THE CLEAN AIR ACT ASSESSMENT PACKAGE-1988 (CAP-88) A DOSE AND RISK ASSESSMENT METHODOLOGY FOR RADIONUCLIDE EMISSIONS TO AIR

VOLUME 3

APPENDICES I - M

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Work Assignment 1-28

Prepared For:

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Work Assignment Manager

October 1990

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(continued)

LIST OF TABLES

LIST OF FIGURES

APPENDIX I

SAMPLE CAP-88 OUTPUT FILES

APPENDIX I

SAMPLE CAP-88 OUTPUT FILES

```
CAA88.DATA(ALLRAD88) 09/07/88. ICRP H-SUB-E AND NEW FOOD XFR FACTORS.
TYPE=3 DOSE EQUIVALENT FACTOR (REM) SELECTED WITH Q= 20.0 AND TIME= 50.
11 AIRDOS ORGANS PAIRED WITH DARTAB-RADRISK ORGANS:
EFFEC    WT SUM
GONADS   GONADS
BREAST   BREAST
R MARROW R MAR
LUNG     LUNGS
THYROID  THYROID
BON SURF ENDOST
RMNDR    RMNDR
INT WALL INT WALL
LIVER    LIVER
KIDNEYS  KIDNEYS
 7 ORGANS AND WEIGHTS USED TO PRODUCE WEIGHTED-SUM
GONADS   2.500E-01
BREAST   1.500E-01
R MAR    1.200E-01
LUNGS    1.200E-01
THYROID  3.000E-02
ENDOST   3.000E-02
RMNDR    3.000E-01
READING DATA TYPE= OPTI
READING DATA TYPE= GRID
READING DATA TYPE= METE
READING DATA TYPE= PHYS
READING DATA TYPE= WIND
... WARNING ... STAR DATA CONTAIN ONLY 6 CLASSES.
READING DATA TYPE= RADI
READING DATA TYPE= MODI
READING DATA TYPE= POPU
  FILE=  24
  SKIP=   3
READING DATA TYPE= COMM
READING DATA TYPE= AG D
*** END OF USER DATA;  BEGIN PROCESSING ***
```

SAMPLE.ERR File
(continued)

OUTPUT OF AIRDOS-EPA COMPUTER CODE

OPTIONS SELECTED--
RADIONUCLIDE CONCENTRATIONS ARE LISTED FOR DIRECTION AND DISTANCE FROM FACILITY
RADIONUCLIDE CONCENTRATIONS LISTED ARE SECTOR-AVERAGED VALUES
PLUME RISE IS COMPUTED FOR BUOYANT PLUMES BY BRIGGS EQUATIONS
THE CHI/Q TABLES ARE NOT PRINTED

MESSAGE SUMMARY: MESSAGE NUMBER - COUNT
208 511 OR OVER

SAMPLE.ERR File
(continued)

```
    PREPAR/AIRDOS-EPA/PREDA/DARTAB2                                          GE, NV
XE-133    0.00E+00 *  0.00E+00  0.00E+00  0.00E+00  0.00E+00  1
M    NUCAIR RESPN   PSIZN              GIABS(1)-GIABS(4)  INDICATORS:  2  3  4  5 12 13 14 15 33 96 97 98 99

 1  XE-133    *   0.00E+00  0.00E+00  0.00E+00  0.00E+00  0.00E+00     0  1  1  1  0  1  1  1  0  1  1  1  0
```

SAMPLE.ERR File
(continued)

```
   PREPAR/AIRDOS-EPA/PREDA/DARTAB2                                  GE, NV
&INPUT ILOC= 0, JLOC= 0, PLOC=100.0,
ILET= 1, 1,
DTABLE= 0, 0, 0, 0, 0, 0, 0,
RTABLE= 0, 0, 0, 0, 0, 0, 0,
FTABLE= 0, 0, 0, 0, 0, 0, 0,
OUTPUT=T,
GSCFAC=0.500,
ICRP=1, IHEAD=1
&END
&ORGAN NORGN=    8,
ORGN= 'GONADS  ', 'BREAST  ', 'R MAR   ', 'LUNGS   ', 'THYROID ',
      'ENDOST  ', 'RMNDR   ', 'EFFEC   ',
TIME= 50.0, 50.0, 50.0, 50.0, 50.0, 50.0, 50.0, 50.0,
&END
&QFACTR
HLET=20.0,20.0,20.0,20.0,20.0,20.0,20.0,20.0,20.0,20.0,
     20.0,20.0,20.0,20.0,20.0,20.0,20.0,20.0,20.0,20.0,
LLET= 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0,
      1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0,
&END
&CANCER NCANC=   11,
CANC= 'LEUKEMIA', 'BONE    ', 'THYROID ', 'BREAST  ', 'LUNG    ',
      'STOMACH ', 'BOWEL   ', 'LIVER   ', 'PANCREAS', 'URINARY ',
      'OTHER   ',
RELABS= 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0, 1.0,
        1.0,
&END
&GENTIC GENEFF=T, NGEN=  3,
GEN= 'TESTES  ', 'OVARIES ', 'AVERAGE ',
GRFAC= 2.600E+02, 6.900E+02,
REPPER=  0.014113,
GLLET=    1.00,    1.00,    1.00,
GHLET=   20.00,   20.00,   20.00,
&END
&RNUCLD NONCLD=    1,
NUCLID= 'XE-133  ',
PSIZE= 0.00,
RESP=  '* ',
GIABS= 0.000E+00, 0.000E+00, 0.000E+00, 0.000E+00,
&END
&LOCTBL NTLOC=    7,
RNLOC= 'WLSUM   ', 'WLSUM   ', 'WLSUM   ', 'SUM     ', 'SUM     ',
       'SUM     ', 'SUM     ',
OGLOC= 'SUM     ', 'SUM     ', 'SUM     ', 'SUM     ', 'SUM     ',
       'SUM     ', 'SUM     ',
PTLOC=  7,  7,  7,  7,  7,  7,  7,
```

```
FALOC=  2,  1,  2,  1,  1,  2,  2,
HLLOC=  1,  1,  1,  1,  1,  1,  1,
LTABLE=  1,  3,  3,  1,  3,  1,  3,
&END
&ORGANF NORGB=    7,
ORGB= 'GONADS  ', 'BREAST  ', 'R MAR   ', 'LUNGS   ', 'THYROID ',
      'ENDOST  ', 'RMNDR   ',
IPATH=  5,  5,  5,  5,  5,  5,  5,
ORGDAT= 0.2500, 0.1500, 0.1200, 0.1200, 0.0300,
        0.0300, 0.3000,
&END
IHEAD= 1
ICRP=  1

0 INDICATES THE TABLE WILL NOT BE PRINTED
1 INDICATES INDIVIDUAL VALUES WILL BE PRINTED
2 INDICATES MEAN INDIVIDUAL VALUES WILL BE PRINTED
3 INDICATES COLLECTIVE VALUES WILL BE PRINTED
4 INDICATES ALL OF THE ABOVE WILL BE PRINTED

  QUANTITY      TABLE NO.  1  2  3  4  5  6  7
+-------------------------------------------------
1.DOSE RATES                0  0  0  0  0  0  0
2.HEALTH RISKS              0  0  0  0  0  0  0
3.RISK EQUIVALENT FACTOR    0  0  0  0  0  0  0
TABLES FOR THE SELECTED INDIVIDUAL WILL BE DONE FOR THE LOCATION HAVING  100.00 % OF THE HIGHEST TOTAL RISK.

DOSE RATE TABLES COMBINING LOW AND HIGH LET WILL BE PRINTED.
HEALTH RISK TABLES COMBINING LOW AND HIGH LET WILL BE PRINTED.
THE GROUND SURFACE CORRECTION FACTOR IS  0.50

THERE ARE    8 ORGANS TO BE OUTPUT. THEY ARE:

ORGAN    TIME    ORGAN    TIME    ORGAN    TIME
GONADS     50.   BREAST     50.   R MAR      50.
LUNGS      50.   THYROID    50.   ENDOST     50.
RMNDR      50.   EFFEC      50.
  ORGAN     DOSE EQUIVALENT FACTORS
                 LOW LET          HIGH LET
 GONADS          1.00000          20.0000
 BREAST          1.00000          20.0000
 R MAR           1.00000          20.0000
 LUNGS           1.00000          20.0000
 THYROID         1.00000          20.0000
 ENDOST          1.00000          20.0000
 RMNDR           1.00000          20.0000
 EFFEC           1.00000          20.0000
```

SAMPLE.ERR File
(continued)

```
THERE ARE   11 CANCERS TO BE OUTPUT.
A 1 INDICATES ABSOLUTE RISK; A 2 IS RELATIVE RISK.
  CANCER      CANCER      CANCER      CANCER
LEUKEMIA 1. BONE     1. THYROID  1. BREAST   1.
LUNG     1. STOMACH  1. BOWEL    1. LIVER    1.
PANCREAS 1. URINARY  1. OTHER    1.
GENETIC DOSES ARE PRINTED FOR:
 TESTES   OVARIES  AVERAGE
THE RISK FACTOR (PER RAD/MILLION BIRTHS) FOR GENETIC DOSE ARE :
   260.0 FOR LOW LET, AND
   690.0 FOR HIGH LET,
AND THE REPLACEMENT RATE FOR THE POPULATION IS :
0.1411E-01 YEAR-1
THERE ARE    1 RADIONUCLIDES TO BE OUTPUT.
 NUCLIDE  PARTICLE SIZE   CLEARANCE CLASS              G.I. ABSORPTION FRACTION
                                            STOMACH       SI            ULI           LLI

XE-133      0.00000             *           0.00000       0.00000       0.00000       0.00000
 7 LOCATION TABLES ARE TO BE OUTPUT FOR:
NUCLIDE   ORGAN   PATHWAY   QUANTITY  LET
          OR CANCER

WLSUM     SUM         7         2         1
WLSUM     SUM         7         1         1
WLSUM     SUM         7         2         1
SUM       SUM         7         1         1
SUM       SUM         7         1         1
SUM       SUM         7         2         1
SUM       SUM         7         2         1
```

PLEASE GIVE TO ===> BARRY PARKS
PHONE NUMBER: (702) 798-2443

SYNOPSIS REPORT - CAP-88 (1.00)

ID Code: DOE_ARGONNEP Date/Time: THR 7 September, 1989 12:05:43 PM

Facility: ARGONNE NATIONAL LABORATORY
Address: ADDRESS
City: ARGONNE
State: IL Zipcode:

Source Category: DOE FACILITIES Source Term: 1986

Comments:
ARGONNE NATIONAL LAB, IL UNIV. OF CHICAGO POP RUN

POPULATION ASSESSMENT
(RN-222 DOSE/RISK EXCLUDED)

ICRP Collective Effective Dose Equivalent (Person-Rem/Year): 3.07E-01

Collective Population

	GONADS	BREAST	R MAR	LUNGS	THYROID	ENDOST	RMNDR
Organ dose (P-REM/YR) :	3.1E-01	3.0E-01	2.8E-01	3.3E-01	3.5E-01	2.7E-01	3.1E-01

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

RISK	NUMBER OF PEOPLE	NUMBER OF PEOPLE AT THIS RISK OR HIGHER	DEATHS/YEAR AT THIS RISK	DEATHS/YEAR AT THIS RISK OR HIGHER
1.0E+00 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 1.0E-06	0	0	0.00E+00	0.00E+00
LESS THAN 1.0E-06	7893815	7893815	1.13E-04	1.13E-04

INDIVIDUAL AT MAXIMUM RISK ASSESSEMENT
(RN-222 RISKS EXCLUDED)

Location to the individual: 750 METERS SOUTH SOUTHWEST

	GONADS	BREAST	R MAR	LUNGS	THYROID	ENDOST	RMNDR
Organ dose (mrem/yr) :	2.6E-03	2.5E-03	2.8E-03	3.1E-02	2.5E-03	2.1E-02	2.7E-03

ICRP Effective Dose Equivalent (mrem/yr): 6.59E-03
Lifetime Fatal Cancer Risk : 1.39E-07

SOURCE TERM (1986)

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Nuclide	Class	Amad	Stack #1 Ci/yr	TOTAL
AR-41	*	0.00	1.46E+00	1.46E+00
C-11	D	1.00	9.00E+01	9.00E+01
CS-134	D	1.00	2.04E-07	2.04E-07
CS-137	D	1.00	4.95E-07	4.95E-07
BA-137M	D	1.00	0.00E+00	0.00E+00
H-3	*	0.00	5.03E+01	5.03E+01
I-129	D	1.00	1.61E-05	1.61E-05
I-131	D	1.00	1.52E-06	1.52E-06
KR-85	*	0.00	1.70E+00	1.70E+00
NB-95	Y	1.00	1.55E-08	1.55E-08
PU-239	Y	1.00	5.61E-09	5.61E-09
RN-220	*	0.00	6.98E+03	6.98E+03
SB-125	W	1.00	3.38E-05	3.38E-05
ZR-95	W	1.00	7.50E-09	7.50E-09

SITE INFORMATION

Temperature: 10 C
Rainfall: 80 cm/yr
Mixing Height: 700 meters

EMISSION INFORMATION

Stack Number: 1

Stack Height (meters) : 61.00
Stack Diameter (meters): 0.00
Plume Rise
Momentum (m/sec) :0.00E+00

FOOD SUPPLY FRACTIONS

	Local	Regional	Imported
Vegetable:	0.076	0.924	0.000
Meat:	0.008	0.992	0.000
Milk:	0.000	1.000	0.000

FOOD FRACTIONS USED: DB = 3.33E-01 DM = 2.16E-02 FC = 2.80E-02

POPULATION ARRAY (1980 Census)

	250	750	1500	2500	3500	4500	7500
N	0.	0.	0.	2070.	514.	3434.	25640.
NNW	0.	0.	0.	0.	3283.	4172.	17450.
NW	0.	0.	0.	0.	0.	1925.	16327.
WNW	0.	0.	0.	421.	0.	0.	15766.
W	0.	0.	0.	0.	0.	3832.	10282.
WSW	0.	0.	0.	0.	757.	0.	18479.

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	250	750	1500	2500	3500	4500	7500
SW	0.	0.	0.	0.	0.	583.	699.
SSW	0.	371.	0.	0.	0.	754.	3388.
S	0.	0.	0.	0.	0.	0.	11255.
SSE	0.	0.	0.	0.	0.	0.	1524.
SE	0.	0.	0.	0.	0.	0.	1400.
ESE	0.	0.	0.	0.	0.	9.	543.
E	0.	0.	0.	2877.	0.	626.	0.
ENE	0.	0.	0.	0.	549.	807.	7362.
NE	0.	0.	0.	899.	1493.	1477.	6039.
NNE	0.	0.	0.	1245.	4758.	3299.	18169.

	15000	25000	35000	45000	55000	70000
N	79915.	108628.	137641.	198337.	58920.	239266.
NNW	76995.	81605.	153849.	53208.	59104.	111910.
NW	31050.	38804.	39953.	63051.	4973.	21218.
WNW	40030.	32245.	29235.	4906.	2527.	52311.
W	15628.	64259.	34322.	5686.	9600.	6945.
WSW	3255.	3927.	1759.	1552.	2745.	5894.
SW	14087.	25526.	3013.	2211.	11628.	13569.
SSW	25583.	92779.	6919.	6218.	14385.	9580.
S	3057.	17399.	3386.	1227.	3539.	69888.
SSE	1560.	20196.	2956.	3162.	6812.	21119.
SE	38264.	55616.	129090.	26537.	13264.	28396.
ESE	42042.	148331.	186756.	195779.	202379.	109332.
E	110559.	390640.	316868.	23367.	0.	27418.
ENE	85258.	426648.	343806.	0.	0.	0.
NE	104299.	548998.	884496.	132440.	0.	0.
NNE	72950.	210212.	312502.	221810.	53208.	3020.

