITY CASE	INHALATION ADULT CARC. RISK
ORGANICS	
Acrylonitrile	6.61E-15
Aldrin	1.71E-18
Aniline	2.08E-17
Benzene	6.05E-19
Bis(2-ethylhexyl)phthalate	6.24E-20
Carbazole	7.28E-19
Carbon Tetrachloride	1.37E-17
Chloroform	7.27E-17
1,4-Dichlorobenzene	3.16E-20
1,1-Dichloroethane	NE
1,2-Dichloroethane	1.70E-18
1,1-Dichloroethene	3.83E-17
1,2-Dichloropropane	8.04E-19
Dieldrin	2.95E-18
Hexachlorobenzene	7.81E-16
Hydrazine	1.08E-11
Lindane	1.12E-19
Methyl chloride	1.56E-19
Methylene chloride	2.09E-17
4-Methylphenol	NE
Monomethyl hydrazine	2.19E-13
n-Nitrosodimethylamine	1.03E-14
PAHs	
Benzo(a)pyrene	9.88E-15
Chrysene	9.88E-16
Dibenzo(a,h)anthracene	9.88E-15
Parathion	NE
Quinoline	2.19E-15
Tetrachloroethene	1.13E-20
Trichloroethene	4.01E-19
Vapona	4.60E-19
Vinyl chloride	6.15E-18
INORGANICS	
Arsenic	3.61E-13
Cadmium	1.07E-15
Chromium (VI)	1.03E-15
Total	1.14E-11

INHALATION EXPOSURE DURATION 2 YEARS

9.3 FARMER SCENARIO

9.3.1 Base Case Emissions Farmer Scenario

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
3										
4		BASE CASE	ER	AC	D	D	CO	CO	CO	CO
5							AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6				AVG. ANN.	TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	EMISSION	AMBIENT	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:33:03	RATE	CONC.	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		FARM	g/sec	ug/M3	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10							mg/Kg	mg/Kg	mg/Kg	mg/Kg
11										
12	ORGANICS									
13		Acetone	1.26E-10	1.54E-11	NA	NA	NA	NA	NA	NA
14		Acetonitrile	1.14E-07	1.39E-08	3.42E-10	5.76E-11	2.37E-09	2.40E-09	4.73E-09	4.80E-09
15		Acrylonitrile	4.85E-08	5.92E-09	NA	NA	NA	NA	NA	NA
16		Aldrin	1.77E-13	2.16E-14	5.31E-16	8.94E-17	3.67E-15	3.73E-15	7.35E-15	7.45E-15
17		Aniline	6.41E-09	7.82E-10	1.92E-11	3.24E-12	1.33E-10	1.35E-10	2.66E-10	2.70E-10
18		Atrazine	3.96E-11	4.83E-12	1.19E-13	2.00E-14	8.22E-13	8.34E-13	1.64E-12	1.67E-12
19		Benzaldehyde	2.92E-09	3.56E-10	8.76E-12	1.47E-12	6.06E-11	6.15E-11	1.21E-10	1.23E-10
20		Benzene	3.67E-11	4.48E-12	NA	NA	NA	NA	NA	NA
21		Benzofuran	1.42E-08	1.73E-09	4.26E-11	7.17E-12	2.95E-10	2.99E-10	5.89E-10	5.98E-10
22		Benzoic Acid	1.43E-09	1.74E-10	4.29E-12	7.22E-13	2.97E-11	3.01E-11	5.94E-11	6.02E-11
23		Benzonitrile	3.12E-08	3.81E-09	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
24		Benzothiazole	1.33E-11	1.62E-12	3.99E-14	6.72E-15	2.76E-13	2.80E-13	5.52E-13	5.60E-13
25		Biphenyl	1.43E-08	1.74E-09	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	7.85E-12	9.58E-13	2.36E-14	3.96E-15	1.63E-13	1.65E-13	3.26E-13	3.31E-13
27		Carbazole	6.41E-11	7.82E-12	1.92E-13	3.24E-14	1.33E-12	1.35E-12	2.66E-12	2.70E-12
28		Carbon Tetrachloride	1.86E-10	2.27E-11	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	3.67E-12	4.48E-13	1.10E-14	1.85E-15	7.62E-14	7.73E-14	1.52E-13	1.55E-13
30		Chlorobenzene	8.82E-12	1.08E-12	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	9.04E-12	1.10E-12	2.71E-14	4.57E-15	1.88E-13	1.90E-13	3.75E-13	3.81E-13
32		4,4-Chlorobiphenyl	4.55E-13	5.55E-14	1.36E-15	2.30E-16	9.44E-15	9.58E-15	1.89E-14	1.92E-14
33		Chloroethane	3.24E-10	3.95E-11	9.72E-13	1.64E-13	6.72E-12	6.82E-12	1.34E-11	1.36E-11
34		Chloroform	1.58E-09	1.93E-10	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	2.85E-10	3.48E-11	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
36		Dichlorobenzenes (total)	3.67E-11	4.48E-12	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	2.32E-12	2.83E-13	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	1.05E-10	1.28E-11	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	3.28E-11	4.00E-12	9.84E-14	1.66E-14	6.81E-13	6.91E-13	1.36E-12	1.38E-12
40		1,1-Dichloroethene	5.62E-11	6.86E-12	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	4.86E-11	5.93E-12	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	2.08E-11	2.54E-12	NA	NA	NA	NA	NA	NA
43		Dieldrin	3.25E-13	3.96E-14	9.75E-16	1.64E-16	6.74E-15	6.84E-15	1.35E-14	1.37E-14
44		Dimethyldisulfide	8.93E-11	1.09E-11	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	8.59E-10	1.05E-10	2.58E-12	4.34E-13	1.78E-11	1.81E-11	3.57E-11	3.62E-11
46		Hydrazine	1.11E-06	1.35E-07	3.33E-09	5.61E-10	2.30E-08	2.34E-08	4.61E-08	4.67E-08
47		Lindane	1.51E-13	1.84E-14	4.53E-16	7.63E-17	3.13E-15	3.18E-15	6.27E-15	6.36E-15
48		Malathion	4.46E-13	5.44E-14	1.34E-15	2.25E-16	9.26E-15	9.39E-15	1.85E-14	1.88E-14
49		Methyl chloride	4.36E-11	5.32E-12	NA	NA	NA	NA	NA	NA
50		Methylene chloride	2.63E-09	3.21E-10	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	5.51E-11	6.72E-12	1.65E-13	2.78E-14	1.14E-12	1.16E-12	2.29E-12	2.32E-12
52		4-Methylphenol	5.00E-11	6.10E-12	1.50E-13	2.53E-14	1.04E-12	1.05E-12	2.08E-12	2.11E-12
53		Monomethyl hydrazine	3.50E-07	4.27E-08	1.05E-09	1.77E-10	7.26E-09	7.37E-09	1.45E-08	1.47E-08
54		Naphthalene	5.90E-12	7.20E-13	1.77E-14	2.98E-15	1.22E-13	1.24E-13	2.45E-13	2.48E-13
55		Naphthalene carbonitrile	3.12E-08	3.81E-09	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
56		n-Nitrosodimethylamine	3.56E-10	4.34E-11	1.07E-12	1.80E-13	7.39E-12	7.49E-12	1.48E-11	1.50E-11
57		PAHs								
58		Acenaphthalene	1.42E-09	1.73E-10	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
59		Acenaphthene	1.42E-09	1.73E-10	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
60		Benzo(a)pyrene	2.85E-09	3.48E-10	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
61		Chrysene	2.85E-10	3.48E-11	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
62		Dibenzo(a,h)anthracene	2.85E-09	3.48E-10	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
63		Fluoranthene	2.85E-09	3.48E-10	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
64		Fluorene	2.85E-10	3.48E-11	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
65		Phenanthrene	1.11E-12	1.35E-13	3.33E-15	5.61E-16	2.30E-14	2.34E-14	4.61E-14	4.67E-14
66		Pyrene	5.70E-09	6.95E-10	1.71E-11	2.88E-12	1.18E-10	1.20E-10	2.37E-10	2.40E-10
67		Parathion	7.06E-13	8.61E-14	2.12E-15	3.57E-16	1.47E-14	1.49E-14	2.93E-14	2.97E-14
68		Pentachlorobenzene	3.50E-10	4.27E-11	1.05E-12	1.77E-13	7.26E-12	7.37E-12	1.45E-11	1.47E-11
69		Phenol	5.60E-12	6.83E-13	1.68E-14	2.83E-15	1.16E-13	1.18E-13	2.32E-13	2.36E-13
70		Pyridine	3.12E-08	3.81E-09	NA	NA	NA	NA	NA	NA
71		Quinoline	3.21E-10	3.92E-11	9.63E-13	1.62E-13	6.66E-12	6.76E-12	1.33E-11	1.35E-11
72		Tetrachlorobenzene	1.72E-10	2.10E-11	5.16E-13	8.69E-14	3.57E-12	3.62E-12	7.14E-12	7.24E-12
73		Tetrachloroethene	6.01E-12	7.33E-13	NA	NA	NA	NA	NA	NA
74		Toluene	9.58E-11	1.17E-11	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	8.71E-11	1.06E-11	2.61E-13	4.40E-14	1.81E-12	1.83E-12	3.61E-12	3.67E-12
76		Trichloroethene	6.41E-11	7.82E-12	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	1.38E-06	1.68E-07	4.14E-09	6.97E-10	2.86E-08	2.91E-08	5.73E-08	5.81E-08
78		Vapona	2.79E-12	3.40E-13	8.37E-15	1.41E-15	5.79E-14	5.87E-14	1.16E-13	1.17E-13
79		Vinyl acetate	3.96E-11	4.83E-12	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	3.67E-11	4.48E-12	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	6.84E-12	8.34E-13	NA	NA	NA	NA	NA	NA
82										
83	INORGANICS									
84		Arsenic	3.76E-08	4.59E-09	1.13E-10	1.90E-11	7.80E-10	7.92E-10	1.56E-09	1.58E-09
85		Cadmium	2.18E-10	2.66E-11	6.54E-13	1.10E-13	4.52E-12	4.59E-12	9.05E-12	9.18E-12
86		Chromium (III)	9.66E-10	1.18E-10	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	3.40E-11	4.15E-12	NA	NA	NA	NA	NA	NA
88		Copper	1.43E-09	1.74E-10	NA	NA	NA	NA	NA	NA
89		Iron	3.47E-05	4.23E-06	NA	NA	NA	NA	NA	NA
90		Lead	1.41E-09	1.72E-10	4.23E-12	7.12E-13	2.93E-11	2.97E-11	5.85E-11	5.94E-11
91		Mercury	1.41E-09	1.72E-10	4.23E-12	7.12E-13	2.93E-11	2.97E-11	5.85E-11	5.94E-11
92		Selenium	4.27E-09	5.21E-10	NA	NA	NA	NA	NA	NA
93		Silver	1.95E-11	2.38E-12	NA	NA	NA	NA	NA	NA
94		Zinc	1.12E-08	1.37E-09	NA	NA	NA	NA	NA	NA
95										
96										
97						2	yrs	ACCUMULATION TIME	AT	
98						0.2	M	SOIL DEPTH OF MIXING	SD	
99						0.1	M	SOIL DEPTH OF MIXING	SD	
100						1.43E+03	Kg/M3	SOIL BULK DENSITY	BD	
101						1.00E+03	mg/g			
102						3.15E+07	sec/yr			
103										
104										
105						Dilution Factor				
106						1.22E-01	INHALATION	DFI		
107						Deposition Factor		DF		
108						5.05E-04	DRY	DDF		
109						3.00E-03	DRY/WET	TDF		
110										
111										

$$CO = \frac{D*AT*1000}{SD*BD}$$

$$AC = ER * DFI$$

$$D = ER * x\ DF$$

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
3			CATTLE FEED					
4	BASE CASE		D	D	CO	CO	CO	CO
5					AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6			TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:33:03	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		FARM	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10					mg/Kg	mg/Kg	mg/Kg	mg/Kg
11								
12	ORGANICS							
13		Acetone	NA	NA	NA	NA	NA	NA
14		Acetonitrile	3.42E-10	5.76E-11	2.37E-09	2.40E-09	4.73E-09	4.80E-09
15		Acrylonitrile	NA	NA	NA	NA	NA	NA
16		Aldrin	5.31E-16	8.94E-17	3.67E-15	3.73E-15	7.35E-15	7.45E-15
17		Aniline	1.92E-11	3.24E-12	1.33E-10	1.35E-10	2.66E-10	2.70E-10
18		Atrazine	1.19E-13	2.00E-14	8.22E-13	8.34E-13	1.64E-12	1.67E-12
19		Benzaldehyde	8.76E-12	1.47E-12	6.06E-11	6.15E-11	1.21E-10	1.23E-10
20		Benzene	NA	NA	NA	NA	NA	NA
21		Benzofuran	4.26E-11	7.17E-12	2.95E-10	2.99E-10	5.89E-10	5.98E-10
22		Benzoic Acid	4.29E-12	7.22E-13	2.97E-11	3.01E-11	5.94E-11	6.02E-11
23		Benzonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
24		Benzothiazole	3.99E-14	6.72E-15	2.76E-13	2.80E-13	5.52E-13	5.60E-13
25		Biphenyl	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	2.36E-14	3.96E-15	1.63E-13	1.65E-13	3.26E-13	3.31E-13
27		Carbazole	1.92E-13	3.24E-14	1.33E-12	1.35E-12	2.66E-12	2.70E-12
28		Carbon Tetrachloride	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	1.10E-14	1.85E-15	7.62E-14	7.73E-14	1.52E-13	1.55E-13
30		Chlorobenzene	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	2.71E-14	4.57E-15	1.88E-13	1.90E-13	3.75E-13	3.81E-13
32		4,4-Chlorobiphenyl	1.36E-15	2.30E-16	9.44E-15	9.58E-15	1.89E-14	1.92E-14
33		Chloroethane	9.72E-13	1.64E-13	6.72E-12	6.82E-12	1.34E-11	1.36E-11
34		Chloroform	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
36		Dichlorobenzenes (total)	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	9.84E-14	1.66E-14	6.81E-13	6.91E-13	1.36E-12	1.38E-12
40		1,1-Dichloroethene	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	NA	NA	NA	NA	NA	NA
43		Dieldrin	9.75E-16	1.64E-16	6.74E-15	6.84E-15	1.35E-14	1.37E-14
44		Dimethyldisulfide	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	2.58E-12	4.34E-13	1.78E-11	1.81E-11	3.57E-11	3.62E-11
46		Hydrazine	3.33E-09	5.61E-10	2.30E-08	2.34E-08	4.61E-08	4.67E-08
47		Lindane	4.53E-16	7.63E-17	3.13E-15	3.18E-15	6.27E-15	6.36E-15
48		Malathion	1.34E-15	2.25E-16	9.26E-15	9.39E-15	1.85E-14	1.88E-14
49		Methyl chloride	NA	NA	NA	NA	NA	NA
50		Methylene chloride	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	1.65E-13	2.78E-14	1.14E-12	1.16E-12	2.29E-12	2.32E-12
52		4-Methylphenol	1.50E-13	2.53E-14	1.04E-12	1.05E-12	2.08E-12	2.11E-12
53		Monomethyl hydrazine	1.05E-09	1.77E-10	7.26E-09	7.37E-09	1.45E-08	1.47E-08
54		Naphthalene	1.77E-14	2.98E-15	1.22E-13	1.24E-13	2.45E-13	2.48E-13
55		Naphthalene carbonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
56		n-Nitrosodimethylamine	1.07E-12	1.80E-13	7.39E-12	7.49E-12	1.48E-11	1.50E-11
57		PAHs						
58		Acenaphthalene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
59		Acenaphthene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
60		Benzo(a)pyrene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
61		Chrysene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
62		Dibenzo(a,h)anthracene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
63		Fluoranthene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
64		Fluorene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
65		Phenanthrene	3.33E-15	5.61E-16	2.30E-14	2.34E-14	4.61E-14	4.67E-14
66		Pyrene	1.71E-11	2.88E-12	1.18E-10	1.20E-10	2.37E-10	2.40E-10
67		Parathion	2.12E-15	3.57E-16	1.47E-14	1.49E-14	2.93E-14	2.97E-14
68		Pentachlorobenzene	1.05E-12	1.77E-13	7.26E-12	7.37E-12	1.45E-11	1.47E-11
69		Phenol	1.68E-14	2.83E-15	1.16E-13	1.18E-13	2.32E-13	2.36E-13
70		Pyridine	NA	NA	NA	NA	NA	NA
71		Quinoline	9.63E-13	1.62E-13	6.66E-12	6.76E-12	1.33E-11	1.35E-11
72		Tetrachlorobenzene	5.16E-13	8.69E-14	3.57E-12	3.62E-12	7.14E-12	7.24E-12
73		Tetrachloroethene	NA	NA	NA	NA	NA	NA
74		Toluene	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	2.61E-13	4.40E-14	1.81E-12	1.83E-12	3.61E-12	3.67E-12
76		Trichloroethene	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	4.14E-09	6.97E-10	2.86E-08	2.91E-08	5.73E-08	5.81E-08
78		Vapona	8.37E-15	1.41E-15	5.79E-14	5.87E-14	1.16E-13	1.17E-13
79		Vinyl acetate	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	NA	NA	NA	NA	NA	NA
82								
83	INORGANICS							
84		Arsenic	1.13E-10	1.90E-11	7.80E-10	7.92E-10	1.56E-09	1.58E-09
85		Cadmium	6.54E-13	1.10E-13	4.52E-12	4.59E-12	9.05E-12	9.18E-12
86		Chromium (III)	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	NA	NA	NA	NA	NA	NA
88		Copper	NA	NA	NA	NA	NA	NA
89		Iron	NA	NA	NA	NA	NA	NA
90		Lead	4.23E-12	7.12E-13	2.93E-11	2.97E-11	5.85E-11	5.94E-11
91		Mercury	4.23E-12	7.12E-13	2.93E-11	2.97E-11	5.85E-11	5.94E-11
92		Selenium	NA	NA	NA	NA	NA	NA
93		Silver	NA	NA	NA	NA	NA	NA
94		Zinc	NA	NA	NA	NA	NA	NA
95								
96								
97				2.0 yrs ACCUMULATION TIME		AT		
98				0.2 M SOIL DEPTH OF MIXING		SD		
99				0.1 M SOIL DEPTH OF MIXING		SD		
100				1.43E+03 Kg/M3 SOIL BULK DENSITY		BD		
101				1.00E+03 mg/g				
102				3.15E+07 sec/yr				
103								
104								
105				Dilution Factor				D*AT*1000
106				1.22E-01 INHALATION	DFI		CO =	---------
107				Deposition Factor	DF			SD*BD
108				5.05E-04 DRY	DDF			
109				3.00E-03 DRY/WET	TDF		D =	ER * x DF

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 2
ADULT TOTAL EXPOSURE - AVERAGE

BASE CASE

	18-Jun-91 15:15:32 FARM	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS									
Acetone		4.39E-15	NA	NA	NA	NA	NA	NA	4.39E-15
Acetonitrile		3.97E-12	6.15E-11	4.74E-17	1.86E-17	6.76E-15	7.76E-21	1.22E-14	6.54E-11
Acrylonitrile		1.69E-12	NA	NA	NA	NA	NA	NA	1.69E-12
Aldrin		6.17E-18	3.41E-17	9.56E-19	1.44E-19	1.05E-20	2.81E-27	1.89E-20	4.14E-17
Aniline		2.23E-13	1.93E-13	8.85E-18	3.47E-18	3.80E-16	2.33E-19	6.85E-16	4.17E-13
Atrazine		1.38E-15	7.08E-16	3.09E-19	1.20E-19	2.35E-18	0.00E+00	4.23E-18	2.10E-15
Benzaldehyde		1.02E-13	4.79E-14	7.07E-18	2.77E-18	1.73E-16	2.51E-20	3.12E-16	1.50E-13
Benzene		1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
Benzofuran		4.95E-13	2.56E-13	1.10E-16	4.27E-17	8.42E-16	5.53E-19	1.52E-15	7.53E-13
Benzoic Acid		4.98E-14	1.72E-14	5.06E-18	1.98E-18	8.48E-17	2.20E-20	1.53E-16	6.73E-14
Benzonitrile		1.09E-12	4.76E-13	8.17E-17	3.20E-17	1.85E-15	2.99E-19	3.34E-15	1.57E-12
Benzothiazole		4.64E-16	1.47E-16	5.39E-20	2.11E-20	7.89E-19	2.51E-24	1.42E-18	6.12E-16
Biphenyl		4.98E-13	NA	NA	NA	NA	NA	NA	4.98E-13
Bis(2-ethylhexyl)phthalate		2.74E-16	1.15E-15	8.03E-16	9.59E-17	4.65E-19	3.25E-24	8.39E-19	2.32E-15
Carbazole		2.23E-15	7.73E-16	9.15E-19	3.52E-19	3.80E-18	3.31E-21	6.85E-18	3.02E-15
Carbon Tetrachloride		6.48E-15	NA	NA	NA	NA	NA	NA	6.48E-15
4-Chloroaniline		1.28E-16	3.54E-17	1.25E-20	4.89E-21	2.18E-19	9.45E-22	3.92E-19	1.64E-16
Chlorobenzene		3.07E-16	NA	NA	NA	NA	NA	NA	3.07E-16
4-Chlorobiphenyl		3.15E-16	5.28E-17	7.30E-19	2.49E-19	5.36E-19	3.39E-22	9.66E-19	3.70E-16
4,4-Chlorobiphenyl		1.59E-17	2.03E-18	9.01E-20	2.63E-20	2.70E-20	5.71E-24	4.86E-20	1.81E-17
Chloroethane		1.13E-14	5.51E-15	7.93E-19	3.10E-19	1.92E-17	1.91E-23	3.46E-17	1.69E-14
Chloroform		5.51E-14	NA	NA	NA	NA	NA	NA	5.51E-14
Dibenzofuran		9.93E-15	2.30E-15	9.55E-18	3.55E-18	1.69E-17	2.19E-20	3.05E-17	1.23E-14
Dichlorobenzenes (total)		1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
1,4-Dichlorobenzene		8.08E-17	NA	NA	NA	NA	NA	NA	8.08E-17
1,1-Dichloroethane		3.66E-15	NA	NA	NA	NA	NA	NA	3.66E-15
1,2-Dichloroethane		1.14E-15	3.76E-15	7.95E-20	3.11E-20	1.94E-18	5.73E-23	3.51E-18	4.91E-15
1,1-Dichloroethene		1.96E-15	NA	NA	NA	NA	NA	NA	1.96E-15
1,2-Dichloroethene		1.69E-15	NA	NA	NA	NA	NA	NA	1.69E-15
1,2-Dichloropropane		7.25E-16	NA	NA	NA	NA	NA	NA	7.25E-16
Dieldrin		1.13E-17	4.21E-16	1.71E-19	4.03E-20	1.93E-20	1.08E-24	3.47E-20	4.33E-16
Dimethyldisulfide		3.11E-15	NA	NA	NA	NA	NA	NA	3.11E-15
Hexachlorobenzene		2.99E-14	1.04E-14	1.45E-16	4.39E-17	5.09E-17	4.30E-19	9.18E-17	4.07E-14
Hydrazine		3.87E-11	1.43E-08	3.26E-17	1.28E-17	6.58E-14	3.52E-20	1.19E-13	1.43E-08
Lindane		5.26E-18	2.19E-18	2.18E-21	8.38E-22	8.95E-21	4.73E-26	1.61E-20	7.48E-18
Malathion		1.55E-17	2.24E-18	4.28E-21	1.66E-21	2.64E-20	0.00E+00	4.77E-20	1.79E-17
Methyl chloride		1.52E-15	NA	NA	NA	NA	NA	NA	1.52E-15
Methylene chloride		9.17E-14	NA	NA	NA	NA	NA	NA	9.17E-14
Methyl ethyl ketone		1.92E-15	1.48E-14	4.09E-20	1.61E-20	3.27E-18	0.00E+00	5.89E-18	1.68E-14
4-Methylphenol		1.74E-15	2.38E-15	1.89E-19	7.40E-20	2.96E-18	2.71E-23	5.35E-18	4.13E-15
Monomethyl hydrazine		1.22E-11	1.69E-09	1.03E-17	4.03E-18	2.08E-14	1.12E-20	3.74E-14	1.70E-09
Naphthalene		2.06E-16	1.05E-16	8.95E-20	3.44E-20	3.50E-19	1.48E-19	6.31E-19	3.12E-16
Naphthalene carbonitrile		1.09E-12	5.58E-13	4.73E-16	1.82E-16	1.85E-15	3.42E-18	3.34E-15	1.65E-12
n-Nitrosodimethylamine		1.24E-14	3.66E-12	1.07E-19	4.18E-20	2.11E-17	0.00E+00	3.81E-17	3.67E-12
PAHs									
Acenaphthalene		4.95E-14	2.96E-14	4.51E-17	1.68E-17	8.42E-17	1.05E-19	1.52E-16	7.94E-14
Acenaphthene		4.95E-14	1.26E-14	3.85E-17	1.45E-17	8.42E-17	4.07E-20	1.52E-16	6.24E-14
Benzo(a)pyrene		9.93E-14	1.83E-15	2.21E-15	4.77E-16	1.69E-16	1.40E-19	3.05E-16	1.04E-13

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	T	U	V	W	X	Y	Z	AA
2			TABLE 2							
61		Chrysene	9.93E-15	1.54E-15	7.71E-17	2.11E-17	1.69E-17	3.55E-19	3.05E-17	1.16E-14
62		Dibenzo(a,h)anthracene	9.93E-14	3.38E-15	2.56E-15	5.34E-16	1.69E-16	7.95E-17	3.05E-16	1.06E-13
63		Fluoranthene	9.93E-14	2.94E-14	3.44E-16	1.10E-16	1.69E-16	NA	3.05E-16	1.30E-13
64		Fluorene	9.93E-15	3.50E-15	1.26E-17	4.60E-18	1.69E-17	2.92E-20	3.05E-17	1.35E-14
65		Phenanthrene	3.87E-17	9.94E-18	6.09E-20	2.17E-20	6.58E-20	1.01E-19	1.19E-19	4.90E-17
66		Pyrene	1.99E-13	5.48E-14	6.53E-16	2.11E-16	3.38E-16	1.60E-18	6.09E-16	2.55E-13
67		Parathion	2.46E-17	6.55E-18	1.71E-20	6.47E-21	4.19E-20	3.17E-25	7.55E-20	3.13E-17
68		Pentachlorobenzene	1.22E-14	8.20E-15	3.53E-17	1.17E-17	2.08E-17	NA	3.74E-17	2.05E-14
69		Phenol	1.95E-16	6.37E-16	1.33E-20	5.21E-21	3.32E-19	NA	5.99E-19	8.33E-16
70		Pyridine	1.09E-12	NA	NA	NA	NA	NA	NA	1.09E-12
71		Quinoline	1.12E-14	1.06E-14	1.33E-18	5.19E-19	1.90E-17	6.35E-21	3.43E-17	2.18E-14
72		Tetrachlorobenzene	6.00E-15	9.37E-15	7.55E-18	2.75E-18	1.02E-17	NA	1.84E-17	1.54E-14
73		Tetrachloroethene	2.09E-16	NA	NA	NA	NA	NA	NA	2.09E-16
74		Toluene	3.34E-15	NA	NA	NA	NA	NA	NA	3.34E-15
75		Trichlorobenzene	3.04E-15	4.40E-16	2.52E-18	9.44E-19	5.16E-18	9.59E-21	9.31E-18	3.49E-15
76		Trichloroethene	2.23E-15	NA	NA	NA	NA	NA	NA	2.23E-15
77		Unsym. dimethyl hydrazine	4.81E-11	8.55E-09	7.68E-17	3.01E-17	8.18E-14	4.39E-20	1.48E-13	8.60E-09
78		Vapona	9.73E-17	4.92E-17	6.25E-21	2.45E-21	1.65E-19	2.12E-25	2.98E-19	1.47E-16
79		Vinyl acetate	1.38E-15	NA	NA	NA	NA	NA	NA	1.38E-15
80		Vinyl chloride	1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
81		Xylenes (total)	2.38E-16	NA	NA	NA	NA	NA	NA	2.38E-16
82										
83	INORGANICS									
84		Arsenic	1.31E-12	2.47E-15	4.04E-14	5.30E-16	2.23E-15	4.36E-15	4.02E-16	1.36E-12
85		Cadmium	7.60E-15	1.30E-16	8.35E-17	3.65E-18	1.29E-17	NA	2.33E-18	7.83E-15
86		Chromium (III)	3.37E-14	NA	NA	NA	NA	NA	NA	3.37E-14
87		Chromium (VI)	1.19E-15	NA	NA	NA	NA	NA	NA	1.19E-15
88		Copper	4.98E-14	NA	NA	NA	NA	5.29E-16	NA	5.04E-14
89		Iron	1.21E-09	NA	NA	NA	NA	NA	NA	1.21E-09
90		Lead	4.91E-14	NA	NA	NA	NA	NA	NA	4.91E-14
91		Mercury	4.91E-14	1.14E-15	2.13E-16	1.60E-14	8.36E-17	NA	1.51E-17	6.66E-14
92		Selenium	1.49E-13	NA	NA	NA	NA	NA	NA	1.49E-13
93		Silver	6.80E-16	NA	NA	NA	NA	NA	NA	6.80E-16
94		Zinc	3.90E-13	NA	NA	NA	NA	2.03E-15	NA	3.92E-13
95										
96										
97										

98	br	20 M3/day
99	bw	70 Kg
100	ef	365 days/yr
101	cf	365000 (1000 ug/mg)*(365 day/yr)
102		
103	Inhalation dose = Cair*br*ef/bw/cf	
104		

$$\frac{D*AT*1000}{SD*BD}$$

AC = ER * DFI

D = ER * x DF

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 3
ADULT TOTAL EXPOSURE - MAXIMUM

BASE CASE

18-Jun-91
15:15:32
FARM

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	4.39E-15	NA	NA	NA	NA	NA	NA	4.39E-15
Acetonitrile	3.97E-12	6.25E-11	4.84E-17	1.89E-17	6.86E-15	7.76E-21	1.24E-14	6.65E-11
Acrylonitrile	1.69E-12	NA	NA	NA	NA	NA	NA	1.69E-12
Aldrin	6.17E-18	3.48E-17	2.90E-17	3.29E-18	1.06E-20	2.81E-27	1.92E-20	7.33E-17
Aniline	2.23E-13	2.04E-13	9.30E-18	3.55E-18	3.86E-16	2.33E-19	6.95E-16	4.29E-13
Atrazine	1.38E-15	7.73E-16	4.33E-19	1.35E-19	2.38E-18	0.00E+00	4.29E-18	2.16E-15
Benzaldehyde	1.02E-13	5.26E-14	7.73E-18	2.87E-18	1.76E-16	2.51E-20	3.17E-16	1.55E-13
Benzene	1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
Benzofuran	4.95E-13	2.79E-13	1.53E-16	4.80E-17	8.54E-16	5.53E-19	1.54E-15	7.77E-13
Benzoic Acid	4.98E-14	1.94E-14	5.80E-18	2.08E-18	8.60E-17	2.20E-20	1.55E-16	6.95E-14
Benzonitrile	1.09E-12	5.26E-13	9.00E-17	3.32E-17	1.88E-15	2.99E-19	3.38E-15	1.62E-12
Benzothiazole	4.64E-16	1.67E-16	6.33E-20	2.23E-20	8.00E-19	2.51E-24	1.44E-18	6.33E-16
Biphenyl	4.98E-13	NA	NA	NA	NA	NA	NA	4.98E-13
Bis(2-ethylhexyl)phthalate	2.74E-16	1.18E-15	2.74E-14	3.08E-15	4.72E-19	3.25E-24	8.51E-19	3.19E-14
Carbazole	2.23E-15	8.73E-16	1.72E-18	4.46E-19	3.86E-18	3.31E-21	6.95E-18	3.12E-15
Carbon Tetrachloride	6.48E-15	NA	NA	NA	NA	NA	NA	6.48E-15
4-Chloroaniline	1.28E-16	4.09E-17	1.42E-20	5.13E-21	2.21E-19	9.45E-22	3.98E-19	1.70E-16
Chlorobenzene	3.07E-16	NA	NA	NA	NA	NA	NA	3.07E-16
4-Chlorobiphenyl	3.15E-16	6.61E-17	5.27E-18	7.60E-19	5.44E-19	3.39E-22	9.80E-19	3.89E-16
4,4-Chlorobiphenyl	1.59E-17	2.69E-18	1.18E-18	1.49E-19	2.74E-20	5.71E-24	4.93E-20	2.00E-17
Chloroethane	1.13E-14	6.04E-15	8.67E-19	3.22E-19	1.95E-17	1.91E-23	3.51E-17	1.74E-14
Chloroform	5.51E-14	NA	NA	NA	NA	NA	NA	5.51E-14
Dibenzofuran	9.93E-15	2.73E-15	3.34E-17	6.25E-18	1.71E-17	2.19E-20	3.09E-17	1.28E-14
Dichlorobenzenes (total)	1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
1,4-Dichlorobenzene	8.08E-17	NA	NA	NA	NA	NA	NA	8.08E-17
1,1-Dichloroethane	3.66E-15	NA	NA	NA	NA	NA	NA	3.66E-15
1,2-Dichloroethane	1.14E-15	3.86E-15	8.69E-20	3.23E-20	1.97E-18	5.73E-23	3.56E-18	5.01E-15
1,1-Dichloroethene	1.96E-15	NA	NA	NA	NA	NA	NA	1.96E-15
1,2-Dichloroethene	1.69E-15	NA	NA	NA	NA	NA	NA	1.69E-15
1,2-Dichloropropane	7.25E-16	NA	NA	NA	NA	NA	NA	7.25E-16
Dieldrin	1.13E-17	4.28E-16	3.42E-18	4.05E-19	1.95E-20	1.08E-24	3.52E-20	4.43E-16
Dimethyldisulfide	3.11E-15	NA	NA	NA	NA	NA	NA	3.11E-15
Hexachlorobenzene	2.99E-14	1.18E-14	1.75E-15	2.24E-16	5.17E-17	4.30E-19	9.32E-17	4.38E-14
Hydrazine	3.87E-11	1.45E-08	3.31E-17	1.30E-17	6.68E-14	3.52E-20	1.20E-13	1.45E-08
Lindane	5.26E-18	2.43E-18	4.11E-21	1.06E-21	9.08E-21	4.73E-26	1.64E-20	7.72E-18
Malathion	1.55E-17	2.89E-18	6.52E-21	1.93E-21	2.68E-20	0.00E+00	4.84E-20	1.85E-17
Methyl chloride	1.52E-15	NA	NA	NA	NA	NA	NA	1.52E-15
Methylene chloride	9.17E-14	NA	NA	NA	NA	NA	NA	9.17E-14
Methyl ethyl ketone	1.92E-15	1.51E-14	4.22E-20	1.64E-20	3.31E-18	0.00E+00	5.98E-18	1.71E-14
4-Methylphenol	1.74E-15	2.48E-15	2.20E-19	7.82E-20	3.01E-18	2.71E-23	5.42E-18	4.24E-15
Monomethyl hydrazine	1.22E-11	1.71E-09	1.04E-17	4.09E-18	2.11E-14	1.12E-20	3.80E-14	1.72E-09
Naphthalene	2.06E-16	1.15E-16	1.74E-19	4.42E-20	3.55E-19	1.48E-19	6.40E-19	3.22E-16
Naphthalene carbonitrile	1.09E-12	6.09E-13	9.20E-16	2.34E-16	1.88E-15	3.42E-18	3.38E-15	1.70E-12
n-Nitrosodimethylamine	1.24E-14	3.72E-12	1.09E-19	4.24E-20	2.14E-17	0.00E+00	3.86E-17	3.73E-12
PAHs								
Acenaphthalene	4.95E-14	3.20E-14	1.51E-16	2.89E-17	8.54E-17	1.05E-19	1.54E-16	8.19E-14
Acenaphthene	4.95E-14	1.48E-14	1.14E-16	2.31E-17	8.54E-17	4.07E-20	1.54E-16	6.47E-14
Benzo(a)pyrene	9.93E-14	5.79E-15	4.95E-14	5.78E-15	1.71E-16	1.40E-19	3.09E-16	1.61E-13

A	B	C	AD	AE	AF	AG	AH	AI	AJ	AK
2			TABLE 3							
61		Chrysene	9.93E-15	1.95E-15	1.19E-15	1.46E-16	1.71E-17	3.55E-19	3.09E-17	1.33E-14
62		Dibenzo(a,h)anthracene	9.93E-14	7.36E-15	5.94E-14	6.91E-15	1.71E-16	7.95E-17	3.09E-16	1.74E-13
63		Fluoranthene	9.93E-14	3.37E-14	3.33E-15	4.46E-16	1.71E-16	NA	3.09E-16	1.37E-13
64		Fluorene	9.93E-15	3.94E-15	5.59E-17	9.50E-18	1.71E-17	2.92E-20	3.09E-17	1.40E-14
65		Phenanthrene	3.87E-17	1.16E-17	3.22E-19	5.12E-20	6.68E-20	1.01E-19	1.20E-19	5.10E-17
66		Pyrene	1.99E-13	6.35E-14	6.10E-15	8.24E-16	3.43E-16	1.60E-18	6.18E-16	2.70E-13
67		Parathion	2.46E-17	7.62E-18	4.61E-20	9.78E-21	4.25E-20	3.17E-25	7.66E-20	3.24E-17
68		Pentachlorobenzene	1.22E-14	8.80E-15	3.01E-16	4.16E-17	2.11E-17	NA	3.80E-17	2.14E-14
69		Phenol	1.95E-16	6.54E-16	1.45E-20	5.40E-21	3.37E-19	NA	6.07E-19	8.50E-16
70		Pyridine	1.09E-12	NA	NA	NA	NA	NA	NA	1.09E-12
71		Quinoline	1.12E-14	1.12E-14	1.56E-18	5.50E-19	1.93E-17	6.35E-21	3.48E-17	2.24E-14
72		Tetrachlorobenzene	6.00E-15	9.74E-15	3.31E-17	5.64E-18	1.03E-17	NA	1.87E-17	1.58E-14
73		Tetrachloroethene	2.09E-16	NA	NA	NA	NA	NA	NA	2.09E-16
74		Toluene	3.34E-15	NA	NA	NA	NA	NA	NA	3.34E-15
75		Trichlorobenzene	3.04E-15	5.67E-16	7.80E-18	1.54E-18	5.24E-18	9.59E-21	9.45E-18	3.63E-15
76		Trichloroethene	2.23E-15	NA	NA	NA	NA	NA	NA	2.23E-15
77		Unsym. dimethyl hydrazine	4.81E-11	8.68E-09	7.79E-17	3.05E-17	8.30E-14	4.39E-20	1.50E-13	8.73E-09
78		Vapona	9.73E-17	5.38E-17	6.79E-21	2.53E-21	1.68E-19	2.12E-25	3.03E-19	1.52E-16
79		Vinyl acetate	1.38E-15	NA	NA	NA	NA	NA	NA	1.38E-15
80		Vinyl chloride	1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
81		Xylenes (total)	2.38E-16	NA	NA	NA	NA	NA	NA	2.38E-16
82										
83	INORGANICS									
84		Arsenic	1.31E-12	5.45E-14	2.16E-13	2.65E-15	2.26E-15	4.36E-15	4.08E-16	1.59E-12
85		Cadmium	7.60E-15	4.33E-16	2.54E-16	7.08E-18	1.31E-17	NA	2.36E-18	8.31E-15
86		Chromium (III)	3.37E-14	NA	NA	NA	NA	NA	NA	3.37E-14
87		Chromium (VI)	1.19E-15	NA	NA	NA	NA	NA	NA	1.19E-15
88		Copper	4.98E-14	NA	NA	NA	NA	5.29E-16	NA	5.04E-14
89		Iron	1.21E-09	NA	NA	NA	NA	NA	NA	1.21E-09
90		Lead	4.91E-14	NA	NA	NA	NA	NA	NA	4.91E-14
91		Mercury	4.91E-14	3.10E-15	7.08E-16	2.61E-14	8.48E-17	NA	1.53E-17	7.92E-14
92		Selenium	1.49E-13	NA	NA	NA	NA	NA	NA	1.49E-13
93		Silver	6.80E-16	NA	NA	NA	NA	NA	NA	6.80E-16
94		Zinc	3.90E-13	NA	NA	NA	NA	2.03E-15	NA	3.92E-13
95										
96										
97										
98				br	20 M3/day					
99				bw	70 Kg					
100				ef	365 day/yr					
101				cf	365000 (1000 ug/mg)*(365 day/yr)					
102										
103			Inhalation dose = Cair*br*ef/bw/cf							

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AN	AO	AP	AQ	AR	AS	AT	AU
2			TABLE 4							
3			CHILD TOTAL EXPOSURE - AVERAGE							
4		BASE CASE								
5										
6			INHALATION	VEGETABLE	MILK	BEEF	SOIL/DUST	FISH	DERMAL	TOTAL
7		18-Jun-91	EXPOSURE	EXPOSURE	EXPOSURE	EXPOSURE	EXPOSURE	CONSUMPTION	EXPOSURE	
8		15:15:32	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)
9		FARM								
10										
11										
12	ORGANICS									
13		Acetone	9.92E-15	NA	NA	NA	NA	NA	NA	9.92E-15
14		Acetonitrile	8.97E-12	1.32E-10	2.74E-16	4.64E-17	6.11E-14	1.75E-20	2.08E-14	1.41E-10
15		Acrylonitrile	3.82E-12	NA	NA	NA	NA	NA	NA	3.82E-12
16		Aldrin	1.39E-17	7.33E-17	5.52E-18	3.59E-19	9.48E-20	6.34E-27	3.23E-20	9.33E-17
17		Aniline	5.05E-13	4.11E-13	5.11E-17	8.65E-18	3.43E-15	5.27E-19	1.17E-15	9.20E-13
18		Atrazine	3.12E-15	1.52E-15	1.78E-18	3.00E-19	2.12E-17	0.00E+00	7.22E-18	4.67E-15
19		Benzaldehyde	2.30E-13	1.02E-13	4.08E-17	6.91E-18	1.56E-15	5.67E-20	5.33E-16	3.34E-13
20		Benzene	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
21		Benzofuran	1.12E-12	5.50E-13	6.34E-16	1.06E-16	7.60E-15	1.25E-18	2.59E-15	1.68E-12
22		Benzoic Acid	1.13E-13	3.67E-14	2.92E-17	4.93E-18	7.66E-16	4.96E-20	2.61E-16	1.50E-13
23		Benzonitrile	2.46E-12	1.02E-12	4.72E-16	7.98E-17	1.67E-14	6.74E-19	5.69E-15	3.50E-12
24		Benzothiazole	1.05E-15	3.13E-16	3.11E-19	5.26E-20	7.12E-18	5.67E-24	2.43E-18	1.37E-15
25		Biphenyl	1.13E-12	NA	NA	NA	NA	NA	NA	1.13E-12
26		Bis(2-ethylhexyl)phthalate	6.18E-16	2.47E-15	4.64E-15	2.39E-16	4.20E-18	7.34E-24	1.43E-18	7.97E-15
27		Carbazole	5.05E-15	1.66E-15	5.28E-18	8.79E-19	3.43E-17	7.46E-21	1.17E-17	6.76E-15
28		Carbon Tetrachloride	1.46E-14	NA	NA	NA	NA	NA	NA	1.46E-14
29		4-Chloroaniline	2.89E-16	7.55E-17	7.21E-20	1.22E-20	1.97E-18	2.13E-21	6.69E-19	3.67E-16
30		Chlorobenzene	6.94E-16	NA	NA	NA	NA	NA	NA	6.94E-16
31		4-Chlorobiphenyl	7.12E-16	1.13E-16	4.22E-18	6.21E-19	4.84E-18	7.66E-22	1.65E-18	8.36E-16
32		4,4-Chlorobiphenyl	3.58E-17	4.37E-18	5.20E-19	6.57E-20	2.44E-19	1.29E-23	8.30E-20	4.11E-17
33		Chloroethane	2.55E-14	1.18E-14	4.58E-18	7.74E-19	1.74E-16	4.32E-23	5.91E-17	3.75E-14
34		Chloroform	1.24E-13	NA	NA	NA	NA	NA	NA	1.24E-13
35		Dibenzofuran	2.24E-14	4.94E-15	5.51E-17	8.85E-18	1.53E-16	4.94E-20	5.20E-17	2.76E-14
36		Dichlorobenzenes (total)	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
37		1,4-Dichlorobenzene	1.83E-16	NA	NA	NA	NA	NA	NA	1.83E-16
38		1,1-Dichloroethane	8.26E-15	NA	NA	NA	NA	NA	NA	8.26E-15
39		1,2-Dichloroethane	2.58E-15	8.09E-15	4.59E-19	7.76E-20	1.76E-17	1.29E-22	5.98E-18	1.07E-14
40		1,1-Dichloroethene	4.42E-15	NA	NA	NA	NA	NA	NA	4.42E-15
41		1,2-Dichloroethene	3.83E-15	NA	NA	NA	NA	NA	NA	3.83E-15
42		1,2-Dichloropropane	1.64E-15	NA	NA	NA	NA	NA	NA	1.64E-15
43		Dieldrin	2.56E-17	9.06E-16	9.87E-19	1.00E-19	1.74E-19	2.44E-24	5.93E-20	9.33E-16
44		Dimethyldisulfide	7.03E-15	NA	NA	NA	NA	NA	NA	7.03E-15
45		Hexachlorobenzene	6.76E-14	2.25E-14	8.40E-16	1.09E-16	4.60E-16	9.71E-19	1.57E-16	9.16E-14
46		Hydrazine	8.74E-11	3.06E-08	1.88E-16	3.19E-17	5.94E-13	7.96E-20	2.02E-13	3.07E-08
47		Lindane	1.19E-17	4.70E-18	1.26E-20	2.09E-21	8.09E-20	1.07E-25	2.75E-20	1.67E-17
48		Malathion	3.51E-17	4.80E-18	2.47E-20	4.14E-21	2.39E-19	0.00E+00	8.13E-20	4.03E-17
49		Methyl chloride	3.43E-15	NA	NA	NA	NA	NA	NA	3.43E-15
50		Methylene chloride	2.07E-13	NA	NA	NA	NA	NA	NA	2.07E-13
51		Methyl ethyl ketone	4.34E-15	3.18E-14	2.36E-19	4.00E-20	2.95E-17	0.00E+00	1.00E-17	3.62E-14
52		4-Methylphenol	3.94E-15	5.11E-15	1.09E-18	1.85E-19	2.68E-17	6.13E-23	9.12E-18	9.08E-15
53		Monomethyl hydrazine	2.75E-11	3.59E-09	5.94E-17	1.01E-17	1.87E-13	2.52E-20	6.38E-14	3.62E-09
54		Naphthalene	4.64E-16	2.27E-16	5.17E-19	8.58E-20	3.16E-18	3.35E-19	1.08E-18	6.96E-16
55		Naphthalene carbonitrile	2.46E-12	1.20E-12	2.73E-15	4.54E-16	1.67E-14	7.72E-18	5.69E-15	3.68E-12
56		n-Nitrosodimethylamine	2.80E-14	7.87E-12	6.15E-19	1.04E-19	1.91E-16	0.00E+00	6.49E-17	7.90E-12
57		PAHs								
58		Acenaphthalene	1.12E-13	6.36E-14	2.60E-16	4.20E-17	7.60E-16	2.37E-19	2.59E-16	1.77E-13
59		Acenaphthene	1.12E-13	2.72E-14	2.22E-16	3.62E-17	7.60E-16	9.18E-20	2.59E-16	1.40E-13
60		Benzo(a)pyrene	2.24E-13	3.89E-15	1.28E-14	1.19E-15	1.53E-15	3.17E-19	5.20E-16	2.44E-13

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AN	AO	AP	AQ	AR	AS	AT	AU
2			TABLE 4							
61		Chrysene	2.24E-14	3.30E-15	4.45E-16	5.26E-17	1.53E-16	8.01E-19	5.20E-17	2.64E-14
62		Dibenzo(a,h)anthracene	2.24E-13	7.23E-15	1.48E-14	1.33E-15	1.53E-15	1.79E-16	5.20E-16	2.50E-13
63		Fluoranthene	2.24E-13	6.31E-14	1.99E-15	2.75E-16	1.53E-15	NA	5.20E-16	2.92E-13
64		Fluorene	2.24E-14	7.52E-15	7.30E-17	1.15E-17	1.53E-16	6.60E-20	5.20E-17	3.02E-14
65		Phenanthrene	8.74E-17	2.14E-17	3.52E-19	5.42E-20	5.94E-19	2.27E-19	2.02E-19	1.10E-16
66		Pyrene	4.49E-13	1.18E-13	3.77E-15	5.27E-16	3.05E-15	3.62E-18	1.04E-15	5.75E-13
67		Parathion	5.56E-17	1.41E-17	9.87E-20	1.61E-20	3.78E-19	7.17E-25	1.29E-19	7.03E-17
68		Pentachlorobenzene	2.75E-14	1.76E-14	2.04E-16	2.91E-17	1.87E-16	NA	6.38E-17	4.57E-14
69		Phenol	4.41E-16	1.37E-15	7.68E-20	1.30E-20	3.00E-18	NA	1.02E-18	1.81E-15
70		Pyridine	2.46E-12	NA	NA	NA	NA	NA	NA	2.46E-12
71		Quinoline	2.53E-14	2.27E-14	7.66E-18	1.29E-18	1.72E-16	1.43E-20	5.85E-17	4.82E-14
72		Tetrachlorobenzene	1.35E-14	2.01E-14	4.36E-17	6.86E-18	9.21E-17	NA	3.14E-17	3.39E-14
73		Tetrachloroethene	4.73E-16	NA	NA	NA	NA	NA	NA	4.73E-16
74		Toluene	7.54E-15	NA	NA	NA	NA	NA	NA	7.54E-15
75		Trichlorobenzene	6.86E-15	9.44E-16	1.45E-17	2.35E-18	4.66E-17	2.17E-20	1.59E-17	7.88E-15
76		Trichloroethene	5.05E-15	NA	NA	NA	NA	NA	NA	5.05E-15
77		Unsym. dimethyl hydrazine	1.09E-10	1.83E-08	4.43E-16	7.51E-17	7.39E-13	9.92E-20	2.52E-13	1.85E-08
78		Vapona	2.20E-16	1.05E-16	3.61E-20	6.11E-21	1.49E-18	4.78E-25	5.09E-19	3.27E-16
79		Vinyl acetate	3.12E-15	NA	NA	NA	NA	NA	NA	3.12E-15
80		Vinyl chloride	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
81		Xylenes (total)	5.38E-16	NA	NA	NA	NA	NA	NA	5.38E-16
82										
83	INORGANICS									
84		Arsenic	2.96E-12	4.51E-15	2.34E-13	1.32E-15	2.01E-14	9.84E-15	6.86E-16	3.23E-12
85		Cadmium	1.72E-14	2.52E-16	4.82E-16	9.11E-18	1.17E-16	NA	3.98E-18	1.80E-14
86		Chromium (III)	7.60E-14	NA	NA	NA	NA	NA	NA	7.60E-14
87		Chromium (VI)	2.68E-15	NA	NA	NA	NA	NA	NA	2.68E-15
88		Copper	1.13E-13	NA	NA	NA	NA	1.20E-15	NA	1.14E-13
89		Iron	2.73E-09	NA	NA	NA	NA	NA	NA	2.73E-09
90		Lead	1.11E-13	NA	NA	NA	NA	NA	NA	1.11E-13
91		Mercury	1.11E-13	2.15E-15	1.23E-15	3.98E-14	7.55E-16	NA	2.57E-17	1.55E-13
92		Selenium	3.36E-13	NA	NA	NA	NA	NA	NA	3.36E-13
93		Silver	1.53E-15	NA	NA	NA	NA	NA	NA	1.53E-15
94		Zinc	8.82E-13	NA	NA	NA	NA	4.58E-15	NA	8.86E-13
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair *br/bw/ugmg							

TABLE 5
CHILD TOTAL EXPOSURE - MAXIMUM

BASE CASE

18-Jun-91
15:15:32
FARM

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	9.92E-15	NA	NA	NA	NA	NA	NA	9.92E-15
Acetonitrile	8.97E-12	1.34E-10	2.80E-16	4.71E-17	6.19E-14	1.75E-20	2.11E-14	1.43E-10
Acrylonitrile	3.82E-12	NA	NA	NA	NA	NA	NA	3.82E-12
Aldrin	1.39E-17	7.48E-17	1.67E-16	8.20E-18	9.62E-20	6.34E-27	3.28E-20	2.65E-16
Aniline	5.05E-13	4.33E-13	5.37E-17	8.87E-18	3.48E-15	5.27E-19	1.19E-15	9.43E-13
Atrazine	3.12E-15	1.64E-15	2.50E-18	3.38E-19	2.15E-17	0.00E+00	7.33E-18	4.79E-15
Benzaldehyde	2.30E-13	1.11E-13	4.47E-17	7.16E-18	1.59E-15	5.67E-20	5.40E-16	3.43E-13
Benzene	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
Benzofuran	1.12E-12	5.94E-13	8.85E-16	1.20E-16	7.71E-15	1.25E-18	2.63E-15	1.72E-12
Benzoic Acid	1.13E-13	4.09E-14	3.35E-17	5.19E-18	7.77E-16	4.96E-20	2.65E-16	1.55E-13
Benzonitrile	2.46E-12	1.11E-12	5.20E-16	8.29E-17	1.70E-14	6.74E-19	5.77E-15	3.59E-12
Benzothiazole	1.05E-15	3.52E-16	3.65E-19	5.57E-20	7.23E-18	5.67E-24	2.46E-18	1.41E-15
Biphenyl	1.13E-12	NA	NA	NA	NA	NA	NA	1.13E-12
Bis(2-ethylhexyl)phthalate	6.18E-16	2.52E-15	1.58E-13	7.67E-15	4.26E-18	7.34E-24	1.45E-18	1.69E-13
Carbazole	5.05E-15	1.85E-15	9.91E-18	1.11E-18	3.48E-17	7.46E-21	1.19E-17	6.95E-15
Carbon Tetrachloride	1.46E-14	NA	NA	NA	NA	NA	NA	1.46E-14
4-Chloroaniline	2.89E-16	8.60E-17	8.22E-20	1.28E-20	1.99E-18	2.13E-21	6.79E-19	3.78E-16
Chlorobenzene	6.94E-16	NA	NA	NA	NA	NA	NA	6.94E-16
4-Chlorobiphenyl	7.12E-16	1.38E-16	3.04E-17	1.90E-18	4.91E-18	7.66E-22	1.67E-18	8.89E-16
4,4-Chlorobiphenyl	3.58E-17	5.60E-18	6.82E-18	3.71E-19	2.47E-19	1.29E-23	8.42E-20	4.89E-17
Chloroethane	2.55E-14	1.28E-14	5.01E-18	8.03E-19	1.76E-16	4.32E-23	6.00E-17	3.85E-14
Chloroform	1.24E-13	NA	NA	NA	NA	NA	NA	1.24E-13
Dibenzofuran	2.24E-14	5.75E-15	1.93E-16	1.56E-17	1.55E-16	4.94E-20	5.27E-17	2.86E-14
Dichlorobenzenes (total)	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
1,4-Dichlorobenzene	1.83E-16	NA	NA	NA	NA	NA	NA	1.83E-16
1,1-Dichloroethane	8.26E-15	NA	NA	NA	NA	NA	NA	8.26E-15
1,2-Dichloroethane	2.58E-15	8.29E-15	5.02E-19	8.05E-20	1.78E-17	1.29E-22	6.07E-18	1.09E-14
1,1-Dichloroethene	4.42E-15	NA	NA	NA	NA	NA	NA	4.42E-15
1,2-Dichloroethene	3.83E-15	NA	NA	NA	NA	NA	NA	3.83E-15
1,2-Dichloropropane	1.64E-15	NA	NA	NA	NA	NA	NA	1.64E-15
Dieldrin	2.56E-17	9.20E-16	1.98E-17	1.01E-18	1.77E-19	2.44E-24	6.01E-20	9.66E-16
Dimethyldisulfide	7.03E-15	NA	NA	NA	NA	NA	NA	7.03E-15
Hexachlorobenzene	6.76E-14	2.50E-14	1.01E-14	5.58E-16	4.67E-16	9.71E-19	1.59E-16	1.04E-13
Hydrazine	8.74E-11	3.11E-08	1.91E-16	3.24E-17	6.03E-13	7.96E-20	2.05E-13	3.12E-08
Lindane	1.19E-17	5.15E-18	2.37E-20	2.65E-21	8.20E-20	1.07E-25	2.79E-20	1.72E-17
Malathion	3.51E-17	6.01E-18	3.77E-20	4.81E-21	2.42E-19	0.00E+00	8.25E-20	4.15E-17
Methyl chloride	3.43E-15	NA	NA	NA	NA	NA	NA	3.43E-15
Methylene chloride	2.07E-13	NA	NA	NA	NA	NA	NA	2.07E-13
Methyl ethyl ketone	4.34E-15	3.24E-14	2.44E-19	4.08E-20	2.99E-17	0.00E+00	1.02E-17	3.68E-14
4-Methylphenol	3.94E-15	5.31E-15	1.27E-18	1.95E-19	2.72E-17	6.13E-23	9.25E-18	9.29E-15
Monomethyl hydrazine	2.75E-11	3.64E-09	6.03E-17	1.02E-17	1.90E-13	2.52E-20	6.48E-14	3.67E-09
Naphthalene	4.64E-16	2.45E-16	1.00E-18	1.10E-19	3.21E-18	3.35E-19	1.09E-18	7.15E-16
Naphthalene carbonitrile	2.46E-12	1.30E-12	5.31E-15	5.83E-16	1.70E-14	7.72E-18	5.77E-15	3.78E-12
n-Nitrosodimethylamine	2.80E-14	7.99E-12	6.27E-19	1.06E-19	1.93E-16	0.00E+00	6.59E-17	8.02E-12
PAHs								
Acenaphthalene	1.12E-13	6.81E-14	8.72E-16	7.20E-17	7.71E-16	2.37E-19	2.63E-16	1.82E-13
Acenaphthene	1.12E-13	3.12E-14	6.56E-16	5.75E-17	7.71E-16	9.18E-20	2.63E-16	1.45E-13
Benzo(a)pyrene	2.24E-13	1.13E-14	2.86E-13	1.44E-14	1.55E-15	3.17E-19	5.27E-16	5.38E-13

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AX	AY	AZ	BA	BB	BC	BD	BE
2			TABLE 5							
61		Chrysene	2.24E-14	4.08E-15	6.85E-15	3.63E-16	1.55E-16	8.01E-19	5.27E-17	3.39E-14
62		Dibenzo(a,h)anthracene	2.24E-13	1.46E-14	3.43E-13	1.72E-14	1.55E-15	1.79E-16	5.27E-16	6.01E-13
63		Fluoranthene	2.24E-13	7.14E-14	1.92E-14	1.11E-15	1.55E-15	NA	5.27E-16	3.18E-13
64		Fluorene	2.24E-14	8.36E-15	3.23E-16	2.37E-17	1.55E-16	6.60E-20	5.27E-17	3.13E-14
65		Phenanthrene	8.74E-17	2.45E-17	1.86E-18	1.28E-19	6.03E-19	2.27E-19	2.05E-19	1.15E-16
66		Pyrene	4.49E-13	1.34E-13	3.52E-14	2.05E-15	3.10E-15	3.62E-18	1.05E-15	6.24E-13
67		Parathion	5.56E-17	1.61E-17	2.66E-19	2.44E-20	3.84E-19	7.17E-25	1.31E-19	7.25E-17
68		Pentachlorobenzene	2.75E-14	1.88E-14	1.74E-15	1.04E-16	1.90E-16	NA	6.48E-17	4.84E-14
69		Phenol	4.41E-16	1.40E-15	8.38E-20	1.35E-20	3.04E-18	NA	1.04E-18	1.85E-15
70		Pyridine	2.46E-12	NA	NA	NA	NA	NA	NA	2.46E-12
71		Quinoline	2.53E-14	2.39E-14	9.03E-18	1.37E-18	1.74E-16	1.43E-20	5.94E-17	4.94E-14
72		Tetrachlorobenzene	1.35E-14	2.09E-14	1.91E-16	1.41E-17	9.34E-17	NA	3.18E-17	3.47E-14
73		Tetrachloroethene	4.73E-16	NA	NA	NA	NA	NA	NA	4.73E-16
74		Toluene	7.54E-15	NA	NA	NA	NA	NA	NA	7.54E-15
75		Trichlorobenzene	6.86E-15	1.18E-15	4.50E-17	3.85E-18	4.73E-17	2.17E-20	1.61E-17	8.15E-15
76		Trichloroethene	5.05E-15	NA	NA	NA	NA	NA	NA	5.05E-15
77		Unsym. dimethyl hydrazine	1.09E-10	1.86E-08	4.50E-16	7.62E-17	7.50E-13	9.92E-20	2.55E-13	1.87E-08
78		Vapona	2.20E-16	1.14E-16	3.92E-20	6.32E-21	1.52E-18	4.78E-25	5.16E-19	3.35E-16
79		Vinyl acetate	3.12E-15	NA	NA	NA	NA	NA	NA	3.12E-15
80		Vinyl chloride	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
81		Xylenes (total)	5.38E-16	NA	NA	NA	NA	NA	NA	5.38E-16
82										
83	INORGANICS									
84		Arsenic	2.96E-12	1.01E-13	1.25E-12	6.61E-15	2.04E-14	9.84E-15	6.96E-16	4.35E-12
85		Cadmium	1.72E-14	8.14E-16	1.47E-15	1.76E-17	1.18E-16	NA	4.03E-18	1.96E-14
86		Chromium (III)	7.60E-14	NA	NA	NA	NA	NA	NA	7.60E-14
87		Chromium (VI)	2.68E-15	NA	NA	NA	NA	NA	NA	2.68E-15
88		Copper	1.13E-13	NA	NA	NA	NA	1.20E-15	NA	1.14E-13
89		Iron	2.73E-09	NA	NA	NA	NA	NA	NA	2.73E-09
90		Lead	1.11E-13	NA	NA	NA	NA	NA	NA	1.11E-13
91		Mercury	1.11E-13	5.80E-15	4.09E-15	6.51E-14	7.66E-16	NA	2.61E-17	1.87E-13
92		Selenium	3.36E-13	NA	NA	NA	NA	NA	NA	3.36E-13
93		Silver	1.53E-15	NA	NA	NA	NA	NA	NA	1.53E-15
94		Zinc	8.82E-13	NA	NA	NA	NA	4.58E-15	NA	8.86E-13
95										
96										
97										
98				br	10	M3/day				
99				bw	15.5	Kg				
100				um	1000	ug/mg				
101										
102										
103			Inhalation dose = Cair*br/bw/ugmg							

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
3			INFANT TOTAL EXPOSURE		
4	BASE CASE				
5					
6			----------MAXIMUM----------		
7		18-Jun-91	INHALATION	BREAST MILK	TOTAL
8		15:15:32	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)
9		FARM			
10					
11					
12	ORGANICS				
13	Acetone		6.49E-15	1.13E-16	6.60E-15
14	Acetonitrile		5.87E-12	2.42E-10	2.48E-10
15	Acrylonitrile		2.50E-12	7.71E-15	2.51E-12
16	Aldrin		9.12E-18	2.67E-16	2.76E-16
17	Aniline		3.30E-13	1.56E-12	1.89E-12
18	Atrazine		2.04E-15	7.86E-15	9.90E-15
19	Benzaldehyde		1.50E-13	5.64E-13	7.14E-13
20	Benzene		1.89E-15	2.19E-18	1.89E-15
21	Benzofuran		7.31E-13	2.83E-12	3.56E-12
22	Benzoic Acid		7.37E-14	2.53E-13	3.27E-13
23	Benzonitrile		1.61E-12	5.89E-12	7.50E-12
24	Benzothiazole		6.85E-16	2.30E-15	2.99E-15
25	Biphenyl		7.37E-13	1.28E-14	7.49E-13
26	Bis(2-ethylhexyl)phthalate		4.04E-16	1.16E-13	1.17E-13
27	Carbazole		3.30E-15	1.14E-14	1.47E-14
28	Carbon Tetrachloride		9.58E-15	1.66E-16	9.75E-15
29	4-Chloroaniline		1.89E-16	6.17E-16	8.06E-16
30	Chlorobenzene		4.54E-16	7.89E-18	4.62E-16
31	4-Chlorobiphenyl		4.66E-16	1.41E-15	1.88E-15
32	4,4-Chlorobiphenyl		2.34E-17	7.26E-17	9.61E-17
33	Chloroethane		1.67E-14	6.33E-14	8.00E-14
34	Chloroform		8.14E-14	1.41E-15	8.28E-14
35	Dibenzofuran		1.47E-14	4.64E-14	6.11E-14
36	Dichlorobenzenes (total)		1.89E-15	3.28E-17	1.92E-15
37	1,4-Dichlorobenzene		1.19E-16	2.07E-18	1.22E-16
38	1,1-Dichloroethane		5.41E-15	9.39E-17	5.50E-15
39	1,2-Dichloroethane		1.69E-15	1.82E-14	1.99E-14
40	1,1-Dichloroethene		2.89E-15	5.03E-17	2.95E-15
41	1,2-Dichloroethene		2.50E-15	4.35E-17	2.55E-15
42	1,2-Dichloropropane		1.07E-15	1.86E-17	1.09E-15
43	Dieldrin		1.67E-17	1.61E-15	1.63E-15
44	Dimethyldisulfide		4.60E-15	7.99E-17	4.68E-15
45	Hexachlorobenzene		4.42E-14	3.60E-14	8.02E-14
46	Hydrazine		5.72E-11	5.29E-08	5.30E-08
47	Lindane		7.78E-18	2.81E-17	3.59E-17
48	Malathion		2.30E-17	6.74E-17	9.04E-17
49	Methyl chloride		2.25E-15	3.90E-17	2.28E-15
50	Methylene chloride		1.35E-13	2.35E-15	1.38E-13
51	Methyl ethyl ketone		2.84E-15	6.21E-14	6.49E-14
52	4-Methylphenol		2.58E-15	1.54E-14	1.80E-14
53	Monomethyl hydrazine		1.80E-11	6.27E-09	6.29E-09
54	Naphthalene		3.04E-16	1.17E-15	1.48E-15
55	Naphthalene carbonitrile		1.61E-12	6.20E-12	7.80E-12
56	n-Nitrosodimethylamine		1.83E-14	1.36E-11	1.36E-11
57	PAHs				
58	Acenaphthalene		7.31E-14	2.98E-13	3.71E-13
59	Acenaphthene		7.31E-14	2.35E-13	3.08E-13
60	Benzo(a)pyrene		1.47E-13	5.86E-13	7.32E-13

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
61		Chrysene	1.47E-14	4.83E-14	6.30E-14
62		Dibenzo(a,h)anthracene	1.47E-13	6.32E-13	7.79E-13
63		Fluoranthene	1.47E-13	5.00E-13	6.47E-13
64		Fluorene	1.47E-14	5.09E-14	6.56E-14
65		Phenanthrene	5.72E-17	1.86E-16	2.43E-16
66		Pyrene	2.94E-13	9.83E-13	1.28E-12
67		Parathion	3.64E-17	1.18E-16	1.54E-16
68		Pentachlorobenzene	1.80E-14	1.76E-14	3.56E-14
69		Phenol	2.88E-16	3.09E-15	3.38E-15
70		Pyridine	1.61E-12	2.79E-14	1.64E-12
71		Quinoline	1.65E-14	8.16E-14	9.82E-14
72		Tetrachlorobenzene	8.86E-15	1.30E-14	2.18E-14
73		Tetrachloroethene	3.10E-16	5.37E-18	3.15E-16
74		Toluene	4.93E-15	1.43E-17	4.95E-15
75		Trichlorobenzene	4.49E-15	2.98E-15	7.46E-15
76		Trichloroethene	3.30E-15	5.73E-17	3.36E-15
77		Unsym. dimethyl hydrazine	7.11E-11	3.18E-08	3.18E-08
78		Vapona	1.44E-16	5.51E-16	6.95E-16
79		Vinyl acetate	2.04E-15	3.54E-17	2.08E-15
80		Vinyl chloride	1.89E-15	3.28E-17	1.92E-15
81		Xylenes (total)	3.52E-16	2.04E-19	3.53E-16
82					
83	INORGANICS				
84		Arsenic	1.94E-12	NE	1.94E-12
85		Cadmium	1.12E-14	NE	1.12E-14
86		Chromium (III)	4.98E-14	NE	4.98E-14
87		Chromium (VI)	1.75E-15	NE	1.75E-15
88		Copper	7.37E-14	NE	7.37E-14
89		Iron	1.79E-09	NE	1.79E-09
90		Lead	7.26E-14	NE	7.26E-14
91		Mercury	7.26E-14	NE	7.26E-14
92		Selenium	2.20E-13	NE	2.20E-13
93		Silver	1.00E-15	NE	1.00E-15
94		Zinc	5.77E-13	NE	5.77E-13
95					
96					
97					
98			br	3.80E+00 M3/day	
99			bw	9.00E+00 Kg	
100			um	1.00E+03 ug/mg	
101					
102					
103			Inhalation dose = Cair *br/bw/ugmg		

TABLE 7

BASE CASE

MOTHER'S MILK PATHWAY

	BL	BM	BN	BO	BP	BQ	BR
18-Jun-91 15:15:32 FARM	DI Average Total Daily Intake (mg/kg/day)	DI Maximum Total Daily Intake (mg/kg/day)	TF Breast milk Transfer Factor (day)	Average Breast milk Conc. mg/kg	Maximum Breast milk Conc. mg/kg	Average Estimated Daily Intake mg/kg/day	Maximum Estimated Daily Intake mg/kg/day
ORGANICS							
Acetone	4.39E-15	4.39E-15	2.89E-01	1.27E-15	1.27E-15	1.13E-16	1.13E-16
Acetonitrile	6.54E-11	6.65E-11	4.09E+01	2.68E-09	2.72E-09	2.38E-10	2.42E-10
Acrylonitrile	1.69E-12	1.69E-12	5.13E-02	8.67E-14	8.67E-14	7.71E-15	7.71E-15
Aldrin	4.14E-17	7.33E-17	4.09E+01	1.69E-15	3.00E-15	1.51E-16	2.67E-16
Aniline	4.17E-13	4.29E-13	4.09E+01	1.71E-11	1.76E-11	1.52E-12	1.56E-12
Atrazine	2.10E-15	2.16E-15	4.09E+01	8.58E-14	8.85E-14	7.63E-15	7.86E-15
Benzaldehyde	1.50E-13	1.55E-13	4.09E+01	6.15E-12	6.34E-12	5.46E-13	5.64E-13
Benzene	1.28E-15	1.28E-15	1.92E-02	2.46E-17	2.46E-17	2.19E-18	2.19E-18
Benzofuran	7.53E-13	7.77E-13	4.09E+01	3.08E-11	3.18E-11	2.74E-12	2.83E-12
Benzoic Acid	6.73E-14	6.95E-14	4.09E+01	2.75E-12	2.84E-12	2.45E-13	2.53E-13
Benzonitrile	1.57E-12	1.62E-12	4.09E+01	6.42E-11	6.63E-11	5.71E-12	5.89E-12
Benzothiazole	6.12E-16	6.33E-16	4.09E+01	2.51E-14	2.59E-14	2.23E-15	2.30E-15
Biphenyl	4.98E-13	4.98E-13	2.89E-01	1.44E-13	1.44E-13	1.28E-14	1.28E-14
Bis(2-ethylhexyl)phthalate	2.32E-15	3.19E-14	4.09E+01	9.50E-14	1.31E-12	8.45E-15	1.16E-13
Carbazole	3.02E-15	3.12E-15	4.09E+01	1.24E-13	1.28E-13	1.10E-14	1.14E-14
Carbon Tetrachloride	6.48E-15	6.48E-15	2.89E-01	1.87E-15	1.87E-15	1.66E-16	1.66E-16
4-Chloroaniline	1.64E-16	1.70E-16	4.09E+01	6.71E-15	6.94E-15	5.97E-16	6.17E-16
Chlorobenzene	3.07E-16	3.07E-16	2.89E-01	8.87E-17	8.87E-17	7.89E-18	7.89E-18
4-Chlorobiphenyl	3.70E-16	3.89E-16	4.09E+01	1.52E-14	1.59E-14	1.35E-15	1.41E-15
4,4-Chlorobiphenyl	1.81E-17	2.00E-17	4.09E+01	7.40E-16	8.17E-16	6.58E-17	7.26E-17
Chloroethane	1.69E-14	1.74E-14	4.09E+01	6.90E-13	7.12E-13	6.14E-14	6.33E-14
Chloroform	5.51E-14	5.51E-14	2.89E-01	1.59E-14	1.59E-14	1.41E-15	1.41E-15
Dibenzofuran	1.23E-14	1.28E-14	4.09E+01	5.03E-13	5.22E-13	4.47E-14	4.64E-14
Dichlorobenzenes (total)	1.28E-15	1.28E-15	2.89E-01	3.69E-16	3.69E-16	3.28E-17	3.28E-17
1,4-Dichlorobenzene	8.08E-17	8.08E-17	2.89E-01	2.33E-17	2.33E-17	2.07E-18	2.07E-18
1,1-Dichloroethane	3.66E-15	3.66E-15	2.89E-01	1.06E-15	1.06E-15	9.39E-17	9.39E-17
1,2-Dichloroethane	4.91E-15	5.01E-15	4.09E+01	2.01E-13	2.05E-13	1.79E-14	1.82E-14
1,1-Dichloroethene	1.96E-15	1.96E-15	2.89E-01	5.65E-16	5.65E-16	5.03E-17	5.03E-17
1,2-Dichloroethene	1.69E-15	1.69E-15	2.89E-01	4.89E-16	4.89E-16	4.35E-17	4.35E-17
1,2-Dichloropropane	7.25E-16	7.25E-16	2.89E-01	2.09E-16	2.09E-16	1.86E-17	1.86E-17
Dieldrin	4.33E-16	4.43E-16	4.09E+01	1.77E-14	1.81E-14	1.58E-15	1.61E-15
Dimethyldisulfide	3.11E-15	3.11E-15	2.89E-01	8.98E-16	8.98E-16	7.99E-17	7.99E-17
Hexachlorobenzene	4.07E-14	4.38E-14	9.24E+00	3.76E-13	4.05E-13	3.34E-14	3.60E-14
Hydrazine	1.43E-08	1.45E-08	4.09E+01	5.87E-07	5.95E-07	5.22E-08	5.29E-08
Lindane	7.48E-18	7.72E-18	4.09E+01	3.06E-16	3.16E-16	2.72E-17	2.81E-17
Malathion	1.79E-17	1.85E-17	4.09E+01	7.32E-16	7.58E-16	6.50E-17	6.74E-17
Methyl chloride	1.52E-15	1.52E-15	2.89E-01	4.39E-16	4.39E-16	3.90E-17	3.90E-17
Methylene chloride	9.17E-14	9.17E-14	2.89E-01	2.65E-14	2.65E-14	2.35E-15	2.35E-15
Methyl ethyl ketone	1.68E-14	1.71E-14	4.09E+01	6.86E-13	6.98E-13	6.10E-14	6.21E-14
4-Methylphenol	4.13E-15	4.24E-15	4.09E+01	1.69E-13	1.73E-13	1.50E-14	1.54E-14
Monomethyl hydrazine	1.70E-09	1.72E-09	4.09E+01	6.95E-08	7.05E-08	6.18E-09	6.27E-09
Naphthalene	3.12E-16	3.22E-16	4.09E+01	1.28E-14	1.32E-14	1.14E-15	1.17E-15
Naphthalene carbonitrile	1.65E-12	1.70E-12	4.09E+01	6.76E-11	6.97E-11	6.01E-12	6.20E-12
n-Nitrosodimethylamine	3.67E-12	3.73E-12	4.09E+01	1.50E-10	1.53E-10	1.34E-11	1.36E-11
PAHs							
Acenaphthalene	7.94E-14	8.19E-14	4.09E+01	3.25E-12	3.35E-12	2.89E-13	2.98E-13
Acenaphthene	6.24E-14	6.47E-14	4.09E+01	2.56E-12	2.65E-12	2.27E-13	2.35E-13
Benzo(a)pyrene	1.04E-13	1.61E-13	4.09E+01	4.27E-12	6.59E-12	3.80E-13	5.86E-13

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BL	BM	BN	BO	BP	BQ	BR
2			TABLE 7						
61		Chrysene	1.16E-14	1.33E-14	4.09E+01	4.76E-13	5.43E-13	4.23E-14	4.83E-14
62		Dibenzo(a,h)anthracene	1.06E-13	1.74E-13	4.09E+01	4.35E-12	7.11E-12	3.87E-13	6.32E-13
63		Fluoranthene	1.30E-13	1.37E-13	4.09E+01	5.31E-12	5.62E-12	4.72E-13	5.00E-13
64		Fluorene	1.35E-14	1.40E-14	4.09E+01	5.53E-13	5.73E-13	4.91E-14	5.09E-14
65		Phenanthrene	4.90E-17	5.10E-17	4.09E+01	2.01E-15	2.09E-15	1.78E-16	1.86E-16
66		Pyrene	2.55E-13	2.70E-13	4.09E+01	1.05E-11	1.11E-11	9.29E-13	9.83E-13
67		Parathion	3.13E-17	3.24E-17	4.09E+01	1.28E-15	1.33E-15	1.14E-16	1.18E-16
68		Pentachlorobenzene	2.05E-14	2.14E-14	9.24E+00	1.89E-13	1.98E-13	1.68E-14	1.76E-14
69		Phenol	8.33E-16	8.50E-16	4.09E+01	3.41E-14	3.48E-14	3.03E-15	3.09E-15
70		Pyridine	1.09E-12	1.09E-12	2.89E-01	3.14E-13	3.14E-13	2.79E-14	2.79E-14
71		Quinoline	2.18E-14	2.24E-14	4.09E+01	8.94E-13	9.18E-13	7.95E-14	8.16E-14
72		Tetrachlorobenzene	1.54E-14	1.58E-14	9.24E+00	1.42E-13	1.46E-13	1.26E-14	1.30E-14
73		Tetrachloroethene	2.09E-16	2.09E-16	2.89E-01	6.05E-17	6.05E-17	5.37E-18	5.37E-18
74		Toluene	3.34E-15	3.34E-15	4.81E-02	1.61E-16	1.61E-16	1.43E-17	1.43E-17
75		Trichlorobenzene	3.49E-15	3.63E-15	9.24E+00	3.23E-14	3.35E-14	2.87E-15	2.98E-15
76		Trichloroethene	2.23E-15	2.23E-15	2.89E-01	6.45E-16	6.45E-16	5.73E-17	5.73E-17
77		Unsym. dimethyl hydrazine	8.60E-09	8.73E-09	4.09E+01	3.52E-07	3.57E-07	3.13E-08	3.18E-08
78		Vapona	1.47E-16	1.52E-16	4.09E+01	6.02E-15	6.20E-15	5.35E-16	5.51E-16
79		Vinyl acetate	1.38E-15	1.38E-15	2.89E-01	3.98E-16	3.98E-16	3.54E-17	3.54E-17
80		Vinyl chloride	1.28E-15	1.28E-15	2.89E-01	3.69E-16	3.69E-16	3.28E-17	3.28E-17
81		Xylenes (total)	2.38E-16	2.38E-16	9.62E-03	2.29E-18	2.29E-18	2.04E-19	2.04E-19
82									
83	INORGANICS								
84		Arsenic	1.36E-12	1.59E-12	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
85		Cadmium	7.83E-15	8.31E-15	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
86		Chromium (III)	3.37E-14	3.37E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
87		Chromium (VI)	1.19E-15	1.19E-15	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
88		Copper	5.04E-14	5.04E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
89		Iron	1.21E-09	1.21E-09	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
90		Lead	4.91E-14	4.91E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
91		Mercury	6.66E-14	7.92E-14	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
92		Selenium	1.49E-13	1.49E-13	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
93		Silver	6.80E-16	6.80E-16	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
94		Zinc	3.92E-13	3.92E-13	NA	0.00E+00	0.00E+00	0.00E+00	0.00E+00
95									
96									
97			TF = 0.8*0.04/0.3/k						
98			Breast Milk = DI*TF(day)						
99			EDI = BMC*IR/BW(infant)						
100									
101			8.00E-01 Ingestion Rate (kg/day)						
102			9.00E+00 Body Weight (kg) - infant						
103									
104			HALF LIVES	k					
105			0.33	2.08E+00 Acrylonitrile					
106			0.125	5.54E+00 Benzene					
107			240	2.89E-03 DDE					
108			120	5.77E-03 DDT					
109			1.875	3.70E-01 1,1-DCE & Phenol					
110			266	2.61E-03 Dieldrin					
111			2120	3.27E-04 Dioxin					
112			60	1.15E-02 Hexachlorobenzene					
113			0.3125	2.22E+00 Toluene					
114			0.0625	1.11E+01 Xylene					