REFERENCE FILE NAMES FOR ASSESSMENT

JCL FILE ===> CAAR.CAA88.DOE(ARGONNEP)
ALLRAD FILE ===> CBNRACS.CAA88.DATA(ALLRAD88)
POP FILE ===> CAAR.CAA88.POPLIB(ARGONNE)
STARFILE ===> CAAR.CAA88.STARLIB(MDW0675)
PREDA FILE ===> CAAR.AIRDOS.LIB(JOAPOP)
RADRISK FILE ===> CBNRACS.CAA88.RADRISK.V8401RBM

ID CODE: DOE_ARGONNEP DATE/TIME:THR 7 September, 1989 12:05:43 PM PAGE 4

FREQUENCY DISTRIBUTION OF LIFETIME FATAL CANCER RISKS

RISK	NUMBER OF PEOPLE	NUMBER OF PEOPLE AT THIS RISK OR HIGHER	DEATHS/YEAR AT THIS RISK	DEATHS/YEAR AT THIS RISK OR HIGHER
1.0E+00 TO 3.0E-01	0	0	0.00E+00	0.00E+00
3.0E-01 TO 1.0E-01	0	0	0.00E+00	0.00E+00
1.0E-01 TO 3.0E-02	0	0	0.00E+00	0.00E+00
3.0E-02 TO 1.0E-02	0	0	0.00E+00	0.00E+00
1.0E-02 TO 3.0E-03	0	0	0.00E+00	0.00E+00
3.0E-03 TO 1.0E-03	0	0	0.00E+00	0.00E+00
1.0E-03 TO 3.0E-04	0	0	0.00E+00	0.00E+00
3.0E-04 TO 1.0E-04	0	0	0.00E+00	0.00E+00
1.0E-04 TO 3.0E-05	0	0	0.00E+00	0.00E+00
3.0E-05 TO 1.0E-05	0	0	0.00E+00	0.00E+00
1.0E-05 TO 3.0E-06	0	0	0.00E+00	0.00E+00
3.0E-06 TO 1.0E-06	0	0	0.00E+00	0.00E+00
1.0E-06 TO 3.0E-07	0	0	0.00E+00	0.00E+00
3.0E-07 TO 1.0E-07	371	371	7.30E-07	7.30E-07
LESS THAN 1.0E-07	7893444	7893815	1.12E-04	1.13E-04

```
      DATE  THR  7 September,  1989  12:05:43 PM
MAIN OPTIONS:
      CONCEN AND DOSEN              OPTION(1)=0
      CIRCULAR GRID                 OPTION(2)=1
CONCEN OPTIONS:
      SECTOR-AVERAGED               OPTION(3)=0
      MOMENTUM-TYPE PLUME           OPTION(4)=1
      FIXED DEPOSITION VELOCITY     OPTION(5)=0
      NO PUNCH, CONCEN              OPTION(6)=0
      POINT SOURCE                  OPTION(7)=0
      NO PRINT CONCEN MAIN TABLE    OPTION(8)=1
      NO PRINT CONCEN CHI/Q TABLES  OPTION(9)=1
DOSEN OPTIONS:
      POPULATION ASSESSMENT         LIPO=1
      NO PRINT DOSEN TABLES         NNTB=0
      NO PUNCH DOSES                NRTB=0
      NO PRINT DOSE SUMMARY         NTTB=0
      DARTAB FILE ONLY              NSTB=2
      NO RN-222 WORKING LEVELS      NUTB=0
      READ ORGAN NAMES              NVTB=1
      BUILDUP TIME IN SOIL          TSUBB= 100.0     YEARS
                                    T=3.6524E+04 DAYS
```

```
      DATE  THR  7 September,  1989  12:05:43 PM
GRID DATA:
      BOUNDS OF DIRECTION-INDICES   NOL= 1 NOU=16
      BOUNDS OF DISTANCE-INDICES    NRL= 1 NRU=13
SQSD=7000.0 (M), COMPUTED FROM IDIST(13)=70000 (M)
IDIST, THE ARRAY OF RADIAL DISTANCES (M)
   250
   750
  1500
  2500
  3500
  4500
  7500
 15000
 25000
 35000
 45000
 55000
 70000
```

DATE THR 7 September, 1989 12:05:43 PM
NUMBER OF SOURCES NUMST=1
NUMBER OF NUCLIDES NNUCS=14
SOURCE #: 1

HEIGHT	PH=	61.0
DIAMETER	DIA=	0.00
EXIT VELOCITY	VEL=	0.
HEAT RELEASE RATE	QH=	0.

NUCLIDE RELEASE RATE, REL (CI/YR)

1	AR-41	1.460
2	C-11	90.00
3	CS-134	2.0400E-07
4	CS-137	4.9500E-07
5	BA-137M	0.0000E+00
6	H-3	50.30
7	I-129	1.6100E-05
8	I-131	1.5200E-06
9	KR-85	1.700
10	NB-95	1.5500E-08
11	PU-239	5.6100E-09
12	RN-220	6980.
13	SB-125	3.3800E-05
14	ZR-95	7.5000E-09

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INDEX	NAME	ISOL CLASS	LAMSUR 1/D	UPTAKE F1ING	AMAD MICRONS
1	AR-41	*	5.48E-05	0.00	0.00
2	C-11	D	5.48E-05	0.95	1.00
3	CS-134	D	5.48E-05	0.95	1.00
4	CS-137	D	5.48E-05	0.95	1.00
5	BA-137M	D	5.48E-05	0.10	1.00
6	H-3	*	5.48E-05	0.95	0.00
7	I-129	D	5.48E-05	0.95	1.00
8	I-131	D	5.48E-05	0.95	1.00
9	KR-85	*	5.48E-05	0.00	0.00
10	NB-95	Y	5.48E-05	0.01	1.00
11	PU-239	Y	5.48E-05	0.00	1.00
12	RN-220	*	5.48E-05	0.00	0.00
13	SB-125	W	5.48E-05	0.10	1.00
14	ZR-95	W	5.48E-05	0.00	1.00

INDEX	NAME	SC 1/S	VD M/S	VG M/S	ANLAM 1/D
1	AR-41	0.00E+00	0.00E+00	0.00E+00	9.10E+00
2	C-11	0.00E+00	0.00E+00	3.55E-05	4.87E+01
3	CS-134	1.00E-06	1.80E-03	3.55E-05	9.20E-04
4	CS-137	1.00E-06	1.80E-03	3.55E-05	6.29E-05
5	BA-137M	1.00E-06	1.80E-03	3.55E-05	3.91E+02
6	H-3	0.00E+00	0.00E+00	0.00E+00	1.55E-04
7	I-129	1.00E-06	3.50E-02	3.55E-05	1.21E-10
8	I-131	1.00E-06	3.50E-02	3.55E-05	8.62E-02
9	KR-85	0.00E+00	0.00E+00	0.00E+00	1.77E-04
10	NB-95	1.00E-06	1.80E-03	3.55E-05	1.98E-02
11	PU-239	1.00E-06	1.80E-03	3.55E-05	7.86E-08
12	RN-220	0.00E+00	0.00E+00	0.00E+00	1.08E+03
13	SB-125	1.00E-06	1.80E-03	3.55E-05	6.85E-04
14	ZR-95	1.00E-06	1.80E-03	3.55E-05	1.08E-02

***NOTE: VG SET TO ZERO FOR AIRDOS UNLESS GREATER THAN 1.000E-02
***NOTE: ANLAM SET TO ZERO FOR AIRDOS UNLESS GREATER THAN 1.000E-02

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FOR EACH STABILITY CLASS

UDCAT, HARMONIC AVERAGE WIND SPEEDS (WIND TOWARDS)	A	B	C	D	E	F	G	PERD WIN D FREQ.
N	0.000	2.039	3.262	4.930	4.630	3.404	1.528	0.180
NNW	0.950	1.917	3.616	4.221	4.442	3.342	1.567	0.037
NW	0.000	1.644	3.025	4.428	3.671	3.314	1.346	0.049
WNW	0.000	3.349	2.988	3.558	2.911	2.811	1.467	0.028
W	0.000	2.015	3.259	3.984	3.453	3.062	1.380	0.065
WSW	0.000	2.549	3.353	4.251	3.452	3.104	1.464	0.051
SW	0.000	2.132	4.196	4.938	3.512	3.335	1.359	0.051
SSW	0.950	1.902	4.632	4.017	3.790	3.756	1.421	0.033
S	0.000	1.749	3.242	4.391	3.777	3.288	1.546	0.067
SSE	0.000	2.001	2.808	4.146	4.251	3.123	1.267	0.036
SE	0.000	1.731	3.105	4.651	3.977	3.435	1.442	0.057
ESE	0.000	1.811	2.842	3.924	3.160	3.643	1.436	0.048
E	0.950	1.712	2.964	4.140	3.028	3.756	1.328	0.075
ENE	0.000	1.819	3.391	5.392	3.996	3.490	1.478	0.058
NE	0.851	2.203	3.322	4.638	3.687	3.392	1.346	0.077
NNE	0.950	1.897	3.168	4.448	3.646	3.231	1.494	0.086

UDAV, ARITHMETIC AVERAGE WIND SPEEDS (WIND TOWARDS)							
N	0.000	3.017	4.201	5.967	5.750	3.641	2.045
NNW	1.255	2.478	4.279	5.271	5.490	3.579	2.077
NW	0.000	2.706	3.688	5.164	4.937	3.551	1.869
WNW	0.000	3.942	3.591	4.316	4.291	2.943	1.991
W	0.000	2.987	3.881	4.733	4.569	3.271	1.906
WSW	0.000	3.542	4.082	5.272	4.697	3.321	1.988
SW	0.000	3.005	4.677	5.557	5.052	3.572	1.883
SSW	1.255	2.771	5.068	5.352	5.464	3.950	1.947
S	0.000	2.636	4.208	5.423	5.212	3.525	2.060
SSE	0.000	2.631	3.926	5.122	5.511	3.344	1.778
SE	0.000	2.673	3.896	5.613	5.170	3.670	1.967
ESE	0.000	2.735	3.696	5.135	4.762	3.858	1.961
E	1.255	2.669	3.855	5.207	4.666	3.950	1.850
ENE	0.000	2.844	4.370	6.382	5.451	3.722	2.001
NE	1.010	3.036	4.245	5.627	5.244	3.629	1.869
NNE	1.255	2.788	4.015	5.584	4.861	3.464	2.015

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       DATE  THR  7 September,  1989  12:05:43 PM
 FOR EACH STABILITY CLASS
      A         B         C         D         E         F         G
FRAW, FREQUENCIES OF STABILITY CLASSES ( WIND TOWARDS )
  N   0.00E+00 3.05E-02 9.30E-02 2.85E-01 2.60E-01 1.49E-01 1.83E-01
 NNW  1.11E-02 2.59E-02 1.17E-01 2.21E-01 3.63E-01 1.05E-01 1.57E-01
  NW  0.00E+00 6.00E-02 7.03E-02 2.11E-01 4.20E-01 1.32E-01 1.06E-01
 WNW  0.00E+00 2.54E-02 7.33E-02 1.99E-01 3.70E-01 1.39E-01 1.93E-01
  W   0.00E+00 4.14E-02 1.07E-01 2.72E-01 3.59E-01 1.18E-01 1.03E-01
 WSW  0.00E+00 4.08E-02 1.48E-01 3.07E-01 3.14E-01 1.08E-01 8.28E-02
  SW  0.00E+00 5.05E-02 8.14E-02 3.25E-01 4.29E-01 6.03E-02 5.42E-02
 SSW  1.23E-02 4.36E-02 8.97E-02 3.43E-01 3.15E-01 1.17E-01 7.89E-02
  S   0.00E+00 2.94E-02 7.25E-02 3.45E-01 3.88E-01 8.97E-02 7.56E-02
 SSE  0.00E+00 3.40E-02 8.88E-02 2.70E-01 4.11E-01 1.11E-01 8.52E-02
  SE  0.00E+00 4.33E-02 9.17E-02 3.06E-01 2.92E-01 1.17E-01 1.50E-01
 ESE  0.00E+00 4.35E-02 1.09E-01 2.70E-01 2.16E-01 1.49E-01 2.11E-01
  E   5.48E-03 4.21E-02 8.99E-02 2.56E-01 2.24E-01 1.76E-01 2.07E-01
 ENE  0.00E+00 4.44E-02 1.48E-01 2.80E-01 2.31E-01 1.41E-01 1.55E-01
  NE  1.08E-02 5.22E-02 1.60E-01 2.75E-01 2.11E-01 1.37E-01 1.54E-01
 NNE  4.76E-03 3.19E-02 1.42E-01 2.27E-01 2.13E-01 1.39E-01 2.42E-01
 TOT  2.47E-03 3.92E-02 1.07E-01 2.77E-01 2.96E-01 1.29E-01 1.50E-01
 HEIGHT OF LID
    LIDAI=      700 (M)
 RAINFALL RATE
    RR=        80.0 (CM/Y)
 AVERAGE AIR TEMPERATURE
    TA=        10.0 (DEG C)       283.2 (K)
 SURFACE ROUGHNESS LENGTH
    ZO=        0.010 (M)
 HEIGHT OF WIND MEASUREMENTS
    Z=         10.0 (M)
 AVERAGE WIND SPEED
    UBAR=      4.36 (M/S)
 VERTICAL TEMPERATURE GRADIENTS: (TG) (K/M)
    STABILITY E          0.073
    STABILITY F          0.109
    STABILITY G          0.146
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STAR INPUT, WIND FREQUENCIES (WIND FROM)

CLASS: A

N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	3.000E-04	1.100E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	3.000E-04	1.100E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	3.000E-04	1.100E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	7.200E-04	1.100E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	3.000E-04	1.100E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

CLASS: B

N	5.000E-04	9.100E-04	5.700E-04	0.000E+00	0.000E+00	0.000E+00
NNE	3.000E-04	6.900E-04	4.600E-04	0.000E+00	0.000E+00	0.000E+00
NE	4.100E-04	1.140E-03	1.030E-03	0.000E+00	0.000E+00	0.000E+00
ENE	2.500E-04	4.600E-04	1.370E-03	0.000E+00	0.000E+00	0.000E+00
E	5.200E-04	1.030E-03	1.140E-03	0.000E+00	0.000E+00	0.000E+00
ESE	3.000E-05	1.100E-04	5.700E-04	0.000E+00	0.000E+00	0.000E+00
SE	9.200E-04	9.100E-04	1.140E-03	0.000E+00	0.000E+00	0.000E+00
SSE	1.600E-04	6.900E-04	1.100E-04	0.000E+00	0.000E+00	0.000E+00
S	1.040E-03	2.060E-03	2.400E-03	0.000E+00	0.000E+00	0.000E+00
SSW	5.800E-04	1.260E-03	9.100E-04	0.000E+00	0.000E+00	0.000E+00
SW	5.700E-04	1.830E-03	1.600E-03	0.000E+00	0.000E+00	0.000E+00
WSW	6.400E-04	9.100E-04	1.030E-03	0.000E+00	0.000E+00	0.000E+00
W	8.600E-04	1.260E-03	1.030E-03	0.000E+00	0.000E+00	0.000E+00
WNW	5.000E-04	9.100E-04	6.900E-04	0.000E+00	0.000E+00	0.000E+00
NW	6.600E-04	1.030E-03	8.000E-04	0.000E+00	0.000E+00	0.000E+00
NNW	1.900E-04	8.000E-04	2.300E-04	0.000E+00	0.000E+00	0.000E+00

CLASS: C

N	2.200E-04	1.480E-03	2.280E-03	8.000E-04	1.100E-04	0.000E+00
NNE	2.000E-05	1.100E-04	1.940E-03	9.100E-04	0.000E+00	0.000E+00
NE	5.000E-05	3.400E-04	2.970E-03	8.000E-04	0.000E+00	0.000E+00
ENE	3.300E-04	1.370E-03	5.250E-03	5.700E-04	0.000E+00	0.000E+00
E	3.200E-04	1.260E-03	5.370E-03	0.000E+00	0.000E+00	0.000E+00
ESE	1.000E-04	6.900E-04	1.260E-03	0.000E+00	0.000E+00	0.000E+00
SE	1.700E-04	1.140E-03	2.060E-03	1.100E-04	0.000E+00	0.000E+00
SSE	1.200E-04	8.000E-04	2.850E-03	5.700E-04	0.000E+00	0.000E+00
S	9.000E-04	3.430E-03	1.016E-02	2.060E-03	2.300E-04	0.000E+00
SSW	6.200E-04	3.310E-03	6.850E-03	1.480E-03	0.000E+00	0.000E+00
SW	6.200E-04	2.400E-03	7.420E-03	1.710E-03	1.100E-04	0.000E+00
WSW	4.000E-04	1.830E-03	4.680E-03	1.600E-03	1.100E-04	0.000E+00
W	4.300E-04	2.060E-03	3.540E-03	6.900E-04	0.000E+00	0.000E+00
WNW	3.800E-04	1.710E-03	2.850E-03	3.400E-04	0.000E+00	0.000E+00
NW	2.500E-04	1.710E-03	2.740E-03	5.700E-04	0.000E+00	0.000E+00
NNW	3.300E-04	4.600E-04	2.170E-03	2.300E-04	0.000E+00	0.000E+00

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STAR INPUT, WIND FREQUENCIES ( WIND FROM )
CLASS: D
  N 2.100E-04 4.340E-03 9.020E-03 6.850E-03 2.850E-03 0.000E+00
NNE 3.400E-04 2.170E-03 3.770E-03 4.110E-03 9.100E-04 1.100E-04
 NE 6.000E-05 1.260E-03 7.310E-03 7.420E-03 5.700E-04 0.000E+00
ENE 3.400E-04 2.060E-03 6.620E-03 5.940E-03 6.900E-04 0.000E+00
  E 1.800E-04 3.770E-03 9.480E-03 3.200E-03 1.030E-03 0.000E+00
ESE 9.000E-05 1.830E-03 2.630E-03 8.000E-04 2.300E-04 0.000E+00
 SE 8.000E-05 1.600E-03 4.450E-03 4.220E-03 1.100E-04 0.000E+00
SSE 9.000E-05 1.940E-03 2.400E-03 3.310E-03 3.400E-04 1.100E-04
  S 4.100E-04 6.050E-03 1.587E-02 2.284E-02 5.140E-03 1.030E-03
SSW 2.800E-04 3.310E-03 6.280E-03 7.760E-03 1.830E-03 1.100E-04
 SW 1.700E-04 3.430E-03 6.390E-03 9.480E-03 1.480E-03 1.100E-04
WSW 7.000E-05 1.480E-03 4.220E-03 7.540E-03 2.850E-03 1.100E-04
  W 4.000E-04 3.310E-03 7.540E-03 6.850E-03 9.100E-04 1.100E-04
WNW 4.600E-04 2.060E-03 5.020E-03 5.140E-03 2.300E-04 1.100E-04
 NW 1.400E-04 2.850E-03 5.140E-03 8.450E-03 9.100E-04 1.100E-04
NNW 1.000E-04 2.170E-03 3.880E-03 2.850E-03 4.600E-04 2.300E-04

CLASS: E
  N 1.290E-03 3.650E-03 9.930E-03 9.930E-03 1.260E-03 1.100E-04
NNE 6.500E-04 8.000E-04 4.110E-03 4.000E-03 9.100E-04 0.000E+00
 NE 1.470E-03 2.740E-03 8.910E-03 7.990E-03 6.900E-04 1.100E-04
ENE 9.500E-04 2.400E-03 7.760E-03 4.800E-03 1.100E-04 0.000E+00
  E 1.210E-03 3.880E-03 1.279E-02 4.910E-03 4.600E-04 1.100E-04
ESE 1.000E-03 2.060E-03 4.910E-03 2.280E-03 1.100E-04 0.000E+00
 SE 9.400E-04 3.430E-03 9.360E-03 6.050E-03 9.100E-04 1.100E-04
SSE 2.800E-04 1.030E-03 6.740E-03 4.110E-03 1.030E-03 2.300E-04
  S 1.120E-03 2.510E-03 1.930E-02 2.032E-02 3.080E-03 5.700E-04
SSW 8.900E-04 2.740E-03 8.340E-03 6.170E-03 2.300E-04 0.000E+00
 SW 9.700E-04 1.940E-03 5.820E-03 6.740E-03 6.900E-04 0.000E+00
WSW 6.300E-04 1.260E-03 5.020E-03 5.710E-03 8.000E-04 0.000E+00
  W 1.700E-03 2.510E-03 6.510E-03 6.050E-03 0.000E+00 0.000E+00
WNW 9.600E-04 1.370E-03 4.220E-03 3.880E-03 0.000E+00 0.000E+00
 NW 6.400E-04 1.830E-03 7.540E-03 6.170E-03 5.700E-04 0.000E+00
NNW 4.900E-04 1.260E-03 6.170E-03 5.710E-03 1.140E-03 0.000E+00

CLASS: F
  N 0.000E+00 2.850E-03 3.200E-03 0.000E+00 0.000E+00 0.000E+00
NNE 0.000E+00 9.100E-04 2.970E-03 0.000E+00 0.000E+00 0.000E+00
 NE 0.000E+00 1.370E-03 1.710E-03 0.000E+00 0.000E+00 0.000E+00
ENE 0.000E+00 3.200E-03 2.280E-03 0.000E+00 0.000E+00 0.000E+00
  E 0.000E+00 4.680E-03 2.970E-03 0.000E+00 0.000E+00 0.000E+00
ESE 0.000E+00 3.080E-03 8.000E-04 0.000E+00 0.000E+00 0.000E+00
 SE 0.000E+00 2.970E-03 3.540E-03 0.000E+00 0.000E+00 0.000E+00
SSE 0.000E+00 1.710E-03 2.170E-03 0.000E+00 0.000E+00 0.000E+00
  S 0.000E+00 1.096E-02 1.599E-02 0.000E+00 0.000E+00 0.000E+00
SSW 0.000E+00 6.050E-03 5.940E-03 0.000E+00 0.000E+00 0.000E+00
 SW 0.000E+00 4.340E-03 6.170E-03 0.000E+00 0.000E+00 0.000E+00
WSW 0.000E+00 2.970E-03 5.250E-03 0.000E+00 0.000E+00 0.000E+00
  W 0.000E+00 3.080E-03 1.005E-02 0.000E+00 0.000E+00 0.000E+00
WNW 0.000E+00 2.060E-03 5.140E-03 0.000E+00 0.000E+00 0.000E+00
 NW 0.000E+00 2.630E-03 4.110E-03 0.000E+00 0.000E+00 0.000E+00
NNW 0.000E+00 2.280E-03 1.710E-03 0.000E+00 0.000E+00 0.000E+00
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STAR INPUT, WIND FREQUENCIES ( WIND FROM )
CLASS: G
  N 1.450E-03 3.650E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
NNE 9.100E-04 1.710E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
 NE 1.060E-03 1.710E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ENE 1.370E-03 2.850E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
  E 2.480E-03 4.220E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
ESE 1.740E-03 3.650E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
 SE 2.050E-03 3.200E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
SSE 1.600E-03 4.220E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
  S 9.640E-03 2.329E-02 0.000E+00 0.000E+00 0.000E+00 0.000E+00
SSW 6.450E-03 1.439E-02 0.000E+00 0.000E+00 0.000E+00 0.000E+00
 SW 4.610E-03 7.190E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
WSW 2.870E-03 6.170E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
  W 6.200E-03 9.250E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
WNW 3.460E-03 6.740E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
 NW 2.890E-03 5.710E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
NNW 1.350E-03 1.710E-03 0.000E+00 0.000E+00 0.000E+00 0.000E+00
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I,F INGROWTH FACTORS

INDEX	NUCLIDE NAME	I	PARENT NAME	F
5	BA-137M	4	CS-137	3.2090E+06

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NOBCT, NUMBER OF BEEF CATTLE

	250	750	1500	2500	3500	4500	7500
N	0	5	20	33	46	59	490
NNW	0	5	20	33	46	59	490
NW	0	5	20	33	46	59	490
WNW	0	5	20	33	46	59	490
W	0	5	20	33	46	59	490
WSW	0	5	20	33	46	59	490
SW	0	5	20	33	46	59	490
SSW	0	5	20	33	46	59	490
S	0	5	20	33	46	59	490
SSE	0	5	20	33	46	59	490
SE	0	5	20	33	46	59	490
ESE	0	5	20	33	46	59	490
E	0	5	20	33	46	59	490
ENE	0	5	20	33	46	59	490
NE	0	5	20	33	46	59	490
NNE	0	5	20	33	46	59	490

	15000	25000	35000	45000	55000	70000
N	1962	3269	4577	5885	7192	18308
NNW	1962	3269	4577	5885	7192	18308
NW	1962	3269	4577	5885	7192	18308
WNW	1962	3269	4577	5885	7192	18308
W	1962	3269	4577	5885	7192	18308
WSW	1962	3269	4577	5885	7192	18308
SW	1962	3269	4577	5885	7192	18308
SSW	1962	3269	4577	5885	7192	18308
S	1962	3269	4577	5885	7192	18308
SSE	1962	3269	4577	5885	7192	18308
SE	1962	3269	4577	5885	7192	18308
ESE	1962	3269	4577	5885	7192	18308
E	1962	3269	4577	5885	7192	18308
ENE	1962	3269	4577	5885	7192	18308
NE	1962	3269	4577	5885	7192	18308
NNE	1962	3269	4577	5885	7192	18308

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NOMCT, NUMBER OF MILK CATTLE

	250	750	1500	2500	3500	4500	7500
N	0	0	1	2	3	4	32
NNW	0	0	1	2	3	4	32
NW	0	0	1	2	3	4	32
WNW	0	0	1	2	3	4	32
W	0	0	1	2	3	4	32
WSW	0	0	1	2	3	4	32
SW	0	0	1	2	3	4	32
SSW	0	0	1	2	3	4	32
S	0	0	1	2	3	4	32
SSE	0	0	1	2	3	4	32
SE	0	0	1	2	3	4	32
ESE	0	0	1	2	3	4	32
E	0	0	1	2	3	4	32
ENE	0	0	1	2	3	4	32
NE	0	0	1	2	3	4	32
NNE	0	0	1	2	3	4	32

	15000	25000	35000	45000	55000	70000
N	127	212	297	382	467	1188
NNW	127	212	297	382	467	1188
NW	127	212	297	382	467	1188
WNW	127	212	297	382	467	1188
W	127	212	297	382	467	1188
WSW	127	212	297	382	467	1188
SW	127	212	297	382	467	1188
SSW	127	212	297	382	467	1188
S	127	212	297	382	467	1188
SSE	127	212	297	382	467	1188
SE	127	212	297	382	467	1188
ESE	127	212	297	382	467	1188
E	127	212	297	382	467	1188
ENE	127	212	297	382	467	1188
NE	127	212	297	382	467	1188
NNE	127	212	297	382	467	1188

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INTFC, AREA OF VEGETABLE CROP PRODUCTION (M**2)

	250	750	1500	2500	3500	4500	7500
N	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
NNW	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
NW	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
WNW	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
W	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
WSW	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
SW	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
SSW	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
S	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
SSE	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
SE	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
ESE	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
E	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
ENE	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
NE	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05
NNE	0.00E+00	4.12E+03	1.65E+04	2.75E+04	3.85E+04	4.95E+04	4.12E+05

	15000	25000	35000	45000	55000	70000
N	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
NNW	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
NW	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
WNW	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
W	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
WSW	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
SW	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
SSW	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
S	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
SSE	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
SE	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
ESE	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
E	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
ENE	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
NE	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07
NNE	1.65E+06	2.75E+06	3.85E+06	4.95E+06	6.05E+06	1.54E+07

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INTPA, POPULATION

	250	750	1500	2500	3500	4500	7500
N	0	0	0	2070	514	3434	25640
NNW	0	0	0	0	3283	4172	17450
NW	0	0	0	0	0	1925	16327
WNW	0	0	0	421	0	0	15766
W	0	0	0	0	0	3832	10282
WSW	0	0	0	0	757	0	18479
SW	0	0	0	0	0	583	699
SSW	0	371	0	0	0	754	3388
S	0	0	0	0	0	0	11255
SSE	0	0	0	0	0	0	1524
SE	0	0	0	0	0	0	1400
ESE	0	0	0	0	0	9	543
E	0	0	0	2877	0	626	0
ENE	0	0	0	0	549	807	7362
NE	0	0	0	899	1493	1477	6039
NNE	0	0	0	1245	4758	3299	18169

	15000	25000	35000	45000	55000	70000
N	79915	108628	137641	198337	58920	239266
NNW	76995	81605	153849	53208	59104	111910
NW	31050	38804	39953	63051	4973	21218
WNW	40030	32245	29235	4906	2527	52311
W	15628	64259	34322	5686	9600	6945
WSW	3255	3927	1759	1552	2745	5894
SW	14087	25526	3013	2211	11628	13569
SSW	25583	92779	6919	6218	14385	9580
S	3057	17399	3386	1227	3539	69888
SSE	1560	20196	2956	3162	6812	21119
SE	38264	55616	129090	26537	13264	28396
ESE	42042	148331	186756	195779	202379	109332
E	110559	390640	316868	23367	0	27418
ENE	85258	426648	343806	0	0	0
NE	104299	548998	884496	132440	0	0
NNE	72950	210212	312502	221810	53208	3020

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***OPTIONS SELECTED FOR DOSE AND INTAKE CALCULATIONS***
       CALCULATIONS ARE MADE FOR THE POPULATION.
       TABLES FOR EACH NUCLIDE LISTING DOSES BY ORGAN AND PATHWAY
       AT EACH ENVIRONMENTAL LOCATION ARE OMITTED.
       ORGAN NAMES ARE INPUT.
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VALUES FOR RADIONUCLIDE-INDEPENDENT VARIABLES

NUMBER OF NUCLIDES CONSIDERED	14
TIME DELAY--INGESTION OF PASTURE GRASS BY ANIMALS (HR)	0.00E+00
TIME DELAY--INGESTION OF STORED FEED BY ANIMALS (HR)	0.22E+04
TIME DELAY--INGESTION OF LEAFY VEGETABLES BY MAN (HR)	0.34E+03
TIME DELAY--INGESTION OF PRODUCE BY MAN (HR)	0.34E+03
REMOVAL RATE CONSTANT FOR PHYSICAL LOSS BY WEATHERING (PER HOUR)	0.29E-02
PERIOD OF EXPOSURE DURING GROWING SEASON--PASTURE GRASS (HR)	0.72E+03
PERIOD OF EXPOSURE DURING GROWING SEASON--CROPS OR LEAFY VEGETABLES (HR)	0.14E+04
AGRICULTURAL PRODUCTIVITY BY UNIT AREA (GRASS-COW-MILK-MAN PATHWAY (KG/SQ. METER))	0.28E+00
AGRICULTURAL PRODUCTIVITY BY UNIT AREA (PRODUCE OR LEAFY VEG INGESTED BY MAN (KG/SQ METER))	0.72E+00
FRACTION OF YEAR ANIMALS GRAZE ON PASTURE	0.40E+00
FRACTION OF DAILY FEED THAT IS PASTURE GRASS WHEN ANIMAL GRAZES ON PASTURE	0.43E+00
CONSUMPTION RATE OF CONTAMINATED FEED OR FORAGE BY AN ANIMAL IN KG/DAY (DRY WEIGHT)	0.16E+02
TRANSPORT TIME FROM ANIMAL FEED-MILK-MAN (DAY)	0.20E+01
RATE OF INGESTION OF PRODUCE BY MAN (KG/YR)	0.18E+03
RATE OF INGESTION OF MILK BY MAN (LITERS/YR)	0.11E+03
RATE OF INGESTION OF MEAT BY MAN (KG/YR)	0.85E+02
RATE OF INGESTION OF LEAFY VEGETABLES BY MAN (KG/YR)	0.18E+02
AVERAGE TIME FROM SLAUGHTER OF MEAT ANIMAL TO CONSUMPTION (DAY)	0.20E+02
FRACTION OF PRODUCE INGESTED GROWN IN GARDEN OF INTEREST	0.10E+01
FRACTION OF LEAFY VEGETABLES GROWN IN GARDEN OF INTEREST	0.10E+01
PERIOD OF LONG-TERM BUILDUP FOR ACTIVITY IN SOIL (YEARS)	0.10E+03
EFFECTIVE SURFACE DENSITY OF SOILKG/SQ. M, DRY WEIGHT. (ASSUMES 15 CM PLOW LAYER)	0.22E+03
VEGETABLE INGESTION RATIO-IMMEDIATE SURROUNDING AREA/TOTAL WITHIN AREA	0.76E-01
MEAT INGESTION RATIO-IMMEDIATE SURROUNDING AREA/TOTAL WITHIN AREA	0.80E-02
MILK INGESTION RATIO-IMMEDIATE SURROUNDING AREA/TOTAL WITHIN AREA	0.00E+00

ACTUAL FRACTIONS OF FOOD TYPES FROM OUTSIDE AREA CAN BE GREATER THAN THE MINIMUM FRACTIONS LISTED BELOW

MINIMUM FRACTION VEGETABLES INGESTED FROM OUTSIDE AREA	0.00E+00
MINIMUM FRACTION MEAT INGESTED FROM OUTSIDE AREA	0.00E+00
MINIMUM FRACTION MILK INGESTED FROM OUTSIDE AREA	0.00E+00
INHALATION RATE OF MAN (CUBIC CENTIMETERS/HR)	0.92E+06
BUILDUP TIME FOR RADIONUCLIDES DEPOSITED ON GROUND AND WATER (DAYS)	0.37E+05
DILUTION FACTOR FOR WATER FOR SWIMMING (CM)	0.10E+01
FRACTION OF TIME SPENT SWIMMING	0.00E+00
MUSCLE MASS OF ANIMAL AT SLAUGHTER (KG)	0.20E+03
FRACTION OF ANIMAL HERD SLAUGHTERED PER DAY	0.38E-02
MILK PRODUCTION OF COW (LITERS/DAY)	0.11E+02
FALLOUT INTERCEPTION FRACTION-VEGETABLES	0.20E+00
FALLOUT INTERCEPTION FRACTION-PASTURE	0.57E+00
FRACTION OF RADIOACTIVITY RETAINED ON LEAFY VEGETABLES AND PRODUCE AFTER WASHING	0.50E+00

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COMPUTED VALUES FOR THE AREA

TOTAL POPULATION	7893815.0
TOTAL NUMBER OF MEAT ANIMALS	669536
TOTAL NUMBER OF MILK CATTLE	43440
TOTAL AREA OF VEGETABLE FOOD CROPS (SQUARE METERS)	0.56E+09
TOTAL MEAT CONSUMPTION (KG PER YEAR)	0.67E+09
TOTAL MEAT PRODUCTION (KG PER YEAR)	0.19E+09
TOTAL MILK CONSUMPTION (LITERS/YEAR)	0.88E+09
TOTAL MILK PRODUCTION (LITERS/YEAR)	0.17E+09
TOTAL VEGETABLE FOOD CONSUMPTION (KG PER YEAR)	0.15E+10
TOTAL VEGETABLE FOOD PRODUCED (KG PER YEAR)	0.40E+09

Sample CAP-88 Output Files
(continued)

SAMPLE.OUT
(Continued)

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*LIST OF INPUT DATA FOR NUCLIDE AR-41 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.91E+01
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.00E+00
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.00E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.00E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.00E+00
GI UPTAKE FRACTION (INHALATION)	0.00E+00
GI UPTAKE FRACTION (INGESTION)	0.00E+00
PARTICLE SIZE (MICRONS)	0.00E+00
SOLUBILITY CLASS	*

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*LIST OF INPUT DATA FOR NUCLIDE C-11 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.49E+02
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.00E+00
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.00E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.00E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.00E+00
GI UPTAKE FRACTION (INHALATION)	0.95E+00
GI UPTAKE FRACTION (INGESTION)	0.95E+00
PARTICLE SIZE (MICRONS)	0.10E+01
SOLUBILITY CLASS	D

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*LIST OF INPUT DATA FOR NUCLIDE CS-134 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.92E-03
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.70E-02
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.20E-01
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.80E-01
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.13E-01
GI UPTAKE FRACTION (INHALATION)	0.95E+00
GI UPTAKE FRACTION (INGESTION)	0.95E+00
PARTICLE SIZE (MICRONS)	0.10E+01
SOLUBILITY CLASS	D