	B	C	D	E	F	G	H	I	J	K
117										
118		BASE CASE	TABLE 8							
119			TOMATO CONSUMPTION - AVERAGE							
120										
121										
122		18-Jun-91	D	C soil	PUF	Cu	Cs	Ct	EDI	EDI
123		15:15:33	DRY	AVERAGE		AVERAGE	AVERAGE	AVERAGE	ADULT	CHILD
124			DEPOSITION	CALCULATED	PLANT UPTAKE	CONC.DUE	CONC. ON	CONC ON	AVERAGE	AVERAGE
125			RATE	CONC IN	FACTOR	TO UPTAKE	PLANT	PLANT	ESTIMATED	ESTIMATED
126			g/M2/yr	SOIL		mg/Kg	SURFACE	mg/Kg	DAILY	DAILY
127				.2M			mg/Kg		INTAKE	INTAKE
128				mg/Kg					mg/Kg/day	mg/Kg/day
129										
130	ORGANICS									
131		Acetonitrile	5.76E-11	2.37E-09	3.68E+00	8.69E-09	4.10E-12	8.70E-09	7.16E-12	1.70E-11
132		Aldrin	8.94E-17	3.67E-15	1.19E-04	4.38E-19	6.37E-18	6.80E-18	5.60E-21	1.33E-20
133		Aniline	3.24E-12	1.33E-10	7.02E-01	9.33E-11	2.31E-13	9.36E-11	7.70E-14	1.83E-13
134		Atrazine	2.00E-14	8.22E-13	6.51E-02	5.35E-14	1.42E-15	5.49E-14	4.52E-17	1.07E-16
135		Benzaldehyde	1.47E-12	6.06E-11	3.23E-01	1.96E-11	1.05E-13	1.97E-11	1.62E-14	3.84E-14
136		Benzofuran	7.17E-12	2.95E-10	6.60E-02	1.94E-11	5.11E-13	2.00E-11	1.64E-14	3.89E-14
137		Benzoic Acid	7.22E-13	2.97E-11	1.92E-01	5.70E-12	5.14E-14	5.75E-12	4.73E-15	1.12E-14
138		Benzonitrile	1.58E-11	6.47E-10	2.91E-01	1.88E-10	1.12E-12	1.89E-10	1.56E-13	3.69E-13
139		Benzothiazole	6.72E-15	2.76E-13	1.59E-01	4.40E-14	4.78E-16	4.45E-14	3.66E-17	8.67E-17
140		Bis(2-ethylhexyl)phthalate	3.96E-15	1.63E-13	2.02E-05	3.29E-18	2.82E-16	2.86E-16	2.35E-19	5.57E-19
141		Carbazole	3.24E-14	1.33E-12	2.88E-02	3.84E-14	2.31E-15	4.07E-14	3.35E-17	7.93E-17
142		4-Chloroaniline	1.85E-15	7.62E-14	2.03E-01	1.54E-14	1.32E-16	1.56E-14	1.28E-17	3.04E-17
143		4-Chlorobiphenyl	4.57E-15	1.88E-13	3.36E-03	6.30E-16	3.25E-16	9.55E-16	7.86E-19	1.86E-18
144		4,4-Chlorobiphenyl	2.30E-16	9.44E-15	1.35E-03	1.28E-17	1.64E-17	2.92E-17	2.40E-20	5.69E-20
145		Chloroethane	1.64E-13	6.72E-12	3.19E-01	2.15E-12	1.17E-14	2.16E-12	1.77E-15	4.21E-15
146		Dibenzofuran	1.44E-13	5.91E-12	9.52E-03	5.63E-14	1.02E-14	6.65E-14	5.47E-17	1.30E-16
147		1,2-Dichloroethane	1.66E-14	6.81E-13	3.23E-01	2.20E-13	1.18E-15	2.21E-13	1.82E-16	4.32E-16
148		Dieldrin	1.64E-16	6.74E-15	5.92E-04	3.99E-18	1.17E-17	1.57E-17	1.29E-20	3.06E-20
149		Hexachlorobenzene	4.34E-13	1.78E-11	1.57E-03	2.80E-14	3.09E-14	5.89E-14	4.84E-17	1.15E-16
150		Hydrazine	5.61E-10	2.30E-08	1.43E+02	3.29E-06	3.99E-11	3.29E-06	2.71E-09	6.41E-09
151		Lindane	7.63E-17	3.13E-15	2.85E-02	8.92E-17	5.43E-18	9.46E-17	7.78E-20	1.85E-19
152		Malathion	2.25E-16	9.26E-15	4.92E-02	4.55E-16	1.60E-17	4.71E-16	3.88E-19	9.20E-19
153		Methyl ethyl ketone	2.78E-14	1.14E-12	1.65E+00	1.89E-12	1.98E-15	1.89E-12	1.55E-15	3.68E-15
154		4-Methylphenol	2.53E-14	1.04E-12	1.75E-01	1.82E-13	1.80E-15	1.83E-13	1.51E-16	3.58E-16
155		Monomethyl hydrazine	1.77E-10	7.26E-09	1.43E+02	1.04E-06	1.26E-11	1.04E-06	8.53E-10	2.02E-09
156		Naphthalene	2.98E-15	1.22E-13	2.66E-02	3.26E-15	2.12E-16	3.47E-15	2.86E-18	6.77E-18
157		Naphthalene carbonitrile	1.58E-11	6.47E-10	2.66E-02	1.72E-11	1.12E-12	1.84E-11	1.51E-14	3.58E-14
158		n-Nitrosodimethylamine	1.80E-13	7.39E-12	5.79E+00	4.28E-11	1.28E-14	4.28E-11	3.52E-14	8.34E-14
159		PAHs								
160		Acenaphthalene	7.17E-13	2.95E-11	1.02E-02	3.00E-13	5.11E-14	3.51E-13	2.89E-16	6.85E-16
161		Acenaphthene	7.17E-13	2.95E-11	1.24E-02	3.66E-13	5.11E-14	4.17E-13	3.43E-16	8.14E-16
162		Benzo(a)pyrene	1.44E-12	5.91E-11	4.41E-04	2.61E-14	1.02E-13	1.29E-13	1.06E-16	2.51E-16
163		Chrysene	1.44E-13	5.91E-12	1.02E-03	6.05E-15	1.02E-14	1.63E-14	1.34E-17	3.18E-17
164		Dibenzo(a,h)anthracene	1.44E-12	5.91E-11	3.96E-04	2.34E-14	1.02E-13	1.26E-13	1.04E-16	2.46E-16
165		Fluoranthene	1.44E-12	5.91E-11	2.19E-03	1.30E-13	1.02E-13	2.32E-13	1.91E-16	4.53E-16
166		Fluorene	1.44E-13	5.91E-12	6.73E-03	3.98E-14	1.02E-14	5.00E-14	4.12E-17	9.76E-17
167		Phenanthrene	5.61E-16	2.30E-14	5.22E-03	1.20E-16	3.99E-17	1.60E-16	1.32E-19	3.12E-19
168		Pyrene	2.88E-12	1.18E-10	2.31E-03	2.73E-13	2.05E-13	4.78E-13	3.94E-16	9.33E-16
169		Parathion	3.57E-16	1.47E-14	1.44E-02	2.11E-16	2.54E-17	2.36E-16	1.94E-19	4.61E-19
170		Pentachlorobenzene	1.77E-13	7.26E-12	2.64E-03	1.92E-14	1.26E-14	3.18E-14	2.61E-17	6.20E-17
171		Phenol	2.83E-15	1.16E-13	3.32E-01	3.86E-14	2.01E-16	3.88E-14	3.19E-17	7.57E-17
172		Quinoline	1.62E-13	6.66E-12	1.55E-01	1.03E-12	1.15E-14	1.04E-12	8.60E-16	2.04E-15
173		Tetrachlorobenzene	8.69E-14	3.57E-12	6.82E-03	2.43E-14	6.19E-15	3.05E-14	2.51E-17	5.95E-17
174		Trichlorobenzene	4.40E-14	1.81E-12	1.15E-02	2.07E-14	3.13E-15	2.39E-14	1.96E-17	4.66E-17
175		Unsym. dimethyl hydrazine	6.97E-10	2.86E-08	5.91E+01	1.69E-06	4.96E-11	1.69E-06	1.39E-09	3.30E-09
176		Vapona	1.41E-15	5.79E-14	3.60E-01	2.08E-14	1.00E-16	2.09E-14	1.72E-17	4.08E-17

	B	C	D	E	F	G	H	I	J	K
117										
118		BASE CASE	TABLE 8							
177										
178	INORGANICS									
179		Arsenic	1.90E-11	7.80E-10	3.60E-04	2.81E-13	1.35E-12	1.63E-12	1.34E-15	3.19E-15
180		Cadmium	1.10E-13	4.52E-12	9.00E-03	4.07E-14	7.84E-15	4.86E-14	4.00E-17	9.47E-17
181		Mercury	7.12E-13	2.93E-11	1.20E-02	3.51E-13	5.07E-14	4.02E-13	3.31E-16	7.84E-16
182										
183					ADULT	CHILD				
184					6.40E-02	3.36E-02	TOMATO INGESTION RATE ,Kg/day			ADITOM
185					7.00E+01	1.55E+01	BODY WEIGHT, KG			ADWT
186					6.80E-02	6.80E-02	r tomato			r
187					5.78E-07	5.78E-07	k tomato, 1/s			k
188					3.89E+06	3.89E+06	t tomato, s			t
189					1.34E+00	1.34E+00	Y tomato, Kg/M2			y
190					7.85E+04	7.85E+04	VSDF tomato, M2s/Kg			VSDF
191					0.9	9.00E-01	FRACT. CONSUMED FROM RURAL SOURCE.			HG
192					3.15E+07	3.15E+07	sec/yr			secyr
193					1.00E+03	1.00E+03	mg/g			mgg
194							-kt			
195						VSDF = r*(1-e	)			
196							Y*k			
197						Cs = VSDF*Deposition*mgg/secyr				
198						Cu = PUF*Csoil				
199						EDI = (Ct)*ADITOM*HG/ADWT				

117	B	C	M	N	O	P	Q	R	S	T
118		BASE CASE	TABLE 9							
119			TOMATO CONSUMPTION - MAXIMUM							
120										
121										
122		18-Jun-91	D	C soil	PUF	Cu	Cs	Ct	EDI	EDI
123		15:15:33	DRY	MAXIMUM		MAXIMUM	MAXIMUM	MAXIMUM	ADULT	CHILD
124			DEPOSITION	CALCULATED	PLANT UPTAKE	CONC.DUE	CONC. ON	CONC ON	MAXIMUM	MAXIMUM
125			RATE	CONC IN	FACTOR	TO UPTAKE	PLANT	PLANT	ESTIMATED	ESTIMATED
126			g/M2/yr	SOIL		mg/Kg	SURFACE	mg/Kg	DAILY	DAILY
127				.2M			mg/Kg		INTAKE	INTAKE
128				mg/Kg					mg/Kg/day	mg/Kg/day
129										
130	ORGANICS									
131		Acetonitrile	5.76E-11	2.40E-09	3.68E+00	8.82E-09	1.43E-10	8.96E-09	7.38E-12	1.75E-11
132		Aldrin	8.94E-17	3.73E-15	1.19E-04	4.44E-19	2.23E-16	2.23E-16	1.84E-19	4.36E-19
133		Aniline	3.24E-12	1.35E-10	7.02E-01	9.47E-11	8.07E-12	1.03E-10	8.45E-14	2.00E-13
134		Atrazine	2.00E-14	8.34E-13	6.51E-02	5.43E-14	4.98E-14	1.04E-13	8.57E-17	2.03E-16
135		Benzaldehyde	1.47E-12	6.15E-11	3.23E-01	1.99E-11	3.68E-12	2.36E-11	1.94E-14	4.60E-14
136		Benzofuran	7.17E-12	2.99E-10	6.60E-02	1.97E-11	1.79E-11	3.76E-11	3.09E-14	7.34E-14
137		Benzoic Acid	7.22E-13	3.01E-11	1.92E-01	5.78E-12	1.80E-12	7.58E-12	6.24E-15	1.48E-14
138		Benzonitrile	1.58E-11	6.57E-10	2.91E-01	1.91E-10	3.93E-11	2.30E-10	1.89E-13	4.49E-13
139		Benzothiazole	6.72E-15	2.80E-13	1.59E-01	4.46E-14	1.67E-14	6.14E-14	5.05E-17	1.20E-16
140		Bis(2-ethylhexyl)phthalate	3.96E-15	1.65E-13	2.02E-05	3.33E-18	9.88E-15	9.88E-15	8.13E-18	1.93E-17
141		Carbazole	3.24E-14	1.35E-12	2.88E-02	3.89E-14	8.07E-14	1.20E-13	9.84E-17	2.33E-16
142		4-Chloroaniline	1.85E-15	7.73E-14	2.03E-01	1.57E-14	4.62E-15	2.03E-14	1.67E-17	3.96E-17
143		4-Chlorobiphenyl	4.57E-15	1.90E-13	3.36E-03	6.39E-16	1.14E-14	1.20E-14	9.89E-18	2.34E-17
144		4,4-Chlorobiphenyl	2.30E-16	9.58E-15	1.35E-03	1.30E-17	5.73E-16	5.86E-16	4.82E-19	1.14E-18
145		Chloroethane	1.64E-13	6.82E-12	3.19E-01	2.18E-12	4.08E-13	2.58E-12	2.13E-15	5.04E-15
146		Dibenzofuran	1.44E-13	6.00E-12	9.52E-03	5.71E-14	3.59E-13	4.16E-13	3.42E-16	8.11E-16
147		1,2-Dichloroethane	1.66E-14	6.91E-13	3.23E-01	2.23E-13	4.13E-14	2.65E-13	2.18E-16	5.16E-16
148		Dieldrin	1.64E-16	6.84E-15	5.92E-04	4.05E-18	4.09E-16	4.13E-16	3.40E-19	8.06E-19
149		Hexachlorobenzene	4.34E-13	1.81E-11	1.57E-03	2.84E-14	1.08E-12	1.11E-12	9.13E-16	2.16E-15
150		Hydrazine	5.61E-10	2.34E-08	1.43E+02	3.34E-06	1.40E-09	3.34E-06	2.75E-09	6.51E-09
151		Lindane	7.63E-17	3.18E-15	2.85E-02	9.04E-17	1.90E-16	2.81E-16	2.31E-19	5.47E-19
152		Malathion	2.25E-16	9.39E-15	4.92E-02	4.62E-16	5.61E-16	1.02E-15	8.42E-19	2.00E-18
153		Methyl ethyl ketone	2.78E-14	1.16E-12	1.65E+00	1.91E-12	6.94E-14	1.98E-12	1.63E-15	3.87E-15
154		4-Methylphenol	2.53E-14	1.05E-12	1.75E-01	1.84E-13	6.29E-14	2.47E-13	2.03E-16	4.82E-16
155		Monomethyl hydrazine	1.77E-10	7.37E-09	1.43E+02	1.05E-06	4.41E-10	1.05E-06	8.66E-10	2.05E-09
156		Naphthalene	2.98E-15	1.24E-13	2.66E-02	3.31E-15	7.43E-15	1.07E-14	8.83E-18	2.09E-17
157		Naphthalene carbonitrile	1.58E-11	6.57E-10	2.66E-02	1.75E-11	3.93E-11	5.68E-11	4.67E-14	1.11E-13
158		n-Nitrosodimethylamine	1.80E-13	7.49E-12	5.79E+00	4.34E-11	4.48E-13	4.38E-11	3.61E-14	8.55E-14
159		PAHs								
160		Acenaphthalene	7.17E-13	2.99E-11	1.02E-02	3.04E-13	1.79E-12	2.09E-12	1.72E-15	4.08E-15
161		Acenaphthene	7.17E-13	2.99E-11	1.24E-02	3.72E-13	1.79E-12	2.16E-12	1.78E-15	4.21E-15
162		Benzo(a)pyrene	1.44E-12	6.00E-11	4.41E-04	2.65E-14	3.59E-12	3.61E-12	2.97E-15	7.05E-15
163		Chrysene	1.44E-13	6.00E-12	1.02E-03	6.14E-15	3.59E-13	3.65E-13	3.00E-16	7.12E-16
164		Dibenzo(a,h)anthracene	1.44E-12	6.00E-11	3.96E-04	2.38E-14	3.59E-12	3.61E-12	2.97E-15	7.05E-15
165		Fluoranthene	1.44E-12	6.00E-11	2.19E-03	1.31E-13	3.59E-12	3.72E-12	3.06E-15	7.26E-15
166		Fluorene	1.44E-13	6.00E-12	6.73E-03	4.04E-14	3.59E-13	3.99E-13	3.28E-16	7.79E-16
167		Phenanthrene	5.61E-16	2.34E-14	5.22E-03	1.22E-16	1.40E-15	1.52E-15	1.25E-18	2.96E-18
168		Pyrene	2.88E-12	1.20E-10	2.31E-03	2.77E-13	7.17E-12	7.45E-12	6.13E-15	1.45E-14
169		Parathion	3.57E-16	1.49E-14	1.44E-02	2.14E-16	8.89E-16	1.10E-15	9.07E-19	2.15E-18
170		Pentachlorobenzene	1.77E-13	7.37E-12	2.64E-03	1.95E-14	4.41E-13	4.60E-13	3.79E-16	8.97E-16
171		Phenol	2.83E-15	1.18E-13	3.32E-01	3.92E-14	7.05E-15	4.62E-14	3.80E-17	9.01E-17
172		Quinoline	1.62E-13	6.76E-12	1.55E-01	1.05E-12	4.04E-13	1.45E-12	1.20E-15	2.83E-15
173		Tetrachlorobenzene	8.69E-14	3.62E-12	6.82E-03	2.47E-14	2.17E-13	2.41E-13	1.98E-16	4.71E-16
174		Trichlorobenzene	4.40E-14	1.83E-12	1.15E-02	2.10E-14	1.10E-13	1.31E-13	1.08E-16	2.55E-16
175		Unsym. dimethyl hydrazine	6.97E-10	2.91E-08	5.91E+01	1.72E-06	1.74E-09	1.72E-06	1.41E-09	3.35E-09
176		Vapona	1.41E-15	5.87E-14	3.60E-01	2.11E-14	3.51E-15	2.46E-14	2.03E-17	4.81E-17

	B	C	M	N	O	P	Q	R	S	T
117										
118		BASE CASE	TABLE 9							
177										
178	INORGANICS									
179		Arsenic	1.90E-11	7.92E-10	3.60E-04	2.85E-13	4.73E-11	4.76E-11	3.92E-14	9.29E-14
180		Cadmium	1.10E-13	4.59E-12	9.00E-03	4.13E-14	2.74E-13	3.16E-13	2.60E-16	6.16E-16
181		Mercury	7.12E-13	2.97E-11	1.20E-02	3.56E-13	1.77E-12	2.13E-12	1.75E-15	4.16E-15
182										
183					ADULT	CHILD				
184					6.40E-02	3.36E-02	TOMATO INGESTION RATE ,Kg/day			ADITOM
185					7.00E+01	1.55E+01	BODY WEIGHT, KG			ADWT
186					6.80E-02	6.80E-02	r tomato			r
187					5.78E-07	5.78E-07	k tomato, 1/s			k
188					3.89E+06	3.89E+06	t tomato, s			t
189					1.34E+00	1.34E+00	Y tomato, Kg/M2			y
190					7.85E+04	7.85E+04	VSDF tomato, M2s/Kg			VSDF
191					9.00E-01	9.00E-01	FRACT. CONSUMED FROM RURAL SOURCE.			HG
192					3.15E+07	3.15E+07	sec/yr			secyr
193					1.00E+03	1.00E+03	mg/g			mgg
194							-kt			
195						VSDF = r*(1-e	)			
196							Y*k			
197						Cs = VSDF*Deposition*mgg/secyr				
198						Cu = PUF*Csoil				
199						EDI = (Ct)*ADITOM*HG/ADWT				

	B	C	V	W	X	Y	Z	AA	AB	AC
117										
118		BASE CASE	TABLE 10							
119			LETTUCE CONSUMPTION - AVERAGE							
120										
121										
122		18-Jun-91	D	C soil	PUF	Cu	Cs	Ct	EDI	EDI
123		15:15:33	DRY	AVERAGE		AVERAGE	AVERAGE	AVERAGE	ADULT	CHILD
124			DEPOSITION	CALCULATED	PLANT UPTAKE	CONC.DUE	CONC. ON	CONC ON	AVERAGE	AVERAGE
125			RATE	CONC IN	FACTOR	TO UPTAKE	PLANT	PLANT	ESTIMATED	ESTIMATED
126			g/M2/yr	SOIL		mg/Kg	SURFACE	mg/Kg	DAILY	DAILY
127				.2M			mg/Kg		INTAKE	INTAKE
128				mg/Kg					mg/Kg/day	mg/Kg/day
129										
130	ORGANICS									
131		Acetonitrile	5.76E-11	2.37E-09	3.06E+00	7.25E-09	8.24E-12	7.25E-09	1.11E-12	5.22E-13
132		Aldrin	8.94E-17	3.67E-15	9.93E-05	3.65E-19	1.28E-17	1.32E-17	2.01E-21	9.48E-22
133		Aniline	3.24E-12	1.33E-10	5.85E-01	7.78E-11	4.64E-13	7.82E-11	1.20E-14	5.63E-15
134		Atrazine	2.00E-14	8.22E-13	5.43E-02	4.46E-14	2.86E-15	4.75E-14	7.26E-18	3.42E-18
135		Benzaldehyde	1.47E-12	6.06E-11	2.69E-01	1.63E-11	2.11E-13	1.65E-11	2.53E-15	1.19E-15
136		Benzofuran	7.17E-12	2.95E-10	5.50E-02	1.62E-11	1.03E-12	1.72E-11	2.64E-15	1.24E-15
137		Benzoic Acid	7.22E-13	2.97E-11	1.60E-01	4.75E-12	1.03E-13	4.85E-12	7.43E-16	3.49E-16
138		Benzonitrile	1.58E-11	6.47E-10	2.42E-01	1.57E-10	2.26E-12	1.59E-10	2.43E-14	1.15E-14
139		Benzothiazole	6.72E-15	2.76E-13	1.33E-01	3.66E-14	9.62E-16	3.76E-14	5.75E-18	2.71E-18
140		Bis(2-ethylhexyl)phthalate	3.96E-15	1.63E-13	1.68E-05	2.74E-18	5.68E-16	5.70E-16	8.73E-20	4.11E-20
141		Carbazole	3.24E-14	1.33E-12	2.40E-02	3.20E-14	4.64E-15	3.66E-14	5.60E-18	2.64E-18
142		4-Chloroaniline	1.85E-15	7.62E-14	1.69E-01	1.29E-14	2.65E-16	1.31E-14	2.01E-18	9.45E-19
143		4-Chlorobiphenyl	4.57E-15	1.88E-13	2.80E-03	5.25E-16	6.54E-16	1.18E-15	1.80E-19	8.49E-20
144		4,4-Chlorobiphenyl	2.30E-16	9.44E-15	1.13E-03	1.07E-17	3.29E-17	4.36E-17	6.66E-21	3.14E-21
145		Chloroethane	1.64E-13	6.72E-12	2.66E-01	1.79E-12	2.34E-14	1.81E-12	2.77E-16	1.30E-16
146		Dibenzofuran	1.44E-13	5.91E-12	7.93E-03	4.69E-14	2.06E-14	6.75E-14	1.03E-17	4.86E-18
147		1,2-Dichloroethane	1.66E-14	6.81E-13	2.69E-01	1.83E-13	2.37E-15	1.86E-13	2.84E-17	1.34E-17
148		Dieldrin	1.64E-16	6.74E-15	4.93E-04	3.33E-18	2.35E-17	2.68E-17	4.10E-21	1.93E-21
149		Hexachlorobenzene	4.34E-13	1.78E-11	1.31E-03	2.33E-14	6.21E-14	8.54E-14	1.31E-17	6.15E-18
150		Hydrazine	5.61E-10	2.30E-08	1.19E+02	2.74E-06	8.03E-11	2.74E-06	4.19E-10	1.97E-10
151		Lindane	7.63E-17	3.13E-15	2.37E-02	7.43E-17	1.09E-17	8.52E-17	1.30E-20	6.14E-21
152		Malathion	2.25E-16	9.26E-15	4.10E-02	3.79E-16	3.23E-17	4.12E-16	6.30E-20	2.96E-20
153		Methyl ethyl ketone	2.78E-14	1.14E-12	1.37E+00	1.57E-12	3.98E-15	1.58E-12	2.41E-16	1.13E-16
154		4-Methylphenol	2.53E-14	1.04E-12	1.46E-01	1.51E-13	3.62E-15	1.55E-13	2.37E-17	1.12E-17
155		Monomethyl hydrazine	1.77E-10	7.26E-09	1.19E+02	8.64E-07	2.53E-11	8.64E-07	1.32E-10	6.22E-11
156		Naphthalene	2.98E-15	1.22E-13	2.22E-02	2.72E-15	4.27E-16	3.14E-15	4.81E-19	2.26E-19
157		Naphthalene carbonitrile	1.58E-11	6.47E-10	2.22E-02	1.44E-11	2.26E-12	1.66E-11	2.54E-15	1.20E-15
158		n-Nitrosodimethylamine	1.80E-13	7.39E-12	4.82E+00	3.56E-11	2.57E-14	3.57E-11	5.46E-15	2.57E-15
159		PAHs								
160		Acenaphthalene	7.17E-13	2.95E-11	8.48E-03	2.50E-13	1.03E-13	3.53E-13	5.39E-17	2.54E-17
161		Acenaphthene	7.17E-13	2.95E-11	1.04E-02	3.05E-13	1.03E-13	4.08E-13	6.24E-17	2.94E-17
162		Benzo(a)pyrene	1.44E-12	5.91E-11	3.68E-04	2.17E-14	2.06E-13	2.28E-13	3.49E-17	1.64E-17
163		Chrysene	1.44E-13	5.91E-12	8.53E-04	5.04E-15	2.06E-14	2.57E-14	3.92E-18	1.85E-18
164		Dibenzo(a,h)anthracene	1.44E-12	5.91E-11	3.30E-04	1.95E-14	2.06E-13	2.26E-13	3.45E-17	1.62E-17
165		Fluoranthene	1.44E-12	5.91E-11	1.83E-03	1.08E-13	2.06E-13	3.14E-13	4.80E-17	2.26E-17
166		Fluorene	1.44E-13	5.91E-12	5.60E-03	3.31E-14	2.06E-14	5.38E-14	8.22E-18	3.87E-18
167		Phenanthrene	5.61E-16	2.30E-14	4.35E-03	1.00E-16	8.03E-17	1.80E-16	2.76E-20	1.30E-20
168		Pyrene	2.88E-12	1.18E-10	1.93E-03	2.28E-13	4.12E-13	6.40E-13	9.79E-17	4.61E-17
169		Parathion	3.57E-16	1.47E-14	1.20E-02	1.76E-16	5.11E-17	2.27E-16	3.47E-20	1.63E-20
170		Pentachlorobenzene	1.77E-13	7.26E-12	2.20E-03	1.60E-14	2.53E-14	4.13E-14	6.32E-18	2.97E-18
171		Phenol	2.83E-15	1.16E-13	2.77E-01	3.22E-14	4.05E-16	3.26E-14	4.98E-18	2.34E-18
172		Quinoline	1.62E-13	6.66E-12	1.29E-01	8.61E-13	2.32E-14	8.84E-13	1.35E-16	6.37E-17
173		Tetrachlorobenzene	8.69E-14	3.57E-12	5.68E-03	2.03E-14	1.24E-14	3.27E-14	5.00E-18	2.36E-18
174		Trichlorobenzene	4.40E-14	1.81E-12	9.56E-03	1.73E-14	6.30E-15	2.36E-14	3.61E-18	1.70E-18
175		Unsym. dimethyl hydrazine	6.97E-10	2.86E-08	4.93E+01	1.41E-06	9.98E-11	1.41E-06	2.16E-10	1.02E-10
176		Vapona	1.41E-15	5.79E-14	3.00E-01	1.74E-14	2.02E-16	1.76E-14	2.69E-18	1.26E-18

	B	C	V	W	X	Y	Z	AA	AB	AC
117										
118	BASE CASE		TABLE 10							
177										
178	INORGANICS									
179	Arsenic		1.90E-11	7.80E-10	2.00E-03	1.56E-12	2.72E-12	4.28E-12	6.55E-16	3.08E-16
180	Cadmium		1.10E-13	4.52E-12	2.75E-02	1.24E-13	1.58E-14	1.40E-13	2.14E-17	1.01E-17
181	Mercury		7.12E-13	2.93E-11	4.50E-02	1.32E-12	1.02E-13	1.42E-12	2.17E-16	1.02E-16
182										
183					ADULT	CHILD				
184					1.19E-02	1.24E-03	LETTUCE INGESTION RATE ,Kg/day			ADILET
185					7.00E+01	1.55E+01	BODY WEIGHT, KG			ADWT
186					1.50E-01	1.50E-01	r lettuce			r
187					5.78E-07	5.78E-07	k lettuce, 1/s			k
188					5.62E+06	5.62E+06	t lettuce, s			t
189					1.58E+00	1.58E+00	y lettuce, Kg/M2			y
190					1.58E+05	1.58E+05	VSDF lettuce, M2s/Kg			VSDF
191					9.00E-01	9.00E-01	FRACT. CONSUMED FROM RURAL SOURCE.			HG
192					3.15E+07	3.15E+07	sec/yr			secyr
193					1.00E+03	1.00E+03	mg/g			mgg
194							-kt			
195						VSDF = r*(1-e	)			
196							*k			
197						Cs = VSDF*Deposition*mgg/secyr				
198						Cu = PUF*Csoil				
199						EDI = (Cs+Cu)*ADILET*HG/ADWT				

	B	C	AE	AF	AG	AH	AI	AJ	AK	AL
117										
118		BASE CASE	TABLE 11							
119			LETTUCE CONSUMPTION - MAXIMUM							
120										
121										
122		18-Jun-91	D	C soil	PUF	Cu	Cs	Ct	EDI	EDI
123		15:15:33	DRY	MAXIMUM		MAXIMUM	MAXIMUM	MAXIMUM	ADULT	CHILD
124			DEPOSITION	CALCULATED	PLANT UPTAKE	CONC.DUE	CONC. ON	CONC ON	MAXIMUM	MAXIMUM
125			RATE	CONC IN	FACTOR	TO UPTAKE	PLANT	PLANT	ESTIMATED	ESTIMATED
126			g/M2/yr	SOIL		mg/Kg	SURFACE	mg/Kg	DAILY	DAILY
127				.2M			mg/Kg		INTAKE	INTAKE
128				mg/Kg					mg/Kg/day	mg/Kg/day
129										
130	ORGANICS									
131		Acetonitrile	5.76E-11	2.40E-09	3.06E+00	7.35E-09	2.89E-10	7.64E-09	1.17E-12	5.50E-13
132		Aldrin	8.94E-17	3.73E-15	9.93E-05	3.70E-19	4.48E-16	4.48E-16	6.86E-20	3.23E-20
133		Aniline	3.24E-12	1.35E-10	5.85E-01	7.89E-11	1.62E-11	9.51E-11	1.46E-14	6.85E-15
134		Atrazine	2.00E-14	8.34E-13	5.43E-02	4.52E-14	1.00E-13	1.45E-13	2.23E-17	1.05E-17
135		Benzaldehyde	1.47E-12	6.15E-11	2.69E-01	1.66E-11	7.39E-12	2.40E-11	3.67E-15	1.72E-15
136		Benzofuran	7.17E-12	2.99E-10	5.50E-02	1.64E-11	3.59E-11	5.24E-11	8.01E-15	3.77E-15
137		Benzoic Acid	7.22E-13	3.01E-11	1.60E-01	4.82E-12	3.62E-12	8.44E-12	1.29E-15	6.08E-16
138		Benzonitrile	1.58E-11	6.57E-10	2.42E-01	1.59E-10	7.90E-11	2.38E-10	3.64E-14	1.71E-14
139		Benzothiazole	6.72E-15	2.80E-13	1.33E-01	3.72E-14	3.37E-14	7.08E-14	1.08E-17	5.10E-18
140		Bis(2-ethylhexyl)phthalate	3.96E-15	1.65E-13	1.68E-05	2.78E-18	1.99E-14	1.99E-14	3.04E-18	1.43E-18
141		Carbazole	3.24E-14	1.35E-12	2.40E-02	3.24E-14	1.62E-13	1.95E-13	2.98E-17	1.40E-17
142		4-Chloroaniline	1.85E-15	7.73E-14	1.69E-01	1.30E-14	9.29E-15	2.23E-14	3.42E-18	1.61E-18
143		4-Chlorobiphenyl	4.57E-15	1.90E-13	2.80E-03	5.33E-16	2.29E-14	2.34E-14	3.58E-18	1.69E-18
144		4,4-Chlorobiphenyl	2.30E-16	9.58E-15	1.13E-03	1.08E-17	1.15E-15	1.16E-15	1.78E-19	8.37E-20
145		Chloroethane	1.64E-13	6.82E-12	2.66E-01	1.81E-12	8.20E-13	2.63E-12	4.03E-16	1.90E-16
146		Dibenzofuran	1.44E-13	6.00E-12	7.93E-03	4.76E-14	7.21E-13	7.69E-13	1.18E-16	5.54E-17
147		1,2-Dichloroethane	1.66E-14	6.91E-13	2.69E-01	1.86E-13	8.30E-14	2.69E-13	4.12E-17	1.94E-17
148		Dieldrin	1.64E-16	6.84E-15	4.93E-04	3.37E-18	8.23E-16	8.26E-16	1.26E-19	5.95E-20
149		Hexachlorobenzene	4.34E-13	1.81E-11	1.31E-03	2.36E-14	2.17E-12	2.20E-12	3.36E-16	1.58E-16
150		Hydrazine	5.61E-10	2.34E-08	1.19E+02	2.78E-06	2.81E-09	2.78E-06	4.26E-10	2.00E-10
151		Lindane	7.63E-17	3.18E-15	2.37E-02	7.54E-17	3.82E-16	4.58E-16	7.00E-20	3.29E-20
152		Malathion	2.25E-16	9.39E-15	4.10E-02	3.85E-16	1.13E-15	1.51E-15	2.32E-19	1.09E-19
153		Methyl ethyl ketone	2.78E-14	1.16E-12	1.37E+00	1.59E-12	1.39E-13	1.73E-12	2.65E-16	1.25E-16
154		4-Methylphenol	2.53E-14	1.05E-12	1.46E-01	1.53E-13	1.27E-13	2.80E-13	4.28E-17	2.02E-17
155		Monomethyl hydrazine	1.77E-10	7.37E-09	1.19E+02	8.76E-07	8.86E-10	8.77E-07	1.34E-10	6.32E-11
156		Naphthalene	2.98E-15	1.24E-13	2.22E-02	2.75E-15	1.49E-14	1.77E-14	2.71E-18	1.27E-18
157		Naphthalene carbonitrile	1.58E-11	6.57E-10	2.22E-02	1.46E-11	7.90E-11	9.35E-11	1.43E-14	6.73E-15
158		n-Nitrosodimethylamine	1.80E-13	7.49E-12	4.82E+00	3.61E-11	9.01E-13	3.70E-11	5.67E-15	2.67E-15
159		PAHs								
160		Acenaphthalene	7.17E-13	2.99E-11	8.48E-03	2.53E-13	3.59E-12	3.85E-12	5.89E-16	2.77E-16
161		Acenaphthene	7.17E-13	2.99E-11	1.04E-02	3.10E-13	3.59E-12	3.90E-12	5.97E-16	2.81E-16
162		Benzo(a)pyrene	1.44E-12	6.00E-11	3.68E-04	2.21E-14	7.21E-12	7.24E-12	1.11E-15	5.21E-16
163		Chrysene	1.44E-13	6.00E-12	8.53E-04	5.12E-15	7.21E-13	7.26E-13	1.11E-16	5.23E-17
164		Dibenzo(a,h)anthracene	1.44E-12	6.00E-11	3.30E-04	1.98E-14	7.21E-12	7.23E-12	1.11E-15	5.21E-16
165		Fluoranthene	1.44E-12	6.00E-11	1.83E-03	1.10E-13	7.21E-12	7.32E-12	1.12E-15	5.27E-16
166		Fluorene	1.44E-13	6.00E-12	5.60E-03	3.36E-14	7.21E-13	7.55E-13	1.16E-16	5.44E-17
167		Phenanthrene	5.61E-16	2.34E-14	4.35E-03	1.02E-16	2.81E-15	2.91E-15	4.45E-19	2.10E-19
168		Pyrene	2.88E-12	1.20E-10	1.93E-03	2.31E-13	1.44E-11	1.47E-11	2.24E-15	1.06E-15
169		Parathion	3.57E-16	1.49E-14	1.20E-02	1.78E-16	1.79E-15	1.97E-15	3.01E-19	1.41E-19
170		Pentachlorobenzene	1.77E-13	7.37E-12	2.20E-03	1.62E-14	8.86E-13	9.02E-13	1.38E-16	6.49E-17
171		Phenol	2.83E-15	1.18E-13	2.77E-01	3.26E-14	1.42E-14	4.68E-14	7.16E-18	3.37E-18
172		Quinoline	1.62E-13	6.76E-12	1.29E-01	8.74E-13	8.12E-13	1.69E-12	2.58E-16	1.21E-16
173		Tetrachlorobenzene	8.69E-14	3.62E-12	5.68E-03	2.06E-14	4.35E-13	4.56E-13	6.98E-17	3.28E-17
174		Trichlorobenzene	4.40E-14	1.83E-12	9.56E-03	1.75E-14	2.20E-13	2.38E-13	3.64E-17	1.71E-17
175		Unsym. dimethyl hydrazine	6.97E-10	2.91E-08	4.93E+01	1.43E-06	3.49E-09	1.43E-06	2.20E-10	1.03E-10
176		Vapona	1.41E-15	5.87E-14	3.00E-01	1.76E-14	7.06E-15	2.47E-14	3.78E-18	1.78E-18

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AE	AF	AG	AH	AI	AJ	AK	AL
118	BASE CASE		TABLE 11							
177										
178	INORGANICS									
179	Arsenic		1.90E-11	7.92E-10	2.00E-03	1.58E-12	9.52E-11	9.67E-11	1.48E-14	6.97E-15
180	Cadmium		1.10E-13	4.59E-12	2.75E-02	1.26E-13	5.52E-13	6.78E-13	1.04E-16	4.88E-17
181	Mercury		7.12E-13	2.97E-11	4.50E-02	1.34E-12	3.57E-12	4.90E-12	7.50E-16	3.53E-16
182										

	AG	AH		
183	ADULT	CHILD		
184	1.19E-02	1.24E-03	LETTUCE INGESTION RATE ,Kg/day	ADILET
185	7.00E+01	1.55E+01	BODY WEIGHT, KG	ADWT
186	1.50E-01	1.50E-01	r lettuce	r
187	5.78E-07	5.78E-07	k lettuce, 1/s	k
188	5.62E+06	5.62E+06	t lettuce, s	t
189	1.58E+00	1.58E+00	y lettuce, Kg/M2	y
190	1.58E+05	1.58E+05	VSDF lettuce, M2s/Kg	VSDF
191	9.00E-01	9.00E-01	FRACT. CONSUMED FROM RURAL SOURCE.	HG
192	3.15E+07	3.15E+07	sec/yr	secyr
193	1.00E+03	1.00E+03	mg/g	mgg

194

195 $VSDF = r*(1-e^{-kt \over Y*k})$

196

197 Cs = VSDF*Deposition*mgg/secyr

198 Cu = PUF*Csoil

199 EDI = (Cs+Cu)*ADILET*HG/ADWT

	B	C	AO	AP	AQ	AR	AS	AT	AU
117									
118	BASE CASE		TABLE 12						
119			CARROT CONSUMPTION - AVERAGE						
120									
121									
122		18-Jun-91	C soil			RUF	C plant	EDI	EDI
123		15:15:33	AVERAGE				AVERAGE	ADULT	CHILD
124			CALCULATED	log Kow	Koc	ROOT UPTAKE	CONC.DUE	AVERAGE	AVERAGE
125			CONC IN			FACTOR	TO UPTAKE	ESTIMATED	ESTIMATED
126			SOIL				mg/Kg	DAILY	DAILY
127			.2M					INTAKE	INTAKE
128			mg/Kg					mg/Kg/day	mg/Kg/day
129									
130	ORGANICS								
131	Acetonitrile		2.37E-09	-0.34	2.2	2.68E+01	6.33E-08	5.32E-11	1.14E-10
132	Aldrin		3.67E-15	7.4	96000	1.11E+01	4.06E-14	3.41E-17	7.33E-17
133	Aniline		1.33E-10	0.9	73.553	9.28E-01	1.23E-10	1.04E-13	2.23E-13
134	Atrazine		8.22E-13	2.68	320	9.50E-01	7.81E-13	6.55E-16	1.41E-15
135	Benzaldehyde		6.06E-11	1.48	152	5.73E-01	3.47E-11	2.91E-14	6.27E-14
136	Benzofuran		2.95E-10	2.67	313	9.57E-01	2.82E-10	2.37E-13	5.09E-13
137	Benzoic Acid		2.97E-11	1.87	248	4.69E-01	1.39E-11	1.17E-14	2.51E-14
138	Benzonitrile		6.47E-10	1.56	168	5.45E-01	3.53E-10	2.96E-13	6.37E-13
139	Benzothiazole		2.76E-13	2.01	295.42	4.50E-01	1.24E-13	1.04E-16	2.24E-16
140	Bis(2-ethylhexyl)phthalate		1.63E-13	8.73	1336965	8.39E+00	1.37E-12	1.15E-15	2.47E-15
141	Carbazole		1.33E-12	3.29	1193	6.57E-01	8.74E-13	7.34E-16	1.58E-15
142	4-Chloroaniline		7.62E-14	1.83	349.5	3.21E-01	2.45E-14	2.05E-17	4.42E-17
143	4-Chlorobiphenyl		1.88E-13	4.9	38486	3.29E-01	6.17E-14	5.18E-17	1.12E-16
144	4,4-Chlorobiphenyl		9.44E-15	5.58	166901	2.53E-01	2.39E-15	2.00E-18	4.31E-18
145	Chloroethane		6.72E-12	1.49	143	6.13E-01	4.12E-12	3.46E-15	7.44E-15
146	Dibenzofuran		5.91E-12	4.12	7152	4.50E-01	2.66E-12	2.24E-15	4.81E-15
147	1,2-Dichloroethane		6.81E-13	1.48	14	6.22E+00	4.23E-12	3.55E-15	7.64E-15
148	Dieldrin		6.74E-15	6.2	1700	7.44E+01	5.02E-13	4.21E-16	9.06E-16
149	Hexachlorobenzene		1.78E-11	5.47	50000	6.94E-01	1.24E-11	1.04E-14	2.23E-14
150	Hydrazine		2.30E-08	-3.08	0.1	5.78E+02	1.33E-05	1.12E-08	2.40E-08
151	Lindane		3.13E-15	3.3	1000	7.97E-01	2.50E-15	2.10E-18	4.51E-18
152	Malathion		9.26E-15	2.89	1800	2.31E-01	2.13E-15	1.79E-18	3.85E-18
153	Methyl ethyl ketone		1.14E-12	0.26	4.5	1.36E+01	1.55E-11	1.30E-14	2.80E-14
154	4-Methylphenol		1.04E-12	1.94	49	2.53E+00	2.63E-12	2.21E-15	4.74E-15
155	Monomethyl hydrazine		7.26E-09	-3.08	0.503	1.15E+02	8.34E-07	7.00E-10	1.51E-09
156	Naphthalene		1.22E-13	3.35	871	9.94E-01	1.22E-13	1.02E-16	2.20E-16
157	Naphthalene carbonitrile		6.47E-10	3.35	871	9.94E-01	6.43E-10	5.40E-13	1.16E-12
158	n-Nitrosodimethylamine		7.39E-12	-0.68	0.1	5.84E+02	4.31E-09	3.62E-12	7.79E-12
159	PAHs								
160	Acenaphthalene		2.95E-11	4.07	2500	1.18E+00	3.48E-11	2.92E-14	6.28E-14
161	Acenaphthene		2.95E-11	3.92	4600	4.95E-01	1.46E-11	1.22E-14	2.63E-14
162	Benzo(a)pyrene		5.91E-11	6.42	5500000	3.40E-02	2.01E-12	1.69E-15	3.63E-15
163	Chrysene		5.91E-12	5.79	200000	3.06E-01	1.81E-12	1.52E-15	3.27E-15
164	Dibenzo(a,h)anthracene		5.91E-11	6.5	3300000	6.52E-02	3.86E-12	3.24E-15	6.96E-15
165	Fluoranthene		5.91E-11	5.22	38000	5.87E-01	3.47E-11	2.91E-14	6.27E-14
166	Fluorene		5.91E-12	4.38	7300	6.95E-01	4.11E-12	3.45E-15	7.42E-15
167	Phenanthrene		2.30E-14	4.57	14000	5.06E-01	1.17E-14	9.78E-18	2.10E-17
168	Pyrene		1.18E-10	5.18	38000	5.47E-01	6.47E-11	5.43E-14	1.17E-13
169	Parathion		1.47E-14	3.81	3664	5.14E-01	7.53E-15	6.32E-18	1.36E-17
170	Pentachlorobenzene		7.26E-12	5.08	13000	1.34E+00	9.73E-12	8.17E-15	1.76E-14
171	Phenol		1.16E-13	1.46	14	6.15E+00	7.14E-13	6.00E-16	1.29E-15
172	Quinoline		6.66E-12	2.03	79	1.72E+00	1.14E-11	9.59E-15	2.06E-14
173	Tetrachlorobenzene		3.57E-12	4.37	1600	3.12E+00	1.11E-11	9.34E-15	2.01E-14
174	Trichlorobenzene		1.81E-12	3.98	9200	2.75E-01	4.96E-13	4.17E-16	8.96E-16
175	Unsym. dimethyl hydrazine		2.86E-08	-2.42	0.2	2.89E+02	8.27E-06	6.95E-09	1.49E-08
176	Vapona		5.79E-14	1.4	138	6.03E-01	3.49E-14	2.93E-17	6.30E-17

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

117	B	C	AO	AP	AQ	AR	AS	AT	AU
118	BASE CASE		TABLE 12						
177									
178	INORGANICS								
179	Arsenic		7.80E-10			7.20E-04	5.62E-13	4.72E-16	1.01E-15
180	Cadmium		4.52E-12			1.80E-02	8.14E-14	6.84E-17	1.47E-16
181	Mercury		2.93E-11			2.40E-02	7.02E-13	5.90E-16	1.27E-15
182									
183									
184									

185		ADULT	CHILD	
186	Foc	1.42E-02	1.42E-02	SOIL ORGANIC CARBON CONTENT
187	ADICAR	0.0653	0.0311	CARROT INGESTION RATE ,Kg/day
188	ADWT	7.00E+01	1.55E+01	BODY WEIGHT, KG
189	HG	9.00E-01	9.00E-01	FRACTION OF CARROTS HOMEGROWN

190

191 log(RCF-0.82) = 0.77log Kow-1.52

192 RUF = RCF

193 (Koc*Foc)

194 Cplant = RUF*Csoil

195 EDI = C plant * ADICAR * HG / ADWT

196 EDI (total) = DI tomato + DI lettuce + DI carrot

	B	C	AW	AX	AY	AZ	BA	BB	BC
118	BASE CASE		TABLE 13						
119			CARROT CONSUMPTION - MAXIMUM						
120									
121									
122		18-Jun-91	C soil			RUF	C plant	EDI	EDI
123		15:15:33	MAXIMUM				MAXIMUM	ADULT	CHILD
124			CALCULATED	log Kow	Koc	ROOT UPTAKE	CONC.DUE	MAXIMUM	MAXIMUM
125			CONC IN			FACTOR	TO UPTAKE	ESTIMATED	ESTIMATED
126			SOIL				mg/Kg	DAILY	DAILY
127			.2M					INTAKE	INTAKE
128			mg/Kg					mg/Kg/day	mg/Kg/day
129									
130	ORGANICS								
131	Acetonitrile		2.40E-09	-3.40E-01	2.20E+00	2.68E+01	6.43E-08	5.40E-11	1.16E-10
132	Aldrin		3.73E-15	7.40E+00	9.60E+04	1.11E+01	4.12E-14	3.46E-17	7.44E-17
133	Aniline		1.35E-10	9.00E-01	7.36E+01	9.28E-01	1.25E-10	1.05E-13	2.26E-13
134	Atrazine		8.34E-13	2.68E+00	3.20E+02	9.50E-01	7.92E-13	6.65E-16	1.43E-15
135	Benzaldehyde		6.15E-11	1.48E+00	1.52E+02	5.73E-01	3.52E-11	2.96E-14	6.36E-14
136	Benzofuran		2.99E-10	2.67E+00	3.13E+02	9.57E-01	2.86E-10	2.40E-13	5.17E-13
137	Benzoic Acid		3.01E-11	1.87E+00	2.48E+02	4.69E-01	1.41E-11	1.19E-14	2.55E-14
138	Benzonitrile		6.57E-10	1.56E+00	1.68E+02	5.45E-01	3.58E-10	3.01E-13	6.46E-13
139	Benzothiazole		2.80E-13	2.01E+00	2.95E+02	4.50E-01	1.26E-13	1.06E-16	2.27E-16
140	Bis(2-ethylhexyl)phthalate		1.65E-13	8.73E+00	1.34E+06	8.39E+00	1.39E-12	1.16E-15	2.50E-15
141	Carbazole		1.35E-12	3.29E+00	1.19E+03	6.57E-01	8.87E-13	7.44E-16	1.60E-15
142	4-Chloroaniline		7.73E-14	1.83E+00	3.50E+02	3.21E-01	2.48E-14	2.08E-17	4.48E-17
143	4-Chlorobiphenyl		1.90E-13	4.90E+00	3.85E+04	3.29E-01	6.26E-14	5.26E-17	1.13E-16
144	4,4-Chlorobiphenyl		9.58E-15	5.58E+00	1.67E+05	2.53E-01	2.42E-15	2.03E-18	4.37E-18
145	Chloroethane		6.82E-12	1.49E+00	1.43E+02	6.13E-01	4.18E-12	3.51E-15	7.55E-15
146	Dibenzofuran		6.00E-12	4.12E+00	7.15E+03	4.50E-01	2.70E-12	2.27E-15	4.88E-15
147	1,2-Dichloroethane		6.91E-13	1.48E+00	1.40E+01	6.22E+00	4.29E-12	3.61E-15	7.76E-15
148	Dieldrin		6.84E-15	6.20E+00	1.70E+03	7.44E+01	5.09E-13	4.27E-16	9.19E-16
149	Hexachlorobenzene		1.81E-11	5.47E+00	5.00E+04	6.94E-01	1.26E-11	1.05E-14	2.27E-14
150	Hydrazine		2.34E-08	-3.08E+00	1.00E-01	5.78E+02	1.35E-05	1.13E-08	2.44E-08
151	Lindane		3.18E-15	3.30E+00	1.00E+03	7.97E-01	2.53E-15	2.13E-18	4.57E-18
152	Malathion		9.39E-15	2.89E+00	1.80E+03	2.31E-01	2.16E-15	1.82E-18	3.91E-18
153	Methyl ethyl ketone		1.16E-12	2.60E-01	4.50E+00	1.36E+01	1.58E-11	1.32E-14	2.85E-14
154	4-Methylphenol		1.05E-12	1.94E+00	4.90E+01	2.53E+00	2.66E-12	2.24E-15	4.81E-15
155	Monomethyl hydrazine		7.37E-09	-3.08E+00	5.03E-01	1.15E+02	8.46E-07	7.10E-10	1.53E-09
156	Naphthalene		1.24E-13	3.35E+00	8.71E+02	9.94E-01	1.23E-13	1.04E-16	2.23E-16
157	Naphthalene carbonitrile		6.57E-10	3.35E+00	8.71E+02	9.94E-01	6.53E-10	5.48E-13	1.18E-12
158	n-Nitrosodimethylamine		7.49E-12	-6.80E-01	1.00E-01	5.84E+02	4.38E-09	3.67E-12	7.90E-12
159	PAHs								
160	Acenaphthalene		2.99E-11	4.07E+00	2.50E+03	1.18E+00	3.53E-11	2.96E-14	6.38E-14
161	Acenaphthene		2.99E-11	3.92E+00	4.60E+03	4.95E-01	1.48E-11	1.24E-14	2.67E-14
162	Benzo(a)pyrene		6.00E-11	6.42E+00	5.50E+06	3.40E-02	2.04E-12	1.71E-15	3.68E-15
163	Chrysene		6.00E-12	5.79E+00	2.00E+05	3.06E-01	1.83E-12	1.54E-15	3.31E-15
164	Dibenzo(a,h)anthracene		6.00E-11	6.50E+00	3.30E+06	6.52E-02	3.91E-12	3.28E-15	7.07E-15
165	Fluoranthene		6.00E-11	5.22E+00	3.80E+04	5.87E-01	3.52E-11	2.96E-14	6.36E-14
166	Fluorene		6.00E-12	4.38E+00	7.30E+03	6.95E-01	4.17E-12	3.50E-15	7.53E-15
167	Phenanthrene		2.34E-14	4.57E+00	1.40E+04	5.06E-01	1.18E-14	9.92E-18	2.13E-17
168	Pyrene		1.20E-10	5.18E+00	3.80E+04	5.47E-01	6.56E-11	5.51E-14	1.18E-13
169	Parathion		1.49E-14	3.81E+00	3.66E+03	5.14E-01	7.64E-15	6.41E-18	1.38E-17
170	Pentachlorobenzene		7.37E-12	5.08E+00	1.30E+04	1.34E+00	9.87E-12	8.28E-15	1.78E-14
171	Phenol		1.18E-13	1.46E+00	1.40E+01	6.15E+00	7.25E-13	6.08E-16	1.31E-15
172	Quinoline		6.76E-12	2.03E+00	7.90E+01	1.72E+00	1.16E-11	9.73E-15	2.09E-14
173	Tetrachlorobenzene		3.62E-12	4.37E+00	1.60E+03	3.12E+00	1.13E-11	9.47E-15	2.04E-14
174	Trichlorobenzene		1.83E-12	3.98E+00	9.20E+03	2.75E-01	5.03E-13	4.23E-16	9.09E-16
175	Unsym. dimethyl hydrazine		2.91E-08	-2.42E+00	2.00E-01	2.89E+02	8.39E-06	7.05E-09	1.52E-08
176	Vapona		5.87E-14	1.40E+00	1.38E+02	6.03E-01	3.54E-14	2.97E-17	6.39E-17

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AW	AX	AY	AZ	BA	BB	BC
117									
118	BASE CASE		TABLE 13						
177									
178	INORGANICS								
179	Arsenic		7.92E-10			7.20E-04	5.70E-13	4.79E-16	1.03E-15
180	Cadmium		4.59E-12			1.80E-02	8.26E-14	6.94E-17	1.49E-16
181	Mercury		2.97E-11			2.40E-02	7.12E-13	5.98E-16	1.29E-15
182									
183									
184									

		ADULT	CHILD	
185				
186	Foc	1.42E-02	1.42E-02	SOIL ORGANIC CARBON CONTENT
187	ADICAR	6.53E-02	3.11E-02	INGESTION RATE ,Kg/day
188	ADWT	7.00E+01	1.55E+01	BODY WEIGHT, KG
189	HG	9.00E-01	9.00E-01	FRACTION OF CARROTS HOMEGROWN
190				

191 log(RCF-0.82) = 0.77log Kow-1.52

192 RUF = RCF

193 (Koc*Foc)

194 Cplant = RUF*Csoil

195 EDI = C plant * ADICAR * HG / ADWT

196 EDI (total) = DI tomato + DI lettuce + DI carrot

117	B	C	BE	BF	BG	BH
118	BASE CASE		TABLE 14			
119			TOTAL VEGETABLE CONSUMPTION			
120			(carrots, lettuce, and tomatoes)			
121						
122		18-Jun-91				
123		15:15:33	-------ADULT-------		-------CHILD-------	
124			AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
125			ESTIMATED	ESTIMATED	ESTIMATED	ESTIMATED
126			DAILY	DAILY	DAILY	DAILY
127			INTAKE	INTAKE	INTAKE	INTAKE
128			mg/Kg/day	mg/Kg/day	mg/Kg/day	mg/Kg/day
129						
130	ORGANICS					
131		Acetonitrile	6.15E-11	6.25E-11	1.32E-10	1.34E-10
132		Aldrin	3.41E-17	3.48E-17	7.33E-17	7.48E-17
133		Aniline	1.93E-13	2.04E-13	4.11E-13	4.33E-13
134		Atrazine	7.08E-16	7.73E-16	1.52E-15	1.64E-15
135		Benzaldehyde	4.79E-14	5.26E-14	1.02E-13	1.11E-13
136		Benzofuran	2.56E-13	2.79E-13	5.50E-13	5.94E-13
137		Benzoic Acid	1.72E-14	1.94E-14	3.67E-14	4.09E-14
138		Benzonitrile	4.76E-13	5.26E-13	1.02E-12	1.11E-12
139		Benzothiazole	1.47E-16	1.67E-16	3.13E-16	3.52E-16
140		Bis(2-ethylhexyl)phthalate	1.15E-15	1.18E-15	2.47E-15	2.52E-15
141		Carbazole	7.73E-16	8.73E-16	1.66E-15	1.85E-15
142		4-Chloroaniline	3.54E-17	4.09E-17	7.55E-17	8.60E-17
143		4-Chlorobiphenyl	5.28E-17	6.61E-17	1.13E-16	1.38E-16
144		4,4-Chlorobiphenyl	2.03E-18	2.69E-18	4.37E-18	5.60E-18
145		Chloroethane	5.51E-15	6.04E-15	1.18E-14	1.28E-14
146		Dibenzofuran	2.30E-15	2.73E-15	4.94E-15	5.75E-15
147		1,2-Dichloroethane	3.76E-15	3.86E-15	8.09E-15	8.29E-15
148		Dieldrin	4.21E-16	4.28E-16	9.06E-16	9.20E-16
149		Hexachlorobenzene	1.04E-14	1.18E-14	2.25E-14	2.50E-14
150		Hydrazine	1.43E-08	1.45E-08	3.06E-08	3.11E-08
151		Lindane	2.19E-18	2.43E-18	4.70E-18	5.15E-18
152		Malathion	2.24E-18	2.89E-18	4.80E-18	6.01E-18
153		Methyl ethyl ketone	1.48E-14	1.51E-14	3.18E-14	3.24E-14
154		4-Methylphenol	2.38E-15	2.48E-15	5.11E-15	5.31E-15
155		Monomethyl hydrazine	1.69E-09	1.71E-09	3.59E-09	3.64E-09
156		Naphthalene	1.05E-16	1.15E-16	2.27E-16	2.45E-16
157		Naphthalene carbonitrile	5.58E-13	6.09E-13	1.20E-12	1.30E-12
158		n-Nitrosodimethylamine	3.66E-12	3.72E-12	7.87E-12	7.99E-12
159		PAHs				
160		Acenaphthalene	2.96E-14	3.20E-14	6.36E-14	6.81E-14
161		Acenaphthene	1.26E-14	1.48E-14	2.72E-14	3.12E-14
162		Benzo(a)pyrene	1.83E-15	5.79E-15	3.89E-15	1.13E-14
163		Chrysene	1.54E-15	1.95E-15	3.30E-15	4.08E-15
164		Dibenzo(a,h)anthracene	3.38E-15	7.36E-15	7.23E-15	1.46E-14
165		Fluoranthene	2.94E-14	3.37E-14	6.31E-14	7.14E-14
166		Fluorene	3.50E-15	3.94E-15	7.52E-15	8.36E-15
167		Phenanthrene	9.94E-18	1.16E-17	2.14E-17	2.45E-17
168		Pyrene	5.48E-14	6.35E-14	1.18E-13	1.34E-13
169		Parathion	6.55E-18	7.62E-18	1.41E-17	1.61E-17
170		Pentachlorobenzene	8.20E-15	8.80E-15	1.76E-14	1.88E-14
171		Phenol	6.37E-16	6.54E-16	1.37E-15	1.40E-15
172		Quinoline	1.06E-14	1.12E-14	2.27E-14	2.39E-14
173		Tetrachlorobenzene	9.37E-15	9.74E-15	2.01E-14	2.09E-14
174		Trichlorobenzene	4.40E-16	5.67E-16	9.44E-16	1.18E-15
175		Unsym. dimethyl hydrazine	8.55E-09	8.68E-09	1.83E-08	1.86E-08
176		Vapona	4.92E-17	5.38E-17	1.05E-16	1.14E-16

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

117	B	C	BE	BF	BG	BH
118	BASE CASE		TABLE 14			
177						
178	INORGANICS					
179	Arsenic		2.47E-15	5.45E-14	4.51E-15	1.01E-13

	B	C	BJ	BK	BL	BM
117						
118		BASE CASE	TABLE 15			
119			SOIL/DUST INGESTION CHILD			
120						
121						
122			18-Jun-91	--------AVERAGE---------		--------MAXIMUM---------
123			15:15:33	C soil	EDI	C soil	EDI
124				CALCULATED	ESTIMATED	CALCULATED	ESTIMATED
125				CONC IN	DAILY	CONC IN	DAILY
126				SOIL	INTAKE	SOIL	INTAKE
127				.1M	mg/Kg/day	.1M	mg/Kg/day
128				mg/Kg		mg/Kg	
129							
130	ORGANICS						
131		Acetonitrile		4.73E-09	6.11E-14	4.80E-09	6.19E-14
132		Aldrin		7.35E-15	9.48E-20	7.45E-15	9.62E-20
133		Aniline		2.66E-10	3.43E-15	2.70E-10	3.48E-15
134		Atrazine		1.64E-12	2.12E-17	1.67E-12	2.15E-17
135		Benzaldehyde		1.21E-10	1.56E-15	1.23E-10	1.59E-15
136		Benzofuran		5.89E-10	7.60E-15	5.98E-10	7.71E-15
137		Benzoic Acid		5.94E-11	7.66E-16	6.02E-11	7.77E-16
138		Benzonitrile		1.29E-09	1.67E-14	1.31E-09	1.70E-14
139		Benzothiazole		5.52E-13	7.12E-18	5.60E-13	7.23E-18
140		Bis(2-ethylhexyl)phthalate		3.26E-13	4.20E-18	3.31E-13	4.26E-18
141		Carbazole		2.66E-12	3.43E-17	2.70E-12	3.48E-17
142		4-Chloroaniline		1.52E-13	1.97E-18	1.55E-13	1.99E-18
143		4-Chlorobiphenyl		3.75E-13	4.84E-18	3.81E-13	4.91E-18
144		4,4-Chlorobiphenyl		1.89E-14	2.44E-19	1.92E-14	2.47E-19
145		Chloroethane		1.34E-11	1.74E-16	1.36E-11	1.76E-16
146		Dibenzofuran		1.18E-11	1.53E-16	1.20E-11	1.55E-16
147		1,2-Dichloroethane		1.36E-12	1.76E-17	1.38E-12	1.78E-17
148		Dieldrin		1.35E-14	1.74E-19	1.37E-14	1.77E-19
149		Hexachlorobenzene		3.57E-11	4.60E-16	3.62E-11	4.67E-16
150		Hydrazine		4.61E-08	5.94E-13	4.67E-08	6.03E-13
151		Lindane		6.27E-15	8.09E-20	6.36E-15	8.20E-20
152		Malathion		1.85E-14	2.39E-19	1.88E-14	2.42E-19
153		Methyl ethyl ketone		2.29E-12	2.95E-17	2.32E-12	2.99E-17
154		4-Methylphenol		2.08E-12	2.68E-17	2.11E-12	2.72E-17
155		Monomethyl hydrazine		1.45E-08	1.87E-13	1.47E-08	1.90E-13
156		Naphthalene		2.45E-13	3.16E-18	2.48E-13	3.21E-18
157		Naphthalene carbonitrile		1.29E-09	1.67E-14	1.31E-09	1.70E-14
158		n-Nitrosodimethylamine		1.48E-11	1.91E-16	1.50E-11	1.93E-16
159		PAHs					
160		Acenaphthalene		5.89E-11	7.60E-16	5.98E-11	7.71E-16
161		Acenaphthene		5.89E-11	7.60E-16	5.98E-11	7.71E-16
162		Benzo(a)pyrene		1.18E-10	1.53E-15	1.20E-10	1.55E-15
163		Chrysene		1.18E-11	1.53E-16	1.20E-11	1.55E-16
164		Dibenzo(a,h)anthracene		1.18E-10	1.53E-15	1.20E-10	1.55E-15
165		Fluoranthene		1.18E-10	1.53E-15	1.20E-10	1.55E-15
166		Fluorene		1.18E-11	1.53E-16	1.20E-11	1.55E-16
167		Phenanthrene		4.61E-14	5.94E-19	4.67E-14	6.03E-19
168		Pyrene		2.37E-10	3.05E-15	2.40E-10	3.10E-15
169		Parathion		2.93E-14	3.78E-19	2.97E-14	3.84E-19
170		Pentachlorobenzene		1.45E-11	1.87E-16	1.47E-11	1.90E-16
171		Phenol		2.32E-13	3.00E-18	2.36E-13	3.04E-18
172		Quinoline		1.33E-11	1.72E-16	1.35E-11	1.74E-16
173		Tetrachlorobenzene		7.14E-12	9.21E-17	7.24E-12	9.34E-17
174		Trichlorobenzene		3.61E-12	4.66E-17	3.67E-12	4.73E-17
175		Unsym. dimethyl hydrazine		5.73E-08	7.39E-13	5.81E-08	7.50E-13
176		Vapona		1.16E-13	1.49E-18	1.17E-13	1.52E-18

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BJ	BK	BL	BM
117						
118	BASE CASE		TABLE 15			
177						
178	INORGANICS					
179	Arsenic		1.56E-09	2.01E-14	1.58E-09	2.04E-14
180	Cadmium		9.05E-12	1.17E-16	9.18E-12	1.18E-16
181	Mercury		5.85E-11	7.55E-16	5.94E-11	7.66E-16
182						
183						
184						
185						
186						
187						
188			0.2	Soil/dust ingestion rate (g/day)		
189			15.5	Body weight (Kg)		
190			365	days/yr		
191			365000	g/Kg*day/yr		
192						
193			EDI = Csoil*SIR*EF/BW/CF			

	B	C	BO	BP	BQ	BR
118	BASE CASE		TABLE 16			
119			SOIL INGESTION ADULT			
120						
121						
122		18-Jun-91	--------AVERAGE---------		--------MAXIMUM---------	
123		15:15:33	C soil	EDI	C soil	EDI
124			CALCULATED	ESTIMATED	CALCULATED	ESTIMATED
125			CONC IN	DAILY	CONC IN	DAILY
126			SOIL	INTAKE	SOIL	INTAKE
127			.1M	mg/Kg/day	.1M	mg/Kg/day
128			mg/Kg		mg/Kg	
129						
130	ORGANICS					
131		Acetonitrile	4.73E-09	6.76E-15	4.80E-09	6.86E-15
132		Aldrin	7.35E-15	1.05E-20	7.45E-15	1.06E-20
133		Aniline	2.66E-10	3.80E-16	2.70E-10	3.86E-16
134		Atrazine	1.64E-12	2.35E-18	1.67E-12	2.38E-18
135		Benzaldehyde	1.21E-10	1.73E-16	1.23E-10	1.76E-16
136		Benzofuran	5.89E-10	8.42E-16	5.98E-10	8.54E-16
137		Benzoic Acid	5.94E-11	8.48E-17	6.02E-11	8.60E-17
138		Benzonitrile	1.29E-09	1.85E-15	1.31E-09	1.88E-15
139		Benzothiazole	5.52E-13	7.89E-19	5.60E-13	8.00E-19
140		Bis(2-ethylhexyl)phthalate	3.26E-13	4.65E-19	3.31E-13	4.72E-19
141		Carbazole	2.66E-12	3.80E-18	2.70E-12	3.86E-18
142		4-Chloroaniline	1.52E-13	2.18E-19	1.55E-13	2.21E-19
143		4-Chlorobiphenyl	3.75E-13	5.36E-19	3.81E-13	5.44E-19
144		4,4-Chlorobiphenyl	1.89E-14	2.70E-20	1.92E-14	2.74E-20
145		Chloroethane	1.34E-11	1.92E-17	1.36E-11	1.95E-17
146		Dibenzofuran	1.18E-11	1.69E-17	1.20E-11	1.71E-17
147		1,2-Dichloroethane	1.36E-12	1.94E-18	1.38E-12	1.97E-18
148		Dieldrin	1.35E-14	1.93E-20	1.37E-14	1.95E-20
149		Hexachlorobenzene	3.57E-11	5.09E-17	3.62E-11	5.17E-17
150		Hydrazine	4.61E-08	6.58E-14	4.67E-08	6.68E-14
151		Lindane	6.27E-15	8.95E-21	6.36E-15	9.08E-21
152		Malathion	1.85E-14	2.64E-20	1.88E-14	2.68E-20
153		Methyl ethyl ketone	2.29E-12	3.27E-18	2.32E-12	3.31E-18
154		4-Methylphenol	2.08E-12	2.96E-18	2.11E-12	3.01E-18
155		Monomethyl hydrazine	1.45E-08	2.08E-14	1.47E-08	2.11E-14
156		Naphthalene	2.45E-13	3.50E-19	2.48E-13	3.55E-19
157		Naphthalene carbonitrile	1.29E-09	1.85E-15	1.31E-09	1.88E-15
158		n-Nitrosodimethylamine	1.48E-11	2.11E-17	1.50E-11	2.14E-17
159		PAHs				
160		Acenaphthalene	5.89E-11	8.42E-17	5.98E-11	8.54E-17
161		Acenaphthene	5.89E-11	8.42E-17	5.98E-11	8.54E-17
162		Benzo(a)pyrene	1.18E-10	1.69E-16	1.20E-10	1.71E-16
163		Chrysene	1.18E-11	1.69E-17	1.20E-11	1.71E-17
164		Dibenzo(a,h)anthracene	1.18E-10	1.69E-16	1.20E-10	1.71E-16
165		Fluoranthene	1.18E-10	1.69E-16	1.20E-10	1.71E-16
166		Fluorene	1.18E-11	1.69E-17	1.20E-11	1.71E-17
167		Phenanthrene	4.61E-14	6.58E-20	4.67E-14	6.68E-20
168		Pyrene	2.37E-10	3.38E-16	2.40E-10	3.43E-16
169		Parathion	2.93E-14	4.19E-20	2.97E-14	4.25E-20
170		Pentachlorobenzene	1.45E-11	2.08E-17	1.47E-11	2.11E-17
171		Phenol	2.32E-13	3.32E-19	2.36E-13	3.37E-19
172		Quinoline	1.33E-11	1.90E-17	1.35E-11	1.93E-17
173		Tetrachlorobenzene	7.14E-12	1.02E-17	7.24E-12	1.03E-17
174		Trichlorobenzene	3.61E-12	5.16E-18	3.67E-12	5.24E-18
175		Unsym. dimethyl hydrazine	5.73E-08	8.18E-14	5.81E-08	8.30E-14
176		Vapona	1.16E-13	1.65E-19	1.17E-13	1.68E-19

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BO	BP	BQ	BR
118	BASE CASE		TABLE 16			
177						
178	INORGANICS					
179	Arsenic		1.56E-09	2.23E-15	1.58E-09	2.26E-15
180	Cadmium		9.05E-12	1.29E-17	9.18E-12	1.31E-17
181	Mercury		5.85E-11	8.36E-17	5.94E-11	8.48E-17
182						
183						
184						
185						
186						
187						
188			0.1	Soil ingestion rate (g/day)		
189			70	Body weight (Kg)		
190			365	days/yr		
191			365000	g/Kg*day/yr		
192						
193			EDI = Csoil*SIR*EF/BW/CF			

BASE CASE

TABLE 17
CONTAMINANT CONCENTRATION IN GRAIN

	18-Jun-91 15:15:33	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CALCULATED CONC. IN GRAIN mg/Kg	Cu MAXIMUM CALCULATED CONC. IN GRAIN mg/Kg
ORGANICS						
Acetonitrile		2.37E-09	2.40E-09	6.13E+01	1.45E-07	1.47E-07
Aldrin		3.67E-15	3.73E-15	1.99E-03	7.29E-18	7.40E-18
Aniline		1.33E-10	1.35E-10	1.17E+01	1.56E-09	1.58E-09
Atrazine		8.22E-13	8.34E-13	1.09E+00	8.92E-13	9.05E-13
Benzaldehyde		6.06E-11	6.15E-11	5.39E+00	3.27E-10	3.31E-10
Benzofuran		2.95E-10	2.99E-10	1.10E+00	3.24E-10	3.29E-10
Benzoic Acid		2.97E-11	3.01E-11	3.20E+00	9.50E-11	9.64E-11
Benzonitrile		6.47E-10	6.57E-10	4.84E+00	3.14E-09	3.18E-09
Benzothiazole		2.76E-13	2.80E-13	2.66E+00	7.33E-13	7.44E-13
Bis(2-ethylhexyl)phthalate		1.63E-13	1.65E-13	3.36E-04	5.48E-17	5.56E-17
Carbazole		1.33E-12	1.35E-12	4.81E-01	6.39E-13	6.49E-13
4-Chloroaniline		7.62E-14	7.73E-14	3.38E+00	2.57E-13	2.61E-13
4-Chlorobiphenyl		1.88E-13	1.90E-13	5.60E-02	1.05E-14	1.07E-14
4,4-Chlorobiphenyl		9.44E-15	9.58E-15	2.26E-02	2.13E-16	2.16E-16
Chloroethane		6.72E-12	6.82E-12	5.32E+00	3.58E-11	3.63E-11
Dibenzofuran		5.91E-12	6.00E-12	1.59E-01	9.38E-13	9.52E-13
1,2-Dichloroethane		6.81E-13	6.91E-13	5.39E+00	3.67E-12	3.72E-12
Dieldrin		6.74E-15	6.84E-15	9.86E-03	6.65E-17	6.75E-17
Hexachlorobenzene		1.78E-11	1.81E-11	2.61E-02	4.66E-13	4.73E-13
Hydrazine		2.30E-08	2.34E-08	2.38E+03	5.48E-05	5.56E-05
Lindane		3.13E-15	3.18E-15	4.74E-01	1.49E-15	1.51E-15
Malathion		9.26E-15	9.39E-15	8.20E-01	7.59E-15	7.70E-15
Methyl ethyl ketone		1.14E-12	1.16E-12	2.75E+01	3.14E-11	3.19E-11
4-Methylphenol		1.04E-12	1.05E-12	2.92E+00	3.03E-12	3.07E-12
Monomethyl hydrazine		7.26E-09	7.37E-09	2.38E+03	1.73E-05	1.75E-05
Naphthalene		1.22E-13	1.24E-13	4.44E-01	5.43E-14	5.51E-14
Naphthalene carbonitrile		6.47E-10	6.57E-10	4.44E-01	2.87E-10	2.91E-10
n-Nitrosodimethylamine		7.39E-12	7.49E-12	9.65E+01	7.13E-10	7.23E-10
PAHs						
Acenaphthalene		2.95E-11	2.99E-11	1.70E-01	5.00E-12	5.07E-12
Acenaphthene		2.95E-11	2.99E-11	2.07E-01	6.11E-12	6.19E-12
Benzo(a)pyrene		5.91E-11	6.00E-11	7.35E-03	4.35E-13	4.41E-13
Chrysene		5.91E-12	6.00E-12	1.71E-02	1.01E-13	1.02E-13
Dibenzo(a,h)anthracene		5.91E-11	6.00E-11	6.61E-03	3.91E-13	3.96E-13
Fluoranthene		5.91E-11	6.00E-11	3.65E-02	2.16E-12	2.19E-12
Fluorene		5.91E-12	6.00E-12	1.12E-01	6.63E-13	6.73E-13
Phenanthrene		2.30E-14	2.34E-14	8.70E-02	2.00E-15	2.03E-15
Pyrene		1.18E-10	1.20E-10	3.85E-02	4.55E-12	4.62E-12
Parathion		1.47E-14	1.49E-14	2.40E-01	3.52E-15	3.57E-15
Pentachlorobenzene		7.26E-12	7.37E-12	4.40E-02	3.20E-13	3.24E-13
Phenol		1.16E-13	1.18E-13	5.54E+00	6.43E-13	6.53E-13
Quinoline		6.66E-12	6.76E-12	2.59E+00	1.72E-11	1.75E-11
Tetrachlorobenzene		3.57E-12	3.62E-12	1.14E-01	4.05E-13	4.11E-13
Trichlorobenzene		1.81E-12	1.83E-12	1.91E-01	3.46E-13	3.51E-13
Unsym. dimethyl hydrazine		2.86E-08	2.91E-08	9.85E+02	2.82E-05	2.86E-05
Vapona		5.79E-14	5.87E-14	6.00E+00	3.47E-13	3.52E-13

202	B	C	D	E	F	G	H
203	BASE CASE		TABLE 17				
262	INORGANICS						
263		Arsenic	7.80E-10	7.92E-10	3.30E-03	2.57E-12	2.61E-12
264		Cadmium	4.52E-12	4.59E-12	1.00E-01	4.52E-13	4.59E-13
265		Mercury	2.93E-11	2.97E-11	2.00E-01	5.85E-12	5.94E-12
266							
267							
268			Cgrain = Csoil*RUF				

B	C	J	K	L	M	N	O	P	Q	R	S
BASE CASE		TABLE 18									
		CONTAMINANT CONCENTRATION IN HAY mg/Kg									
	18-Jun-91 15:15:33	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	D DRY DEPOSITION RATE g/M2/yr	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CONC. DUE TO UPTAKE mg/Kg	Cu MAXIMUM CONC. DUE TO UPTAKE mg/Kg	Cs AVERAGE CONC. ON PLANT SURFACE mg/Kg	Cs MAXIMUM CONC. ON PLANT SURFACE mg/Kg	C hay AVERAGE CALCULATED CONC IN HAY mg/Kg	C hay MAXIMUM CALCULATED CONC IN HAY mg/Kg
ORGANICS											
Acetonitrile		2.37E-09	2.40E-09	5.76E-11	6.13E+01	1.45E-07	1.47E-07	1.30E-10	4.55E-09	1.45E-07	1.52E-07
Aldrin		3.67E-15	3.73E-15	8.94E-17	1.99E-03	7.29E-18	7.40E-18	2.02E-16	7.06E-15	2.09E-16	7.07E-15
Aniline		1.33E-10	1.35E-10	3.24E-12	1.17E+01	1.56E-09	1.58E-09	7.31E-12	2.56E-10	1.56E-09	1.83E-09
Atrazine		8.22E-13	8.34E-13	2.00E-14	1.09E+00	8.92E-13	9.05E-13	4.51E-14	1.58E-12	9.37E-13	2.48E-12
Benzaldehyde		6.06E-11	6.15E-11	1.47E-12	5.39E+00	3.27E-10	3.31E-10	3.33E-12	1.16E-10	3.30E-10	4.48E-10
Benzofuran		2.95E-10	2.99E-10	7.17E-12	1.10E+00	3.24E-10	3.29E-10	1.62E-11	5.66E-10	3.40E-10	8.95E-10
Benzoic Acid		2.97E-11	3.01E-11	7.22E-13	3.20E+00	9.50E-11	9.64E-11	1.63E-12	5.70E-11	9.66E-11	1.53E-10
Benzonitrile		6.47E-10	6.57E-10	1.58E-11	4.84E+00	3.14E-09	3.18E-09	3.56E-11	1.24E-09	3.17E-09	4.43E-09
Benzothiazole		2.76E-13	2.80E-13	6.72E-15	2.66E+00	7.33E-13	7.44E-13	1.52E-14	5.31E-13	7.48E-13	1.27E-12
Bis(2-ethylhexyl)phthalate		1.63E-13	1.65E-13	3.96E-15	3.36E-04	5.48E-17	5.56E-17	8.95E-15	3.13E-13	9.00E-15	3.13E-13
Carbazole		1.33E-12	1.35E-12	3.24E-14	4.81E-01	6.39E-13	6.49E-13	7.31E-14	2.56E-12	7.12E-13	3.21E-12
4-Chloroaniline		7.62E-14	7.73E-14	1.85E-15	3.38E+00	2.57E-13	2.61E-13	4.18E-15	1.46E-13	2.61E-13	4.07E-13
4-Chlorobiphenyl		1.88E-13	1.90E-13	4.57E-15	5.60E-02	1.05E-14	1.07E-14	1.03E-14	3.61E-13	2.08E-14	3.71E-13
4,4-Chlorobiphenyl		9.44E-15	9.58E-15	2.30E-16	2.26E-02	2.13E-16	2.16E-16	5.19E-16	1.81E-14	7.32E-16	1.84E-14
Chloroethane		6.72E-12	6.82E-12	1.64E-13	5.32E+00	3.58E-11	3.63E-11	3.69E-13	1.29E-11	3.61E-11	4.92E-11
Dibenzofuran		5.91E-12	6.00E-12	1.44E-13	1.59E-01	9.38E-13	9.52E-13	3.25E-13	1.14E-11	1.26E-12	1.23E-11
1,2-Dichloroethane		6.81E-13	6.91E-13	1.66E-14	5.39E+00	3.67E-12	3.72E-12	3.74E-14	1.31E-12	3.71E-12	5.03E-12
Dieldrin		6.74E-15	6.84E-15	1.64E-16	9.86E-03	6.65E-17	6.75E-17	3.70E-16	1.30E-14	4.37E-16	1.30E-14
Hexachlorobenzene		1.78E-11	1.81E-11	4.34E-13	2.61E-02	4.66E-13	4.73E-13	9.79E-13	3.43E-11	1.44E-12	3.47E-11
Hydrazine		2.30E-08	2.34E-08	5.61E-10	2.38E+03	5.48E-05	5.56E-05	1.27E-09	4.43E-08	5.48E-05	5.56E-05
Lindane		3.13E-15	3.18E-15	7.63E-17	4.74E-01	1.49E-15	1.51E-15	1.72E-16	6.02E-15	1.66E-15	7.53E-15
Malathion		9.26E-15	9.39E-15	2.25E-16	8.20E-01	7.59E-15	7.70E-15	5.08E-16	1.78E-14	8.10E-15	2.55E-14
Methyl ethyl ketone		1.14E-12	1.16E-12	2.78E-14	2.75E+01	3.14E-11	3.19E-11	6.28E-14	2.20E-12	3.15E-11	3.41E-11
4-Methylphenol		1.04E-12	1.05E-12	2.53E-14	2.92E+00	3.03E-12	3.07E-12	5.70E-14	1.99E-12	3.08E-12	5.06E-12
Monomethyl hydrazine		7.26E-09	7.37E-09	1.77E-10	2.38E+03	1.73E-05	1.75E-05	3.99E-10	1.40E-08	1.73E-05	1.75E-05
Naphthalene		1.22E-13	1.24E-13	2.98E-15	4.44E-01	5.43E-14	5.51E-14	6.72E-15	2.35E-13	6.10E-14	2.90E-13
Naphthalene carbonitrile		6.47E-10	6.57E-10	1.58E-11	4.44E-01	2.87E-10	2.91E-10	3.56E-11	1.24E-09	3.23E-10	1.54E-09
n-Nitrosodimethylamine		7.39E-12	7.49E-12	1.80E-13	9.65E+01	7.13E-10	7.23E-10	4.06E-13	1.42E-11	7.13E-10	7.37E-10
PAHs											
Acenaphthalene		2.95E-11	2.99E-11	7.17E-13	1.70E-01	5.00E-12	5.07E-12	1.62E-12	5.66E-11	6.62E-12	6.17E-11
Acenaphthene		2.95E-11	2.99E-11	7.17E-13	2.07E-01	6.11E-12	6.19E-12	1.62E-12	5.66E-11	7.72E-12	6.28E-11
Benzo(a)pyrene		5.91E-11	6.00E-11	1.44E-12	7.35E-03	4.35E-13	4.41E-13	3.25E-12	1.14E-10	3.68E-12	1.14E-10
Chrysene		5.91E-12	6.00E-12	1.44E-13	1.71E-02	1.01E-13	1.02E-13	3.25E-13	1.14E-11	4.26E-13	1.15E-11
Dibenzo(a,h)anthracene		5.91E-11	6.00E-11	1.44E-12	6.61E-03	3.91E-13	3.96E-13	3.25E-12	1.14E-10	3.64E-12	1.14E-10
Fluoranthene		5.91E-11	6.00E-11	1.44E-12	3.65E-02	2.16E-12	2.19E-12	3.25E-12	1.14E-10	5.41E-12	1.16E-10
Fluorene		5.91E-12	6.00E-12	1.44E-13	1.12E-01	6.63E-13	6.73E-13	3.25E-13	1.14E-11	9.88E-13	1.20E-11
Phenanthrene		2.30E-14	2.34E-14	5.61E-16	8.70E-02	2.00E-15	2.03E-15	1.27E-15	4.43E-14	3.27E-15	4.63E-14
Pyrene		1.18E-10	1.20E-10	2.88E-12	3.85E-02	4.55E-12	4.62E-12	6.50E-12	2.27E-10	1.11E-11	2.32E-10
Parathion		1.47E-14	1.49E-14	3.57E-16	2.40E-01	3.52E-15	3.57E-15	8.05E-16	2.82E-14	4.32E-15	3.17E-14
Pentachlorobenzene		7.26E-12	7.37E-12	1.77E-13	4.40E-02	3.20E-13	3.24E-13	3.99E-13	1.40E-11	7.19E-13	1.43E-11
Phenol		1.16E-13	1.18E-13	2.83E-15	5.54E+00	6.43E-13	6.53E-13	6.38E-15	2.23E-13	6.50E-13	8.76E-13
Quinoline		6.66E-12	6.76E-12	1.62E-13	2.59E+00	1.72E-11	1.75E-11	3.66E-13	1.28E-11	1.76E-11	3.03E-11
Tetrachlorobenzene		3.57E-12	3.62E-12	8.69E-14	1.14E-01	4.05E-13	4.11E-13	1.96E-13	6.86E-12	6.01E-13	7.27E-12
Trichlorobenzene		1.81E-12	1.83E-12	4.40E-14	1.91E-01	3.46E-13	3.51E-13	9.93E-14	3.47E-12	4.45E-13	3.82E-12
Unsym. dimethyl hydrazine		2.86E-08	2.91E-08	6.97E-10	9.85E+02	2.82E-05	2.86E-05	1.57E-09	5.50E-08	2.82E-05	2.87E-05
Vapona		5.79E-14	5.87E-14	1.41E-15	6.00E+00	3.47E-13	3.52E-13	3.18E-15	1.11E-13	3.50E-13	4.64E-13

	B	C	J	K	L	M	N	O	P	Q	R	S
202												
203		BASE CASE	TABLE 18									
262	INORGANICS											
263		Arsenic	7.80E-10	7.92E-10	1.90E-11	2.00E-01	1.56E-10	1.58E-10	4.29E-11	1.50E-09	1.99E-10	1.66E-09
264		Cadmium	4.52E-12	4.59E-12	1.10E-13	5.50E-01	2.49E-12	2.52E-12	2.48E-13	8.70E-12	2.74E-12	1.12E-11
265		Mercury	2.93E-11	2.97E-11	7.12E-13	2.30E-01	6.73E-12	6.83E-12	1.61E-12	5.62E-11	8.34E-12	6.31E-11
266												
267							6.35E-01 r hay					
268							5.78E-07 k hay, 1/s					
269							2.72E+06 t hay, s					
270							3.50E-01 Y hay, Kg/M2					
271							2.49E+06 SDF hay, sec*mg/Kg					
272							3.15E+07 sec/yr					
273							1.00E+03 mg/g					
274												
275								-kt				
276							SDF = r*(1-e	)				
277								Y*k				
278							Cs = SDF*Deposition*mgg/secyr					
279												
280							Cu = RUF*Csoil					
281							C hay = Cs+Cu					

	B	C	U	V	W	X	Y	Z	AA	AB	AC	AD
202												
203		BASE CASE	TABLE 19									
204			CONTAMINANT CONCENTRATION IN CORN SILAGE mg/Kg									
205												
206												
207		18-Jun-91	C soil	C soil	D	PUF	Cu	Cu	Cs	Cs	C corn	C corn
208		15:15:33	AVERAGE	MAXIMUM	DRY		AVERAGE	MAXIMUM	AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
209			CALCULATED	CALCULATED	DEPOSITION	PLANT UPTAKE	CONC.DUE	CONC.DUE	CONC. ON	CONC. ON	CALCULATED	CALCULATED
210			CONC IN	CONC IN	RATE	FACTOR	TO UPTAKE	TO UPTAKE	PLANT	PLANT	CONC IN	CONC IN
211			SOIL	SOIL	g/M2/yr		mg/Kg	mg/Kg	SURFACE	SURFACE	CORN SILAGE	CORN SILAGE
212			.2M	.2M					mg/Kg	mg/Kg	mg/Kg	mg/Kg
213			mg/Kg	mg/Kg								
214	ORGANICS											
215		Acetonitrile	2.37E-09	2.40E-09	5.76E-11	6.13E+01	1.45E-07	1.47E-07	2.21E-11	7.72E-10	1.45E-07	1.48E-07
216		Aldrin	3.67E-15	3.73E-15	8.94E-17	1.99E-03	7.29E-18	7.40E-18	3.42E-17	1.20E-15	4.15E-17	1.21E-15
217		Aniline	1.33E-10	1.35E-10	3.24E-12	1.17E+01	1.56E-09	1.58E-09	1.24E-12	4.34E-11	1.56E-09	1.62E-09
218		Atrazine	8.22E-13	8.34E-13	2.00E-14	1.09E+00	8.92E-13	9.05E-13	7.66E-15	2.68E-13	9.00E-13	1.17E-12
219		Benzaldehyde	6.06E-11	6.15E-11	1.47E-12	5.39E+00	3.27E-10	3.31E-10	5.65E-13	1.98E-11	3.27E-10	3.51E-10
220		Benzofuran	2.95E-10	2.99E-10	7.17E-12	1.10E+00	3.24E-10	3.29E-10	2.75E-12	9.61E-11	3.27E-10	4.25E-10
221		Benzoic Acid	2.97E-11	3.01E-11	7.22E-13	3.20E+00	9.50E-11	9.64E-11	2.77E-13	9.68E-12	9.53E-11	1.06E-10
222		Benzonitrile	6.47E-10	6.57E-10	1.58E-11	4.84E+00	3.14E-09	3.18E-09	6.03E-12	2.11E-10	3.14E-09	3.39E-09
223		Benzothiazole	2.76E-13	2.80E-13	6.72E-15	2.66E+00	7.33E-13	7.44E-13	2.57E-15	9.00E-14	7.35E-13	8.34E-13
224		Bis(2-ethylhexyl)phthalate	1.63E-13	1.65E-13	3.96E-15	3.36E-04	5.48E-17	5.56E-17	1.52E-15	5.31E-14	1.57E-15	5.32E-14
225		Carbazole	1.33E-12	1.35E-12	3.24E-14	4.81E-01	6.39E-13	6.49E-13	1.24E-14	4.34E-13	6.52E-13	1.08E-12
226		4-Chloroaniline	7.62E-14	7.73E-14	1.85E-15	3.38E+00	2.57E-13	2.61E-13	7.10E-16	2.48E-14	2.58E-13	2.86E-13
227		4-Chlorobiphenyl	1.88E-13	1.90E-13	4.57E-15	5.60E-02	1.05E-14	1.07E-14	1.75E-15	6.12E-14	1.22E-14	7.19E-14
228		4,4-Chlorobiphenyl	9.44E-15	9.58E-15	2.30E-16	2.26E-02	2.13E-16	2.16E-16	8.80E-17	3.08E-15	3.01E-16	3.30E-15
229		Chloroethane	6.72E-12	6.82E-12	1.64E-13	5.32E+00	3.58E-11	3.63E-11	6.27E-14	2.19E-12	3.58E-11	3.85E-11
230		Dibenzofuran	5.91E-12	6.00E-12	1.44E-13	1.59E-01	9.38E-13	9.52E-13	5.51E-14	1.93E-12	9.93E-13	2.88E-12
231		1,2-Dichloroethane	6.81E-13	6.91E-13	1.66E-14	5.39E+00	3.67E-12	3.72E-12	6.34E-15	2.22E-13	3.67E-12	3.94E-12
232		Dieldrin	6.74E-15	6.84E-15	1.64E-16	9.86E-03	6.65E-17	6.75E-17	6.29E-17	2.20E-15	1.29E-16	2.27E-15
233		Hexachlorobenzene	1.78E-11	1.81E-11	4.34E-13	2.61E-02	4.66E-13	4.73E-13	1.66E-13	5.82E-12	6.32E-13	6.29E-12
234		Hydrazine	2.30E-08	2.34E-08	5.61E-10	2.38E+03	5.48E-05	5.56E-05	2.15E-10	7.51E-09	5.48E-05	5.56E-05
235		Lindane	3.13E-15	3.18E-15	7.63E-17	4.74E-01	1.49E-15	1.51E-15	2.92E-17	1.02E-15	1.52E-15	2.53E-15
236		Malathion	9.26E-15	9.39E-15	2.25E-16	8.20E-01	7.59E-15	7.70E-15	8.63E-17	3.02E-15	7.67E-15	1.07E-14
237		Methyl ethyl ketone	1.14E-12	1.16E-12	2.78E-14	2.75E+01	3.14E-11	3.19E-11	1.07E-14	3.73E-13	3.14E-11	3.23E-11
238		4-Methylphenol	1.04E-12	1.05E-12	2.53E-14	2.92E+00	3.03E-12	3.07E-12	9.67E-15	3.38E-13	3.04E-12	3.41E-12
239		Monomethyl hydrazine	7.26E-09	7.37E-09	1.77E-10	2.38E+03	1.73E-05	1.75E-05	6.77E-11	2.37E-09	1.73E-05	1.75E-05
240		Naphthalene	1.22E-13	1.24E-13	2.98E-15	4.44E-01	5.43E-14	5.51E-14	1.14E-15	3.99E-14	5.54E-14	9.50E-14
241		Naphthalene carbonitrile	6.47E-10	6.57E-10	1.58E-11	4.44E-01	2.87E-10	2.91E-10	6.03E-12	2.11E-10	2.93E-10	5.03E-10
242		n-Nitrosodimethylamine	7.39E-12	7.49E-12	1.80E-13	9.65E+01	7.13E-10	7.23E-10	6.89E-14	2.41E-12	7.13E-10	7.25E-10
243		PAHs										
244		Acenaphthalene	2.95E-11	2.99E-11	7.17E-13	1.70E-01	5.00E-12	5.07E-12	2.75E-13	9.61E-12	5.27E-12	1.47E-11
245		Acenaphthene	2.95E-11	2.99E-11	7.17E-13	2.07E-01	6.11E-12	6.19E-12	2.75E-13	9.61E-12	6.38E-12	1.58E-11
246		Benzo(a)pyrene	5.91E-11	6.00E-11	1.44E-12	7.35E-03	4.35E-13	4.41E-13	5.51E-13	1.93E-11	9.86E-13	1.97E-11
247		Chrysene	5.91E-12	6.00E-12	1.44E-13	1.71E-02	1.01E-13	1.02E-13	5.51E-14	1.93E-12	1.56E-13	2.03E-12
248		Dibenzo(a,h)anthracene	5.91E-11	6.00E-11	1.44E-12	6.61E-03	3.91E-13	3.96E-13	5.51E-13	1.93E-11	9.42E-13	1.97E-11
249		Fluoranthene	5.91E-11	6.00E-11	1.44E-12	3.65E-02	2.16E-12	2.19E-12	5.51E-13	1.93E-11	2.71E-12	2.15E-11
250		Fluorene	5.91E-12	6.00E-12	1.44E-13	1.12E-01	6.63E-13	6.73E-13	5.51E-14	1.93E-12	7.18E-13	2.60E-12
251		Phenanthrene	2.30E-14	2.34E-14	5.61E-16	8.70E-02	2.00E-15	2.03E-15	2.15E-16	7.51E-15	2.22E-15	9.55E-15
252		Pyrene	1.18E-10	1.20E-10	2.88E-12	3.85E-02	4.55E-12	4.62E-12	1.10E-12	3.86E-11	5.66E-12	4.32E-11
253		Parathion	1.47E-14	1.49E-14	3.57E-16	2.40E-01	3.52E-15	3.57E-15	1.37E-16	4.78E-15	3.65E-15	8.35E-15
254		Pentachlorobenzene	7.26E-12	7.37E-12	1.77E-13	4.40E-02	3.20E-13	3.24E-13	6.77E-14	2.37E-12	3.87E-13	2.69E-12
255		Phenol	1.16E-13	1.18E-13	2.83E-15	5.54E+00	6.43E-13	6.53E-13	1.08E-15	3.79E-14	6.44E-13	6.91E-13
256		Quinoline	6.66E-12	6.76E-12	1.62E-13	2.59E+00	1.72E-11	1.75E-11	6.21E-14	2.17E-12	1.73E-11	1.96E-11
257		Tetrachlorobenzene	3.57E-12	3.62E-12	8.69E-14	1.14E-01	4.05E-13	4.11E-13	3.33E-14	1.16E-12	4.39E-13	1.58E-12
258		Trichlorobenzene	1.81E-12	1.83E-12	4.40E-14	1.91E-01	3.46E-13	3.51E-13	1.68E-14	5.90E-13	3.62E-13	9.40E-13
259		Unsym. dimethyl hydrazine	2.86E-08	2.91E-08	6.97E-10	9.85E+02	2.82E-05	2.86E-05	2.67E-10	9.34E-09	2.82E-05	2.86E-05
260		Vapona	5.79E-14	5.87E-14	1.41E-15	6.00E+00	3.47E-13	3.52E-13	5.40E-16	1.89E-14	3.48E-13	3.71E-13
261												

	B	C	U	V	W	X	Y	Z	AA	AB	AC	AD
202												
203	BASE CASE		TABLE 19									
262	INORGANICS											
263	Arsenic		7.80E-10	7.92E-10	1.90E-11	2.30E-01	1.79E-10	1.82E-10	7.27E-12	2.55E-10	1.87E-10	4.37E-10
264	Cadmium		4.52E-12	4.59E-12	1.10E-13	1.50E-01	6.79E-13	6.88E-13	4.22E-14	1.48E-12	7.21E-13	2.16E-12
265	Mercury		2.93E-11	2.97E-11	7.12E-13	2.20E-02	6.44E-13	6.53E-13	2.73E-13	9.55E-12	9.16E-13	1.02E-11
266												
267					4.40E-01	r corn						
268					5.78E-07	k corn, 1/s						
269					1.12E+07	t corn, s						
270					1.80E+00	Y corn, Kg/M2						
271					4.22E+05	SDF corn, sec/mg/Kg						
272					3.15E+07	sec/yr						
273					1.00E+03	mg/g						
274												
275							-kt					
276						SDF = r*(1-e	)					
277							Y*k					
278						Cs = SDF*Deposition*mgg/secyr						
279						Cu = RUF*Csoil						
280						C corn = Cs+Cu						

	B	C	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
203	BASE CASE		TABLE 20									
204			CONTAMINANT CONCENTRATION IN GRASS mg/Kg									
205												
206												
207		18-Jun-91	C soil AVERAGE CALCULATED CONC IN SOIL .1M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .1M mg/Kg	D DRY DEPOSITION RATE g/M2/yr	PUF PLANT UPTAKE FACTOR	Cu AVERAGE CONC.DUE TO UPTAKE mg/Kg	Cu MAXIMUM CONC.DUE TO UPTAKE mg/Kg	Cs AVERAGE CONC. ON PLANT SURFACE mg/Kg	Cs MAXIMUM CONC. ON PLANT SURFACE mg/Kg	C grass AVERAGE CALCULATED CONC IN GRASS mg/Kg	C grass MAXIMUM CALCULATED CONC IN GRASS mg/Kg
208		15:15:33										
209												
210												
211												
212												
213												
214	ORGANICS											
215	Acetonitrile		4.73E-09	4.80E-09	5.76E-11	6.13E+01	2.90E-07	2.94E-07	2.07E-10	7.26E-09	2.90E-07	3.01E-07
216	Aldrin		7.35E-15	7.45E-15	8.94E-17	1.99E-03	1.46E-17	1.48E-17	3.22E-16	1.13E-14	3.37E-16	1.13E-14
217	Aniline		2.66E-10	2.70E-10	3.24E-12	1.17E+01	3.11E-09	3.16E-09	1.17E-11	4.08E-10	3.12E-09	3.56E-09
218	Atrazine		1.64E-12	1.67E-12	2.00E-14	1.09E+00	1.78E-12	1.81E-12	7.21E-14	2.52E-12	1.86E-12	4.33E-12
219	Benzaldehyde		1.21E-10	1.23E-10	1.47E-12	5.39E+00	6.53E-10	6.63E-10	5.31E-12	1.86E-10	6.58E-10	8.49E-10
220	Benzofuran		5.89E-10	5.98E-10	7.17E-12	1.10E+00	6.48E-10	6.58E-10	2.58E-11	9.05E-10	6.74E-10	1.56E-09
221	Benzoic Acid		5.94E-11	6.02E-11	7.22E-13	3.20E+00	1.90E-10	1.93E-10	2.60E-12	9.11E-11	1.93E-10	2.84E-10
222	Benzonitrile		1.29E-09	1.31E-09	1.58E-11	4.84E+00	6.27E-09	6.36E-09	5.68E-11	1.99E-09	6.33E-09	8.35E-09
223	Benzothiazole		5.52E-13	5.60E-13	6.72E-15	2.66E+00	1.47E-12	1.49E-12	2.42E-14	8.47E-13	1.49E-12	2.33E-12
224	Bis(2-ethylhexyl)phthalate		3.26E-13	3.31E-13	3.96E-15	3.36E-04	1.10E-16	1.11E-16	1.43E-14	5.00E-13	1.44E-14	5.00E-13
225	Carbazole		2.66E-12	2.70E-12	3.24E-14	4.81E-01	1.28E-12	1.30E-12	1.17E-13	4.08E-12	1.40E-12	5.38E-12
226	4-Chloroaniline		1.52E-13	1.55E-13	1.85E-15	3.38E+00	5.14E-13	5.22E-13	6.68E-15	2.34E-13	5.21E-13	7.56E-13
227	4-Chlorobiphenyl		3.75E-13	3.81E-13	4.57E-15	5.60E-02	2.10E-14	2.13E-14	1.65E-14	5.76E-13	3.75E-14	5.97E-13
228	4,4-Chlorobiphenyl		1.89E-14	1.92E-14	2.30E-16	2.26E-02	4.26E-16	4.32E-16	8.28E-16	2.90E-14	1.25E-15	2.94E-14
229	Chloroethane		1.34E-11	1.36E-11	1.64E-13	5.32E+00	7.15E-11	7.25E-11	5.90E-13	2.06E-11	7.21E-11	9.32E-11
230	Dibenzofuran		1.18E-11	1.20E-11	1.44E-13	1.59E-01	1.88E-12	1.90E-12	5.19E-13	1.82E-11	2.39E-12	2.01E-11
231	1,2-Dichloroethane		1.36E-12	1.38E-12	1.66E-14	5.39E+00	7.34E-12	7.44E-12	5.97E-14	2.09E-12	7.40E-12	9.53E-12
232	Dieldrin		1.35E-14	1.37E-14	1.64E-16	9.86E-03	1.33E-16	1.35E-16	5.92E-16	2.07E-14	7.25E-16	2.08E-14
233	Hexachlorobenzene		3.57E-11	3.62E-11	4.34E-13	2.61E-02	9.32E-13	9.46E-13	1.56E-12	5.47E-11	2.50E-12	5.57E-11
234	Hydrazine		4.61E-08	4.67E-08	5.61E-10	2.38E+03	1.10E-04	1.11E-04	2.02E-09	7.07E-08	1.10E-04	1.11E-04
235	Lindane		6.27E-15	6.36E-15	7.63E-17	4.74E-01	2.97E-15	3.01E-15	2.75E-16	9.62E-15	3.25E-15	1.26E-14
236	Malathion		1.85E-14	1.88E-14	2.25E-16	8.20E-01	1.52E-14	1.54E-14	8.12E-16	2.84E-14	1.60E-14	4.38E-14
237	Methyl ethyl ketone		2.29E-12	2.32E-12	2.78E-14	2.75E+01	6.29E-11	6.38E-11	1.00E-13	3.51E-12	6.30E-11	6.73E-11
238	4-Methylphenol		2.08E-12	2.11E-12	2.53E-14	2.92E+00	6.05E-12	6.14E-12	9.10E-14	3.19E-12	6.14E-12	9.32E-12
239	Monomethyl hydrazine		1.45E-08	1.47E-08	1.77E-10	2.38E+03	3.46E-05	3.51E-05	6.37E-10	2.23E-08	3.46E-05	3.51E-05
240	Naphthalene		2.45E-13	2.48E-13	2.98E-15	4.44E-01	1.09E-13	1.10E-13	1.07E-14	3.76E-13	1.19E-13	4.86E-13
241	Naphthalene carbonitrile		1.29E-09	1.31E-09	1.58E-11	4.44E-01	5.74E-10	5.83E-10	5.68E-11	1.99E-09	6.31E-10	2.57E-09
242	n-Nitrosodimethylamine		1.48E-11	1.50E-11	1.80E-13	9.65E+01	1.43E-09	1.45E-09	6.48E-13	2.27E-11	1.43E-09	1.47E-09
243	PAHs											
244	Acenaphthalene		5.89E-11	5.98E-11	7.17E-13	1.70E-01	9.99E-12	1.01E-11	2.58E-12	9.05E-11	1.26E-11	1.01E-10
245	Acenaphthene		5.89E-11	5.98E-11	7.17E-13	2.07E-01	1.22E-11	1.24E-11	2.58E-12	9.05E-11	1.48E-11	1.03E-10
246	Benzo(a)pyrene		1.18E-10	1.20E-10	1.44E-12	7.35E-03	8.70E-13	8.82E-13	5.19E-12	1.82E-10	6.06E-12	1.82E-10
247	Chrysene		1.18E-11	1.20E-11	1.44E-13	1.71E-02	2.02E-13	2.05E-13	5.19E-13	1.82E-11	7.20E-13	1.84E-11
248	Dibenzo(a,h)anthracene		1.18E-10	1.20E-10	1.44E-12	6.61E-03	7.81E-13	7.93E-13	5.19E-12	1.82E-10	5.97E-12	1.82E-10
249	Fluoranthene		1.18E-10	1.20E-10	1.44E-12	3.65E-02	4.32E-12	4.38E-12	5.19E-12	1.82E-10	9.51E-12	1.86E-10
250	Fluorene		1.18E-11	1.20E-11	1.44E-13	1.12E-01	1.33E-12	1.35E-12	5.19E-13	1.82E-11	1.84E-12	1.95E-11
251	Phenanthrene		4.61E-14	4.67E-14	5.61E-16	8.70E-02	4.01E-15	4.06E-15	2.02E-15	7.07E-14	6.03E-15	7.48E-14
252	Pyrene		2.37E-10	2.40E-10	2.88E-12	3.85E-02	9.11E-12	9.24E-12	1.04E-11	3.63E-10	1.95E-11	3.72E-10
253	Parathion		2.93E-14	2.97E-14	3.57E-16	2.40E-01	7.03E-15	7.13E-15	1.28E-15	4.50E-14	8.32E-15	5.21E-14
254	Pentachlorobenzene		1.45E-11	1.47E-11	1.77E-13	4.40E-02	6.39E-13	6.49E-13	6.37E-13	2.23E-11	1.28E-12	2.29E-11
255	Phenol		2.32E-13	2.36E-13	2.83E-15	5.54E+00	1.29E-12	1.31E-12	1.02E-14	3.57E-13	1.30E-12	1.66E-12
256	Quinoline		1.33E-11	1.35E-11	1.62E-13	2.59E+00	3.44E-11	3.49E-11	5.84E-13	2.04E-11	3.50E-11	5.54E-11
257	Tetrachlorobenzene		7.14E-12	7.24E-12	8.69E-14	1.14E-01	8.11E-13	8.23E-13	3.13E-13	1.10E-11	1.12E-12	1.18E-11
258	Trichlorobenzene		3.61E-12	3.67E-12	4.40E-14	1.91E-01	6.91E-13	7.01E-13	1.59E-13	5.55E-12	8.50E-13	6.25E-12
259	Unsym. dimethyl hydrazine		5.73E-08	5.81E-08	6.97E-10	9.85E+02	5.64E-05	5.72E-05	2.51E-09	8.79E-08	5.64E-05	5.73E-05
260	Vapona		1.16E-13	1.17E-13	1.41E-15	6.00E+00	6.94E-13	7.05E-13	5.08E-15	1.78E-13	7.00E-13	8.82E-13
261												

	B	C	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
202												
203	BASE CASE		TABLE 20									
262	INORGANICS											
263	Arsenic		1.56E-09	1.58E-09	1.90E-11	1.30E-02	2.03E-11	2.06E-11	6.84E-11	2.40E-09	8.87E-11	2.42E-09
264	Cadmium		9.05E-12	9.18E-12	1.10E-13	5.50E-01	4.98E-12	5.05E-12	3.97E-13	1.39E-11	5.37E-12	1.89E-11
265	Mercury		5.85E-11	5.94E-11	7.12E-13	5.90E-01	3.45E-11	3.50E-11	2.57E-12	8.98E-11	3.71E-11	1.25E-10
266												
267						6.71E-02	r grass			r		
268						5.78E-07	k grass, 1/s			k		
269						3.02E+06	t grass, s			t		
270						2.41E-02	Y grass, Kg/M2		Y			
271						3.97E+06	SDF grass, sec*mg/kg		SDF			
272						3.15E+07	sec/yr		secyr			
273						1.00E+03	mg/g		mgg			
274												
275							-kt					
276						SDF = r*(1-e	)					
277							Y*k					
278												
279						Cs = SDF*Deposition*mgg/secyr						
280						Cu = RUF*Csoil						
281						C grass = Cs+Cu						

B	C	AQ	AR	AS	AT	AU	AV	AW
BASE CASE		TABLE 21 MILK INGESTION - AVERAGE						
	18-Jun-91 15:15:33	C diet AVERAGE CALCULATED CONC IN DIET (milk) mg/Kg	DUFm DIET UPTAKE MILK Unitless	TC TRANSFER COEFFICIENT MILK Day/Kg	C milk AVERAGE CALCULATED CONC IN MILK mg/Kg	C milkfat AVERAGE CALCULATED CONC IN MILK FAT mg/Kg	EDI ADULT AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS								
Acetonitrile		1.30E-07		3.72E-09	1.09E-14		4.74E-17	2.74E-16
Aldrin		4.79E-17		2.04E-01	2.19E-16		9.56E-19	5.52E-18
Aniline		1.40E-09		6.46E-08	2.03E-15		8.85E-18	5.11E-17
Atrazine		8.12E-13		3.89E-06	7.09E-17		3.09E-19	1.78E-18
Benzaldehyde		2.95E-10		2.45E-07	1.62E-15		7.07E-18	4.08E-17
Benzofuran		2.95E-10		3.80E-06	2.52E-14		1.10E-16	6.34E-16
Benzoic Acid		8.58E-11		6.03E-07	1.16E-15		5.06E-18	2.92E-17
Benzonitrile		2.83E-09		2.95E-07	1.87E-14		8.17E-17	4.72E-16
Benzothiazole		6.63E-13		8.32E-07	1.24E-17		5.39E-20	3.11E-19
Bis(2-ethylhexyl)phthalate		1.88E-15		4.37E+00	1.84E-13		8.03E-16	4.64E-15
Carbazole		5.90E-13		1.58E-05	2.10E-16		9.15E-19	5.28E-18
4-Chloroaniline		2.32E-13		5.50E-07	2.87E-18		1.25E-20	7.21E-20
4-Chlorobiphenyl		1.16E-14		6.46E-04	1.68E-16		7.30E-19	4.22E-18
4,4-Chlorobiphenyl		2.98E-16		3.09E-03	2.07E-17		9.01E-20	5.20E-19
Chloroethane		3.23E-11		2.51E-07	1.82E-16		7.93E-19	4.58E-18
Dibenzofuran		9.11E-13		1.07E-04	2.19E-15		9.55E-18	5.51E-17
1,2-Dichloroethane		3.31E-12		2.45E-07	1.82E-17		7.95E-20	4.59E-19
Dieldrin		1.36E-16		1.29E-02	3.92E-17		1.71E-19	9.87E-19
Hexachlorobenzene		6.20E-13		2.40E-03	3.34E-14		1.45E-16	8.40E-16
Hydrazine		4.93E-05		6.76E-12	7.48E-15		3.26E-17	1.88E-16
Lindane		1.37E-15		1.62E-05	5.00E-19		2.18E-21	1.26E-20
Malathion		6.93E-15		6.31E-06	9.82E-19		4.28E-21	2.47E-20
Methyl ethyl ketone		2.83E-11		1.48E-08	9.40E-18		4.09E-20	2.36E-19
4-Methylphenol		2.73E-12		7.08E-07	4.35E-17		1.89E-19	1.09E-18
Monomethyl hydrazine		1.55E-05		6.76E-12	2.36E-15		1.03E-17	5.94E-17
Naphthalene		5.03E-14		1.82E-05	2.05E-17		8.95E-20	5.17E-19
Naphthalene carbonitrile		2.66E-10		1.82E-05	1.09E-13		4.73E-16	2.73E-15
n-Nitrosodimethylamine		6.41E-10		1.70E-09	2.45E-17		1.07E-19	6.15E-19
PAHs								
Acenaphthalene		4.83E-12		9.55E-05	1.04E-14		4.51E-17	2.60E-16
Acenaphthene		5.83E-12		6.76E-05	8.84E-15		3.85E-17	2.22E-16
Benzo(a)pyrene		1.06E-12		2.14E-02	5.07E-13		2.21E-15	1.28E-14
Chrysene		1.57E-13		5.01E-03	1.77E-14		7.71E-17	4.45E-16
Dibenzo(a,h)anthracene		1.02E-12		2.57E-02	5.87E-13		2.56E-15	1.48E-14
Fluoranthene		2.61E-12		1.35E-03	7.90E-14		3.44E-16	1.99E-15
Fluorene		6.63E-13		1.95E-04	2.90E-15		1.26E-17	7.30E-17
Phenanthrene		2.06E-15		3.02E-04	1.40E-17		6.09E-20	3.52E-19
Pyrene		5.43E-12		1.23E-03	1.50E-13		6.53E-16	3.77E-15
Parathion		3.33E-15		5.25E-05	3.92E-18		1.71E-20	9.87E-20
Pentachlorobenzene		3.69E-13		9.77E-04	8.10E-15		3.53E-17	2.04E-16
Phenol		5.80E-13		2.34E-07	3.05E-18		1.33E-20	7.68E-20
Quinoline		1.56E-11		8.71E-07	3.05E-16		1.33E-18	7.66E-18
Tetrachlorobenzene		4.05E-13		1.91E-04	1.73E-15		7.55E-18	4.36E-17
Trichlorobenzene		3.31E-13		7.76E-05	5.78E-16		2.52E-18	1.45E-17
Unsym. dimethyl hydrazine		2.54E-05		3.09E-11	1.76E-14		7.68E-17	4.43E-16
Vapona		3.13E-13		2.04E-07	1.44E-18		6.25E-21	3.61E-20

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AQ	AR	AS	AT	AU	AV	AW
202									
203	BASE CASE		TABLE 21						
262	INORGANICS								
263	Arsenic		6.89E-11		6.00E-03	9.28E-12		4.04E-14	2.34E-13
264	Cadmium		8.54E-13		1.00E-03	1.92E-14		8.35E-17	4.82E-16
265	Mercury		4.84E-12		4.50E-04	4.89E-14		2.13E-16	1.23E-15
266									
267			ADULT	CHILD					
268			0.55		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.175		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.175		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % oF GRASS INTAKE				SI
273			22.45		TOTAL FEED INTAKE Kg/day				TI
274			0.305	0.39	CONSUMPTION RATE OF MILK PER DAY Kg/day				CRm
275			0.011	0.016	CONSUMPTION RATE OF MILK FAT PER DAY Kg/day				CRmf
276			1	1	FRACTION OF MILK CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	BODY WEIGHT Kg				WT
278									
279			C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))						

	B	C	AY	AZ	BA	BB	BC	BD	BE
203	BASE CASE		TABLE 22						
204			MILK INGESTION - MAXIMUM						
205									
206			C diet	DUFm	TC	C milk	C milkfat	EDI	EDI
207		18-Jun-91	MAXIMUM	DIET	TRANSFER	MAXIMUM	MAXIMUM	ADULT	CHILD
208		15:15:33	CALCULATED	UPTAKE	COEFFICIENT	CALCULATED	CALCULATED	MAXIMUM	MAXIMUM
209			CONC IN	MILK	MILK	CONC IN	CONC IN	ESTIMATED	ESTIMATED
210			DIET	Unitless	Day/Kg	MILK	MILK FAT	DAILY	DAILY
211			(milk)			mg/Kg	mg/Kg	INTAKE	INTAKE
212			mg/Kg					mg/Kg/day	mg/Kg/day
213									
214	ORGANICS								
215	Acetonitrile		1.33E-07		3.72E-09	1.11E-14		4.84E-17	2.80E-16
216	Aldrin		1.45E-15		2.04E-01	6.66E-15		2.90E-17	1.67E-16
217	Aniline		1.47E-09		6.46E-08	2.13E-15		9.30E-18	5.37E-17
218	Atrazine		1.14E-12		3.89E-06	9.94E-17		4.33E-19	2.50E-18
219	Benzaldehyde		3.22E-10		2.45E-07	1.77E-15		7.73E-18	4.47E-17
220	Benzofuran		4.12E-10		3.80E-06	3.52E-14		1.53E-16	8.85E-16
221	Benzoic Acid		9.84E-11		6.03E-07	1.33E-15		5.80E-18	3.35E-17
222	Benzonitrile		3.12E-09		2.95E-07	2.07E-14		9.00E-17	5.20E-16
223	Benzothiazole		7.78E-13		8.32E-07	1.45E-17		6.33E-20	3.65E-19
224	Bis(2-ethylhexyl)phthalate		6.41E-14		4.37E+00	6.29E-12		2.74E-14	1.58E-13
225	Carbazole		1.11E-12		1.58E-05	3.94E-16		1.72E-18	9.91E-18
226	4-Chloroaniline		2.65E-13		5.50E-07	3.27E-18		1.42E-20	8.22E-20
227	4-Chlorobiphenyl		8.34E-14		6.46E-04	1.21E-15		5.27E-18	3.04E-17
228	4,4-Chlorobiphenyl		3.91E-15		3.09E-03	2.71E-16		1.18E-18	6.82E-18
229	Chloroethane		3.53E-11		2.51E-07	1.99E-16		8.67E-19	5.01E-18
230	Dibenzofuran		3.18E-12		1.07E-04	7.66E-15		3.34E-17	1.93E-16
231	1,2-Dichloroethane		3.62E-12		2.45E-07	1.99E-17		8.69E-20	5.02E-19
232	Dieldrin		2.71E-15		1.29E-02	7.85E-16		3.42E-18	1.98E-17
233	Hexachlorobenzene		7.44E-12		2.40E-03	4.01E-13		1.75E-15	1.01E-14
234	Hydrazine		5.00E-05		6.76E-12	7.59E-15		3.31E-17	1.91E-16
235	Lindane		2.59E-15		1.62E-05	9.43E-19		4.11E-21	2.37E-20
236	Malathion		1.06E-14		6.31E-06	1.50E-18		6.52E-21	3.77E-20
237	Methyl ethyl ketone		2.91E-11		1.48E-08	9.68E-18		4.22E-20	2.44E-19
238	4-Methylphenol		3.17E-12		7.08E-07	5.04E-17		2.20E-19	1.27E-18
239	Monomethyl hydrazine		1.58E-05		6.76E-12	2.39E-15		1.04E-17	6.03E-17
240	Naphthalene		9.78E-14		1.82E-05	3.99E-17		1.74E-19	1.00E-18
241	Naphthalene carbonitrile		5.17E-10		1.82E-05	2.11E-13		9.20E-16	5.31E-15
242	n-Nitrosodimethylamine		6.54E-10		1.70E-09	2.49E-17		1.09E-19	6.27E-19
243	PAHs								
244	Acenaphthalene		1.62E-11		9.55E-05	3.46E-14		1.51E-16	8.72E-16
245	Acenaphthene		1.72E-11		6.76E-05	2.61E-14		1.14E-16	6.56E-16
246	Benzo(a)pyrene		2.37E-11		2.14E-02	1.14E-11		4.95E-14	2.86E-13
247	Chrysene		2.42E-12		5.01E-03	2.72E-13		1.19E-15	6.85E-15
248	Dibenzo(a,h)anthracene		2.36E-11		2.57E-02	1.36E-11		5.94E-14	3.43E-13
249	Fluoranthene		2.52E-11		1.35E-03	7.64E-13		3.33E-15	1.92E-14
250	Fluorene		2.93E-12		1.95E-04	1.28E-14		5.59E-17	3.23E-16
251	Phenanthrene		1.09E-14		3.02E-04	7.38E-17		3.22E-19	1.86E-18
252	Pyrene		5.07E-11		1.23E-03	1.40E-12		6.10E-15	3.52E-14
253	Parathion		8.97E-15		5.25E-05	1.06E-17		4.61E-20	2.66E-19
254	Pentachlorobenzene		3.15E-12		9.77E-04	6.91E-14		3.01E-16	1.74E-15
255	Phenol		6.33E-13		2.34E-07	3.33E-18		1.45E-20	8.38E-20
256	Quinoline		1.83E-11		8.71E-07	3.59E-16		1.56E-18	9.03E-18
257	Tetrachlorobenzene		1.77E-12		1.91E-04	7.59E-15		3.31E-17	1.91E-16
258	Trichlorobenzene		1.03E-12		7.76E-05	1.79E-15		7.80E-18	4.50E-17
259	Unsym. dimethyl hydrazine		2.58E-05		3.09E-11	1.79E-14		7.79E-17	4.50E-16
260	Vapona		3.40E-13		2.04E-07	1.56E-18		6.79E-21	3.92E-20
261									

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	AY	AZ	BA	BB	BC	BD	BE
202									
203	BASE CASE		TABLE 22						
262	INORGANICS								
263	Arsenic		3.68E-10		6.00E-03	4.96E-11		2.16E-13	1.25E-12
264	Cadmium		2.59E-12		1.00E-03	5.82E-14		2.54E-16	1.47E-15
265	Mercury		1.61E-11		4.50E-04	1.63E-13		7.08E-16	4.09E-15
266									
267			ADULT	CHILD					
268			0.55		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.175		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.175		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % oF GRASS INTAKE				SI
273			22.45		TOTAL FEED INTAKE Kg/day				TI
274			0.305	0.39	CONSUMPTION RATE OF MILK PER DAY Kg/day				CRm
275			0.011	0.016	CONSUMPTION RATE OF MILK FAT PER DAY Kg/day				CRmf
276			1	1	FRACTION OF MILK CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	ADULT WEIGHT Kg				WT
278									
279			C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))						
280			C milkfat = DUFm*C diet (dioxins)						

	B	C	BG	BH	BI	BJ	BK	BL	BM
202			TABLE 23						
203	BASE CASE		BEEF INGESTION - AVERAGE						
204									
205									
206			C diet	DUFb	TC	C beef	C beeffat	EDI	EDI
207		18-Jun-91	AVERAGE	DIET	TRANSFER	AVERAGE	AVERAGE	ADULT	CHILD
208		15:15:33	CALCULATED	UPTAKE	COEFFICIENT	CALCULATED	CALCULATED	AVERAGE	AVERAGE
209			CONC IN	BEEF	BEEF	CONC IN	CONC IN	ESTIMATED	ESTIMATED
210			DIET	Unitless	Day/Kg	BEEF	BEEFFAT	DAILY	DAILY
211			(beef)			mg/Kg	mg/Kg	INTAKE	INTAKE
212			mg/Kg					mg/Kg/day	mg/Kg/day
213									
214	ORGANICS								
215	Acetonitrile		1.30E-07		1.15E-08	1.94E-14		1.86E-17	4.64E-17
216	Aldrin		1.84E-17		6.31E-01	1.50E-16		1.44E-19	3.59E-19
217	Aniline		1.40E-09		2.00E-07	3.62E-15		3.47E-18	8.65E-18
218	Atrazine		8.05E-13		1.20E-05	1.26E-16		1.20E-19	3.00E-19
219	Benzaldehyde		2.94E-10		7.59E-07	2.89E-15		2.77E-18	6.91E-18
220	Benzofuran		2.93E-10		1.17E-05	4.46E-14		4.27E-17	1.06E-16
221	Benzoic Acid		8.56E-11		1.86E-06	2.07E-15		1.98E-18	4.93E-18
222	Benzonitrile		2.82E-09		9.12E-07	3.34E-14		3.20E-17	7.98E-17
223	Benzothiazole		6.61E-13		2.57E-06	2.20E-17		2.11E-20	5.26E-20
224	Bis(2-ethylhexyl)phthalate		5.73E-16		1.35E+01	1.00E-13		9.59E-17	2.39E-16
225	Carbazole		5.80E-13		4.90E-05	3.68E-16		3.52E-19	8.79E-19
226	4-Chloroaniline		2.32E-13		1.70E-06	5.10E-18		4.89E-21	1.22E-20
227	4-Chlorobiphenyl		1.01E-14		2.00E-03	2.60E-16		2.49E-19	6.21E-19
228	4,4-Chlorobiphenyl		2.22E-16		9.55E-03	2.75E-17		2.63E-20	6.57E-20
229	Chloroethane		3.22E-11		7.76E-07	3.24E-16		3.10E-19	7.74E-19
230	Dibenzofuran		8.63E-13		3.31E-04	3.71E-15		3.55E-18	8.85E-18
231	1,2-Dichloroethane		3.30E-12		7.59E-07	3.25E-17		3.11E-20	7.76E-20
232	Dieldrin		8.15E-17		3.98E-02	4.21E-17		4.03E-20	1.00E-19
233	Hexachlorobenzene		4.77E-13		7.41E-03	4.58E-14		4.39E-17	1.09E-16
234	Hydrazine		4.93E-05		2.09E-11	1.34E-14		1.28E-17	3.19E-17
235	Lindane		1.35E-15		5.01E-05	8.76E-19		8.38E-22	2.09E-21
236	Malathion		6.86E-15		1.95E-05	1.73E-18		1.66E-21	4.14E-21
237	Methyl ethyl ketone		2.83E-11		4.57E-08	1.68E-17		1.61E-20	4.00E-20
238	4-Methylphenol		2.73E-12		2.19E-06	7.74E-17		7.40E-20	1.85E-19
239	Monomethyl hydrazine		1.55E-05		2.09E-11	4.21E-15		4.03E-18	1.01E-17
240	Naphthalene		4.93E-14		5.62E-05	3.59E-17		3.44E-20	8.58E-20
241	Naphthalene carbonitrile		2.61E-10		5.62E-05	1.90E-13		1.82E-16	4.54E-16
242	n-Nitrosodimethylamine		6.41E-10		5.25E-09	4.37E-17		4.18E-20	1.04E-19
243	PAHs								
244	Acenaphthalene		4.59E-12		2.95E-04	1.76E-14		1.68E-17	4.20E-17
245	Acenaphthene		5.59E-12		2.09E-04	1.51E-14		1.45E-17	3.62E-17
246	Benzo(a)pyrene		5.81E-13		6.61E-02	4.98E-13		4.77E-16	1.19E-15
247	Chrysene		1.10E-13		1.55E-02	2.20E-14		2.11E-17	5.26E-17
248	Dibenzo(a,h)anthracene		5.42E-13		7.94E-02	5.58E-13		5.34E-16	1.33E-15
249	Fluoranthene		2.13E-12		4.17E-03	1.15E-13		1.10E-16	2.75E-16
250	Fluorene		6.16E-13		6.03E-04	4.81E-15		4.60E-18	1.15E-17
251	Phenanthrene		1.88E-15		9.33E-04	2.27E-17		2.17E-20	5.42E-20
252	Pyrene		4.48E-12		3.80E-03	2.21E-13		2.11E-16	5.27E-16
253	Parathion		3.21E-15		1.62E-04	6.75E-18		6.47E-21	1.61E-20
254	Pentachlorobenzene		3.11E-13		3.02E-03	1.22E-14		1.17E-17	2.91E-17
255	Phenol		5.79E-13		7.24E-07	5.44E-18		5.21E-21	1.30E-20
256	Quinoline		1.55E-11		2.69E-06	5.42E-16		5.19E-19	1.29E-18
257	Tetrachlorobenzene		3.76E-13		5.89E-04	2.87E-15		2.75E-18	6.86E-18
258	Trichlorobenzene		3.17E-13		2.40E-04	9.86E-16		9.44E-19	2.35E-18
259	Unsym. dimethyl hydrazine		2.54E-05		9.55E-11	3.15E-14		3.01E-17	7.51E-17
260	Vapona		3.13E-13		6.31E-07	2.56E-18		2.45E-21	6.11E-21
261									

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BG	BH	BI	BJ	BK	BL	BM
202									
203	BASE CASE		TABLE 23						
262	INORGANICS								
263	Arsenic		2.13E-11		2.00E-03	5.54E-13		5.30E-16	1.32E-15
264	Cadmium		5.35E-13		5.50E-04	3.81E-15		3.65E-18	9.11E-18
265	Mercury		5.14E-12		2.50E-01	1.67E-11		1.60E-14	3.98E-14
266									
267			ADULT	CHILD					
268			0.8		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.05		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.05		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % of GRASS INTAKE				SI
273			12.97		TOTAL FEED INTAKE Kg/day				TI
274			0.067	0.037	CONSUMPTION RATE OF BEEF PER DAY Kg/day				CRb
275			0.015	0.009	CONSUMPTION RATE OF BEEF FAT PER DAY Kg/day				CRbf
276			1	1	FRACTION OF BEEF CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	BODY WEIGHT Kg				WT
278									
279					C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))				

B	C	BO	BP	BQ	BR	BS	BT	BU
BASE CASE		TABLE 24						
		BEEF INGESTION - MAXIMUM						
	18-Jun-91 15:15:33	C diet MAXIMUM CALCULATED CONC IN DIET (beef) mg/Kg	DUFb DIET UPTAKE BEEF Unitless	TC TRANSFER COEFFICIENT BEEF Day/Kg	C beef MAXIMUM CALCULATED CONC IN BEEF mg/Kg	C beeffat MAXIMUM CALCULATED CONC IN BEEFFAT mg/Kg	EDI ADULT MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day	EDI CHILD MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS								
Acetonitrile		1.33E-07		1.15E-08	1.97E-14		1.89E-17	4.71E-17
Aldrin		4.20E-16		6.31E-01	3.43E-15		3.29E-18	8.20E-18
Aniline		1.44E-09		2.00E-07	3.71E-15		3.55E-18	8.87E-18
Atrazine		9.07E-13		1.20E-05	1.41E-16		1.35E-19	3.38E-19
Benzaldehyde		3.05E-10		7.59E-07	3.00E-15		2.87E-18	7.16E-18
Benzofuran		3.29E-10		1.17E-05	5.01E-14		4.80E-17	1.20E-16
Benzoic Acid		9.01E-11		1.86E-06	2.18E-15		2.08E-18	5.19E-18
Benzonitrile		2.94E-09		9.12E-07	3.47E-14		3.32E-17	8.29E-17
Benzothiazole		7.00E-13		2.57E-06	2.33E-17		2.23E-20	5.57E-20
Bis(2-ethylhexyl)phthalate		1.84E-14		1.35E+01	3.21E-12		3.08E-15	7.67E-15
Carbazole		7.33E-13		4.90E-05	4.66E-16		4.46E-19	1.11E-18
4-Chloroaniline		2.43E-13		1.70E-06	5.36E-18		5.13E-21	1.28E-20
4-Chlorobiphenyl		3.07E-14		2.00E-03	7.94E-16		7.60E-19	1.90E-18
4,4-Chlorobiphenyl		1.26E-15		9.55E-03	1.56E-16		1.49E-19	3.71E-19
Chloroethane		3.34E-11		7.76E-07	3.36E-16		3.22E-19	8.03E-19
Dibenzofuran		1.52E-12		3.31E-04	6.53E-15		6.25E-18	1.56E-17
1,2-Dichloroethane		3.43E-12		7.59E-07	3.37E-17		3.23E-20	8.05E-20
Dieldrin		8.19E-16		3.98E-02	4.23E-16		4.05E-19	1.01E-18
Hexachlorobenzene		2.43E-12		7.41E-03	2.34E-13		2.24E-16	5.58E-16
Hydrazine		5.00E-05		2.09E-11	1.36E-14		1.30E-17	3.24E-17
Lindane		1.71E-15		5.01E-05	1.11E-18		1.06E-21	2.65E-21
Malathion		7.97E-15		1.95E-05	2.02E-18		1.93E-21	4.81E-21
Methyl ethyl ketone		2.88E-11		4.57E-08	1.71E-17		1.64E-20	4.08E-20
4-Methylphenol		2.88E-12		2.19E-06	8.17E-17		7.82E-20	1.95E-19
Monomethyl hydrazine		1.58E-05		2.09E-11	4.27E-15		4.09E-18	1.02E-17
Naphthalene		6.33E-14		5.62E-05	4.62E-17		4.42E-20	1.10E-19
Naphthalene carbonitrile		3.35E-10		5.62E-05	2.44E-13		2.34E-16	5.83E-16
n-Nitrosodimethylamine		6.51E-10		5.25E-09	4.43E-17		4.24E-20	1.06E-19
PAHs								
Acenaphthalene		7.88E-12		2.95E-04	3.01E-14		2.89E-17	7.20E-17
Acenaphthene		8.89E-12		2.09E-04	2.41E-14		2.31E-17	5.75E-17
Benzo(a)pyrene		7.05E-12		6.61E-02	6.04E-12		5.78E-15	1.44E-14
Chrysene		7.57E-13		1.55E-02	1.52E-13		1.46E-16	3.63E-16
Dibenzo(a,h)anthracene		7.01E-12		7.94E-02	7.22E-12		6.91E-15	1.72E-14
Fluoranthene		8.62E-12		4.17E-03	4.66E-13		4.46E-16	1.11E-15
Fluorene		1.27E-12		6.03E-04	9.93E-15		9.50E-18	2.37E-17
Phenanthrene		4.42E-15		9.33E-04	5.35E-17		5.12E-20	1.28E-19
Pyrene		1.75E-11		3.80E-03	8.61E-13		8.24E-16	2.05E-15
Parathion		4.86E-15		1.62E-04	1.02E-17		9.78E-21	2.44E-20
Pentachlorobenzene		1.11E-12		3.02E-03	4.34E-14		4.16E-17	1.04E-16
Phenol		6.00E-13		7.24E-07	5.64E-18		5.40E-21	1.35E-20
Quinoline		1.65E-11		2.69E-06	5.75E-16		5.50E-19	1.37E-18
Tetrachlorobenzene		7.71E-13		5.89E-04	5.89E-15		5.64E-18	1.41E-17
Trichlorobenzene		5.19E-13		2.40E-04	1.61E-15		1.54E-18	3.85E-18
Unsym. dimethyl hydrazine		2.58E-05		9.55E-11	3.19E-14		3.05E-17	7.62E-17
Vapona		3.24E-13		6.31E-07	2.65E-18		2.53E-21	6.32E-21

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	BO	BP	BQ	BR	BS	BT	BU
202									
203	BASE CASE		TABLE 24						
262	INORGANICS								
263	Arsenic		1.07E-10		2.00E-03	2.77E-12		2.65E-15	6.61E-15
264	Cadmium		1.04E-12		5.50E-04	7.39E-15		7.08E-18	1.76E-17
265	Mercury		8.41E-12		2.50E-01	2.73E-11		2.61E-14	6.51E-14
266									
267			ADULT	CHILD					
268			0.8		DAILY INTAKE OF GRAIN % of TOTAL				DI grain
269			0.05		DAILY INTAKE OF HAY % of TOTAL				DI hay
270			0		DAILY INTAKE OF GRASS % of TOTAL				DI grass
271			0.05		DAILY INTAKE OF CORN SILAGE % of TOTAL				DI corn
272			0.02		SOIL INGESTION % of GRASS INTAKE				SI
273			12.97		TOTAL FEED INTAKE Kg/day				TI
274			0.067	0.037	CONSUMPTION RATE OF BEEF PER DAY Kg/day				CRb
275			0.015	0.009	CONSUMPTION RATE OF BEEF FAT PER DAY Kg/day				CRbf
276			1	1	FRACTION OF BEEF CONSUMED FROM RURAL SOURCE.				HG
277			70	15.5	ADULT WEIGHT Kg				WT
278									
279					C diet = (SUM(C feedx*DIx)+(C soil*SI*DI GRASS))/(1+(SI*DI GRASS))				

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	E	F	G	H	I	J
284			TABLE 25					
285		BASE CASE	DERMAL EXPOSURE CHILD					
286			C soil	C soil	AF	EDI	EDI	
287			AVERAGE	MAXIMUM		AVERAGE	MAXIMUM	
288		18-Jun-91	CALCULATED	CALCULATED	ABSORPTION	ESTIMATED	ESTIMATED	
289		15:15:33	CONC IN	CONC IN	FACTOR	DAILY	DAILY	
290			SOIL	SOIL		INTAKE	INTAKE	
291			.1M	.1M		mg/Kg/day	mg/Kg/day	
292			mg/Kg	mg/Kg				
293								
294								
295								
296	ORGANICS							
297		Acetonitrile	4.73E-09	4.80E-09	1.00E-01	2.08E-14	2.11E-14	
298		Aldrin	7.35E-15	7.45E-15	1.00E-01	3.23E-20	3.28E-20	
299		Aniline	2.66E-10	2.70E-10	1.00E-01	1.17E-15	1.19E-15	
300		Atrazine	1.64E-12	1.67E-12	1.00E-01	7.22E-18	7.33E-18	
301		Benzaldehyde	1.21E-10	1.23E-10	1.00E-01	5.33E-16	5.40E-16	
302		Benzofuran	5.89E-10	5.98E-10	1.00E-01	2.59E-15	2.63E-15	
303		Benzoic Acid	5.94E-11	6.02E-11	1.00E-01	2.61E-16	2.65E-16	
304		Benzonitrile	1.29E-09	1.31E-09	1.00E-01	5.69E-15	5.77E-15	
305		Benzothiazole	5.52E-13	5.60E-13	1.00E-01	2.43E-18	2.46E-18	
306		Bis(2-ethylhexyl)phthalate	3.26E-13	3.31E-13	1.00E-01	1.43E-18	1.45E-18	
307		Carbazole	2.66E-12	2.70E-12	1.00E-01	1.17E-17	1.19E-17	
308		4-Chloroaniline	1.52E-13	1.55E-13	1.00E-01	6.69E-19	6.79E-19	
309		4-Chlorobiphenyl	3.75E-13	3.81E-13	1.00E-01	1.65E-18	1.67E-18	
310		4,4-Chlorobiphenyl	1.89E-14	1.92E-14	1.00E-01	8.30E-20	8.42E-20	
311		Chloroethane	1.34E-11	1.36E-11	1.00E-01	5.91E-17	6.00E-17	
312		Dibenzofuran	1.18E-11	1.20E-11	1.00E-01	5.20E-17	5.27E-17	
313		1,2-Dichloroethane	1.36E-12	1.38E-12	1.00E-01	5.98E-18	6.07E-18	
314		Dieldrin	1.35E-14	1.37E-14	1.00E-01	5.93E-20	6.01E-20	
315		Hexachlorobenzene	3.57E-11	3.62E-11	1.00E-01	1.57E-16	1.59E-16	
316		Hydrazine	4.61E-08	4.67E-08	1.00E-01	2.02E-13	2.05E-13	
317		Lindane	6.27E-15	6.36E-15	1.00E-01	2.75E-20	2.79E-20	
318		Malathion	1.85E-14	1.88E-14	1.00E-01	8.13E-20	8.25E-20	
319		Methyl ethyl ketone	2.29E-12	2.32E-12	1.00E-01	1.00E-17	1.02E-17	
320		4-Methylphenol	2.08E-12	2.11E-12	1.00E-01	9.12E-18	9.25E-18	
321		Monomethyl hydrazine	1.45E-08	1.47E-08	1.00E-01	6.38E-14	6.48E-14	
322		Naphthalene	2.45E-13	2.48E-13	1.00E-01	1.08E-18	1.09E-18	
323		Naphthalene carbonitrile	1.29E-09	1.31E-09	1.00E-01	5.69E-15	5.77E-15	
324		n-Nitrosodimethylamine	1.48E-11	1.50E-11	1.00E-01	6.49E-17	6.59E-17	
325		PAHs						
326		Acenaphthalene	5.89E-11	5.98E-11	1.00E-01	2.59E-16	2.63E-16	
327		Acenaphthene	5.89E-11	5.98E-11	1.00E-01	2.59E-16	2.63E-16	
328		Benzo(a)pyrene	1.18E-10	1.20E-10	1.00E-01	5.20E-16	5.27E-16	
329		Chrysene	1.18E-11	1.20E-11	1.00E-01	5.20E-17	5.27E-17	
330		Dibenzo(a,h)anthracene	1.18E-10	1.20E-10	1.00E-01	5.20E-16	5.27E-16	
331		Fluoranthene	1.18E-10	1.20E-10	1.00E-01	5.20E-16	5.27E-16	
332		Fluorene	1.18E-11	1.20E-11	1.00E-01	5.20E-17	5.27E-17	
333		Phenanthrene	4.61E-14	4.67E-14	1.00E-01	2.02E-19	2.05E-19	
334		Pyrene	2.37E-10	2.40E-10	1.00E-01	1.04E-15	1.05E-15	
335		Parathion	2.93E-14	2.97E-14	1.00E-01	1.29E-19	1.31E-19	
336		Pentachlorobenzene	1.45E-11	1.47E-11	1.00E-01	6.38E-17	6.48E-17	
337		Phenol	2.32E-13	2.36E-13	1.00E-01	1.02E-18	1.04E-18	
338		Quinoline	1.33E-11	1.35E-11	1.00E-01	5.85E-17	5.94E-17	
339		Tetrachlorobenzene	7.14E-12	7.24E-12	1.00E-01	3.14E-17	3.18E-17	
340		Trichlorobenzene	3.61E-12	3.67E-12	1.00E-01	1.59E-17	1.61E-17	
341		Unsym. dimethyl hydrazine	5.73E-08	5.81E-08	1.00E-01	2.52E-13	2.55E-13	
342		Vapona	1.16E-13	1.17E-13	1.00E-01	5.09E-19	5.16E-19	
343								

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	E	F	G	H	I	J
284	B							
285	BASE CASE		TABLE 25					
344	INORGANICS							
345	Arsenic		1.56E-09	1.58E-09	1.00E-02	6.86E-16	6.96E-16	
346	Cadmium		9.05E-12	9.18E-12	1.00E-02	3.98E-18	4.03E-18	
347	Mercury		5.85E-11	5.94E-11	1.00E-02	2.57E-17	2.61E-17	
348								
349			195	Number of exposure events per year (events/yr.)				NE
350			2500	Exposed surface area (cm2/event)				ESA
351			0.51	Skin adherence factor for soil (mg/cm2)				SAF
352			1	Soil matrix factor				SMF
353			15.5	Body weight (Kg)				BW
354			365	Days/yr				DAYR
355			1000000	mg/Kg				mgKg
356								
357			EDI = Csoil*AF*SAF*ESA*NE*SMF/BW/mgKg/DAYR					

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	K	L	M	N	O
	BASE CASE		TABLE 26				
			DERMAL EXPOSURE	ADULT			
			C soil	C soil	AF	EDI	EDI
		18-Jun-91	AVERAGE	MAXIMUM		AVERAGE	MAXIMUM
		15:15:33	CALCULATED	CALCULATED	ABSORPTION	ESTIMATED	ESTIMATED
			CONC IN	CONC IN	FACTOR	DAILY	DAILY
			SOIL	SOIL		INTAKE	INTAKE
			.2M	.2M		mg/Kg/day	mg/Kg/day
			mg/Kg	mg/Kg			
	ORGANICS						
	Acetonitrile		2.37E-09	2.40E-09	1.00E-01	1.22E-14	1.24E-14
	Aldrin		3.67E-15	3.73E-15	1.00E-01	1.89E-20	1.92E-20
	Aniline		1.33E-10	1.35E-10	1.00E-01	6.85E-16	6.95E-16
	Atrazine		8.22E-13	8.34E-13	1.00E-01	4.23E-18	4.29E-18
	Benzaldehyde		6.06E-11	6.15E-11	1.00E-01	3.12E-16	3.17E-16
	Benzofuran		2.95E-10	2.99E-10	1.00E-01	1.52E-15	1.54E-15
	Benzoic Acid		2.97E-11	3.01E-11	1.00E-01	1.53E-16	1.55E-16
	Benzonitrile		6.47E-10	6.57E-10	1.00E-01	3.34E-15	3.38E-15
	Benzothiazole		2.76E-13	2.80E-13	1.00E-01	1.42E-18	1.44E-18
	Bis(2-ethylhexyl)phthalate		1.63E-13	1.65E-13	1.00E-01	8.39E-19	8.51E-19
	Carbazole		1.33E-12	1.35E-12	1.00E-01	6.85E-18	6.95E-18
	4-Chloroaniline		7.62E-14	7.73E-14	1.00E-01	3.92E-19	3.98E-19
	4-Chlorobiphenyl		1.88E-13	1.90E-13	1.00E-01	9.66E-19	9.80E-19
	4,4-Chlorobiphenyl		9.44E-15	9.58E-15	1.00E-01	4.86E-20	4.93E-20
	Chloroethane		6.72E-12	6.82E-12	1.00E-01	3.46E-17	3.51E-17
	Dibenzofuran		5.91E-12	6.00E-12	1.00E-01	3.05E-17	3.09E-17
	1,2-Dichloroethane		6.81E-13	6.91E-13	1.00E-01	3.51E-18	3.56E-18
	Dieldrin		6.74E-15	6.84E-15	1.00E-01	3.47E-20	3.52E-20
	Hexachlorobenzene		1.78E-11	1.81E-11	1.00E-01	9.18E-17	9.32E-17
	Hydrazine		2.30E-08	2.34E-08	1.00E-01	1.19E-13	1.20E-13
	Lindane		3.13E-15	3.18E-15	1.00E-01	1.61E-20	1.64E-20
	Malathion		9.26E-15	9.39E-15	1.00E-01	4.77E-20	4.84E-20
	Methyl ethyl ketone		1.14E-12	1.16E-12	1.00E-01	5.89E-18	5.98E-18
	4-Methylphenol		1.04E-12	1.05E-12	1.00E-01	5.35E-18	5.42E-18
	Monomethyl hydrazine		7.26E-09	7.37E-09	1.00E-01	3.74E-14	3.80E-14
	Naphthalene		1.22E-13	1.24E-13	1.00E-01	6.31E-19	6.40E-19
	Naphthalene carbonitrile		6.47E-10	6.57E-10	1.00E-01	3.34E-15	3.38E-15
	n-Nitrosodimethylamine		7.39E-12	7.49E-12	1.00E-01	3.81E-17	3.86E-17
	PAHs						
	Acenaphthalene		2.95E-11	2.99E-11	1.00E-01	1.52E-16	1.54E-16
	Acenaphthene		2.95E-11	2.99E-11	1.00E-01	1.52E-16	1.54E-16
	Benzo(a)pyrene		5.91E-11	6.00E-11	1.00E-01	3.05E-16	3.09E-16
	Chrysene		5.91E-12	6.00E-12	1.00E-01	3.05E-17	3.09E-17
	Dibenzo(a,h)anthracene		5.91E-11	6.00E-11	1.00E-01	3.05E-16	3.09E-16
	Fluoranthene		5.91E-11	6.00E-11	1.00E-01	3.05E-16	3.09E-16
	Fluorene		5.91E-12	6.00E-12	1.00E-01	3.05E-17	3.09E-17
	Phenanthrene		2.30E-14	2.34E-14	1.00E-01	1.19E-19	1.20E-19
	Pyrene		1.18E-10	1.20E-10	1.00E-01	6.09E-16	6.18E-16
	Parathion		1.47E-14	1.49E-14	1.00E-01	7.55E-20	7.66E-20
	Pentachlorobenzene		7.26E-12	7.37E-12	1.00E-01	3.74E-17	3.80E-17
	Phenol		1.16E-13	1.18E-13	1.00E-01	5.99E-19	6.07E-19
	Quinoline		6.66E-12	6.76E-12	1.00E-01	3.43E-17	3.48E-17
	Tetrachlorobenzene		3.57E-12	3.62E-12	1.00E-01	1.84E-17	1.87E-17
	Trichlorobenzene		1.81E-12	1.83E-12	1.00E-01	9.31E-18	9.45E-18
	Unsym. dimethyl hydrazine		2.86E-08	2.91E-08	1.00E-01	1.48E-13	1.50E-13
	Vapona		5.79E-14	5.87E-14	1.00E-01	2.98E-19	3.03E-19

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	K	L	M	N	O	
284	B	C	K	L	M	N	O	
285	BASE CASE		TABLE 26					
344	INORGANICS							
345	Arsenic		7.80E-10	7.92E-10	1.00E-02	4.02E-16	4.08E-16	
346	Cadmium		4.52E-12	4.59E-12	1.00E-02	2.33E-18	2.36E-18	
347	Mercury		2.93E-11	2.97E-11	1.00E-02	1.51E-17	1.53E-17	
348								
349			195	Number of exposure events per year (events/yr)				NE
350			4500	Exposed surface area (cm2/event)				ESA
351			1.5	Skin adherence factor for soil (mg/cm2)				SAF
352			1	Soil matrix factor				SMF
353			70	Body weight (Kg)				BW
354			365	Days/yr				DAYR
355			1000000	mg/Kg				mgKg
356								
357			EDI = Csoil*AF*SAF*ESA*NE*SMF/BW/mgKg/DAYR					

	B	C	D	E	F	G
	BASE CASE		TABLE 27			
			FISH INGESTION			
		18-Jun-91 15:15:33	C water SURFACE WATER CONCENTRAT. mg/L	BCF BIO. CONC. FACTOR	EDI ADULT ESTIMATED DAILY INTAKE mg/kg/day	EDI CHILD ESTIMATED DAILY INTAKE mg/kg/day
	ORGANICS					
	Acetonitrile		1.87E-14	0.06	7.76E-21	1.75E-20
	Aldrin		1.45E-23	28	2.81E-27	6.34E-27
	Aniline		5.60E-15	6.03	2.33E-19	5.27E-19
	Atrazine		3.15E-20	0	0.00E+00	0.00E+00
	Benzaldehyde		4.54E-16	8	2.51E-20	5.67E-20
	Benzofuran		1.27E-15	63	5.53E-19	1.25E-18
	Benzoic Acid		2.05E-16	15.5	2.20E-20	4.96E-20
	Benzonitrile		4.80E-15	9	2.99E-19	6.74E-19
	Benzothiazole		1.83E-20	19.843	2.51E-24	5.67E-24
	Bis(2-ethylhexyl)phthalate		5.53E-22	850	3.25E-24	7.34E-24
	Carbazole		2.57E-18	186	3.31E-21	7.46E-21
	4-Chloroaniline		9.43E-18	14.5	9.45E-22	2.13E-21
	4-Chlorobiphenyl		8.32E-20	590	3.39E-22	7.66E-22
	4,4-Chlorobiphenyl		3.84E-21	215	5.71E-24	1.29E-23
	Chloroethane		5.03E-19	5.5	1.91E-23	4.32E-23
	Dibenzofuran		3.97E-18	796.5	2.19E-20	4.94E-20
	1,2-Dichloroethane		4.14E-18	2	5.73E-23	1.29E-22
	Dieldrin		2.69E-23	5800	1.08E-24	2.44E-24
	Hexachlorobenzene		7.16E-18	8690	4.30E-19	9.71E-19
	Hydrazine		1.82E-15	2.8	3.52E-20	7.96E-20
	Lindane		5.26E-23	130	4.73E-26	1.07E-25
	Malathion		3.10E-22	0	0.00E+00	0.00E+00
	Methyl ethyl ketone		9.04E-20	0	0.00E+00	0.00E+00
	4-Methylphenol		2.18E-19	18	2.71E-23	6.13E-23
	Monomethyl hydrazine		5.76E-16	2.8	1.12E-20	2.52E-20
	Naphthalene		4.99E-17	430	1.48E-19	3.35E-19
	Naphthalene carbonitrile		1.15E-15	430	3.42E-18	7.72E-18
	n-Nitrosodimethylamine		5.08E-19	0	0.00E+00	0.00E+00
	PAHs					
	Acenaphthalene		2.08E-17	730	1.05E-19	2.37E-19
	Acenaphthene		2.43E-17	242	4.07E-20	9.18E-20
	Benzo(a)pyrene		2.18E-17	930	1.40E-19	3.17E-19
	Chrysene		2.23E-18	23000	3.55E-19	8.01E-19
	Dibenzo(a,h)anthracene		2.21E-17	520000	7.95E-17	1.79E-16
	Fluorene		3.25E-18	1300	2.92E-20	6.60E-20
	Phenanthrene		5.53E-18	2630	1.01E-19	2.27E-19
	Pyrene		4.55E-17	5100	1.60E-18	3.62E-18
	Parathion		1.37E-22	335	3.17E-25	7.17E-25
	Quinoline		4.37E-17	21	6.35E-21	1.43E-20
	Trichlorobenzene		1.40E-18	991	9.59E-21	2.17E-20
	Unsym. dimethyl hydrazine		2.27E-15	2.8	4.39E-20	9.92E-20
	Vapona		4.37E-21	7.0	2.12E-25	4.78E-25
	INORGANICS					
	Arsenic		1.80E-13	350	4.36E-15	9.84E-15
	Copper		6.47E-15	1183	5.29E-16	1.20E-15
	Zinc		5.07E-14	578	2.03E-15	4.58E-15

	B	C	D	E	F	G
359						
360		BASE CASE	TABLE 27			
419						
420						
421			CHILD	ADULT		
422			2.42	4.84	FISH INGESTION RATE g/day	
423			15.5	70	ADULT BODY WEIGHT KG	
424			1000	1000	g/KG	
425			0.1	0.1	Fraction lipid in fillet	

TABLE 28
CARCINOGENIC SLOPE FACTORS ((mg/kg-day)-1)

FARM BASE CASE	Inhalation Slope Factor	Oral Slope Factor	Dermal Slope Factor
ORGANICS			
Acrylonitrile	2.40E-01	5.40E-01	NC
Aldrin	1.70E+01	1.70E+01	3.40E+01
Aniline	5.70E-03	5.70E-03	1.14E-02
Benzene	2.90E-02	2.90E-02	NC
Bis(2-ethylhexyl)phthalate	1.40E-02	1.40E-02	2.80E-02
Carbazole	2.00E-02	2.00E-02	4.00E-02
Carbon Tetrachloride	1.30E-01	1.30E-01	NC
Chloroform	8.10E-02	6.10E-03	NC
1,4-Dichlorobenzene	2.40E-02	2.40E-02	NC
1,1-Dichloroethane			
1,2-Dichloroethane	9.10E-02	9.10E-02	1.82E-01
1,1-Dichloroethene	1.20E+00	6.00E-01	NC
1,2-Dichloropropane	6.80E-02	6.80E-02	NC
Dieldrin	1.60E+01	1.60E+01	3.20E+01
Hexachlorobenzene	1.60E+00	1.60E+00	3.20E+00
Hydrazine	1.71E+01	3.00E+00	6.00E+00
Lindane	1.30E+00	1.30E+00	2.60E+00
Methyl chloride	6.30E-03	1.30E-02	NC
Methylene chloride	1.40E-02	7.50E-03	NC
4-Methylphenol			
Monomethyl hydrazine	1.10E+00	1.10E+00	2.20E+00
n-Nitrosodimethylamine	5.10E+01	5.10E+01	1.02E+02
PAHs			
Benzo(a)pyrene	6.10E+00	1.15E+01	2.30E+01
Chrysene	6.10E+00	1.15E+01	2.30E+01
Dibenzo(a,h)anthracene	6.10E+00	1.15E+01	2.30E+01
Parathion			
Quinoline	1.20E+01	1.20E+01	2.40E+01
Tetrachloroethene	3.30E-03	5.10E-02	NC
Trichloroethene	1.10E-02	1.10E-02	NC
Vapona	2.90E-01	2.90E-01	5.80E-01
Vinyl chloride	2.95E-01	2.30E+00	NC
INORGANICS			
Arsenic	1.50E+01	1.75E+00	3.50E+01
Cadmium	6.10E+00	NC	NC
Chromium (VI)	4.10E+01	NC	NC
Total			