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*LIST OF INPUT DATA FOR NUCLIDE CS-137 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.63E-04
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.70E-02
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.20E-01
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.80E-01
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.13E-01
GI UPTAKE FRACTION (INHALATION)	0.95E+00
GI UPTAKE FRACTION (INGESTION)	0.95E+00
PARTICLE SIZE (MICRONS)	0.10E+01
SOLUBILITY CLASS	D

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*LIST OF INPUT DATA FOR NUCLIDE BA-137M *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.39E+03
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.35E-03
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.15E-03
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.15E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.64E-02
GI UPTAKE FRACTION (INHALATION)	0.10E+00
GI UPTAKE FRACTION (INGESTION)	0.10E+00
PARTICLE SIZE (MICRONS)	0.10E+01
SOLUBILITY CLASS	D

CONCENTRATIONS ON GROUND AND WATER INCLUDE CONTRIBUT IONS RESULTING FROM DECAY OF THE FOLLOWING PARENT NUCLIDES AFTER DEPOSITION--

NUCLIDE	BUILD UP FACTOR
CS-137	0. 321E+07

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*LIST OF INPUT DATA FOR NUCLIDE H-3 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.15E-03
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
DOSE CONVERSION FACTOR FOR FOOD INGESTION (REM-CC/ PCI-YEAR)	0.62E+01
DOSE CONVERSION FACTOR FOR WATER INGESTION (REM-CC /PCI-YEAR)	0.57E-01

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*LIST OF INPUT DATA FOR NUCLIDE I-129 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.12E-09
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.10E-01
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.70E-02
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.15E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.21E-01
GI UPTAKE FRACTION (INHALATION)	0.95E+00
GI UPTAKE FRACTION (INGESTION)	0.95E+00
PARTICLE SIZE (MICRONS)	0.10E+01
SOLUBILITY CLASS	D

SAMPLE.OUT
(Continued)

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*LIST OF INPUT DATA FOR NUCLIDE I-131 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.86E-01
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.10E-01
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.70E-02
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.15E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.21E-01
GI UPTAKE FRACTION (INHALATION)	0.95E+00
GI UPTAKE FRACTION (INGESTION)	0.95E+00
PARTICLE SIZE (MICRONS)	0.10E+01
SOLUBILITY CLASS	D

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*LIST OF INPUT DATA FOR NUCLIDE KR-85 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.18E-03
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.00E+00
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.00E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.00E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.00E+00
GI UPTAKE FRACTION (INHALATION)	0.00E+00
GI UPTAKE FRACTION (INGESTION)	0.00E+00
PARTICLE SIZE (MICRONS)	0.00E+00
SOLUBILITY CLASS	*

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*LIST OF INPUT DATA FOR NUCLIDE NB-95 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.20E-01
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.20E-01
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.25E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.20E-01
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.21E-02
GI UPTAKE FRACTION (INHALATION)	0.10E-01
GI UPTAKE FRACTION (INGESTION)	0.10E-01
PARTICLE SIZE (MICRONS)	0.10E+01
SOLUBILITY CLASS	Y

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*LIST OF INPUT DATA FOR NUCLIDE PU-239 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.79E-07
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.10E-06
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.50E-06
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.45E-03
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.19E-04
GI UPTAKE FRACTION (INHALATION)	0.10E-03
GI UPTAKE FRACTION (INGESTION)	0.10E-02
PARTICLE SIZE (MICRONS)	0.10E+01
SOLUBILITY CLASS	Y

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*LIST OF INPUT DATA FOR NUCLIDE RN-220 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.11E+04
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.00E+00
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.00E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.00E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.00E+00
GI UPTAKE FRACTION (INHALATION)	0.00E+00
GI UPTAKE FRACTION (INGESTION)	0.00E+00
PARTICLE SIZE (MICRONS)	0.00E+00
SOLUBILITY CLASS	*

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*LIST OF INPUT DATA FOR NUCLIDE SB-125 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.69E-03
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.10E-03
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.10E-02
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.20E+00
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.13E-01
GI UPTAKE FRACTION (INHALATION)	0.10E-01
GI UPTAKE FRACTION (INGESTION)	0.10E+00
PARTICLE SIZE (MICRONS)	0.10E+01
SOLUBILITY CLASS	W

SAMPLE.OUT
(Continued)

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*LIST OF INPUT DATA FOR NUCLIDE ZR-95 *

RADIOACTIVE DECAY CONSTANT (PER DAY)	0.11E-01
ENVIRONMENTAL DECAY CONSTANT--SURFACE (PER DAY)	0.55E-04
ENVIRONMENTAL DECAY CONSTANT--WATER (PER DAY)	0.00E+00
AVERAGE FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH L OF MILK (DAYS/L)	0.30E-04
FRACTION OF ANIMAL'S DAILY INTAKE OF NUCLIDE WHICH APPEARS IN EACH KG OF FLESH (DAYS/KG)	0.55E-02
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL FOR PASTURE AND FORAGE (IN PCI/KG DRY WEIGHT PER PCI/KG DRY SOIL)	0.20E-02
CONCENTRATION FACTOR FOR UPTAKE OF NUCLIDE FROM SOIL BY EDIBLE PARTS OF CROPS (IN PCI/KG WET WEIGHT PER PCI/KG DRY SOIL)	0.21E-03
GI UPTAKE FRACTION (INHALATION)	0.20E-02
GI UPTAKE FRACTION (INGESTION)	0.20E-02
PARTICLE SIZE (MICRONS)	0.10E+01
SOLUBILITY CLASS	W

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	0.00E+00	0.00E+00	2.95E-10	0.00E+00	7.73E+09	1.35E+06
BREAST	0.00E+00	0.00E+00	3.24E-10	0.00E+00	6.96E+09	1.21E+06
R MAR	0.00E+00	0.00E+00	3.08E-10	0.00E+00	5.96E+09	1.03E+06
LUNGS	0.00E+00	0.00E+00	3.44E-09	0.00E+00	5.88E+09	1.02E+06
THYROID	0.00E+00	0.00E+00	3.47E-10	0.00E+00	7.33E+09	1.28E+06
ENDOST	0.00E+00	0.00E+00	2.55E-10	0.00E+00	6.29E+09	1.10E+06
RMNDR	0.00E+00	0.00E+00	3.53E-10	0.00E+00	5.96E+09	1.04E+06
EFFEC	0.00E+00	0.00E+00	6.96E-10	0.00E+00	6.60E+09	1.15E+06
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	0.00E+00	0.00E+00	8.84E-09	0.00E+00	2.32E+11	4.04E+07
OVARIES	0.00E+00	0.00E+00	7.79E-09	0.00E+00	1.59E+11	2.76E+07
AVERAGE	0.00E+00	0.00E+00	8.32E-09	0.00E+00	1.95E+11	3.40E+07

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	0.0E+00	0.0E+00	9.8E-11	0.0E+00	1.9E+03	3.3E-01
BONE	0.0E+00	0.0E+00	4.5E-12	0.0E+00	1.1E+02	1.9E-02
THYROID	0.0E+00	0.0E+00	1.6E-11	0.0E+00	3.3E+02	5.8E-02
BREAST	0.0E+00	0.0E+00	1.3E-10	0.0E+00	2.7E+03	4.7E-01
LUNG	0.0E+00	0.0E+00	2.7E-09	0.0E+00	2.9E+03	5.1E-01
STOMACH	0.0E+00	0.0E+00	8.8E-11	0.0E+00	1.8E+03	3.1E-01
BOWEL	0.0E+00	0.0E+00	2.9E-11	0.0E+00	9.0E+02	1.6E-01
LIVER	0.0E+00	0.0E+00	1.2E-10	0.0E+00	1.9E+03	3.4E-01
PANCREAS	0.0E+00	0.0E+00	8.6E-11	0.0E+00	1.2E+03	2.1E-01
URINARY	0.0E+00	0.0E+00	4.2E-11	0.0E+00	7.4E+02	1.3E-01
OTHER	0.0E+00	0.0E+00	1.0E-10	0.0E+00	1.4E+03	2.5E-01
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	0.00E+00	0.00E+00	2.16E-15	0.00E+00	5.08E+04	8.85E+00

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	0.0E+00	0.0E+00	1.4E-09	0.0E+00	6.0E+04	1.0E+01
BONE	0.0E+00	0.0E+00	1.3E-10	0.0E+00	3.3E+03	5.7E-01
THYROID	0.0E+00	0.0E+00	3.8E-10	0.0E+00	9.4E+03	1.6E+00
BREAST	0.0E+00	0.0E+00	1.4E-09	0.0E+00	5.9E+04	1.0E+01
LUNG	0.0E+00	0.0E+00	6.0E-08	0.0E+00	6.7E+04	1.2E+01
STOMACH	0.0E+00	0.0E+00	2.6E-09	0.0E+00	3.8E+04	6.6E+00
BOWEL	0.0E+00	0.0E+00	1.5E-09	0.0E+00	1.9E+04	3.4E+00
LIVER	0.0E+00	0.0E+00	2.1E-09	0.0E+00	4.2E+04	7.3E+00
PANCREAS	0.0E+00	0.0E+00	1.4E-09	0.0E+00	2.5E+04	4.4E+00
URINARY	0.0E+00	0.0E+00	2.5E-09	0.0E+00	1.6E+04	2.8E+00
OTHER	0.0E+00	0.0E+00	1.7E-09	0.0E+00	3.1E+04	5.4E+00

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	0.00E+00	3.08E-10	5.96E+03	1.03E+00
BONE	0.00E+00	2.55E-10	6.29E+03	1.10E+00
THYROID	0.00E+00	3.47E-10	7.33E+03	1.28E+00
BREAST	0.00E+00	3.24E-10	6.96E+03	1.21E+00
LUNG	0.00E+00	5.49E-09	5.88E+03	1.02E+00
STOMACH	0.00E+00	2.72E-10	5.44E+03	9.47E-01
BOWEL	0.00E+00	1.81E-10	5.54E+03	9.63E-01
LIVER	0.00E+00	3.45E-10	5.55E+03	9.69E-01
PANCREAS	0.00E+00	3.51E-10	4.81E+03	8.40E-01
URINARY	0.00E+00	3.37E-10	5.88E+03	1.02E+00
OTHER	0.00E+00	3.51E-10	4.81E+03	8.40E-01
W BODY	0.00E+00	1.24E-09	5.74E+03	1.00E+00
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	0.00E+00	2.77E-10	6.51E+09	1.13E+06

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	7.40E-09	0.00E+00	2.50E-09	0.00E+00	5.96E+09	1.23E+06
BREAST	6.82E-09	0.00E+00	4.37E-09	0.00E+00	5.55E+09	1.14E+06
R MAR	6.23E-09	0.00E+00	4.15E-09	0.00E+00	4.55E+09	9.40E+05
LUNGS	7.34E-09	0.00E+00	1.88E-07	0.00E+00	4.44E+09	9.18E+05
THYROID	3.17E-09	0.00E+00	3.86E-09	0.00E+00	5.55E+09	1.14E+06
ENDOST	3.85E-09	0.00E+00	3.15E-09	0.00E+00	5.22E+09	1.07E+06
RMNDR	1.68E-07	0.00E+00	1.95E-08	0.00E+00	4.45E+09	9.16E+05
EFFEC	5.52E-08	0.00E+00	3.04E-08	0.00E+00	5.06E+09	1.04E+06
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	8.42E-08	0.00E+00	5.80E-08	0.00E+00	1.79E+11	3.70E+07
OVARIES	2.22E-07	0.00E+00	7.50E-08	0.00E+00	1.20E+11	2.46E+07
AVERAGE	1.53E-07	0.00E+00	6.65E-08	0.00E+00	1.49E+11	3.08E+07

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	2.0E-09	0.0E+00	1.3E-09	0.0E+00	1.4E+03	3.0E-01
BONE	6.8E-11	0.0E+00	5.6E-11	0.0E+00	9.2E+01	1.9E-02
THYROID	1.4E-10	0.0E+00	1.8E-10	0.0E+00	2.5E+02	5.2E-02
BREAST	2.7E-09	0.0E+00	1.7E-09	0.0E+00	2.2E+03	4.5E-01
LUNG	3.6E-09	0.0E+00	9.7E-08	0.0E+00	2.2E+03	4.5E-01
STOMACH	2.2E-07	0.0E+00	2.1E-08	0.0E+00	1.3E+03	2.7E-01
BOWEL	4.6E-09	0.0E+00	6.5E-10	0.0E+00	6.6E+02	1.4E-01
LIVER	3.0E-09	0.0E+00	2.1E-09	0.0E+00	1.5E+03	3.0E-01
PANCREAS	1.1E-08	0.0E+00	2.5E-09	0.0E+00	8.7E+02	1.8E-01
URINARY	1.5E-09	0.0E+00	5.7E-10	0.0E+00	5.4E+02	1.1E-01
OTHER	1.4E-08	0.0E+00	3.0E-09	0.0E+00	1.1E+03	2.2E-01
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	3.98E-14	0.00E+00	1.73E-14	0.00E+00	3.88E+04	8.01E+00

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	5.9E-08	0.0E+00	3.9E-08	0.0E+00	4.6E+04	9.4E+00
BONE	9.4E-10	0.0E+00	8.0E-10	0.0E+00	2.7E+03	5.6E-01
THYROID	2.8E-09	0.0E+00	3.9E-09	0.0E+00	7.1E+03	1.5E+00
BREAST	5.6E-08	0.0E+00	3.4E-08	0.0E+00	4.7E+04	9.6E+00
LUNG	8.1E-08	0.0E+00	2.2E-06	0.0E+00	5.1E+04	1.0E+01
STOMACH	4.7E-06	0.0E+00	4.5E-07	0.0E+00	2.9E+04	5.9E+00
BOWEL	9.3E-08	0.0E+00	7.0E-09	0.0E+00	1.4E+04	2.9E+00
LIVER	5.6E-08	0.0E+00	4.5E-08	0.0E+00	3.1E+04	6.4E+00
PANCREAS	2.4E-07	0.0E+00	4.8E-08	0.0E+00	1.9E+04	3.9E+00
URINARY	2.9E-08	0.0E+00	5.9E-09	0.0E+00	1.2E+04	2.4E+00
OTHER	2.9E-07	0.0E+00	5.8E-08	0.0E+00	2.3E+04	4.7E+00

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	6.23E-09	4.15E-09	4.55E+03	9.40E-01
BONE	3.85E-09	3.15E-09	5.22E+03	1.07E+00
THYROID	3.17E-09	3.86E-09	5.55E+03	1.14E+00
BREAST	6.82E-09	4.37E-09	5.55E+03	1.14E+00
LUNG	7.34E-09	1.96E-07	4.44E+03	9.18E-01
STOMACH	6.71E-07	6.52E-08	4.11E+03	8.44E-01
BOWEL	2.86E-08	4.00E-09	4.06E+03	8.36E-01
LIVER	8.50E-09	6.07E-09	4.14E+03	8.55E-01
PANCREAS	4.64E-08	1.01E-08	3.57E+03	7.36E-01
URINARY	1.22E-08	4.55E-09	4.33E+03	8.92E-01
OTHER	4.64E-08	1.01E-08	3.57E+03	7.36E-01
W BODY	9.41E-08	4.70E-08	4.36E+03	8.98E-01
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	5.10E-09	2.22E-09	4.98E+09	1.03E+06

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	6.09E-05	0.00E+00	4.04E-05	0.00E+00	9.36E+09	1.85E+06
BREAST	7.13E-05	0.00E+00	4.74E-05	0.00E+00	8.51E+09	1.68E+06
R MAR	6.64E-05	0.00E+00	4.41E-05	0.00E+00	7.18E+09	1.41E+06
LUNGS	6.15E-05	0.00E+00	4.35E-05	0.00E+00	7.03E+09	1.39E+06
THYROID	8.03E-05	0.00E+00	5.34E-05	0.00E+00	8.84E+09	1.74E+06
ENDOST	4.42E-05	0.00E+00	2.94E-05	0.00E+00	7.92E+09	1.56E+06
RMNDR	7.47E-05	0.00E+00	4.97E-05	0.00E+00	7.10E+09	1.40E+06
EFFEC	6.74E-05	0.00E+00	4.51E-05	0.00E+00	7.95E+09	1.57E+06
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	1.80E-03	0.00E+00	1.20E-03	0.00E+00	2.81E+11	5.54E+07
OVARIES	1.77E-03	0.00E+00	1.17E-03	0.00E+00	1.91E+11	3.77E+07
AVERAGE	1.78E-03	0.00E+00	1.18E-03	0.00E+00	2.36E+11	4.66E+07

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	2.1E-05	0.0E+00	1.4E-05	0.0E+00	2.3E+03	4.5E-01
BONE	7.8E-07	0.0E+00	5.2E-07	0.0E+00	1.4E+02	2.8E-02
THYROID	3.6E-06	0.0E+00	2.4E-06	0.0E+00	4.0E+02	7.9E-02
BREAST	2.8E-05	0.0E+00	1.8E-05	0.0E+00	3.3E+03	6.6E-01
LUNG	3.0E-05	0.0E+00	2.2E-05	0.0E+00	3.5E+03	6.9E-01
STOMACH	2.1E-05	0.0E+00	1.3E-05	0.0E+00	2.1E+03	4.2E-01
BOWEL	7.5E-06	0.0E+00	4.8E-06	0.0E+00	1.1E+03	2.1E-01
LIVER	2.5E-05	0.0E+00	1.6E-05	0.0E+00	2.3E+03	4.5E-01
PANCREAS	1.5E-05	0.0E+00	1.0E-05	0.0E+00	1.4E+03	2.7E-01
URINARY	9.7E-06	0.0E+00	6.4E-06	0.0E+00	8.7E+02	1.7E-01
OTHER	1.8E-05	0.0E+00	1.2E-05	0.0E+00	1.7E+03	3.3E-01
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	4.64E-10	0.00E+00	3.08E-10	0.00E+00	6.13E+04	1.21E+01

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	6.6E-04	0.0E+00	4.4E-04	0.0E+00	7.2E+04	1.4E+01
BONE	2.3E-05	0.0E+00	1.5E-05	0.0E+00	4.1E+03	8.1E-01
THYROID	1.0E-04	0.0E+00	6.8E-05	0.0E+00	1.1E+04	2.2E+00
BREAST	6.0E-04	0.0E+00	4.0E-04	0.0E+00	7.2E+04	1.4E+01
LUNG	7.0E-04	0.0E+00	5.1E-04	0.0E+00	8.0E+04	1.6E+01
STOMACH	4.4E-04	0.0E+00	2.9E-04	0.0E+00	4.5E+04	8.9E+00
BOWEL	1.6E-04	0.0E+00	1.0E-04	0.0E+00	2.3E+04	4.5E+00
LIVER	5.3E-04	0.0E+00	3.5E-04	0.0E+00	5.0E+04	9.8E+00
PANCREAS	3.2E-04	0.0E+00	2.1E-04	0.0E+00	3.0E+04	5.9E+00
URINARY	2.1E-04	0.0E+00	1.4E-04	0.0E+00	1.9E+04	3.7E+00
OTHER	3.9E-04	0.0E+00	2.6E-04	0.0E+00	3.6E+04	7.2E+00

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	6.62E-05	4.40E-05	7.18E+03	1.41E+00
BONE	4.41E-05	2.93E-05	7.92E+03	1.56E+00
THYROID	8.01E-05	5.33E-05	8.84E+03	1.74E+00
BREAST	7.09E-05	4.72E-05	8.51E+03	1.68E+00
LUNG	6.12E-05	4.45E-05	7.03E+03	1.39E+00
STOMACH	6.31E-05	4.14E-05	6.51E+03	1.28E+00
BOWEL	4.60E-05	2.99E-05	6.49E+03	1.28E+00
LIVER	7.03E-05	4.68E-05	6.59E+03	1.29E+00
PANCREAS	6.14E-05	4.08E-05	5.66E+03	1.12E+00
URINARY	7.70E-05	5.12E-05	6.92E+03	1.36E+00
OTHER	6.14E-05	4.08E-05	5.66E+03	1.12E+00
W BODY	6.46E-05	4.35E-05	6.87E+03	1.35E+00
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	5.95E-05	3.94E-05	7.86E+09	1.55E+06

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	4.40E-05	0.00E+00	2.93E-05	0.00E+00	0.00E+00	0.00E+00
BREAST	4.80E-05	0.00E+00	3.19E-05	0.00E+00	0.00E+00	0.00E+00
R MAR	4.37E-05	0.00E+00	2.90E-05	0.00E+00	0.00E+00	0.00E+00
LUNGS	4.44E-05	0.00E+00	3.26E-05	0.00E+00	0.00E+00	0.00E+00
THYROID	5.08E-05	0.00E+00	3.38E-05	0.00E+00	0.00E+00	0.00E+00
ENDOST	3.05E-05	0.00E+00	2.03E-05	0.00E+00	0.00E+00	0.00E+00
RMNDR	4.95E-05	0.00E+00	3.29E-05	0.00E+00	0.00E+00	0.00E+00
EFFEC	4.61E-05	0.00E+00	3.10E-05	0.00E+00	0.00E+00	0.00E+00
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	1.30E-03	0.00E+00	8.65E-04	0.00E+00	0.00E+00	0.00E+00
OVARIES	1.29E-03	0.00E+00	8.55E-04	0.00E+00	0.00E+00	0.00E+00
AVERAGE	1.30E-03	0.00E+00	8.60E-04	0.00E+00	0.00E+00	0.00E+00

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	1.4E-05	0.0E+00	9.2E-06	0.0E+00	0.0E+00	0.0E+00
BONE	5.4E-07	0.0E+00	3.6E-07	0.0E+00	0.0E+00	0.0E+00
THYROID	2.3E-06	0.0E+00	1.5E-06	0.0E+00	0.0E+00	0.0E+00
BREAST	1.9E-05	0.0E+00	1.2E-05	0.0E+00	0.0E+00	0.0E+00
LUNG	2.2E-05	0.0E+00	1.7E-05	0.0E+00	0.0E+00	0.0E+00
STOMACH	1.2E-05	0.0E+00	7.5E-06	0.0E+00	0.0E+00	0.0E+00
BOWEL	4.7E-06	0.0E+00	3.0E-06	0.0E+00	0.0E+00	0.0E+00
LIVER	1.7E-05	0.0E+00	1.1E-05	0.0E+00	0.0E+00	0.0E+00
PANCREAS	1.1E-05	0.0E+00	7.2E-06	0.0E+00	0.0E+00	0.0E+00
URINARY	6.3E-06	0.0E+00	4.2E-06	0.0E+00	0.0E+00	0.0E+00
OTHER	1.3E-05	0.0E+00	8.8E-06	0.0E+00	0.0E+00	0.0E+00
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	3.37E-10	0.00E+00	2.24E-10	0.00E+00	0.00E+00	0.00E+00

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	4.3E-04	0.0E+00	2.9E-04	0.0E+00	0.0E+00	0.0E+00
BONE	1.6E-05	0.0E+00	1.0E-05	0.0E+00	0.0E+00	0.0E+00
THYROID	6.5E-05	0.0E+00	4.3E-05	0.0E+00	0.0E+00	0.0E+00
BREAST	4.0E-04	0.0E+00	2.7E-04	0.0E+00	0.0E+00	0.0E+00
LUNG	5.0E-04	0.0E+00	3.8E-04	0.0E+00	0.0E+00	0.0E+00
STOMACH	2.5E-04	0.0E+00	1.6E-04	0.0E+00	0.0E+00	0.0E+00
BOWEL	1.0E-04	0.0E+00	6.5E-05	0.0E+00	0.0E+00	0.0E+00
LIVER	3.6E-04	0.0E+00	2.4E-04	0.0E+00	0.0E+00	0.0E+00
PANCREAS	2.3E-04	0.0E+00	1.5E-04	0.0E+00	0.0E+00	0.0E+00
URINARY	1.4E-04	0.0E+00	9.0E-05	0.0E+00	0.0E+00	0.0E+00
OTHER	2.8E-04	0.0E+00	1.9E-04	0.0E+00	0.0E+00	0.0E+00

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	4.35E-05	2.89E-05	0.00E+00	0.00E+00
BONE	3.04E-05	2.02E-05	0.00E+00	0.00E+00
THYROID	5.06E-05	3.36E-05	0.00E+00	0.00E+00
BREAST	4.77E-05	3.17E-05	0.00E+00	0.00E+00
LUNG	4.41E-05	3.38E-05	0.00E+00	0.00E+00
STOMACH	3.55E-05	2.30E-05	0.00E+00	0.00E+00
BOWEL	2.91E-05	1.86E-05	0.00E+00	0.00E+00
LIVER	4.76E-05	3.16E-05	0.00E+00	0.00E+00
PANCREAS	4.41E-05	2.93E-05	0.00E+00	0.00E+00
URINARY	5.02E-05	3.34E-05	0.00E+00	0.00E+00
OTHER	4.41E-05	2.93E-05	0.00E+00	0.00E+00
W BODY	4.34E-05	2.95E-05	0.00E+00	0.00E+00
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	4.32E-05	2.87E-05	0.00E+00	0.00E+00

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	3.46E-10	0.00E+00	5.09E-11	0.00E+00	3.58E+09	7.14E+05
BREAST	3.74E-10	0.00E+00	2.36E-10	0.00E+00	3.26E+09	6.51E+05
R MAR	2.92E-10	0.00E+00	2.18E-10	0.00E+00	2.73E+09	5.44E+05
LUNGS	4.59E-10	0.00E+00	7.20E-09	0.00E+00	2.69E+09	5.36E+05
THYROID	4.05E-11	0.00E+00	2.20E-10	0.00E+00	3.37E+09	6.73E+05
ENDOST	1.61E-10	0.00E+00	1.65E-10	0.00E+00	3.03E+09	6.07E+05
RMNDR	7.70E-09	0.00E+00	5.84E-10	0.00E+00	2.70E+09	5.39E+05
EFFEC	2.55E-09	0.00E+00	1.13E-09	0.00E+00	3.04E+09	6.06E+05
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	7.17E-10	0.00E+00	7.21E-10	0.00E+00	1.07E+11	2.14E+07
OVARIES	1.04E-08	0.00E+00	1.53E-09	0.00E+00	7.30E+10	1.45E+07
AVERAGE	5.54E-09	0.00E+00	1.12E-09	0.00E+00	9.02E+10	1.80E+07

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	9.3E-11	0.0E+00	6.9E-11	0.0E+00	8.7E+02	1.7E-01
BONE	2.8E-12	0.0E+00	2.9E-12	0.0E+00	5.4E+01	1.1E-02
THYROID	1.8E-12	0.0E+00	1.0E-11	0.0E+00	1.5E+02	3.1E-02
BREAST	1.5E-10	0.0E+00	9.2E-11	0.0E+00	1.3E+03	2.6E-01
LUNG	2.3E-10	0.0E+00	2.7E-09	0.0E+00	1.3E+03	2.7E-01
STOMACH	9.4E-09	0.0E+00	3.2E-10	0.0E+00	8.1E+02	1.6E-01
BOWEL	1.6E-10	0.0E+00	1.2E-11	0.0E+00	4.0E+02	8.0E-02
LIVER	1.8E-10	0.0E+00	1.4E-10	0.0E+00	8.8E+02	1.8E-01
PANCREAS	1.0E-09	0.0E+00	1.3E-10	0.0E+00	5.3E+02	1.0E-01
URINARY	1.1E-10	0.0E+00	2.5E-11	0.0E+00	3.3E+02	6.6E-02
OTHER	1.3E-09	0.0E+00	1.5E-10	0.0E+00	6.5E+02	1.3E-01
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	1.44E-15	0.00E+00	2.92E-16	0.00E+00	2.35E+04	4.68E+00

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	1.4E-09	0.0E+00	6.8E-10	0.0E+00	2.7E+04	5.4E+00
BONE	1.3E-10	0.0E+00	1.3E-10	0.0E+00	1.6E+03	3.1E-01
THYROID	5.2E-11	0.0E+00	3.8E-10	0.0E+00	4.3E+03	8.6E-01
BREAST	1.4E-09	0.0E+00	1.1E-09	0.0E+00	2.7E+04	5.5E+00
LUNG	3.4E-09	0.0E+00	5.9E-08	0.0E+00	3.1E+04	6.1E+00
STOMACH	2.0E-07	0.0E+00	4.4E-09	0.0E+00	1.7E+04	3.5E+00
BOWEL	3.3E-09	0.0E+00	5.5E-10	0.0E+00	8.6E+03	1.7E+00
LIVER	2.1E-09	0.0E+00	2.1E-09	0.0E+00	1.9E+04	3.8E+00
PANCREAS	1.9E-08	0.0E+00	1.9E-09	0.0E+00	1.1E+04	2.3E+00
URINARY	2.5E-09	0.0E+00	8.4E-10	0.0E+00	7.1E+03	1.4E+00
OTHER	2.3E-08	0.0E+00	2.3E-09	0.0E+00	1.4E+04	2.8E+00

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	2.92E-10	2.18E-10	2.73E+03	5.44E-01
BONE	1.61E-10	1.65E-10	3.03E+03	6.07E-01
THYROID	4.05E-11	2.20E-10	3.37E+03	6.73E-01
BREAST	3.74E-10	2.36E-10	3.26E+03	6.51E-01
LUNG	4.59E-10	5.40E-09	2.69E+03	5.36E-01
STOMACH	2.90E-08	9.82E-10	2.48E+03	4.96E-01
BOWEL	9.78E-10	7.49E-11	2.47E+03	4.94E-01
LIVER	5.26E-10	3.99E-10	2.51E+03	4.99E-01
PANCREAS	4.29E-09	5.18E-10	2.16E+03	4.29E-01
URINARY	8.60E-10	2.01E-10	2.63E+03	5.25E-01
OTHER	4.29E-09	5.18E-10	2.16E+03	4.29E-01
W BODY	4.57E-09	1.31E-09	2.62E+03	5.23E-01
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	1.85E-10	3.75E-11	3.01E+09	5.99E+05

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	8.30E-08	0.00E+00	1.25E-07	0.00E+00	0.00E+00	0.00E+00
BREAST	8.30E-08	0.00E+00	1.25E-07	0.00E+00	0.00E+00	0.00E+00
R MAR	8.26E-08	0.00E+00	1.24E-07	0.00E+00	0.00E+00	0.00E+00
LUNGS	8.36E-08	0.00E+00	1.25E-07	0.00E+00	0.00E+00	0.00E+00
THYROID	8.28E-08	0.00E+00	1.24E-07	0.00E+00	0.00E+00	0.00E+00
ENDOST	6.56E-08	0.00E+00	9.85E-08	0.00E+00	0.00E+00	0.00E+00
RMNDR	1.08E-07	0.00E+00	1.33E-07	0.00E+00	0.00E+00	0.00E+00
EFFEC	8.99E-08	0.00E+00	1.26E-07	0.00E+00	0.00E+00	0.00E+00
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	2.49E-06	0.00E+00	3.75E-06	0.00E+00	0.00E+00	0.00E+00
OVARIES	2.49E-06	0.00E+00	3.72E-06	0.00E+00	0.00E+00	0.00E+00
AVERAGE	2.49E-06	0.00E+00	3.73E-06	0.00E+00	0.00E+00	0.00E+00

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	2.6E-08	0.0E+00	3.9E-08	0.0E+00	0.0E+00	0.0E+00
BONE	1.2E-09	0.0E+00	1.7E-09	0.0E+00	0.0E+00	0.0E+00
THYROID	3.8E-09	0.0E+00	5.6E-09	0.0E+00	0.0E+00	0.0E+00
BREAST	3.3E-08	0.0E+00	4.9E-08	0.0E+00	0.0E+00	0.0E+00
LUNG	4.1E-08	0.0E+00	6.2E-08	0.0E+00	0.0E+00	0.0E+00
STOMACH	3.5E-08	0.0E+00	4.1E-08	0.0E+00	0.0E+00	0.0E+00
BOWEL	1.9E-08	0.0E+00	2.2E-08	0.0E+00	0.0E+00	0.0E+00
LIVER	2.9E-08	0.0E+00	4.3E-08	0.0E+00	0.0E+00	0.0E+00
PANCREAS	2.0E-08	0.0E+00	3.0E-08	0.0E+00	0.0E+00	0.0E+00
URINARY	1.1E-08	0.0E+00	1.6E-08	0.0E+00	0.0E+00	0.0E+00
OTHER	2.4E-08	0.0E+00	3.6E-08	0.0E+00	0.0E+00	0.0E+00
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	6.47E-13	0.00E+00	9.71E-13	0.00E+00	0.00E+00	0.00E+00

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	8.3E-07	0.0E+00	1.2E-06	0.0E+00	0.0E+00	0.0E+00
BONE	3.3E-08	0.0E+00	5.0E-08	0.0E+00	0.0E+00	0.0E+00
THYROID	1.1E-07	0.0E+00	1.6E-07	0.0E+00	0.0E+00	0.0E+00
BREAST	7.0E-07	0.0E+00	1.0E-06	0.0E+00	0.0E+00	0.0E+00
LUNG	9.5E-07	0.0E+00	1.4E-06	0.0E+00	0.0E+00	0.0E+00
STOMACH	7.4E-07	0.0E+00	8.7E-07	0.0E+00	0.0E+00	0.0E+00
BOWEL	4.0E-07	0.0E+00	4.6E-07	0.0E+00	0.0E+00	0.0E+00
LIVER	6.2E-07	0.0E+00	9.3E-07	0.0E+00	0.0E+00	0.0E+00
PANCREAS	4.2E-07	0.0E+00	6.3E-07	0.0E+00	0.0E+00	0.0E+00
URINARY	2.3E-07	0.0E+00	3.4E-07	0.0E+00	0.0E+00	0.0E+00
OTHER	5.1E-07	0.0E+00	7.7E-07	0.0E+00	0.0E+00	0.0E+00

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	8.26E-08	1.24E-07	0.00E+00	0.00E+00
BONE	6.56E-08	9.85E-08	0.00E+00	0.00E+00
THYROID	8.28E-08	1.24E-07	0.00E+00	0.00E+00
BREAST	8.30E-08	1.25E-07	0.00E+00	0.00E+00
LUNG	8.36E-08	1.25E-07	0.00E+00	0.00E+00
STOMACH	1.08E-07	1.25E-07	0.00E+00	0.00E+00
BOWEL	1.19E-07	1.34E-07	0.00E+00	0.00E+00
LIVER	8.28E-08	1.24E-07	0.00E+00	0.00E+00
PANCREAS	8.06E-08	1.21E-07	0.00E+00	0.00E+00
URINARY	8.56E-08	1.29E-07	0.00E+00	0.00E+00
OTHER	8.06E-08	1.21E-07	0.00E+00	0.00E+00
W BODY	8.76E-08	1.24E-07	0.00E+00	0.00E+00
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	8.29E-08	1.24E-07	0.00E+00	0.00E+00