AED Adult Exposure Duration	64
CED Child Exposure Duration	5
CID Child Inhalation Duration	1
IED Infant Exposure Duration	1
IID Infant Inhalation Duration	1

TABLE 29
ADULT CARCINOGENIC RISK

FARM BASE CASE	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL ADULT CARC. RISK
ORGANICS							
Acrylonitrile	NA	NA	NA	NA	NA	NA	NA
Aldrin	5.30E-16	1.49E-17	2.24E-18	1.63E-19	4.36E-26	5.88E-19	5.48E-16
Aniline	1.00E-15	4.61E-20	1.81E-20	1.98E-18	1.22E-21	7.14E-18	1.01E-15
Benzene	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	1.47E-17	1.03E-17	1.23E-18	5.96E-21	4.16E-26	2.15E-20	2.62E-17
Carbazole	1.41E-17	1.67E-20	6.44E-21	6.95E-20	6.04E-23	2.51E-19	1.45E-17
Carbon Tetrachloride	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	3.13E-16	6.61E-21	2.59E-21	1.62E-19	4.76E-24	5.83E-19	3.14E-16
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA
Dieldrin	6.16E-15	2.50E-18	5.89E-19	2.82E-19	1.58E-23	1.02E-18	6.17E-15
Hexachlorobenzene	1.53E-14	2.13E-16	6.42E-17	7.45E-17	6.29E-19	2.69E-16	1.59E-14
Hydrazine	3.92E-08	8.95E-17	3.51E-17	1.81E-13	9.66E-20	6.51E-13	3.92E-08
Lindane	2.60E-18	2.59E-21	9.96E-22	1.06E-20	5.62E-26	3.84E-20	2.65E-18
Methyl chloride	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	1.69E-09	1.03E-17	4.06E-18	2.09E-14	1.12E-20	7.53E-14	1.70E-09
n-Nitrosodimethylamine	1.71E-10	4.97E-18	1.95E-18	9.84E-16	0.00E+00	3.55E-15	1.71E-10
PAHs							
Benzo(a)pyrene	1.92E-14	2.32E-14	5.01E-15	1.78E-15	1.47E-18	6.41E-15	5.56E-14
Chrysene	1.61E-14	8.11E-16	2.22E-16	1.78E-16	3.73E-18	6.41E-16	1.80E-14
Dibenzo(a,h)anthracene	3.55E-14	2.69E-14	5.62E-15	1.78E-15	8.35E-16	6.41E-15	7.70E-14
Parathion	NE	NE	NE	NE	NE	NE	NE
Quinoline	1.16E-13	1.46E-17	5.69E-18	2.09E-16	6.96E-20	7.53E-16	1.17E-13
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Vapona	1.30E-17	1.66E-21	6.49E-22	4.39E-20	5.61E-26	1.58E-19	1.33E-17
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA
INORGANICS							
Arsenic	3.95E-15	6.47E-14	8.48E-16	3.57E-15	6.97E-15	1.29E-14	9.29E-14
Cadmium	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	NA	NA	NA	NA	NA	NA	NA
Total	4.11E-08	1.16E-13	1.18E-14	2.10E-13	7.81E-15	7.57E-13	4.11E-08

TABLE 30
CHILD CARCINOGENIC RISK

FARM BASE CASE	INHALATION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL CHILD CARC. RISK
ORGANICS								
Acrylonitrile	1.31E-14	NA	NA	NA	NA	NA	NA	1.31E-14
Aldrin	3.38E-18	8.90E-17	6.70E-18	4.36E-19	1.15E-19	7.70E-27	7.84E-20	9.98E-17
Aniline	4.11E-17	1.67E-16	2.08E-20	3.52E-21	1.40E-18	2.15E-22	9.52E-19	2.11E-16
Benzene	1.20E-18	NA	NA	NA	NA	NA	NA	1.20E-18
Bis(2-ethylhexyl)phthalate	1.24E-19	2.47E-18	4.64E-18	2.39E-19	4.20E-21	7.34E-27	2.86E-21	7.48E-18
Carbazole	1.44E-18	2.37E-18	7.55E-21	1.26E-21	4.90E-20	1.07E-23	3.34E-20	3.90E-18
Carbon Tetrachloride	2.72E-17	NA	NA	NA	NA	NA	NA	2.72E-17
Chloroform	1.44E-16	NA	NA	NA	NA	NA	NA	1.44E-16
1,4-Dichlorobenzene	6.26E-20	NA	NA	NA	NA	NA	NA	6.26E-20
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	3.36E-18	5.26E-17	2.98E-21	5.04E-22	1.14E-19	8.40E-25	7.78E-20	5.61E-17
1,1-Dichloroethene	7.58E-17	NA	NA	NA	NA	NA	NA	7.58E-17
1,2-Dichloropropane	1.59E-18	NA	NA	NA	NA	NA	NA	1.59E-18
Dieldrin	5.85E-18	1.04E-15	1.13E-18	1.15E-19	1.99E-19	2.78E-24	1.35E-19	1.04E-15
Hexachlorobenzene	1.55E-15	2.57E-15	9.60E-17	1.25E-17	5.26E-17	1.11E-19	3.58E-17	4.31E-15
Hydrazine	2.13E-11	6.56E-09	4.04E-17	6.84E-18	1.27E-13	1.70E-20	8.68E-14	6.59E-09
Lindane	2.21E-19	4.36E-19	1.17E-21	1.94E-22	7.51E-21	9.91E-27	5.11E-21	6.71E-19
Methyl chloride	3.09E-19	NA	NA	NA	NA	NA	NA	3.09E-19
Methylene chloride	4.14E-17	NA	NA	NA	NA	NA	NA	4.14E-17
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	4.33E-13	2.82E-10	4.67E-18	7.90E-19	1.47E-14	1.98E-21	1.00E-14	2.83E-10
n-Nitrosodimethylamine	2.04E-14	2.87E-11	2.24E-18	3.80E-19	6.95E-16	0.00E+00	4.73E-16	2.87E-11
PAHs								
Benzo(a)pyrene	1.95E-14	3.20E-15	1.05E-14	9.77E-16	1.25E-15	2.60E-19	8.54E-16	3.63E-14
Chrysene	1.95E-15	2.71E-15	3.66E-16	4.32E-17	1.25E-16	6.58E-19	8.54E-17	5.29E-15
Dibenzo(a,h)anthracene	1.95E-14	5.94E-15	1.21E-14	1.09E-15	1.25E-15	1.47E-16	8.54E-16	4.10E-14
Parathion	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	4.33E-15	1.95E-14	6.57E-18	1.11E-18	1.47E-16	1.23E-20	1.00E-16	2.41E-14
Tetrachloroethene	2.23E-20	NA	NA	NA	NA	NA	NA	2.23E-20
Trichloroethene	7.93E-19	NA	NA	NA	NA	NA	NA	7.93E-19
Vapona	9.10E-19	2.18E-18	7.48E-22	1.27E-22	3.09E-20	9.89E-27	2.11E-20	3.14E-18
Vinyl chloride	1.22E-17	NA	NA	NA	NA	NA	NA	1.22E-17
INORGANICS								
Arsenic	6.34E-13	5.64E-16	2.92E-14	1.65E-16	2.52E-15	1.23E-15	1.71E-15	6.70E-13
Cadmium	1.50E-15	NA	NA	NA	NA	NA	NA	1.50E-15
Chromium (VI)	1.57E-15	NA	NA	NA	NA	NA	NA	1.57E-15
Total	2.25E-11	6.88E-09	5.23E-14	2.30E-15	1.48E-13	1.38E-15	1.01E-13	6.90E-09

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 31
INFANT CARCINOGENIC RISK

FARM BASE CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	TOTAL INFANT CARC. RISK
ORGANICS			
Acrylonitrile	8.57E-15	5.95E-17	8.63E-15
Aldrin	2.21E-18	6.48E-17	6.70E-17
Aniline	2.69E-17	1.27E-16	1.54E-16
Benzene	7.83E-19	9.06E-22	7.84E-19
Bis(2-ethylhexyl)phthalate	8.09E-20	2.32E-17	2.33E-17
Carbazole	9.43E-19	3.24E-18	4.19E-18
Carbon Tetrachloride	1.78E-17	3.09E-19	1.81E-17
Chloroform	9.42E-17	1.23E-19	9.43E-17
1,4-Dichlorobenzene	4.10E-20	7.11E-22	4.17E-20
1,1-Dichloroethane	NE	NE	NE
1,2-Dichloroethane	2.20E-18	2.37E-17	2.59E-17
1,1-Dichloroethene	4.96E-17	4.31E-19	5.01E-17
1,2-Dichloropropane	1.04E-18	1.81E-20	1.06E-18
Dieldrin	3.83E-18	3.68E-16	3.72E-16
Hexachlorobenzene	1.01E-15	8.23E-16	1.83E-15
Hydrazine	1.40E-11	2.27E-09	2.28E-09
Lindane	1.44E-19	5.22E-19	6.66E-19
Methyl chloride	2.02E-19	7.24E-21	2.09E-19
Methylene chloride	2.71E-17	2.52E-19	2.73E-17
4-Methylphenol	NE	NE	NE
Monomethyl hydrazine	2.83E-13	9.85E-11	9.88E-11
n-Nitrosodimethylamine	1.34E-14	9.88E-12	9.90E-12
PAHs			
Benzo(a)pyrene	1.28E-14	9.62E-14	1.09E-13
Chrysene	1.28E-15	7.93E-15	9.21E-15
Dibenzo(a,h)anthracene	1.28E-14	1.04E-13	1.17E-13
Parathion	NE	NE	NE
Quinoline	2.83E-15	1.40E-14	1.68E-14
Tetrachloroethene	1.46E-20	3.92E-21	1.85E-20
Trichloroethene	5.19E-19	9.01E-21	5.28E-19
Vapona	5.95E-19	2.28E-18	2.88E-18
Vinyl chloride	7.97E-18	1.08E-18	9.05E-18
INORGANICS			
Arsenic	4.15E-13	NA	4.15E-13
Cadmium	9.79E-16	NA	9.79E-16
Chromium (VI)	1.03E-15	NA	1.03E-15
Total	1.47E-11	2.38E-09	2.39E-09

TABLE 32
TOTAL LIFETIME CARCINOGENIC RISK

FARM BASE CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS									
Acrylonitrile	2.17E-14	5.95E-17	NA	NA	NA	NA	NA	NA	2.17E-14
Aldrin	5.60E-18	6.48E-17	6.19E-16	2.16E-17	2.67E-18	2.78E-19	5.13E-26	6.67E-19	7.14E-16
Aniline	6.80E-17	1.27E-16	1.17E-15	6.69E-20	2.16E-20	3.38E-18	1.43E-21	8.09E-18	1.38E-15
Benzene	1.98E-18	9.06E-22	NA	NA	NA	NA	NA	NA	1.98E-18
Bis(2-ethylhexyl)phthalate	2.04E-19	2.32E-17	1.72E-17	1.49E-17	1.47E-18	1.02E-20	4.89E-26	2.43E-20	5.70E-17
Carbazole	2.38E-18	3.24E-18	1.65E-17	2.43E-20	7.70E-21	1.19E-19	7.11E-23	2.84E-19	2.26E-17
Carbon Tetrachloride	4.50E-17	3.09E-19	NA	NA	NA	NA	NA	NA	4.53E-17
Chloroform	2.38E-16	1.23E-19	NA	NA	NA	NA	NA	NA	2.38E-16
1,4-Dichlorobenzene	1.04E-19	7.11E-22	NA	NA	NA	NA	NA	NA	1.04E-19
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	5.55E-18	2.37E-17	3.66E-16	9.59E-21	3.09E-21	2.76E-19	5.60E-24	6.61E-19	3.96E-16
1,1-Dichloroethene	1.25E-16	4.31E-19	NA	NA	NA	NA	NA	NA	1.26E-16
1,2-Dichloropropane	2.63E-18	1.81E-20	NA	NA	NA	NA	NA	NA	2.65E-18
Dieldrin	9.67E-18	3.68E-16	7.20E-15	3.63E-18	7.04E-19	4.81E-19	1.86E-23	1.15E-18	7.58E-15
Hexachlorobenzene	2.56E-15	8.23E-16	1.79E-14	3.09E-16	7.67E-17	1.27E-16	7.40E-19	3.04E-16	2.20E-14
Hydrazine	3.53E-11	2.27E-09	4.58E-08	1.30E-16	4.19E-17	3.08E-13	1.14E-19	7.38E-13	4.81E-08
Lindane	3.65E-19	5.22E-19	3.04E-18	3.76E-21	1.19E-21	1.82E-20	6.61E-26	4.35E-20	3.99E-18
Methyl chloride	5.11E-19	7.24E-21	NA	NA	NA	NA	NA	NA	5.18E-19
Methylene chloride	6.85E-17	2.52E-19	NA	NA	NA	NA	NA	NA	6.87E-17
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	7.16E-13	9.85E-11	1.98E-09	1.50E-17	4.85E-18	3.56E-14	1.32E-20	8.53E-14	2.08E-09
n-Nitrosodimethylamine	3.38E-14	9.88E-12	1.99E-10	7.21E-18	2.33E-18	1.68E-15	0.00E+00	4.02E-15	2.09E-10
PAHs									
Benzo(a)pyrene	3.23E-14	9.62E-14	2.24E-14	3.37E-14	5.99E-15	3.03E-15	1.73E-18	7.26E-15	2.01E-13
Chrysene	3.23E-15	7.93E-15	1.89E-14	1.18E-15	2.65E-16	3.03E-16	4.39E-18	7.26E-16	3.25E-14
Dibenzo(a,h)anthracene	3.23E-14	1.04E-13	4.14E-14	3.90E-14	6.71E-15	3.03E-15	9.83E-16	7.26E-15	2.35E-13
Parathion	NE	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	7.17E-15	1.40E-14	1.36E-13	2.11E-17	6.80E-18	3.56E-16	8.19E-20	8.53E-16	1.58E-13
Tetrachloroethene	3.69E-20	3.92E-21	NA	NA	NA	NA	NA	NA	4.08E-20
Trichloroethene	1.31E-18	9.01E-21	NA	NA	NA	NA	NA	NA	1.32E-18
Vapona	1.51E-18	2.28E-18	1.52E-17	2.41E-21	7.76E-22	7.48E-20	6.60E-26	1.79E-19	1.93E-17
Vinyl chloride	2.01E-17	1.08E-18	NA	NA	NA	NA	NA	NA	2.12E-17
INORGANICS									
Arsenic	1.05E-12	NA	4.52E-15	9.39E-14	1.01E-15	6.08E-15	8.20E-15	1.46E-14	1.18E-12
Cadmium	2.47E-15	NA	NA	NA	NA	NA	NA	NA	2.47E-15
Chromium (VI)	2.59E-15	NA	NA	NA	NA	NA	NA	NA	2.59E-15
Total	3.72E-11	2.38E-09	4.79E-08	1.68E-13	1.41E-14	3.58E-13	9.19E-15	8.58E-13	5.04E-08

TABLE 33
TOTAL LIFETIME CARCINOGENIC RISK

FARM BASE CASE	INHALATION CARC. RISK	INGESTION CARC. RISK	DERMAL CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS				
Acrylonitrile	2.17E-14	5.95E-17	NA	2.17E-14
Aldrin	5.60E-18	7.08E-16	6.67E-19	7.14E-16
Aniline	6.80E-17	1.30E-15	8.09E-18	1.38E-15
Benzene	1.98E-18	9.06E-22	NA	1.98E-18
Bis(2-ethylhexyl)phthalate	2.04E-19	5.68E-17	2.43E-20	5.70E-17
Carbazole	2.38E-18	1.99E-17	2.84E-19	2.26E-17
Carbon Tetrachloride	4.50E-17	3.09E-19	NA	4.53E-17
Chloroform	2.38E-16	1.23E-19	NA	2.38E-16
1,4-Dichlorobenzene	1.04E-19	7.11E-22	NA	1.04E-19
1,1-Dichloroethane	NE	NE	NE	NE
1,2-Dichloroethane	5.55E-18	3.90E-16	6.61E-19	3.96E-16
1,1-Dichloroethene	1.25E-16	4.31E-19	NA	1.26E-16
1,2-Dichloropropane	2.63E-18	1.81E-20	NA	2.65E-18
Dieldrin	9.67E-18	7.57E-15	1.15E-18	7.58E-15
Hexachlorobenzene	2.56E-15	1.92E-14	3.04E-16	2.20E-14
Hydrazine	3.53E-11	4.80E-08	7.38E-13	4.81E-08
Lindane	3.65E-19	3.58E-18	4.35E-20	3.99E-18
Methyl chloride	5.11E-19	7.24E-21	NA	5.18E-19
Methylene chloride	6.85E-17	2.52E-19	NA	6.87E-17
4-Methylphenol	NE	NE	NE	NE
Monomethyl hydrazine	7.16E-13	2.08E-09	8.53E-14	2.08E-09
n-Nitrosodimethylamine	3.38E-14	2.09E-10	4.02E-15	2.09E-10
PAHs				
Benzo(a)pyrene	3.23E-14	1.61E-13	7.26E-15	2.01E-13
Chrysene	3.23E-15	2.85E-14	7.26E-16	3.25E-14
Dibenzo(a,h)anthracene	3.23E-14	1.95E-13	7.26E-15	2.35E-13
Parathion	NE	NE	NE	NE
Quinoline	7.17E-15	1.50E-13	8.53E-16	1.58E-13
Tetrachloroethene	3.69E-20	3.92E-21	NA	4.08E-20
Trichloroethene	1.31E-18	9.01E-21	NA	1.32E-18
Vapona	1.51E-18	1.76E-17	1.79E-19	1.93E-17
Vinyl chloride	2.01E-17	1.08E-18	NA	2.12E-17
INORGANICS				
Arsenic	1.05E-12	1.14E-13	1.46E-14	1.18E-12
Cadmium	2.47E-15	NA	NA	2.47E-15
Chromium (VI)	2.59E-15	NA	NA	2.59E-15
Total	3.72E-11	5.03E-08	8.58E-13	5.04E-08

TABLE 34
REFERENCE DOSES FOR NONCARCINOGENIC EFFECTS (mg/kg-day)

FARM BASE CASE	Inhalation RfD	Oral RfD	Dermal RfD
ORGANICS			
Acetone	1.82E+00	1.00E-01	NC
Acetonitrile	1.00E-02	6.00E-02	3.00E-02
Acrylonitrile	4.39E-03	2.70E-04	NC
Aldrin	2.55E-04	3.00E-05	1.50E-05
Aniline	7.76E-03	1.95E-03	9.75E-04
Atrazine	5.10E-03	5.00E-03	2.50E-03
Benzaldehyde	1.00E-01	1.00E-01	5.00E-02
Benzene	3.26E-02	1.00E-03	NC
Benzofuran	5.00E-03	5.00E-03	2.50E-03
Benzoic Acid	4.00E+00	4.00E+00	2.00E+00
Benzonitrile	8.00E-03	8.00E-03	4.00E-03
Benzothiazole	1.00E-03	1.00E-03	5.00E-04
Biphenyl	1.33E-03	5.00E-02	NC
Bis(2-ethylhexyl)phthalate	5.10E-03	4.00E-03	1.00E-02
Carbazole	5.00E-03	5.00E-03	2.50E-03
Carbon Tetrachloride	3.16E-02	7.00E-04	NC
4-Chloroaniline	4.00E-03	4.00E-03	2.00E-03
Chlorobenzene	5.00E-03	2.00E-02	NC
4-Chlorobiphenyl	2.45E-02	2.45E-02	1.22E-02
4,4-Chlorobiphenyl	2.33E-02	2.33E-02	1.16E-02
Chloroethane	2.65E+00	NA	NC
Chloroform	5.00E-02	1.00E-02	NC
Dibenzofuran	NA	NA	NA
Dichlorobenzenes (total)	4.00E-02	9.00E-02	NC
1,1-Dichloroethane	1.00E-01	1.00E-01	NC
1,2-Dichloroethane	4.08E-02	4.89E-03	2.45E-03
1,1-Dichloroethene	2.04E-02	9.00E-03	NC
1,2-Dichloroethene	8.10E-01	2.00E-02	NC
1,2-Dichloropropane	3.54E-01	8.60E-03	NC
Dieldrin	2.55E-04	5.00E-05	2.50E-05
Dimethyldisulfide	8.10E-03	8.10E-03	NC
Hexachlorobenzene	8.00E-04	8.00E-04	4.00E-04
Hydrazine	1.33E-04	6.00E-04	3.00E-04
Lindane	5.10E-04	3.00E-04	1.50E-04
Malathion	1.02E-02	2.00E-02	1.00E-02
Methyl chloride	1.05E-01	1.80E-02	NC
Methylene chloride	8.57E-01	6.00E-02	NC
Methyl ethyl ketone	9.00E-02	5.00E-01	2.50E-01
4-Methylphenol	1.02E-02	5.00E-02	2.50E-02
Monomethyl hydrazine	1.94E-05	2.20E-04	1.10E-04
Naphthalene	5.10E-02	4.00E-03	2.00E-03
Naphthalene carbonitrile	5.10E-02	4.00E-03	2.00E-03
n-Nitrosodimethylamine	2.80E-04	2.80E-04	1.40E-04
PAHs			
Acenaphthalene	6.00E-02	6.00E-02	3.00E-02
Acenaphthene	6.00E-02	6.00E-02	3.00E-02
Benzo(a)pyrene	3.00E-02	3.00E-02	1.50E-02
Chrysene	3.00E-02	3.00E-02	1.50E-02

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

	B	C	D	E	F
155			TABLE 34		
215		Dibenzo(a,h)anthracene	3.00E-02	3.00E-02	1.50E-02
216		Fluoranthene	4.00E-02	4.00E-02	2.00E-02
217		Fluorene	4.00E-02	4.00E-02	2.00E-02
218		Phenanthrene	3.00E-02	3.00E-02	1.50E-02
219		Pyrene	3.00E-02	3.00E-02	1.50E-02
220		Parathion	5.10E-05	6.00E-03	3.00E-03
221		Pentachlorobenzene	8.00E-04	8.00E-04	4.00E-04
222		Phenol	1.94E-02	6.00E-01	3.00E-01
223		Pyridine	1.63E-02	1.00E-03	NC
224		Quinoline	2.00E-01	2.00E-01	1.00E-01
225		Tetrachlorobenzene	3.00E-04	3.00E-04	1.50E-04
226		Tetrachloroethene	3.46E-01	1.00E-02	NC
227		Toluene	5.71E-01	2.00E-01	NC
228		Trichlorobenzene	3.00E-03	2.00E-02	1.00E-02
229		Trichloroethene	2.74E-01	7.35E-03	NC
230		Unsym. dimethyl hydrazine	1.22E-03	1.22E-03	6.10E-04
231		Vapona	8.00E-04	8.00E-04	4.00E-04
232		Vinyl acetate	2.00E-01	1.00E+00	NC
233		Vinyl chloride	1.33E-02	1.30E-03	NC
234		Xylenes (total)	8.57E-02	2.00E+00	NC
235					
236	INORGANICS				
237		Arsenic	2.04E-04	1.00E-03	5.00E-05
238		Cadmium	5.10E-05	1.00E-03	5.00E-05
239		Chromium (III)	5.10E-04	NC	NC
240		Chromium (VI)	5.10E-05	NC	NC
241		Copper	1.00E-02	3.80E-02	NC
242		Iron	1.02E-03	NC	NC
243		Mercury	8.57E-05	3.00E-04	1.50E-05
244		Selenium	2.04E-04	NC	NC
245		Silver	1.02E-05	NC	NC
246		Zinc	8.19E-03	2.00E-01	NC

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 35
ADULT HAZARD INDEX

FARM BASE CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL ADULT HAZARD INDEX
ORGANICS								
Acetone	2.41E-15	NA	NA	NA	NA	NA	NA	2.41E-15
Acetonitrile	3.97E-10	1.04E-09	8.07E-16	3.15E-16	1.14E-13	1.29E-19	4.12E-13	1.44E-09
Acrylonitrile	3.85E-10	NA	NA	NA	NA	NA	NA	3.85E-10
Aldrin	2.42E-14	1.16E-12	9.67E-13	1.10E-13	3.55E-16	9.36E-23	1.28E-15	2.26E-12
Aniline	2.88E-11	1.05E-10	4.77E-15	1.82E-15	1.98E-13	1.20E-16	7.13E-13	1.34E-10
Atrazine	2.71E-13	1.55E-13	8.66E-17	2.71E-17	4.76E-16	0.00E+00	1.72E-15	4.28E-13
Benzaldehyde	1.02E-12	5.26E-13	7.73E-17	2.87E-17	1.76E-15	2.51E-19	6.33E-15	1.55E-12
Benzene	3.92E-14	NA	NA	NA	NA	NA	NA	3.92E-14
Benzofuran	9.90E-11	5.58E-11	3.06E-14	9.60E-15	1.71E-13	1.11E-16	6.16E-13	1.56E-10
Benzoic Acid	1.25E-14	4.85E-15	1.45E-18	5.21E-19	2.15E-17	5.49E-21	7.75E-17	1.74E-14
Benzonitrile	1.36E-10	6.58E-11	1.13E-14	4.16E-15	2.35E-13	3.73E-17	8.46E-13	2.03E-10
Benzothiazole	4.64E-13	1.67E-13	6.33E-17	2.23E-17	8.00E-16	2.51E-21	2.88E-15	6.34E-13
Biphenyl	3.75E-10	NA	NA	NA	NA	NA	NA	3.75E-10
Bis(2-ethylhexyl)phthalate	5.37E-14	2.94E-13	6.85E-12	7.69E-13	1.18E-16	8.13E-22	8.51E-17	7.96E-12
Carbazole	4.47E-13	1.75E-13	3.43E-16	8.92E-17	7.71E-16	6.61E-19	2.78E-15	6.25E-13
Carbon Tetrachloride	2.05E-13	NA	NA	NA	NA	NA	NA	2.05E-13
4-Chloroaniline	3.20E-14	1.02E-14	3.56E-18	1.28E-18	5.52E-17	2.36E-19	1.99E-16	4.25E-14
Chlorobenzene	6.15E-14	NA	NA	NA	NA	NA	NA	6.15E-14
4-Chlorobiphenyl	1.29E-14	2.70E-15	2.15E-16	3.10E-17	2.22E-17	1.39E-20	8.04E-17	1.59E-14
4,4-Chlorobiphenyl	6.81E-16	1.16E-16	5.07E-17	6.39E-18	1.17E-18	2.45E-22	4.25E-18	8.59E-16
Chloroethane	4.26E-15	NE	NE	NE	NE	NE	NE	4.26E-15
Chloroform	1.10E-12	NA	NA	NA	NA	NA	NA	1.10E-12
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	3.20E-14	NA	NA	NA	NA	NA	NA	3.20E-14
1,1-Dichloroethane	3.66E-14	NA	NA	NA	NA	NA	NA	3.66E-14
1,2-Dichloroethane	2.80E-14	7.90E-13	1.78E-17	6.60E-18	4.03E-16	1.17E-20	1.45E-15	8.20E-13
1,1-Dichloroethene	9.60E-14	NA	NA	NA	NA	NA	NA	9.60E-14
1,2-Dichloroethene	2.09E-15	NA	NA	NA	NA	NA	NA	2.09E-15
1,2-Dichloropropane	2.05E-15	NA	NA	NA	NA	NA	NA	2.05E-15
Dieldrin	4.44E-14	8.55E-12	6.84E-14	8.09E-15	3.91E-16	2.16E-20	1.41E-15	8.68E-12
Dimethyldisulfide	3.84E-13	NA	NA	NA	NA	NA	NA	3.84E-13
Hexachlorobenzene	3.74E-11	1.47E-11	2.18E-12	2.79E-13	6.46E-14	5.38E-16	2.33E-13	5.49E-11
Hydrazine	2.91E-07	2.42E-05	5.52E-14	2.16E-14	1.11E-10	5.87E-17	4.01E-10	2.45E-05
Lindane	1.03E-14	8.09E-15	1.37E-17	3.54E-18	3.03E-17	1.58E-22	1.09E-16	1.86E-14
Malathion	1.52E-15	1.45E-16	3.26E-19	9.64E-20	1.34E-18	0.00E+00	4.84E-18	1.68E-15
Methyl chloride	1.45E-14	NA	NA	NA	NA	NA	NA	1.45E-14
Methylene chloride	1.07E-13	NA	NA	NA	NA	NA	NA	1.07E-13
Methyl ethyl ketone	2.13E-14	3.02E-14	8.43E-20	3.27E-20	6.63E-18	0.00E+00	2.39E-17	5.16E-14
4-Methylphenol	1.71E-13	4.97E-14	4.39E-18	1.56E-18	6.02E-17	5.43E-22	2.17E-16	2.21E-13
Monomethyl hydrazine	6.29E-07	7.77E-06	4.74E-14	1.86E-14	9.57E-11	5.07E-17	3.45E-10	8.40E-06
Naphthalene	4.03E-15	2.88E-14	4.35E-17	1.11E-17	8.87E-17	3.71E-17	3.20E-16	3.33E-14
Naphthalene carbonitrile	2.13E-11	1.52E-10	2.30E-13	5.85E-14	4.69E-13	8.55E-16	1.69E-12	1.76E-10
n-Nitrosodimethylamine	4.43E-11	1.33E-08	3.88E-16	1.52E-16	7.65E-14	0.00E+00	2.76E-13	1.33E-08
PAHs								
Acenaphthalene	8.25E-13	5.33E-13	2.52E-15	4.81E-16	1.42E-15	1.75E-18	5.13E-15	1.37E-12
Acenaphthene	8.25E-13	2.47E-13	1.89E-15	3.84E-16	1.42E-15	6.78E-19	5.13E-15	1.08E-12
Benzo(a)pyrene	3.31E-12	1.93E-13	1.65E-12	1.93E-13	5.71E-15	4.67E-18	2.06E-14	5.37E-12
Chrysene	3.31E-13	6.51E-14	3.95E-14	4.85E-15	5.71E-16	1.18E-17	2.06E-15	4.43E-13

	B	C	H	I	J	K	L	M	N	O
155			TABLE 35							
156										
215		Dibenzo(a,h)anthracene	3.31E-12	2.45E-13	1.98E-12	2.30E-13	5.71E-15	2.65E-15	2.06E-14	5.80E-12
216		Fluoranthene	2.48E-12	8.43E-13	8.33E-14	1.12E-14	4.29E-15	NA	1.55E-14	3.44E-12
217		Fluorene	2.48E-13	9.86E-14	1.40E-15	2.38E-16	4.29E-16	7.30E-19	1.55E-15	3.51E-13
218		Phenanthrene	1.29E-15	3.87E-16	1.07E-17	1.71E-18	2.23E-18	3.35E-18	8.03E-18	1.70E-15
219		Pyrene	6.62E-12	2.12E-12	2.03E-13	2.75E-14	1.14E-14	5.35E-17	4.12E-14	9.02E-12
220		Parathion	4.83E-13	1.27E-15	7.68E-18	1.63E-18	7.08E-18	5.29E-23	2.55E-17	4.84E-13
221		Pentachlorobenzene	1.52E-11	1.10E-11	3.76E-13	5.19E-14	2.63E-14	NA	9.49E-14	2.68E-11
222		Phenol	1.01E-14	1.09E-15	2.42E-20	9.00E-21	5.61E-19	NA	2.02E-18	1.12E-14
223		Pyridine	6.67E-11	NA	NA	NA	NA	NA	NA	6.67E-11
224		Quinoline	5.59E-14	5.59E-14	7.82E-18	2.75E-18	9.65E-17	3.17E-20	3.48E-16	1.12E-13
225		Tetrachlorobenzene	2.00E-11	3.25E-11	1.10E-13	1.88E-14	3.45E-14	NA	1.24E-13	5.27E-11
226		Tetrachloroethene	6.05E-16	NA	NA	NA	NA	NA	NA	6.05E-16
227		Toluene	5.85E-15	NA	NA	NA	NA	NA	NA	5.85E-15
228		Trichlorobenzene	1.01E-12	2.83E-14	3.90E-16	7.72E-17	2.62E-16	4.80E-19	9.45E-16	1.04E-12
229		Trichloroethene	8.15E-15	NA	NA	NA	NA	NA	NA	8.15E-15
230		Unsym. dimethyl hydrazine	3.94E-08	7.12E-06	6.39E-14	2.50E-14	6.80E-11	3.60E-17	2.45E-10	7.15E-06
231		Vapona	1.22E-13	6.72E-14	8.48E-18	3.17E-18	2.10E-16	2.64E-22	7.56E-16	1.90E-13
232		Vinyl acetate	6.90E-15	NA	NA	NA	NA	NA	NA	6.90E-15
233		Vinyl chloride	9.62E-14	NA	NA	NA	NA	NA	NA	9.62E-14
234		Xylenes (total)	2.78E-15	NA	NA	NA	NA	NA	NA	2.78E-15
235										
236		INORGANICS								
237		Arsenic	6.42E-09	5.45E-11	2.16E-10	2.65E-12	2.26E-12	4.36E-12	8.16E-12	6.71E-09
238		Cadmium	1.49E-10	4.33E-13	2.54E-13	7.08E-15	1.31E-14	NA	4.73E-14	1.50E-10
239		Chromium (III)	6.60E-11	NA	NA	NA	NA	NA	NA	6.60E-11
240		Chromium (VI)	2.32E-11	NA	NA	NA	NA	NA	NA	2.32E-11
241		Copper	4.98E-12	NA	NA	NA	NA	1.39E-14	NA	5.00E-12
242		Iron	1.19E-06	NA	NA	NA	NA	NA	NA	1.19E-06
243		Mercury	5.73E-10	1.03E-11	2.36E-12	8.70E-11	2.83E-13	NA	1.02E-12	6.75E-10
244		Selenium	7.30E-10	NA	NA	NA	NA	NA	NA	7.30E-10
245		Silver	6.66E-11	NA	NA	NA	NA	NA	NA	6.66E-11
246		Zinc	4.77E-11	NA	NA	NA	NA	1.01E-14	NA	4.77E-11
247										
248		Total (Hazard Index)	2.15E-06	3.91E-05	2.34E-10	9.15E-11	2.79E-10	4.38E-12	1.01E-09	4.12E-05

TABLE 36
CHILD HAZARD INDEX

FARM BASE CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL CHILD HAZARD INDEX
ORGANICS								
Acetone	5.45E-15	NA	NA	NA	NA	NA	NA	5.45E-15
Acetonitrile	8.97E-10	2.23E-09	4.66E-15	7.85E-16	1.03E-12	2.92E-19	7.03E-13	3.13E-09
Acrylonitrile	8.70E-10	NA	NA	NA	NA	NA	NA	8.70E-10
Aldrin	5.46E-14	2.49E-12	5.58E-12	2.73E-13	3.21E-15	2.11E-22	2.18E-15	8.41E-12
Aniline	6.50E-11	2.22E-10	2.75E-14	4.55E-15	1.79E-12	2.70E-16	1.22E-12	2.90E-10
Atrazine	6.11E-13	3.29E-13	5.00E-16	6.75E-17	4.30E-15	0.00E+00	2.93E-15	9.48E-13
Benzaldehyde	2.30E-12	1.11E-12	4.47E-16	7.16E-17	1.59E-14	5.67E-19	1.08E-14	3.44E-12
Benzene	8.86E-14	NA	NA	NA	NA	NA	NA	8.86E-14
Benzofuran	2.24E-10	1.19E-10	1.77E-13	2.39E-14	1.54E-12	2.50E-16	1.05E-12	3.45E-10
Benzoic Acid	2.81E-14	1.02E-14	8.37E-18	1.30E-18	1.94E-16	1.24E-20	1.32E-16	3.87E-14
Benzonitrile	3.07E-10	1.39E-10	6.50E-14	1.04E-14	2.12E-12	8.43E-17	1.44E-12	4.50E-10
Benzothiazole	1.05E-12	3.52E-13	3.65E-16	5.57E-17	7.23E-15	5.67E-21	4.92E-15	1.41E-12
Biphenyl	8.46E-10	NA	NA	NA	NA	NA	NA	8.46E-10
Bis(2-ethylhexyl)phthalate	1.21E-13	6.31E-13	3.95E-11	1.92E-12	1.07E-15	1.83E-21	1.45E-16	4.22E-11
Carbazole	1.01E-12	3.70E-13	1.98E-15	2.22E-16	6.97E-15	1.49E-18	4.74E-15	1.39E-12
Carbon Tetrachloride	4.63E-13	NA	NA	NA	NA	NA	NA	4.63E-13
4-Chloroaniline	7.22E-14	2.15E-14	2.05E-17	3.20E-18	4.98E-16	5.34E-19	3.40E-16	9.46E-14
Chlorobenzene	1.39E-13	NA	NA	NA	NA	NA	NA	1.39E-13
4-Chlorobiphenyl	2.90E-14	5.64E-15	1.24E-15	7.73E-17	2.00E-16	3.13E-20	1.37E-16	3.63E-14
4,4-Chlorobiphenyl	1.54E-15	2.40E-16	2.93E-16	1.59E-17	1.06E-17	5.53E-22	7.26E-18	2.10E-15
Chloroéthane	9.62E-15	NE	NE	NE	NE	NE	NE	9.62E-15
Chloroform	2.49E-12	NA	NA	NA	NA	NA	NA	2.49E-12
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	7.22E-14	NA	NA	NA	NA	NA	NA	7.22E-14
1,1-Dichloroethane	8.26E-14	NA	NA	NA	NA	NA	NA	8.26E-14
1,2-Dichloroethane	6.33E-14	1.70E-12	1.03E-16	1.65E-17	3.64E-15	2.64E-20	2.48E-15	1.77E-12
1,1-Dichloroethene	2.17E-13	NA	NA	NA	NA	NA	NA	2.17E-13
1,2-Dichloroethene	4.72E-15	NA	NA	NA	NA	NA	NA	4.72E-15
1,2-Dichloropropane	4.62E-15	NA	NA	NA	NA	NA	NA	4.62E-15
Dieldrin	1.00E-13	1.84E-11	3.95E-13	2.02E-14	3.53E-15	4.87E-20	2.41E-15	1.89E-11
Dimethyldisulfide	8.68E-13	NA	NA	NA	NA	NA	NA	8.68E-13
Hexachlorobenzene	8.45E-11	3.12E-11	1.26E-11	6.97E-13	5.83E-13	1.21E-15	3.97E-13	1.30E-10
Hydrazine	6.57E-07	5.18E-05	3.18E-13	5.39E-14	1.01E-09	1.33E-16	6.85E-10	5.25E-05
Lindane	2.33E-14	1.72E-14	7.91E-17	8.84E-18	2.73E-16	3.56E-22	1.86E-16	4.10E-14
Malathion	3.44E-15	3.01E-16	1.88E-18	2.41E-19	1.21E-17	0.00E+00	8.25E-18	3.76E-15
Methyl chloride	3.27E-14	NA	NA	NA	NA	NA	NA	3.27E-14
Methylene chloride	2.42E-13	NA	NA	NA	NA	NA	NA	2.42E-13
Methyl ethyl ketone	4.82E-14	6.49E-14	4.87E-19	8.16E-20	5.99E-17	0.00E+00	4.08E-17	1.13E-13
4-Methylphenol	3.86E-13	1.06E-13	2.54E-17	3.90E-18	5.43E-16	1.23E-21	3.70E-16	4.93E-13
Monomethyl hydrazine	1.42E-06	1.66E-05	2.74E-13	4.64E-14	8.64E-10	1.14E-16	5.89E-10	1.80E-05
Naphthalene	9.11E-15	6.13E-14	2.51E-16	2.76E-17	8.01E-16	8.38E-17	5.46E-16	7.21E-14
Naphthalene carbonitrile	4.82E-11	3.24E-10	1.33E-12	1.46E-13	4.24E-12	1.93E-15	2.89E-12	3.81E-10
n-Nitrosodimethylamine	1.00E-10	2.85E-08	2.24E-15	3.78E-16	6.91E-13	0.00E+00	4.71E-13	2.86E-08
PAHs								
Acenaphthalene	1.86E-12	1.14E-12	1.45E-14	1.20E-15	1.29E-14	3.95E-18	8.76E-15	3.04E-12
Acenaphthene	1.86E-12	5.20E-13	1.09E-14	9.58E-16	1.29E-14	1.53E-18	8.76E-15	2.42E-12
Benzo(a)pyrene	7.48E-12	3.75E-13	9.53E-12	4.80E-13	5.16E-14	1.06E-17	3.52E-14	1.79E-11
Chrysene	7.48E-13	1.36E-13	2.28E-13	1.21E-14	5.16E-15	2.67E-17	3.52E-15	1.13E-12

	B	C	Q	R	S	T	U	V	W	X
155			TABLE 36							
215		Dibenzo(a,h)anthracene	7.48E-12	4.88E-13	1.14E-11	5.74E-13	5.16E-14	5.98E-15	3.52E-14	2.01E-11
216		Fluoranthene	5.61E-12	1.78E-12	4.81E-13	2.78E-14	3.87E-14	NA	2.64E-14	7.97E-12
217		Fluorene	5.61E-13	2.09E-13	8.07E-15	5.92E-16	3.87E-15	1.65E-18	2.64E-15	7.85E-13
218		Phenanthrene	2.91E-15	8.17E-16	6.19E-17	4.26E-18	2.01E-17	7.57E-18	1.37E-17	3.84E-15
219		Pyrene	1.50E-11	4.47E-12	1.17E-12	6.85E-14	1.03E-13	1.21E-16	7.03E-14	2.08E-11
220		Parathion	1.09E-12	2.68E-15	4.43E-17	4.06E-18	6.39E-17	1.19E-22	4.35E-17	1.09E-12
221		Pentachlorobenzene	3.44E-11	2.35E-11	2.17E-12	1.30E-13	2.38E-13	NA	1.62E-13	6.06E-11
222		Phenol	2.27E-14	2.34E-15	1.40E-19	2.24E-20	5.07E-18	NA	3.45E-18	2.51E-14
223		Pyridine	1.51E-10	NA	NA	NA	NA	NA	NA	1.51E-10
224		Quinoline	1.26E-13	1.19E-13	4.51E-17	6.86E-18	8.72E-16	7.16E-20	5.94E-16	2.47E-13
225		Tetrachlorobenzene	4.51E-11	6.96E-11	6.37E-13	4.69E-14	3.11E-13	NA	2.12E-13	1.16E-10
226		Tetrachloroethene	1.37E-15	NA	NA	NA	NA	NA	NA	1.37E-15
227		Toluene	1.32E-14	NA	NA	NA	NA	NA	NA	1.32E-14
228		Trichlorobenzene	2.29E-12	5.91E-14	2.25E-15	1.93E-16	2.37E-15	1.08E-18	1.61E-15	2.35E-12
229		Trichloroethene	1.84E-14	NA	NA	NA	NA	NA	NA	1.84E-14
230		Unsym. dimethyl hydrazine	8.90E-08	1.53E-05	3.69E-13	6.24E-14	6.15E-10	8.13E-17	4.19E-10	1.53E-05
231		Vapona	2.74E-13	1.42E-13	4.90E-17	7.90E-18	1.89E-15	5.97E-22	1.29E-15	4.20E-13
232		Vinyl acetate	1.56E-14	NA	NA	NA	NA	NA	NA	1.56E-14
233		Vinyl chloride	2.17E-13	NA	NA	NA	NA	NA	NA	2.17E-13
234		Xylenes (total)	6.28E-15	NA	NA	NA	NA	NA	NA	6.28E-15
235										
236	INORGANICS									
237		Arsenic	1.45E-08	1.01E-10	1.25E-09	6.61E-12	2.04E-11	9.84E-12	1.39E-11	1.59E-08
238		Cadmium	3.36E-10	8.14E-13	1.47E-12	1.76E-14	1.18E-13	NA	8.07E-14	3.39E-10
239		Chromium (III)	1.49E-10	NA	NA	NA	NA	NA	NA	1.49E-10
240		Chromium (VI)	5.25E-11	NA	NA	NA	NA	NA	NA	5.25E-11
241		Copper	1.13E-11	NA	NA	NA	NA	3.14E-14	NA	1.13E-11
242		Iron	2.68E-06	NA	NA	NA	NA	NA	NA	2.68E-06
243		Mercury	1.29E-09	1.93E-11	1.36E-11	2.17E-10	2.55E-12	NA	1.74E-12	1.55E-09
244		Selenium	1.65E-09	NA	NA	NA	NA	NA	NA	1.65E-09
245		Silver	1.50E-10	NA	NA	NA	NA	NA	NA	1.50E-10
246		Zinc	1.08E-10	NA	NA	NA	NA	2.29E-14	NA	1.08E-10
247										
248		Total (Hazard Index)	4.87E-06	8.37E-05	1.35E-09	2.28E-10	2.52E-09	9.90E-12	1.72E-09	8.85E-05

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 37
INFANT HAZARD INDEX

FARM BASE CASE	INHALATION HAZARD QUOTIENT	BREAST MILK INGESTION HAZARD QUOTIENT	TOTAL INFANT HAZARD INDEX
ORGANICS			
Acetone	3.57E-15	1.13E-15	4.69E-15
Acetonitrile	5.87E-10	4.03E-09	4.62E-09
Acrylonitrile	5.69E-10	2.86E-11	5.98E-10
Aldrin	3.58E-14	8.89E-12	8.93E-12
Aniline	4.25E-11	8.00E-10	8.43E-10
Atrazine	4.00E-13	1.57E-12	1.97E-12
Benzaldehyde	1.50E-12	5.64E-12	7.14E-12
Benzene	5.80E-14	2.19E-15	6.02E-14
Benzofuran	1.46E-10	5.65E-10	7.12E-10
Benzoic Acid	1.84E-14	6.32E-14	8.16E-14
Benzonitrile	2.01E-10	7.37E-10	9.38E-10
Benzothiazole	6.85E-13	2.30E-12	2.99E-12
Biphenyl	5.54E-10	2.56E-13	5.54E-10
Bis(2-ethylhexyl)phthalate	7.93E-14	2.90E-11	2.91E-11
Carbazole	6.60E-13	2.27E-12	2.93E-12
Carbon Tetrachloride	3.03E-13	2.38E-13	5.41E-13
4-Chloroaniline	4.73E-14	1.54E-13	2.01E-13
Chlorobenzene	9.09E-14	3.94E-16	9.13E-14
4-Chlorobiphenyl	1.90E-14	5.77E-14	7.67E-14
4,4-Chlorobiphenyl	1.01E-15	3.12E-15	4.12E-15
Chloroethane	6.30E-15	NE	6.30E-15
Chloroform	1.63E-12	1.41E-13	1.77E-12
Dibenzofuran	NE	NE	NE
Dichlorobenzenes (total)	4.73E-14	3.65E-16	4.76E-14
1,1-Dichloroethane	5.41E-14	9.39E-16	5.50E-14
1,2-Dichloroethane	4.14E-14	3.73E-12	3.77E-12
1,1-Dichloroethene	1.42E-13	5.58E-15	1.47E-13
1,2-Dichloroethene	3.09E-15	2.17E-15	5.26E-15
1,2-Dichloropropane	3.03E-15	2.16E-15	5.19E-15
Dieldrin	6.57E-14	3.22E-11	3.23E-11
Dimethyldisulfide	5.68E-13	9.86E-15	5.78E-13
Hexachlorobenzene	5.53E-11	4.50E-11	1.00E-10
Hydrazine	4.30E-07	8.82E-05	8.86E-05
Lindane	1.53E-14	9.37E-14	1.09E-13
Malathion	2.25E-15	3.37E-15	5.62E-15
Methyl chloride	2.14E-14	2.17E-15	2.36E-14
Methylene chloride	1.58E-13	3.92E-14	1.97E-13
Methyl ethyl ketone	3.15E-14	1.24E-13	1.56E-13
4-Methylphenol	2.53E-13	3.08E-13	5.61E-13
Monomethyl hydrazine	9.29E-07	2.85E-05	2.94E-05
Naphthalene	5.96E-15	2.93E-13	2.99E-13
Naphthalene carbonitrile	3.15E-11	1.55E-09	1.58E-09
n-Nitrosodimethylamine	6.55E-11	4.85E-08	4.85E-08
PAHs			
Acenaphthalene	1.22E-12	4.97E-12	6.18E-12
Acenaphthene	1.22E-12	3.92E-12	5.14E-12
Benzo(a)pyrene	4.89E-12	1.95E-11	2.44E-11
Chrysene	4.89E-13	1.61E-12	2.10E-12

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

	B	C	Z	AA	AB
155			TABLE 37		
156					
215		Dibenzo(a,h)anthracene	4.89E-12	2.11E-11	2.60E-11
216		Fluoranthene	3.67E-12	1.25E-11	1.62E-11
217		Fluorene	3.67E-13	1.27E-12	1.64E-12
218		Phenanthrene	1.91E-15	6.18E-15	8.09E-15
219		Pyrene	9.79E-12	3.28E-11	4.25E-11
220		Parathion	7.13E-13	1.97E-14	7.33E-13
221		Pentachlorobenzene	2.25E-11	2.20E-11	4.45E-11
222		Phenol	1.49E-14	5.15E-15	2.00E-14
223		Pyridine	9.86E-11	2.79E-11	1.26E-10
224		Quinoline	8.27E-14	4.08E-13	4.91E-13
225		Tetrachlorobenzene	2.95E-11	4.32E-11	7.28E-11
226		Tetrachloroethene	8.95E-16	5.37E-16	1.43E-15
227		Toluene	8.64E-15	7.14E-17	8.71E-15
228		Trichlorobenzene	1.50E-12	1.49E-13	1.64E-12
229		Trichloroethene	1.21E-14	7.80E-15	1.98E-14
230		Unsym. dimethyl hydrazine	5.83E-08	2.60E-05	2.61E-05
231		Vapona	1.80E-13	6.89E-13	8.69E-13
232		Vinyl acetate	1.02E-14	3.54E-17	1.02E-14
233		Vinyl chloride	1.42E-13	2.52E-14	1.67E-13
234		Xylenes (total)	4.11E-15	1.02E-19	4.11E-15
235					
236	INORGANICS				
237		Arsenic	9.49E-09	NE	9.49E-09
238		Cadmium	2.20E-10	NE	2.20E-10
239		Chromium (III)	9.76E-11	NE	9.76E-11
240		Chromium (VI)	3.43E-11	NE	3.43E-11
241		Copper	7.37E-12	NE	7.37E-12
242		Iron	1.75E-06	NE	1.75E-06
243		Mercury	8.47E-10	NE	8.47E-10
244		Selenium	1.08E-09	NE	1.08E-09
245		Silver	9.85E-11	NE	9.85E-11
246		Zinc	7.04E-11	NE	7.04E-11
247					
248		Total (Hazard Index)	3.18E-06	1.43E-04	1.46E-04

A	B	C	D
253		TABLE 38	
254		CARCINOGENIC RISK	
255		CONTRIBUTION BY PATHWAY	
256			
257		FARM	
258		BASE CASE	
259			
260		Adult	
261		Inhalation	NA
262			
263		Ingestion	81.5528
264		Vegetables	81.5522
265		Milk	0.0002
266		Beef	0.0000
267		Soil\Dust	0.0004
268		Fish	0.0000
269			
270		Dermal	0.0015
271			
272		Child	
273		Inhalation	0.0447
274			
275		Ingestion	13.6524
276		Vegetables	13.6520
277		Milk	0.0001
278		Beef	0.0000
279		Soil\Dust	0.0003
280		Fish	0.0000
281			
282		Dermal	0.0002
283			
284		Infant	
285		Inhalation	0.0292
286			
287		Breast Milk Ingestion	4.7191
288			
290		Total	100.0000

TABLE 39
ADULT INHALATION CARCINOGENIC RISK
(These numbers are for sensitivity analysis)

FARM BASE CASE	INHALATION ADULT CARC. RISK
ORGANICS	
Acrylonitrile	1.16E-14
Aldrin	3.00E-18
Aniline	3.64E-17
Benzene	1.06E-18
Bis(2-ethylhexyl)phthalate	1.09E-19
Carbazole	1.28E-18
Carbon Tetrachloride	2.41E-17
Chloroform	1.27E-16
1,4-Dichlorobenzene	5.54E-20
1,1-Dichloroethane	NE
1,2-Dichloroethane	2.97E-18
1,1-Dichloroethene	6.72E-17
1,2-Dichloropropane	1.41E-18
Dieldrin	5.18E-18
Hexachlorobenzene	1.37E-15
Hydrazine	1.89E-11
Lindane	1.95E-19
Methyl chloride	2.74E-19
Methylene chloride	3.67E-17
4-Methylphenol	NE
Monomethyl hydrazine	3.83E-13
n-Nitrosodimethylamine	1.81E-14
PAHs	
Benzo(a)pyrene	1.73E-14
Chrysene	1.73E-15
Dibenzo(a,h)anthracene	1.73E-14
Parathion	NE
Quinoline	3.84E-15
Tetrachloroethene	1.98E-20
Trichloroethene	7.02E-19
Vapona	8.06E-19
Vinyl chloride	1.08E-17
INORGANICS	
Arsenic	5.62E-13
Cadmium	1.32E-15
Chromium (VI)	1.39E-15
Total	1.99E-11

INHALATION EXPOSURE DURATION 2 YEARS

9.3.2 Sensitivity Case Emissions — Farmer Scenario

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
3										
4		SENSITIVITY CASE	ER	AC	D	D	CO	CO	CO	CO
5							AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6				AVG. ANN.	TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	EMISSION	AMBIENT	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:37:30	RATE	CONC.	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		FARM	g/sec	ug/M3	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10							mg/Kg	mg/Kg	mg/Kg	mg/Kg
11										
12	ORGANICS									
13		Acetone	1.26E-10	1.54E-11	NA	NA	NA	NA	NA	NA
14		Acetonitrile	1.14E-07	1.39E-08	3.42E-10	5.76E-11	2.37E-09	2.40E-09	4.73E-09	4.80E-09
15		Acrylonitrile	4.85E-08	5.92E-09	NA	NA	NA	NA	NA	NA
16		Aldrin	1.77E-13	2.16E-14	5.31E-16	8.94E-17	3.67E-15	3.73E-15	7.35E-15	7.45E-15
17		Aniline	6.41E-09	7.82E-10	1.92E-11	3.24E-12	1.33E-10	1.35E-10	2.66E-10	2.70E-10
18		Atrazine	3.96E-11	4.83E-12	1.19E-13	2.00E-14	8.22E-13	8.34E-13	1.64E-12	1.67E-12
19		Benzaldehyde	2.92E-09	3.56E-10	8.76E-12	1.47E-12	6.06E-11	6.15E-11	1.21E-10	1.23E-10
20		Benzene	3.67E-11	4.48E-12	NA	NA	NA	NA	NA	NA
21		Benzofuran	1.42E-08	1.73E-09	4.26E-11	7.17E-12	2.95E-10	2.99E-10	5.89E-10	5.98E-10
22		Benzoic Acid	1.43E-09	1.74E-10	4.29E-12	7.22E-13	2.97E-11	3.01E-11	5.94E-11	6.02E-11
23		Benzonitrile	3.12E-08	3.81E-09	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
24		Benzothiazole	1.33E-11	1.62E-12	3.99E-14	6.72E-15	2.76E-13	2.80E-13	5.52E-13	5.60E-13
25		Biphenyl	1.43E-08	1.74E-09	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	7.85E-12	9.58E-13	2.36E-14	3.96E-15	1.63E-13	1.65E-13	3.26E-13	3.31E-13
27		Carbazole	6.41E-11	7.82E-12	1.92E-13	3.24E-14	1.33E-12	1.35E-12	2.66E-12	2.70E-12
28		Carbon Tetrachloride	1.86E-10	2.27E-11	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	3.67E-12	4.48E-13	1.10E-14	1.85E-15	7.62E-14	7.73E-14	1.52E-13	1.55E-13
30		Chlorobenzene	8.82E-12	1.08E-12	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	9.04E-12	1.10E-12	2.71E-14	4.57E-15	1.88E-13	1.90E-13	3.75E-13	3.81E-13
32		4,4-Chlorobiphenyl	4.55E-13	5.55E-14	1.36E-15	2.30E-16	9.44E-15	9.58E-15	1.89E-14	1.92E-14
33		Chloroethane	3.24E-10	3.95E-11	9.72E-13	1.64E-13	6.72E-12	6.82E-12	1.34E-11	1.36E-11
34		Chloroform	1.58E-09	1.93E-10	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	2.85E-10	3.48E-11	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
36		Dichlorobenzenes (total)	3.67E-11	4.48E-12	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	2.32E-12	2.83E-13	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	1.05E-10	1.28E-11	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	3.28E-11	4.00E-12	9.84E-14	1.66E-14	6.81E-13	6.91E-13	1.36E-12	1.38E-12
40		1,1-Dichloroethene	5.62E-11	6.86E-12	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	4.86E-11	5.93E-12	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	2.08E-11	2.54E-12	NA	NA	NA	NA	NA	NA
43		Dieldrin	3.25E-13	3.96E-14	9.75E-16	1.64E-16	6.74E-15	6.84E-15	1.35E-14	1.37E-14
44		Dimethyldisulfide	8.93E-11	1.09E-11	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	8.59E-10	1.05E-10	2.58E-12	4.34E-13	1.78E-11	1.81E-11	3.57E-11	3.62E-11
46		Hydrazine	1.11E-06	1.35E-07	3.33E-09	5.61E-10	2.30E-08	2.34E-08	4.61E-08	4.67E-08
47		Lindane	1.51E-13	1.84E-14	4.53E-16	7.63E-17	3.13E-15	3.18E-15	6.27E-15	6.36E-15
48		Malathion	4.46E-13	5.44E-14	1.34E-15	2.25E-16	9.26E-15	9.39E-15	1.85E-14	1.88E-14
49		Methyl chloride	4.36E-11	5.32E-12	NA	NA	NA	NA	NA	NA
50		Methylene chloride	2.63E-09	3.21E-10	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	5.51E-11	6.72E-12	1.65E-13	2.78E-14	1.14E-12	1.16E-12	2.29E-12	2.32E-12
52		4-Methylphenol	5.00E-11	6.10E-12	1.50E-13	2.53E-14	1.04E-12	1.05E-12	2.08E-12	2.11E-12
53		Monomethyl hydrazine	3.50E-07	4.27E-08	1.05E-09	1.77E-10	7.26E-09	7.37E-09	1.45E-08	1.47E-08
54		Naphthalene	5.90E-12	7.20E-13	1.77E-14	2.98E-15	1.22E-13	1.24E-13	2.45E-13	2.48E-13
55		Naphthalene carbonitrile	3.12E-08	3.81E-09	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
56		n-Nitrosodimethylamine	3.56E-10	4.34E-11	1.07E-12	1.80E-13	7.39E-12	7.49E-12	1.48E-11	1.50E-11
57		PAHs								
58		Acenaphthalene	1.42E-09	1.73E-10	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
59		Acenaphthene	1.42E-09	1.73E-10	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
60		Benzo(a)pyrene	2.85E-09	3.48E-10	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1-A							
61		Chrysene	2.85E-10	3.48E-11	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
62		Dibenzo(a,h)anthracene	2.85E-09	3.48E-10	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
63		Fluoranthene	2.85E-09	3.48E-10	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
64		Fluorene	2.85E-10	3.48E-11	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
65		Phenanthrene	1.11E-12	1.35E-13	3.33E-15	5.61E-16	2.30E-14	2.34E-14	4.61E-14	4.67E-14
66		Pyrene	5.70E-09	6.95E-10	1.71E-11	2.88E-12	1.18E-10	1.20E-10	2.37E-10	2.40E-10
67		Parathion	7.06E-13	8.61E-14	2.12E-15	3.57E-16	1.47E-14	1.49E-14	2.93E-14	2.97E-14
68		Pentachlorobenzene	3.50E-10	4.27E-11	1.05E-12	1.77E-13	7.26E-12	7.37E-12	1.45E-11	1.47E-11
69		Phenol	5.60E-12	6.83E-13	1.68E-14	2.83E-15	1.16E-13	1.18E-13	2.32E-13	2.36E-13
70		Pyridine	3.12E-08	3.81E-09	NA	NA	NA	NA	NA	NA
71		Quinoline	3.21E-10	3.92E-11	9.63E-13	1.62E-13	6.66E-12	6.76E-12	1.33E-11	1.35E-11
72		Tetrachlorobenzene	1.72E-10	2.10E-11	5.16E-13	8.69E-14	3.57E-12	3.62E-12	7.14E-12	7.24E-12
73		Tetrachloroethene	6.01E-12	7.33E-13	NA	NA	NA	NA	NA	NA
74		Toluene	9.58E-11	1.17E-11	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	8.71E-11	1.06E-11	2.61E-13	4.40E-14	1.81E-12	1.83E-12	3.61E-12	3.67E-12
76		Trichloroethene	6.41E-11	7.82E-12	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	1.38E-06	1.68E-07	4.14E-09	6.97E-10	2.86E-08	2.91E-08	5.73E-08	5.81E-08
78		Vapona	2.79E-12	3.40E-13	8.37E-15	1.41E-15	5.79E-14	5.87E-14	1.16E-13	1.17E-13
79		Vinyl acetate	3.96E-11	4.83E-12	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	3.67E-11	4.48E-12	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	6.84E-12	8.34E-13	NA	NA	NA	NA	NA	NA
82										
83	INORGANICS									
84		Arsenic	4.24E-08	5.17E-09	1.27E-10	2.14E-11	8.80E-10	8.93E-10	1.76E-09	1.79E-09
85		Cadmium	3.10E-10	3.78E-11	9.30E-13	1.57E-13	6.43E-12	6.53E-12	1.29E-11	1.31E-11
86		Chromium (III)	1.26E-09	1.53E-10	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	4.42E-11	5.39E-12	NA	NA	NA	NA	NA	NA
88		Copper	3.17E-09	3.87E-10	NA	NA	NA	NA	NA	NA
89		Iron	9.68E-05	1.18E-05	NA	NA	NA	NA	NA	NA
90		Lead	1.63E-09	1.99E-10	4.89E-12	8.23E-13	3.38E-11	3.43E-11	6.77E-11	6.86E-11
91		Mercury	2.02E-09	2.46E-10	6.06E-12	1.02E-12	4.19E-11	4.25E-11	8.38E-11	8.51E-11
92		Selenium	5.21E-09	6.36E-10	NA	NA	NA	NA	NA	NA
93		Silver	3.24E-11	3.95E-12	NA	NA	NA	NA	NA	NA
94		Zinc	1.43E-08	1.74E-09	NA	NA	NA	NA	NA	NA
95										
96										
97						2 yrs	ACCUMULATION TIME	AT		
98						0.2 M	SOIL DEPTH OF MIXING	SD		
99						0.1 M	SOIL DEPTH OF MIXING	SD		
100						1.43E+03 Kg/M3	SOIL BULK DENSITY	BD		
101						1.00E+03 mg/g				
102						3.15E+07 sec/yr				
103										
104										
105						Dilution Factor				
106						1.22E-01 INHALATION	DFI		CO =	D*AT*1000
107						Deposition Factor	DF			SD*BD
108						5.05E-04 DRY	DDF			
109						3.00E-03 DRY/WET	TDF			AC = ER * DFI
110										D = ER * x DF
111										

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
3			CATTLE FEED					
4		SENSITIVITY CASE	D	D	CO	CO	CO	CO
5					AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6			TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:37:30	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		FARM	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10					mg/Kg	mg/Kg	mg/Kg	mg/Kg
11								
12	ORGANICS							
13		Acetone	NA	NA	NA	NA	NA	NA
14		Acetonitrile	3.42E-10	5.76E-11	2.37E-09	2.40E-09	4.73E-09	4.80E-09
15		Acrylonitrile	NA	NA	NA	NA	NA	NA
16		Aldrin	5.31E-16	8.94E-17	3.67E-15	3.73E-15	7.35E-15	7.45E-15
17		Aniline	1.92E-11	3.24E-12	1.33E-10	1.35E-10	2.66E-10	2.70E-10
18		Atrazine	1.19E-13	2.00E-14	8.22E-13	8.34E-13	1.64E-12	1.67E-12
19		Benzaldehyde	8.76E-12	1.47E-12	6.06E-11	6.15E-11	1.21E-10	1.23E-10
20		Benzene	NA	NA	NA	NA	NA	NA
21		Benzofuran	4.26E-11	7.17E-12	2.95E-10	2.99E-10	5.89E-10	5.98E-10
22		Benzoic Acid	4.29E-12	7.22E-13	2.97E-11	3.01E-11	5.94E-11	6.02E-11
23		Benzonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
24		Benzothiazole	3.99E-14	6.72E-15	2.76E-13	2.80E-13	5.52E-13	5.60E-13
25		Biphenyl	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	2.36E-14	3.96E-15	1.63E-13	1.65E-13	3.26E-13	3.31E-13
27		Carbazole	1.92E-13	3.24E-14	1.33E-12	1.35E-12	2.66E-12	2.70E-12
28		Carbon Tetrachloride	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	1.10E-14	1.85E-15	7.62E-14	7.73E-14	1.52E-13	1.55E-13
30		Chlorobenzene	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	2.71E-14	4.57E-15	1.88E-13	1.90E-13	3.75E-13	3.81E-13
32		4,4-Chlorobiphenyl	1.36E-15	2.30E-16	9.44E-15	9.58E-15	1.89E-14	1.92E-14
33		Chloroethane	9.72E-13	1.64E-13	6.72E-12	6.82E-12	1.34E-11	1.36E-11
34		Chloroform	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
36		Dichlorobenzenes (total)	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	9.84E-14	1.66E-14	6.81E-13	6.91E-13	1.36E-12	1.38E-12
40		1,1-Dichloroethene	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	NA	NA	NA	NA	NA	NA
43		Dieldrin	9.75E-16	1.64E-16	6.74E-15	6.84E-15	1.35E-14	1.37E-14
44		Dimethyldisulfide	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	2.58E-12	4.34E-13	1.78E-11	1.81E-11	3.57E-11	3.62E-11
46		Hydrazine	3.33E-09	5.61E-10	2.30E-08	2.34E-08	4.61E-08	4.67E-08
47		Lindane	4.53E-16	7.63E-17	3.13E-15	3.18E-15	6.27E-15	6.36E-15
48		Malathion	1.34E-15	2.25E-16	9.26E-15	9.39E-15	1.85E-14	1.88E-14
49		Methyl chloride	NA	NA	NA	NA	NA	NA
50		Methylene chloride	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	1.65E-13	2.78E-14	1.14E-12	1.16E-12	2.29E-12	2.32E-12
52		4-Methylphenol	1.50E-13	2.53E-14	1.04E-12	1.05E-12	2.08E-12	2.11E-12
53		Monomethyl hydrazine	1.05E-09	1.77E-10	7.26E-09	7.37E-09	1.45E-08	1.47E-08
54		Naphthalene	1.77E-14	2.98E-15	1.22E-13	1.24E-13	2.45E-13	2.48E-13
55		Naphthalene carbonitrile	9.36E-11	1.58E-11	6.47E-10	6.57E-10	1.29E-09	1.31E-09
56		n-Nitrosodimethylamine	1.07E-12	1.80E-13	7.39E-12	7.49E-12	1.48E-11	1.50E-11
57		PAHs						
58		Acenaphthalene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
59		Acenaphthene	4.26E-12	7.17E-13	2.95E-11	2.99E-11	5.89E-11	5.98E-11
60		Benzo(a)pyrene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	M	N	O	P	Q	R
2			TABLE 1-B					
61		Chrysene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
62		Dibenzo(a,h)anthracene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
63		Fluoranthene	8.55E-12	1.44E-12	5.91E-11	6.00E-11	1.18E-10	1.20E-10
64		Fluorene	8.55E-13	1.44E-13	5.91E-12	6.00E-12	1.18E-11	1.20E-11
65		Phenanthrene	3.33E-15	5.61E-16	2.30E-14	2.34E-14	4.61E-14	4.67E-14
66		Pyrene	1.71E-11	2.88E-12	1.18E-10	1.20E-10	2.37E-10	2.40E-10
67		Parathion	2.12E-15	3.57E-16	1.47E-14	1.49E-14	2.93E-14	2.97E-14
68		Pentachlorobenzene	1.05E-12	1.77E-13	7.26E-12	7.37E-12	1.45E-11	1.47E-11
69		Phenol	1.68E-14	2.83E-15	1.16E-13	1.18E-13	2.32E-13	2.36E-13
70		Pyridine	NA	NA	NA	NA	NA	NA
71		Quinoline	9.63E-13	1.62E-13	6.66E-12	6.76E-12	1.33E-11	1.35E-11
72		Tetrachlorobenzene	5.16E-13	8.69E-14	3.57E-12	3.62E-12	7.14E-12	7.24E-12
73		Tetrachloroethene	NA	NA	NA	NA	NA	NA
74		Toluene	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	2.61E-13	4.40E-14	1.81E-12	1.83E-12	3.61E-12	3.67E-12
76		Trichloroethene	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	4.14E-09	6.97E-10	2.86E-08	2.91E-08	5.73E-08	5.81E-08
78		Vapona	8.37E-15	1.41E-15	5.79E-14	5.87E-14	1.16E-13	1.17E-13
79		Vinyl acetate	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	NA	NA	NA	NA	NA	NA
82								
83	INORGANICS							
84		Arsenic	1.27E-10	2.14E-11	8.80E-10	8.93E-10	1.76E-09	1.79E-09
85		Cadmium	9.30E-13	1.57E-13	6.43E-12	6.53E-12	1.29E-11	1.31E-11
86		Chromium (III)	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	NA	NA	NA	NA	NA	NA
88		Copper	NA	NA	NA	NA	NA	NA
89		Iron	NA	NA	NA	NA	NA	NA
90		Lead	4.89E-12	8.23E-13	3.38E-11	3.43E-11	6.77E-11	6.86E-11
91		Mercury	6.06E-12	1.02E-12	4.19E-11	4.25E-11	8.38E-11	8.51E-11
92		Selenium	NA	NA	NA	NA	NA	NA
93		Silver	NA	NA	NA	NA	NA	NA
94		Zinc	NA	NA	NA	NA	NA	NA
95								
96								
97			2.0 yrs	ACCUMULATION TIME	AT			
98			0.2 M	SOIL DEPTH OF MIXING	SD			
99			0.1 M	SOIL DEPTH OF MIXING	SD			
100			1.43E+03 Kg/M3	SOIL BULK DENSITY	BD			
101			1.00E+03 mg/g					
102			3.15E+07 sec/yr					
103								
104								
105			Dilution Factor				D*AT*1000	
106			1.22E-01 INHALATION	DFI		CO =	---------	
107			Deposition Factor	DF			SD*BD	
108			5.05E-04 DRY	DDF				
109			3.00E-03 DRY/WET	TDF		D =	ER * x DF	

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 2
ADULT TOTAL EXPOSURE - AVERAGE

SENSITIVITY CASE

18-Jun-91 16:44:49 FARM

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	4.39E-15	NA	NA	NA	NA	NA	NA	4.39E-15
Acetonitrile	3.97E-12	6.15E-11	4.74E-17	1.86E-17	6.76E-15	7.76E-21	1.22E-14	6.54E-11
Acrylonitrile	1.69E-12	NA	NA	NA	NA	NA	NA	1.69E-12
Aldrin	6.17E-18	3.41E-17	9.56E-19	1.44E-19	1.05E-20	2.81E-27	1.89E-20	4.14E-17
Aniline	2.23E-13	1.93E-13	8.85E-18	3.47E-18	3.80E-16	2.33E-19	6.85E-16	4.17E-13
Atrazine	1.38E-15	7.08E-16	3.09E-19	1.20E-19	2.35E-18	0.00E+00	4.23E-18	2.10E-15
Benzaldehyde	1.02E-13	4.79E-14	7.07E-18	2.77E-18	1.73E-16	2.51E-20	3.12E-16	1.50E-13
Benzene	1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
Benzofuran	4.95E-13	2.56E-13	1.10E-16	4.27E-17	8.42E-16	5.53E-19	1.52E-15	7.53E-13
Benzoic Acid	4.98E-14	1.72E-14	5.06E-18	1.98E-18	8.48E-17	2.20E-20	1.53E-16	6.73E-14
Benzonitrile	1.09E-12	4.76E-13	8.17E-17	3.20E-17	1.85E-15	2.99E-19	3.34E-15	1.57E-12
Benzothiazole	4.64E-16	1.47E-16	5.39E-20	2.11E-20	7.89E-19	2.51E-24	1.42E-18	6.12E-16
Biphenyl	4.98E-13	NA	NA	NA	NA	NA	NA	4.98E-13
Bis(2-ethylhexyl)phthalate	2.74E-16	1.15E-15	8.03E-16	9.59E-17	4.65E-19	3.25E-24	8.39E-19	2.32E-15
Carbazole	2.23E-15	7.73E-16	9.15E-19	3.52E-19	3.80E-18	3.31E-21	6.85E-18	3.02E-15
Carbon Tetrachloride	6.48E-15	NA	NA	NA	NA	NA	NA	6.48E-15
4-Chloroaniline	1.28E-16	3.54E-17	1.25E-20	4.89E-21	2.18E-19	9.45E-22	3.92E-19	1.64E-16
Chlorobenzene	3.07E-16	NA	NA	NA	NA	NA	NA	3.07E-16
4-Chlorobiphenyl	3.15E-16	5.28E-17	7.30E-19	2.49E-19	5.36E-19	3.39E-22	9.66E-19	3.70E-16
4,4-Chlorobiphenyl	1.59E-17	2.03E-18	9.01E-20	2.63E-20	2.70E-20	5.71E-24	4.86E-20	1.81E-17
Chloroethane	1.13E-14	5.51E-15	7.93E-19	3.10E-19	1.92E-17	1.91E-23	3.46E-17	1.69E-14
Chloroform	5.51E-14	NA	NA	NA	NA	NA	NA	5.51E-14
Dibenzofuran	9.93E-15	2.30E-15	9.55E-18	3.55E-18	1.69E-17	2.19E-20	3.05E-17	1.23E-14
Dichlorobenzenes (total)	1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
1,4-Dichlorobenzene	8.08E-17	NA	NA	NA	NA	NA	NA	8.08E-17
1,1-Dichloroethane	3.66E-15	NA	NA	NA	NA	NA	NA	3.66E-15
1,2-Dichloroethane	1.14E-15	3.76E-15	7.95E-20	3.11E-20	1.94E-18	5.73E-23	3.51E-18	4.91E-15
1,1-Dichloroethene	1.96E-15	NA	NA	NA	NA	NA	NA	1.96E-15
1,2-Dichloroethene	1.69E-15	NA	NA	NA	NA	NA	NA	1.69E-15
1,2-Dichloropropane	7.25E-16	NA	NA	NA	NA	NA	NA	7.25E-16
Dieldrin	1.13E-17	4.21E-16	1.71E-19	4.03E-20	1.93E-20	1.08E-24	3.47E-20	4.33E-16
Dimethyldisulfide	3.11E-15	NA	NA	NA	NA	NA	NA	3.11E-15
Hexachlorobenzene	2.99E-14	1.04E-14	1.45E-16	4.39E-17	5.09E-17	4.30E-19	9.18E-17	4.07E-14
Hydrazine	3.87E-11	1.43E-08	3.26E-17	1.28E-17	6.58E-14	3.52E-20	1.19E-13	1.43E-08
Lindane	5.26E-18	2.19E-18	2.18E-21	8.38E-22	8.95E-21	4.73E-26	1.61E-20	7.48E-18
Malathion	1.55E-17	2.24E-18	4.28E-21	1.66E-21	2.64E-20	0.00E+00	4.77E-20	1.79E-17
Methyl chloride	1.52E-15	NA	NA	NA	NA	NA	NA	1.52E-15
Methylene chloride	9.17E-14	NA	NA	NA	NA	NA	NA	9.17E-14
Methyl ethyl ketone	1.92E-15	1.48E-14	4.09E-20	1.61E-20	3.27E-18	0.00E+00	5.89E-18	1.68E-14
4-Methylphenol	1.74E-15	2.38E-15	1.89E-19	7.40E-20	2.96E-18	2.71E-23	5.35E-18	4.13E-15
Monomethyl hydrazine	1.22E-11	1.69E-09	1.03E-17	4.03E-18	2.08E-14	1.12E-20	3.74E-14	1.70E-09
Naphthalene	2.06E-16	1.05E-16	8.95E-20	3.44E-20	3.50E-19	1.48E-19	6.31E-19	3.12E-16
Naphthalene carbonitrile	1.09E-12	5.58E-13	4.73E-16	1.82E-16	1.85E-15	3.42E-18	3.34E-15	1.65E-12
n-Nitrosodimethylamine	1.24E-14	3.66E-12	1.07E-19	4.18E-20	2.11E-17	0.00E+00	3.81E-17	3.67E-12
PAHs								
Acenaphthalene	4.95E-14	2.96E-14	4.51E-17	1.68E-17	8.42E-17	1.05E-19	1.52E-16	7.94E-14
Acenaphthene	4.95E-14	1.26E-14	3.85E-17	1.45E-17	8.42E-17	4.07E-20	1.52E-16	6.24E-14
Benzo(a)pyrene	9.93E-14	1.83E-15	2.21E-15	4.77E-16	1.69E-16	1.40E-19	3.05E-16	1.04E-13

A	B	C	T	U	V	W	X	Y	Z	AA
2			TABLE 2							
61		Chrysene	9.93E-15	1.54E-15	7.71E-17	2.11E-17	1.69E-17	3.55E-19	3.05E-17	1.16E-14
62		Dibenzo(a,h)anthracene	9.93E-14	3.38E-15	2.56E-15	5.34E-16	1.69E-16	7.95E-17	3.05E-16	1.06E-13
63		Fluoranthene	9.93E-14	2.94E-14	3.44E-16	1.10E-16	1.69E-16	NA	3.05E-16	1.30E-13
64		Fluorene	9.93E-15	3.50E-15	1.26E-17	4.60E-18	1.69E-17	2.92E-20	3.05E-17	1.35E-14
65		Phenanthrene	3.87E-17	9.94E-18	6.09E-20	2.17E-20	6.58E-20	1.01E-19	1.19E-19	4.90E-17
66		Pyrene	1.99E-13	5.48E-14	6.53E-16	2.11E-16	3.38E-16	1.60E-18	6.09E-16	2.55E-13
67		Parathion	2.46E-17	6.55E-18	1.71E-20	6.47E-21	4.19E-20	3.17E-25	7.55E-20	3.13E-17
68		Pentachlorobenzene	1.22E-14	8.20E-15	3.53E-17	1.17E-17	2.08E-17	NA	3.74E-17	2.05E-14
69		Phenol	1.95E-16	6.37E-16	1.33E-20	5.21E-21	3.32E-19	NA	5.99E-19	8.33E-16
70		Pyridine	1.09E-12	NA	NA	NA	NA	NA	NA	1.09E-12
71		Quinoline	1.12E-14	1.06E-14	1.33E-18	5.19E-19	1.90E-17	6.35E-21	3.43E-17	2.18E-14
72		Tetrachlorobenzene	6.00E-15	9.37E-15	7.55E-18	2.75E-18	1.02E-17	NA	1.84E-17	1.54E-14
73		Tetrachloroethene	2.09E-16	NA	NA	NA	NA	NA	NA	2.09E-16
74		Toluene	3.34E-15	NA	NA	NA	NA	NA	NA	3.34E-15
75		Trichlorobenzene	3.04E-15	4.40E-16	2.52E-18	9.44E-19	5.16E-18	9.59E-21	9.31E-18	3.49E-15
76		Trichloroethene	2.23E-15	NA	NA	NA	NA	NA	NA	2.23E-15
77		Unsym. dimethyl hydrazine	4.81E-11	8.55E-09	7.68E-17	3.01E-17	8.18E-14	4.39E-20	1.48E-13	8.60E-09
78		Vapona	9.73E-17	4.92E-17	6.25E-21	2.45E-21	1.65E-19	2.12E-25	2.98E-19	1.47E-16
79		Vinyl acetate	1.38E-15	NA	NA	NA	NA	NA	NA	1.38E-15
80		Vinyl chloride	1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
81		Xylenes (total)	2.38E-16	NA	NA	NA	NA	NA	NA	2.38E-16
82										
83	INORGANICS									
84		Arsenic	1.48E-12	2.79E-15	4.56E-14	5.98E-16	2.51E-15	4.89E-15	4.53E-16	1.53E-12
85		Cadmium	1.08E-14	1.85E-16	1.19E-16	5.19E-18	1.84E-17	NA	3.31E-18	1.11E-14
86		Chromium (III)	4.38E-14	NA	NA	NA	NA	NA	NA	4.38E-14
87		Chromium (VI)	1.54E-15	NA	NA	NA	NA	NA	NA	1.54E-15
88		Copper	1.10E-13	NA	NA	NA	NA	1.17E-15	NA	1.12E-13
89		Iron	3.37E-09	NA	NA	NA	NA	NA	NA	3.37E-09
90		Lead	5.68E-14	NA	NA	NA	NA	NA	NA	5.68E-14
91		Mercury	7.04E-14	1.63E-15	3.05E-16	2.29E-14	1.20E-16	NA	2.16E-17	9.54E-14
92		Selenium	1.82E-13	NA	NA	NA	NA	NA	NA	1.82E-13
93		Silver	1.13E-15	NA	NA	NA	NA	NA	NA	1.13E-15
94		Zinc	4.98E-13	NA	NA	NA	NA	2.59E-15	NA	5.01E-13
95										
96										
97										

98	br	20 M3/day	D*AT*1000
99	bw	70 Kg	---------
100	ef	365 days/yr	SD*BD
101	cf	365000 (1000 ug/mg)*(365 day/yr)	
102			AC = ER * DFI
103	Inhalation dose = Cair*br*ef/bw/cf		
104			D = ER * x DF

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 3
ADULT TOTAL EXPOSURE - MAXIMUM

SENSITIVITY CASE

18-Jun-91 16:44:49 FARM

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	4.39E-15	NA	NA	NA	NA	NA	NA	4.39E-15
Acetonitrile	3.97E-12	6.25E-11	4.84E-17	1.89E-17	6.86E-15	7.76E-21	1.24E-14	6.65E-11
Acrylonitrile	1.69E-12	NA	NA	NA	NA	NA	NA	1.69E-12
Aldrin	6.17E-18	3.48E-17	2.90E-17	3.29E-18	1.06E-20	2.81E-27	1.92E-20	7.33E-17
Aniline	2.23E-13	2.04E-13	9.30E-18	3.55E-18	3.86E-16	2.33E-19	6.95E-16	4.29E-13
Atrazine	1.38E-15	7.73E-16	4.33E-19	1.35E-19	2.38E-18	0.00E+00	4.29E-18	2.16E-15
Benzaldehyde	1.02E-13	5.26E-14	7.73E-18	2.87E-18	1.76E-16	2.51E-20	3.17E-16	1.55E-13
Benzene	1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
Benzofuran	4.95E-13	2.79E-13	1.53E-16	4.80E-17	8.54E-16	5.53E-19	1.54E-15	7.77E-13
Benzoic Acid	4.98E-14	1.94E-14	5.80E-18	2.08E-18	8.60E-17	2.20E-20	1.55E-16	6.95E-14
Benzonitrile	1.09E-12	5.26E-13	9.00E-17	3.32E-17	1.88E-15	2.99E-19	3.38E-15	1.62E-12
Benzothiazole	4.64E-16	1.67E-16	6.33E-20	2.23E-20	8.00E-19	2.51E-24	1.44E-18	6.33E-16
Biphenyl	4.98E-13	NA	NA	NA	NA	NA	NA	4.98E-13
Bis(2-ethylhexyl)phthalate	2.74E-16	1.18E-15	2.74E-14	3.08E-15	4.72E-19	3.25E-24	8.51E-19	3.19E-14
Carbazole	2.23E-15	8.73E-16	1.72E-18	4.46E-19	3.86E-18	3.31E-21	6.95E-18	3.12E-15
Carbon Tetrachloride	6.48E-15	NA	NA	NA	NA	NA	NA	6.48E-15
4-Chloroaniline	1.28E-16	4.09E-17	1.42E-20	5.13E-21	2.21E-19	9.45E-22	3.98E-19	1.70E-16
Chlorobenzene	3.07E-16	NA	NA	NA	NA	NA	NA	3.07E-16
4-Chlorobiphenyl	3.15E-16	6.61E-17	5.27E-18	7.60E-19	5.44E-19	3.39E-22	9.80E-19	3.89E-16
4,4-Chlorobiphenyl	1.59E-17	2.69E-18	1.18E-18	1.49E-19	2.74E-20	5.71E-24	4.93E-20	2.00E-17
Chloroethane	1.13E-14	6.04E-15	8.67E-19	3.22E-19	1.95E-17	1.91E-23	3.51E-17	1.74E-14
Chloroform	5.51E-14	NA	NA	NA	NA	NA	NA	5.51E-14
Dibenzofuran	9.93E-15	2.73E-15	3.34E-17	6.25E-18	1.71E-17	2.19E-20	3.09E-17	1.28E-14
Dichlorobenzenes (total)	1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
1,4-Dichlorobenzene	8.08E-17	NA	NA	NA	NA	NA	NA	8.08E-17
1,1-Dichloroethane	3.66E-15	NA	NA	NA	NA	NA	NA	3.66E-15
1,2-Dichloroethane	1.14E-15	3.86E-15	8.69E-20	3.23E-20	1.97E-18	5.73E-23	3.56E-18	5.01E-15
1,1-Dichloroethene	1.96E-15	NA	NA	NA	NA	NA	NA	1.96E-15
1,2-Dichloroethene	1.69E-15	NA	NA	NA	NA	NA	NA	1.69E-15
1,2-Dichloropropane	7.25E-16	NA	NA	NA	NA	NA	NA	7.25E-16
Dieldrin	1.13E-17	4.28E-16	3.42E-18	4.05E-19	1.95E-20	1.08E-24	3.52E-20	4.43E-16
Dimethyldisulfide	3.11E-15	NA	NA	NA	NA	NA	NA	3.11E-15
Hexachlorobenzene	2.99E-14	1.18E-14	1.75E-15	2.24E-16	5.17E-17	4.30E-19	9.32E-17	4.38E-14
Hydrazine	3.87E-11	1.45E-08	3.31E-17	1.30E-17	6.68E-14	3.52E-20	1.20E-13	1.45E-08
Lindane	5.26E-18	2.43E-18	4.11E-21	1.06E-21	9.08E-21	4.73E-26	1.64E-20	7.72E-18
Malathion	1.55E-17	2.89E-18	6.52E-21	1.93E-21	2.68E-20	0.00E+00	4.84E-20	1.85E-17
Methyl chloride	1.52E-15	NA	NA	NA	NA	NA	NA	1.52E-15
Methylene chloride	9.17E-14	NA	NA	NA	NA	NA	NA	9.17E-14
Methyl ethyl ketone	1.92E-15	1.51E-14	4.22E-20	1.64E-20	3.31E-18	0.00E+00	5.98E-18	1.71E-14
4-Methylphenol	1.74E-15	2.48E-15	2.20E-19	7.82E-20	3.01E-18	2.71E-23	5.42E-18	4.24E-15
Monomethyl hydrazine	1.22E-11	1.71E-09	1.04E-17	4.09E-18	2.11E-14	1.12E-20	3.80E-14	1.72E-09
Naphthalene	2.06E-16	1.15E-16	1.74E-19	4.42E-20	3.55E-19	1.48E-19	6.40E-19	3.22E-16
Naphthalene carbonitrile	1.09E-12	6.09E-13	9.20E-16	2.34E-16	1.88E-15	3.42E-18	3.38E-15	1.70E-12
n-Nitrosodimethylamine	1.24E-14	3.72E-12	1.09E-19	4.24E-20	2.14E-17	0.00E+00	3.86E-17	3.73E-12
PAHs								
Acenaphthalene	4.95E-14	3.20E-14	1.51E-16	2.89E-17	8.54E-17	1.05E-19	1.54E-16	8.19E-14
Acenaphthene	4.95E-14	1.48E-14	1.14E-16	2.31E-17	8.54E-17	4.07E-20	1.54E-16	6.47E-14
Benzo(a)pyrene	9.93E-14	5.79E-15	4.95E-14	5.78E-15	1.71E-16	1.40E-19	3.09E-16	1.61E-13

A	B	C	AD	AE	AF	AG	AH	AI	AJ	AK
2			TABLE 3							
61		Chrysene	9.93E-15	1.95E-15	1.19E-15	1.46E-16	1.71E-17	3.55E-19	3.09E-17	1.33E-14
62		Dibenzo(a,h)anthracene	9.93E-14	7.36E-15	5.94E-14	6.91E-15	1.71E-16	7.95E-17	3.09E-16	1.74E-13
63		Fluoranthene	9.93E-14	3.37E-14	3.33E-15	4.46E-16	1.71E-16	NA	3.09E-16	1.37E-13
64		Fluorene	9.93E-15	3.94E-15	5.59E-17	9.50E-18	1.71E-17	2.92E-20	3.09E-17	1.40E-14
65		Phenanthrene	3.87E-17	1.16E-17	3.22E-19	5.12E-20	6.68E-20	1.01E-19	1.20E-19	5.10E-17
66		Pyrene	1.99E-13	6.35E-14	6.10E-15	8.24E-16	3.43E-16	1.60E-18	6.18E-16	2.70E-13
67		Parathion	2.46E-17	7.62E-18	4.61E-20	9.78E-21	4.25E-20	3.17E-25	7.66E-20	3.24E-17
68		Pentachlorobenzene	1.22E-14	8.80E-15	3.01E-16	4.16E-17	2.11E-17	NA	3.80E-17	2.14E-14
69		Phenol	1.95E-16	6.54E-16	1.45E-20	5.40E-21	3.37E-19	NA	6.07E-19	8.50E-16
70		Pyridine	1.09E-12	NA	NA	NA	NA	NA	NA	1.09E-12
71		Quinoline	1.12E-14	1.12E-14	1.56E-18	5.50E-19	1.93E-17	6.35E-21	3.48E-17	2.24E-14
72		Tetrachlorobenzene	6.00E-15	9.74E-15	3.31E-17	5.64E-18	1.03E-17	NA	1.87E-17	1.58E-14
73		Tetrachloroethene	2.09E-16	NA	NA	NA	NA	NA	NA	2.09E-16
74		Toluene	3.34E-15	NA	NA	NA	NA	NA	NA	3.34E-15
75		Trichlorobenzene	3.04E-15	5.67E-16	7.80E-18	1.54E-18	5.24E-18	9.59E-21	9.45E-18	3.63E-15
76		Trichloroethene	2.23E-15	NA	NA	NA	NA	NA	NA	2.23E-15
77		Unsym. dimethyl hydrazine	4.81E-11	8.68E-09	7.79E-17	3.05E-17	8.30E-14	4.39E-20	1.50E-13	8.73E-09
78		Vapona	9.73E-17	5.38E-17	6.79E-21	2.53E-21	1.68E-19	2.12E-25	3.03E-19	1.52E-16
79		Vinyl acetate	1.38E-15	NA	NA	NA	NA	NA	NA	1.38E-15
80		Vinyl chloride	1.28E-15	NA	NA	NA	NA	NA	NA	1.28E-15
81		Xylenes (total)	2.38E-16	NA	NA	NA	NA	NA	NA	2.38E-16
82										
83	INORGANICS									
84		Arsenic	1.48E-12	6.14E-14	2.44E-13	2.99E-15	2.55E-15	4.89E-15	4.60E-16	1.79E-12
85		Cadmium	1.08E-14	6.16E-16	3.61E-16	1.01E-17	1.86E-17	NA	3.36E-18	1.18E-14
86		Chromium (III)	4.38E-14	NA	NA	NA	NA	NA	NA	4.38E-14
87		Chromium (VI)	1.54E-15	NA	NA	NA	NA	NA	NA	1.54E-15
88		Copper	1.10E-13	NA	NA	NA	NA	1.17E-15	NA	1.12E-13
89		Iron	3.37E-09	NA	NA	NA	NA	NA	NA	3.37E-09
90		Lead	5.68E-14	NA	NA	NA	NA	NA	NA	5.68E-14
91		Mercury	7.04E-14	4.44E-15	1.01E-15	3.74E-14	1.22E-16	NA	2.19E-17	1.13E-13
92		Selenium	1.82E-13	NA	NA	NA	NA	NA	NA	1.82E-13
93		Silver	1.13E-15	NA	NA	NA	NA	NA	NA	1.13E-15
94		Zinc	4.98E-13	NA	NA	NA	NA	2.59E-15	NA	5.01E-13
95										
96										
97										
98				br	20 M3/day					
99				bw	70 Kg					
100				ef	365 day/yr					
101				cf	365000 (1000 ug/mg)*(365 day/yr)					
102										
103			Inhalation dose = Cair*br*ef/bw/cf							

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AN	AO	AP	AQ	AR	AS	AT	AU
2			TABLE 4							
3			CHILD TOTAL EXPOSURE - AVERAGE							
4		SENSITIVITY CASE								
5										
6			INHALATION	VEGETABLE	MILK	BEEF	SOIL/DUST	FISH	DERMAL	TOTAL
7		18-Jun-91	EXPOSURE	EXPOSURE	EXPOSURE	EXPOSURE	EXPOSURE	CONSUMPTION	EXPOSURE	
8		16:44:49	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)	(mg/Kg/day)
9		FARM								
10										
11										
12	ORGANICS									
13		Acetone	9.92E-15	NA	NA	NA	NA	NA	NA	9.92E-15
14		Acetonitrile	8.97E-12	1.32E-10	2.74E-16	4.64E-17	6.11E-14	1.75E-20	2.08E-14	1.41E-10
15		Acrylonitrile	3.82E-12	NA	NA	NA	NA	NA	NA	3.82E-12
16		Aldrin	1.39E-17	7.33E-17	5.52E-18	3.59E-19	9.48E-20	6.34E-27	3.23E-20	9.33E-17
17		Aniline	5.05E-13	4.11E-13	5.11E-17	8.65E-18	3.43E-15	5.27E-19	1.17E-15	9.20E-13
18		Atrazine	3.12E-15	1.52E-15	1.78E-18	3.00E-19	2.12E-17	0.00E+00	7.22E-18	4.67E-15
19		Benzaldehyde	2.30E-13	1.02E-13	4.08E-17	6.91E-18	1.56E-15	5.67E-20	5.33E-16	3.34E-13
20		Benzene	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
21		Benzofuran	1.12E-12	5.50E-13	6.34E-16	1.06E-16	7.60E-15	1.25E-18	2.59E-15	1.68E-12
22		Benzoic Acid	1.13E-13	3.67E-14	2.92E-17	4.93E-18	7.66E-16	4.96E-20	2.61E-16	1.50E-13
23		Benzonitrile	2.46E-12	1.02E-12	4.72E-16	7.98E-17	1.67E-14	6.74E-19	5.69E-15	3.50E-12
24		Benzothiazole	1.05E-15	3.13E-16	3.11E-19	5.26E-20	7.12E-18	5.67E-24	2.43E-18	1.37E-15
25		Biphenyl	1.13E-12	NA	NA	NA	NA	NA	NA	1.13E-12
26		Bis(2-ethylhexyl)phthalate	6.18E-16	2.47E-15	4.64E-15	2.39E-16	4.20E-18	7.34E-24	1.43E-18	7.97E-15
27		Carbazole	5.05E-15	1.66E-15	5.28E-18	8.79E-19	3.43E-17	7.46E-21	1.17E-17	6.76E-15
28		Carbon Tetrachloride	1.46E-14	NA	NA	NA	NA	NA	NA	1.46E-14
29		4-Chloroaniline	2.89E-16	7.55E-17	7.21E-20	1.22E-20	1.97E-18	2.13E-21	6.69E-19	3.67E-16
30		Chlorobenzene	6.94E-16	NA	NA	NA	NA	NA	NA	6.94E-16
31		4-Chlorobiphenyl	7.12E-16	1.13E-16	4.22E-18	6.21E-19	4.84E-18	7.66E-22	1.65E-18	8.36E-16
32		4,4-Chlorobiphenyl	3.58E-17	4.37E-18	5.20E-19	6.57E-20	2.44E-19	1.29E-23	8.30E-20	4.11E-17
33		Chloroethane	2.55E-14	1.18E-14	4.58E-18	7.74E-19	1.74E-16	4.32E-23	5.91E-17	3.75E-14
34		Chloroform	1.24E-13	NA	NA	NA	NA	NA	NA	1.24E-13
35		Dibenzofuran	2.24E-14	4.94E-15	5.51E-17	8.85E-18	1.53E-16	4.94E-20	5.20E-17	2.76E-14
36		Dichlorobenzenes (total)	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
37		1,4-Dichlorobenzene	1.83E-16	NA	NA	NA	NA	NA	NA	1.83E-16
38		1,1-Dichloroethane	8.26E-15	NA	NA	NA	NA	NA	NA	8.26E-15
39		1,2-Dichloroethane	2.58E-15	8.09E-15	4.59E-19	7.76E-20	1.76E-17	1.29E-22	5.98E-18	1.07E-14
40		1,1-Dichloroethene	4.42E-15	NA	NA	NA	NA	NA	NA	4.42E-15
41		1,2-Dichloroethene	3.83E-15	NA	NA	NA	NA	NA	NA	3.83E-15
42		1,2-Dichloropropane	1.64E-15	NA	NA	NA	NA	NA	NA	1.64E-15
43		Dieldrin	2.56E-17	9.06E-16	9.87E-19	1.00E-19	1.74E-19	2.44E-24	5.93E-20	9.33E-16
44		Dimethyldisulfide	7.03E-15	NA	NA	NA	NA	NA	NA	7.03E-15
45		Hexachlorobenzene	6.76E-14	2.25E-14	8.40E-16	1.09E-16	4.60E-16	9.71E-19	1.57E-16	9.16E-14
46		Hydrazine	8.74E-11	3.06E-08	1.88E-16	3.19E-17	5.94E-13	7.96E-20	2.02E-13	3.07E-08
47		Lindane	1.19E-17	4.70E-18	1.26E-20	2.09E-21	8.09E-20	1.07E-25	2.75E-20	1.67E-17
48		Malathion	3.51E-17	4.80E-18	2.47E-20	4.14E-21	2.39E-19	0.00E+00	8.13E-20	4.03E-17
49		Methyl chloride	3.43E-15	NA	NA	NA	NA	NA	NA	3.43E-15
50		Methylene chloride	2.07E-13	NA	NA	NA	NA	NA	NA	2.07E-13
51		Methyl ethyl ketone	4.34E-15	3.18E-14	2.36E-19	4.00E-20	2.95E-17	0.00E+00	1.00E-17	3.62E-14
52		4-Methylphenol	3.94E-15	5.11E-15	1.09E-18	1.85E-19	2.68E-17	6.13E-23	9.12E-18	9.08E-15
53		Monomethyl hydrazine	2.75E-11	3.59E-09	5.94E-17	1.01E-17	1.87E-13	2.52E-20	6.38E-14	3.62E-09
54		Naphthalene	4.64E-16	2.27E-16	5.17E-19	8.58E-20	3.16E-18	3.35E-19	1.08E-18	6.96E-16
55		Naphthalene carbonitrile	2.46E-12	1.20E-12	2.73E-15	4.54E-16	1.67E-14	7.72E-18	5.69E-15	3.68E-12
56		n-Nitrosodimethylamine	2.80E-14	7.87E-12	6.15E-19	1.04E-19	1.91E-16	0.00E+00	6.49E-17	7.90E-12
57		PAHs								
58		Acenaphthalene	1.12E-13	6.36E-14	2.60E-16	4.20E-17	7.60E-16	2.37E-19	2.59E-16	1.77E-13
59		Acenaphthene	1.12E-13	2.72E-14	2.22E-16	3.62E-17	7.60E-16	9.18E-20	2.59E-16	1.40E-13
60		Benzo(a)pyrene	2.24E-13	3.89E-15	1.28E-14	1.19E-15	1.53E-15	3.17E-19	5.20E-16	2.44E-13

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AN	AO	AP	AQ	AR	AS	AT	AU
2			TABLE 4							
61		Chrysene	2.24E-14	3.30E-15	4.45E-16	5.26E-17	1.53E-16	8.01E-19	5.20E-17	2.64E-14
62		Dibenzo(a,h)anthracene	2.24E-13	7.23E-15	1.48E-14	1.33E-15	1.53E-15	1.79E-16	5.20E-16	2.50E-13
63		Fluoranthene	2.24E-13	6.31E-14	1.99E-15	2.75E-16	1.53E-15	NA	5.20E-16	2.92E-13
64		Fluorene	2.24E-14	7.52E-15	7.30E-17	1.15E-17	1.53E-16	6.60E-20	5.20E-17	3.02E-14
65		Phenanthrene	8.74E-17	2.14E-17	3.52E-19	5.42E-20	5.94E-19	2.27E-19	2.02E-19	1.10E-16
66		Pyrene	4.49E-13	1.18E-13	3.77E-15	5.27E-16	3.05E-15	3.62E-18	1.04E-15	5.75E-13
67		Parathion	5.56E-17	1.41E-17	9.87E-20	1.61E-20	3.78E-19	7.17E-25	1.29E-19	7.03E-17
68		Pentachlorobenzene	2.75E-14	1.76E-14	2.04E-16	2.91E-17	1.87E-16	NA	6.38E-17	4.57E-14
69		Phenol	4.41E-16	1.37E-15	7.68E-20	1.30E-20	3.00E-18	NA	1.02E-18	1.81E-15
70		Pyridine	2.46E-12	NA	NA	NA	NA	NA	NA	2.46E-12
71		Quinoline	2.53E-14	2.27E-14	7.66E-18	1.29E-18	1.72E-16	1.43E-20	5.85E-17	4.82E-14
72		Tetrachlorobenzene	1.35E-14	2.01E-14	4.36E-17	6.86E-18	9.21E-17	NA	3.14E-17	3.39E-14
73		Tetrachloroethene	4.73E-16	NA	NA	NA	NA	NA	NA	4.73E-16
74		Toluene	7.54E-15	NA	NA	NA	NA	NA	NA	7.54E-15
75		Trichlorobenzene	6.86E-15	9.44E-16	1.45E-17	2.35E-18	4.66E-17	2.17E-20	1.59E-17	7.88E-15
76		Trichloroethene	5.05E-15	NA	NA	NA	NA	NA	NA	5.05E-15
77		Unsym. dimethyl hydrazine	1.09E-10	1.83E-08	4.43E-16	7.51E-17	7.39E-13	9.92E-20	2.52E-13	1.85E-08
78		Vapona	2.20E-16	1.05E-16	3.61E-20	6.11E-21	1.49E-18	4.78E-25	5.09E-19	3.27E-16
79		Vinyl acetate	3.12E-15	NA	NA	NA	NA	NA	NA	3.12E-15
80		Vinyl chloride	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
81		Xylenes (total)	5.38E-16	NA	NA	NA	NA	NA	NA	5.38E-16
82										
83	INORGANICS									
84		Arsenic	3.34E-12	5.08E-15	2.63E-13	1.49E-15	2.27E-14	1.10E-14	7.73E-16	3.64E-12
85		Cadmium	2.44E-14	3.58E-16	6.86E-16	1.29E-17	1.66E-16	NA	5.65E-18	2.56E-14
86		Chromium (III)	9.88E-14	NA	NA	NA	NA	NA	NA	9.88E-14
87		Chromium (VI)	3.48E-15	NA	NA	NA	NA	NA	NA	3.48E-15
88		Copper	2.50E-13	NA	NA	NA	NA	2.64E-15	NA	2.52E-13
89		Iron	7.62E-09	NA	NA	NA	NA	NA	NA	7.62E-09
90		Lead	1.28E-13	NA	NA	NA	NA	NA	NA	1.28E-13
91		Mercury	1.59E-13	3.09E-15	1.76E-15	5.70E-14	1.08E-15	NA	3.68E-17	2.22E-13
92		Selenium	4.10E-13	NA	NA	NA	NA	NA	NA	4.10E-13
93		Silver	2.55E-15	NA	NA	NA	NA	NA	NA	2.55E-15
94		Zinc	1.13E-12	NA	NA	NA	NA	5.84E-15	NA	1.13E-12
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair *br/bw/ugmg							

TABLE 5
CHILD TOTAL EXPOSURE - MAXIMUM

SENSITIVITY CASE

18-Jun-91 16:44:49 FARM	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	9.92E-15	NA	NA	NA	NA	NA	NA	9.92E-15
Acetonitrile	8.97E-12	1.34E-10	2.80E-16	4.71E-17	6.19E-14	1.75E-20	2.11E-14	1.43E-10
Acrylonitrile	3.82E-12	NA	NA	NA	NA	NA	NA	3.82E-12
Aldrin	1.39E-17	7.48E-17	1.67E-16	8.20E-18	9.62E-20	6.34E-27	3.28E-20	2.65E-16
Aniline	5.05E-13	4.33E-13	5.37E-17	8.87E-18	3.48E-15	5.27E-19	1.19E-15	9.43E-13
Atrazine	3.12E-15	1.64E-15	2.50E-18	3.38E-19	2.15E-17	0.00E+00	7.33E-18	4.79E-15
Benzaldehyde	2.30E-13	1.11E-13	4.47E-17	7.16E-18	1.59E-15	5.67E-20	5.40E-16	3.43E-13
Benzene	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
Benzofuran	1.12E-12	5.94E-13	8.85E-16	1.20E-16	7.71E-15	1.25E-18	2.63E-15	1.72E-12
Benzoic Acid	1.13E-13	4.09E-14	3.35E-17	5.19E-18	7.77E-16	4.96E-20	2.65E-16	1.55E-13
Benzonitrile	2.46E-12	1.11E-12	5.20E-16	8.29E-17	1.70E-14	6.74E-19	5.77E-15	3.59E-12
Benzothiazole	1.05E-15	3.52E-16	3.65E-19	5.57E-20	7.23E-18	5.67E-24	2.46E-18	1.41E-15
Biphenyl	1.13E-12	NA	NA	NA	NA	NA	NA	1.13E-12
Bis(2-ethylhexyl)phthalate	6.18E-16	2.52E-15	1.58E-13	7.67E-15	4.26E-18	7.34E-24	1.45E-18	1.69E-13
Carbazole	5.05E-15	1.85E-15	9.91E-18	1.11E-18	3.48E-17	7.46E-21	1.19E-17	6.95E-15
Carbon Tetrachloride	1.46E-14	NA	NA	NA	NA	NA	NA	1.46E-14
4-Chloroaniline	2.89E-16	8.60E-17	8.22E-20	1.28E-20	1.99E-18	2.13E-21	6.79E-19	3.78E-16
Chlorobenzene	6.94E-16	NA	NA	NA	NA	NA	NA	6.94E-16
4-Chlorobiphenyl	7.12E-16	1.38E-16	3.04E-17	1.90E-18	4.91E-18	7.66E-22	1.67E-18	8.89E-16
4,4-Chlorobiphenyl	3.58E-17	5.60E-18	6.82E-18	3.71E-19	2.47E-19	1.29E-23	8.42E-20	4.89E-17
Chloroethane	2.55E-14	1.28E-14	5.01E-18	8.03E-19	1.76E-16	4.32E-23	6.00E-17	3.85E-14
Chloroform	1.24E-13	NA	NA	NA	NA	NA	NA	1.24E-13
Dibenzofuran	2.24E-14	5.75E-15	1.93E-16	1.56E-17	1.55E-16	4.94E-20	5.27E-17	2.86E-14
Dichlorobenzenes (total)	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
1,4-Dichlorobenzene	1.83E-16	NA	NA	NA	NA	NA	NA	1.83E-16
1,1-Dichloroethane	8.26E-15	NA	NA	NA	NA	NA	NA	8.26E-15
1,2-Dichloroethane	2.58E-15	8.29E-15	5.02E-19	8.05E-20	1.78E-17	1.29E-22	6.07E-18	1.09E-14
1,1-Dichloroethene	4.42E-15	NA	NA	NA	NA	NA	NA	4.42E-15
1,2-Dichloroethene	3.83E-15	NA	NA	NA	NA	NA	NA	3.83E-15
1,2-Dichloropropane	1.64E-15	NA	NA	NA	NA	NA	NA	1.64E-15
Dieldrin	2.56E-17	9.20E-16	1.98E-17	1.01E-18	1.77E-19	2.44E-24	6.01E-20	9.66E-16
Dimethyldisulfide	7.03E-15	NA	NA	NA	NA	NA	NA	7.03E-15
Hexachlorobenzene	6.76E-14	2.50E-14	1.01E-14	5.58E-16	4.67E-16	9.71E-19	1.59E-16	1.04E-13
Hydrazine	8.74E-11	3.11E-08	1.91E-16	3.24E-17	6.03E-13	7.96E-20	2.05E-13	3.12E-08
Lindane	1.19E-17	5.15E-18	2.37E-20	2.65E-21	8.20E-20	1.07E-25	2.79E-20	1.72E-17
Malathion	3.51E-17	6.01E-18	3.77E-20	4.81E-21	2.42E-19	0.00E+00	8.25E-20	4.15E-17
Methyl chloride	3.43E-15	NA	NA	NA	NA	NA	NA	3.43E-15
Methylene chloride	2.07E-13	NA	NA	NA	NA	NA	NA	2.07E-13
Methyl ethyl ketone	4.34E-15	3.24E-14	2.44E-19	4.08E-20	2.99E-17	0.00E+00	1.02E-17	3.68E-14
4-Methylphenol	3.94E-15	5.31E-15	1.27E-18	1.95E-19	2.72E-17	6.13E-23	9.25E-18	9.29E-15
Monomethyl hydrazine	2.75E-11	3.64E-09	6.03E-17	1.02E-17	1.90E-13	2.52E-20	6.48E-14	3.67E-09
Naphthalene	4.64E-16	2.45E-16	1.00E-18	1.10E-19	3.21E-18	3.35E-19	1.09E-18	7.15E-16
Naphthalene carbonitrile	2.46E-12	1.30E-12	5.31E-15	5.83E-16	1.70E-14	7.72E-18	5.77E-15	3.78E-12
n-Nitrosodimethylamine	2.80E-14	7.99E-12	6.27E-19	1.06E-19	1.93E-16	0.00E+00	6.59E-17	8.02E-12
PAHs								
Acenaphthalene	1.12E-13	6.81E-14	8.72E-16	7.20E-17	7.71E-16	2.37E-19	2.63E-16	1.82E-13
Acenaphthene	1.12E-13	3.12E-14	6.56E-16	5.75E-17	7.71E-16	9.18E-20	2.63E-16	1.45E-13
Benzo(a)pyrene	2.24E-13	1.13E-14	2.86E-13	1.44E-14	1.55E-15	3.17E-19	5.27E-16	5.38E-13

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AX	AY	AZ	BA	BB	BC	BD	BE
2			TABLE 5							
61		Chrysene	2.24E-14	4.08E-15	6.85E-15	3.63E-16	1.55E-16	8.01E-19	5.27E-17	3.39E-14
62		Dibenzo(a,h)anthracene	2.24E-13	1.46E-14	3.43E-13	1.72E-14	1.55E-15	1.79E-16	5.27E-16	6.01E-13
63		Fluoranthene	2.24E-13	7.14E-14	1.92E-14	1.11E-15	1.55E-15	NA	5.27E-16	3.18E-13
64		Fluorene	2.24E-14	8.36E-15	3.23E-16	2.37E-17	1.55E-16	6.60E-20	5.27E-17	3.13E-14
65		Phenanthrene	8.74E-17	2.45E-17	1.86E-18	1.28E-19	6.03E-19	2.27E-19	2.05E-19	1.15E-16
66		Pyrene	4.49E-13	1.34E-13	3.52E-14	2.05E-15	3.10E-15	3.62E-18	1.05E-15	6.24E-13
67		Parathion	5.56E-17	1.61E-17	2.66E-19	2.44E-20	3.84E-19	7.17E-25	1.31E-19	7.25E-17
68		Pentachlorobenzene	2.75E-14	1.88E-14	1.74E-15	1.04E-16	1.90E-16	NA	6.48E-17	4.84E-14
69		Phenol	4.41E-16	1.40E-15	8.38E-20	1.35E-20	3.04E-18	NA	1.04E-18	1.85E-15
70		Pyridine	2.46E-12	NA	NA	NA	NA	NA	NA	2.46E-12
71		Quinoline	2.53E-14	2.39E-14	9.03E-18	1.37E-18	1.74E-16	1.43E-20	5.94E-17	4.94E-14
72		Tetrachlorobenzene	1.35E-14	2.09E-14	1.91E-16	1.41E-17	9.34E-17	NA	3.18E-17	3.47E-14
73		Tetrachloroethene	4.73E-16	NA	NA	NA	NA	NA	NA	4.73E-16
74		Toluene	7.54E-15	NA	NA	NA	NA	NA	NA	7.54E-15
75		Trichlorobenzene	6.86E-15	1.18E-15	4.50E-17	3.85E-18	4.73E-17	2.17E-20	1.61E-17	8.15E-15
76		Trichloroethene	5.05E-15	NA	NA	NA	NA	NA	NA	5.05E-15
77		Unsym. dimethyl hydrazine	1.09E-10	1.86E-08	4.50E-16	7.62E-17	7.50E-13	9.92E-20	2.55E-13	1.87E-08
78		Vapona	2.20E-16	1.14E-16	3.92E-20	6.32E-21	1.52E-18	4.78E-25	5.16E-19	3.35E-16
79		Vinyl acetate	3.12E-15	NA	NA	NA	NA	NA	NA	3.12E-15
80		Vinyl chloride	2.89E-15	NA	NA	NA	NA	NA	NA	2.89E-15
81		Xylenes (total)	5.38E-16	NA	NA	NA	NA	NA	NA	5.38E-16
82										
83	INORGANICS									
84		Arsenic	3.34E-12	1.14E-13	1.41E-12	7.46E-15	2.30E-14	1.10E-14	7.85E-16	4.90E-12
85		Cadmium	2.44E-14	1.16E-15	2.08E-15	2.51E-17	1.68E-16	NA	5.74E-18	2.78E-14
86		Chromium (III)	9.88E-14	NA	NA	NA	NA	NA	NA	9.88E-14
87		Chromium (VI)	3.48E-15	NA	NA	NA	NA	NA	NA	3.48E-15
88		Copper	2.50E-13	NA	NA	NA	NA	2.64E-15	NA	2.52E-13
89		Iron	7.62E-09	NA	NA	NA	NA	NA	NA	7.62E-09
90		Lead	1.28E-13	NA	NA	NA	NA	NA	NA	1.28E-13
91		Mercury	1.59E-13	8.31E-15	5.86E-15	9.33E-14	1.10E-15	NA	3.74E-17	2.68E-13
92		Selenium	4.10E-13	NA	NA	NA	NA	NA	NA	4.10E-13
93		Silver	2.55E-15	NA	NA	NA	NA	NA	NA	2.55E-15
94		Zinc	1.13E-12	NA	NA	NA	NA	5.84E-15	NA	1.13E-12
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair*br/bw/ugmg							

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
3			INFANT TOTAL EXPOSURE		
4		SENSITIVITY CASE			
5					
6			----------MAXIMUM----------		
7		18-Jun-91	INHALATION	BREAST MILK	TOTAL
8		16:44:49	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)
9		FARM			
10					
11					
12	ORGANICS				
13		Acetone	6.49E-15	1.13E-16	6.60E-15
14		Acetonitrile	5.87E-12	2.42E-10	2.48E-10
15		Acrylonitrile	2.50E-12	7.71E-15	2.51E-12
16		Aldrin	9.12E-18	2.67E-16	2.76E-16
17		Aniline	3.30E-13	1.56E-12	1.89E-12
18		Atrazine	2.04E-15	7.86E-15	9.90E-15
19		Benzaldehyde	1.50E-13	5.64E-13	7.14E-13
20		Benzene	1.89E-15	2.19E-18	1.89E-15
21		Benzofuran	7.31E-13	2.83E-12	3.56E-12
22		Benzoic Acid	7.37E-14	2.53E-13	3.27E-13
23		Benzonitrile	1.61E-12	5.89E-12	7.50E-12
24		Benzothiazole	6.85E-16	2.30E-15	2.99E-15
25		Biphenyl	7.37E-13	1.28E-14	7.49E-13
26		Bis(2-ethylhexyl)phthalate	4.04E-16	1.16E-13	1.17E-13
27		Carbazole	3.30E-15	1.14E-14	1.47E-14
28		Carbon Tetrachloride	9.58E-15	1.66E-16	9.75E-15
29		4-Chloroaniline	1.89E-16	6.17E-16	8.06E-16
30		Chlorobenzene	4.54E-16	7.89E-18	4.62E-16
31		4-Chlorobiphenyl	4.66E-16	1.41E-15	1.88E-15
32		4,4-Chlorobiphenyl	2.34E-17	7.26E-17	9.61E-17
33		Chloroethane	1.67E-14	6.33E-14	8.00E-14
34		Chloroform	8.14E-14	1.41E-15	8.28E-14
35		Dibenzofuran	1.47E-14	4.64E-14	6.11E-14
36		Dichlorobenzenes (total)	1.89E-15	3.28E-17	1.92E-15
37		1,4-Dichlorobenzene	1.19E-16	2.07E-18	1.22E-16
38		1,1-Dichloroethane	5.41E-15	9.39E-17	5.50E-15
39		1,2-Dichloroethane	1.69E-15	1.82E-14	1.99E-14
40		1,1-Dichloroethene	2.89E-15	5.03E-17	2.95E-15
41		1,2-Dichloroethene	2.50E-15	4.35E-17	2.55E-15
42		1,2-Dichloropropane	1.07E-15	1.86E-17	1.09E-15
43		Dieldrin	1.67E-17	1.61E-15	1.63E-15
44		Dimethyldisulfide	4.60E-15	7.99E-17	4.68E-15
45		Hexachlorobenzene	4.42E-14	3.60E-14	8.02E-14
46		Hydrazine	5.72E-11	5.29E-08	5.30E-08
47		Lindane	7.78E-18	2.81E-17	3.59E-17
48		Malathion	2.30E-17	6.74E-17	9.04E-17
49		Methyl chloride	2.25E-15	3.90E-17	2.28E-15
50		Methylene chloride	1.35E-13	2.35E-15	1.38E-13
51		Methyl ethyl ketone	2.84E-15	6.21E-14	6.49E-14
52		4-Methylphenol	2.58E-15	1.54E-14	1.80E-14
53		Monomethyl hydrazine	1.80E-11	6.27E-09	6.29E-09
54		Naphthalene	3.04E-16	1.17E-15	1.48E-15
55		Naphthalene carbonitrile	1.61E-12	6.20E-12	7.80E-12
56		n-Nitrosodimethylamine	1.83E-14	1.36E-11	1.36E-11
57		PAHs			
58		Acenaphthalene	7.31E-14	2.98E-13	3.71E-13
59		Acenaphthene	7.31E-14	2.35E-13	3.08E-13
60		Benzo(a)pyrene	1.47E-13	5.86E-13	7.32E-13

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
61		Chrysene	1.47E-14	4.83E-14	6.30E-14
62		Dibenzo(a,h)anthracene	1.47E-13	6.32E-13	7.79E-13
63		Fluoranthene	1.47E-13	5.00E-13	6.47E-13
64		Fluorene	1.47E-14	5.09E-14	6.56E-14
65		Phenanthrene	5.72E-17	1.86E-16	2.43E-16
66		Pyrene	2.94E-13	9.83E-13	1.28E-12
67		Parathion	3.64E-17	1.18E-16	1.54E-16
68		Pentachlorobenzene	1.80E-14	1.76E-14	3.56E-14
69		Phenol	2.88E-16	3.09E-15	3.38E-15
70		Pyridine	1.61E-12	2.79E-14	1.64E-12
71		Quinoline	1.65E-14	8.16E-14	9.82E-14
72		Tetrachlorobenzene	8.86E-15	1.30E-14	2.18E-14
73		Tetrachloroethene	3.10E-16	5.37E-18	3.15E-16
74		Toluene	4.93E-15	1.43E-17	4.95E-15
75		Trichlorobenzene	4.49E-15	2.98E-15	7.46E-15
76		Trichloroethene	3.30E-15	5.73E-17	3.36E-15
77		Unsym. dimethyl hydrazine	7.11E-11	3.18E-08	3.18E-08
78		Vapona	1.44E-16	5.51E-16	6.95E-16
79		Vinyl acetate	2.04E-15	3.54E-17	2.08E-15
80		Vinyl chloride	1.89E-15	3.28E-17	1.92E-15
81		Xylenes (total)	3.52E-16	2.04E-19	3.53E-16
82					
83	INORGANICS				
84		Arsenic	2.18E-12	NE	2.18E-12
85		Cadmium	1.60E-14	NE	1.60E-14
86		Chromium (III)	6.47E-14	NE	6.47E-14
87		Chromium (VI)	2.28E-15	NE	2.28E-15
88		Copper	1.63E-13	NE	1.63E-13
89		Iron	4.99E-09	NE	4.99E-09
90		Lead	8.40E-14	NE	8.40E-14
91		Mercury	1.04E-13	NE	1.04E-13
92		Selenium	2.68E-13	NE	2.68E-13
93		Silver	1.67E-15	NE	1.67E-15
94		Zinc	7.37E-13	NE	7.37E-13
95					
96					
97					
98			br	3.80E+00 M3/day	
99			bw	9.00E+00 Kg	
100			um	1.00E+03 ug/mg	
101					
102					
103			Inhalation dose = Cair *br/bw/ugmg		

TABLE 28
CARCINOGENIC SLOPE FACTORS ((mg/kg-day)-1)

FARM SENSITIVITY CASE	Inhalation Slope Factor	Oral Slope Factor	Dermal Slope Factor
ORGANICS			
Acrylonitrile	2.40E-01	5.40E-01	NC
Aldrin	1.70E+01	1.70E+01	3.40E+01
Aniline	5.70E-03	5.70E-03	1.14E-02
Benzene	2.90E-02	2.90E-02	NC
Bis(2-ethylhexyl)phthalate	1.40E-02	1.40E-02	2.80E-02
Carbazole	2.00E-02	2.00E-02	4.00E-02
Carbon Tetrachloride	1.30E-01	1.30E-01	NC
Chloroform	8.10E-02	6.10E-03	NC
1,4-Dichlorobenzene	2.40E-02	2.40E-02	NC
1,1-Dichloroethane			
1,2-Dichloroethane	9.10E-02	9.10E-02	1.82E-01
1,1-Dichloroethene	1.20E+00	6.00E-01	NC
1,2-Dichloropropane	6.80E-02	6.80E-02	NC
Dieldrin	1.60E+01	1.60E+01	3.20E+01
Hexachlorobenzene	1.60E+00	1.60E+00	3.20E+00
Hydrazine	1.71E+01	3.00E+00	6.00E+00
Lindane	1.30E+00	1.30E+00	2.60E+00
Methyl chloride	6.30E-03	1.30E-02	NC
Methylene chloride	1.40E-02	7.50E-03	NC
4-Methylphenol			
Monomethyl hydrazine	1.10E+00	1.10E+00	2.20E+00
n-Nitrosodimethylamine	5.10E+01	5.10E+01	1.02E+02
PAHs			
Benzo(a)pyrene	6.10E+00	1.15E+01	2.30E+01
Chrysene	6.10E+00	1.15E+01	2.30E+01
Dibenzo(a,h)anthracene	6.10E+00	1.15E+01	2.30E+01
Parathion			
Quinoline	1.20E+01	1.20E+01	2.40E+01
Tetrachloroethene	3.30E-03	5.10E-02	NC
Trichloroethene	1.10E-02	1.10E-02	NC
Vapona	2.90E-01	2.90E-01	5.80E-01
Vinyl chloride	2.95E-01	2.30E+00	NC
INORGANICS			
Arsenic	1.50E+01	1.75E+00	3.50E+01
Cadmium	6.10E+00	NC	NC
Chromium (VI)	4.10E+01	NC	NC
Total			

AED Adult Exposure Duration	64
CED Child Exposure Duration	5
CID Child Inhalation Duration	1
IED Infant Exposure Duration	1
IID Infant Inhalation Duration	1

TABLE 29
ADULT CARCINOGENIC RISK

FARM SENSITIVITY CASE	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL ADULT CARC. RISK
ORGANICS							
Acrylonitrile	NA	NA	NA	NA	NA	NA	NA
Aldrin	5.30E-16	1.49E-17	2.24E-18	1.63E-19	4.36E-26	5.88E-19	5.48E-16
Aniline	1.00E-15	4.61E-20	1.81E-20	1.98E-18	1.22E-21	7.14E-18	1.01E-15
Benzene	NA	NA	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	1.47E-17	1.03E-17	1.23E-18	5.96E-21	4.16E-26	2.15E-20	2.62E-17
Carbazole	1.41E-17	1.67E-20	6.44E-21	6.95E-20	6.04E-23	2.51E-19	1.45E-17
Carbon Tetrachloride	NA	NA	NA	NA	NA	NA	NA
Chloroform	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	3.13E-16	6.61E-21	2.59E-21	1.62E-19	4.76E-24	5.83E-19	3.14E-16
1,1-Dichloroethene	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	NA	NA	NA	NA	NA	NA	NA
Dieldrin	6.16E-15	2.50E-18	5.89E-19	2.82E-19	1.58E-23	1.02E-18	6.17E-15
Hexachlorobenzene	1.53E-14	2.13E-16	6.42E-17	7.45E-17	6.29E-19	2.69E-16	1.59E-14
Hydrazine	3.92E-08	8.95E-17	3.51E-17	1.81E-13	9.66E-20	6.51E-13	3.92E-08
Lindane	2.60E-18	2.59E-21	9.96E-22	1.06E-20	5.62E-26	3.84E-20	2.65E-18
Methyl chloride	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	NA	NA	NA	NA	NA	NA	NA
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	1.69E-09	1.03E-17	4.06E-18	2.09E-14	1.12E-20	7.53E-14	1.70E-09
n-Nitrosodimethylamine	1.71E-10	4.97E-18	1.95E-18	9.84E-16	0.00E+00	3.55E-15	1.71E-10
PAHs							
Benzo(a)pyrene	1.92E-14	2.32E-14	5.01E-15	1.78E-15	1.47E-18	6.41E-15	5.56E-14
Chrysene	1.61E-14	8.11E-16	2.22E-16	1.78E-16	3.73E-18	6.41E-16	1.80E-14
Dibenzo(a,h)anthracene	3.55E-14	2.69E-14	5.62E-15	1.78E-15	8.35E-16	6.41E-15	7.70E-14
Parathion	NE	NE	NE	NE	NE	NE	NE
Quinoline	1.16E-13	1.46E-17	5.69E-18	2.09E-16	6.96E-20	7.53E-16	1.17E-13
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	NA	NA	NA	NA	NA	NA	NA
Vapona	1.30E-17	1.66E-21	6.49E-22	4.39E-20	5.61E-26	1.58E-19	1.33E-17
Vinyl chloride	NA	NA	NA	NA	NA	NA	NA
INORGANICS							
Arsenic	4.46E-15	7.30E-14	9.56E-16	4.02E-15	7.82E-15	1.45E-14	1.05E-13
Cadmium	NA	NA	NA	NA	NA	NA	NA
Chromium (VI)	NA	NA	NA	NA	NA	NA	NA
Total	4.11E-08	1.24E-13	1.19E-14	2.10E-13	8.66E-15	7.59E-13	4.11E-08

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

TABLE 30
CHILD CARCINOGENIC RISK

FARM SENSITIVITY CASE	INHALATION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL CHILD CARC. RISK
ORGANICS								
Acrylonitrile	1.31E-14	NA	NA	NA	NA	NA	NA	1.31E-14
Aldrin	3.38E-18	8.90E-17	6.70E-18	4.36E-19	1.15E-19	7.70E-27	7.84E-20	9.98E-17
Aniline	4.11E-17	1.67E-16	2.08E-20	3.52E-21	1.40E-18	2.15E-22	9.52E-19	2.11E-16
Benzene	1.20E-18	NA	NA	NA	NA	NA	NA	1.20E-18
Bis(2-ethylhexyl)phthalate	1.24E-19	2.47E-18	4.64E-18	2.39E-19	4.20E-21	7.34E-27	2.86E-21	7.48E-18
Carbazole	1.44E-18	2.37E-18	7.55E-21	1.26E-21	4.90E-20	1.07E-23	3.34E-20	3.90E-18
Carbon Tetrachloride	2.72E-17	NA	NA	NA	NA	NA	NA	2.72E-17
Chloroform	1.44E-16	NA	NA	NA	NA	NA	NA	1.44E-16
1,4-Dichlorobenzene	6.26E-20	NA	NA	NA	NA	NA	NA	6.26E-20
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	3.36E-18	5.26E-17	2.98E-21	5.04E-22	1.14E-19	8.40E-25	7.78E-20	5.61E-17
1,1-Dichloroethene	7.58E-17	NA	NA	NA	NA	NA	NA	7.58E-17
1,2-Dichloropropane	1.59E-18	NA	NA	NA	NA	NA	NA	1.59E-18
Dieldrin	5.85E-18	1.04E-15	1.13E-18	1.15E-19	1.99E-19	2.78E-24	1.35E-19	1.04E-15
Hexachlorobenzene	1.55E-15	2.57E-15	9.60E-17	1.25E-17	5.26E-17	1.11E-19	3.58E-17	4.31E-15
Hydrazine	2.13E-11	6.56E-09	4.04E-17	6.84E-18	1.27E-13	1.70E-20	8.68E-14	6.59E-09
Lindane	2.21E-19	4.36E-19	1.17E-21	1.94E-22	7.51E-21	9.91E-27	5.11E-21	6.71E-19
Methyl chloride	3.09E-19	NA	NA	NA	NA	NA	NA	3.09E-19
Methylene chloride	4.14E-17	NA	NA	NA	NA	NA	NA	4.14E-17
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	4.33E-13	2.82E-10	4.67E-18	7.90E-19	1.47E-14	1.98E-21	1.00E-14	2.83E-10
n-Nitrosodimethylamine	2.04E-14	2.87E-11	2.24E-18	3.80E-19	6.95E-16	0.00E+00	4.73E-16	2.87E-11
PAHs								
Benzo(a)pyrene	1.95E-14	3.20E-15	1.05E-14	9.77E-16	1.25E-15	2.60E-19	8.54E-16	3.63E-14
Chrysene	1.95E-15	2.71E-15	3.66E-16	4.32E-17	1.25E-16	6.58E-19	8.54E-17	5.29E-15
Dibenzo(a,h)anthracene	1.95E-14	5.94E-15	1.21E-14	1.09E-15	1.25E-15	1.47E-16	8.54E-16	4.10E-14
Parathion	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	4.33E-15	1.95E-14	6.57E-18	1.11E-18	1.47E-16	1.23E-20	1.00E-16	2.41E-14
Tetrachloroethene	2.23E-20	NA	NA	NA	NA	NA	NA	2.23E-20
Trichloroethene	7.93E-19	NA	NA	NA	NA	NA	NA	7.93E-19
Vapona	9.10E-19	2.18E-18	7.48E-22	1.27E-22	3.09E-20	9.89E-27	2.11E-20	3.14E-18
Vinyl chloride	1.22E-17	NA	NA	NA	NA	NA	NA	1.22E-17
INORGANICS								
Arsenic	7.15E-13	6.36E-16	3.29E-14	1.86E-16	2.84E-15	1.38E-15	1.93E-15	7.55E-13
Cadmium	2.13E-15	NA	NA	NA	NA	NA	NA	2.13E-15
Chromium (VI)	2.04E-15	NA	NA	NA	NA	NA	NA	2.04E-15
Total	2.26E-11	6.88E-09	5.60E-14	2.32E-15	1.48E-13	1.53E-15	1.01E-13	6.90E-09

TABLE 31
INFANT CARCINOGENIC RISK

FARM SENSITIVITY CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	TOTAL INFANT CARC. RISK
ORGANICS			
Acrylonitrile	8.57E-15	5.95E-17	8.63E-15
Aldrin	2.21E-18	6.48E-17	6.70E-17
Aniline	2.69E-17	1.27E-16	1.54E-16
Benzene	7.83E-19	9.06E-22	7.84E-19
Bis(2-ethylhexyl)phthalate	8.09E-20	2.32E-17	2.33E-17
Carbazole	9.43E-19	3.24E-18	4.19E-18
Carbon Tetrachloride	1.78E-17	3.09E-19	1.81E-17
Chloroform	9.42E-17	1.23E-19	9.43E-17
1,4-Dichlorobenzene	4.10E-20	7.11E-22	4.17E-20
1,1-Dichloroethane	NE	NE	NE
1,2-Dichloroethane	2.20E-18	2.37E-17	2.59E-17
1,1-Dichloroethene	4.96E-17	4.31E-19	5.01E-17
1,2-Dichloropropane	1.04E-18	1.81E-20	1.06E-18
Dieldrin	3.83E-18	3.68E-16	3.72E-16
Hexachlorobenzene	1.01E-15	8.23E-16	1.83E-15
Hydrazine	1.40E-11	2.27E-09	2.28E-09
Lindane	1.44E-19	5.22E-19	6.66E-19
Methyl chloride	2.02E-19	7.24E-21	2.09E-19
Methylene chloride	2.71E-17	2.52E-19	2.73E-17
4-Methylphenol	NE	NE	NE
Monomethyl hydrazine	2.83E-13	9.85E-11	9.88E-11
n-Nitrosodimethylamine	1.34E-14	9.88E-12	9.90E-12
PAHs			
Benzo(a)pyrene	1.28E-14	9.62E-14	1.09E-13
Chrysene	1.28E-15	7.93E-15	9.21E-15
Dibenzo(a,h)anthracene	1.28E-14	1.04E-13	1.17E-13
Parathion	NE	NE	NE
Quinoline	2.83E-15	1.40E-14	1.68E-14
Tetrachloroethene	1.46E-20	3.92E-21	1.85E-20
Trichloroethene	5.19E-19	9.01E-21	5.28E-19
Vapona	5.95E-19	2.28E-18	2.88E-18
Vinyl chloride	7.97E-18	1.08E-18	9.05E-18
INORGANICS			
Arsenic	4.68E-13	NA	4.68E-13
Cadmium	1.39E-15	NA	1.39E-15
Chromium (VI)	1.33E-15	NA	1.33E-15
Total	1.48E-11	2.38E-09	2.39E-09

TABLE 32
TOTAL LIFETIME CARCINOGENIC RISK

FARM SENSITIVITY CASE	INHALATION CARC. RISK	BREAST MILK INGESTION CARC. RISK	VEGETABLE INGESTION CARC. RISK	MILK INGESTION CARC. RISK	BEEF INGESTION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	FISH INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS									
Acrylonitrile	2.17E-14	5.95E-17	NA	NA	NA	NA	NA	NA	2.17E-14
Aldrin	5.60E-18	6.48E-17	6.19E-16	2.16E-17	2.67E-18	2.78E-19	5.13E-26	6.67E-19	7.14E-16
Aniline	6.80E-17	1.27E-16	1.17E-15	6.69E-20	2.16E-20	3.38E-18	1.43E-21	8.09E-18	1.38E-15
Benzene	1.98E-18	9.06E-22	NA	NA	NA	NA	NA	NA	1.98E-18
Bis(2-ethylhexyl)phthalate	2.04E-19	2.32E-17	1.72E-17	1.49E-17	1.47E-18	1.02E-20	4.89E-26	2.43E-20	5.70E-17
Carbazole	2.38E-18	3.24E-18	1.65E-17	2.43E-20	7.70E-21	1.19E-19	7.11E-23	2.84E-19	2.26E-17
Carbon Tetrachloride	4.50E-17	3.09E-19	NA	NA	NA	NA	NA	NA	4.53E-17
Chloroform	2.38E-16	1.23E-19	NA	NA	NA	NA	NA	NA	2.38E-16
1,4-Dichlorobenzene	1.04E-19	7.11E-22	NA	NA	NA	NA	NA	NA	1.04E-19
1,1-Dichloroethane	NE	NE	NE	NE	NE	NE	NE	NE	NE
1,2-Dichloroethane	5.55E-18	2.37E-17	3.66E-16	9.59E-21	3.09E-21	2.76E-19	5.60E-24	6.61E-19	3.96E-16
1,1-Dichloroethene	1.25E-16	4.31E-19	NA	NA	NA	NA	NA	NA	1.26E-16
1,2-Dichloropropane	2.63E-18	1.81E-20	NA	NA	NA	NA	NA	NA	2.65E-18
Dieldrin	9.67E-18	3.68E-16	7.20E-15	3.63E-18	7.04E-19	4.81E-19	1.86E-23	1.15E-18	7.58E-15
Hexachlorobenzene	2.56E-15	8.23E-16	1.79E-14	3.09E-16	7.67E-17	1.27E-16	7.40E-19	3.04E-16	2.20E-14
Hydrazine	3.53E-11	2.27E-09	4.58E-08	1.30E-16	4.19E-17	3.08E-13	1.14E-19	7.38E-13	4.81E-08
Lindane	3.65E-19	5.22E-19	3.04E-18	3.76E-21	1.19E-21	1.82E-20	6.61E-26	4.35E-20	3.99E-18
Methyl chloride	5.11E-19	7.24E-21	NA	NA	NA	NA	NA	NA	5.18E-19
Methylene chloride	6.85E-17	2.52E-19	NA	NA	NA	NA	NA	NA	6.87E-17
4-Methylphenol	NE	NE	NE	NE	NE	NE	NE	NE	NE
Monomethyl hydrazine	7.16E-13	9.85E-11	1.98E-09	1.50E-17	4.85E-18	3.56E-14	1.32E-20	8.53E-14	2.08E-09
n-Nitrosodimethylamine	3.38E-14	9.88E-12	1.99E-10	7.21E-18	2.33E-18	1.68E-15	0.00E+00	4.02E-15	2.09E-10
PAHs									
Benzo(a)pyrene	3.23E-14	9.62E-14	2.24E-14	3.37E-14	5.99E-15	3.03E-15	1.73E-18	7.26E-15	2.01E-13
Chrysene	3.23E-15	7.93E-15	1.89E-14	1.18E-15	2.65E-16	3.03E-16	4.39E-18	7.26E-16	3.25E-14
Dibenzo(a,h)anthracene	3.23E-14	1.04E-13	4.14E-14	3.90E-14	6.71E-15	3.03E-15	9.83E-16	7.26E-15	2.35E-13
Parathion	NE	NE	NE	NE	NE	NE	NE	NE	NE
Quinoline	7.17E-15	1.40E-14	1.36E-13	2.11E-17	6.80E-18	3.56E-16	8.19E-20	8.53E-16	1.58E-13
Tetrachloroethene	3.69E-20	3.92E-21	NA	NA	NA	NA	NA	NA	4.08E-20
Trichloroethene	1.31E-18	9.01E-21	NA	NA	NA	NA	NA	NA	1.32E-18
Vapona	1.51E-18	2.28E-18	1.52E-17	2.41E-21	7.76E-22	7.48E-20	6.60E-26	1.79E-19	1.93E-17
Vinyl chloride	2.01E-17	1.08E-18	NA	NA	NA	NA	NA	NA	2.12E-17
INORGANICS									
Arsenic	1.18E-12	NA	5.09E-15	1.06E-13	1.14E-15	6.86E-15	9.20E-15	1.64E-14	1.33E-12
Cadmium	3.52E-15	NA	NA	NA	NA	NA	NA	NA	3.52E-15
Chromium (VI)	3.37E-15	NA	NA	NA	NA	NA	NA	NA	3.37E-15
Total	3.74E-11	2.38E-09	4.79E-08	1.80E-13	1.42E-14	3.59E-13	1.02E-14	8.60E-13	5.04E-08

TABLE 33
TOTAL LIFETIME CARCINOGENIC RISK

FARM SENSITIVITY CASE	INHALATION CARC. RISK	INGESTION CARC. RISK	DERMAL CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS				
Acrylonitrile	2.17E-14	5.95E-17	NA	2.17E-14
Aldrin	5.60E-18	7.08E-16	6.67E-19	7.14E-16
Aniline	6.80E-17	1.30E-15	8.09E-18	1.38E-15
Benzene	1.98E-18	9.06E-22	NA	1.98E-18
Bis(2-ethylhexyl)phthalate	2.04E-19	5.68E-17	2.43E-20	5.70E-17
Carbazole	2.38E-18	1.99E-17	2.84E-19	2.26E-17
Carbon Tetrachloride	4.50E-17	3.09E-19	NA	4.53E-17
Chloroform	2.38E-16	1.23E-19	NA	2.38E-16
1,4-Dichlorobenzene	1.04E-19	7.11E-22	NA	1.04E-19
1,1-Dichloroethane	NE	NE	NE	NE
1,2-Dichloroethane	5.55E-18	3.90E-16	6.61E-19	3.96E-16
1,1-Dichloroethene	1.25E-16	4.31E-19	NA	1.26E-16
1,2-Dichloropropane	2.63E-18	1.81E-20	NA	2.65E-18
Dieldrin	9.67E-18	7.57E-15	1.15E-18	7.58E-15
Hexachlorobenzene	2.56E-15	1.92E-14	3.04E-16	2.20E-14
Hydrazine	3.53E-11	4.80E-08	7.38E-13	4.81E-08
Lindane	3.65E-19	3.58E-18	4.35E-20	3.99E-18
Methyl chloride	5.11E-19	7.24E-21	NA	5.18E-19
Methylene chloride	6.85E-17	2.52E-19	NA	6.87E-17
4-Methylphenol	NE	NE	NE	NE
Monomethyl hydrazine	7.16E-13	2.08E-09	8.53E-14	2.08E-09
n-Nitrosodimethylamine	3.38E-14	2.09E-10	4.02E-15	2.09E-10
PAHs				
Benzo(a)pyrene	3.23E-14	1.61E-13	7.26E-15	2.01E-13
Chrysene	3.23E-15	2.85E-14	7.26E-16	3.25E-14
Dibenzo(a,h)anthracene	3.23E-14	1.95E-13	7.26E-15	2.35E-13
Parathion	NE	NE	NE	NE
Quinoline	7.17E-15	1.50E-13	8.53E-16	1.58E-13
Tetrachloroethene	3.69E-20	3.92E-21	NA	4.08E-20
Trichloroethene	1.31E-18	9.01E-21	NA	1.32E-18
Vapona	1.51E-18	1.76E-17	1.79E-19	1.93E-17
Vinyl chloride	2.01E-17	1.08E-18	NA	2.12E-17
INORGANICS				
Arsenic	1.18E-12	1.28E-13	1.64E-14	1.33E-12
Cadmium	3.52E-15	NA	NA	3.52E-15
Chromium (VI)	3.37E-15	NA	NA	3.37E-15
Total	3.74E-11	5.03E-08	8.60E-13	5.04E-08

TABLE 34
REFERENCE DOSES FOR NONCARCINOGENIC EFFECTS (mg/kg-day)

FARM SENSITIVITY CASE	Inhalation RfD	Oral RfD	Dermal RfD
ORGANICS			
Acetone	1.82E+00	1.00E-01	NC
Acetonitrile	1.00E-02	6.00E-02	3.00E-02
Acrylonitrile	4.39E-03	2.70E-04	NC
Aldrin	2.55E-04	3.00E-05	1.50E-05
Aniline	7.76E-03	1.95E-03	9.75E-04
Atrazine	5.10E-03	5.00E-03	2.50E-03
Benzaldehyde	1.00E-01	1.00E-01	5.00E-02
Benzene	3.26E-02	1.00E-03	NC
Benzofuran	5.00E-03	5.00E-03	2.50E-03
Benzoic Acid	4.00E+00	4.00E+00	2.00E+00
Benzonitrile	8.00E-03	8.00E-03	4.00E-03
Benzothiazole	1.00E-03	1.00E-03	5.00E-04
Biphenyl	1.33E-03	5.00E-02	NC
Bis(2-ethylhexyl)phthalate	5.10E-03	4.00E-03	1.00E-02
Carbazole	5.00E-03	5.00E-03	2.50E-03
Carbon Tetrachloride	3.16E-02	7.00E-04	NC
4-Chloroaniline	4.00E-03	4.00E-03	2.00E-03
Chlorobenzene	5.00E-03	2.00E-02	NC
4-Chlorobiphenyl	2.45E-02	2.45E-02	1.22E-02
4,4-Chlorobiphenyl	2.33E-02	2.33E-02	1.16E-02
Chloroethane	2.65E+00	NA	NC
Chloroform	5.00E-02	1.00E-02	NC
Dibenzofuran	NA	NA	NA
Dichlorobenzenes (total)	4.00E-02	9.00E-02	NC
1,1-Dichloroethane	1.00E-01	1.00E-01	NC
1,2-Dichloroethane	4.08E-02	4.89E-03	2.45E-03
1,1-Dichloroethene	2.04E-02	9.00E-03	NC
1,2-Dichloroethene	8.10E-01	2.00E-02	NC
1,2-Dichloropropane	3.54E-01	8.60E-03	NC
Dieldrin	2.55E-04	5.00E-05	2.50E-05
Dimethyldisulfide	8.10E-03	8.10E-03	NC
Hexachlorobenzene	8.00E-04	8.00E-04	4.00E-04
Hydrazine	1.33E-04	6.00E-04	3.00E-04
Lindane	5.10E-04	3.00E-04	1.50E-04
Malathion	1.02E-02	2.00E-02	1.00E-02
Methyl chloride	1.05E-01	1.80E-02	NC
Methylene chloride	8.57E-01	6.00E-02	NC
Methyl ethyl ketone	9.00E-02	5.00E-01	2.50E-01
4-Methylphenol	1.02E-02	5.00E-02	2.50E-02
Monomethyl hydrazine	1.94E-05	2.20E-04	1.10E-04
Naphthalene	5.10E-02	4.00E-03	2.00E-03
Naphthalene carbonitrile	5.10E-02	4.00E-03	2.00E-03
n-Nitrosodimethylamine	2.80E-04	2.80E-04	1.40E-04
PAHs			
Acenaphthalene	6.00E-02	6.00E-02	3.00E-02
Acenaphthene	6.00E-02	6.00E-02	3.00E-02
Benzo(a)pyrene	3.00E-02	3.00E-02	1.50E-02
Chrysene	3.00E-02	3.00E-02	1.50E-02

B	C	D	E	F
		TABLE 34		
	Dibenzo(a,h)anthracene	3.00E-02	3.00E-02	1.50E-02
	Fluoranthene	4.00E-02	4.00E-02	2.00E-02
	Fluorene	4.00E-02	4.00E-02	2.00E-02
	Phenanthrene	3.00E-02	3.00E-02	1.50E-02
	Pyrene	3.00E-02	3.00E-02	1.50E-02
	Parathion	5.10E-05	6.00E-03	3.00E-03
	Pentachlorobenzene	8.00E-04	8.00E-04	4.00E-04
	Phenol	1.94E-02	6.00E-01	3.00E-01
	Pyridine	1.63E-02	1.00E-03	NC
	Quinoline	2.00E-01	2.00E-01	1.00E-01
	Tetrachlorobenzene	3.00E-04	3.00E-04	1.50E-04
	Tetrachloroethene	3.46E-01	1.00E-02	NC
	Toluene	5.71E-01	2.00E-01	NC
	Trichlorobenzene	3.00E-03	2.00E-02	1.00E-02
	Trichloroethene	2.74E-01	7.35E-03	NC
	Unsym. dimethyl hydrazine	1.22E-03	1.22E-03	6.10E-04
	Vapona	8.00E-04	8.00E-04	4.00E-04
	Vinyl acetate	2.00E-01	1.00E+00	NC
	Vinyl chloride	1.33E-02	1.30E-03	NC
	Xylenes (total)	8.57E-02	2.00E+00	NC
INORGANICS				
	Arsenic	2.04E-04	1.00E-03	5.00E-05
	Cadmium	5.10E-05	1.00E-03	5.00E-05
	Chromium (III)	5.10E-04	NC	NC
	Chromium (VI)	5.10E-05	NC	NC
	Copper	1.00E-02	3.80E-02	NC
	Iron	1.02E-03	NC	NC
	Mercury	8.57E-05	3.00E-04	1.50E-05
	Selenium	2.04E-04	NC	NC
	Silver	1.02E-05	NC	NC
	Zinc	8.19E-03	2.00E-01	NC

TABLE 35
ADULT HAZARD INDEX

FARM SENSITIVITY CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL ADULT HAZARD INDEX
ORGANICS								
Acetone	2.41E-15	NA	NA	NA	NA	NA	NA	2.41E-15
Acetonitrile	3.97E-10	1.04E-09	8.07E-16	3.15E-16	1.14E-13	1.29E-19	4.12E-13	1.44E-09
Acrylonitrile	3.85E-10	NA	NA	NA	NA	NA	NA	3.85E-10
Aldrin	2.42E-14	1.16E-12	9.67E-13	1.10E-13	3.55E-16	9.36E-23	1.28E-15	2.26E-12
Aniline	2.88E-11	1.05E-10	4.77E-15	1.82E-15	1.98E-13	1.20E-16	7.13E-13	1.34E-10
Atrazine	2.71E-13	1.55E-13	8.66E-17	2.71E-17	4.76E-16	0.00E+00	1.72E-15	4.28E-13
Benzaldehyde	1.02E-12	5.26E-13	7.73E-17	2.87E-17	1.76E-15	2.51E-19	6.33E-15	1.55E-12
Benzene	3.92E-14	NA	NA	NA	NA	NA	NA	3.92E-14
Benzofuran	9.90E-11	5.58E-11	3.06E-14	9.60E-15	1.71E-13	1.11E-16	6.16E-13	1.56E-10
Benzoic Acid	1.25E-14	4.85E-15	1.45E-18	5.21E-19	2.15E-17	5.49E-21	7.75E-17	1.74E-14
Benzonitrile	1.36E-10	6.58E-11	1.13E-14	4.16E-15	2.35E-13	3.73E-17	8.46E-13	2.03E-10
Benzothiazole	4.64E-13	1.67E-13	6.33E-17	2.23E-17	8.00E-16	2.51E-21	2.88E-15	6.34E-13
Biphenyl	3.75E-10	NA	NA	NA	NA	NA	NA	3.75E-10
Bis(2-ethylhexyl)phthalate	5.37E-14	2.94E-13	6.85E-12	7.69E-13	1.18E-16	8.13E-22	8.51E-17	7.96E-12
Carbazole	4.47E-13	1.75E-13	3.43E-16	8.92E-17	7.71E-16	6.61E-19	2.78E-15	6.25E-13
Carbon Tetrachloride	2.05E-13	NA	NA	NA	NA	NA	NA	2.05E-13
4-Chloroaniline	3.20E-14	1.02E-14	3.56E-18	1.28E-18	5.52E-17	2.36E-19	1.99E-16	4.25E-14
Chlorobenzene	6.15E-14	NA	NA	NA	NA	NA	NA	6.15E-14
4-Chlorobiphenyl	1.29E-14	2.70E-15	2.15E-16	3.10E-17	2.22E-17	1.39E-20	8.04E-17	1.59E-14
4,4-Chlorobiphenyl	6.81E-16	1.16E-16	5.07E-17	6.39E-18	1.17E-18	2.45E-22	4.25E-18	8.59E-16
Chloroethane	4.26E-15	NE	NE	NE	NE	NE	NE	4.26E-15
Chloroform	1.10E-12	NA	NA	NA	NA	NA	NA	1.10E-12
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	3.20E-14	NA	NA	NA	NA	NA	NA	3.20E-14
1,1-Dichloroethane	3.66E-14	NA	NA	NA	NA	NA	NA	3.66E-14
1,2-Dichloroethane	2.80E-14	7.90E-13	1.78E-17	6.60E-18	4.03E-16	1.17E-20	1.45E-15	8.20E-13
1,1-Dichloroethene	9.60E-14	NA	NA	NA	NA	NA	NA	9.60E-14
1,2-Dichloroethene	2.09E-15	NA	NA	NA	NA	NA	NA	2.09E-15
1,2-Dichloropropane	2.05E-15	NA	NA	NA	NA	NA	NA	2.05E-15
Dieldrin	4.44E-14	8.55E-12	6.84E-14	8.09E-15	3.91E-16	2.16E-20	1.41E-15	8.68E-12
Dimethyldisulfide	3.84E-13	NA	NA	NA	NA	NA	NA	3.84E-13
Hexachlorobenzene	3.74E-11	1.47E-11	2.18E-12	2.79E-13	6.46E-14	5.38E-16	2.33E-13	5.49E-11
Hydrazine	2.91E-07	2.42E-05	5.52E-14	2.16E-14	1.11E-10	5.87E-17	4.01E-10	2.45E-05
Lindane	1.03E-14	8.09E-15	1.37E-17	3.54E-18	3.03E-17	1.58E-22	1.09E-16	1.86E-14
Malathion	1.52E-15	1.45E-16	3.26E-19	9.64E-20	1.34E-18	0.00E+00	4.84E-18	1.68E-15
Methyl chloride	1.45E-14	NA	NA	NA	NA	NA	NA	1.45E-14
Methylene chloride	1.07E-13	NA	NA	NA	NA	NA	NA	1.07E-13
Methyl ethyl ketone	2.13E-14	3.02E-14	8.43E-20	3.27E-20	6.63E-18	0.00E+00	2.39E-17	5.16E-14
4-Methylphenol	1.71E-13	4.97E-14	4.39E-18	1.56E-18	6.02E-17	5.43E-22	2.17E-16	2.21E-13
Monomethyl hydrazine	6.29E-07	7.77E-06	4.74E-14	1.86E-14	9.57E-11	5.07E-17	3.45E-10	8.40E-06
Naphthalene	4.03E-15	2.88E-14	4.35E-17	1.11E-17	8.87E-17	3.71E-17	3.20E-16	3.33E-14
Naphthalene carbonitrile	2.13E-11	1.52E-10	2.30E-13	5.85E-14	4.69E-13	8.55E-16	1.69E-12	1.76E-10
n-Nitrosodimethylamine	4.43E-11	1.33E-08	3.88E-16	1.52E-16	7.65E-14	0.00E+00	2.76E-13	1.33E-08
PAHs								
Acenaphthalene	8.25E-13	5.33E-13	2.52E-15	4.81E-16	1.42E-15	1.75E-18	5.13E-15	1.37E-12
Acenaphthene	8.25E-13	2.47E-13	1.89E-15	3.84E-16	1.42E-15	6.78E-19	5.13E-15	1.08E-12
Benzo(a)pyrene	3.31E-12	1.93E-13	1.65E-12	1.93E-13	5.71E-15	4.67E-18	2.06E-14	5.37E-12
Chrysene	3.31E-13	6.51E-14	3.95E-14	4.85E-15	5.71E-16	1.18E-17	2.06E-15	4.43E-13

B	C	H	I	J	K	L	M	N	O
		TABLE 35							
	Dibenzo(a,h)anthracene	3.31E-12	2.45E-13	1.98E-12	2.30E-13	5.71E-15	2.65E-15	2.06E-14	5.80E-12
	Fluoranthene	2.48E-12	8.43E-13	8.33E-14	1.12E-14	4.29E-15	NA	1.55E-14	3.44E-12
	Fluorene	2.48E-13	9.86E-14	1.40E-15	2.38E-16	4.29E-16	7.30E-19	1.55E-15	3.51E-13
	Phenanthrene	1.29E-15	3.87E-16	1.07E-17	1.71E-18	2.23E-18	3.35E-18	8.03E-18	1.70E-15
	Pyrene	6.62E-12	2.12E-12	2.03E-13	2.75E-14	1.14E-14	5.35E-17	4.12E-14	9.02E-12
	Parathion	4.83E-13	1.27E-15	7.68E-18	1.63E-18	7.08E-18	5.29E-23	2.55E-17	4.84E-13
	Pentachlorobenzene	1.52E-11	1.10E-11	3.76E-13	5.19E-14	2.63E-14	NA	9.49E-14	2.68E-11
	Phenol	1.01E-14	1.09E-15	2.42E-20	9.00E-21	5.61E-19	NA	2.02E-18	1.12E-14
	Pyridine	6.67E-11	NA	NA	NA	NA	NA	NA	6.67E-11
	Quinoline	5.59E-14	5.59E-14	7.82E-18	2.75E-18	9.65E-17	3.17E-20	3.48E-16	1.12E-13
	Tetrachlorobenzene	2.00E-11	3.25E-11	1.10E-13	1.88E-14	3.45E-14	NA	1.24E-13	5.27E-11
	Tetrachloroethene	6.05E-16	NA	NA	NA	NA	NA	NA	6.05E-16
	Toluene	5.85E-15	NA	NA	NA	NA	NA	NA	5.85E-15
	Trichlorobenzene	1.01E-12	2.83E-14	3.90E-16	7.72E-17	2.62E-16	4.80E-19	9.45E-16	1.04E-12
	Trichloroethene	8.15E-15	NA	NA	NA	NA	NA	NA	8.15E-15
	Unsym. dimethyl hydrazine	3.94E-08	7.12E-06	6.39E-14	2.50E-14	6.80E-11	3.60E-17	2.45E-10	7.15E-06
	Vapona	1.22E-13	6.72E-14	8.48E-18	3.17E-18	2.10E-16	2.64E-22	7.56E-16	1.90E-13
	Vinyl acetate	6.90E-15	NA	NA	NA	NA	NA	NA	6.90E-15
	Vinyl chloride	9.62E-14	NA	NA	NA	NA	NA	NA	9.62E-14
	Xylenes (total)	2.78E-15	NA	NA	NA	NA	NA	NA	2.78E-15
	INORGANICS								
	Arsenic	7.24E-09	6.14E-11	2.44E-10	2.99E-12	2.55E-12	4.89E-12	9.20E-12	7.57E-09
	Cadmium	2.12E-10	6.16E-13	3.61E-13	1.01E-14	1.86E-14	NA	6.72E-14	2.13E-10
	Chromium (III)	8.58E-11	NA	NA	NA	NA	NA	NA	8.58E-11
	Chromium (VI)	3.02E-11	NA	NA	NA	NA	NA	NA	3.02E-11
	Copper	1.10E-11	NA	NA	NA	NA	3.08E-14	NA	1.11E-11
	Iron	3.31E-06	NA	NA	NA	NA	NA	NA	3.31E-06
	Mercury	8.22E-10	1.48E-11	3.38E-12	1.25E-10	4.05E-13	NA	1.46E-12	9.66E-10
	Selenium	8.90E-10	NA	NA	NA	NA	NA	NA	8.90E-10
	Silver	1.11E-10	NA	NA	NA	NA	NA	NA	1.11E-10
	Zinc	6.09E-11	NA	NA	NA	NA	1.29E-14	NA	6.09E-11
	Total (Hazard Index)	4.28E-06	3.91E-05	2.62E-10	1.30E-10	2.79E-10	4.94E-12	1.01E-09	4.34E-05