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	5.02E-07	0.00E+00	3.26E-07	0.00E+00	5.85E+07	3.09E+04
BREAST	1.20E-06	0.00E+00	7.96E-07	0.00E+00	8.88E+07	4.74E+04
R MAR	7.89E-07	0.00E+00	5.26E-07	0.00E+00	7.81E+06	4.03E+03
LUNGS	5.83E-07	0.00E+00	1.18E-06	0.00E+00	2.06E+07	1.07E+04
THYROID	8.67E-03	0.00E+00	5.76E-03	0.00E+00	4.14E+07	2.17E+04
ENDOST	6.31E-07	0.00E+00	4.21E-07	0.00E+00	3.62E+07	1.87E+04
RMNDR	7.76E-07	0.00E+00	4.36E-07	0.00E+00	2.32E+07	1.20E+04
EFFEC	2.61E-04	0.00E+00	1.73E-04	0.00E+00	4.06E+07	2.14E+04
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	1.43E-05	0.00E+00	9.49E-06	0.00E+00	1.75E+09	9.28E+05
OVARIES	1.48E-05	0.00E+00	9.64E-06	0.00E+00	4.44E+08	2.30E+05
AVERAGE	1.46E-05	0.00E+00	9.56E-06	0.00E+00	1.10E+09	5.79E+05

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	2.5E-07	0.0E+00	1.7E-07	0.0E+00	2.5E+00	1.3E-03
BONE	1.1E-08	0.0E+00	7.4E-09	0.0E+00	6.4E-01	3.3E-04
THYROID	1.3E-04	0.0E+00	8.7E-05	0.0E+00	6.3E+00	3.3E-03
BREAST	4.6E-07	0.0E+00	3.1E-07	0.0E+00	3.5E+01	1.9E-02
LUNG	2.9E-07	0.0E+00	7.5E-07	0.0E+00	1.0E+01	5.3E-03
STOMACH	1.9E-07	0.0E+00	7.5E-08	0.0E+00	4.9E+00	2.5E-03
BOWEL	1.1E-07	0.0E+00	4.1E-08	0.0E+00	2.3E+00	1.2E-03
LIVER	1.7E-07	0.0E+00	1.1E-07	0.0E+00	5.8E+00	3.0E-03
PANCREAS	1.2E-07	0.0E+00	8.0E-08	0.0E+00	2.4E+00	1.2E-03
URINARY	6.2E-08	0.0E+00	4.1E-08	0.0E+00	4.2E+00	2.2E-03
OTHER	1.5E-07	0.0E+00	9.8E-08	0.0E+00	2.9E+00	1.5E-03
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	3.78E-12	0.00E+00	2.49E-12	0.00E+00	2.86E+02	1.51E-01

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	7.8E-06	0.0E+00	5.2E-06	0.0E+00	7.8E+01	4.0E-02
BONE	3.2E-07	0.0E+00	2.2E-07	0.0E+00	1.9E+01	9.7E-03
THYROID	3.7E-03	0.0E+00	2.4E-03	0.0E+00	1.8E+02	9.3E-02
BREAST	9.9E-06	0.0E+00	6.6E-06	0.0E+00	7.5E+02	4.0E-01
LUNG	6.6E-06	0.0E+00	1.7E-05	0.0E+00	2.3E+02	1.2E-01
STOMACH	4.0E-06	0.0E+00	1.6E-06	0.0E+00	1.1E+02	5.5E-02
BOWEL	2.3E-06	0.0E+00	8.8E-07	0.0E+00	5.0E+01	2.6E-02
LIVER	3.6E-06	0.0E+00	2.4E-06	0.0E+00	1.2E+02	6.4E-02
PANCREAS	2.6E-06	0.0E+00	1.7E-06	0.0E+00	5.1E+01	2.7E-02
URINARY	1.3E-06	0.0E+00	8.8E-07	0.0E+00	9.1E+01	4.8E-02
OTHER	3.2E-06	0.0E+00	2.1E-06	0.0E+00	6.3E+01	3.3E-02

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	7.86E-07	5.23E-07	7.81E+00	4.03E-03
BONE	6.28E-07	4.20E-07	3.62E+01	1.87E-02
THYROID	2.88E-03	1.91E-03	1.38E+02	7.23E-02
BREAST	1.19E-06	7.90E-07	8.88E+01	4.74E-02
LUNG	5.79E-07	1.51E-06	2.06E+01	1.07E-02
STOMACH	5.79E-07	2.31E-07	1.51E+01	7.81E-03
BOWEL	6.56E-07	2.55E-07	1.44E+01	7.46E-03
LIVER	4.78E-07	3.21E-07	1.65E+01	8.44E-03
PANCREAS	4.96E-07	3.28E-07	9.77E+00	5.07E-03
URINARY	4.97E-07	3.30E-07	3.39E+01	1.77E-02
OTHER	4.96E-07	3.28E-07	9.77E+00	5.07E-03
W BODY	4.78E-05	3.19E-05	2.77E+01	1.46E-02
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	4.85E-07	3.19E-07	3.66E+07	1.93E+04

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	2.12E-07	0.00E+00	1.00E-07	0.00E+00	2.22E+09	4.70E+05
BREAST	4.47E-07	0.00E+00	3.02E-07	0.00E+00	2.13E+09	4.51E+05
R MAR	3.51E-07	0.00E+00	2.37E-07	0.00E+00	1.69E+09	3.57E+05
LUNGS	3.67E-07	0.00E+00	2.48E-06	0.00E+00	1.64E+09	3.47E+05
THYROID	1.67E-03	0.00E+00	1.08E-03	0.00E+00	2.07E+09	4.37E+05
ENDOST	2.88E-07	0.00E+00	1.98E-07	0.00E+00	2.02E+09	4.29E+05
RMNDR	1.06E-06	0.00E+00	3.67E-07	0.00E+00	1.64E+09	3.46E+05
EFFEC	5.06E-05	0.00E+00	3.30E-05	0.00E+00	1.89E+09	3.99E+05
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	4.63E-06	0.00E+00	2.90E-06	0.00E+00	6.65E+10	1.41E+07
OVARIES	6.36E-06	0.00E+00	3.00E-06	0.00E+00	4.28E+10	9.05E+06
AVERAGE	5.50E-06	0.00E+00	2.95E-06	0.00E+00	5.47E+10	1.16E+07

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	1.1E-07	0.0E+00	7.5E-08	0.0E+00	5.4E+02	1.1E-01
BONE	5.1E-09	0.0E+00	3.5E-09	0.0E+00	3.6E+01	7.6E-03
THYROID	2.5E-05	0.0E+00	1.6E-05	0.0E+00	3.1E+02	6.6E-02
BREAST	1.8E-07	0.0E+00	1.2E-07	0.0E+00	8.4E+02	1.8E-01
LUNG	1.8E-07	0.0E+00	1.7E-06	0.0E+00	8.1E+02	1.7E-01
STOMACH	3.5E-07	0.0E+00	8.3E-08	0.0E+00	4.9E+02	1.0E-01
BOWEL	1.8E-07	0.0E+00	3.6E-08	0.0E+00	2.4E+02	5.1E-02
LIVER	6.5E-08	0.0E+00	5.2E-08	0.0E+00	5.3E+02	1.1E-01
PANCREAS	5.2E-08	0.0E+00	3.6E-08	0.0E+00	3.2E+02	6.8E-02
URINARY	2.2E-08	0.0E+00	1.5E-08	0.0E+00	2.0E+02	4.2E-02
OTHER	6.4E-08	0.0E+00	4.4E-08	0.0E+00	3.9E+02	8.3E-02
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	1.43E-12	0.00E+00	7.68E-13	0.00E+00	1.42E+04	3.01E+00

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	3.5E-06	0.0E+00	2.4E-06	0.0E+00	1.7E+04	3.6E+00
BONE	1.5E-07	0.0E+00	1.0E-07	0.0E+00	1.0E+03	2.2E-01
THYROID	7.1E-04	0.0E+00	4.6E-04	0.0E+00	8.9E+03	1.9E+00
BREAST	3.8E-06	0.0E+00	2.5E-06	0.0E+00	1.8E+04	3.8E+00
LUNG	4.2E-06	0.0E+00	3.9E-05	0.0E+00	1.9E+04	4.0E+00
STOMACH	7.6E-06	0.0E+00	1.8E-06	0.0E+00	1.1E+04	2.2E+00
BOWEL	3.8E-06	0.0E+00	7.5E-07	0.0E+00	5.2E+03	1.1E+00
LIVER	1.4E-06	0.0E+00	1.1E-06	0.0E+00	1.1E+04	2.4E+00
PANCREAS	1.1E-06	0.0E+00	7.7E-07	0.0E+00	6.9E+03	1.5E+00
URINARY	4.6E-07	0.0E+00	3.0E-07	0.0E+00	4.3E+03	9.0E-01
OTHER	1.4E-06	0.0E+00	9.5E-07	0.0E+00	8.5E+03	1.8E+00

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	3.51E-07	2.37E-07	1.69E+03	3.57E-01
BONE	2.88E-07	1.98E-07	2.02E+03	4.29E-01
THYROID	5.57E-04	3.60E-04	6.91E+03	1.46E+00
BREAST	4.47E-07	3.02E-07	2.13E+03	4.51E-01
LUNG	3.67E-07	3.44E-06	1.64E+03	3.47E-01
STOMACH	1.09E-06	2.57E-07	1.51E+03	3.18E-01
BOWEL	1.10E-06	2.19E-07	1.49E+03	3.16E-01
LIVER	1.84E-07	1.48E-07	1.52E+03	3.22E-01
PANCREAS	2.13E-07	1.48E-07	1.32E+03	2.78E-01
URINARY	1.74E-07	1.18E-07	1.59E+03	3.36E-01
OTHER	2.13E-07	1.48E-07	1.32E+03	2.78E-01
W BODY	9.56E-06	6.69E-06	1.70E+03	3.59E-01
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	1.83E-07	9.84E-08	1.82E+09	3.86E+05

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	0.00E+00	0.00E+00	4.90E-10	0.00E+00	1.31E+07	2.69E+03
BREAST	0.00E+00	0.00E+00	4.90E-10	0.00E+00	1.21E+07	2.49E+03
R MAR	0.00E+00	0.00E+00	4.90E-10	0.00E+00	9.99E+06	2.05E+03
LUNGS	0.00E+00	0.00E+00	2.01E-09	0.00E+00	9.73E+06	2.01E+03
THYROID	0.00E+00	0.00E+00	4.90E-10	0.00E+00	1.21E+07	2.49E+03
ENDOST	0.00E+00	0.00E+00	4.90E-10	0.00E+00	1.14E+07	2.35E+03
RMNDR	0.00E+00	0.00E+00	4.90E-10	0.00E+00	9.73E+06	2.00E+03
EFFEC	0.00E+00	0.00E+00	6.72E-10	0.00E+00	1.11E+07	2.28E+03
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	0.00E+00	0.00E+00	1.47E-08	0.00E+00	3.93E+08	8.08E+04
OVARIES	0.00E+00	0.00E+00	1.46E-08	0.00E+00	2.62E+08	5.38E+04
AVERAGE	0.00E+00	0.00E+00	1.47E-08	0.00E+00	3.27E+08	6.73E+04

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	0.0E+00	0.0E+00	1.6E-10	0.0E+00	3.2E+00	6.5E-04
BONE	0.0E+00	0.0E+00	8.7E-12	0.0E+00	2.0E-01	4.2E-05
THYROID	0.0E+00	0.0E+00	2.2E-11	0.0E+00	5.5E-01	1.1E-04
BREAST	0.0E+00	0.0E+00	1.9E-10	0.0E+00	4.7E+00	9.8E-04
LUNG	0.0E+00	0.0E+00	1.5E-09	0.0E+00	4.8E+00	9.9E-04
STOMACH	0.0E+00	0.0E+00	8.0E-11	0.0E+00	2.9E+00	6.0E-04
BOWEL	0.0E+00	0.0E+00	4.0E-11	0.0E+00	1.4E+00	3.0E-04
LIVER	0.0E+00	0.0E+00	1.7E-10	0.0E+00	3.2E+00	6.6E-04
PANCREAS	0.0E+00	0.0E+00	1.2E-10	0.0E+00	1.9E+00	3.9E-04
URINARY	0.0E+00	0.0E+00	6.1E-11	0.0E+00	1.2E+00	2.4E-04
OTHER	0.0E+00	0.0E+00	1.5E-10	0.0E+00	2.3E+00	4.8E-04
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	0.00E+00	0.00E+00	3.81E-15	0.00E+00	8.51E+01	1.75E-02

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	0.0E+00	0.0E+00	2.7E-09	0.0E+00	1.0E+02	2.1E-02
BONE	0.0E+00	0.0E+00	4.0E-10	0.0E+00	5.9E+00	1.2E-03
THYROID	0.0E+00	0.0E+00	3.8E-10	0.0E+00	1.6E+01	3.2E-03
BREAST	0.0E+00	0.0E+00	2.5E-09	0.0E+00	1.0E+02	2.1E-02
LUNG	0.0E+00	0.0E+00	3.1E-08	0.0E+00	1.1E+02	2.3E-02
STOMACH	0.0E+00	0.0E+00	2.6E-09	0.0E+00	6.3E+01	1.3E-02
BOWEL	0.0E+00	0.0E+00	1.5E-09	0.0E+00	3.1E+01	6.4E-03
LIVER	0.0E+00	0.0E+00	2.1E-09	0.0E+00	6.8E+01	1.4E-02
PANCREAS	0.0E+00	0.0E+00	1.9E-09	0.0E+00	4.1E+01	8.5E-03
URINARY	0.0E+00	0.0E+00	2.5E-09	0.0E+00	2.6E+01	5.3E-03
OTHER	0.0E+00	0.0E+00	2.3E-09	0.0E+00	5.0E+01	1.0E-02

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	0.00E+00	4.90E-10	9.99E+00	2.05E-03
BONE	0.00E+00	4.90E-10	1.14E+01	2.35E-03
THYROID	0.00E+00	4.90E-10	1.21E+01	2.49E-03
BREAST	0.00E+00	4.90E-10	1.21E+01	2.49E-03
LUNG	0.00E+00	2.99E-09	9.73E+00	2.01E-03
STOMACH	0.00E+00	2.45E-10	8.95E+00	1.84E-03
BOWEL	0.00E+00	2.45E-10	8.89E+00	1.83E-03
LIVER	0.00E+00	4.90E-10	9.06E+00	1.87E-03
PANCREAS	0.00E+00	4.88E-10	7.81E+00	1.61E-03
URINARY	0.00E+00	4.90E-10	9.47E+00	1.95E-03
OTHER	0.00E+00	4.88E-10	7.81E+00	1.61E-03
W BODY	0.00E+00	8.94E-10	9.53E+00	1.96E-03
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	0.00E+00	4.89E-10	1.09E+07	2.24E+03

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	2.98E-06	0.00E+00	1.63E-06	0.00E+00	4.66E+09	9.06E+05
BREAST	4.01E-07	0.00E+00	1.54E-06	0.00E+00	4.18E+09	8.18E+05
R MAR	7.38E-07	0.00E+00	1.67E-06	0.00E+00	3.56E+09	6.96E+05
LUNGS	1.00E-07	0.00E+00	3.14E-05	0.00E+00	3.50E+09	6.84E+05
THYROID	5.01E-08	0.00E+00	1.36E-06	0.00E+00	4.40E+09	8.62E+05
ENDOST	1.10E-06	0.00E+00	1.95E-06	0.00E+00	3.88E+09	7.58E+05
RMNDR	5.36E-06	0.00E+00	4.03E-06	0.00E+00	3.54E+09	6.91E+05
EFFEC	2.55E-06	0.00E+00	5.92E-06	0.00E+00	3.95E+09	7.71E+05
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	1.06E-05	0.00E+00	7.24E-06	0.00E+00	1.40E+11	2.72E+07
OVARIES	8.94E-05	0.00E+00	4.88E-05	0.00E+00	9.56E+10	1.86E+07
AVERAGE	5.00E-05	0.00E+00	2.80E-05	0.00E+00	1.18E+11	2.29E+07

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	2.3E-07	0.0E+00	5.3E-07	0.0E+00	1.1E+03	2.2E-01
BONE	1.9E-08	0.0E+00	3.4E-08	0.0E+00	6.9E+01	1.3E-02
THYROID	2.3E-09	0.0E+00	6.2E-08	0.0E+00	2.0E+02	3.9E-02
BREAST	1.6E-07	0.0E+00	6.0E-07	0.0E+00	1.6E+03	3.2E-01
LUNG	5.0E-08	0.0E+00	2.6E-05	0.0E+00	1.7E+03	3.4E-01
STOMACH	3.4E-07	0.0E+00	7.8E-07	0.0E+00	1.1E+03	2.1E-01
BOWEL	1.5E-06	0.0E+00	7.7E-07	0.0E+00	5.3E+02	1.0E-01
LIVER	1.1E-07	0.0E+00	8.9E-07	0.0E+00	1.1E+03	2.2E-01
PANCREAS	1.0E-07	0.0E+00	6.6E-07	0.0E+00	6.9E+02	1.3E-01
URINARY	6.4E-08	0.0E+00	1.7E-07	0.0E+00	4.3E+02	8.4E-02
OTHER	1.2E-07	0.0E+00	8.0E-07	0.0E+00	8.5E+02	1.6E-01
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	1.30E-11	0.00E+00	7.29E-12	0.00E+00	3.06E+04	5.96E+00