TABLE 36
CHILD HAZARD INDEX

FARM SENSITIVITY CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL CHILD HAZARD INDEX
ORGANICS								
Acetone	5.45E-15	NA	NA	NA	NA	NA	NA	5.45E-15
Acetonitrile	8.97E-10	2.23E-09	4.66E-15	7.85E-16	1.03E-12	2.92E-19	7.03E-13	3.13E-09
Acrylonitrile	8.70E-10	NA	NA	NA	NA	NA	NA	8.70E-10
Aldrin	5.46E-14	2.49E-12	5.58E-12	2.73E-13	3.21E-15	2.11E-22	2.18E-15	8.41E-12
Aniline	6.50E-11	2.22E-10	2.75E-14	4.55E-15	1.79E-12	2.70E-16	1.22E-12	2.90E-10
Atrazine	6.11E-13	3.29E-13	5.00E-16	6.75E-17	4.30E-15	0.00E+00	2.93E-15	9.48E-13
Benzaldehyde	2.30E-12	1.11E-12	4.47E-16	7.16E-17	1.59E-14	5.67E-19	1.08E-14	3.44E-12
Benzene	8.86E-14	NA	NA	NA	NA	NA	NA	8.86E-14
Benzofuran	2.24E-10	1.19E-10	1.77E-13	2.39E-14	1.54E-12	2.50E-16	1.05E-12	3.45E-10
Benzoic Acid	2.81E-14	1.02E-14	8.37E-18	1.30E-18	1.94E-16	1.24E-20	1.32E-16	3.87E-14
Benzonitrile	3.07E-10	1.39E-10	6.50E-14	1.04E-14	2.12E-12	8.43E-17	1.44E-12	4.50E-10
Benzothiazole	1.05E-12	3.52E-13	3.65E-16	5.57E-17	7.23E-15	5.67E-21	4.92E-15	1.41E-12
Biphenyl	8.46E-10	NA	NA	NA	NA	NA	NA	8.46E-10
Bis(2-ethylhexyl)phthalate	1.21E-13	6.31E-13	3.95E-11	1.92E-12	1.07E-15	1.83E-21	1.45E-16	4.22E-11
Carbazole	1.01E-12	3.70E-13	1.98E-15	2.22E-16	6.97E-15	1.49E-18	4.74E-15	1.39E-12
Carbon Tetrachloride	4.63E-13	NA	NA	NA	NA	NA	NA	4.63E-13
4-Chloroaniline	7.22E-14	2.15E-14	2.05E-17	3.20E-18	4.98E-16	5.34E-19	3.40E-16	9.46E-14
Chlorobenzene	1.39E-13	NA	NA	NA	NA	NA	NA	1.39E-13
4-Chlorobiphenyl	2.90E-14	5.64E-15	1.24E-15	7.73E-17	2.00E-16	3.13E-20	1.37E-16	3.63E-14
4,4-Chlorobiphenyl	1.54E-15	2.40E-16	2.93E-16	1.59E-17	1.06E-17	5.53E-22	7.26E-18	2.10E-15
Chloroethane	9.62E-15	NE	NE	NE	NE	NE	NE	9.62E-15
Chloroform	2.49E-12	NA	NA	NA	NA	NA	NA	2.49E-12
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	7.22E-14	NA	NA	NA	NA	NA	NA	7.22E-14
1,1-Dichloroethane	8.26E-14	NA	NA	NA	NA	NA	NA	8.26E-14
1,2-Dichloroethane	6.33E-14	1.70E-12	1.03E-16	1.65E-17	3.64E-15	2.64E-20	2.48E-15	1.77E-12
1,1-Dichloroethene	2.17E-13	NA	NA	NA	NA	NA	NA	2.17E-13
1,2-Dichloroethene	4.72E-15	NA	NA	NA	NA	NA	NA	4.72E-15
1,2-Dichloropropane	4.62E-15	NA	NA	NA	NA	NA	NA	4.62E-15
Dieldrin	1.00E-13	1.84E-11	3.95E-13	2.02E-14	3.53E-15	4.87E-20	2.41E-15	1.89E-11
Dimethyldisulfide	8.68E-13	NA	NA	NA	NA	NA	NA	8.68E-13
Hexachlorobenzene	8.45E-11	3.12E-11	1.26E-11	6.97E-13	5.83E-13	1.21E-15	3.97E-13	1.30E-10
Hydrazine	6.57E-07	5.18E-05	3.18E-13	5.39E-14	1.01E-09	1.33E-16	6.85E-10	5.25E-05
Lindane	2.33E-14	1.72E-14	7.91E-17	8.84E-18	2.73E-16	3.56E-22	1.86E-16	4.10E-14
Malathion	3.44E-15	3.01E-16	1.88E-18	2.41E-19	1.21E-17	0.00E+00	8.25E-18	3.76E-15
Methyl chloride	3.27E-14	NA	NA	NA	NA	NA	NA	3.27E-14
Methylene chloride	2.42E-13	NA	NA	NA	NA	NA	NA	2.42E-13
Methyl ethyl ketone	4.82E-14	6.49E-14	4.87E-19	8.16E-20	5.99E-17	0.00E+00	4.08E-17	1.13E-13
4-Methylphenol	3.86E-13	1.06E-13	2.54E-17	3.90E-18	5.43E-16	1.23E-21	3.70E-16	4.93E-13
Monomethyl hydrazine	1.42E-06	1.66E-05	2.74E-13	4.64E-14	8.64E-10	1.14E-16	5.89E-10	1.80E-05
Naphthalene	9.11E-15	6.13E-14	2.51E-16	2.76E-17	8.01E-16	8.38E-17	5.46E-16	7.21E-14
Naphthalene carbonitrile	4.82E-11	3.24E-10	1.33E-12	1.46E-13	4.24E-12	1.93E-15	2.89E-12	3.81E-10
n-Nitrosodimethylamine	1.00E-10	2.85E-08	2.24E-15	3.78E-16	6.91E-13	0.00E+00	4.71E-13	2.86E-08
PAHs								
Acenaphthalene	1.86E-12	1.14E-12	1.45E-14	1.20E-15	1.29E-14	3.95E-18	8.76E-15	3.04E-12
Acenaphthene	1.86E-12	5.20E-13	1.09E-14	9.58E-16	1.29E-14	1.53E-18	8.76E-15	2.42E-12
Benzo(a)pyrene	7.48E-12	3.75E-13	9.53E-12	4.80E-13	5.16E-14	1.06E-17	3.52E-14	1.79E-11
Chrysene	7.48E-13	1.36E-13	2.28E-13	1.21E-14	5.16E-15	2.67E-17	3.52E-15	1.13E-12

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

B	C	Q	R	S	T	U	V	W	X
		TABLE 36							
	Dibenzo(a,h)anthracene	7.48E-12	4.88E-13	1.14E-11	5.74E-13	5.16E-14	5.98E-15	3.52E-14	2.01E-11
	Fluoranthene	5.61E-12	1.78E-12	4.81E-13	2.78E-14	3.87E-14	NA	2.64E-14	7.97E-12
	Fluorene	5.61E-13	2.09E-13	8.07E-15	5.92E-16	3.87E-15	1.65E-18	2.64E-15	7.85E-13
	Phenanthrene	2.91E-15	8.17E-16	6.19E-17	4.26E-18	2.01E-17	7.57E-18	1.37E-17	3.84E-15
	Pyrene	1.50E-11	4.47E-12	1.17E-12	6.85E-14	1.03E-13	1.21E-16	7.03E-14	2.08E-11
	Parathion	1.09E-12	2.68E-15	4.43E-17	4.06E-18	6.39E-17	1.19E-22	4.35E-17	1.09E-12
	Pentachlorobenzene	3.44E-11	2.35E-11	2.17E-12	1.30E-13	2.38E-13	NA	1.62E-13	6.06E-11
	Phenol	2.27E-14	2.34E-15	1.40E-19	2.24E-20	5.07E-18	NA	3.45E-18	2.51E-14
	Pyridine	1.51E-10	NA	NA	NA	NA	NA	NA	1.51E-10
	Quinoline	1.26E-13	1.19E-13	4.51E-17	6.86E-18	8.72E-16	7.16E-20	5.94E-16	2.47E-13
	Tetrachlorobenzene	4.51E-11	6.96E-11	6.37E-13	4.69E-14	3.11E-13	NA	2.12E-13	1.16E-10
	Tetrachloroethene	1.37E-15	NA	NA	NA	NA	NA	NA	1.37E-15
	Toluene	1.32E-14	NA	NA	NA	NA	NA	NA	1.32E-14
	Trichlorobenzene	2.29E-12	5.91E-14	2.25E-15	1.93E-16	2.37E-15	1.08E-18	1.61E-15	2.35E-12
	Trichloroethene	1.84E-14	NA	NA	NA	NA	NA	NA	1.84E-14
	Unsym. dimethyl hydrazine	8.90E-08	1.53E-05	3.69E-13	6.24E-14	6.15E-10	8.13E-17	4.19E-10	1.53E-05
	Vapona	2.74E-13	1.42E-13	4.90E-17	7.90E-18	1.89E-15	5.97E-22	1.29E-15	4.20E-13
	Vinyl acetate	1.56E-14	NA	NA	NA	NA	NA	NA	1.56E-14
	Vinyl chloride	2.17E-13	NA	NA	NA	NA	NA	NA	2.17E-13
	Xylenes (total)	6.28E-15	NA	NA	NA	NA	NA	NA	6.28E-15
	INORGANICS								
	Arsenic	1.64E-08	1.14E-10	1.41E-09	7.46E-12	2.30E-11	1.10E-11	1.57E-11	1.79E-08
	Cadmium	4.78E-10	1.16E-12	2.08E-12	2.51E-14	1.68E-13	NA	1.15E-13	4.82E-10
	Chromium (III)	1.94E-10	NA	NA	NA	NA	NA	NA	1.94E-10
	Chromium (VI)	6.82E-11	NA	NA	NA	NA	NA	NA	6.82E-11
	Copper	2.50E-11	NA	NA	NA	NA	6.95E-14	NA	2.50E-11
	Iron	7.47E-06	NA	NA	NA	NA	NA	NA	7.47E-06
	Mercury	1.86E-09	2.77E-11	1.95E-11	3.11E-10	3.66E-12	NA	2.49E-12	2.22E-09
	Selenium	2.01E-09	NA	NA	NA	NA	NA	NA	2.01E-09
	Silver	2.50E-10	NA	NA	NA	NA	NA	NA	2.50E-10
	Zinc	1.37E-10	NA	NA	NA	NA	2.92E-14	NA	1.37E-10
	Total (Hazard Index)	9.66E-06	8.37E-05	1.51E-09	3.23E-10	2.52E-09	1.11E-11	1.72E-09	9.33E-05

TABLE 37
INFANT HAZARD INDEX

FARM SENSITIVITY CASE	INHALATION HAZARD QUOTIENT	BREAST MILK INGESTION HAZARD QUOTIENT	TOTAL INFANT HAZARD INDEX
ORGANICS			
Acetone	3.57E-15	1.13E-15	4.69E-15
Acetonitrile	5.87E-10	4.03E-09	4.62E-09
Acrylonitrile	5.69E-10	2.86E-11	5.98E-10
Aldrin	3.58E-14	8.89E-12	8.93E-12
Aniline	4.25E-11	8.00E-10	8.43E-10
Atrazine	4.00E-13	1.57E-12	1.97E-12
Benzaldehyde	1.50E-12	5.64E-12	7.14E-12
Benzene	5.80E-14	2.19E-15	6.02E-14
Benzofuran	1.46E-10	5.65E-10	7.12E-10
Benzoic Acid	1.84E-14	6.32E-14	8.16E-14
Benzonitrile	2.01E-10	7.37E-10	9.38E-10
Benzothiazole	6.85E-13	2.30E-12	2.99E-12
Biphenyl	5.54E-10	2.56E-13	5.54E-10
Bis(2-ethylhexyl)phthalate	7.93E-14	2.90E-11	2.91E-11
Carbazole	6.60E-13	2.27E-12	2.93E-12
Carbon Tetrachloride	3.03E-13	2.38E-13	5.41E-13
4-Chloroaniline	4.73E-14	1.54E-13	2.01E-13
Chlorobenzene	9.09E-14	3.94E-16	9.13E-14
4-Chlorobiphenyl	1.90E-14	5.77E-14	7.67E-14
4,4-Chlorobiphenyl	1.01E-15	3.12E-15	4.12E-15
Chloroethane	6.30E-15	NE	6.30E-15
Chloroform	1.63E-12	1.41E-13	1.77E-12
Dibenzofuran	NE	NE	NE
Dichlorobenzenes (total)	4.73E-14	3.65E-16	4.76E-14
1,1-Dichloroethane	5.41E-14	9.39E-16	5.50E-14
1,2-Dichloroethane	4.14E-14	3.73E-12	3.77E-12
1,1-Dichloroethene	1.42E-13	5.58E-15	1.47E-13
1,2-Dichloroethene	3.09E-15	2.17E-15	5.26E-15
1,2-Dichloropropane	3.03E-15	2.16E-15	5.19E-15
Dieldrin	6.57E-14	3.22E-11	3.23E-11
Dimethyldisulfide	5.68E-13	9.86E-15	5.78E-13
Hexachlorobenzene	5.53E-11	4.50E-11	1.00E-10
Hydrazine	4.30E-07	8.82E-05	8.86E-05
Lindane	1.53E-14	9.37E-14	1.09E-13
Malathion	2.25E-15	3.37E-15	5.62E-15
Methyl chloride	2.14E-14	2.17E-15	2.36E-14
Methylene chloride	1.58E-13	3.92E-14	1.97E-13
Methyl ethyl ketone	3.15E-14	1.24E-13	1.56E-13
4-Methylphenol	2.53E-13	3.08E-13	5.61E-13
Monomethyl hydrazine	9.29E-07	2.85E-05	2.94E-05
Naphthalene	5.96E-15	2.93E-13	2.99E-13
Naphthalene carbonitrile	3.15E-11	1.55E-09	1.58E-09
n-Nitrosodimethylamine	6.55E-11	4.85E-08	4.85E-08
PAHs			
Acenaphthalene	1.22E-12	4.97E-12	6.18E-12
Acenaphthene	1.22E-12	3.92E-12	5.14E-12
Benzo(a)pyrene	4.89E-12	1.95E-11	2.44E-11
Chrysene	4.89E-13	1.61E-12	2.10E-12

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

	B	C	Z	AA	AB
156			TABLE 37		
215		Dibenzo(a,h)anthracene	4.89E-12	2.11E-11	2.60E-11
216		Fluoranthene	3.67E-12	1.25E-11	1.62E-11
217		Fluorene	3.67E-13	1.27E-12	1.64E-12
218		Phenanthrene	1.91E-15	6.18E-15	8.09E-15
219		Pyrene	9.79E-12	3.28E-11	4.25E-11
220		Parathion	7.13E-13	1.97E-14	7.33E-13
221		Pentachlorobenzene	2.25E-11	2.20E-11	4.45E-11
222		Phenol	1.49E-14	5.15E-15	2.00E-14
223		Pyridine	9.86E-11	2.79E-11	1.26E-10
224		Quinoline	8.27E-14	4.08E-13	4.91E-13
225		Tetrachlorobenzene	2.95E-11	4.32E-11	7.28E-11
226		Tetrachloroethene	8.95E-16	5.37E-16	1.43E-15
227		Toluene	8.64E-15	7.14E-17	8.71E-15
228		Trichlorobenzene	1.50E-12	1.49E-13	1.64E-12
229		Trichloroethene	1.21E-14	7.80E-15	1.98E-14
230		Unsym. dimethyl hydrazine	5.83E-08	2.60E-05	2.61E-05
231		Vapona	1.80E-13	6.89E-13	8.69E-13
232		Vinyl acetate	1.02E-14	3.54E-17	1.02E-14
233		Vinyl chloride	1.42E-13	2.52E-14	1.67E-13
234		Xylenes (total)	4.11E-15	1.02E-19	4.11E-15
235					
236	INORGANICS				
237		Arsenic	1.07E-08	NE	1.07E-08
238		Cadmium	3.13E-10	NE	3.13E-10
239		Chromium (III)	1.27E-10	NE	1.27E-10
240		Chromium (VI)	4.46E-11	NE	4.46E-11
241		Copper	1.63E-11	NE	1.63E-11
242		Iron	4.89E-06	NE	4.89E-06
243		Mercury	1.21E-09	NE	1.21E-09
244		Selenium	1.32E-09	NE	1.32E-09
245		Silver	1.64E-10	NE	1.64E-10
246		Zinc	8.99E-11	NE	8.99E-11
247					
248		Total (Hazard Index)	6.32E-06	1.43E-04	1.49E-04

A	B	C	D
253		TABLE 38	
254		CARCINOGENIC RISK	
255		CONTRIBUTION BY PATHWAY	
256			
257		FARM	
258		SENSITIVITY CASE	
259			
260		Adult	
261		Inhalation	NA
262			
263		Ingestion	81.5526
264		Vegetables	81.5519
265		Milk	0.0002
266		Beef	0.0000
267		Soil\Dust	0.0004
268		Fish	0.0000
269			
270		Dermal	0.0015
271			
272		Child	
273		Inhalation	0.0448
274			
275		Ingestion	13.6524
276		Vegetables	13.6520
277		Milk	0.0001
278		Beef	0.0000
279		Soil\Dust	0.0003
280		Fish	0.0000
281			
282		Dermal	0.0002
283			
284		Infant	
285		Inhalation	0.0293
286			
287		Breast Milk Ingestion	4.7191
288			
290		Total	100.0000

TABLE 39
ADULT INHALATION CARCINOGENIC RISK
(These numbers are for sensitivity analysis)

FARM SENSITIVITY CASE	INHALATION ADULT CARC. RISK
ORGANICS	
Acrylonitrile	1.16E-14
Aldrin	3.00E-18
Aniline	3.64E-17
Benzene	1.06E-18
Bis(2-ethylhexyl)phthalate	1.09E-19
Carbazole	1.28E-18
Carbon Tetrachloride	2.41E-17
Chloroform	1.27E-16
1,4-Dichlorobenzene	5.54E-20
1,1-Dichloroethane	NE
1,2-Dichloroethane	2.97E-18
1,1-Dichloroethene	6.72E-17
1,2-Dichloropropane	1.41E-18
Dieldrin	5.18E-18
Hexachlorobenzene	1.37E-15
Hydrazine	1.89E-11
Lindane	1.95E-19
Methyl chloride	2.74E-19
Methylene chloride	3.67E-17
4-Methylphenol	NE
Monomethyl hydrazine	3.83E-13
n-Nitrosodimethylamine	1.81E-14
PAHs	
Benzo(a)pyrene	1.73E-14
Chrysene	1.73E-15
Dibenzo(a,h)anthracene	1.73E-14
Parathion	NE
Quinoline	3.84E-15
Tetrachloroethene	1.98E-20
Trichloroethene	7.02E-19
Vapona	8.06E-19
Vinyl chloride	1.08E-17
INORGANICS	
Arsenic	6.33E-13
Cadmium	1.88E-15
Chromium (VI)	1.80E-15
Total	2.00E-11

INHALATION EXPOSURE DURATION 2 YEARS

9.4 WORKER SCENARIO

9.4.1 Base Case Emissions — Worker Scenario

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1							
3										
4		BASE CASE	ER	AC	D	D	CO	CO	CO	CO
5							AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6				AVG. ANN.	TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	EMISSION	AMBIENT	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:40:09	RATE	CONC.	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		WORKER	g/sec	ug/M3	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10							mg/Kg	mg/Kg	mg/Kg	mg/Kg
11										
12	ORGANICS									
13		Acetone	1.26E-10	1.32E-11	NA	NA	NA	NA	NA	NA
14		Acetonitrile	1.14E-07	1.20E-08	5.08E-10	5.51E-11	3.52E-09	3.57E-09	7.03E-09	7.14E-09
15		Acrylonitrile	4.85E-08	5.09E-09	NA	NA	NA	NA	NA	NA
16		Aldrin	1.77E-13	1.86E-14	7.89E-16	8.55E-17	5.46E-15	5.54E-15	1.09E-14	1.11E-14
17		Aniline	6.41E-09	6.73E-10	2.86E-11	3.10E-12	1.98E-10	2.01E-10	3.96E-10	4.01E-10
18		Atrazine	3.96E-11	4.16E-12	1.77E-13	1.91E-14	1.22E-12	1.24E-12	2.44E-12	2.48E-12
19		Benzaldehyde	2.92E-09	3.07E-10	1.30E-11	1.41E-12	9.01E-11	9.14E-11	1.80E-10	1.83E-10
20		Benzene	3.67E-11	3.85E-12	NA	NA	NA	NA	NA	NA
21		Benzofuran	1.42E-08	1.49E-09	6.33E-11	6.86E-12	4.38E-10	4.44E-10	8.76E-10	8.89E-10
22		Benzoic Acid	1.43E-09	1.50E-10	6.38E-12	6.91E-13	4.41E-11	4.48E-11	8.82E-11	8.95E-11
23		Benzonitrile	3.12E-08	3.28E-09	1.39E-10	1.51E-11	9.63E-10	9.77E-10	1.93E-09	1.95E-09
24		Benzothiazole	1.33E-11	1.40E-12	5.93E-14	6.42E-15	4.10E-13	4.16E-13	8.21E-13	8.33E-13
25		Biphenyl	1.43E-08	1.50E-09	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	7.85E-12	8.24E-13	3.50E-14	3.79E-15	2.42E-13	2.46E-13	4.84E-13	4.91E-13
27		Carbazole	6.41E-11	6.73E-12	2.86E-13	3.10E-14	1.98E-12	2.01E-12	3.96E-12	4.01E-12
28		Carbon Tetrachloride	1.86E-10	1.95E-11	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	3.67E-12	3.85E-13	1.64E-14	1.77E-15	1.13E-13	1.15E-13	2.26E-13	2.30E-13
30		Chlorobenzene	8.82E-12	9.26E-13	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	9.04E-12	9.49E-13	4.03E-14	4.37E-15	2.79E-13	2.83E-13	5.58E-13	5.66E-13
32		4,4-Chlorobiphenyl	4.55E-13	4.78E-14	2.03E-15	2.20E-16	1.40E-14	1.42E-14	2.81E-14	2.85E-14
33		Chloroethane	3.24E-10	3.40E-11	1.45E-12	1.56E-13	1.00E-11	1.01E-11	2.00E-11	2.03E-11
34		Chloroform	1.58E-09	1.66E-10	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	2.85E-10	2.99E-11	1.27E-12	1.38E-13	8.79E-12	8.92E-12	1.76E-11	1.78E-11
36		Dichlorobenzenes (total)	3.67E-11	3.85E-12	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	2.32E-12	2.44E-13	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	1.05E-10	1.10E-11	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	3.28E-11	3.44E-12	1.46E-13	1.58E-14	1.01E-12	1.03E-12	2.02E-12	2.05E-12
40		1,1-Dichloroethene	5.62E-11	5.90E-12	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	4.86E-11	5.10E-12	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	2.08E-11	2.18E-12	NA	NA	NA	NA	NA	NA
43		Dieldrin	3.25E-13	3.41E-14	1.45E-15	1.57E-16	1.00E-14	1.02E-14	2.01E-14	2.03E-14
44		Dimethyldisulfide	8.93E-11	9.38E-12	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	8.59E-10	9.02E-11	3.83E-12	4.15E-13	2.65E-11	2.69E-11	5.30E-11	5.38E-11
46		Hydrazine	1.11E-06	1.17E-07	4.95E-09	5.36E-10	3.42E-08	3.47E-08	6.85E-08	6.95E-08
47		Lindane	1.51E-13	1.59E-14	6.73E-16	7.29E-17	4.66E-15	4.73E-15	9.32E-15	9.45E-15
48		Malathion	4.46E-13	4.68E-14	1.99E-15	2.15E-16	1.38E-14	1.40E-14	2.75E-14	2.79E-14
49		Methyl chloride	4.36E-11	4.58E-12	NA	NA	NA	NA	NA	NA
50		Methylene chloride	2.63E-09	2.76E-10	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	5.51E-11	5.79E-12	2.46E-13	2.66E-14	1.70E-12	1.72E-12	3.40E-12	3.45E-12
52		4-Methylphenol	5.00E-11	5.25E-12	2.23E-13	2.41E-14	1.54E-12	1.56E-12	3.09E-12	3.13E-12
53		Monomethyl hydrazine	3.50E-07	3.67E-08	1.56E-09	1.69E-10	1.08E-08	1.10E-08	2.16E-08	2.19E-08
54		Naphthalene	5.90E-12	6.20E-13	2.63E-14	2.85E-15	1.82E-13	1.85E-13	3.64E-13	3.69E-13
55		Naphthalene carbonitrile	3.12E-08	3.28E-09	1.39E-10	1.51E-11	9.63E-10	9.77E-10	1.93E-09	1.95E-09
56		n-Nitrosodimethylamine	3.56E-10	3.74E-11	1.59E-12	1.72E-13	1.10E-11	1.11E-11	2.20E-11	2.23E-11
57		PAHs								
58		Acenaphthalene	1.42E-09	1.49E-10	6.33E-12	6.86E-13	4.38E-11	4.44E-11	8.76E-11	8.89E-11
59		Acenaphthene	1.42E-09	1.49E-10	6.33E-12	6.86E-13	4.38E-11	4.44E-11	8.76E-11	8.89E-11
60		Benzo(a)pyrene	2.85E-09	2.99E-10	1.27E-11	1.38E-12	8.79E-11	8.92E-11	1.76E-10	1.78E-10

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1							
61		Chrysene	2.85E-10	2.99E-11	1.27E-12	1.38E-13	8.79E-12	8.92E-12	1.76E-11	1.78E-11
62		Dibenzo( )anthracene	2.85E-09	2.99E-10	1.27E-11	1.38E-12	8.79E-11	8.92E-11	1.76E-10	1.78E-10
63		Fluoranthene	2.85E-09	2.99E-10	1.27E-11	1.38E-12	8.79E-11	8.92E-11	1.76E-10	1.78E-10
64		Fluorene	2.85E-10	2.99E-11	1.27E-12	1.38E-13	8.79E-12	8.92E-12	1.76E-11	1.78E-11
65		Phenanthrene	1.11E-12	1.17E-13	4.95E-15	5.36E-16	3.42E-14	3.47E-14	6.85E-14	6.95E-14
66		Pyrene	5.70E-09	5.98E-10	2.54E-11	2.75E-12	1.76E-10	1.78E-10	3.52E-10	3.57E-10
67		Parathion	7.06E-13	7.41E-14	3.15E-15	3.41E-16	2.18E-14	2.21E-14	4.36E-14	4.42E-14
68		Pentachlorobenzene	3.50E-10	3.67E-11	1.56E-12	1.69E-13	1.08E-11	1.10E-11	2.16E-11	2.19E-11
69		Phenol	5.60E-12	5.88E-13	2.50E-14	2.70E-15	1.73E-13	1.75E-13	3.46E-13	3.51E-13
70		Pyridine	3.12E-08	3.28E-09	NA	NA	NA	NA	NA	NA
71		Quinoline	3.21E-10	3.37E-11	1.43E-12	1.55E-13	9.90E-12	1.00E-11	1.98E-11	2.01E-11
72		Tetrachlorobenzene	1.72E-10	1.81E-11	7.67E-13	8.31E-14	5.31E-12	5.38E-12	1.06E-11	1.08E-11
73		Tetrachloroethene	6.01E-12	6.31E-13	NA	NA	NA	NA	NA	NA
74		Toluene	9.58E-11	1.01E-11	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	8.71E-11	9.15E-12	3.88E-13	4.21E-14	2.69E-12	2.73E-12	5.37E-12	5.45E-12
76		Trichloroethene	6.41E-11	6.73E-12	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	1.38E-06	1.45E-07	6.15E-09	6.67E-10	4.26E-08	4.32E-08	8.51E-08	8.64E-08
78		Vapona	2.79E-12	2.93E-13	1.24E-14	1.35E-15	8.61E-14	8.73E-14	1.72E-13	1.75E-13
79		Vinyl acetate	3.96E-11	4.16E-12	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	3.67E-11	3.85E-12	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	6.84E-12	7.18E-13	NA	NA	NA	NA	NA	NA
82										
83	INORGANICS									
84		Arsenic	3.76E-08	3.95E-09	1.68E-10	1.82E-11	1.16E-09	1.18E-09	2.32E-09	2.35E-09
85		Cadmium	2.18E-10	2.29E-11	9.72E-13	1.05E-13	6.73E-12	6.82E-12	1.35E-11	1.36E-11
86		Chromium (III)	9.66E-10	1.01E-10	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	3.40E-11	3.57E-12	NA	NA	NA	NA	NA	NA
88		Copper	1.43E-09	1.50E-10	NA	NA	NA	NA	NA	NA
89		Iron	3.47E-05	3.64E-06	NA	NA	NA	NA	NA	NA
90		Lead	1.41E-09	1.48E-10	6.29E-12	6.81E-13	4.35E-11	4.41E-11	8.70E-11	8.83E-11
91		Mercury	1.41E-09	1.48E-10	6.29E-12	6.81E-13	4.35E-11	4.41E-11	8.70E-11	8.83E-11
92		Selenium	4.27E-09	4.48E-10	NA	NA	NA	NA	NA	NA
93		Silver	1.95E-11	2.05E-12	NA	NA	NA	NA	NA	NA
94		Zinc	1.12E-08	1.18E-09	NA	NA	NA	NA	NA	NA
95										
96										
97										
98						2 yrs	ACCUMULATION TIME	AT		
99						0.2 M	SOIL DEPTH OF MIXING	SD		
100						0.1 M	SOIL DEPTH OF MIXING	SD		
101						1.43E+03 Kg/M3	SOIL BULK DENSITY	BD		
102						1.00E+03 mg/g				
103						3.15E+07 sec/yr				
104										
105						Dilution Factor				
106						1.05E-01 INHALATION	DFI			
107						Deposition Factor	DF			
108						4.83E-04 DRY	DDF			
109						4.46E-03 DRY/WET	TDF			
110										
111										

$$CO = \frac{D*AT*1000}{SD*BD}$$

AC = ER * DFI

D = ER * x DF

TABLE 2
ADULT TOTAL EXPOSURE - AVERAGE

BASE CASE

18-Jun-91 15:34:28 WORKER

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	1.29E-15	NA	NA	NA	NA	NA	NA	1.29E-15
Acetonitrile	1.17E-12	0.00E+00	0.00E+00	0.00E+00	6.19E-15	0.00E+00	1.29E-14	1.19E-12
Acrylonitrile	4.98E-13	NA	NA	NA	NA	NA	NA	4.98E-13
Aldrin	1.82E-18	0.00E+00	0.00E+00	0.00E+00	9.62E-21	0.00E+00	2.00E-20	1.85E-18
Aniline	6.59E-14	0.00E+00	0.00E+00	0.00E+00	3.48E-16	0.00E+00	7.24E-16	6.69E-14
Atrazine	4.07E-16	0.00E+00	0.00E+00	0.00E+00	2.15E-18	0.00E+00	4.48E-18	4.13E-16
Benzaldehyde	3.00E-14	0.00E+00	0.00E+00	0.00E+00	1.59E-16	0.00E+00	3.30E-16	3.05E-14
Benzene	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
Benzofuran	1.46E-13	0.00E+00	0.00E+00	0.00E+00	7.72E-16	0.00E+00	1.60E-15	1.48E-13
Benzoic Acid	1.47E-14	0.00E+00	0.00E+00	0.00E+00	7.77E-17	0.00E+00	1.62E-16	1.49E-14
Benzonitrile	3.21E-13	0.00E+00	0.00E+00	0.00E+00	1.70E-15	0.00E+00	3.53E-15	3.26E-13
Benzothiazole	1.37E-16	0.00E+00	0.00E+00	0.00E+00	7.23E-19	0.00E+00	1.50E-18	1.39E-16
Biphenyl	1.47E-13	NA	NA	NA	NA	NA	NA	1.47E-13
Bis(2-ethylhexyl)phthalate	8.07E-17	0.00E+00	0.00E+00	0.00E+00	4.27E-19	0.00E+00	8.87E-19	8.20E-17
Carbazole	6.59E-16	0.00E+00	0.00E+00	0.00E+00	3.48E-18	0.00E+00	7.24E-18	6.69E-16
Carbon Tetrachloride	1.91E-15	NA	NA	NA	NA	NA	NA	1.91E-15
4-Chloroaniline	3.77E-17	0.00E+00	0.00E+00	0.00E+00	1.99E-19	0.00E+00	4.15E-19	3.83E-17
Chlorobenzene	9.06E-17	NA	NA	NA	NA	NA	NA	9.06E-17
4-Chlorobiphenyl	9.29E-17	0.00E+00	0.00E+00	0.00E+00	4.91E-19	0.00E+00	1.02E-18	9.44E-17
4,4-Chlorobiphenyl	4.67E-18	0.00E+00	0.00E+00	0.00E+00	2.47E-20	0.00E+00	5.14E-20	4.75E-18
Chloroethane	3.33E-15	0.00E+00	0.00E+00	0.00E+00	1.76E-17	0.00E+00	3.66E-17	3.38E-15
Chloroform	1.62E-14	NA	NA	NA	NA	NA	NA	1.62E-14
Dibenzofuran	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.55E-17	0.00E+00	3.22E-17	2.98E-15
Dichlorobenzenes (total)	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
1,4-Dichlorobenzene	2.38E-17	NA	NA	NA	NA	NA	NA	2.38E-17
1,1-Dichloroethane	1.08E-15	NA	NA	NA	NA	NA	NA	1.08E-15
1,2-Dichloroethane	3.37E-16	0.00E+00	0.00E+00	0.00E+00	1.78E-18	0.00E+00	3.71E-18	3.42E-16
1,1-Dichloroethene	5.77E-16	NA	NA	NA	NA	NA	NA	5.77E-16
1,2-Dichloroethene	4.99E-16	NA	NA	NA	NA	NA	NA	4.99E-16
1,2-Dichloropropane	2.14E-16	NA	NA	NA	NA	NA	NA	2.14E-16
Dieldrin	3.34E-18	0.00E+00	0.00E+00	0.00E+00	1.77E-20	0.00E+00	3.67E-20	3.39E-18
Dimethyldisulfide	9.17E-16	NA	NA	NA	NA	NA	NA	9.17E-16
Hexachlorobenzene	8.83E-15	0.00E+00	0.00E+00	0.00E+00	4.67E-17	0.00E+00	9.71E-17	8.97E-15
Hydrazine	1.14E-11	0.00E+00	0.00E+00	0.00E+00	6.03E-14	0.00E+00	1.25E-13	1.16E-11
Lindane	1.55E-18	0.00E+00	0.00E+00	0.00E+00	8.20E-21	0.00E+00	1.71E-20	1.58E-18
Malathion	4.58E-18	0.00E+00	0.00E+00	0.00E+00	2.42E-20	0.00E+00	5.04E-20	4.66E-18
Methyl chloride	4.48E-16	NA	NA	NA	NA	NA	NA	4.48E-16
Methylene chloride	2.70E-14	NA	NA	NA	NA	NA	NA	2.70E-14
Methyl ethyl ketone	5.66E-16	0.00E+00	0.00E+00	0.00E+00	2.99E-18	0.00E+00	6.23E-18	5.75E-16
4-Methylphenol	5.14E-16	0.00E+00	0.00E+00	0.00E+00	2.72E-18	0.00E+00	5.65E-18	5.22E-16
Monomethyl hydrazine	3.60E-12	0.00E+00	0.00E+00	0.00E+00	1.90E-14	0.00E+00	3.96E-14	3.65E-12
Naphthalene	6.06E-17	0.00E+00	0.00E+00	0.00E+00	3.21E-19	0.00E+00	6.67E-19	6.16E-17
Naphthalene carbonitrile	3.21E-13	0.00E+00	0.00E+00	0.00E+00	1.70E-15	0.00E+00	3.53E-15	3.26E-13
n-Nitrosodimethylamine	3.66E-15	0.00E+00	0.00E+00	0.00E+00	1.93E-17	0.00E+00	4.02E-17	3.72E-15
PAHs								
Acenaphthalene	1.46E-14	0.00E+00	0.00E+00	0.00E+00	7.72E-17	0.00E+00	1.60E-16	1.48E-14
Acenaphthene	1.46E-14	0.00E+00	0.00E+00	0.00E+00	7.72E-17	0.00E+00	1.60E-16	1.48E-14
Benzo(a)pyrene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.55E-16	0.00E+00	3.22E-16	2.98E-14

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	T	U	V	W	X	Y	Z	AA
2			TABLE 2							
61		Chrysene	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.55E-17	0.00E+00	3.22E-17	2.98E-15
62		Dibenzo(a,h)anthracene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.55E-16	0.00E+00	3.22E-16	2.98E-14
63		Fluoranthene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.55E-16	NA	3.22E-16	2.98E-14
64		Fluorene	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.55E-17	0.00E+00	3.22E-17	2.98E-15
65		Phenanthrene	1.14E-17	0.00E+00	0.00E+00	0.00E+00	6.03E-20	0.00E+00	1.25E-19	1.16E-17
66		Pyrene	5.86E-14	0.00E+00	0.00E+00	0.00E+00	3.10E-16	0.00E+00	6.44E-16	5.95E-14
67		Parathion	7.25E-18	0.00E+00	0.00E+00	0.00E+00	3.84E-20	0.00E+00	7.98E-20	7.37E-18
68		Pentachlorobenzene	3.60E-15	0.00E+00	0.00E+00	0.00E+00	1.90E-17	NA	3.96E-17	3.65E-15
69		Phenol	5.75E-17	0.00E+00	0.00E+00	0.00E+00	3.04E-19	NA	6.33E-19	5.85E-17
70		Pyridine	3.21E-13	NA	NA	NA	NA	NA	NA	3.21E-13
71		Quinoline	3.30E-15	0.00E+00	0.00E+00	0.00E+00	1.74E-17	0.00E+00	3.63E-17	3.35E-15
72		Tetrachlorobenzene	1.77E-15	0.00E+00	0.00E+00	0.00E+00	9.35E-18	NA	1.94E-17	1.80E-15
73		Tetrachloroethene	6.17E-17	NA	NA	NA	NA	NA	NA	6.17E-17
74		Toluene	9.84E-16	NA	NA	NA	NA	NA	NA	9.84E-16
75		Trichlorobenzene	8.95E-16	0.00E+00	0.00E+00	0.00E+00	4.73E-18	0.00E+00	9.84E-18	9.09E-16
76		Trichloroethene	6.59E-16	NA	NA	NA	NA	NA	NA	6.59E-16
77		Unsym. dimethyl hydrazine	1.42E-11	0.00E+00	0.00E+00	0.00E+00	7.50E-14	0.00E+00	1.56E-13	1.44E-11
78		Vapona	2.87E-17	0.00E+00	0.00E+00	0.00E+00	1.52E-19	0.00E+00	3.15E-19	2.91E-17
79		Vinyl acetate	4.07E-16	NA	NA	NA	NA	NA	NA	4.07E-16
80		Vinyl chloride	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
81		Xylenes (total)	7.03E-17	NA	NA	NA	NA	NA	NA	7.03E-17
82										
83	INORGANICS									
84		Arsenic	3.86E-13	0.00E+00	0.00E+00	0.00E+00	2.04E-15	0.00E+00	4.25E-16	3.89E-13
85		Cadmium	2.24E-15	0.00E+00	0.00E+00	0.00E+00	1.18E-17	NA	2.46E-18	2.25E-15
86		Chromium (III)	9.92E-15	NA	NA	NA	NA	NA	NA	9.92E-15
87		Chromium (VI)	3.49E-16	NA	NA	NA	NA	NA	NA	3.49E-16
88		Copper	1.47E-14	NA	NA	NA	NA	0.00E+00	NA	1.47E-14
89		Iron	3.57E-10	NA	NA	NA	NA	NA	NA	3.57E-10
90		Lead	1.45E-14	NA	NA	NA	NA	NA	NA	1.45E-14
91		Mercury	1.45E-14	0.00E+00	0.00E+00	0.00E+00	7.66E-17	NA	1.59E-17	1.46E-14
92		Selenium	4.39E-14	NA	NA	NA	NA	NA	NA	4.39E-14
93		Silver	2.00E-16	NA	NA	NA	NA	NA	NA	2.00E-16
94		Zinc	1.15E-13	NA	NA	NA	NA	0.00E+00	NA	1.15E-13
95										
96										
97										

98		D*AT*1000
99	br 10 M3/day	---------
100	bw 70 Kg	SD*BD
101	ef 250 days/yr	
102	cf 365000 (1000 ug/mg)*(365 day/yr)	AC = ER * DFI
103	Inhalation dose = Cair*br*ef/bw/cf	
104		D = ER * x DF

ROCKY MTN ARSENAL - FARMER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

117	B	C	BJ	BK	BL	BM
118	BASE CASE		TABLE 15			
177						
178	INORGANICS					
179	Arsenic		1.56E-09	2.01E-14	1.58E-09	2.04E-14
180	Cadmium		9.05E-12	1.17E-16	9.18E-12	1.18E-16
181	Mercury		5.85E-11	7.55E-16	5.94E-11	7.66E-16
182						
183						
184						
185						
186						
187						
188			0.2	Soil/dust ingestion rate (g/day)		
189			15.5	Body weight (Kg)		
190			365	days/yr		
191			365000	g/Kg*day/yr		
192						
193			EDI = Csoil*SIR*EF/BW/CF			

117 B	C	BO	BP	BQ	BR
118 BASE CASE		TABLE 16			
119		SOIL INGESTION ADULT			
120					
121					
122	18-Jun-91	--------AVERAGE---------		--------MAXIMUM---------	
123	15:15:33	C soil	EDI	C soil	EDI
124		CALCULATED	ESTIMATED	CALCULATED	ESTIMATED
125		CONC IN	DAILY	CONC IN	DAILY
126		SOIL	INTAKE	SOIL	INTAKE
127		.1M	mg/Kg/day	.1M	mg/Kg/day
128		mg/Kg		mg/Kg	
129					
130 ORGANICS					
131 Acetonitrile		4.73E-09	6.76E-15	4.80E-09	6.86E-15
132 Aldrin		7.35E-15	1.05E-20	7.45E-15	1.06E-20
133 Aniline		2.66E-10	3.80E-16	2.70E-10	3.86E-16
134 Atrazine		1.64E-12	2.35E-18	1.67E-12	2.38E-18
135 Benzaldehyde		1.21E-10	1.73E-16	1.23E-10	1.76E-16
136 Benzofuran		5.89E-10	8.42E-16	5.98E-10	8.54E-16
137 Benzoic Acid		5.94E-11	8.48E-17	6.02E-11	8.60E-17
138 Benzonitrile		1.29E-09	1.85E-15	1.31E-09	1.88E-15
139 Benzothiazole		5.52E-13	7.89E-19	5.60E-13	8.00E-19
140 Bis(2-ethylhexyl)phthalate		3.26E-13	4.65E-19	3.31E-13	4.72E-19
141 Carbazole		2.66E-12	3.80E-18	2.70E-12	3.86E-18
142 4-Chloroaniline		1.52E-13	2.18E-19	1.55E-13	2.21E-19
143 4-Chlorobiphenyl		3.75E-13	5.36E-19	3.81E-13	5.44E-19
144 4,4-Chlorobiphenyl		1.89E-14	2.70E-20	1.92E-14	2.74E-20
145 Chloroethane		1.34E-11	1.92E-17	1.36E-11	1.95E-17
146 Dibenzofuran		1.18E-11	1.69E-17	1.20E-11	1.71E-17
147 1,2-Dichloroethane		1.36E-12	1.94E-18	1.38E-12	1.97E-18
148 Dieldrin		1.35E-14	1.93E-20	1.37E-14	1.95E-20
149 Hexachlorobenzene		3.57E-11	5.09E-17	3.62E-11	5.17E-17
150 Hydrazine		4.61E-08	6.58E-14	4.67E-08	6.68E-14
151 Lindane		6.27E-15	8.95E-21	6.36E-15	9.08E-21
152 Malathion		1.85E-14	2.64E-20	1.88E-14	2.68E-20
153 Methyl ethyl ketone		2.29E-12	3.27E-18	2.32E-12	3.31E-18
154 4-Methylphenol		2.08E-12	2.96E-18	2.11E-12	3.01E-18
155 Monomethyl hydrazine		1.45E-08	2.08E-14	1.47E-08	2.11E-14
156 Naphthalene		2.45E-13	3.50E-19	2.48E-13	3.55E-19
157 Naphthalene carbonitrile		1.29E-09	1.85E-15	1.31E-09	1.88E-15
158 n-Nitrosodimethylamine		1.48E-11	2.11E-17	1.50E-11	2.14E-17
159 PAHs					
160 Acenaphthalene		5.89E-11	8.42E-17	5.98E-11	8.54E-17
161 Acenaphthene		5.89E-11	8.42E-17	5.98E-11	8.54E-17
162 Benzo(a)pyrene		1.18E-10	1.69E-16	1.20E-10	1.71E-16
163 Chrysene		1.18E-11	1.69E-17	1.20E-11	1.71E-17
164 Dibenzo(a,h)anthracene		1.18E-10	1.69E-16	1.20E-10	1.71E-16
165 Fluoranthene		1.18E-10	1.69E-16	1.20E-10	1.71E-16
166 Fluorene		1.18E-11	1.69E-17	1.20E-11	1.71E-17
167 Phenanthrene		4.61E-14	6.58E-20	4.67E-14	6.68E-20
168 Pyrene		2.37E-10	3.38E-16	2.40E-10	3.43E-16
169 Parathion		2.93E-14	4.19E-20	2.97E-14	4.25E-20
170 Pentachlorobenzene		1.45E-11	2.08E-17	1.47E-11	2.11E-17
171 Phenol		2.32E-13	3.32E-19	2.36E-13	3.37E-19
172 Quinoline		1.33E-11	1.90E-17	1.35E-11	1.93E-17
173 Tetrachlorobenzene		7.14E-12	1.02E-17	7.24E-12	1.03E-17
174 Trichlorobenzene		3.61E-12	5.16E-18	3.67E-12	5.24E-18
175 Unsym. dimethyl hydrazine		5.73E-08	8.18E-14	5.81E-08	8.30E-14
176 Vapona		1.16E-13	1.65E-19	1.17E-13	1.68E-19

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

B	C	K	L	M	N	O
BASE CASE		TABLE 5 DERMAL EXPOSURE ADULT				
	18-Jun-91 15:34:31	C soil AVERAGE CALCULATED CONC IN SOIL .2M mg/Kg	C soil MAXIMUM CALCULATED CONC IN SOIL .2M mg/Kg	AF ABSORPTION FACTOR	EDI AVERAGE ESTIMATED DAILY INTAKE mg/Kg/day	EDI MAXIMUM ESTIMATED DAILY INTAKE mg/Kg/day
ORGANICS						
Acetonitrile		3.52E-09	3.57E-09	1.00E-01	1.29E-14	1.31E-14
Aldrin		5.46E-15	5.54E-15	1.00E-01	2.00E-20	2.03E-20
Aniline		1.98E-10	2.01E-10	1.00E-01	7.24E-16	7.35E-16
Atrazine		1.22E-12	1.24E-12	1.00E-01	4.48E-18	4.54E-18
Benzaldehyde		9.01E-11	9.14E-11	1.00E-01	3.30E-16	3.35E-16
Benzofuran		4.38E-10	4.44E-10	1.00E-01	1.60E-15	1.63E-15
Benzoic Acid		4.41E-11	4.48E-11	1.00E-01	1.62E-16	1.64E-16
Benzonitrile		9.63E-10	9.77E-10	1.00E-01	3.53E-15	3.58E-15
Benzothiazole		4.10E-13	4.16E-13	1.00E-01	1.50E-18	1.52E-18
Bis(2-ethylhexyl)phthalate		2.42E-13	2.46E-13	1.00E-01	8.87E-19	9.00E-19
Carbazole		1.98E-12	2.01E-12	1.00E-01	7.24E-18	7.35E-18
4-Chloroaniline		1.13E-13	1.15E-13	1.00E-01	4.15E-19	4.21E-19
4-Chlorobiphenyl		2.79E-13	2.83E-13	1.00E-01	1.02E-18	1.04E-18
4,4-Chlorobiphenyl		1.40E-14	1.42E-14	1.00E-01	5.14E-20	5.22E-20
Chloroethane		1.00E-11	1.01E-11	1.00E-01	3.66E-17	3.71E-17
Dibenzofuran		8.79E-12	8.92E-12	1.00E-01	3.22E-17	3.27E-17
1,2-Dichloroethane		1.01E-12	1.03E-12	1.00E-01	3.71E-18	3.76E-18
Dieldrin		1.00E-14	1.02E-14	1.00E-01	3.67E-20	3.73E-20
Hexachlorobenzene		2.65E-11	2.69E-11	1.00E-01	9.71E-17	9.85E-17
Hydrazine		3.42E-08	3.47E-08	1.00E-01	1.25E-13	1.27E-13
Lindane		4.66E-15	4.73E-15	1.00E-01	1.71E-20	1.73E-20
Malathion		1.38E-14	1.40E-14	1.00E-01	5.04E-20	5.11E-20
Methyl ethyl ketone		1.70E-12	1.72E-12	1.00E-01	6.23E-18	6.32E-18
4-Methylphenol		1.54E-12	1.56E-12	1.00E-01	5.65E-18	5.73E-18
Monomethyl hydrazine		1.08E-08	1.10E-08	1.00E-01	3.96E-14	4.01E-14
Naphthalene		1.82E-13	1.85E-13	1.00E-01	6.67E-19	6.76E-19
Naphthalene carbonitrile		9.63E-10	9.77E-10	1.00E-01	3.53E-15	3.58E-15
n-Nitrosodimethylamine		1.10E-11	1.11E-11	1.00E-01	4.02E-17	4.08E-17
PAHs						
Acenaphthalene		4.38E-11	4.44E-11	1.00E-01	1.60E-16	1.63E-16
Acenaphthene		4.38E-11	4.44E-11	1.00E-01	1.60E-16	1.63E-16
Benzo(a)pyrene		8.79E-11	8.92E-11	1.00E-01	3.22E-16	3.27E-16
Chrysene		8.79E-12	8.92E-12	1.00E-01	3.22E-17	3.27E-17
Dibenzo(a,h)anthracene		8.79E-11	8.92E-11	1.00E-01	3.22E-16	3.27E-16
Fluoranthene		8.79E-11	8.92E-11	1.00E-01	3.22E-16	3.27E-16
Fluorene		8.79E-12	8.92E-12	1.00E-01	3.22E-17	3.27E-17
Phenanthrene		3.42E-14	3.47E-14	1.00E-01	1.25E-19	1.27E-19
Pyrene		1.76E-10	1.78E-10	1.00E-01	6.44E-16	6.54E-16
Parathion		2.18E-14	2.21E-14	1.00E-01	7.98E-20	8.09E-20
Pentachlorobenzene		1.08E-11	1.10E-11	1.00E-01	3.96E-17	4.01E-17
Phenol		1.73E-13	1.75E-13	1.00E-01	6.33E-19	6.42E-19
Quinoline		9.90E-12	1.00E-11	1.00E-01	3.63E-17	3.68E-17
Tetrachlorobenzene		5.31E-12	5.38E-12	1.00E-01	1.94E-17	1.97E-17
Trichlorobenzene		2.69E-12	2.73E-12	1.00E-01	9.84E-18	9.99E-18
Unsym. dimethyl hydrazine		4.26E-08	4.32E-08	1.00E-01	1.56E-13	1.58E-13
Vapona		8.61E-14	8.73E-14	1.00E-01	3.15E-19	3.20E-19

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

	B	C	K	L	M	N	O	
284								
285		BASE CASE	TABLE 5					
344	INORGANICS							
345		Arsenic	1.16E-09	1.18E-09	1.00E-02	4.25E-16	4.31E-16	
346		Cadmium	6.73E-12	6.82E-12	1.00E-02	2.46E-18	2.50E-18	
347		Mercury	4.35E-11	4.41E-11	1.00E-02	1.59E-17	1.62E-17	
348								
349			195	Number of exposure events per year (events/yr)				NE
350			3200	Exposed surface area (cm2/event)				ESA
351			1.5	Skin adherence factor for soil (mg/cm2)				SAF
352			1	Soil matrix factor				SMF
353			70	Body weight (Kg)				BW
354			365	Days/yr				DAYR
355			1000000	mg/Kg				mgKg
356								
357			EDI = Csoil*AF*SAF*ESA*NE*SMF/BW/mgKg/DAYR					

TABLE 6
CARCINOGENIC SLOPE FACTORS ((mg/kg-day)-1)

WORKER BASE CASE	Inhalation Slope Factor	Oral Slope Factor	Dermal Slope Factor
ORGANICS			
Acrylonitrile	2.40E-01	5.40E-01	NC
Aldrin	1.70E+01	1.70E+01	3.40E+01
Aniline	5.70E-03	5.70E-03	1.14E-02
Benzene	2.90E-02	2.90E-02	NC
Bis(2-ethylhexyl)phthalate	1.40E-02	1.40E-02	2.80E-02
Carbazole	2.00E-02	2.00E-02	4.00E-02
Carbon Tetrachloride	1.30E-01	1.30E-01	NC
Chloroform	8.10E-02	6.10E-03	NC
1,4-Dichlorobenzene	2.40E-02	2.40E-02	NC
1,1-Dichloroethane			
1,2-Dichloroethane	9.10E-02	9.10E-02	1.82E-01
1,1-Dichloroethene	1.20E+00	6.00E-01	NC
1,2-Dichloropropane	6.80E-02	6.80E-02	NC
Dieldrin	1.60E+01	1.60E+01	3.20E+01
Hexachlorobenzene	1.60E+00	1.60E+00	3.20E+00
Hydrazine	1.71E+01	3.00E+00	6.00E+00
Lindane	1.30E+00	1.30E+00	2.60E+00
Methyl chloride	6.30E-03	1.30E-02	NC
Methylene chloride	1.40E-02	7.50E-03	NC
4-Methylphenol			
Monomethyl hydrazine	1.10E+00	1.10E+00	2.20E+00
n-Nitrosodimethylamine	5.10E+01	5.10E+01	1.02E+02
PAHs			
Benzo(a)pyrene	6.10E+00	1.15E+01	2.30E+01
Chrysene	6.10E+00	1.15E+01	2.30E+01
Dibenzo(a,h)anthracene	6.10E+00	1.15E+01	2.30E+01
Parathion			
Quinoline	1.20E+01	1.20E+01	2.40E+01
Tetrachloroethene	3.30E-03	5.10E-02	NC
Trichloroethene	1.10E-02	1.10E-02	NC
Vapona	2.90E-01	2.90E-01	5.80E-01
Vinyl chloride	2.95E-01	2.30E+00	NC
INORGANICS			
Arsenic	1.50E+01	1.75E+00	3.50E+01
Cadmium	6.10E+00	NC	NC
Chromium (VI)	4.10E+01	NC	NC
Total			

AED Adult Exposure Duration	64
CED Child Exposure Duration	5
CID Child Inhalation Duration	1
IED Infant Exposure Duration	1
IID Infant Inhalation Duration	1

TABLE 7
WORKER CARCINOGENIC RISK

WORKER BASE CASE	INHALATION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS				
Acrylonitrile	3.42E-15	NA	NA	3.42E-15
Aldrin	8.83E-19	7.01E-20	2.91E-19	1.24E-18
Aniline	1.07E-17	8.51E-19	3.54E-18	1.51E-17
Benzene	3.12E-19	NA	NA	3.12E-19
Bis(2-ethylhexyl)phthalate	3.23E-20	2.56E-21	1.06E-20	4.55E-20
Carbazole	3.76E-19	2.99E-20	1.24E-19	5.30E-19
Carbon Tetrachloride	7.10E-18	NA	NA	7.10E-18
Chloroform	3.76E-17	NA	NA	3.76E-17
1,4-Dichlorobenzene	1.63E-20	NA	NA	1.63E-20
1,1-Dichloroethane	NE	NE	NE	NE
1,2-Dichloroethane	8.76E-19	6.95E-20	2.89E-19	1.23E-18
1,1-Dichloroethene	1.98E-17	NA	NA	1.98E-17
1,2-Dichloropropane	4.15E-19	NA	NA	4.15E-19
Dieldrin	1.53E-18	1.21E-19	5.04E-19	2.15E-18
Hexachlorobenzene	4.03E-16	3.20E-17	1.33E-16	5.69E-16
Hydrazine	5.57E-12	7.75E-14	3.23E-13	5.97E-12
Lindane	5.76E-20	4.57E-21	1.90E-20	8.12E-20
Methyl chloride	8.06E-20	NA	NA	8.06E-20
Methylene chloride	1.08E-17	NA	NA	1.08E-17
4-Methylphenol	NE	NE	NE	NE
Monomethyl hydrazine	1.13E-13	8.97E-15	3.73E-14	1.59E-13
n-Nitrosodimethylamine	5.33E-15	4.23E-16	1.76E-15	7.51E-15
PAHs				
Benzo(a)pyrene	5.10E-15	7.63E-16	3.18E-15	9.04E-15
Chrysene	5.10E-16	7.63E-17	3.18E-16	9.04E-16
Dibenzo(a,h)anthracene	5.10E-15	7.63E-16	3.18E-15	9.04E-15
Parathion	NE	NE	NE	NE
Quinoline	1.13E-15	8.97E-17	3.73E-16	1.59E-15
Tetrachloroethene	5.82E-21	NA	NA	5.82E-21
Trichloroethene	2.07E-19	NA	NA	2.07E-19
Vapona	2.38E-19	1.88E-20	7.84E-20	3.35E-19
Vinyl chloride	3.18E-18	NA	NA	3.18E-18
INORGANICS				
Arsenic	1.66E-13	1.53E-15	6.37E-15	1.73E-13
Cadmium	3.90E-16	NA	NA	3.90E-16
Chromium (VI)	4.09E-16	NA	NA	4.09E-16
Total	5.87E-12	9.02E-14	3.75E-13	6.34E-12

30 YEARS - TOTAL WORKER EXPOSURE DURATION
2 YEARS - INHALATION EXPOSURE DURATION

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 3
ADULT TOTAL EXPOSURE - MAXIMUM

BASE CASE

18-Jun-91
15:34:28
WORKER

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	1.29E-15	NA	NA	NA	NA	NA	NA	1.29E-15
Acetonitrile	1.17E-12	0.00E+00	0.00E+00	0.00E+00	6.28E-15	0.00E+00	1.31E-14	1.19E-12
Acrylonitrile	4.98E-13	NA	NA	NA	NA	NA	NA	4.98E-13
Aldrin	1.82E-18	0.00E+00	0.00E+00	0.00E+00	9.76E-21	0.00E+00	2.03E-20	1.85E-18
Aniline	6.59E-14	0.00E+00	0.00E+00	0.00E+00	3.53E-16	0.00E+00	7.35E-16	6.69E-14
Atrazine	4.07E-16	0.00E+00	0.00E+00	0.00E+00	2.18E-18	0.00E+00	4.54E-18	4.14E-16
Benzaldehyde	3.00E-14	0.00E+00	0.00E+00	0.00E+00	1.61E-16	0.00E+00	3.35E-16	3.05E-14
Benzene	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
Benzofuran	1.46E-13	0.00E+00	0.00E+00	0.00E+00	7.83E-16	0.00E+00	1.63E-15	1.48E-13
Benzoic Acid	1.47E-14	0.00E+00	0.00E+00	0.00E+00	7.88E-17	0.00E+00	1.64E-16	1.49E-14
Benzonitrile	3.21E-13	0.00E+00	0.00E+00	0.00E+00	1.72E-15	0.00E+00	3.58E-15	3.26E-13
Benzothiazole	1.37E-16	0.00E+00	0.00E+00	0.00E+00	7.33E-19	0.00E+00	1.52E-18	1.39E-16
Biphenyl	1.47E-13	NA	NA	NA	NA	NA	NA	1.47E-13
Bis(2-ethylhexyl)phthalate	8.07E-17	0.00E+00	0.00E+00	0.00E+00	4.33E-19	0.00E+00	9.00E-19	8.20E-17
Carbazole	6.59E-16	0.00E+00	0.00E+00	0.00E+00	3.53E-18	0.00E+00	7.35E-18	6.69E-16
Carbon Tetrachloride	1.91E-15	NA	NA	NA	NA	NA	NA	1.91E-15
4-Chloroaniline	3.77E-17	0.00E+00	0.00E+00	0.00E+00	2.02E-19	0.00E+00	4.21E-19	3.83E-17
Chlorobenzene	9.06E-17	NA	NA	NA	NA	NA	NA	9.06E-17
4-Chlorobiphenyl	9.29E-17	0.00E+00	0.00E+00	0.00E+00	4.98E-19	0.00E+00	1.04E-18	9.44E-17
4,4-Chlorobiphenyl	4.67E-18	0.00E+00	0.00E+00	0.00E+00	2.51E-20	0.00E+00	5.22E-20	4.75E-18
Chloroethane	3.33E-15	0.00E+00	0.00E+00	0.00E+00	1.79E-17	0.00E+00	3.71E-17	3.38E-15
Chloroform	1.62E-14	NA	NA	NA	NA	NA	NA	1.62E-14
Dibenzofuran	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.57E-17	0.00E+00	3.27E-17	2.98E-15
Dichlorobenzenes (total)	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
1,4-Dichlorobenzene	2.38E-17	NA	NA	NA	NA	NA	NA	2.38E-17
1,1-Dichloroethane	1.08E-15	NA	NA	NA	NA	NA	NA	1.08E-15
1,2-Dichloroethane	3.37E-16	0.00E+00	0.00E+00	0.00E+00	1.81E-18	0.00E+00	3.76E-18	3.43E-16
1,1-Dichloroethene	5.77E-16	NA	NA	NA	NA	NA	NA	5.77E-16
1,2-Dichloroethene	4.99E-16	NA	NA	NA	NA	NA	NA	4.99E-16
1,2-Dichloropropane	2.14E-16	NA	NA	NA	NA	NA	NA	2.14E-16
Dieldrin	3.34E-18	0.00E+00	0.00E+00	0.00E+00	1.79E-20	0.00E+00	3.73E-20	3.39E-18
Dimethyldisulfide	9.17E-16	NA	NA	NA	NA	NA	NA	9.17E-16
Hexachlorobenzene	8.83E-15	0.00E+00	0.00E+00	0.00E+00	4.74E-17	0.00E+00	9.85E-17	8.97E-15
Hydrazine	1.14E-11	0.00E+00	0.00E+00	0.00E+00	6.12E-14	0.00E+00	1.27E-13	1.16E-11
Lindane	1.55E-18	0.00E+00	0.00E+00	0.00E+00	8.32E-21	0.00E+00	1.73E-20	1.58E-18
Malathion	4.58E-18	0.00E+00	0.00E+00	0.00E+00	2.46E-20	0.00E+00	5.11E-20	4.66E-18
Methyl chloride	4.48E-16	NA	NA	NA	NA	NA	NA	4.48E-16
Methylene chloride	2.70E-14	NA	NA	NA	NA	NA	NA	2.70E-14
Methyl ethyl ketone	5.66E-16	0.00E+00	0.00E+00	0.00E+00	3.04E-18	0.00E+00	6.32E-18	5.75E-16
4-Methylphenol	5.14E-16	0.00E+00	0.00E+00	0.00E+00	2.76E-18	0.00E+00	5.73E-18	5.22E-16
Monomethyl hydrazine	3.60E-12	0.00E+00	0.00E+00	0.00E+00	1.93E-14	0.00E+00	4.01E-14	3.66E-12
Naphthalene	6.06E-17	0.00E+00	0.00E+00	0.00E+00	3.25E-19	0.00E+00	6.76E-19	6.16E-17
Naphthalene carbonitrile	3.21E-13	0.00E+00	0.00E+00	0.00E+00	1.72E-15	0.00E+00	3.58E-15	3.26E-13
n-Nitrosodimethylamine	3.66E-15	0.00E+00	0.00E+00	0.00E+00	1.96E-17	0.00E+00	4.08E-17	3.72E-15
PAHs								
Acenaphthalene	1.46E-14	0.00E+00	0.00E+00	0.00E+00	7.83E-17	0.00E+00	1.63E-16	1.48E-14
Acenaphthene	1.46E-14	0.00E+00	0.00E+00	0.00E+00	7.83E-17	0.00E+00	1.63E-16	1.48E-14
Benzo(a)pyrene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.57E-16	0.00E+00	3.27E-16	2.98E-14

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AD	AE	AF	AG	AH	AI	AJ	AK
2			TABLE 3							
61		Chrysene	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.57E-17	0.00E+00	3.27E-17	2.98E-15
62		Dibenzo(a,h)anthracene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.57E-16	0.00E+00	3.27E-16	2.98E-14
63		Fluoranthene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.57E-16	NA	3.27E-16	2.98E-14
64		Fluorene	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.57E-17	0.00E+00	3.27E-17	2.98E-15
65		Phenanthrene	1.14E-17	0.00E+00	0.00E+00	0.00E+00	6.12E-20	0.00E+00	1.27E-19	1.16E-17
66		Pyrene	5.86E-14	0.00E+00	0.00E+00	0.00E+00	3.14E-16	0.00E+00	6.54E-16	5.95E-14
67		Parathion	7.25E-18	0.00E+00	0.00E+00	0.00E+00	3.89E-20	0.00E+00	8.09E-20	7.37E-18
68		Pentachlorobenzene	3.60E-15	0.00E+00	0.00E+00	0.00E+00	1.93E-17	NA	4.01E-17	3.66E-15
69		Phenol	5.75E-17	0.00E+00	0.00E+00	0.00E+00	3.09E-19	NA	6.42E-19	5.85E-17
70		Pyridine	3.21E-13	NA	NA	NA	NA	NA	NA	3.21E-13
71		Quinoline	3.30E-15	0.00E+00	0.00E+00	0.00E+00	1.77E-17	0.00E+00	3.68E-17	3.35E-15
72		Tetrachlorobenzene	1.77E-15	0.00E+00	0.00E+00	0.00E+00	9.48E-18	NA	1.97E-17	1.80E-15
73		Tetrachloroethene	6.17E-17	NA	NA	NA	NA	NA	NA	6.17E-17
74		Toluene	9.84E-16	NA	NA	NA	NA	NA	NA	9.84E-16
75		Trichlorobenzene	8.95E-16	0.00E+00	0.00E+00	0.00E+00	4.80E-18	0.00E+00	9.99E-18	9.10E-16
76		Trichloroethene	6.59E-16	NA	NA	NA	NA	NA	NA	6.59E-16
77		Unsym. dimethyl hydrazine	1.42E-11	0.00E+00	0.00E+00	0.00E+00	7.61E-14	0.00E+00	1.58E-13	1.44E-11
78		Vapona	2.87E-17	0.00E+00	0.00E+00	0.00E+00	1.54E-19	0.00E+00	3.20E-19	2.91E-17
79		Vinyl acetate	4.07E-16	NA	NA	NA	NA	NA	NA	4.07E-16
80		Vinyl chloride	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
81		Xylenes (total)	7.03E-17	NA	NA	NA	NA	NA	NA	7.03E-17
82										
83	INORGANICS									
84		Arsenic	3.86E-13	0.00E+00	0.00E+00	0.00E+00	2.07E-15	0.00E+00	4.31E-16	3.89E-13
85		Cadmium	2.24E-15	0.00E+00	0.00E+00	0.00E+00	1.20E-17	NA	2.50E-18	2.25E-15
86		Chromium (III)	9.92E-15	NA	NA	NA	NA	NA	NA	9.92E-15
87		Chromium (VI)	3.49E-16	NA	NA	NA	NA	NA	NA	3.49E-16
88		Copper	1.47E-14	NA	NA	NA	NA	0.00E+00	NA	1.47E-14
89		Iron	3.57E-10	NA	NA	NA	NA	NA	NA	3.57E-10
90		Lead	1.45E-14	NA	NA	NA	NA	NA	NA	1.45E-14
91		Mercury	1.45E-14	0.00E+00	0.00E+00	0.00E+00	7.77E-17	NA	1.62E-17	1.46E-14
92		Selenium	4.39E-14	NA	NA	NA	NA	NA	NA	4.39E-14
93		Silver	2.00E-16	NA	NA	NA	NA	NA	NA	2.00E-16
94		Zinc	1.15E-13	NA	NA	NA	NA	0.00E+00	NA	1.15E-13
95										
96										
97										
98				br	10 M3/day					
99				bw	70 Kg					
100				ef	250 day/yr					
101				cf	365000 (1000 ug/mg)*(365 day/yr)					
102										
103			Inhalation dose = Cair*br*ef/bw/cf							

TABLE 8
REFERENCE DOSES FOR NONCARCINOGENIC EFFECTS (mg/kg-day)

WORKER BASE CASE	Inhalation RfD	Oral RfD	Dermal RfD
ORGANICS			
Acetone	1.82E+00	1.00E-01	NC
Acetonitrile	1.00E-02	6.00E-02	3.00E-02
Acrylonitrile	4.39E-03	2.70E-04	NC
Aldrin	2.55E-04	3.00E-05	1.50E-05
Aniline	7.76E-03	1.95E-03	9.75E-04
Atrazine	5.10E-03	5.00E-03	2.50E-03
Benzaldehyde	1.00E-01	1.00E-01	5.00E-02
Benzene	3.26E-02	1.00E-03	NC
Benzofuran	5.00E-03	5.00E-03	2.50E-03
Benzoic Acid	4.00E+00	4.00E+00	2.00E+00
Benzonitrile	8.00E-03	8.00E-03	4.00E-03
Benzothiazole	1.00E-03	1.00E-03	5.00E-04
Biphenyl	1.33E-03	5.00E-02	NC
Bis(2-ethylhexyl)phthalate	5.10E-03	4.00E-03	1.00E-02
Carbazole	5.00E-03	5.00E-03	2.50E-03
Carbon Tetrachloride	3.16E-02	7.00E-04	NC
4-Chloroaniline	4.00E-03	4.00E-03	2.00E-03
Chlorobenzene	5.00E-03	2.00E-02	NC
4-Chlorobiphenyl	2.45E-02	2.45E-02	1.22E-02
4,4-Chlorobiphenyl	2.33E-02	2.33E-02	1.16E-02
Chloroethane	2.65E+00	NA	NC
Chloroform	5.00E-02	1.00E-02	NC
Dibenzofuran	NA	NA	NA
Dichlorobenzenes (total)	4.00E-02	9.00E-02	NC
1,1-Dichloroethane	1.00E-01	1.00E-01	NC
1,2-Dichloroethane	4.08E-02	4.89E-03	2.45E-03
1,1-Dichloroethene	2.04E-02	9.00E-03	NC
1,2-Dichloroethene	8.10E-01	2.00E-02	NC
1,2-Dichloropropane	3.54E-01	8.60E-03	NC
Dieldrin	2.55E-04	5.00E-05	2.50E-05
Dimethyldisulfide	8.10E-03	8.10E-03	NC
Hexachlorobenzene	8.00E-04	8.00E-04	4.00E-04
Hydrazine	1.33E-04	6.00E-04	3.00E-04
Lindane	5.10E-04	3.00E-04	1.50E-04
Malathion	1.02E-02	2.00E-02	1.00E-02
Methyl chloride	1.05E-01	1.80E-02	NC
Methylene chloride	8.57E-01	6.00E-02	NC
Methyl ethyl ketone	9.00E-02	5.00E-01	2.50E-01
4-Methylphenol	1.02E-02	5.00E-02	2.50E-02
Monomethyl hydrazine	1.94E-05	2.20E-04	1.10E-04
Naphthalene	5.10E-02	4.00E-03	2.00E-03
Naphthalene carbonitrile	5.10E-02	4.00E-03	2.00E-03
n-Nitrosodimethylamine	2.80E-04	2.80E-04	1.40E-04
PAHs			
Acenaphthalene	6.00E-02	6.00E-02	3.00E-02
Acenaphthene	6.00E-02	6.00E-02	3.00E-02
Benzo(a)pyrene	3.00E-02	3.00E-02	1.50E-02
Chrysene	3.00E-02	3.00E-02	1.50E-02

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

	B	C	D	E	F
155					
156			TABLE 8		
215		Dibenzo(a,h)anthracene	3.00E-02	3.00E-02	1.50E-02
216		Fluoranthene	4.00E-02	4.00E-02	2.00E-02
217		Fluorene	4.00E-02	4.00E-02	2.00E-02
218		Phenanthrene	3.00E-02	3.00E-02	1.50E-02
219		Pyrene	3.00E-02	3.00E-02	1.50E-02
220		Parathion	5.10E-05	6.00E-03	3.00E-03
221		Pentachlorobenzene	8.00E-04	8.00E-04	4.00E-04
222		Phenol	1.94E-02	6.00E-01	3.00E-01
223		Pyridine	1.63E-02	1.00E-03	NC
224		Quinoline	2.00E-01	2.00E-01	1.00E-01
225		Tetrachlorobenzene	3.00E-04	3.00E-04	1.50E-04
226		Tetrachloroethene	3.46E-01	1.00E-02	NC
227		Toluene	5.71E-01	2.00E-01	NC
228		Trichlorobenzene	3.00E-03	2.00E-02	1.00E-02
229		Trichloroethene	2.74E-01	7.35E-03	NC
230		Unsym. dimethyl hydrazine	1.22E-03	1.22E-03	6.10E-04
231		Vapona	8.00E-04	8.00E-04	4.00E-04
232		Vinyl acetate	2.00E-01	1.00E+00	NC
233		Vinyl chloride	1.33E-02	1.30E-03	NC
234		Xylenes (total)	8.57E-02	2.00E+00	NC
235					
236		INORGANICS			
237		Arsenic	2.04E-04	1.00E-03	5.00E-05
238		Cadmium	5.10E-05	1.00E-03	5.00E-05
239		Chromium (III)	5.10E-04	NC	NC
240		Chromium (VI)	5.10E-05	NC	NC
241		Copper	1.00E-02	3.80E-02	NC
242		Iron	1.02E-03	NC	NC
243		Mercury	8.57E-05	3.00E-04	1.50E-05
244		Selenium	2.04E-04	NC	NC
245		Silver	1.02E-05	NC	NC
246		Zinc	8.19E-03	2.00E-01	NC

TABLE 9
ADULT HAZARD INDEX

WORKER BASE CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL ADULT HAZARD INDEX
ORGANICS								
Acetone	7.11E-16	NA	NA	NA	NA	NA	NA	7.11E-16
Acetonitrile	1.17E-10	0.00E+00	0.00E+00	0.00E+00	1.05E-13	0.00E+00	4.36E-13	1.18E-10
Acrylonitrile	1.14E-10	NA	NA	NA	NA	NA	NA	1.14E-10
Aldrin	7.13E-15	0.00E+00	0.00E+00	0.00E+00	3.25E-16	0.00E+00	1.35E-15	8.81E-15
Aniline	8.49E-12	0.00E+00	0.00E+00	0.00E+00	1.81E-13	0.00E+00	7.54E-13	9.42E-12
Atrazine	7.98E-14	0.00E+00	0.00E+00	0.00E+00	4.37E-16	0.00E+00	1.82E-15	8.20E-14
Benzaldehyde	3.00E-13	0.00E+00	0.00E+00	0.00E+00	1.61E-15	0.00E+00	6.70E-15	3.08E-13
Benzene	1.16E-14	NA	NA	NA	NA	NA	NA	1.16E-14
Benzofuran	2.92E-11	0.00E+00	0.00E+00	0.00E+00	1.57E-13	0.00E+00	6.51E-13	3.00E-11
Benzoic Acid	3.67E-15	0.00E+00	0.00E+00	0.00E+00	1.97E-17	0.00E+00	8.20E-17	3.77E-15
Benzonitrile	4.01E-11	0.00E+00	0.00E+00	0.00E+00	2.15E-13	0.00E+00	8.94E-13	4.12E-11
Benzothiazole	1.37E-13	0.00E+00	0.00E+00	0.00E+00	7.33E-16	0.00E+00	3.05E-15	1.40E-13
Biphenyl	1.10E-10	NA	NA	NA	NA	NA	NA	1.10E-10
Bis(2-ethylhexyl)phthalate	1.58E-14	0.00E+00	0.00E+00	0.00E+00	1.08E-16	0.00E+00	9.00E-17	1.60E-14
Carbazole	1.32E-13	0.00E+00	0.00E+00	0.00E+00	7.07E-16	0.00E+00	2.94E-15	1.35E-13
Carbon Tetrachloride	6.05E-14	NA	NA	NA	NA	NA	NA	6.05E-14
4-Chloroaniline	9.43E-15	0.00E+00	0.00E+00	0.00E+00	5.06E-17	0.00E+00	2.10E-16	9.69E-15
Chlorobenzene	1.81E-14	NA	NA	NA	NA	NA	NA	1.81E-14
4-Chlorobiphenyl	3.79E-15	0.00E+00	0.00E+00	0.00E+00	2.03E-17	0.00E+00	8.50E-17	3.90E-15
4,4-Chlorobiphenyl	2.01E-16	0.00E+00	0.00E+00	0.00E+00	1.08E-18	0.00E+00	4.50E-18	2.06E-16
Chloroethane	1.26E-15	NE	NE	NE	NE	NE	NE	1.26E-15
Chloroform	3.25E-13	NA	NA	NA	NA	NA	NA	3.25E-13
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	9.43E-15	NA	NA	NA	NA	NA	NA	9.43E-15
1,1-Dichloroethane	1.08E-14	NA	NA	NA	NA	NA	NA	1.08E-14
1,2-Dichloroethane	8.26E-15	0.00E+00	0.00E+00	0.00E+00	3.70E-16	0.00E+00	1.54E-15	1.02E-14
1,1-Dichloroethene	2.83E-14	NA	NA	NA	NA	NA	NA	2.83E-14
1,2-Dichloroethene	6.16E-16	NA	NA	NA	NA	NA	NA	6.16E-16
1,2-Dichloropropane	6.04E-16	NA	NA	NA	NA	NA	NA	6.04E-16
Dieldrin	1.31E-14	0.00E+00	0.00E+00	0.00E+00	3.58E-16	0.00E+00	1.49E-15	1.49E-14
Dimethyldisulfide	1.13E-13	NA	NA	NA	NA	NA	NA	1.13E-13
Hexachlorobenzene	1.10E-11	0.00E+00	0.00E+00	0.00E+00	5.92E-14	0.00E+00	2.46E-13	1.13E-11
Hydrazine	8.57E-08	0.00E+00	0.00E+00	0.00E+00	1.02E-10	0.00E+00	4.24E-10	8.63E-08
Lindane	3.04E-15	0.00E+00	0.00E+00	0.00E+00	2.77E-17	0.00E+00	1.15E-16	3.19E-15
Malathion	4.49E-16	0.00E+00	0.00E+00	0.00E+00	1.23E-18	0.00E+00	5.11E-18	4.56E-16
Methyl chloride	4.27E-15	NA	NA	NA	NA	NA	NA	4.27E-15
Methylene chloride	3.15E-14	NA	NA	NA	NA	NA	NA	3.15E-14
Methyl ethyl ketone	6.29E-15	0.00E+00	0.00E+00	0.00E+00	6.07E-18	0.00E+00	2.53E-17	6.32E-15
4-Methylphenol	5.04E-14	0.00E+00	0.00E+00	0.00E+00	5.51E-17	0.00E+00	2.29E-16	5.06E-14
Monomethyl hydrazine	1.85E-07	0.00E+00	0.00E+00	0.00E+00	8.77E-11	0.00E+00	3.65E-10	1.86E-07
Naphthalene	1.19E-15	0.00E+00	0.00E+00	0.00E+00	8.13E-17	0.00E+00	3.38E-16	1.61E-15
Naphthalene carbonitrile	6.29E-12	0.00E+00	0.00E+00	0.00E+00	4.30E-13	0.00E+00	1.79E-12	8.50E-12
n-Nitrosodimethylamine	1.31E-11	0.00E+00	0.00E+00	0.00E+00	7.01E-14	0.00E+00	2.92E-13	1.34E-11
PAHs								
Acenaphthalene	2.43E-13	0.00E+00	0.00E+00	0.00E+00	1.30E-15	0.00E+00	5.43E-15	2.50E-13
Acenaphthene	2.43E-13	0.00E+00	0.00E+00	0.00E+00	1.30E-15	0.00E+00	5.43E-15	2.50E-13
Benzo(a)pyrene	9.76E-13	0.00E+00	0.00E+00	0.00E+00	5.24E-15	0.00E+00	2.18E-14	1.00E-12
Chrysene	9.76E-14	0.00E+00	0.00E+00	0.00E+00	5.24E-16	0.00E+00	2.18E-15	1.00E-13