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	7.4E-06	0.0E+00	1.7E-05	0.0E+00	3.6E+04	7.0E+00
BONE	5.7E-07	0.0E+00	1.0E-06	0.0E+00	2.0E+03	3.9E-01
THYROID	6.1E-08	0.0E+00	1.7E-06	0.0E+00	5.6E+03	1.1E+00
BREAST	3.4E-06	0.0E+00	1.3E-05	0.0E+00	3.5E+04	6.9E+00
LUNG	1.1E-06	0.0E+00	6.0E-04	0.0E+00	4.0E+04	7.8E+00
STOMACH	7.2E-06	0.0E+00	1.7E-05	0.0E+00	2.3E+04	4.4E+00
BOWEL	3.2E-05	0.0E+00	1.7E-05	0.0E+00	1.1E+04	2.2E+00
LIVER	2.3E-06	0.0E+00	1.9E-05	0.0E+00	2.5E+04	4.8E+00
PANCREAS	2.2E-06	0.0E+00	1.4E-05	0.0E+00	1.5E+04	2.9E+00
URINARY	1.4E-06	0.0E+00	3.5E-06	0.0E+00	9.3E+03	1.8E+00
OTHER	2.6E-06	0.0E+00	1.7E-05	0.0E+00	1.8E+04	3.5E+00

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	7.38E-07	1.67E-06	3.56E+03	6.96E-01
BONE	1.10E-06	1.95E-06	3.89E+03	7.59E-01
THYROID	5.01E-08	1.36E-06	4.40E+03	8.62E-01
BREAST	4.01E-07	1.54E-06	4.18E+03	8.18E-01
LUNG	1.00E-07	5.26E-05	3.50E+03	6.84E-01
STOMACH	1.03E-06	2.40E-06	3.24E+03	6.33E-01
BOWEL	9.28E-06	4.77E-06	3.24E+03	6.33E-01
LIVER	3.07E-07	2.52E-06	3.27E+03	6.40E-01
PANCREAS	4.11E-07	2.68E-06	2.83E+03	5.51E-01
URINARY	5.09E-07	1.32E-06	3.44E+03	6.73E-01
OTHER	4.11E-07	2.68E-06	2.83E+03	5.51E-01
W BODY	9.73E-07	1.13E-05	3.41E+03	6.67E-01
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	1.67E-06	9.34E-07	3.92E+09	7.64E+05

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	6.75E-08	4.87E-05	3.08E-06	2.22E-03	4.33E+05	3.46E+02
BREAST	7.79E-09	4.73E-06	4.14E-07	2.18E-04	9.99E+05	1.62E+03
R MAR	4.24E-07	3.08E-04	1.96E-05	1.42E-02	1.95E+05	5.59E+01
LUNGS	8.41E-09	4.73E-06	8.23E-05	5.97E-02	2.42E+05	8.95E+01
THYROID	6.87E-09	4.73E-06	3.20E-07	2.18E-04	3.39E+05	1.17E+02
ENDOST	5.00E-06	3.80E-03	2.31E-04	1.75E-01	4.00E+05	1.47E+02
RMNDR	6.07E-07	1.70E-04	1.13E-05	7.86E-03	2.25E+05	6.73E+01
EFFEC	4.02E-07	2.15E-04	2.34E-05	1.71E-02	4.00E+05	3.75E+02
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	6.11E-07	4.40E-04	2.27E-05	1.64E-02	1.30E+07	1.04E+04
OVARIES	7.46E-07	4.39E-04	2.28E-05	1.64E-02	5.51E+06	1.80E+03
AVERAGE	6.78E-07	4.39E-04	2.28E-05	1.64E-02	9.25E+06	6.09E+03

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	8.9E-08	5.2E-04	3.9E-06	2.3E-02	6.2E-02	1.8E-05
BONE	5.5E-08	3.3E-04	2.4E-06	1.4E-02	7.1E-03	2.6E-06
THYROID	1.9E-10	1.0E-06	8.2E-09	4.4E-05	1.5E-02	5.3E-06
BREAST	1.5E-09	6.9E-06	7.6E-08	2.8E-04	3.9E-01	6.3E-04
LUNG	2.1E-09	9.3E-06	3.3E-05	1.9E-01	1.2E-01	4.4E-05
STOMACH	1.0E-08	6.2E-06	3.5E-08	2.3E-04	6.7E-02	2.0E-05
BOWEL	1.2E-07	9.7E-06	8.0E-08	1.2E-04	3.3E-02	8.7E-06
LIVER	2.0E-07	1.1E-03	8.4E-06	4.8E-02	7.2E-02	1.7E-05
PANCREAS	9.4E-10	4.3E-06	4.0E-08	1.8E-04	4.2E-02	1.5E-05
URINARY	4.5E-10	2.2E-06	1.9E-08	9.1E-05	2.6E-02	6.1E-06
OTHER	1.1E-09	5.2E-06	4.9E-08	2.2E-04	5.2E-02	1.8E-05
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	1.76E-13	3.03E-10	5.92E-12	1.13E-08	2.40E+00	1.58E-03

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	2.0E-06	1.2E-02	8.4E-05	4.9E-01	2.0E+00	5.6E-04
BONE	1.2E-06	7.1E-03	4.8E-05	2.9E-01	2.1E-01	7.6E-05
THYROID	2.0E-09	2.2E-05	1.6E-07	8.8E-04	4.3E-01	1.5E-04
BREAST	2.4E-08	1.2E-04	1.3E-06	4.6E-03	8.4E+00	1.4E-02
LUNG	3.5E-08	1.7E-04	7.4E-04	4.3E+00	2.8E+00	1.0E-03
STOMACH	2.2E-07	1.1E-04	6.1E-07	3.8E-03	1.4E+00	4.2E-04
BOWEL	2.5E-06	2.0E-04	1.6E-06	2.0E-03	7.0E-01	1.9E-04
LIVER	3.5E-06	2.0E-02	1.4E-04	7.9E-01	1.5E+00	3.7E-04
PANCREAS	1.2E-08	7.3E-05	6.4E-07	2.9E-03	9.1E-01	3.2E-04
URINARY	5.1E-09	3.7E-05	3.0E-07	1.5E-03	5.6E-01	1.3E-04
OTHER	1.4E-08	8.9E-05	7.9E-07	3.5E-03	1.1E+00	3.9E-04

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	1.64E-03	7.20E-02	1.95E-01	5.59E-05
BONE	1.88E-02	8.17E-01	4.00E-01	1.47E-04
THYROID	2.26E-05	9.77E-04	3.39E-01	1.17E-04
BREAST	1.75E-05	7.25E-04	9.99E-01	1.62E-03
LUNG	1.87E-05	3.85E-01	2.42E-01	8.95E-05
STOMACH	1.92E-05	7.22E-04	2.07E-01	6.03E-05
BOWEL	6.05E-05	7.46E-04	2.02E-01	5.37E-05
LIVER	3.28E-03	1.36E-01	2.05E-01	4.85E-05
PANCREAS	1.75E-05	7.25E-04	1.73E-01	6.14E-05
URINARY	1.75E-05	7.25E-04	2.08E-01	4.85E-05
OTHER	1.75E-05	7.25E-04	1.73E-01	6.14E-05
W BODY	7.37E-04	9.99E-02	3.20E-01	2.84E-04
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	3.89E-05	1.45E-03	3.08E+05	2.03E+02

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	1.73E-09	1.65E-10	3.36E-10	4.61E-09	3.08E+06	6.29E+02
BREAST	3.17E-10	1.65E-10	3.12E-10	4.61E-09	2.84E+06	5.81E+02
R MAR	1.03E-09	4.97E-09	5.03E-10	5.92E-09	2.35E+06	4.81E+02
LUNGS	1.69E-10	1.65E-10	2.87E-09	9.64E-08	2.30E+06	4.70E+02
THYROID	1.04E-10	1.65E-10	3.07E-10	4.61E-09	2.86E+06	5.85E+02
ENDOST	2.13E-09	6.19E-08	1.20E-09	6.35E-08	2.66E+06	5.44E+02
RMNDR	1.47E-08	6.17E-09	4.83E-10	5.75E-09	2.30E+06	4.71E+02
EFFEC	5.10E-09	4.40E-09	7.26E-10	1.79E-08	2.61E+06	5.34E+02
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	7.33E-09	4.96E-09	9.15E-09	1.38E-07	9.25E+07	1.89E+04
OVARIES	5.20E-08	4.96E-09	1.01E-08	1.38E-07	6.20E+07	1.27E+04
AVERAGE	2.97E-08	4.96E-09	9.62E-09	1.38E-07	7.73E+07	1.58E+04

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	3.2E-10	1.3E-08	1.6E-10	1.5E-08	7.5E-01	1.5E-04
BONE	3.8E-11	8.8E-09	2.1E-11	9.0E-09	4.7E-02	9.6E-06
THYROID	4.7E-12	6.0E-11	1.4E-11	1.7E-09	1.3E-01	2.7E-05
BREAST	1.2E-10	5.2E-10	1.2E-10	1.4E-08	1.1E+00	2.3E-04
LUNG	8.4E-11	6.6E-10	2.2E-09	6.2E-07	1.1E+00	2.3E-04
STOMACH	1.1E-09	3.3E-08	1.1E-10	1.2E-08	6.9E-01	1.4E-04
BOWEL	4.6E-09	3.3E-09	6.0E-11	6.0E-09	3.4E-01	7.0E-05
LIVER	4.7E-10	2.1E-08	2.3E-10	2.0E-08	7.5E-01	1.5E-04
PANCREAS	1.2E-10	3.2E-10	9.5E-11	9.0E-09	4.5E-01	9.2E-05
URINARY	1.4E-10	4.8E-09	8.2E-11	7.7E-09	2.8E-01	5.8E-05
OTHER	1.4E-10	4.0E-10	1.2E-10	1.1E-08	5.5E-01	1.1E-04
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	7.72E-15	3.42E-15	2.50E-15	9.53E-14	2.01E+01	4.10E-03

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	7.5E-09	4.0E-07	2.7E-09	4.7E-07	2.4E+01	4.8E-03
BONE	4.0E-10	2.6E-07	4.0E-10	2.6E-07	1.4E+00	2.8E-04
THYROID	1.3E-10	3.0E-09	3.8E-10	3.5E-08	3.7E+00	7.5E-04
BREAST	1.4E-09	7.3E-09	1.4E-09	2.8E-07	2.4E+01	4.9E-03
LUNG	9.5E-10	1.4E-08	4.8E-08	1.4E-05	2.6E+01	5.4E-03
STOMACH	1.3E-08	7.0E-07	2.6E-09	2.5E-07	1.5E+01	3.0E-03
BOWEL	9.5E-08	6.6E-08	2.4E-09	1.2E-07	7.3E+00	1.5E-03
LIVER	5.7E-09	4.5E-07	2.6E-09	4.3E-07	1.6E+01	3.3E-03
PANCREAS	1.9E-09	4.1E-09	1.4E-09	1.9E-07	9.7E+00	2.0E-03
URINARY	2.5E-09	9.8E-08	2.5E-09	1.6E-07	6.0E+00	1.2E-03
OTHER	2.3E-09	5.0E-09	1.7E-09	2.3E-07	1.2E+01	2.4E-03

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	4.08E-08	4.79E-08	2.35E+00	4.81E-04
BONE	4.97E-07	5.09E-07	2.66E+00	5.44E-04
THYROID	1.43E-09	3.71E-08	2.86E+00	5.85E-04
BREAST	1.64E-09	3.72E-08	2.84E+00	5.81E-04
LUNG	1.49E-09	1.26E-06	2.30E+00	4.70E-04
STOMACH	1.04E-07	3.72E-08	2.12E+00	4.33E-04
BOWEL	4.92E-08	3.72E-08	2.10E+00	4.30E-04
LIVER	6.20E-08	5.75E-08	2.15E+00	4.37E-04
PANCREAS	1.80E-09	3.72E-08	1.85E+00	3.77E-04
URINARY	3.95E-08	6.24E-08	2.24E+00	4.59E-04
OTHER	1.80E-09	3.72E-08	1.85E+00	3.77E-04
W BODY	3.33E-08	2.63E-07	2.25E+00	4.60E-04
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	1.43E-09	1.25E-08	2.58E+06	5.25E+02

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	1.93E-06	0.00E+00	1.35E-06	0.00E+00	2.50E+09	5.18E+05
BREAST	3.92E-07	0.00E+00	1.59E-06	0.00E+00	2.35E+09	4.92E+05
R MAR	8.80E-07	0.00E+00	2.20E-06	0.00E+00	1.88E+09	3.88E+05
LUNGS	2.25E-07	0.00E+00	7.85E-05	0.00E+00	1.85E+09	3.81E+05
THYROID	2.02E-07	0.00E+00	1.26E-06	0.00E+00	2.32E+09	4.81E+05
ENDOST	2.99E-06	0.00E+00	6.37E-06	0.00E+00	2.18E+09	4.51E+05
RMNDR	6.84E-06	0.00E+00	5.42E-06	0.00E+00	1.85E+09	3.82E+05
EFFEC	2.82E-06	0.00E+00	1.21E-05	0.00E+00	2.11E+09	4.38E+05
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	9.92E-06	0.00E+00	1.01E-05	0.00E+00	7.49E+10	1.55E+07
OVARIES	5.78E-05	0.00E+00	4.04E-05	0.00E+00	4.94E+10	1.02E+07
AVERAGE	3.39E-05	0.00E+00	2.53E-05	0.00E+00	6.22E+10	1.29E+07

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	2.8E-07	0.0E+00	7.0E-07	0.0E+00	6.0E+02	1.2E-01
BONE	5.3E-08	0.0E+00	1.1E-07	0.0E+00	3.9E+01	8.0E-03
THYROID	9.2E-09	0.0E+00	5.7E-08	0.0E+00	1.1E+02	2.2E-02
BREAST	1.5E-07	0.0E+00	6.2E-07	0.0E+00	9.2E+02	1.9E-01
LUNG	1.1E-07	0.0E+00	6.2E-05	0.0E+00	9.2E+02	1.9E-01
STOMACH	3.4E-07	0.0E+00	7.5E-07	0.0E+00	5.5E+02	1.1E-01
BOWEL	2.0E-06	0.0E+00	1.2E-06	0.0E+00	2.7E+02	5.6E-02
LIVER	3.2E-07	0.0E+00	1.1E-06	0.0E+00	6.0E+02	1.2E-01
PANCREAS	1.0E-07	0.0E+00	6.6E-07	0.0E+00	3.6E+02	7.5E-02
URINARY	5.4E-08	0.0E+00	1.6E-07	0.0E+00	2.3E+02	4.7E-02
OTHER	1.2E-07	0.0E+00	8.1E-07	0.0E+00	4.4E+02	9.1E-02
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	8.81E-12	0.00E+00	6.57E-12	0.00E+00	1.62E+04	3.34E+00

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	8.8E-06	0.0E+00	2.2E-05	0.0E+00	1.9E+04	3.9E+00
BONE	1.5E-06	0.0E+00	3.3E-06	0.0E+00	1.1E+03	2.3E-01
THYROID	2.6E-07	0.0E+00	1.6E-06	0.0E+00	3.0E+03	6.2E-01
BREAST	3.3E-06	0.0E+00	1.3E-05	0.0E+00	2.0E+04	4.1E+00
LUNG	2.6E-06	0.0E+00	1.4E-03	0.0E+00	2.1E+04	4.3E+00
STOMACH	7.4E-06	0.0E+00	1.6E-05	0.0E+00	1.2E+04	2.4E+00
BOWEL	4.3E-05	0.0E+00	2.6E-05	0.0E+00	5.9E+03	1.2E+00
LIVER	6.8E-06	0.0E+00	2.4E-05	0.0E+00	1.3E+04	2.7E+00
PANCREAS	2.2E-06	0.0E+00	1.4E-05	0.0E+00	7.8E+03	1.6E+00
URINARY	1.2E-06	0.0E+00	3.4E-06	0.0E+00	4.9E+03	1.0E+00
OTHER	2.7E-06	0.0E+00	1.7E-05	0.0E+00	9.5E+03	2.0E+00

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	8.79E-07	2.20E-06	1.88E+03	3.88E-01
BONE	2.98E-06	6.34E-06	2.18E+03	4.51E-01
THYROID	2.02E-07	1.26E-06	2.32E+03	4.81E-01
BREAST	3.92E-07	1.58E-06	2.35E+03	4.92E-01
LUNG	2.25E-07	1.24E-04	1.85E+03	3.81E-01
STOMACH	1.06E-06	2.31E-06	1.70E+03	3.50E-01
BOWEL	1.23E-05	7.42E-06	1.69E+03	3.48E-01
LIVER	9.05E-07	3.16E-06	1.72E+03	3.55E-01
PANCREAS	4.14E-07	2.71E-06	1.48E+03	3.05E-01
URINARY	4.32E-07	1.27E-06	1.80E+03	3.74E-01
OTHER	4.14E-07	2.71E-06	1.48E+03	3.05E-01
W BODY	1.28E-06	2.45E-05	1.82E+03	3.76E-01
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	1.13E-06	8.42E-07	2.07E+09	4.29E+05

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DOSE RATE CONVERSION FACTORS