B	C	H	I	J	K	L	M	N	O
		TABLE 9							
	Dibenzo(a,h)anthracene	9.76E-13	0.00E+00	0.00E+00	0.00E+00	5.24E-15	0.00E+00	2.18E-14	1.00E-12
	Fluoranthene	7.32E-13	0.00E+00	0.00E+00	0.00E+00	3.93E-15	NA	1.63E-14	7.52E-13
	Fluorene	7.32E-14	0.00E+00	0.00E+00	0.00E+00	3.93E-16	0.00E+00	1.63E-15	7.52E-14
	Phenanthrene	3.80E-16	0.00E+00	0.00E+00	0.00E+00	2.04E-18	0.00E+00	8.48E-18	3.91E-16
	Pyrene	1.95E-12	0.00E+00	0.00E+00	0.00E+00	1.05E-14	0.00E+00	4.36E-14	2.01E-12
	Parathion	1.42E-13	0.00E+00	0.00E+00	0.00E+00	6.49E-18	0.00E+00	2.70E-17	1.42E-13
	Pentachlorobenzene	4.49E-12	0.00E+00	0.00E+00	0.00E+00	2.41E-14	NA	1.00E-13	4.62E-12
	Phenol	2.97E-15	0.00E+00	0.00E+00	0.00E+00	5.14E-19	NA	2.14E-18	2.97E-15
	Pyridine	1.97E-11	NA	NA	NA	NA	NA	NA	1.97E-11
	Quinoline	1.65E-14	0.00E+00	0.00E+00	0.00E+00	8.85E-17	0.00E+00	3.68E-16	1.69E-14
	Tetrachlorobenzene	5.89E-12	0.00E+00	0.00E+00	0.00E+00	3.16E-14	NA	1.31E-13	6.05E-12
	Tetrachloroethene	1.78E-16	NA	NA	NA	NA	NA	NA	1.78E-16
	Toluene	1.72E-15	NA	NA	NA	NA	NA	NA	1.72E-15
	Trichlorobenzene	2.98E-13	0.00E+00	0.00E+00	0.00E+00	2.40E-16	0.00E+00	9.99E-16	3.00E-13
	Trichloroethene	2.40E-15	NA	NA	NA	NA	NA	NA	2.40E-15
	Unsym. dimethyl hydrazine	1.16E-08	0.00E+00	0.00E+00	0.00E+00	6.24E-11	0.00E+00	2.59E-10	1.19E-08
	Vapona	3.58E-14	0.00E+00	0.00E+00	0.00E+00	1.92E-16	0.00E+00	8.00E-16	3.68E-14
	Vinyl acetate	2.03E-15	NA	NA	NA	NA	NA	NA	2.03E-15
	Vinyl chloride	2.83E-14	NA	NA	NA	NA	NA	NA	2.83E-14
	Xylenes (total)	8.20E-16	NA	NA	NA	NA	NA	NA	8.20E-16
	INORGANICS								
	Arsenic	1.89E-09	0.00E+00	0.00E+00	0.00E+00	2.07E-12	0.00E+00	8.62E-12	1.90E-09
	Cadmium	4.39E-11	0.00E+00	0.00E+00	0.00E+00	1.20E-14	NA	5.00E-14	4.40E-11
	Chromium (III)	1.95E-11	NA	NA	NA	NA	NA	NA	1.95E-11
	Chromium (VI)	6.85E-12	NA	NA	NA	NA	NA	NA	6.85E-12
	Copper	1.47E-12	NA	NA	NA	NA	0.00E+00	NA	1.47E-12
	Iron	3.50E-07	NA	NA	NA	NA	NA	NA	3.50E-07
	Mercury	1.69E-10	0.00E+00	0.00E+00	0.00E+00	2.59E-13	NA	1.08E-12	1.70E-10
	Selenium	2.15E-10	NA	NA	NA	NA	NA	NA	2.15E-10
	Silver	1.96E-11	NA	NA	NA	NA	NA	NA	1.96E-11
	Zinc	1.40E-11	NA	NA	NA	NA	0.00E+00	NA	1.40E-11
	Total (Hazard Index)	6.35E-07	0.00E+00	0.00E+00	0.00E+00	2.56E-10	0.00E+00	1.06E-09	6.36E-07

A	B	C	F
253		TABLE 10	
254		CARCINOGENIC RISK	
255		CONTRIBUTION BY PATHWAY	
256			
257		WORKER	
258		BASE CASE	
259			
260		Adult	
261		Inhalation	92.6566
262			
263		Ingestion	1.4231
264		Vegetables	NA
265		Milk	NA
266		Beef	NA
267		Soil\Dust	1.4231
268		Fish	NA
269			
270		Dermal	5.9203
271			
272		Child	
273		Inhalation	NA
274			
275		Ingestion	NA
276		Vegetables	NA
277		Milk	NA
278		Beef	NA
279		Soil\Dust	NA
280		Fish	NA
281			
282		Dermal	NA
283			
284		Infant	
285		Inhalation	NA
286			
287		Breast Milk Ingestion	NA
288			
290		Total	100.0000

9.4.2 Sensitivity Case Emissions — Worker Scenario

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1							
3										
4		SENSITIVITY CASE	ER	AC	D	D	CO	CO	CO	CO
5							AVERAGE	MAXIMUM	AVERAGE	MAXIMUM
6				AVG. ANN.	TOTAL	DRY	CALCULATED	CALCULATED	CALCULATED	CALCULATED
7		20-Jun-91	EMISSION	AMBIENT	DEPOSITION	DEPOSITION	CONC IN	CONC IN	CONC IN	CONC IN
8		13:38:40	RATE	CONC.	RATE	RATE	SOIL	SOIL	SOIL	SOIL
9		WORKER	g/sec	ug/M3	g/M2/yr	g/M2/yr	.2M	.2M	.1M	.1M
10							mg/Kg	mg/Kg	mg/Kg	mg/Kg
11										
12	ORGANICS									
13		Acetone	1.26E-10	1.32E-11	NA	NA	NA	NA	NA	NA
14		Acetonitrile	1.14E-07	1.20E-08	5.08E-10	5.51E-11	3.52E-09	3.57E-09	7.03E-09	7.14E-09
15		Acrylonitrile	4.85E-08	5.09E-09	NA	NA	NA	NA	NA	NA
16		Aldrin	1.77E-13	1.86E-14	7.89E-16	8.55E-17	5.46E-15	5.54E-15	1.09E-14	1.11E-14
17		Aniline	6.41E-09	6.73E-10	2.86E-11	3.10E-12	1.98E-10	2.01E-10	3.96E-10	4.01E-10
18		Atrazine	3.96E-11	4.16E-12	1.77E-13	1.91E-14	1.22E-12	1.24E-12	2.44E-12	2.48E-12
19		Benzaldehyde	2.92E-09	3.07E-10	1.30E-11	1.41E-12	9.01E-11	9.14E-11	1.80E-10	1.83E-10
20		Benzene	3.67E-11	3.85E-12	NA	NA	NA	NA	NA	NA
21		Benzofuran	1.42E-08	1.49E-09	6.33E-11	6.86E-12	4.38E-10	4.44E-10	8.76E-10	8.89E-10
22		Benzoic Acid	1.43E-09	1.50E-10	6.38E-12	6.91E-13	4.41E-11	4.48E-11	8.82E-11	8.95E-11
23		Benzonitrile	3.12E-08	3.28E-09	1.39E-10	1.51E-11	9.63E-10	9.77E-10	1.93E-09	1.95E-09
24		Benzothiazole	1.33E-11	1.40E-12	5.93E-14	6.42E-15	4.10E-13	4.16E-13	8.21E-13	8.33E-13
25		Biphenyl	1.43E-08	1.50E-09	NA	NA	NA	NA	NA	NA
26		Bis(2-ethylhexyl)phthalate	7.85E-12	8.24E-13	3.50E-14	3.79E-15	2.42E-13	2.46E-13	4.84E-13	4.91E-13
27		Carbazole	6.41E-11	6.73E-12	2.86E-13	3.10E-14	1.98E-12	2.01E-12	3.96E-12	4.01E-12
28		Carbon Tetrachloride	1.86E-10	1.95E-11	NA	NA	NA	NA	NA	NA
29		4-Chloroaniline	3.67E-12	3.85E-13	1.64E-14	1.77E-15	1.13E-13	1.15E-13	2.26E-13	2.30E-13
30		Chlorobenzene	8.82E-12	9.26E-13	NA	NA	NA	NA	NA	NA
31		4-Chlorobiphenyl	9.04E-12	9.49E-13	4.03E-14	4.37E-15	2.79E-13	2.83E-13	5.58E-13	5.66E-13
32		4,4-Chlorobiphenyl	4.55E-13	4.78E-14	2.03E-15	2.20E-16	1.40E-14	1.42E-14	2.81E-14	2.85E-14
33		Chloroethane	3.24E-10	3.40E-11	1.45E-12	1.56E-13	1.00E-11	1.01E-11	2.00E-11	2.03E-11
34		Chloroform	1.58E-09	1.66E-10	NA	NA	NA	NA	NA	NA
35		Dibenzofuran	2.85E-10	2.99E-11	1.27E-12	1.38E-13	8.79E-12	8.92E-12	1.76E-11	1.78E-11
36		Dichlorobenzenes (total)	3.67E-11	3.85E-12	NA	NA	NA	NA	NA	NA
37		1,4-Dichlorobenzene	2.32E-12	2.44E-13	NA	NA	NA	NA	NA	NA
38		1,1-Dichloroethane	1.05E-10	1.10E-11	NA	NA	NA	NA	NA	NA
39		1,2-Dichloroethane	3.28E-11	3.44E-12	1.46E-13	1.58E-14	1.01E-12	1.03E-12	2.02E-12	2.05E-12
40		1,1-Dichloroethene	5.62E-11	5.90E-12	NA	NA	NA	NA	NA	NA
41		1,2-Dichloroethene	4.86E-11	5.10E-12	NA	NA	NA	NA	NA	NA
42		1,2-Dichloropropane	2.08E-11	2.18E-12	NA	NA	NA	NA	NA	NA
43		Dieldrin	3.25E-13	3.41E-14	1.45E-15	1.57E-16	1.00E-14	1.02E-14	2.01E-14	2.03E-14
44		Dimethyldisulfide	8.93E-11	9.38E-12	NA	NA	NA	NA	NA	NA
45		Hexachlorobenzene	8.59E-10	9.02E-11	3.83E-12	4.15E-13	2.65E-11	2.69E-11	5.30E-11	5.38E-11
46		Hydrazine	1.11E-06	1.17E-07	4.95E-09	5.36E-10	3.42E-08	3.47E-08	6.85E-08	6.95E-08
47		Lindane	1.51E-13	1.59E-14	6.73E-16	7.29E-17	4.66E-15	4.73E-15	9.32E-15	9.45E-15
48		Malathion	4.46E-13	4.68E-14	1.99E-15	2.15E-16	1.38E-14	1.40E-14	2.75E-14	2.79E-14
49		Methyl chloride	4.36E-11	4.58E-12	NA	NA	NA	NA	NA	NA
50		Methylene chloride	2.63E-09	2.76E-10	NA	NA	NA	NA	NA	NA
51		Methyl ethyl ketone	5.51E-11	5.79E-12	2.46E-13	2.66E-14	1.70E-12	1.72E-12	3.40E-12	3.45E-12
52		4-Methylphenol	5.00E-11	5.25E-12	2.23E-13	2.41E-14	1.54E-12	1.56E-12	3.09E-12	3.13E-12
53		Monomethyl hydrazine	3.50E-07	3.67E-08	1.56E-09	1.69E-10	1.08E-08	1.10E-08	2.16E-08	2.19E-08
54		Naphthalene	5.90E-12	6.20E-13	2.63E-14	2.85E-15	1.82E-13	1.85E-13	3.64E-13	3.69E-13
55		Naphthalene carbonitrile	3.12E-08	3.28E-09	1.39E-10	1.51E-11	9.63E-10	9.77E-10	1.93E-09	1.95E-09
56		n-Nitrosodimethylamine	3.56E-10	3.74E-11	1.59E-12	1.72E-13	1.10E-11	1.11E-11	2.20E-11	2.23E-11
57		PAHs								
58		Acenaphthalene	1.42E-09	1.49E-10	6.33E-12	6.86E-13	4.38E-11	4.44E-11	8.76E-11	8.89E-11
59		Acenaphthene	1.42E-09	1.49E-10	6.33E-12	6.86E-13	4.38E-11	4.44E-11	8.76E-11	8.89E-11
60		Benzo(a)pyrene	2.85E-09	2.99E-10	1.27E-11	1.38E-12	8.79E-11	8.92E-11	1.76E-10	1.78E-10

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 20-Jun-91

A	B	C	D	E	F	G	H	I	J	K
2			TABLE 1							
61		Chrysene	2.85E-10	2.99E-11	1.27E-12	1.38E-13	8.79E-12	8.92E-12	1.76E-11	1.78E-11
62		Dibenzo(a,h)anthracene	2.85E-09	2.99E-10	1.27E-11	1.38E-12	8.79E-11	8.92E-11	1.76E-10	1.78E-10
63		Fluoranthene	2.85E-09	2.99E-10	1.27E-11	1.38E-12	8.79E-11	8.92E-11	1.76E-10	1.78E-10
64		Fluorene	2.85E-10	2.99E-11	1.27E-12	1.38E-13	8.79E-12	8.92E-12	1.76E-11	1.78E-11
65		Phenanthrene	1.11E-12	1.17E-13	4.95E-15	5.36E-16	3.42E-14	3.47E-14	6.85E-14	6.95E-14
66		Pyrene	5.70E-09	5.98E-10	2.54E-11	2.75E-12	1.76E-10	1.78E-10	3.52E-10	3.57E-10
67		Parathion	7.06E-13	7.41E-14	3.15E-15	3.41E-16	2.18E-14	2.21E-14	4.36E-14	4.42E-14
68		Pentachlorobenzene	3.50E-10	3.67E-11	1.56E-12	1.69E-13	1.08E-11	1.10E-11	2.16E-11	2.19E-11
69		Phenol	5.60E-12	5.88E-13	2.50E-14	2.70E-15	1.73E-13	1.75E-13	3.46E-13	3.51E-13
70		Pyridine	3.12E-08	3.28E-09	NA	NA	NA	NA	NA	NA
71		Quinoline	3.21E-10	3.37E-11	1.43E-12	1.55E-13	9.90E-12	1.00E-11	1.98E-11	2.01E-11
72		Tetrachlorobenzene	1.72E-10	1.81E-11	7.67E-13	8.31E-14	5.31E-12	5.38E-12	1.06E-11	1.08E-11
73		Tetrachloroethene	6.01E-12	6.31E-13	NA	NA	NA	NA	NA	NA
74		Toluene	9.58E-11	1.01E-11	NA	NA	NA	NA	NA	NA
75		Trichlorobenzene	8.71E-11	9.15E-12	3.88E-13	4.21E-14	2.69E-12	2.73E-12	5.37E-12	5.45E-12
76		Trichloroethene	6.41E-11	6.73E-12	NA	NA	NA	NA	NA	NA
77		Unsym. dimethyl hydrazine	1.38E-06	1.45E-07	6.15E-09	6.67E-10	4.26E-08	4.32E-08	8.51E-08	8.64E-08
78		Vapona	2.79E-12	2.93E-13	1.24E-14	1.35E-15	8.61E-14	8.73E-14	1.72E-13	1.75E-13
79		Vinyl acetate	3.96E-11	4.16E-12	NA	NA	NA	NA	NA	NA
80		Vinyl chloride	3.67E-11	3.85E-12	NA	NA	NA	NA	NA	NA
81		Xylenes (total)	6.84E-12	7.18E-13	NA	NA	NA	NA	NA	NA
82										
83	INORGANICS									
84		Arsenic	4.24E-08	4.45E-09	1.89E-10	2.05E-11	1.31E-09	1.33E-09	2.62E-09	2.65E-09
85		Cadmium	3.10E-10	3.26E-11	1.38E-12	1.50E-13	9.56E-12	9.70E-12	1.91E-11	1.94E-11
86		Chromium (III)	1.26E-09	1.32E-10	NA	NA	NA	NA	NA	NA
87		Chromium (VI)	4.42E-11	4.64E-12	NA	NA	NA	NA	NA	NA
88		Copper	3.17E-09	3.33E-10	NA	NA	NA	NA	NA	NA
89		Iron	9.68E-05	1.02E-05	NA	NA	NA	NA	NA	NA
90		Lead	1.63E-09	1.71E-10	7.27E-12	7.87E-13	5.03E-11	5.10E-11	1.01E-10	1.02E-10
91		Mercury	2.02E-09	2.12E-10	9.01E-12	9.76E-13	6.23E-11	6.32E-11	1.25E-10	1.26E-10
92		Selenium	5.21E-09	5.47E-10	NA	NA	NA	NA	NA	NA
93		Silver	3.24E-11	3.40E-12	NA	NA	NA	NA	NA	NA
94		Zinc	1.43E-08	1.50E-09	NA	NA	NA	NA	NA	NA
95										
96										
97						2 yrs	ACCUMULATION TIME	AT		
98						0.2 M	SOIL DEPTH OF MIXING	SD		
99						0.1 M	SOIL DEPTH OF MIXING	SD		
100						1.43E+03 Kg/M3	SOIL BULK DENSITY	BD		
101						1.00E+03 mg/g				
102						3.15E+07 sec/yr				
103										
104										
105						Dilution Factor				
106						1.05E-01 INHALATION	DFI			
107						Deposition Factor	DF			
108						4.83E-04 DRY	DDF			
109						4.46E-03 DRY/WET	TDF			
110										
111										

$$CO = \frac{D*AT*1000}{SD*BD}$$

AC = ER * DFI

D = ER * x DF

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 2
ADULT TOTAL EXPOSURE - AVERAGE

SENSITIVITY CASE

18-Jun-91 16:55:55 WORKER

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	1.29E-15	NA	NA	NA	NA	NA	NA	1.29E-15
Acetonitrile	1.17E-12	0.00E+00	0.00E+00	0.00E+00	6.19E-15	0.00E+00	1.29E-14	1.19E-12
Acrylonitrile	4.98E-13	NA	NA	NA	NA	NA	NA	4.98E-13
Aldrin	1.82E-18	0.00E+00	0.00E+00	0.00E+00	9.62E-21	0.00E+00	2.00E-20	1.85E-18
Aniline	6.59E-14	0.00E+00	0.00E+00	0.00E+00	3.48E-16	0.00E+00	7.24E-16	6.69E-14
Atrazine	4.07E-16	0.00E+00	0.00E+00	0.00E+00	2.15E-18	0.00E+00	4.48E-18	4.13E-16
Benzaldehyde	3.00E-14	0.00E+00	0.00E+00	0.00E+00	1.59E-16	0.00E+00	3.30E-16	3.05E-14
Benzene	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
Benzofuran	1.46E-13	0.00E+00	0.00E+00	0.00E+00	7.72E-16	0.00E+00	1.60E-15	1.48E-13
Benzoic Acid	1.47E-14	0.00E+00	0.00E+00	0.00E+00	7.77E-17	0.00E+00	1.62E-16	1.49E-14
Benzonitrile	3.21E-13	0.00E+00	0.00E+00	0.00E+00	1.70E-15	0.00E+00	3.53E-15	3.26E-13
Benzothiazole	1.37E-16	0.00E+00	0.00E+00	0.00E+00	7.23E-19	0.00E+00	1.50E-18	1.39E-16
Biphenyl	1.47E-13	NA	NA	NA	NA	NA	NA	1.47E-13
Bis(2-ethylhexyl)phthalate	8.07E-17	0.00E+00	0.00E+00	0.00E+00	4.27E-19	0.00E+00	8.87E-19	8.20E-17
Carbazole	6.59E-16	0.00E+00	0.00E+00	0.00E+00	3.48E-18	0.00E+00	7.24E-18	6.69E-16
Carbon Tetrachloride	1.91E-15	NA	NA	NA	NA	NA	NA	1.91E-15
4-Chloroaniline	3.77E-17	0.00E+00	0.00E+00	0.00E+00	1.99E-19	0.00E+00	4.15E-19	3.83E-17
Chlorobenzene	9.06E-17	NA	NA	NA	NA	NA	NA	9.06E-17
4-Chlorobiphenyl	9.29E-17	0.00E+00	0.00E+00	0.00E+00	4.91E-19	0.00E+00	1.02E-18	9.44E-17
4,4-Chlorobiphenyl	4.67E-18	0.00E+00	0.00E+00	0.00E+00	2.47E-20	0.00E+00	5.14E-20	4.75E-18
Chloroethane	3.33E-15	0.00E+00	0.00E+00	0.00E+00	1.76E-17	0.00E+00	3.66E-17	3.38E-15
Chloroform	1.62E-14	NA	NA	NA	NA	NA	NA	1.62E-14
Dibenzofuran	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.55E-17	0.00E+00	3.22E-17	2.98E-15
Dichlorobenzenes (total)	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
1,4-Dichlorobenzene	2.38E-17	NA	NA	NA	NA	NA	NA	2.38E-17
1,1-Dichloroethane	1.08E-15	NA	NA	NA	NA	NA	NA	1.08E-15
1,2-Dichloroethane	3.37E-16	0.00E+00	0.00E+00	0.00E+00	1.78E-18	0.00E+00	3.71E-18	3.42E-16
1,1-Dichloroethene	5.77E-16	NA	NA	NA	NA	NA	NA	5.77E-16
1,2-Dichloroethene	4.99E-16	NA	NA	NA	NA	NA	NA	4.99E-16
1,2-Dichloropropane	2.14E-16	NA	NA	NA	NA	NA	NA	2.14E-16
Dieldrin	3.34E-18	0.00E+00	0.00E+00	0.00E+00	1.77E-20	0.00E+00	3.67E-20	3.39E-18
Dimethyldisulfide	9.17E-16	NA	NA	NA	NA	NA	NA	9.17E-16
Hexachlorobenzene	8.83E-15	0.00E+00	0.00E+00	0.00E+00	4.67E-17	0.00E+00	9.71E-17	8.97E-15
Hydrazine	1.14E-11	0.00E+00	0.00E+00	0.00E+00	6.03E-14	0.00E+00	1.25E-13	1.16E-11
Lindane	1.55E-18	0.00E+00	0.00E+00	0.00E+00	8.20E-21	0.00E+00	1.71E-20	1.58E-18
Malathion	4.58E-18	0.00E+00	0.00E+00	0.00E+00	2.42E-20	0.00E+00	5.04E-20	4.66E-18
Methyl chloride	4.48E-16	NA	NA	NA	NA	NA	NA	4.48E-16
Methylene chloride	2.70E-14	NA	NA	NA	NA	NA	NA	2.70E-14
Methyl ethyl ketone	5.66E-16	0.00E+00	0.00E+00	0.00E+00	2.99E-18	0.00E+00	6.23E-18	5.75E-16
4-Methylphenol	5.14E-16	0.00E+00	0.00E+00	0.00E+00	2.72E-18	0.00E+00	5.65E-18	5.22E-16
Monomethyl hydrazine	3.60E-12	0.00E+00	0.00E+00	0.00E+00	1.90E-14	0.00E+00	3.96E-14	3.65E-12
Naphthalene	6.06E-17	0.00E+00	0.00E+00	0.00E+00	3.21E-19	0.00E+00	6.67E-19	6.16E-17
Naphthalene carbonitrile	3.21E-13	0.00E+00	0.00E+00	0.00E+00	1.70E-15	0.00E+00	3.53E-15	3.26E-13
n-Nitrosodimethylamine	3.66E-15	0.00E+00	0.00E+00	0.00E+00	1.93E-17	0.00E+00	4.02E-17	3.72E-15
PAHs								
Acenaphthalene	1.46E-14	0.00E+00	0.00E+00	0.00E+00	7.72E-17	0.00E+00	1.60E-16	1.48E-14
Acenaphthene	1.46E-14	0.00E+00	0.00E+00	0.00E+00	7.72E-17	0.00E+00	1.60E-16	1.48E-14
Benzo(a)pyrene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.55E-16	0.00E+00	3.22E-16	2.98E-14

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	T	U	V	W	X	Y	Z	AA
2			TABLE 2							
61		Chrysene	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.55E-17	0.00E+00	3.22E-17	2.98E-15
62		Dibenzo(a,h)anthracene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.55E-16	0.00E+00	3.22E-16	2.98E-14
63		Fluoranthene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.55E-16	NA	3.22E-16	2.98E-14
64		Fluorene	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.55E-17	0.00E+00	3.22E-17	2.98E-15
65		Phenanthrene	1.14E-17	0.00E+00	0.00E+00	0.00E+00	6.03E-20	0.00E+00	1.25E-19	1.16E-17
66		Pyrene	5.86E-14	0.00E+00	0.00E+00	0.00E+00	3.10E-16	0.00E+00	6.44E-16	5.95E-14
67		Parathion	7.25E-18	0.00E+00	0.00E+00	0.00E+00	3.84E-20	0.00E+00	7.98E-20	7.37E-18
68		Pentachlorobenzene	3.60E-15	0.00E+00	0.00E+00	0.00E+00	1.90E-17	NA	3.96E-17	3.65E-15
69		Phenol	5.75E-17	0.00E+00	0.00E+00	0.00E+00	3.04E-19	NA	6.33E-19	5.85E-17
70		Pyridine	3.21E-13	NA	NA	NA	NA	NA	NA	3.21E-13
71		Quinoline	3.30E-15	0.00E+00	0.00E+00	0.00E+00	1.74E-17	0.00E+00	3.63E-17	3.35E-15
72		Tetrachlorobenzene	1.77E-15	0.00E+00	0.00E+00	0.00E+00	9.35E-18	NA	1.94E-17	1.80E-15
73		Tetrachloroethene	6.17E-17	NA	NA	NA	NA	NA	NA	6.17E-17
74		Toluene	9.84E-16	NA	NA	NA	NA	NA	NA	9.84E-16
75		Trichlorobenzene	8.95E-16	0.00E+00	0.00E+00	0.00E+00	4.73E-18	0.00E+00	9.84E-18	9.09E-16
76		Trichloroethene	6.59E-16	NA	NA	NA	NA	NA	NA	6.59E-16
77		Unsym. dimethyl hydrazine	1.42E-11	0.00E+00	0.00E+00	0.00E+00	7.50E-14	0.00E+00	1.56E-13	1.44E-11
78		Vapona	2.87E-17	0.00E+00	0.00E+00	0.00E+00	1.52E-19	0.00E+00	3.15E-19	2.91E-17
79		Vinyl acetate	4.07E-16	NA	NA	NA	NA	NA	NA	4.07E-16
80		Vinyl chloride	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
81		Xylenes (total)	7.03E-17	NA	NA	NA	NA	NA	NA	7.03E-17
82										
83	INORGANICS									
84		Arsenic	4.36E-13	0.00E+00	0.00E+00	0.00E+00	2.30E-15	0.00E+00	4.79E-16	4.38E-13
85		Cadmium	3.18E-15	0.00E+00	0.00E+00	0.00E+00	1.68E-17	NA	3.50E-18	3.21E-15
86		Chromium (III)	1.29E-14	NA	NA	NA	NA	NA	NA	1.29E-14
87		Chromium (VI)	4.54E-16	NA	NA	NA	NA	NA	NA	4.54E-16
88		Copper	3.26E-14	NA	NA	NA	NA	0.00E+00	NA	3.26E-14
89		Iron	9.95E-10	NA	NA	NA	NA	NA	NA	9.95E-10
90		Lead	1.67E-14	NA	NA	NA	NA	NA	NA	1.67E-14
91		Mercury	2.08E-14	0.00E+00	0.00E+00	0.00E+00	1.10E-16	NA	2.28E-17	2.09E-14
92		Selenium	5.35E-14	NA	NA	NA	NA	NA	NA	5.35E-14
93		Silver	3.33E-16	NA	NA	NA	NA	NA	NA	3.33E-16
94		Zinc	1.47E-13	NA	NA	NA	NA	0.00E+00	NA	1.47E-13
95										
96										
97										
98			br	10 M3/day			D*AT*1000			
99			bw	70 Kg			---------			
100			ef	250 days/yr			SD*BD			
101			cf	365000 (1000 ug/mg)*(365 day/yr)						
102							AC = ER * DFI			
103			Inhalation dose = Cair*br*ef/bw/cf							
104							D = ER * x DF			

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 3
ADULT TOTAL EXPOSURE - MAXIMUM

SENSITIVITY CASE

18-Jun-91
16:55:55
WORKER

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	1.29E-15	NA	NA	NA	NA	NA	NA	1.29E-15
Acetonitrile	1.17E-12	0.00E+00	0.00E+00	0.00E+00	6.28E-15	0.00E+00	1.31E-14	1.19E-12
Acrylonitrile	4.98E-13	NA	NA	NA	NA	NA	NA	4.98E-13
Aldrin	1.82E-18	0.00E+00	0.00E+00	0.00E+00	9.76E-21	0.00E+00	2.03E-20	1.85E-18
Aniline	6.59E-14	0.00E+00	0.00E+00	0.00E+00	3.53E-16	0.00E+00	7.35E-16	6.69E-14
Atrazine	4.07E-16	0.00E+00	0.00E+00	0.00E+00	2.18E-18	0.00E+00	4.54E-18	4.14E-16
Benzaldehyde	3.00E-14	0.00E+00	0.00E+00	0.00E+00	1.61E-16	0.00E+00	3.35E-16	3.05E-14
Benzene	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
Benzofuran	1.46E-13	0.00E+00	0.00E+00	0.00E+00	7.83E-16	0.00E+00	1.63E-15	1.48E-13
Benzoic Acid	1.47E-14	0.00E+00	0.00E+00	0.00E+00	7.88E-17	0.00E+00	1.64E-16	1.49E-14
Benzonitrile	3.21E-13	0.00E+00	0.00E+00	0.00E+00	1.72E-15	0.00E+00	3.58E-15	3.26E-13
Benzothiazole	1.37E-16	0.00E+00	0.00E+00	0.00E+00	7.33E-19	0.00E+00	1.52E-18	1.39E-16
Biphenyl	1.47E-13	NA	NA	NA	NA	NA	NA	1.47E-13
Bis(2-ethylhexyl)phthalate	8.07E-17	0.00E+00	0.00E+00	0.00E+00	4.33E-19	0.00E+00	9.00E-19	8.20E-17
Carbazole	6.59E-16	0.00E+00	0.00E+00	0.00E+00	3.53E-18	0.00E+00	7.35E-18	6.69E-16
Carbon Tetrachloride	1.91E-15	NA	NA	NA	NA	NA	NA	1.91E-15
4-Chloroaniline	3.77E-17	0.00E+00	0.00E+00	0.00E+00	2.02E-19	0.00E+00	4.21E-19	3.83E-17
Chlorobenzene	9.06E-17	NA	NA	NA	NA	NA	NA	9.06E-17
4-Chlorobiphenyl	9.29E-17	0.00E+00	0.00E+00	0.00E+00	4.98E-19	0.00E+00	1.04E-18	9.44E-17
4,4-Chlorobiphenyl	4.67E-18	0.00E+00	0.00E+00	0.00E+00	2.51E-20	0.00E+00	5.22E-20	4.75E-18
Chloroethane	3.33E-15	0.00E+00	0.00E+00	0.00E+00	1.79E-17	0.00E+00	3.71E-17	3.38E-15
Chloroform	1.62E-14	NA	NA	NA	NA	NA	NA	1.62E-14
Dibenzofuran	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.57E-17	0.00E+00	3.27E-17	2.98E-15
Dichlorobenzenes (total)	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
1,4-Dichlorobenzene	2.38E-17	NA	NA	NA	NA	NA	NA	2.38E-17
1,1-Dichloroethane	1.08E-15	NA	NA	NA	NA	NA	NA	1.08E-15
1,2-Dichloroethane	3.37E-16	0.00E+00	0.00E+00	0.00E+00	1.81E-18	0.00E+00	3.76E-18	3.43E-16
1,1-Dichloroethene	5.77E-16	NA	NA	NA	NA	NA	NA	5.77E-16
1,2-Dichloroethene	4.99E-16	NA	NA	NA	NA	NA	NA	4.99E-16
1,2-Dichloropropane	2.14E-16	NA	NA	NA	NA	NA	NA	2.14E-16
Dieldrin	3.34E-18	0.00E+00	0.00E+00	0.00E+00	1.79E-20	0.00E+00	3.73E-20	3.39E-18
Dimethyldisulfide	9.17E-16	NA	NA	NA	NA	NA	NA	9.17E-16
Hexachlorobenzene	8.83E-15	0.00E+00	0.00E+00	0.00E+00	4.74E-17	0.00E+00	9.85E-17	8.97E-15
Hydrazine	1.14E-11	0.00E+00	0.00E+00	0.00E+00	6.12E-14	0.00E+00	1.27E-13	1.16E-11
Lindane	1.55E-18	0.00E+00	0.00E+00	0.00E+00	8.32E-21	0.00E+00	1.73E-20	1.58E-18
Malathion	4.58E-18	0.00E+00	0.00E+00	0.00E+00	2.46E-20	0.00E+00	5.11E-20	4.66E-18
Methyl chloride	4.48E-16	NA	NA	NA	NA	NA	NA	4.48E-16
Methylene chloride	2.70E-14	NA	NA	NA	NA	NA	NA	2.70E-14
Methyl ethyl ketone	5.66E-16	0.00E+00	0.00E+00	0.00E+00	3.04E-18	0.00E+00	6.32E-18	5.75E-16
4-Methylphenol	5.14E-16	0.00E+00	0.00E+00	0.00E+00	2.76E-18	0.00E+00	5.73E-18	5.22E-16
Monomethyl hydrazine	3.60E-12	0.00E+00	0.00E+00	0.00E+00	1.93E-14	0.00E+00	4.01E-14	3.66E-12
Naphthalene	6.06E-17	0.00E+00	0.00E+00	0.00E+00	3.25E-19	0.00E+00	6.76E-19	6.16E-17
Naphthalene carbonitrile	3.21E-13	0.00E+00	0.00E+00	0.00E+00	1.72E-15	0.00E+00	3.58E-15	3.26E-13
n-Nitrosodimethylamine	3.66E-15	0.00E+00	0.00E+00	0.00E+00	1.96E-17	0.00E+00	4.08E-17	3.72E-15
PAHs								
Acenaphthalene	1.46E-14	0.00E+00	0.00E+00	0.00E+00	7.83E-17	0.00E+00	1.63E-16	1.48E-14
Acenaphthene	1.46E-14	0.00E+00	0.00E+00	0.00E+00	7.83E-17	0.00E+00	1.63E-16	1.48E-14
Benzo(a)pyrene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.57E-16	0.00E+00	3.27E-16	2.98E-14

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AD	AE	AF	AG	AH	AI	AJ	AK
2			TABLE 3							
61		Chrysene	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.57E-17	0.00E+00	3.27E-17	2.98E-15
62		Dibenzo(a,h)anthracene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.57E-16	0.00E+00	3.27E-16	2.98E-14
63		Fluoranthene	2.93E-14	0.00E+00	0.00E+00	0.00E+00	1.57E-16	NA	3.27E-16	2.98E-14
64		Fluorene	2.93E-15	0.00E+00	0.00E+00	0.00E+00	1.57E-17	0.00E+00	3.27E-17	2.98E-15
65		Phenanthrene	1.14E-17	0.00E+00	0.00E+00	0.00E+00	6.12E-20	0.00E+00	1.27E-19	1.16E-17
66		Pyrene	5.86E-14	0.00E+00	0.00E+00	0.00E+00	3.14E-16	0.00E+00	6.54E-16	5.95E-14
67		Parathion	7.25E-18	0.00E+00	0.00E+00	0.00E+00	3.89E-20	0.00E+00	8.09E-20	7.37E-18
68		Pentachlorobenzene	3.60E-15	0.00E+00	0.00E+00	0.00E+00	1.93E-17	NA	4.01E-17	3.66E-15
69		Phenol	5.75E-17	0.00E+00	0.00E+00	0.00E+00	3.09E-19	NA	6.42E-19	5.85E-17
70		Pyridine	3.21E-13	NA	NA	NA	NA	NA	NA	3.21E-13
71		Quinoline	3.30E-15	0.00E+00	0.00E+00	0.00E+00	1.77E-17	0.00E+00	3.68E-17	3.35E-15
72		Tetrachlorobenzene	1.77E-15	0.00E+00	0.00E+00	0.00E+00	9.48E-18	NA	1.97E-17	1.80E-15
73		Tetrachloroethene	6.17E-17	NA	NA	NA	NA	NA	NA	6.17E-17
74		Toluene	9.84E-16	NA	NA	NA	NA	NA	NA	9.84E-16
75		Trichlorobenzene	8.95E-16	0.00E+00	0.00E+00	0.00E+00	4.80E-18	0.00E+00	9.99E-18	9.10E-16
76		Trichloroethene	6.59E-16	NA	NA	NA	NA	NA	NA	6.59E-16
77		Unsym. dimethyl hydrazine	1.42E-11	0.00E+00	0.00E+00	0.00E+00	7.61E-14	0.00E+00	1.58E-13	1.44E-11
78		Vapona	2.87E-17	0.00E+00	0.00E+00	0.00E+00	1.54E-19	0.00E+00	3.20E-19	2.91E-17
79		Vinyl acetate	4.07E-16	NA	NA	NA	NA	NA	NA	4.07E-16
80		Vinyl chloride	3.77E-16	NA	NA	NA	NA	NA	NA	3.77E-16
81		Xylenes (total)	7.03E-17	NA	NA	NA	NA	NA	NA	7.03E-17
82										
83	INORGANICS									
84		Arsenic	4.36E-13	0.00E+00	0.00E+00	0.00E+00	2.34E-15	0.00E+00	4.86E-16	4.38E-13
85		Cadmium	3.18E-15	0.00E+00	0.00E+00	0.00E+00	1.71E-17	NA	3.55E-18	3.21E-15
86		Chromium (III)	1.29E-14	NA	NA	NA	NA	NA	NA	1.29E-14
87		Chromium (VI)	4.54E-16	NA	NA	NA	NA	NA	NA	4.54E-16
88		Copper	3.26E-14	NA	NA	NA	NA	0.00E+00	NA	3.26E-14
89		Iron	9.95E-10	NA	NA	NA	NA	NA	NA	9.95E-10
90		Lead	1.67E-14	NA	NA	NA	NA	NA	NA	1.67E-14
91		Mercury	2.08E-14	0.00E+00	0.00E+00	0.00E+00	1.11E-16	NA	2.32E-17	2.09E-14
92		Selenium	5.35E-14	NA	NA	NA	NA	NA	NA	5.35E-14
93		Silver	3.33E-16	NA	NA	NA	NA	NA	NA	3.33E-16
94		Zinc	1.47E-13	NA	NA	NA	NA	0.00E+00	NA	1.47E-13
95										
96										
97										
98			br	10 M3/day						
99			bw	70 Kg						
100			ef	250 day/yr						
101			cf	365000 (1000 ug/mg)*(365 day/yr)						
102										
103			Inhalation dose = Cair*br*ef/bw/cf							

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 4
CHILD TOTAL EXPOSURE - AVERAGE

SENSITIVITY CASE

18-Jun-91 16:55:55 WORKER

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	8.54E-15	NA	NA	NA	NA	NA	NA	8.54E-15
Acetonitrile	7.72E-12	0.00E+00	0.00E+00	0.00E+00	9.08E-14	1.75E-20	3.09E-14	7.84E-12
Acrylonitrile	3.29E-12	NA	NA	NA	NA	NA	NA	3.29E-12
Aldrin	1.20E-17	0.00E+00	0.00E+00	0.00E+00	1.41E-19	6.34E-27	4.80E-20	1.22E-17
Aniline	4.34E-13	0.00E+00	0.00E+00	0.00E+00	5.10E-15	5.27E-19	1.74E-15	4.41E-13
Atrazine	2.68E-15	0.00E+00	0.00E+00	0.00E+00	3.15E-17	0.00E+00	1.07E-17	2.72E-15
Benzaldehyde	1.98E-13	0.00E+00	0.00E+00	0.00E+00	2.32E-15	5.67E-20	7.92E-16	2.01E-13
Benzene	2.49E-15	NA	NA	NA	NA	NA	NA	2.49E-15
Benzofuran	9.62E-13	0.00E+00	0.00E+00	0.00E+00	1.13E-14	1.25E-18	3.85E-15	9.77E-13
Benzoic Acid	9.69E-14	0.00E+00	0.00E+00	0.00E+00	1.14E-15	4.96E-20	3.88E-16	9.84E-14
Benzonitrile	2.11E-12	0.00E+00	0.00E+00	0.00E+00	2.48E-14	6.74E-19	8.46E-15	2.15E-12
Benzothiazole	9.01E-16	0.00E+00	0.00E+00	0.00E+00	1.06E-17	5.67E-24	3.61E-18	9.15E-16
Biphenyl	9.69E-13	NA	NA	NA	NA	NA	NA	9.69E-13
Bis(2-ethylhexyl)phthalate	5.32E-16	0.00E+00	0.00E+00	0.00E+00	6.25E-18	7.34E-24	2.13E-18	5.40E-16
Carbazole	4.34E-15	0.00E+00	0.00E+00	0.00E+00	5.10E-17	7.46E-21	1.74E-17	4.41E-15
Carbon Tetrachloride	1.26E-14	NA	NA	NA	NA	NA	NA	1.26E-14
4-Chloroaniline	2.49E-16	0.00E+00	0.00E+00	0.00E+00	2.92E-18	2.13E-21	9.95E-19	2.53E-16
Chlorobenzene	5.97E-16	NA	NA	NA	NA	NA	NA	5.97E-16
4-Chlorobiphenyl	6.12E-16	0.00E+00	0.00E+00	0.00E+00	7.20E-18	7.66E-22	2.45E-18	6.22E-16
4,4-Chlorobiphenyl	3.08E-17	0.00E+00	0.00E+00	0.00E+00	3.62E-19	1.29E-23	1.23E-19	3.13E-17
Chloroethane	2.19E-14	0.00E+00	0.00E+00	0.00E+00	2.58E-16	4.32E-23	8.79E-17	2.23E-14
Chloroform	1.07E-13	NA	NA	NA	NA	NA	NA	1.07E-13
Dibenzofuran	1.93E-14	0.00E+00	0.00E+00	0.00E+00	2.27E-16	4.94E-20	7.73E-17	1.96E-14
Dichlorobenzenes (total)	2.49E-15	NA	NA	NA	NA	NA	NA	2.49E-15
1,4-Dichlorobenzene	1.57E-16	NA	NA	NA	NA	NA	NA	1.57E-16
1,1-Dichloroethane	7.11E-15	NA	NA	NA	NA	NA	NA	7.11E-15
1,2-Dichloroethane	2.22E-15	0.00E+00	0.00E+00	0.00E+00	2.61E-17	1.29E-22	8.89E-18	2.26E-15
1,1-Dichloroethene	3.81E-15	NA	NA	NA	NA	NA	NA	3.81E-15
1,2-Dichloroethene	3.29E-15	NA	NA	NA	NA	NA	NA	3.29E-15
1,2-Dichloropropane	1.41E-15	NA	NA	NA	NA	NA	NA	1.41E-15
Dieldrin	2.20E-17	0.00E+00	0.00E+00	0.00E+00	2.59E-19	2.44E-24	8.81E-20	2.24E-17
Dimethyldisulfide	6.05E-15	NA	NA	NA	NA	NA	NA	6.05E-15
Hexachlorobenzene	5.82E-14	0.00E+00	0.00E+00	0.00E+00	6.84E-16	9.71E-19	2.33E-16	5.91E-14
Hydrazine	7.52E-11	0.00E+00	0.00E+00	0.00E+00	8.84E-13	7.96E-20	3.01E-13	7.64E-11
Lindane	1.02E-17	0.00E+00	0.00E+00	0.00E+00	1.20E-19	1.07E-25	4.09E-20	1.04E-17
Malathion	3.02E-17	0.00E+00	0.00E+00	0.00E+00	3.55E-19	0.00E+00	1.21E-19	3.07E-17
Methyl chloride	2.95E-15	NA	NA	NA	NA	NA	NA	2.95E-15
Methylene chloride	1.78E-13	NA	NA	NA	NA	NA	NA	1.78E-13
Methyl ethyl ketone	3.73E-15	0.00E+00	0.00E+00	0.00E+00	4.39E-17	0.00E+00	1.49E-17	3.79E-15
4-Methylphenol	3.39E-15	0.00E+00	0.00E+00	0.00E+00	3.98E-17	6.13E-23	1.36E-17	3.44E-15
Monomethyl hydrazine	2.37E-11	0.00E+00	0.00E+00	0.00E+00	2.79E-13	2.52E-20	9.49E-14	2.41E-11
Naphthalene	4.00E-16	0.00E+00	0.00E+00	0.00E+00	4.70E-18	3.35E-19	1.60E-18	4.06E-16
Naphthalene carbonitrile	2.11E-12	0.00E+00	0.00E+00	0.00E+00	2.48E-14	7.72E-18	8.46E-15	2.15E-12
n-Nitrosodimethylamine	2.41E-14	0.00E+00	0.00E+00	0.00E+00	2.83E-16	0.00E+00	9.65E-17	2.45E-14
PAHs								
Acenaphthalene	9.62E-14	0.00E+00	0.00E+00	0.00E+00	1.13E-15	2.37E-19	3.85E-16	9.77E-14
Acenaphthene	9.62E-14	0.00E+00	0.00E+00	0.00E+00	1.13E-15	9.18E-20	3.85E-16	9.77E-14
Benzo(a)pyrene	1.93E-13	0.00E+00	0.00E+00	0.00E+00	2.27E-15	3.17E-19	7.73E-16	1.96E-13

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AN	AO	AP	AQ	AR	AS	AT	AU
2			TABLE 4							
61		Chrysene	1.93E-14	0.00E+00	0.00E+00	0.00E+00	2.27E-16	8.01E-19	7.73E-17	1.96E-14
62		Dibenzo(a,h)anthracene	1.93E-13	0.00E+00	0.00E+00	0.00E+00	2.27E-15	1.79E-16	7.73E-16	1.96E-13
63		Fluoranthene	1.93E-13	0.00E+00	0.00E+00	0.00E+00	2.27E-15	NA	7.73E-16	1.96E-13
64		Fluorene	1.93E-14	0.00E+00	0.00E+00	0.00E+00	2.27E-16	6.60E-20	7.73E-17	1.96E-14
65		Phenanthrene	7.52E-17	0.00E+00	0.00E+00	0.00E+00	8.84E-19	2.27E-19	3.01E-19	7.66E-17
66		Pyrene	3.86E-13	0.00E+00	0.00E+00	0.00E+00	4.54E-15	3.62E-18	1.55E-15	3.92E-13
67		Parathion	4.78E-17	0.00E+00	0.00E+00	0.00E+00	5.62E-19	7.17E-25	1.91E-19	4.86E-17
68		Pentachlorobenzene	2.37E-14	0.00E+00	0.00E+00	0.00E+00	2.79E-16	NA	9.49E-17	2.41E-14
69		Phenol	3.79E-16	0.00E+00	0.00E+00	0.00E+00	4.46E-18	NA	1.52E-18	3.85E-16
70		Pyridine	2.11E-12	NA	NA	NA	NA	NA	NA	2.11E-12
71		Quinoline	2.17E-14	0.00E+00	0.00E+00	0.00E+00	2.56E-16	1.43E-20	8.70E-17	2.21E-14
72		Tetrachlorobenzene	1.17E-14	0.00E+00	0.00E+00	0.00E+00	1.37E-16	NA	4.66E-17	1.18E-14
73		Tetrachloroethene	4.07E-16	NA	NA	NA	NA	NA	NA	4.07E-16
74		Toluene	6.49E-15	NA	NA	NA	NA	NA	NA	6.49E-15
75		Trichlorobenzene	5.90E-15	0.00E+00	0.00E+00	0.00E+00	6.93E-17	2.17E-20	2.36E-17	5.99E-15
76		Trichloroethene	4.34E-15	NA	NA	NA	NA	NA	NA	4.34E-15
77		Unsym. dimethyl hydrazine	9.35E-11	0.00E+00	0.00E+00	0.00E+00	1.10E-12	9.92E-20	3.74E-13	9.50E-11
78		Vapona	1.89E-16	0.00E+00	0.00E+00	0.00E+00	2.22E-18	4.78E-25	7.57E-19	1.92E-16
79		Vinyl acetate	2.68E-15	NA	NA	NA	NA	NA	NA	2.68E-15
80		Vinyl chioride	2.49E-15	NA	NA	NA	NA	NA	NA	2.49E-15
81		Xylenes (total)	4.63E-16	NA	NA	NA	NA	NA	NA	4.63E-16
82										
83	INORGANICS									
84		Arsenic	2.87E-12	0.00E+00	0.00E+00	0.00E+00	3.38E-14	1.10E-14	1.15E-15	2.92E-12
85		Cadmium	2.10E-14	0.00E+00	0.00E+00	0.00E+00	2.47E-16	NA	8.41E-18	2.13E-14
86		Chromium (III)	8.51E-14	NA	NA	NA	NA	NA	NA	8.51E-14
87		Chromium (VI)	2.99E-15	NA	NA	NA	NA	NA	NA	2.99E-15
88		Copper	2.15E-13	NA	NA	NA	NA	2.64E-15	NA	2.17E-13
89		Iron	6.56E-09	NA	NA	NA	NA	NA	NA	6.56E-09
90		Lead	1.10E-13	NA	NA	NA	NA	NA	NA	1.10E-13
91		Mercury	1.37E-13	0.00E+00	0.00E+00	0.00E+00	1.61E-15	NA	5.48E-17	1.39E-13
92		Selenium	3.53E-13	NA	NA	NA	NA	NA	NA	3.53E-13
93		Silver	2.19E-15	NA	NA	NA	NA	NA	NA	2.19E-15
94		Zinc	9.69E-13	NA	NA	NA	NA	5.84E-15	NA	9.75E-13
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair *br/bw/ugmg							

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

TABLE 5
CHILD TOTAL EXPOSURE - MAXIMUM

SENSITIVITY CASE

18-Jun-91
16:55:55
WORKER

	INHALATION EXPOSURE (mg/Kg/day)	VEGETABLE EXPOSURE (mg/Kg/day)	MILK EXPOSURE (mg/Kg/day)	BEEF EXPOSURE (mg/Kg/day)	SOIL/DUST EXPOSURE (mg/Kg/day)	FISH CONSUMPTION (mg/Kg/day)	DERMAL EXPOSURE (mg/Kg/day)	TOTAL (mg/Kg/day)
ORGANICS								
Acetone	8.54E-15	NA	NA	NA	NA	NA	NA	8.54E-15
Acetonitrile	7.72E-12	0.00E+00	0.00E+00	0.00E+00	9.21E-14	1.75E-20	3.14E-14	7.85E-12
Acrylonitrile	3.29E-12	NA	NA	NA	NA	NA	NA	3.29E-12
Aldrin	1.20E-17	0.00E+00	0.00E+00	0.00E+00	1.43E-19	6.34E-27	4.87E-20	1.22E-17
Aniline	4.34E-13	0.00E+00	0.00E+00	0.00E+00	5.18E-15	5.27E-19	1.76E-15	4.41E-13
Atrazine	2.68E-15	0.00E+00	0.00E+00	0.00E+00	3.20E-17	0.00E+00	1.09E-17	2.73E-15
Benzaldehyde	1.98E-13	0.00E+00	0.00E+00	0.00E+00	2.36E-15	5.67E-20	8.03E-16	2.01E-13
Benzene	2.49E-15	NA	NA	NA	NA	NA	NA	2.49E-15
Benzofuran	9.62E-13	0.00E+00	0.00E+00	0.00E+00	1.15E-14	1.25E-18	3.91E-15	9.77E-13
Benzoic Acid	9.69E-14	0.00E+00	0.00E+00	0.00E+00	1.16E-15	4.96E-20	3.93E-16	9.84E-14
Benzonitrile	2.11E-12	0.00E+00	0.00E+00	0.00E+00	2.52E-14	6.74E-19	8.58E-15	2.15E-12
Benzothiazole	9.01E-16	0.00E+00	0.00E+00	0.00E+00	1.07E-17	5.67E-24	3.66E-18	9.15E-16
Biphenyl	9.69E-13	NA	NA	NA	NA	NA	NA	9.69E-13
Bis(2-ethylhexyl)phthalate	5.32E-16	0.00E+00	0.00E+00	0.00E+00	6.34E-18	7.34E-24	2.16E-18	5.40E-16
Carbazole	4.34E-15	0.00E+00	0.00E+00	0.00E+00	5.18E-17	7.46E-21	1.76E-17	4.41E-15
Carbon Tetrachloride	1.26E-14	NA	NA	NA	NA	NA	NA	1.26E-14
4-Chloroaniline	2.49E-16	0.00E+00	0.00E+00	0.00E+00	2.96E-18	2.13E-21	1.01E-18	2.53E-16
Chlorobenzene	5.97E-16	NA	NA	NA	NA	NA	NA	5.97E-16
4-Chlorobiphenyl	6.12E-16	0.00E+00	0.00E+00	0.00E+00	7.30E-18	7.66E-22	2.49E-18	6.22E-16
4,4-Chlorobiphenyl	3.08E-17	0.00E+00	0.00E+00	0.00E+00	3.68E-19	1.29E-23	1.25E-19	3.13E-17
Chloroethane	2.19E-14	0.00E+00	0.00E+00	0.00E+00	2.62E-16	4.32E-23	8.91E-17	2.23E-14
Chloroform	1.07E-13	NA	NA	NA	NA	NA	NA	1.07E-13
Dibenzofuran	1.93E-14	0.00E+00	0.00E+00	0.00E+00	2.30E-16	4.94E-20	7.84E-17	1.96E-14
Dichlorobenzenes (total)	2.49E-15	NA	NA	NA	NA	NA	NA	2.49E-15
1,4-Dichlorobenzene	1.57E-16	NA	NA	NA	NA	NA	NA	1.57E-16
1,1-Dichloroethane	7.11E-15	NA	NA	NA	NA	NA	NA	7.11E-15
1,2-Dichloroethane	2.22E-15	0.00E+00	0.00E+00	0.00E+00	2.65E-17	1.29E-22	9.02E-18	2.26E-15
1,1-Dichloroethene	3.81E-15	NA	NA	NA	NA	NA	NA	3.81E-15
1,2-Dichloroethene	3.29E-15	NA	NA	NA	NA	NA	NA	3.29E-15
1,2-Dichloropropane	1.41E-15	NA	NA	NA	NA	NA	NA	1.41E-15
Dieldrin	2.20E-17	0.00E+00	0.00E+00	0.00E+00	2.63E-19	2.44E-24	8.94E-20	2.24E-17
Dimethyldisulfide	6.05E-15	NA	NA	NA	NA	NA	NA	6.05E-15
Hexachlorobenzene	5.82E-14	0.00E+00	0.00E+00	0.00E+00	6.94E-16	9.71E-19	2.36E-16	5.91E-14
Hydrazine	7.52E-11	0.00E+00	0.00E+00	0.00E+00	8.97E-13	7.96E-20	3.05E-13	7.64E-11
Lindane	1.02E-17	0.00E+00	0.00E+00	0.00E+00	1.22E-19	1.07E-25	4.15E-20	1.04E-17
Malathion	3.02E-17	0.00E+00	0.00E+00	0.00E+00	3.60E-19	0.00E+00	1.23E-19	3.07E-17
Methyl chloride	2.95E-15	NA	NA	NA	NA	NA	NA	2.95E-15
Methylene chloride	1.78E-13	NA	NA	NA	NA	NA	NA	1.78E-13
Methyl ethyl ketone	3.73E-15	0.00E+00	0.00E+00	0.00E+00	4.45E-17	0.00E+00	1.52E-17	3.79E-15
4-Methylphenol	3.39E-15	0.00E+00	0.00E+00	0.00E+00	4.04E-17	6.13E-23	1.38E-17	3.44E-15
Monomethyl hydrazine	2.37E-11	0.00E+00	0.00E+00	0.00E+00	2.83E-13	2.52E-20	9.63E-14	2.41E-11
Naphthalene	4.00E-16	0.00E+00	0.00E+00	0.00E+00	4.77E-18	3.35E-19	1.62E-18	4.06E-16
Naphthalene carbonitrile	2.11E-12	0.00E+00	0.00E+00	0.00E+00	2.52E-14	7.72E-18	8.58E-15	2.15E-12
n-Nitrosodimethylamine	2.41E-14	0.00E+00	0.00E+00	0.00E+00	2.88E-16	0.00E+00	9.79E-17	2.45E-14
PAHs								
Acenaphthalene	9.62E-14	0.00E+00	0.00E+00	0.00E+00	1.15E-15	2.37E-19	3.91E-16	9.77E-14
Acenaphthene	9.62E-14	0.00E+00	0.00E+00	0.00E+00	1.15E-15	9.18E-20	3.91E-16	9.77E-14
Benzo(a)pyrene	1.93E-13	0.00E+00	0.00E+00	0.00E+00	2.30E-15	3.17E-19	7.84E-16	1.96E-13

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	AX	AY	AZ	BA	BB	BC	BD	BE
2			TABLE 5							
61		Chrysene	1.93E-14	0.00E+00	0.00E+00	0.00E+00	2.30E-16	8.01E-19	7.84E-17	1.96E-14
62		Dibenzo(a,h)anthracene	1.93E-13	0.00E+00	0.00E+00	0.00E+00	2.30E-15	1.79E-16	7.84E-16	1.96E-13
63		Fluoranthene	1.93E-13	0.00E+00	0.00E+00	0.00E+00	2.30E-15	NA	7.84E-16	1.96E-13
64		Fluorene	1.93E-14	0.00E+00	0.00E+00	0.00E+00	2.30E-16	6.60E-20	7.84E-17	1.96E-14
65		Phenanthrene	7.52E-17	0.00E+00	0.00E+00	0.00E+00	8.97E-19	2.27E-19	3.05E-19	7.66E-17
66		Pyrene	3.86E-13	0.00E+00	0.00E+00	0.00E+00	4.60E-15	3.62E-18	1.57E-15	3.92E-13
67		Parathion	4.78E-17	0.00E+00	0.00E+00	0.00E+00	5.70E-19	7.17E-25	1.94E-19	4.86E-17
68		Pentachlorobenzene	2.37E-14	0.00E+00	0.00E+00	0.00E+00	2.83E-16	NA	9.63E-17	2.41E-14
69		Phenol	3.79E-16	0.00E+00	0.00E+00	0.00E+00	4.52E-18	NA	1.54E-18	3.85E-16
70		Pyridine	2.11E-12	NA	NA	NA	NA	NA	NA	2.11E-12
71		Quinoline	2.17E-14	0.00E+00	0.00E+00	0.00E+00	2.59E-16	1.43E-20	8.83E-17	2.21E-14
72		Tetrachlorobenzene	1.17E-14	0.00E+00	0.00E+00	0.00E+00	1.39E-16	NA	4.73E-17	1.18E-14
73		Tetrachloroethene	4.07E-16	NA	NA	NA	NA	NA	NA	4.07E-16
74		Toluene	6.49E-15	NA	NA	NA	NA	NA	NA	6.49E-15
75		Trichlorobenzene	5.90E-15	0.00E+00	0.00E+00	0.00E+00	7.04E-17	2.17E-20	2.40E-17	5.99E-15
76		Trichloroethene	4.34E-15	NA	NA	NA	NA	NA	NA	4.34E-15
77		Unsym. dimethyl hydrazine	9.35E-11	0.00E+00	0.00E+00	0.00E+00	1.11E-12	9.92E-20	3.80E-13	9.50E-11
78		Vapona	1.89E-16	0.00E+00	0.00E+00	0.00E+00	2.25E-18	4.78E-25	7.67E-19	1.92E-16
79		Vinyl acetate	2.68E-15	NA	NA	NA	NA	NA	NA	2.68E-15
80		Vinyl chloride	2.49E-15	NA	NA	NA	NA	NA	NA	2.49E-15
81		Xylenes (total)	4.63E-16	NA	NA	NA	NA	NA	NA	4.63E-16
82										
83	INORGANICS									
84		Arsenic	2.87E-12	0.00E+00	0.00E+00	0.00E+00	3.42E-14	1.10E-14	1.17E-15	2.92E-12
85		Cadmium	2.10E-14	0.00E+00	0.00E+00	0.00E+00	2.50E-16	NA	8.53E-18	2.13E-14
86		Chromium (III)	8.51E-14	NA	NA	NA	NA	NA	NA	8.51E-14
87		Chromium (VI)	2.99E-15	NA	NA	NA	NA	NA	NA	2.99E-15
88		Copper	2.15E-13	NA	NA	NA	NA	2.64E-15	NA	2.17E-13
89		Iron	6.56E-09	NA	NA	NA	NA	NA	NA	6.56E-09
90		Lead	1.10E-13	NA	NA	NA	NA	NA	NA	1.10E-13
91		Mercury	1.37E-13	0.00E+00	0.00E+00	0.00E+00	1.63E-15	NA	5.56E-17	1.39E-13
92		Selenium	3.53E-13	NA	NA	NA	NA	NA	NA	3.53E-13
93		Silver	2.19E-15	NA	NA	NA	NA	NA	NA	2.19E-15
94		Zinc	9.69E-13	NA	NA	NA	NA	5.84E-15	NA	9.75E-13
95										
96										
97										
98				br	10 M3/day					
99				bw	15.5 Kg					
100				um	1000 ug/mg					
101										
102										
103			Inhalation dose = Cair*br/bw/ugmg							

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
3			INFANT TOTAL EXPOSURE		
4		SENSITIVITY CASE			
5					
6			----------MAXIMUM----------		
7		18-Jun-91	INHALATION	BREAST MILK	TOTAL
8		16:55:55	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)
9		WORKER			
10					
11					
12	ORGANICS				
13		Acetone	5.59E-15	3.32E-17	5.62E-15
14		Acetonitrile	5.05E-12	4.33E-12	9.39E-12
15		Acrylonitrile	2.15E-12	2.27E-15	2.15E-12
16		Aldrin	7.85E-18	6.73E-18	1.46E-17
17		Aniline	2.84E-13	2.44E-13	5.28E-13
18		Atrazine	1.76E-15	1.51E-15	3.26E-15
19		Benzaldehyde	1.29E-13	1.11E-13	2.40E-13
20		Benzene	1.63E-15	6.45E-19	1.63E-15
21		Benzofuran	6.30E-13	5.40E-13	1.17E-12
22		Benzoic Acid	6.34E-14	5.44E-14	1.18E-13
23		Benzonitrile	1.38E-12	1.19E-12	2.57E-12
24		Benzothiazole	5.90E-16	5.06E-16	1.10E-15
25		Biphenyl	6.34E-13	3.77E-15	6.38E-13
26		Bis(2-ethylhexyl)phthalate	3.48E-16	2.98E-16	6.46E-16
27		Carbazole	2.84E-15	2.44E-15	5.28E-15
28		Carbon Tetrachloride	8.25E-15	4.90E-17	8.30E-15
29		4-Chloroaniline	1.63E-16	1.39E-16	3.02E-16
30		Chlorobenzene	3.91E-16	2.32E-18	3.93E-16
31		4-Chlorobiphenyl	4.01E-16	3.44E-16	7.44E-16
32		4,4-Chlorobiphenyl	2.02E-17	1.73E-17	3.75E-17
33		Chloroethane	1.44E-14	1.23E-14	2.67E-14
34		Chloroform	7.00E-14	4.16E-16	7.05E-14
35		Dibenzofuran	1.26E-14	1.08E-14	2.35E-14
36		Dichlorobenzenes (total)	1.63E-15	9.67E-18	1.64E-15
37		1,4-Dichlorobenzene	1.03E-16	6.11E-19	1.03E-16
38		1,1-Dichloroethane	4.65E-15	2.77E-17	4.68E-15
39		1,2-Dichloroethane	1.45E-15	1.25E-15	2.70E-15
40		1,1-Dichloroethene	2.49E-15	1.48E-17	2.51E-15
41		1,2-Dichloroethene	2.15E-15	1.28E-17	2.17E-15
42		1,2-Dichloropropane	9.22E-16	5.48E-18	9.28E-16
43		Dieldrin	1.44E-17	1.24E-17	2.68E-17
44		Dimethyldisulfide	3.96E-15	2.35E-17	3.98E-15
45		Hexachlorobenzene	3.81E-14	7.36E-15	4.54E-14
46		Hydrazine	4.92E-11	4.22E-11	9.14E-11
47		Lindane	6.69E-18	5.74E-18	1.24E-17
48		Malathion	1.98E-17	1.70E-17	3.67E-17
49		Methyl chloride	1.93E-15	1.15E-17	1.94E-15
50		Methylene chloride	1.17E-13	6.93E-16	1.17E-13
51		Methyl ethyl ketone	2.44E-15	2.09E-15	4.54E-15
52		4-Methylphenol	2.22E-15	1.90E-15	4.12E-15
53		Monomethyl hydrazine	1.55E-11	1.33E-11	2.88E-11
54		Naphthalene	2.62E-16	2.24E-16	4.86E-16
55		Naphthalene carbonitrile	1.38E-12	1.19E-12	2.57E-12
56		n-Nitrosodimethylamine	1.58E-14	1.35E-14	2.93E-14
57		PAHs			
58		Acenaphthalene	6.30E-14	5.40E-14	1.17E-13
59		Acenaphthene	6.30E-14	5.40E-14	1.17E-13
60		Benzo(a)pyrene	1.26E-13	1.08E-13	2.35E-13

ROCKY MTN ARSENAL - WORKER SCENARIO - HYDRAZINE WASTESTREAM 18-Jun-91

A	B	C	BH	BI	BJ
2			TABLE 6		
61		Chrysene	1.26E-14	1.08E-14	2.35E-14
62		Dibenzo(a,h)anthracene	1.26E-13	1.08E-13	2.35E-13
63		Fluoranthene	1.26E-13	1.08E-13	2.35E-13
64		Fluorene	1.26E-14	1.08E-14	2.35E-14
65		Phenanthrene	4.92E-17	4.22E-17	9.14E-17
66		Pyrene	2.53E-13	2.17E-13	4.69E-13
67		Parathion	3.13E-17	2.68E-17	5.81E-17
68		Pentachlorobenzene	1.55E-14	3.00E-15	1.85E-14
69		Phenol	2.48E-16	2.13E-16	4.61E-16
70		Pyridine	1.38E-12	8.22E-15	1.39E-12
71		Quinoline	1.42E-14	1.22E-14	2.64E-14
72		Tetrachlorobenzene	7.63E-15	1.47E-15	9.10E-15
73		Tetrachloroethene	2.66E-16	1.58E-18	2.68E-16
74		Toluene	4.25E-15	4.21E-18	4.25E-15
75		Trichlorobenzene	3.86E-15	7.47E-16	4.61E-15
76		Trichloroethene	2.84E-15	1.69E-17	2.86E-15
77		Unsym. dimethyl hydrazine	6.12E-11	5.25E-11	1.14E-10
78		Vapona	1.24E-16	1.06E-16	2.30E-16
79		Vinyl acetate	1.76E-15	1.04E-17	1.77E-15
80		Vinyl chloride	1.63E-15	9.67E-18	1.64E-15
81		Xylenes (total)	3.03E-16	6.01E-20	3.03E-16
82					
83	INORGANICS				
84		Arsenic	1.88E-12	NE	1.88E-12
85		Cadmium	1.37E-14	NE	1.37E-14
86		Chromium (III)	5.57E-14	NE	5.57E-14
87		Chromium (VI)	1.96E-15	NE	1.96E-15
88		Copper	1.41E-13	NE	1.41E-13
89		Iron	4.29E-09	NE	4.29E-09
90		Lead	7.23E-14	NE	7.23E-14
91		Mercury	8.96E-14	NE	8.96E-14
92		Selenium	2.31E-13	NE	2.31E-13
93		Silver	1.44E-15	NE	1.44E-15
94		Zinc	6.34E-13	NE	6.34E-13
95					
96					
97					
98			br	3.80E+00 M3/day	
99			bw	9.00E+00 Kg	
100			um	1.00E+03 ug/mg	
101					
102					
103			Inhalation dose = Cair *br/bw/ugmg		

TABLE 6
CARCINOGENIC SLOPE FACTORS ((mg/kg-day)-1)

WORKER SENSITIVITY CASE	Inhalation Slope Factor	Oral Slope Factor	Dermal Slope Factor
ORGANICS			
Acrylonitrile	2.40E-01	5.40E-01	NC
Aldrin	1.70E+01	1.70E+01	3.40E+01
Aniline	5.70E-03	5.70E-03	1.14E-02
Benzene	2.90E-02	2.90E-02	NC
Bis(2-ethylhexyl)phthalate	1.40E-02	1.40E-02	2.80E-02
Carbazole	2.00E-02	2.00E-02	4.00E-02
Carbon Tetrachloride	1.30E-01	1.30E-01	NC
Chloroform	8.10E-02	6.10E-03	NC
1,4-Dichlorobenzene	2.40E-02	2.40E-02	NC
1,1-Dichloroethane			
1,2-Dichloroethane	9.10E-02	9.10E-02	1.82E-01
1,1-Dichloroethene	1.20E+00	6.00E-01	NC
1,2-Dichloropropane	6.80E-02	6.80E-02	NC
Dieldrin	1.60E+01	1.60E+01	3.20E+01
Hexachlorobenzene	1.60E+00	1.60E+00	3.20E+00
Hydrazine	1.71E+01	3.00E+00	6.00E+00
Lindane	1.30E+00	1.30E+00	2.60E+00
Methyl chloride	6.30E-03	1.30E-02	NC
Methylene chloride	1.40E-02	7.50E-03	NC
4-Methylphenol			
Monomethyl hydrazine	1.10E+00	1.10E+00	2.20E+00
n-Nitrosodimethylamine	5.10E+01	5.10E+01	1.02E+02
PAHs			
Benzo(a)pyrene	6.10E+00	1.15E+01	2.30E+01
Chrysene	6.10E+00	1.15E+01	2.30E+01
Dibenzo(a,h)anthracene	6.10E+00	1.15E+01	2.30E+01
Parathion			
Quinoline	1.20E+01	1.20E+01	2.40E+01
Tetrachloroethene	3.30E-03	5.10E-02	NC
Trichloroethene	1.10E-02	1.10E-02	NC
Vapona	2.90E-01	2.90E-01	5.80E-01
Vinyl chloride	2.95E-01	2.30E+00	NC
INORGANICS			
Arsenic	1.50E+01	1.75E+00	3.50E+01
Cadmium	6.10E+00	NC	NC
Chromium (VI)	4.10E+01	NC	NC
Total			

AED Adult Exposure Duration	64
CED Child Exposure Duration	5
CID Child Inhalation Duration	1
IED Infant Exposure Duration	1
IID Infant Inhalation Duration	1

TABLE 7
WORKER CARCINOGENIC RISK

WORKER SENSITIVITY CASE	INHALATION CARC. RISK	SOIL/DUST INGESTION CARC. RISK	DERMAL EXPOSURE CARC. RISK	TOTAL LIFETIME CARC. RISK
ORGANICS				
Acrylonitrile	3.42E-15	NA	NA	3.42E-15
Aldrin	8.83E-19	7.01E-20	2.91E-19	1.24E-18
Aniline	1.07E-17	8.51E-19	3.54E-18	1.51E-17
Benzene	3.12E-19	NA	NA	3.12E-19
Bis(2-ethylhexyl)phthalate	3.23E-20	2.56E-21	1.06E-20	4.55E-20
Carbazole	3.76E-19	2.99E-20	1.24E-19	5.30E-19
Carbon Tetrachloride	7.10E-18	NA	NA	7.10E-18
Chloroform	3.76E-17	NA	NA	3.76E-17
1,4-Dichlorobenzene	1.63E-20	NA	NA	1.63E-20
1,1-Dichloroethane	NE	NE	NE	NE
1,2-Dichloroethane	8.76E-19	6.95E-20	2.89E-19	1.23E-18
1,1-Dichloroethene	1.98E-17	NA	NA	1.98E-17
1,2-Dichloropropane	4.15E-19	NA	NA	4.15E-19
Dieldrin	1.53E-18	1.21E-19	5.04E-19	2.15E-18
Hexachlorobenzene	4.03E-16	3.20E-17	1.33E-16	5.69E-16
Hydrazine	5.57E-12	7.75E-14	3.23E-13	5.97E-12
Lindane	5.76E-20	4.57E-21	1.90E-20	8.12E-20
Methyl chloride	8.06E-20	NA	NA	8.06E-20
Methylene chloride	1.08E-17	NA	NA	1.08E-17
4-Methylphenol	NE	NE	NE	NE
Monomethyl hydrazine	1.13E-13	8.97E-15	3.73E-14	1.59E-13
n-Nitrosodimethylamine	5.33E-15	4.23E-16	1.76E-15	7.51E-15
PAHs				
Benzo(a)pyrene	5.10E-15	7.63E-16	3.18E-15	9.04E-15
Chrysene	5.10E-16	7.63E-17	3.18E-16	9.04E-16
Dibenzo(a,h)anthracene	5.10E-15	7.63E-16	3.18E-15	9.04E-15
Parathion	NE	NE	NE	NE
Quinoline	1.13E-15	8.97E-17	3.73E-16	1.59E-15
Tetrachloroethene	5.82E-21	NA	NA	5.82E-21
Trichloroethene	2.07E-19	NA	NA	2.07E-19
Vapona	2.38E-19	1.88E-20	7.84E-20	3.35E-19
Vinyl chloride	3.18E-18	NA	NA	3.18E-18
INORGANICS				
Arsenic	1.87E-13	1.73E-15	7.19E-15	1.96E-13
Cadmium	5.55E-16	NA	NA	5.55E-16
Chromium (VI)	5.32E-16	NA	NA	5.32E-16
Total	5.89E-12	9.04E-14	3.76E-13	6.36E-12

30 YEARS - TOTAL WORKER EXPOSURE DURATION
2 YEARS - INHALATION EXPOSURE DURATION

TABLE 8
REFERENCE DOSES FOR NONCARCINOGENIC EFFECTS (mg/kg-day)

WORKER SENSITIVITY CASE	Inhalation RfD	Oral RfD	Dermal RfD
ORGANICS			
Acetone	1.82E+00	1.00E-01	NC
Acetonitrile	1.00E-02	6.00E-02	3.00E-02
Acrylonitrile	4.39E-03	2.70E-04	NC
Aldrin	2.55E-04	3.00E-05	1.50E-05
Aniline	7.76E-03	1.95E-03	9.75E-04
Atrazine	5.10E-03	5.00E-03	2.50E-03
Benzaldehyde	1.00E-01	1.00E-01	5.00E-02
Benzene	3.26E-02	1.00E-03	NC
Benzofuran	5.00E-03	5.00E-03	2.50E-03
Benzoic Acid	4.00E+00	4.00E+00	2.00E+00
Benzonitrile	8.00E-03	8.00E-03	4.00E-03
Benzothiazole	1.00E-03	1.00E-03	5.00E-04
Biphenyl	1.33E-03	5.00E-02	NC
Bis(2-ethylhexyl)phthalate	5.10E-03	4.00E-03	1.00E-02
Carbazole	5.00E-03	5.00E-03	2.50E-03
Carbon Tetrachloride	3.16E-02	7.00E-04	NC
4-Chloroaniline	4.00E-03	4.00E-03	2.00E-03
Chlorobenzene	5.00E-03	2.00E-02	NC
4-Chlorobiphenyl	2.45E-02	2.45E-02	1.22E-02
4,4-Chlorobiphenyl	2.33E-02	2.33E-02	1.16E-02
Chloroethane	2.65E+00	NA	NC
Chloroform	5.00E-02	1.00E-02	NC
Dibenzofuran	NA	NA	NA
Dichlorobenzenes (total)	4.00E-02	9.00E-02	NC
1,1-Dichloroethane	1.00E-01	1.00E-01	NC
1,2-Dichloroethane	4.08E-02	4.89E-03	2.45E-03
1,1-Dichloroethene	2.04E-02	9.00E-03	NC
1,2-Dichloroethene	8.10E-01	2.00E-02	NC
1,2-Dichloropropane	3.54E-01	8.60E-03	NC
Dieldrin	2.55E-04	5.00E-05	2.50E-05
Dimethyldisulfide	8.10E-03	8.10E-03	NC
Hexachlorobenzene	8.00E-04	8.00E-04	4.00E-04
Hydrazine	1.33E-04	6.00E-04	3.00E-04
Lindane	5.10E-04	3.00E-04	1.50E-04
Malathion	1.02E-02	2.00E-02	1.00E-02
Methyl chloride	1.05E-01	1.80E-02	NC
Methylene chloride	8.57E-01	6.00E-02	NC
Methyl ethyl ketone	9.00E-02	5.00E-01	2.50E-01
4-Methylphenol	1.02E-02	5.00E-02	2.50E-02
Monomethyl hydrazine	1.94E-05	2.20E-04	1.10E-04
Naphthalene	5.10E-02	4.00E-03	2.00E-03
Naphthalene carbonitrile	5.10E-02	4.00E-03	2.00E-03
n-Nitrosodimethylamine	2.80E-04	2.80E-04	1.40E-04
PAHs			
Acenaphthalene	6.00E-02	6.00E-02	3.00E-02
Acenaphthene	6.00E-02	6.00E-02	3.00E-02
Benzo(a)pyrene	3.00E-02	3.00E-02	1.50E-02
Chrysene	3.00E-02	3.00E-02	1.50E-02

B	C	D	E	F
		TABLE 8		
	Dibenzo(a,h)anthracene	3.00E-02	3.00E-02	1.50E-02
	Fluoranthene	4.00E-02	4.00E-02	2.00E-02
	Fluorene	4.00E-02	4.00E-02	2.00E-02
	Phenanthrene	3.00E-02	3.00E-02	1.50E-02
	Pyrene	3.00E-02	3.00E-02	1.50E-02
	Parathion	5.10E-05	6.00E-03	3.00E-03
	Pentachlorobenzene	8.00E-04	8.00E-04	4.00E-04
	Phenol	1.94E-02	6.00E-01	3.00E-01
	Pyridine	1.63E-02	1.00E-03	NC
	Quinoline	2.00E-01	2.00E-01	1.00E-01
	Tetrachlorobenzene	3.00E-04	3.00E-04	1.50E-04
	Tetrachloroethene	3.46E-01	1.00E-02	NC
	Toluene	5.71E-01	2.00E-01	NC
	Trichlorobenzene	3.00E-03	2.00E-02	1.00E-02
	Trichloroethene	2.74E-01	7.35E-03	NC
	Unsym. dimethyl hydrazine	1.22E-03	1.22E-03	6.10E-04
	Vapona	8.00E-04	8.00E-04	4.00E-04
	Vinyl acetate	2.00E-01	1.00E+00	NC
	Vinyl chloride	1.33E-02	1.30E-03	NC
	Xylenes (total)	8.57E-02	2.00E+00	NC
INORGANICS				
	Arsenic	2.04E-04	1.00E-03	5.00E-05
	Cadmium	5.10E-05	1.00E-03	5.00E-05
	Chromium (III)	5.10E-04	NC	NC
	Chromium (VI)	5.10E-05	NC	NC
	Copper	1.00E-02	3.80E-02	NC
	Iron	1.02E-03	NC	NC
	Mercury	8.57E-05	3.00E-04	1.50E-05
	Selenium	2.04E-04	NC	NC
	Silver	1.02E-05	NC	NC
	Zinc	8.19E-03	2.00E-01	NC

TABLE 9
ADULT HAZARD INDEX

WORKER SENSITIVITY CASE	INHALATION HAZARD QUOTIENT	VEGETABLE INGESTION HAZARD QUOTIENT	MILK INGESTION HAZARD QUOTIENT	BEEF INGESTION HAZARD QUOTIENT	SOIL/DUST INGESTION HAZARD QUOTIENT	FISH INGESTION HAZARD QUOTIENT	DERMAL EXPOSURE HAZARD QUOTIENT	TOTAL ADULT HAZARD INDEX
ORGANICS								
Acetone	7.11E-16	NA	NA	NA	NA	NA	NA	7.11E-16
Acetonitrile	1.17E-10	0.00E+00	0.00E+00	0.00E+00	1.05E-13	0.00E+00	4.36E-13	1.18E-10
Acrylonitrile	1.14E-10	NA	NA	NA	NA	NA	NA	1.14E-10
Aldrin	7.13E-15	0.00E+00	0.00E+00	0.00E+00	3.25E-16	0.00E+00	1.35E-15	8.81E-15
Aniline	8.49E-12	0.00E+00	0.00E+00	0.00E+00	1.81E-13	0.00E+00	7.54E-13	9.42E-12
Atrazine	7.98E-14	0.00E+00	0.00E+00	0.00E+00	4.37E-16	0.00E+00	1.82E-15	8.20E-14
Benzaldehyde	3.00E-13	0.00E+00	0.00E+00	0.00E+00	1.61E-15	0.00E+00	6.70E-15	3.08E-13
Benzene	1.16E-14	NA	NA	NA	NA	NA	NA	1.16E-14
Benzofuran	2.92E-11	0.00E+00	0.00E+00	0.00E+00	1.57E-13	0.00E+00	6.51E-13	3.00E-11
Benzoic Acid	3.67E-15	0.00E+00	0.00E+00	0.00E+00	1.97E-17	0.00E+00	8.20E-17	3.77E-15
Benzonitrile	4.01E-11	0.00E+00	0.00E+00	0.00E+00	2.15E-13	0.00E+00	8.94E-13	4.12E-11
Benzothiazole	1.37E-13	0.00E+00	0.00E+00	0.00E+00	7.33E-16	0.00E+00	3.05E-15	1.40E-13
Biphenyl	1.10E-10	NA	NA	NA	NA	NA	NA	1.10E-10
Bis(2-ethylhexyl)phthalate	1.58E-14	0.00E+00	0.00E+00	0.00E+00	1.08E-16	0.00E+00	9.00E-17	1.60E-14
Carbazole	1.32E-13	0.00E+00	0.00E+00	0.00E+00	7.07E-16	0.00E+00	2.94E-15	1.35E-13
Carbon Tetrachloride	6.05E-14	NA	NA	NA	NA	NA	NA	6.05E-14
4-Chloroaniline	9.43E-15	0.00E+00	0.00E+00	0.00E+00	5.06E-17	0.00E+00	2.10E-16	9.69E-15
Chlorobenzene	1.81E-14	NA	NA	NA	NA	NA	NA	1.81E-14
4-Chlorobiphenyl	3.79E-15	0.00E+00	0.00E+00	0.00E+00	2.03E-17	0.00E+00	8.50E-17	3.90E-15
4,4-Chlorobiphenyl	2.01E-16	0.00E+00	0.00E+00	0.00E+00	1.08E-18	0.00E+00	4.50E-18	2.06E-16
Chloroethane	1.26E-15	NE	NE	NE	NE	NE	NE	1.26E-15
Chloroform	3.25E-13	NA	NA	NA	NA	NA	NA	3.25E-13
Dibenzofuran	NE	NE	NE	NE	NE	NE	NE	NE
Dichlorobenzenes (total)	9.43E-15	NA	NA	NA	NA	NA	NA	9.43E-15
1,1-Dichloroethane	1.08E-14	NA	NA	NA	NA	NA	NA	1.08E-14
1,2-Dichloroethane	8.26E-15	0.00E+00	0.00E+00	0.00E+00	3.70E-16	0.00E+00	1.54E-15	1.02E-14
1,1-Dichloroethene	2.83E-14	NA	NA	NA	NA	NA	NA	2.83E-14
1,2-Dichloroethene	6.16E-16	NA	NA	NA	NA	NA	NA	6.16E-16
1,2-Dichloropropane	6.04E-16	NA	NA	NA	NA	NA	NA	6.04E-16
Dieldrin	1.31E-14	0.00E+00	0.00E+00	0.00E+00	3.58E-16	0.00E+00	1.49E-15	1.49E-14
Dimethyldisulfide	1.13E-13	NA	NA	NA	NA	NA	NA	1.13E-13
Hexachlorobenzene	1.10E-11	0.00E+00	0.00E+00	0.00E+00	5.92E-14	0.00E+00	2.46E-13	1.13E-11
Hydrazine	8.57E-08	0.00E+00	0.00E+00	0.00E+00	1.02E-10	0.00E+00	4.24E-10	8.63E-08
Lindane	3.04E-15	0.00E+00	0.00E+00	0.00E+00	2.77E-17	0.00E+00	1.15E-16	3.19E-15
Malathion	4.49E-16	0.00E+00	0.00E+00	0.00E+00	1.23E-18	0.00E+00	5.11E-18	4.56E-16
Methyl chloride	4.27E-15	NA	NA	NA	NA	NA	NA	4.27E-15
Methylene chloride	3.15E-14	NA	NA	NA	NA	NA	NA	3.15E-14
Methyl ethyl ketone	6.29E-15	0.00E+00	0.00E+00	0.00E+00	6.07E-18	0.00E+00	2.53E-17	6.32E-15
4-Methylphenol	5.04E-14	0.00E+00	0.00E+00	0.00E+00	5.51E-17	0.00E+00	2.29E-16	5.06E-14
Monomethyl hydrazine	1.85E-07	0.00E+00	0.00E+00	0.00E+00	8.77E-11	0.00E+00	3.65E-10	1.86E-07
Naphthalene	1.19E-15	0.00E+00	0.00E+00	0.00E+00	8.13E-17	0.00E+00	3.38E-16	1.61E-15
Naphthalene carbonitrile	6.29E-12	0.00E+00	0.00E+00	0.00E+00	4.30E-13	0.00E+00	1.79E-12	8.50E-12
n-Nitrosodimethylamine	1.31E-11	0.00E+00	0.00E+00	0.00E+00	7.01E-14	0.00E+00	2.92E-13	1.34E-11
PAHs								
Acenaphthalene	2.43E-13	0.00E+00	0.00E+00	0.00E+00	1.30E-15	0.00E+00	5.43E-15	2.50E-13
Acenaphthene	2.43E-13	0.00E+00	0.00E+00	0.00E+00	1.30E-15	0.00E+00	5.43E-15	2.50E-13
Benzo(a)pyrene	9.76E-13	0.00E+00	0.00E+00	0.00E+00	5.24E-15	0.00E+00	2.18E-14	1.00E-12
Chrysene	9.76E-14	0.00E+00	0.00E+00	0.00E+00	5.24E-16	0.00E+00	2.18E-15	1.00E-13

ROCKY MOUNTAIN ARSENAL - 18-Jun-91 - HYDRAZINE WASTE STREAM

155	B	C	H	I	J	K	L	M	N	O
156			TABLE 9							
215		Dibenzo(a,h)anthracene	9.76E-13	0.00E+00	0.00E+00	0.00E+00	5.24E-15	0.00E+00	2.18E-14	1.00E-12
216		Fluoranthene	7.32E-13	0.00E+00	0.00E+00	0.00E+00	3.93E-15	NA	1.63E-14	7.52E-13
217		Fluorene	7.32E-14	0.00E+00	0.00E+00	0.00E+00	3.93E-16	0.00E+00	1.63E-15	7.52E-14
218		Phenanthrene	3.80E-16	0.00E+00	0.00E+00	0.00E+00	2.04E-18	0.00E+00	8.48E-18	3.91E-16
219		Pyrene	1.95E-12	0.00E+00	0.00E+00	0.00E+00	1.05E-14	0.00E+00	4.36E-14	2.01E-12
220		Parathion	1.42E-13	0.00E+00	0.00E+00	0.00E+00	6.49E-18	0.00E+00	2.70E-17	1.42E-13
221		Pentachlorobenzene	4.49E-12	0.00E+00	0.00E+00	0.00E+00	2.41E-14	NA	1.00E-13	4.62E-12
222		Phenol	2.97E-15	0.00E+00	0.00E+00	0.00E+00	5.14E-19	NA	2.14E-18	2.97E-15
223		Pyridine	1.97E-11	NA	NA	NA	NA	NA	NA	1.97E-11
224		Quinoline	1.65E-14	0.00E+00	0.00E+00	0.00E+00	8.85E-17	0.00E+00	3.68E-16	1.69E-14
225		Tetrachlorobenzene	5.89E-12	0.00E+00	0.00E+00	0.00E+00	3.16E-14	NA	1.31E-13	6.05E-12
226		Tetrachloroethene	1.78E-16	NA	NA	NA	NA	NA	NA	1.78E-16
227		Toluene	1.72E-15	NA	NA	NA	NA	NA	NA	1.72E-15
228		Trichlorobenzene	2.98E-13	0.00E+00	0.00E+00	0.00E+00	2.40E-16	0.00E+00	9.99E-16	3.00E-13
229		Trichloroethene	2.40E-15	NA	NA	NA	NA	NA	NA	2.40E-15
230		Unsym. dimethyl hydrazine	1.16E-08	0.00E+00	0.00E+00	0.00E+00	6.24E-11	0.00E+00	2.59E-10	1.19E-08
231		Vapona	3.58E-14	0.00E+00	0.00E+00	0.00E+00	1.92E-16	0.00E+00	8.00E-16	3.68E-14
232		Vinyl acetate	2.03E-15	NA	NA	NA	NA	NA	NA	2.03E-15
233		Vinyl chloride	2.83E-14	NA	NA	NA	NA	NA	NA	2.83E-14
234		Xylenes (total)	8.20E-16	NA	NA	NA	NA	NA	NA	8.20E-16
235										
236	INORGANICS									
237		Arsenic	2.14E-09	0.00E+00	0.00E+00	0.00E+00	2.34E-12	0.00E+00	9.72E-12	2.15E-09
238		Cadmium	6.24E-11	0.00E+00	0.00E+00	0.00E+00	1.71E-14	NA	7.11E-14	6.25E-11
239		Chromium (III)	2.53E-11	NA	NA	NA	NA	NA	NA	2.53E-11
240		Chromium (VI)	8.90E-12	NA	NA	NA	NA	NA	NA	8.90E-12
241		Copper	3.26E-12	NA	NA	NA	NA	0.00E+00	NA	3.26E-12
242		Iron	9.75E-07	NA	NA	NA	NA	NA	NA	9.75E-07
243		Mercury	2.42E-10	0.00E+00	0.00E+00	0.00E+00	3.71E-13	NA	1.54E-12	2.44E-10
244		Selenium	2.62E-10	NA	NA	NA	NA	NA	NA	2.62E-10
245		Silver	3.26E-11	NA	NA	NA	NA	NA	NA	3.26E-11
246		Zinc	1.79E-11	NA	NA	NA	NA	0.00E+00	NA	1.79E-11
247										
248		Total (Hazard Index)	1.26E-06	0.00E+00	0.00E+00	0.00E+00	2.56E-10	0.00E+00	1.07E-09	1.26E-06

A	B	C	F
253		TABLE 10	
254		CARCINOGENIC RISK	
255		CONTRIBUTION BY PATHWAY	
256			
257		WORKER	
258		SENSITIVITY CASE	
259			
260		Adult	
261		Inhalation	92.6666
262			
263		Ingestion	1.4212
264		Vegetables	NA
265		Milk	NA
266		Beef	NA
267		Soil\Dust	1.4212
268		Fish	NA
269			
270		Dermal	5.9122
271			
272		Child	
273		Inhalation	NA
274			
275		Ingestion	NA
276		Vegetables	NA
277		Milk	NA
278		Beef	NA
279		Soil\Dust	NA
280		Fish	NA
281			
282		Dermal	NA
283			
284		Infant	
285		Inhalation	NA
286			
287		Breast Milk Ingestion	NA
288			
290		Total	100.0000

9.5 HYDRAZINE WASTE STREAM AND EMISSION DOCUMENTATION

TABLE 9.5-1
ORGANIC COMPOSITION OF HYDRAZINE RINSEWATER IN TANKS & SUMP

Compounds	Concentration Ranges (µg/l)									Sum of the	
	Tank US-3			Tank US-4			In-ground Sump			Average (tons/yr)	Maximums (tons/yr)
Volatiles											
1,1-Dichloroethane	108	109	570	3.66	< 5.00	3.89	< 1.53	< 1.53	< 30.0	2.92E-05	6.23E-05
1,1-Dichloroethene	< 240	< 300	13.1	< 12.4	< 5.00	< 12.4	< 12.4	< 12.4	< 240	1.56E-05	2.82E-05
1,2-Dichloroethane	66	< 35	143	1.67	< 5.00	1.66	< 1.41	< 1.41	< 28.0	9.11E-06	1.71E-05
1,2-Dichloropropane	< 26	37.5	89.1	< 1.34	< 5.00	< 1.34	< 1.34	< 1.34	< 26.0	5.79E-06	1.14E-05
Acetone	< 440	< 550	50.7	22.2	32.0	23.8	< 22.2	< 22.2	< 440	3.50E-05	6.04E-05
Benzene	92	112	53.0	2.66	< 5.00	2.41	< 0.830	< 0.830	< 16.6	1.02E-05	1.35E-05
Chlorobenzene	< 10.6	< 13.3	41.6	< 0.530	5.00	< 0.530	< 0.530	< 0.530	< 10.6	2.45E-06	5.82E-06
Chloroethane	< 320	< 400	2000	< 16.2	< 10.0	< 16.2	< 16.2	< 16.2	< 320	8.99E-05	2.25E-04
Chloroform	3200	4750	3400	96.6	106.0	102	< 1.93	< 1.93	< 38.0	4.38E-04	5.41E-04
Chloromethane	< 108	< 135	45.3	25.6	< 10.0	< 5.43	< 5.43	< 5.43	< 108	1.21E-05	2.22E-05
Dimethyl Disulfide	9.65	14.2	4.9	57.0	53.0	61.0	< 1.16	< 1.16	< 1.16	2.48E-05	2.70E-05
Methylethyl ketone	< 220	< 275	27.2	< 10.9	< 10.0	< 10.9	< 10.9	13.3	< 220	1.53E-05	2.58E-05
Methylene Chloride	2800	4000	13000	61.0	110.0	89.6	< 22.2	< 22.2	< 440	7.31E-04	1.42E-03
Tetrachlorethene	< 20.0	< 25.0	2.60	< 1.01	< 5.00	< 1.01	< 1.01	< 1.01	< 20.0	1.67E-06	3.18E-06
Toluene	< 26.0	<32.5	5.09	< 1.29	< 5.00	< 1.29	98.8	115	680	2.66E-05	5.95E-05
Trichloroethene	< 7.80	< 975	5.16	< 0.390	< 5.00	< 0.390	< 0.390	< 0.390	< 7.80	1.78E-05	5.22E-05
Vinyl acetate	134	< 158	< 6.26	< 6.26	< 10.0	< 6.26	< 6.26	< 6.26	126	1.10E-05	2.13E-05
Vinyl chloride	< 110	< 138	78.3	< 5.51	< 10.0	< 5.51	< 5.51	< 5.51	< 110	1.02E-05	1.48E-05
o,p-Xylene	< 22.0	< 27.5	1.84	< 1.10	< 5.00	< 1.10	< 1.10	< 1.10	< 32.0	1.90E-06	3.81E-06
Semivolatiles											
Aniline	1200	1460	1260	1500	NA	6400	< 1.60	< 1.60	< 1.60	1.78E-03	2.82E-03
Atrazine	33.1	44.0	41.3	4.92	4.85	5.5	150	10.5	8.86	1.10E-05	1.94E-05
Benzothiazole	2.74	2.47	2.74	3.26	14.9	2.97	< 11.4	< 11.4	< 11.4	3.69E-06	6.98E-06
4-Chloroaniline	< 1.68	< 1.68	< 1.68	2.94	< 0.707	2.88	< 1.68	< 1.68	< 1.68	1.02E-06	1.38E-06
Malathion	< 0.373	< 0.373	< 0.373	< 0.373	< 0.373	< 0.373	< 0.373	0.574	< 0.373	1.24E-07	1.45E-07
4-Methylphenol	< 3.89	< 3.89	< 3.89	< 3.89	< 0.884	< 3.89	105	45.5	320	1.39E-05	2.77E-05
Naphthalene	8.18	8.78	14.2	< 2.96	< 0.270	< 2.96	< 2.96	< 2.96	< 2.96	1.64E-06	2.22E-06
Parathion	< 0.647	< 0.647	< 0.647	< 0.647	< 0.647	< 0.647	< 0.647	< 0.647	< 0.647	1.96E-07	1.96E-07
Phenanthrene	< 0.960	< 0.960	1.2	< 0.960	< 0.478	< 0.960	< 0.960	< 0.960	< 0.960	2.83E-07	3.70E-07
Phenol	< 2.30	< 2.30	< 2.30	< 2.30	< 1.06	< 2.30	4.12	< 2.30	< 2.30	6.92E-07	9.44E-07
Vapona	< 0.384	19.1	< 0.384	< 0.384	< 0.384	< 0.384	< 0.384	< 0.384	< 0.384	7.74E-07	2.09E-06
bis(2-Ethylhexyl)phthalate	1.98	2.00	< 1.98	< 1.98	< 3.26	11.0	< 1.98	< 1.98	2.14	2.18E-06	4.98E-06
Pesticides											
Aldrin	< 0.050	< 0.050	0.252	< 0.050	< 0.155	< 0.050	< 0.500	< 0.500	< 0.500	4.91E-08	7.95E-08
Dieldrin	0.139	0.125	0.101	< 0.100	< 0.315	< 0.100	< 1.00	< 1.00	< 1.00	9.02E-08	1.22E-07
Lindane	< 0.050	< 0.050	0.255	< 0.050	NA	< 0.050	< 0.500	< 0.500	< 0.500	4.19E-08	5.79E-08
Hydrazine Fuel Compounds/NDMA											
Hydrazine	22,000	60,000	27,000	79,000	1,000,000	1,100,000	2,100	850	380	3.07E-01	4.65E-01
Monomethyl hydrazine	94,000	90,000	50,000	140,000	320,000	180,000	< 2500	< 2500	< 2500	9.72E-02	1.43E-01
Unsymmetrical dimethyl hydrazine	69,000	110,000	53,000	1,100,000	810,000	790,000	1,600	350	85.0	3.84E-01	4.71E-01
n-Nitrosodimethylamine	610	790	500	60.0	120	53.0	4.40	5.80	1.40	9.88E-05	1.33E-04
Total Capacity, gallons			50,000			200,000			40,000		
Assumed Incineration Period, years			2			2			2		

TABLE 9.5-2
ORGANIC EMISSION RATES FROM INCINERATION OF OF ROCKY MOUNTAIN ARSENAL HYDRAZINE RINSEWATER
(1 of 4)

Compounds	Feed Rate (a) *(tons/yr)*	Thermal Destruction Efficiency *(%) (b)*	Theoretical Destruction Efficiency *(%) (b)*	Emission Rate of POHC (b) *(tons/yr)*	Emission Rate of PIC (b) *(tons/yr)*	Total Emission Rate (b) *(tons/yr)*	Effective Theoretical Destruction Efficiency *(%) (b)*	Emission Rate Normalized to PCE at 99.99% *(tons/yr) (b)*	Normalized Destruction Efficiency to PCE at 99.99% *(%) (b)*	Calc. Emis. Rate Normalized to 99.99% Maximum (c) *(tons/yr)*	Destruction Efficiency Normalized to 99.99% Maximum *(%) (d)*	Emission Rate Normalized to 99.99% Maximum (e) *(grams/sec)*
1,1-Dichloroethane	2.92E-05	99.99	99.9999	2.920E-11	0.000E+00	2.920E-11	99.9999	5.554E-14	100.0000	2.92E-09	99.9900	1.05E-10
1,1-Dichloroethene	1.56E-05	99.99	99.9999	1.560E-11	1.791E-09	1.807E-09	99.9884	3.436E-12	100.0000	1.56E-09	99.9900	5.62E-11
1,2-Dichloroethane	9.11E-06	99.99	99.9999	9.110E-12	7.310E-10	7.401E-10	99.9919	1.408E-12	100.0000	9.11E-10	99.9900	3.28E-11
1,2-Dichloropropane	5.79E-06	99.99	99.9999	5.790E-12	0.000E+00	5.790E-12	99.9999	1.101E-14	100.0000	5.79E-10	99.9900	2.08E-11
Acetone	3.50E-05	99.99	99.9999	3.500E-11	0.000E+00	3.500E-11	99.9999	6.657E-14	100.0000	3.50E-09	99.9900	1.26E-10
Benzene	1.02E-05	51.00	99.5100	4.998E-08	8.848E-08	1.385E-07	98.6425	2.634E-10	99.9974	1.02E-09	99.9900	3.67E-11
Chlorobenzene	2.45E-06	90.00	99.9000	2.450E-09	4.137E-10	2.864E-09	99.8831	5.447E-12	99.9998	2.45E-10	99.9900	8.82E-12
Chloroethane	8.99E-05	99.99	99.9999	8.990E-11	0.000E+00	8.990E-11	99.9999	1.710E-13	100.0000	8.99E-09	99.9900	3.24E-10
Chloroform	4.38E-04	99.99	99.9999	4.380E-10	0.000E+00	4.380E-10	99.9999	8.331E-13	100.0000	4.38E-08	99.9900	1.58E-09
Chloromethane	1.21E-05	96.00	99.9600	4.840E-09	7.916E-08	8.400E-08	99.3058	1.598E-10	99.9987	1.21E-09	99.9900	4.36E-11
Dimethyl Disulfide	2.48E-05	99.99	99.9999	2.480E-11	0.000E+00	2.480E-11	99.9999	4.717E-14	100.0000	2.48E-09	99.9900	8.93E-11
Methylethyl ketone	1.53E-05	99.99	99.9999	1.530E-11	0.000E+00	1.530E-11	99.9999	2.910E-14	100.0000	1.53E-09	99.9900	5.51E-11
Methylene Chloride	7.31E-04	99.99	99.9999	7.310E-10	2.225E-09	2.956E-09	99.9996	5.623E-12	100.0000	7.31E-08	99.9900	2.63E-09
Tetrachloroethene (PCE)	1.67E-06	99.90	99.9990	1.670E-11	8.778E-08	8.780E-08	94.7426	1.670E-10	99.9900	1.67E-10	99.9900	6.01E-12
Toluene	2.66E-05	99.32	99.9932	1.809E-09	3.666E-09	5.475E-09	99.9794	1.041E-11	100.0000	2.66E-09	99.9900	9.58E-11
Trichloroethene	1.78E-05	99.95	99.9995	8.900E-11	1.390E-08	1.399E-08	99.9214	2.661E-11	99.9999	1.78E-09	99.9900	6.41E-11
Vinyl acetate	1.10E-05	99.99	99.9999	1.100E-11	0.000E+00	1.100E-11	99.9999	2.092E-14	100.0000	1.10E-09	99.9900	3.96E-11
Vinyl chloride	1.02E-05	99.99	99.9999	1.020E-11	4.932E-08	4.933E-08	99.5164	9.383E-11	99.9991	1.02E-09	99.9900	3.67E-11
o,p-Xylene (total)	1.90E-06	99.99	99.9999	1.900E-12	7.943E-09	7.945E-09	99.5819	1.511E-11	99.9992	1.90E-10	99.9900	6.84E-12
Aniline	1.78E-03	94.60	99.9460	9.612E-07	5.100E-11	9.613E-07	99.9460	1.828E-09	99.9999	1.78E-07	99.9900	6.41E-09
Atrazine	1.10E-05	99.99	99.9999	1.100E-11	0.000E+00	1.100E-11	99.9999	2.092E-14	100.0000	1.10E-09	99.9900	3.96E-11
Benzothiazole	3.69E-06	99.99	99.9999	3.690E-12	0.000E+00	3.690E-12	99.9999	7.019E-15	100.0000	3.69E-10	99.9900	1.33E-11

TABLE 9.5-2
ORGANIC EMISSION RATES FROM INCINERATION OF OF ROCKY MOUNTAIN ARSENAL HYDRAZINE RINSEWATER
(continued 2 of 4)

Compounds	Feed Rate (a) *(tons/yr)*	Thermal Destruction Efficiency *(%) (b)*	Theoretical Destruction Efficiency *(%) (b)*	Emission Rate of POHC (b) *(tons/yr)*	Emission Rate of PIC (b) *(tons/yr)*	Total Emission Rate (b) *(tons/yr)*	Effective Theoretical Destruction Efficiency *(%) (b)*	Emission Rate Normalized to PCE at 99.99% *(tons/yr) (b)*	Normalized Destruction Efficiency to PCE at 99.99% *(%) (b)*	Calc. Emis. Rate Normalized to 99.99% Maximum (c) *(tons/yr)*	Destruction Efficiency Normalized to 99.99% Maximum *(%) (d)*	Emission Rate Normalized to 99.99% Maximum (e) *(grams/sec)*
4-Chloroaniline	1.02E-06	99.81	99.9981	1.938E-11	1.780E-09	1.799E-09	99.8236	3.423E-12	99.9997	1.02E-10	99.9900	3.67E-12
Malathion	1.24E-07	99.99	99.9999	1.240E-13	0.000E+00	1.240E-13	99.9999	2.359E-16	100.0000	1.24E-11	99.9900	4.46E-13
4-Methylphenol	1.39E-05	99.99	99.9999	1.390E-11	2.868E-11	4.258E-11	99.9997	8.098E-14	100.0000	1.39E-09	99.9900	5.00E-11
Naphthalene	1.64E-06	84.00	99.8400	2.624E-09	3.997E-08	4.259E-08	97.4029	8.101E-11	99.9951	1.64E-10	99.9900	5.90E-12
Parathion	1.96E-07	99.99	99.9999	1.960E-13	0.000E+00	1.960E-13	99.9999	3.728E-16	100.0000	1.96E-11	99.9900	7.06E-13
Phenanthrene	2.83E-07	88.00	99.8800	3.396E-10	1.583E-08	1.617E-08	94.2856	3.076E-11	99.9891	3.08E-11	99.9891	1.11E-12
Phenol	6.92E-07	99.99	99.9999	6.920E-13	8.177E-08	8.177E-08	88.1833	1.555E-10	99.9775	1.56E-10	99.9775	5.60E-12
Vapona	7.74E-07	99.99	99.9999	7.740E-13	0.000E+00	7.740E-13	99.9999	1.472E-15	100.0000	7.74E-11	99.9900	2.79E-12
bis(2-Ethylhexyl)phthalate	2.18E-06	99.99	99.9999	2.180E-12	0.000E+00	2.180E-12	99.9999	4.147E-15	100.0000	2.18E-10	99.9900	7.85E-12
Hydrazine	3.07E-01	99.99	99.9999	3.070E-07	0.000E+00	3.070E-07	99.9999	5.839E-10	100.0000	3.07E-05	99.9900	1.11E-06
Monomethyl hydrazine	9.72E-02	99.99	99.9999	9.720E-08	0.000E+00	9.720E-08	99.9999	1.849E-10	100.0000	9.72E-06	99.9900	3.50E-07
Unsymmetrical dimethyl hydrazine	3.84E-01	99.99	99.9999	3.840E-07	0.000E+00	3.840E-07	99.9999	7.304E-10	100.0000	3.84E-05	99.9900	1.38E-06
n-Nitrosodimethylamine	9.88E-05	99.99	99.9999	9.880E-11	0.000E+00	9.880E-11	99.9999	1.879E-13	100.0000	9.88E-09	99.9900	3.56E-10
Aldrin	4.91E-08	99.99	99.9999	4.910E-14	0.000E+00	4.910E-14	99.9999	9.339E-17	100.0000	4.91E-12	99.9900	1.77E-13
Dieldrin	9.02E-08	99.99	99.9999	9.020E-14	0.000E+00	9.020E-14	99.9999	1.716E-16	100.0000	9.02E-12	99.9900	3.25E-13
Lindane	4.19E-08	99.99	99.9999	4.190E-14	0.000E+00	4.190E-14	99.9999	7.970E-17	100.0000	4.19E-12	99.9900	1.51E-13

TABLE 9.5-2
ORGANIC EMISSION RATES FROM INCINERATION OF OF ROCKY MOUNTAIN ARSENAL HYDRAZINE RINSEWATER
(continued 3 of 4)

PICS with Specific Precursors	Feed Rate (a) *(tons/yr)*	Thermal Destruction Efficiency *(%) (b)*	Theoretical Destruction Efficiency *(%) (b)*	Emission Rate of POHC (b) *(tons/yr)*	Emission Rate of PIC (b) *(tons/yr)*	Total Emission Rate (b) *(tons/yr)*	Emission Rate Normalized to PCE at 99.99% *(tons/yr) (b)*	Total Emission Rate (f) *(grams/sec)*
Carbon Tetrachloride					5.155E-09	5.155E-09	9.805E-12	1.86E-10
1,2-Dichloroethene					1.350E-09	1.350E-09	2.568E-12	4.86E-11
Hexachlorobenzene					2.385E-08	2.385E-08	4.536E-11	8.59E-10
Pentachlorobenzene					9.734E-09	9.734E-09	1.851E-11	3.50E-10
Tetrachlorobenzene					4.769E-09	4.769E-09	9.072E-12	1.72E-10
Trichlorobenzene					2.420E-09	2.420E-09	4.603E-12	8.71E-11
Dichlorobenzene					1.021E-09	1.021E-09	1.941E-12	3.67E-11
Biphenyl					3.976E-07	3.976E-07	7.563E-10	1.43E-08
4-Chlorobiphenyl					2.511E-10	2.511E-10	4.776E-13	9.04E-12
4,4'-Dichlorobiphenyl					1.265E-11	1.265E-11	2.406E-14	4.55E-13
Benzaldehyde					8.111E-08	8.111E-08	1.543E-10	2.92E-09
Benzoic Acid					3.962E-08	3.962E-08	7.537E-11	1.43E-09
Quinoine					8.905E-09	8.905E-09	1.694E-11	3.21E-10
Carbazole					1.781E-09	1.781E-09	3.388E-12	6.41E-11
Acetonitrile					3.174E-06	3.174E-06	6.038E-09	1.14E-07
Acrylonitrile					1.347E-06	1.347E-06	2.561E-09	4.85E-08
Benzonitrile					8.653E-07	8.653E-07	1.646E-09	3.12E-08
Naphthalene Carbonitrile					8.653E-07	8.653E-07	1.646E-09	3.12E-08
Pyridine					8.653E-07	8.653E-07	1.646E-09	3.12E-08

TABLE 9.5-2
ORGANIC EMISSION RATES FROM INCINERATION OF OF ROCKY MOUNTAIN ARSENAL HYDRAZINE RINSEWATER
(continued 4 of 4)

PICS without Specific Precursors	Feed Rate (a) *(tons/yr)*	Thermal Destruction Efficiency *(%) (b)*	Theoretical Destruction Efficiency *(%) (b)*	Emission Rate of POHC (b) *(tons/yr)*	Emission Rate of PIC (b) *(tons/yr)*	Total Emission Rate (b) *(tons/yr)*	Emission Rate Normalized to PCE at 99.99% *(tons/yr) (b)*	Total Emission Rate (f) *(grams/sec)*
Benzofuran					3.958E-07	3.958E-07	7.528E-10	1.42E-08
Dibenzofuran					7.916E-09	7.916E-09	1.506E-11	2.85E-10
Acenaphthalene					3.958E-08	3.958E-08	7.528E-11	1.42E-09
Acenaphthene					3.958E-08	3.958E-08	7.528E-11	1.42E-09
Fluoranthene					7.916E-08	7.916E-08	1.506E-10	2.85E-09
Pyrene					1.583E-07	1.583E-07	3.011E-10	5.70E-09
Fluorene					7.916E-09	7.916E-09	1.506E-11	2.85E-10
Benzo(a)pyrene					7.916E-08	7.916E-08	1.506E-10	2.85E-09
Dibenzo(a)anthracene					7.916E-08	7.916E-08	1.506E-10	2.85E-09
Chrysene					7.916E-09	7.916E-09	1.506E-11	2.85E-10

(a) From Table 9.5-1, Sum of the Averages.
(b) From Dr. Dellingers'analysis. See Table 9.5-8.
(c) Calculated Emission Rate = Feed Rate x (1 - (99.9%/100)) or Emission Rate Normalized for PCE whichever is less.
(d) 99.99% or Destruction Efficiency Normilized to PCE, whichever is less.
(e) Assuming 7000 operating hours per year.
(f) Total (unnormalized) Emission Rate was converted to grams per second, assuming 7000 operating hours per year.

TABLE 9.5-3
METALS CONCENTRATIONS IN HYDRAZINE RINSEWATER
(μg/L)

Metals	Tank U.S. 3			Tank U.S. 4			In Ground Sump		
	1	2	3	1	2	3	1	2	3
Silver	< 0.2	< 0.2	0.462	< 0.2	0.224	< 0.2	< 0.2	< 0.2	< 0.2
Aluminum	----	----	----	----	----	----	----	----	----
Arsenic	64.2	61.8	43.1	18.8	16.1	20.4	230	245	288
Boron	----	----	----	----	----	----	----	----	----
Barium	----	----	----	----	----	----	----	----	----
Beryllium	----	----	----	----	----	----	----	----	----
Calcium	----	----	----	----	----	----	----	----	----
Cadmium	< 0.5	< 0.5	< 0.5	< 0.5	< 0.2	< 0.5	0.84	0.601	1.88
Cobalt	----	----	----	----	----	----	----	----	----
Chromium	6.18	5.22	< 4.3	6.62	< 22.4	6.95	7.45	7.77	10.7
Copper	7.48	< 1.7	< 1.7	< 1.7	< 10	< 1.7	< 1.7	< 1.7	< 1.7
Iron	48	66.8	810000	6330	N/A	12100	974	700	1080
Mercury	0.76	0.868	0.738	0.241	0.658	0.327	< 0.2	< 0.2	< 0.2
Potassium	----	----	----	----	----	----	----	----	----
Lithium	----	----	----	----	----	----	----	----	----
Magnesium	----	----	----	----	----	----	----	----	----
Manganese	----	----	----	----	----	----	----	----	----
Molybdenum	----	----	----	----	----	----	----	----	----
Sodium	----	----	----	----	----	----	----	----	----
Nickel	----	----	----	----	----	----	----	----	----
Phosphorus	----	----	----	----	----	----	----	----	----
Lead	< 5	< 5	< 5	< 5	< 2	< 5	< 5	< 5	< 5
Sulfur	----	----	----	----	----	----	----	----	----
Antimony	----	----	----	----	----	----	----	----	----
Selenium	< 2.5	< 2.5	< 2.5	< 3.5	< 2	< 2.5	< 2.5	< 2.5	< 2.5
Silicon	----	----	----	----	----	----	----	----	----
Tin	----	----	----	----	----	----	----	----	----
Strontium	----	----	----	----	----	----	----	----	----
Titanium	----	----	----	----	----	----	----	----	----
Thallium	----	----	----	----	----	----	----	----	----
Vanadium	----	----	----	----	----	----	----	----	----
Yttrium	----	----	----	----	----	----	----	----	----
Zinc	28.9	27.7	< 2	13.4	< 20	12.4	42.3	24.6	55.4
Capacity, gal.	50,000	50,000	50,000	200,000	200,000	200,000	40,000	40,000	40,000
Period, yrs	2	2	2	2	2	2	2	2	2

TABLE 9.5-4
METALS FEED RATES FROM HYDRAZINE RINSEWATER
(lb/hrs)

Metals	Tank U.S. 3			Tank U.S. 4			In Ground Sump			Sum of the	
	1	2	3	1	2	3	1	2	3	Average	Maximum
Silver	2.98E-09	2.98E-09	1.38E-08	1.19E-08	2.67E-08	1.19E-08	2.38E-09	2.38E-09	2.38E-09	2.58E-08	4.29E-08
Aluminum	----	----	----	----	----	----	----	----	----	----	----
Arsenic	1.91E-06	1.84E-06	1.28E-06	2.24E-06	1.92E-06	2.43E-06	5.48E-06	5.84E-06	6.87E-06	9.94E-06	1.12E-05
Boron	----	----	----	----	----	----	----	----	----	----	----
Barium	----	----	----	----	----	----	----	----	----	----	----
Beryllium	----	----	----	----	----	----	----	----	----	----	----
Calcium	----	----	----	----	----	----	----	----	----	----	----
Cadmium	7.45E-09	7.45E-09	7.45E-09	2.98E-08	1.19E-08	2.98E-08	2.00E-08	1.43E-08	4.48E-08	5.77E-08	8.21E-08
Cobalt	----	----	----	----	----	----	----	----	----	----	----
Chromium	1.84E-07	1.56E-07	6.41E-08	7.89E-07	1.34E-06	8.29E-07	1.78E-07	1.85E-07	2.55E-07	1.32E-06	1.77E-06
Copper	2.23E-07	2.53E-08	2.53E-08	1.01E-07	5.96E-07	1.01E-07	2.03E-08	2.03E-08	2.03E-08	3.78E-07	8.39E-07
Iron	1.43E-06	1.99E-06	2.41E-02	7.55E-04	N/A	1.44E-03	2.32E-05	1.67E-05	2.58E-05	9.17E-03	2.56E-02
Mercury	2.27E-08	2.59E-08	2.20E-08	2.87E-08	7.84E-08	3.90E-08	2.38E-09	2.38E-09	2.38E-09	7.46E-08	1.07E-07
Potassium	----	----	----	----	----	----	----	----	----	----	----
Lithium	----	----	----	----	----	----	----	----	----	----	----
Magnesium	----	----	----	----	----	----	----	----	----	----	----
Manganese	----	----	----	----	----	----	----	----	----	----	----
Molybdenum	----	----	----	----	----	----	----	----	----	----	----
Sodium	----	----	----	----	----	----	----	----	----	----	----
Nickel	----	----	----	----	----	----	----	----	----	----	----
Phosphorus	----	----	----	----	----	----	----	----	----	----	----
Lead	7.45E-08	7.45E-08	7.45E-08	2.98E-07	1.19E-07	2.98E-07	5.96E-08	5.96E-08	5.96E-08	3.73E-07	4.32E-07
Sulfur	----	----	----	----	----	----	----	----	----	----	----
Antimony	----	----	----	----	----	----	----	----	----	----	----
Selenium	3.73E-08	3.73E-08	3.73E-08	2.09E-07	1.19E-07	1.49E-07	2.98E-08	2.98E-08	2.98E-08	2.26E-07	2.76E-07
Silicon	----	----	----	----	----	----	----	----	----	----	----
Tin	----	----	----	----	----	----	----	----	----	----	----
Strontium	----	----	----	----	----	----	----	----	----	----	----
Titanium	----	----	----	----	----	----	----	----	----	----	----
Thallium	----	----	----	----	----	----	----	----	----	----	----
Vanadium	----	----	----	----	----	----	----	----	----	----	----
Yttrium	----	----	----	----	----	----	----	----	----	----	----
Zinc	8.61E-07	8.26E-07	2.98E-08	1.60E-06	1.19E-06	1.48E-06	1.01E-06	5.87E-07	1.32E-06	2.97E-06	3.78E-06

TABLE 9.5-5
EXPECTED METAL EMISSIONS BASED ON MEASURED CONCENTRATIONS IN HYDRAZINE RINSEWATER

Metals	Based on Waste Stream Data			
	Feed Rates (1) (lb/hr)	Metals to APCD (2) (%)	Removal Efficiency (3) (%)	Controlled Emissions (4) (lb/hr)
Aluminum	NA	100	97 (5)	NA
Antimony	NA	100	97	NA
Arsenic	9.94E-06	100	97	2.98E-07
Barium	NA	100	99.4	NA
Beryllium	NA	100	99.4	NA
Boron	NA	100	97 (7)	NA
Cadmium	5.77E-08	100	97	1.73E-09
Calcium	NA	100	97 (6)	NA
Chromium	1.32E-06	100	99.4	7.95E-09
Cobalt	NA	100	97 (5)	NA
Copper	3.78E-07	100	97 (5)	1.13E-08
Iron	9.17E-03	100	97 (5)	2.75E-04
Lead	3.73E-07	100	97	1.12E-08
Lithium	NA	100	NA	NA
Magnesium	NA	100	97 (5)	NA
Manganese	NA	100	97 (5)	NA
Mercury	7.46E-08	100	85	1.12E-08
Molybdenum	NA	100	85 (5)	NA
Nickel	NA	100	97 (5)	NA
Potassium	NA	100	97 (6)	NA
Selenium	2.26E-07	100	85 (5)	3.39E-08
Silicon	NA	100	NA	NA
Silver	2.58E-08	100	99.4	1.55E-10
Sodium	NA	100	97 (8)	NA
Strontium	NA	100	97 (7)	NA
Thallium	NA	100	97	NA
Tin	NA	100	97 (6)	NA
Titanium	NA	100	97 (5)	NA
Vanadium	NA	100	97 (5)	NA
Yttrium	NA	100	97 (7)	NA
Zinc	2.97E-06	100	97 (5)	8.90E-08

(1) Based upon the average concentrations measured in each of three hydrazine watewater sources.

(2) Percent of metal volatilization is estimated at 100% for all metals in liquid waste based on EPA Guidance on Metals and HCl Controls from Hazardous Waste Incineration, Draft Final Report, August 1989, Table III-9.

(3) Based on EPA Guidance (note 2), Table III-8. The removal efficiency of the wet scrubber in series with the Venturi scrubber at 20" of water was calculated. This removal efficiency was used in series with the removal efficiency of the Venturi scrubber at 60" of water.

(4) Controlled Emissions = Uncontrolled Emissions x % Metals to APCD x (1- % Removal Efficiency)

(5) Assumed removal efficiency of antimony, arsenic, cadmium, lead and thallium or of mercury per footnote (3), based on scrubber efficiency similar to those compounds in "Hazardous Waste Stream Trace Metal Concentrations and Emissions", Mitre Corp., U.S.EPA Office of Solid Waste, November 1983.

(6) Similar to copper, cobalt and titanium in showing no concentration with particle size per Davision, Natusch, et al. "Trace Elements in Fly Ash", Environmental Science & Technology, Vol. 8, No. 13, December 1974. Therefore, assumed scrubber efficiency similar.

(7) Similar emissions to feed ratio to that of iron and aluminum per Kaakinen, Jorden, et al., "Trace Element Behavior in Coal-Fired Power Plant", Environmental Science & Technology, Vol. 9, No. 9, September 1975. Therefore, assumed scrubber efficiency similar.

(8) Similar control efficiency to that of calcium, iron and potassium per Klein, Andren, et al., "Pathways of Thirty-seven Trace Elements Through Coal-Fired Power Plant", Environmental Science & Technology, Vol. 9, No. 10, October 1975. Therefore, assumed scrubber efficiency similar.

TABLE 9.5-6
MAXIMUM METAL EMISSIONS BASED ON MEASURED CONCENTRATIONS IN HYDRAZINE RINSEWATER

Metals	Based on Waste Stream Data			
	Feed Rates (1) (lb/hr)	Metals to APCD (2) (%)	Removal Efficiency (3) (%)	Controlled Emissions (4) (lb/hr)
Aluminum	NA	100	97 (5)	NA
Antimony	NA	100	97	NA
Arsenic	1.12E-05	100	97	3.36E-07
Barium	NA	100	99.4	NA
Beryllium	NA	100	99.4	NA
Boron	NA	100	97 (7)	NA
Cadmium	8.21E-08	100	97	2.46E-09
Calcium	NA	100	97 (6)	NA
Chromium	1.77E-06	100	99.4	1.06E-08
Cobalt	NA	100	97 (5)	NA
Copper	8.39E-07	100	97 (5)	2.52E-08
Iron	2.56E-02	100	97 (5)	7.68E-04
Lead	4.32E-07	100	97	1.30E-08
Lithium	NA	100	NA	NA
Magnesium	NA	100	97 (5)	NA
Manganese	NA	100	97 (5)	NA
Mercury	1.07E-07	100	85	1.60E-08
Molybdenum	NA	100	85 (5)	NA
Nickel	NA	100	97 (5)	NA
Potassium	NA	100	97 (6)	NA
Selenium	2.76E-07	100	85 (5)	4.14E-08
Silicon	NA	100	NA	NA
Silver	4.29E-08	100	99.4	2.57E-10
Sodium	NA	100	97 (8)	NA
Strontium	NA	100	97 (7)	NA
Thallium	NA	100	97	NA
Tin	NA	100	97 (6)	NA
Titanium	NA	100	97 (5)	NA
Vanadium	NA	100	97 (5)	NA
Yttrium	NA	100	97 (7)	NA
Zinc	3.78E-06	100	97 (5)	1.13E-07

(1) Based upon the maximum concentrations measured in each of three hydrazine watewater sources.

(2) Percent of metal volatilization is estimated at 100% for all metals in liquid waste based on EPA Guidance on Metals and HCl Controls from Hazardous Waste Incineration, Draft Final Report, August 1989, Table III-9.

(3) Based on EPA Guidance (note 2), Table III-8. The removal efficiency of the wet scrubber in series with the Venturi scrubber at 20" of water was calculated. This removal efficiency was used in series with the removal efficiency of the Venturi scrubber at 60" of water.

(4) Controlled Emissions = Uncontrolled Emissions x % Metals to APCD x (1- % Removal Efficiency)

(5) Assumed removal efficiency of antimony, arsenic, cadmium, lead and thallium or of mercury per footnote (3), based on scrubber efficiency similar to those compounds in "Hazardous Waste Stream Trace Metal Concentrations and Emissions", Mitre Corp., U.S.EPA Office of Solid Waste, November 1983.

(6) Similar to copper, cobalt and titanium in showing no concentration with particle size per Davision, Natusch, et al. "Trace Elements in Fly Ash", Environmental Science & Technology, Vol. 8, No. 13, December 1974. Therefore, assumed scrubber efficiency similar.

(7) Similar emissions to feed ratio to that of iron and aluminum per Kaakinen, Jorden, et al., "Trace Element Behavior in Coal-Fired Power Plant", Environmental Science & Technology, Vol. 9, No. 9, September 1975. Therefore, assumed scrubber efficiency similar.

(8) Similar control efficiency to that of calcium, iron and potassium per Klein, Andren, et al., "Pathways of Thirty-seven Trace Elements Through Coal-Fired Power Plant", Environmental Science & Technology, Vol. 9, No. 10, October 1975. Therefore, assumed scrubber efficiency similar.

TABLE 9.5-7
EMISSION RATES FOR ROCKY MOUNTAIN ARSENAL
HYDRAZINE RINSEWATER SUBMERGED QUENCH INCINERATOR

Pollutant	Base Case (a) (ton/yr)	(lb/hr)	(g/sec) (c)	Sensitivity Case (b) (ton/yr)	(lb/hr)	(g/sec) (c)
Metals						
Aluminum	NA	NA	NA	NA	NA	NA
Antimony	NA	NA	NA	NA	NA	NA
Arsenic	1.04E-06	2.98E-07	3.76E-08	1.18E-06	3.36E-07	4.24E-08
Barium	NA	NA	NA	NA	NA	NA
Beryllium	NA	NA	NA	NA	NA	NA
Boron	NA	NA	NA	NA	NA	NA
Cadmium	6.06E-09	1.73E-09	2.18E-10	8.62E-09	2.46E-09	3.10E-10
Calcium	NA	NA	NA	NA	NA	NA
Chromium	2.78E-08	7.95E-09	1.00E-09	3.73E-08	1.06E-08	1.34E-09
Cobalt	NA	NA	NA	NA	NA	NA
Copper	3.97E-08	1.13E-08	1.43E-09	8.81E-08	2.52E-08	3.17E-09
Iron	9.63E-04	2.75E-04	3.47E-05	2.69E-03	7.68E-04	9.68E-05
Lead	3.91E-08	1.12E-08	1.41E-09	4.54E-08	1.30E-08	1.63E-09
Lithium	NA	NA	NA	NA	NA	NA
Magnesium	NA	NA	NA	NA	NA	NA
Manganese	NA	NA	NA	NA	NA	NA
Mercury	3.92E-08	1.12E-08	1.41E-09	5.60E-08	1.60E-08	2.02E-09
Molybdenum	NA	NA	NA	NA	NA	NA
Nickel	NA	NA	NA	NA	NA	NA
Potassium	NA	NA	NA	NA	NA	NA
Selenium	1.19E-07	3.39E-08	4.27E-09	1.45E-07	4.14E-08	5.21E-09
Silicon	NA	NA	NA	NA	NA	NA
Silver	5.42E-10	1.55E-10	1.95E-11	9.00E-10	2.57E-10	3.24E-11
Sodium	NA	NA	NA	NA	NA	NA
Strontium	NA	NA	NA	NA	NA	NA
Thallium	NA	NA	NA	NA	NA	NA
Tin	NA	NA	NA	NA	NA	NA
Titanium	NA	NA	NA	NA	NA	NA
Vanadium	NA	NA	NA	NA	NA	NA
Yttrium	NA	NA	NA	NA	NA	NA
Zinc	3.12E-07	8.90E-08	1.12E-08	3.97E-07	1.13E-07	1.43E-08
Organics						
1,1-Dichloroethane	2.92E-09	8.34E-10	1.05E-10			
1,1-Dichloroethene	1.56E-09	4.46E-10	5.62E-11			
1,2-Dichloroethane	9.11E-10	2.60E-10	3.28E-11			
1,2-Dichloropropane	5.79E-10	1.65E-10	2.08E-11			
Acetone	3.50E-09	1.00E-09	1.26E-10			
Benzene	1.02E-09	2.91E-10	3.67E-11			
Chlorobenzene	2.45E-10	7.00E-11	8.82E-12			
Chloroethane	8.99E-09	2.57E-09	3.24E-10			
Chloroform	4.38E-08	1.25E-08	1.58E-09			
Chloromethane	1.21E-09	3.46E-10	4.36E-11			
Dimethyl Disulfide	2.48E-09	7.09E-10	8.93E-11			
Methylethyl ketone	1.53E-09	4.37E-10	5.51E-11			
Methylene Chloride	7.31E-08	2.09E-08	2.63E-09			
Tetrachloroethene (PCE)	1.67E-10	4.77E-11	6.01E-12			
Toluene	2.66E-09	7.60E-10	9.58E-11			
Trichloroethene	1.78E-09	5.09E-10	6.41E-11			
Vinyl acetate	1.10E-09	3.14E-10	3.96E-11			
Vinyl chloride	1.02E-09	2.91E-10	3.67E-11			
o,p-Xylene (total)	1.90E-10	5.43E-11	6.84E-12			
Aniline	1.78E-07	5.09E-08	6.41E-09			

TABLE 9.5-7
EMISSION RATES FOR ROCKY MOUNTAIN ARSENAL
HYDRAZINE RINSEWATER SUBMERGED QUENCH INCINERATOR
(continued)

Pollutant	Base Case (a) (ton/yr)	(lb/hr)	(g/sec) (c)	Sensitivity Case (b) (ton/yr)	(lb/hr)	(g/sec) (c)
Organics						
Atrazine	1.10E-09	3.14E-10	3.96E-11			
Benzothiazole	3.69E-10	1.05E-10	1.33E-11			
4-Chloroaniline	1.02E-10	2.91E-11	3.67E-12			
Malathion	1.24E-11	3.54E-12	4.46E-13			
4-Methylphenol	1.39E-09	3.97E-10	5.00E-11			
Naphthalene	1.64E-10	4.69E-11	5.90E-12			
Parathion	1.96E-11	5.60E-12	7.06E-13			
Phenanthrene	3.08E-11	8.79E-12	1.11E-12			
Phenol	1.56E-10	4.44E-11	5.60E-12			
Vapona	7.74E-11	2.21E-11	2.79E-12			
bis(2-Ethylhexyl)phthalate	2.18E-10	6.23E-11	7.85E-12			
Hydrazine	3.07E-05	8.77E-06	1.11E-06			
Monomethyl hydrazine	9.72E-06	2.78E-06	3.50E-07			
Unsymmetrical dimethyl hydrazine	3.84E-05	1.10E-05	1.38E-06			
n-Nitrosodimethylamine	9.88E-09	2.82E-09	3.56E-10			
Aldrin	4.91E-12	1.40E-12	1.77E-13			
Dieldrin	9.02E-12	2.58E-12	3.25E-13			
Lindane	4.19E-12	1.20E-12	1.51E-13			
PICs with Specific Precursors						
Carbon Tetrachloride	5.15E-09	1.47E-09	1.86E-10			
1,2-Dichloroethene	1.35E-09	3.86E-10	4.86E-11			
Hexachlorobenzene	2.38E-08	6.81E-09	8.59E-10			
Pentachlorobenzene	9.73E-09	2.78E-09	3.50E-10			
Tetrachlorobenzene	4.77E-09	1.36E-09	1.72E-10			
Trichlorobenzene	2.42E-09	6.91E-10	8.71E-11			
Dichlorobenzene	1.02E-09	2.92E-10	3.67E-11			
Biphenyl	3.98E-07	1.14E-07	1.43E-08			
4-Chlorobiphenyl	2.51E-10	7.17E-11	9.04E-12			
4,4'-Dichlorobiphenyl	1.27E-11	3.61E-12	4.55E-13			
Benzaldehyde	8.11E-08	2.32E-08	2.92E-09			
Benzoic Acid	3.96E-08	1.13E-08	1.43E-09			
Quinoine	8.91E-09	2.54E-09	3.21E-10			
Carbazole	1.78E-09	5.09E-10	6.41E-11			
Acetonitrile	3.17E-06	9.07E-07	1.14E-07			
Acrylonitrile	1.35E-06	3.85E-07	4.85E-08			
Benzonitrile	8.65E-07	2.47E-07	3.12E-08			
Naphthalene Carbonitrile	8.65E-07	2.47E-07	3.12E-08			
Pyridine	8.65E-07	2.47E-07	3.12E-08			
PICs without Specific Precursors						
Benzofuran	3.96E-07	1.13E-07	1.42E-08			
Dibenzofuran	7.92E-09	2.26E-09	2.85E-10			
Acenaphthalene	3.96E-08	1.13E-08	1.42E-09			
Acenaphthene	3.96E-08	1.13E-08	1.42E-09			
Fluoranthene	7.92E-08	2.26E-08	2.85E-09			
Pyrene	1.58E-07	4.52E-08	5.70E-09			
Fluorene	7.92E-09	2.26E-09	2.85E-10			
Benzo(a)pyrene	7.92E-08	2.26E-08	2.85E-09			
Dibenzo(a)anthracene	7.92E-08	2.26E-08	2.85E-09			
Chrysene	7.92E-09	2.26E-09	2.85E-10			

(a) Based upon the average concentrations from measured in each of three hydrazine watewater sources.
(b) Based upon the maximum concentrations from measured in each of three hydrazine watewater sources.
(c) Assuming 7000 hours of operation per year.

Table 9.5-8

Basin F Emissions

	A	B	C	D	E
1			Feed Rate		Theoretical DE
2	#	Compound	(tons/yr)	DE (Thermal)	at 900 C (%)
3					
4	1	1,1-Dichloroethane	2.92E-05	99.99	99.9999
5	2	1,1-Dichloroethene	1.56E-05	99.99	99.9999
6	3	1,2-Dichloroethane	9.11E-06	99.99	99.9999
7	4	1,2-Dichloropropane	5.79E-06	99.99	99.9999
8	5	Acetone	3.50E-05	99.99	99.9999
9	6	Benzene	1.02E-05	51.00	99.5100
10	7	Chlorobenzene	2.45E-06	90.00	99.9000
11	8	Chloroethene	6.99E-05	99.99	99.9999
12	9	Chloroform	4.38E-04	99.99	99.9999
13	10	Chloromethane	1.21E-05	96.00	99.9600
14	11	Dimethyl Sulfide	2.48E-05	99.99	99.9999
15	12	Methyl Ethyl Ketone	1.53E-05	99.99	99.9999
16	13	Methylene Chloride	7.31E-04	99.99	99.9999
17	14	Tetrachloroethene	1.67E-06	99.90	99.9990
18	15	Toluene	2.66E-05	99.32	99.9932
19	16	Trichloroethene	1.78E-05	99.95	99.9995
20	17	Vinyl Acetate	1.10E-05	99.99	99.9999
21	18	Vinyl Chloride	1.02E-05	99.99	99.9999
22	19	o,p-Xylene (Total)	1.90E-06	99.99	99.9999
23	20	Aniline	1.78E-03	94.60	99.9460
24	21	Atrazine	1.10E-05	99.99	99.9999
25	22	Benzothiazole	3.69E-06	99.99	99.9999
26	23	4-Chloroaniline	1.02E-06	99.81	99.9981
27	24	Malathion	1.24E-07	99.99	99.9999
28	25	4-Methylphenol	1.39E-05	99.99	99.9999
29	26	Naphthalene	1.64E-06	64.00	99.6400
30	27	Parathion	1.96E-07	99.99	99.9999
31	28	Phenol	6.92E-07	99.99	99.9999
32	29	Vapona	7.74E-07	99.99	99.9999
33	30	bis(2-Ethylhexyl)phthalate	2.18E-06	99.99	99.9999
34	31	Hydrazine	3.07E-01	99.99	99.9999
35	32	Monomethyldydrazine	9.72E-02	99.99	99.9999
36	33	Unsymmetrical dimethyl hydrazine	3.84E-01	99.99	99.9999
37	34	n-Nitrosodimethylamine	9.68E-05	99.99	99.9999
38	35	Aldrin	4.91E-08	99.99	99.9999
39	36	Dieldrin	9.02E-08	99.99	99.9999
40	37	Lindane	4.19E-08	99.99	99.9999
41	38	Phenanthrene	2.83E-07	88.00	99.8800

Table 9.5-8

Basin F Emissions
(continued)

	A	B	C	D	E
42					
43		**PICS With Specific Precursors**			
44		Carbon Tetrachloride			
45		1,2 Dichloroethene			
46		Hexachlorobenzene			
47		Pentachlorobenzene			
48		Tetrachlorobenzene			
49		Trichlorobenzene			
50		Dichlorobenzene			
51		Biphenyl			
52		4-Chlorobiphenyl			
53		4,4'-Dichlorobiphenyl			
54		Benzaldehyde			
55		Benzoic Acid			
56		Quinoline			
57		Carbazole			
58		Acetonitrile			
59		Acrylonitrile			
60		Benzonitrile			
61		Naphthalene Carbonitrile			
62		Pyridine			
63					
64		**PICS WITHOUT SPECIFIC PRECURSORS**			
65		Benzofuran			
66		Dibenzofuran			
67		Acenaphthalene			
68		Acenaphthene			
69		Fluoranthene			
70		Pyrene			
71		Fluorene			
72		Benzo-[a]-pyrene			
73		Dibenzo-[a]-anthracene			
74		Chrysene			

Table 9.5-8

Basin F Emissions
(continued)

	F	G	H	I
1	Emission Rate	Emission Rate	Emission Rate as	Effective Theoretical
2	of POHC (tons/yr)	as PIC (tons/yr)	POHC and PIC (tons/yr)	DE at 900C (%)
3				
4	2.920E-11	0.000E+00	2.920E-11	99.9999
5	1.560E-11	1.791E-09	1.807E-09	99.9884
6	9.110E-12	7.310E-10	7.401E-10	99.9919
7	5.790E-12	0.000E+00	5.790E-12	99.9999
8	3.500E-11	0.000E+00	3.500E-11	99.9999
9	4.998E-08	8.848E-08	1.385E-07	98.6425
10	2.450E-09	4.137E-10	2.864E-09	99.8831
11	8.990E-11	0.000E+00	8.990E-11	99.9999
12	4.380E-10	0.000E+00	4.380E-10	99.9999
13	4.840E-09	7.916E-08	8.400E-08	99.3058
14	2.480E-11	0.000E+00	2.480E-11	99.9999
15	1.530E-11	0.000E+00	1.530E-11	99.9999
16	7.310E-10	2.225E-09	2.956E-09	99.9996
17	1.670E-11	8.778E-08	8.780E-08	94.7426
18	1.809E-09	3.666E-09	5.475E-09	99.9794
19	8.900E-11	1.390E-08	1.399E-08	99.9214
20	1.100E-11	0.000E+00	1.100E-11	99.9999
21	1.020E-11	4.932E-08	4.933E-08	99.5164
22	1.900E-12	7.943E-09	7.945E-09	99.5819
23	9.612E-07	5.100E-11	9.613E-07	99.9460
24	1.100E-11	0.000E+00	1.100E-11	99.9999
25	3.690E-12	0.000E+00	3.690E-12	99.9999
26	1.938E-11	1.780E-09	1.799E-09	99.8236
27	1.240E-13	0.000E+00	1.240E-13	99.9999
28	1.390E-11	2.868E-11	4.258E-11	99.9997
29	2.624E-09	3.997E-08	4.259E-08	97.4029
30	1.960E-13	0.000E+00	1.960E-13	99.9999
31	6.920E-13	8.177E-08	8.177E-08	88.1833
32	7.740E-13	0.000E+00	7.740E-13	99.9999
33	2.180E-12	0.000E+00	2.180E-12	99.9999
34	3.070E-07	0.000E+00	3.070E-07	99.9999
35	9.720E-08	0.000E+00	9.720E-08	99.9999
36	3.840E-07	0.000E+00	3.840E-07	99.9999
37	9.880E-11	0.000E+00	9.880E-11	99.9999
38	4.910E-14	0.000E+00	4.910E-14	99.9999
39	9.020E-14	0.000E+00	9.020E-14	99.9999
40	4.190E-14	0.000E+00	4.190E-14	99.9999
41	3.396E-10	1.583E-08	1.617E-08	94.2856

Table 9.5-8

Basin F Emissions
(continued)

	F	G	H	I
42				
43				
44		5.155E-09	5.155E-09	
45		1.350E-09	1.350E-09	
46		2.385E-08	2.385E-08	
47		9.734E-09	9.734E-09	
48		4.769E-09	4.769E-09	
49		2.420E-09	2.420E-09	
50		1.021E-09	1.021E-09	
51		3.976E-07	3.976E-07	
52		2.511E-10	2.511E-10	
53		1.265E-11	1.265E-11	
54		8.111E-08	8.111E-08	
55		3.962E-08	3.962E-08	
56		8.905E-09	8.905E-09	
57		1.781E-09	1.781E-09	
58		3.174E-06	3.174E-06	
59		1.347E-06	1.347E-06	
60		8.653E-07	8.653E-07	
61		8.653E-07	8.653E-07	
62		8.653E-07	8.653E-07	
63				
64				
65		3.958E-07	3.958E-07	
66		7.916E-09	7.916E-09	
67		3.958E-08	3.958E-08	
68		3.958E-08	3.958E-08	
69		7.916E-08	7.916E-08	
70		1.583E-08	1.583E-08	
71		7.916E-09	7.916E-09	
72		7.916E-08	7.916E-08	
73		7.916E-08	7.916E-08	
74		7.916E-09	7.916E-09	

Table 9.5-8

Basin F Emissions
(continued)

	J	K
1	Normalized Emission	Normalized DE
2	Rate (tons /yr)	(%)
3		
4	5.554E-14	100.0000
5	3.436E-12	100.0000
6	1.408E-12	100.0000
7	1.101E-14	100.0000
8	6.657E-14	100.0000
9	2.634E-10	99.9974
10	5.447E-12	99.9998
11	1.710E-13	100.0000
12	8.331E-13	100.0000
13	1.598E-10	99.9987
14	4.717E-14	100.0000
15	2.910E-14	100.0000
16	5.623E-12	100.0000
17	1.670E-10	99.9900
18	1.041E-11	100.0000
19	2.661E-11	99.9999
20	2.092E-14	100.0000
21	9.383E-11	99.9991
22	1.511E-11	99.9992
23	1.828E-09	99.9999
24	2.092E-14	100.0000
25	7.019E-15	100.0000
26	3.423E-12	99.9997
27	2.359E-16	100.0000
28	8.098E-14	100.0000
29	8.101E-11	99.9951
30	3.728E-16	100.0000
31	1.555E-10	99.9775
32	1.472E-15	100.0000
33	4.147E-15	100.0000
34	5.839E-10	100.0000
35	1.849E-10	100.0000
36	7.304E-10	100.0000
37	1.879E-13	100.0000
38	9.339E-17	100.0000
39	1.716E-16	100.0000
40	7.970E-17	100.0000
41	3.076E-11	99.9891

Table 9.5-8

Basin F Emissions
(continued)

	J	K
42		
43		
44	9.805E-12	
45	2.568E-12	
46	4.536E-11	
47	1.851E-11	
48	9.072E-12	
49	4.603E-12	
50	1.941E-12	
51	7.564E-10	
52	4.776E-13	
53	2.406E-14	
54	1.543E-10	
55	7.537E-11	
56	1.694E-11	
57	3.388E-12	
58	6.038E-09	
59	2.561E-09	
60	1.646E-09	
61	1.646E-09	
62	1.646E-09	
63		
64		
65	7.528E-10	
66	1.506E-11	
67	7.528E-11	
68	7.528E-11	
69	1.506E-10	
70	3.011E-11	
71	1.506E-11	
72	1.506E-10	
73	1.506E-10	
74	1.506E-11	

Table 9.5-8

Basin F Emissions
(continued)

Footnotes to table - Estimate of Organic Emissions

B,C. Compounds and feed rate furnished by R.F. Weston

D. Based on actual laboratory generated experimental thermal decomposition data or extrapolated based on theory. DE (Thermal) is the destruction efficiency at 900 C achieved under laboratory non-flame conditions in a pyrolytic atmosphere

E. Based on the assumption that 99% of each POHC passes through the flame and is completely destroyed. The DE of the remaining 1% which is destroyed in the post-flame zone is assumed to be equal to DE (Thermal)
Theoretical DE at 900C= 99.0000+0.01*DE(Thermal)

F. Emission Rate of POHC=Feed Rate*(1-Theoretical DE at 900C/100)

G Emission Rate as PIC is based on the data included in the PIC estimate tables. The formation of each POHC as a PIC from every other POHC has been estimated. Also the contribution to PIC formation of poorly characterized reactions involving the waste feed as a whole have been included. Emission rates of other PICs have also been included at the bottom of the table.

H. Emission Rate as POHC and PIC= Emission Rate POHC+Emission Rate PIC

I. Effective Theoretical DE of POHC=100*(1-Emission Rate as POHC and PIC/Feed Rate)

J. Assumes that the incinerator achieves 99.99% DRE for tetrachloroethene which is a likely POHC selection. Phenol and phenanthrene had a slightly lower predicted relative DREs due to their very low feed rate and propensity for PIC formation. However, these compounds would not be recommended for POHC trial burn selection because of their possible formation as a PIC from fuel combustion and other poorly characterized sources in the waste feed. Furthermore selection of tetrachloroethene (as opposed to phenol or phenanthrene) which has a higher un-normalized DE, results in a higher predicted emission rate for all the compounds after normalization. Thus selection of tetrachloroethene as the POHC for normalization represents a conservative, worst case approach to the risk assessment. Normalized Emission Rate=Emission as POHC and PIC*(0.0001/0.052574)

K. Normalized DE=100*(1-Normalized Emission Rate as POHC and PIC/Feed Rate)

1			Feed Rate			PIC Yield (%)		
2	#	Parent POHC	(tons/yr)					
3				1,1-Dichloroe	1,1-Dichloroe	1,2-Dichloroe	1,2-Dichlorop	Acetone
4	1	1,1-Dichloroethane	2.92E-05					
5	2	1,1-Dichloroethene	1.56E-05					
6	3	1,2-Dichloroethane	9.11E-06					
7	4	1,2-Dichloropropane	5.79E-06					
8	5	Acetone	3.50E-05					
9	6	Benzene	1.02E-05					
10	7	Chlorobenzene	2.45E-06					
11	8	Chloroethane	8.99E-05					
12	9	Chloroform	4.38E-04		2.000E-04			
13	10	Chloromethane	1.21E-05					
14	11	Dimethyl Sulfide	2.48E-05					
15	12	Methyl Ethyl Ketone	1.53E-05					
16	13	Methylene Chloride	7.31E-04		1.000E-04	1.000E-04		
17	14	Tetrachloroethene	1.67E-06		1.000E-04			
18	15	Toluene	2.66E-05					
19	16	Trichloroethene	1.78E-05		1.000E-03			
20	17	Vinyl Acetate	1.10E-05					
21	18	Vinyl Chloride	1.02E-05					
22	19	o,p-Xylene (Total)	1.90E-06					
23	20	Aniline	1.78E-03					
24	21	Atrazine	1.10E-05					
25	22	Benzothiazole	3.69E-06					
26	23	4-Chloroaniline	1.02E-06					
27	24	Malathion	1.24E-07					
28	25	4-Methylphenol	1.39E-05					
29	26	Naphthalene	1.64E-06					
30	27	Parathion	1.96E-07		1.000E-03			
31	28	Phenol	6.92E-07					
32	29	Vapona	7.74E-07					
33	30	bis (2-Ethylhexyl)phthalate	2.18E-06					
34	31	Hydrazine	3.07E-01					
35	32	Monomethyldydrazine	9.72E-02					
36	33	Unsymmetrical dimethyl hydrazine	3.84E-01					
37	34	n-Nitrosodimethylamine	9.88E-05					
38	35	Aldrin	4.91E-08		1.000E-03			
39	36	Dieldrin	9.02E-08		2.000E-03			
40	37	Lindane	4.19E-08					
41	38	Phenanthrene	2.83E-07					
42		Total Organic Feed Rate	7.92E-01					
43		**Total PIC Emission Rate (t/yr)=**		0.000E+00	1.791E-09	7.310E-10	0.000E+00	0.000E+00

1			Feed Rate			PIC Yield (%)		
2	#	Parent POHC	(tons/yr)					
3				1,1-Dichloroe	1,1-Dichloroe	1,2-Dichloroe	1,2-Dichlorop	Acetone
4	1	1,1-Dichloroethane	2.92E-05					
5	2	1,1-Dichloroethene	1.56E-05					
6	3	1,2-Dichloroethane	9.11E-06					
7	4	1,2-Dichloropropane	5.79E-06					
8	5	Acetone	3.50E-05					
9	6	Benzene	1.02E-05					
10	7	Chlorobenzene	2.45E-06					
11	8	Chloroethane	8.99E-05					
12	9	Chloroform	4.38E-04		2.000E-04			
13	10	Chloromethane	1.21E-05					
14	11	Dimethyl Sulfide	2.48E-05					
15	12	Methyl Ethyl Ketone	1.53E-05					
16	13	Methylene Chloride	7.31E-04		1.000E-04	1.000E-04		
17	14	Tetrachloroethene	1.67E-06		1.000E-04			
18	15	Toluene	2.66E-05					
19	16	Trichloroethene	1.78E-05		1.000E-03			
20	17	Vinyl Acetate	1.10E-05					
21	18	Vinyl Chloride	1.02E-05					
22	19	o,p-Xylene (Total)	1.90E-06					
23	20	Aniline	1.78E-03					
24	21	Atrazine	1.10E-05					
25	22	Benzothiazole	3.69E-06					
26	23	4-Chloroaniline	1.02E-06					
27	24	Malathion	1.24E-07					
28	25	4-Methylphenol	1.39E-05					
29	26	Naphthalene	1.64E-06					
30	27	Parathion	1.96E-07		1.000E-03			
31	28	Phenol	6.92E-07					
32	29	Yapona	7.74E-07					
33	30	bis(2-Ethylhexyl)phthalate	2.18E-06					
34	31	Hydrazine	3.07E-01					
35	32	Monomethyldydrazine	9.72E-02					
36	33	Unsymmetrical dimethyl hydrazine	3.84E-01					
37	34	n-Nitrosodimethylamine	9.88E-05					
38	35	Aldrin	4.91E-08		1.000E-03			
39	36	Dieldrin	9.02E-08		2.000E-03			
40	37	Lindane	4.19E-08					
41	38	Phenanthrene	2.83E-07					
42		Total Organic Feed Rate	7.92E-01					
43		**Total PIC Emission Rate (t/yr) =**		0.000E+00	1.791E-09	7.310E-10	0.000E+00	0.000E+00

	Q	R	S	T	U	V	W	X
1				PIC Yield (%)				
2								
3	Tetrachloroeth	Toluene	Trichloroether	Vinyl Acetate	Vinyl Chloride	o,p-Xylene (Tc	Aniline	Atrazine
4					5.000E-03			
5					1.000E-03			
6					5.000E-03			
7								
8								
9		1.000E-04						
10		2.000E-04						
11								
12	2.000E-02		2.000E-03					
13								
14								
15								
16			7.000E-04		1.000E-03			
17			1.000E-03		1.000E-04			
18						1.000E-04		
19	1.000E-03				2.000E-03			
20								
21								
22		1.000E-03						
23		2.000E-04						
24								
25								
26							5.000E-03	
27								
28		5.000E-04						
29								
30								
31		3.000E-04						
32								
33								
34								
35								
36								
37								
38	5.000E-03	4.000E-04	1.000E-02		1.000E-04			
39	2.000E-03	1.000E-04	4.000E-03		1.000E-04			
40					1.000E-03			
41								
42					5.000E-06	1.000E-06		
43	8.778E-08	3.666E-09	1.390E-08	0.000E+00	4.932E-08	7.943E-09	5.100E-11	0.000E+00

	Y	Z	AA	AB	AC	AD	AE	AF
1				PIC Yield (%)				
2								
3	Benzothiazole	4-Chloroanilir	Malathion	4-Methylphen	Naphthalene	Parathion	Phenol	Vapona
4								
5								
6								
7								
8								
9					1.000E-03		1.000E-03	
10					5.000E-03		4.000E-03	
11								
12								
13								
14								
15								
16								
17								
18				1.000E-04	5.000E-04		2.000E-03	
19								
20								
21					2.000E-04			
22					2.000E-04		1.000E-03	
23		1.000E-04					1.000E-04	
24								
25								
26								
27								
28							5.000E-04	
29								
30							5.000E-03	
31				3.000E-04	1.000E-03			
32								
33								
34								
35								
36								
37								
38							1.000E-04	
39							1.000E-04	
40								
41								
42					5.000E-06		1.000E-05	

1				PIC Yield (%)				
2								
3	bis (2-Ethylhe	Hydrazine	Monomethyldye	Unsymmetrica	n-Nitrosodime	Aldrin	Dieldrin	Lindane
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42								
43	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

	AO	AP	AQ	AR	AS	AT	AU
1							
2				YIELD OF PICS WITH SPECIFIC PRECURSORS (%)			
3	Phenanthrene		Carbon Tetrach	1,2 Dichloroethene	Hexachlorobenzene	Pentachlorobenzene	Tetrachlorobenzene
4							
5							
6							
7							
8							
9							
10							
11							
12			1.000E-03	1.000E-04	5.000E-03	2.000E-03	1.000E-03
13							
14							
15							
16			1.000E-04	1.000E-04			
17			5.000E-04	1.000E-04	1.000E-02	5.000E-03	2.000E-03
18							
19			2.000E-04	1.000E-03	1.000E-02	5.000E-03	2.000E-03
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38				1.000E-03	1.000E-03	1.000E-04	
39				1.000E-03	1.000E-03	1.000E-04	
40							
41							
42	2.000E-06						

1							
2			YIELD OF PICS WITH SPECIFIC PRECURSORS (%)				
3	Trichlorobenzene	Dichlorobenzene	Biphenyl	4-Chlorobiphenyl	4,4'-Dichlorobiphe	Benzaldehyde	Benzoic Acid
4							
5	2.000E-04	3.000E-04					
6							
7							
8							
9			1.000E-02	1.000E-03	1.000E-04	1.000E-04	
10			1.000E-03	5.000E-03	1.000E-04	4.000E-04	1.000E-04
11							
12	5.000E-04	2.000E-04					
13							
14							
15							
16							
17	1.000E-03	5.000E-04					
18			3.000E-03	1.000E-04		2.000E-04	1.000E-04
19	1.000E-03	5.000E-04					
20							
21							
22							
23						1.000E-04	
24							
25							
26							
27							
28						2.000E-04	1.000E-04
29							
30			1.000E-04				
31						1.000E-02	1.000E-04
32							
33							
34							
35							
36							
37							
38						1.000E-04	
39							
40	1.000E-02	1.000E-03					
41							
42			5.000E-05			1.000E-05	5.000E-06
43	2.420E-09	1.021E-09	3.976E-07	2.511E-10	1.265E-11	8.111E-08	3.962E-08

	BC	BD	BE	BF	BG	BH	BI	BJ
1								
2			YIELD OF PICS WITH SPECIFIC PRECURSORS (%)					
3	Quinoline	Carbazole	Acetonitrile	Acrylonitrile	Benzonitrile	Naphthalene Ca	Pyridine	
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23	5.000E-04	1.000E-04						
24								
25								
26	5.000E-04	1.000E-04						
27								
28								
29								
30								
31								
32								
33								
34								
35			5.000E-04	2.000E-04	1.000E-04	1.000E-04	1.000E-04	
36			7.000E-04	3.000E-04	2.000E-04	2.000E-04	2.000E-04	
37			5.000E-04	2.000E-04	1.000E-04	1.000E-04	1.000E-04	
38								
39								
40								
41								

1								
2		YIELD OF PICS WITHOUT SPECIFIC PRECURSORS(%)						
3	Benzofuran	Dibenzofuran	Acenaphthalene	Acenaphthene	Fluoranthene	Pyrene	Fluorene	Benzo-[a]-pyr
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42	5.000E-05	1.000E-06	5.000E-06	5.000E-06	1.000E-05	2.000E-06	1.000E-06	1.000E-05
43	3.958E-07	7.916E-09	3.958E-08	3.958E-08	7.916E-08	1.583E-08	7.916E-09	7.916E-08

	BS	BT	BU	BY	BW	BX	BY	BZ
1								
2		YIELD OF PICS WITHOUT SPECIFIC PRECURSORS(%)						
3	Dibenzo-[a]-a	Chrysene						
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								
35								
36								
37								
38								
39								
40								
41								
42	1.000E-05	1.000E-06						