ORGAN	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
GONADS	3.01E-06	0.00E+00	2.92E-06	0.00E+00	4.48E+09	8.73E+05
BREAST	3.83E-07	0.00E+00	2.99E-06	0.00E+00	4.03E+09	7.88E+05
R MAR	7.57E-07	0.00E+00	1.00E-05	0.00E+00	3.41E+09	6.70E+05
LUNGS	8.15E-08	0.00E+00	6.36E-05	0.00E+00	3.36E+09	6.59E+05
THYROID	2.80E-08	0.00E+00	2.55E-06	0.00E+00	4.22E+09	8.29E+05
ENDOST	1.58E-06	0.00E+00	6.90E-05	0.00E+00	3.74E+09	7.33E+05
RMNDR	9.30E-06	0.00E+00	7.48E-06	0.00E+00	3.39E+09	6.65E+05
EFFEC	3.75E-06	0.00E+00	1.44E-05	0.00E+00	3.79E+09	7.42E+05
GENETIC EFFECT DOSE RATE CONVERSION FACTORS						
TESTES	8.82E-06	0.00E+00	2.99E-05	0.00E+00	1.34E+11	2.62E+07
OVARIES	9.04E-05	0.00E+00	8.71E-05	0.00E+00	9.16E+10	1.80E+07
AVERAGE	4.96E-05	0.00E+00	5.85E-05	0.00E+00	1.13E+11	2.21E+07

RISK CONVERSION FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	2.4E-07	0.0E+00	3.2E-06	0.0E+00	1.1E+03	2.1E-01
BONE	2.8E-08	0.0E+00	1.2E-06	0.0E+00	6.6E+01	1.3E-02
THYROID	1.3E-09	0.0E+00	1.2E-07	0.0E+00	1.9E+02	3.8E-02
BREAST	1.5E-07	0.0E+00	1.2E-06	0.0E+00	1.6E+03	3.1E-01
LUNG	4.0E-08	0.0E+00	5.1E-05	0.0E+00	1.7E+03	3.3E-01
STOMACH	4.3E-07	0.0E+00	1.2E-06	0.0E+00	1.0E+03	2.0E-01
BOWEL	2.7E-06	0.0E+00	1.6E-06	0.0E+00	5.0E+02	9.9E-02
LIVER	1.0E-07	0.0E+00	1.3E-06	0.0E+00	1.1E+03	2.2E-01
PANCREAS	9.3E-08	0.0E+00	1.0E-06	0.0E+00	6.6E+02	1.3E-01
URINARY	5.2E-08	0.0E+00	3.4E-07	0.0E+00	4.1E+02	8.1E-02
OTHER	1.1E-07	0.0E+00	1.3E-06	0.0E+00	8.1E+02	1.6E-01
GENETIC EFFECT RISK CONVERSION FACTORS						
AVERAGE	1.29E-11	0.00E+00	1.52E-11	0.00E+00	2.94E+04	5.74E+00

YEARS OF LIFE LOST FACTORS

CANCER	INGESTION		INHALATION		AIR	GROUND
	LOW LET	HIGH LET	LOW LET	HIGH LET	IMMERSION	SURFACE
LEUKEMIA	7.6E-06	0.0E+00	1.0E-04	0.0E+00	3.4E+04	6.7E+00
BONE	8.2E-07	0.0E+00	3.6E-05	0.0E+00	1.9E+03	3.8E-01
THYROID	3.4E-08	0.0E+00	3.3E-06	0.0E+00	5.4E+03	1.1E+00
BREAST	3.2E-06	0.0E+00	2.5E-05	0.0E+00	3.4E+04	6.6E+00
LUNG	9.3E-07	0.0E+00	1.2E-03	0.0E+00	3.8E+04	7.5E+00
STOMACH	9.2E-06	0.0E+00	2.5E-05	0.0E+00	2.2E+04	4.3E+00
BOWEL	5.9E-05	0.0E+00	3.4E-05	0.0E+00	1.1E+04	2.1E+00
LIVER	2.1E-06	0.0E+00	2.9E-05	0.0E+00	2.4E+04	4.6E+00
PANCREAS	2.0E-06	0.0E+00	2.2E-05	0.0E+00	1.4E+04	2.8E+00
URINARY	1.1E-06	0.0E+00	7.2E-06	0.0E+00	8.9E+03	1.7E+00
OTHER	2.5E-06	0.0E+00	2.7E-05	0.0E+00	1.7E+04	3.4E+00

RISK EQUIVALENT CONVERSION FACTORS

CANCER	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE
LEUKEMIA	7.57E-07	9.99E-06	3.41E+03	6.70E-01
BONE	1.57E-06	6.88E-05	3.74E+03	7.33E-01
THYROID	2.80E-08	2.55E-06	4.22E+03	8.29E-01
BREAST	3.83E-07	2.98E-06	4.03E+03	7.88E-01
LUNG	8.15E-08	1.02E-04	3.36E+03	6.59E-01
STOMACH	1.32E-06	3.62E-06	3.10E+03	6.10E-01
BOWEL	1.69E-05	9.80E-06	3.10E+03	6.08E-01
LIVER	2.85E-07	3.82E-06	3.14E+03	6.14E-01
PANCREAS	3.82E-07	4.19E-06	2.70E+03	5.29E-01
URINARY	4.14E-07	2.69E-06	3.30E+03	6.47E-01
OTHER	3.82E-07	4.19E-06	2.70E+03	5.29E-01
W BODY	1.44E-06	2.27E-05	3.27E+03	6.41E-01
GENETIC EFFECT RISK EQ. CONVERSION FACTOR				
AVERAGE	1.65E-06	1.95E-06	3.76E+09	7.36E+05

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THE LOCATION USED FOR THE SELECTED INDIVIDUAL EXPOSURE IS
===>     750 METERS SSW FROM THE SOURCE.
THE   LIFETIME FATAL CANCER RISK IS   1.39E-07.
ORGAN DOSE WEIGHTING FACTORS

ORGAN       FACTORS   PATHWAYS

GONADS      0.25000   1 2 3 4
BREAST      0.15000   1 2 3 4
R MAR       0.12000   1 2 3 4
LUNGS       0.12000   1 2 3 4
THYROID     0.03000   1 2 3 4
ENDOST      0.03000   1 2 3 4
RMNDR       0.30000   1 2 3 4
```

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ORGAN DOSE/EXPOSURE SUMMARY

*** SELECTED INDIVIDUAL ***
DOSE RATES:

ORGANS:	GONADS	BREAST	R MAR	LUNGS	THYROID	ENDOST	RMNDR	EFFEC	WT.SUM
DOSE EQUIVALENT (MREM/Y)	2.60E-03	2.53E-03	2.76E-03	3.10E-02	2.55E-03	2.06E-02	2.73E-03	6.59E-03	6.59E-03

*** MEAN INDIVIDUAL ***
DOSE RATE:

ORGANS:	GONADS	BREAST	R MAR	LUNGS	THYROID	ENDOST	RMNDR	EFFEC	WT.SUM
DOSE EQUIVALENT (MREM/Y)	3.91E-05	3.80E-05	3.51E-05	4.16E-05	4.49E-05	3.41E-05	3.94E-05	3.89E-05	3.88E-05

*** COLLECTIVE POPULATION ***
DOSE RATE:

ORGANS:	GONADS	BREAST	R MAR	LUNGS	THYROID	ENDOST	RMNDR	EFFEC	WT.SUM
DOSE EQ. (PERSON REM/Y)	3.09E-01	3.00E-01	2.78E-01	3.29E-01	3.54E-01	2.69E-01	3.11E-01	3.07E-01	3.07E-01

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PATHWAY DOSE/EXPOSURE SUMMARY

*** SELECTED INDIVIDUAL ***
DOSE RATES:
WEIGHTED SUMS OF ORGAN DOSE RATES

PATHWAYS:	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE	INTERNAL	EXTERNAL	TOTAL
DOSE EQUIVALENT (MREM/Y)	2.49E-05	5.69E-03	8.76E-04	2.25E-06	5.71E-03	8.78E-04	6.59E-03

*** MEAN INDIVIDUAL ***
DOSE RATES:
WEIGHTED SUMS OF ORGAN DOSE RATES

PATHWAYS:	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE	INTERNAL	EXTERNAL	TOTAL
DOSE EQUIVALENT (MREM/Y)	1.21E-05	1.30E-05	1.36E-05	1.13E-07	2.51E-05	1.37E-05	3.89E-05

*** COLLECTIVE POPULATION ***
DOSE RATES:
WEIGHTED SUMS OF ORGAN DOSE RATES

PATHWAYS:	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE	INTERNAL	EXTERNAL	TOTAL
DOSE EQ. (PERSON REM/Y)	9.58E-02	1.03E-01	1.08E-01	8.94E-04	1.98E-01	1.08E-01	3.07E-01

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NUCLIDE DOSE/EXPOSURE SUMMARY

*** SELECTED INDIVIDUAL ***
DOSE RATES:
WEIGHTED SUMS OF ORGAN DOSE RATES

NUCLIDES:	AR-41	C-11	CS-134	CS-137	BA-137M	H-3	I-129	I-131	KR-85	NB-95
	PU-239	RN-220	SB-125	ZR-95	TOTAL					
DOSE EQUIVALENT (MREM/Y)	2.04E-05	8.91E-04	7.43E-09	5.83E-10	5.34E-08	1.36E-04	2.39E-06	3.83E-09	6.12E-08	1.54E-11
	3.37E-08	5.54E-03	4.42E-07	1.32E-11	6.59E-03					

*** MEAN INDIVIDUAL ***
DOSE RATES:
WEIGHTED SUMS OF ORGAN DOSE RATES

NUCLIDES:	AR-41	C-11	CS-134	CS-137	BA-137M	H-3	I-129	I-131	KR-85	NB-95
	PU-239	RN-220	SB-125	ZR-95	TOTAL					
DOSE EQUIVALENT (MREM/Y)	1.20E-06	1.30E-05	7.72E-10	2.40E-10	4.88E-09	2.37E-05	2.77E-07	3.22E-10	6.49E-09	1.83E-12
	3.37E-09	5.67E-07	4.07E-08	1.27E-12	3.89E-05					

*** COLLECTIVE POPULATION ***
DOSE RATES:
WEIGHTED SUMS OF ORGAN DOSE RATES

NUCLIDES:	AR-41	C-11	CS-134	CS-137	BA-137M	H-3	I-129	I-131	KR-85	NB-95
	PU-239	RN-220	SB-125	ZR-95	TOTAL					
DOSE EQ. (PERSON REM/Y)	9.46E-03	1.03E-01	6.10E-06	1.89E-06	3.85E-05	1.87E-01	2.19E-03	2.54E-06	5.12E-05	1.44E-08
	2.66E-05	4.47E-03	3.21E-04	1.00E-08	3.07E-01					

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RISK/RISK EQUIVALENT SUMMARY

*** SELECTED INDIVIDUAL ***
LIFETIME FATAL CANCER RISK:

CANCERS:	LEUKEMIA	BONE	THYROID	BREAST	LUNG	STOMACH	BOWEL	LIVER	PANCREAS	URINARY
	OTHER	TOTAL								
TOTAL	5.27E-09	1.57E-09	7.66E-10	6.57E-09	1.02E-07	4.92E-09	2.33E-09	6.12E-09	3.27E-09	2.33E-09
	4.00E-09	1.39E-07								

AVERAGE LIFE LOSS PER PREMATURE DEATH:

CANCERS:	LEUKEMIA	BONE	THYROID	BREAST	LUNG	STOMACH	BOWEL	LIVER	PANCREAS	URINARY
	OTHER	TOTAL								
COMBINED (YR)	3.15E+01	2.92E+01	2.57E+01	2.08E+01	2.30E+01	2.12E+01	2.11E+01	2.14E+01	2.13E+01	2.11E+01
	2.13E+01	2.30E+01								

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RISK/RISK EQUIVALENT SUMMARY

*** MEAN INDIVIDUAL ***
LIFETIME FATAL CANCER RISK:

CANCERS:	LEUKEMIA	BONE	THYROID	BREAST	LUNG	STOMACH	BOWEL	LIVER	PANCREAS	URINARY
	OTHER	TOTAL								
TOTAL	1.11E-10	5.82E-12	1.83E-11	1.49E-10	2.02E-10	1.25E-10	6.41E-11	1.19E-10	7.82E-11	4.44E-11
	9.56E-11	1.01E-09								

AVERAGE LIFE LOSS PER PREMATURE DEATH:

CANCERS:	LEUKEMIA	BONE	THYROID	BREAST	LUNG	STOMACH	BOWEL	LIVER	PANCREAS	URINARY
	OTHER	TOTAL								
COMBINED (YR)	3.16E+01	2.88E+01	2.81E+01	2.15E+01	2.30E+01	2.13E+01	2.11E+01	2.14E+01	2.13E+01	2.12E+01
	2.13E+01	2.29E+01								

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RISK/RISK EQUIVALENT SUMMARY

*** COLLECTIVE POPULATION ***

COLLECTIVE FATAL CANCER RISK:

CANCERS:	LEUKEMIA	BONE	THYROID	BREAST	LUNG	STOMACH	BOWEL	LIVER	PANCREAS	URINARY
	OTHER	TOTAL								
TOTAL (DEATHS/YR)	1.24E-05	6.49E-07	2.04E-06	1.66E-05	2.25E-05	1.40E-05	7.15E-06	1.33E-05	8.72E-06	4.96E-06
	1.07E-05	1.13E-04								

GENETIC RISK EQUIVALENT:
(PERSON REM/YR) 2.86E-01

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PATHWAY RISK/RISK EQUIVALENT SUMMARY

*** SELECTED INDIVIDUAL ***
LIFETIME FATAL CANCER RISK:

PATHWAYS:	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE	INTERNAL	EXTERNAL	TOTAL
TOTAL	6.61E-10	1.18E-07	2.09E-08	4.50E-11	1.18E-07	2.10E-08	1.39E-07

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PATHWAY RISK/RISK EQUIVALENT SUMMARY

***MEAN INDIVIDUAL ***
LIFETIME FATAL CANCER RISK:

PATHWAYS:	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE	INTERNAL	EXTERNAL	TOTAL
TOTAL	3.23E-10	3.61E-10	3.26E-10	2.36E-12	6.84E-10	3.28E-10	1.01E-09

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PATHWAY RISK/RISK EQUIVALENT SUMMARY

*** COLLECTIVE POPULATION ***
COLLECTIVE FATAL CANCER RISK:

PATHWAYS:	INGESTION	INHALATION	AIR IMMERSION	GROUND SURFACE	INTERNAL	EXTERNAL	TOTAL
TOTAL (DEATHS/YR)	3.61E-05	4.02E-05	3.64E-05	2.63E-07	7.63E-05	3.66E-05	1.13E-04
WHOLE BODY RISK EQ (PERSON REM/YR) FROM ALL EXPOSURES					2.88E-01		
GENETIC RISK EQUIVALENT: (PERSON REM/YR)	8.69E-02	9.25E-02	1.06E-01	8.34E-04	1.79E-01	1.07E-01	2.86E-01

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NUCLIDE RISK/RISK EQUIVALENT SUMMARY

*** SELECTED INDIVIDUAL ***
LIFETIME FATAL CANCER RISK:

	NUCLIDES:	AR-41	C-11	CS-134	CS-137	BA-137M	H-3	I-129	I-131	KR-85	NB-95
		PU-239	RN-220	SB-125	ZR-95	TOTAL					
TOTAL		4.94E-10	2.21E-08	1.79E-13	1.53E-14	1.28E-12	3.71E-09	3.64E-11	6.53E-14	1.72E-12	4.08E-16
		2.73E-13	1.13E-07	1.07E-11	3.51E-16	1.39E-07					

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NUCLIDE RISK/RISK EQUIVALENT SUMMARY

*** MEAN INDIVIDUAL ***
LIFETIME FATAL CANCER RISK:

	NUCLIDES:	AR-41	C-11	CS-134	CS-137	BA-137M	H-3	I-129	I-131	KR-85	NB-95
		PU-239	RN-220	SB-125	ZR-95	TOTAL					
TOTAL		2.90E-11	3.23E-10	1.88E-14	6.28E-15	1.17E-13	6.45E-10	2.35E-12	3.43E-15	1.83E-13	4.22E-17
		2.71E-14	1.16E-11	9.87E-13	3.33E-17	1.01E-09					

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NUCLIDE RISK/RISK EQUIVALENT SUMMARY

*** COLLECTIVE POPULATION ***
COLLECTIVE FATAL CANCER RISK:

NUCLIDES:	AR-41	C-11	CS-134	CS-137	BA-137M	H-3	I-129	I-131	KR-85	NB-95
	PU-239	RN-220	SB-125	ZR-95	TOTAL					
TOTAL (DEATHS/YR)	3.23E-06	3.60E-05	2.10E-09	7.00E-10	1.30E-08	7.20E-05	2.62E-07	3.82E-10	2.04E-08	4.71E-12
	3.03E-09	1.29E-06	1.10E-07	3.71E-12	1.13E-04					
TOTAL FATAL CANCER RISK FROM ALL EXPOSURES				1.13E-04						

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INDIVIDUAL DOSE EQ. RATE(MREM/YEAR)

FOR RADIONUCLIDE : SUM
AND ORGAN/CANCER : WT. SUM
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	3.2E-03	1.4E-03	1.4E-03	0.0E+00	1.4E-03	0.0E+00	0.0E+00	0.0E+00
3500	1.8E-03	8.4E-04	8.1E-04	6.1E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	1.3E-03	5.8E-04	5.6E-04	4.2E-04	5.7E-04	3.8E-04	0.0E+00	0.0E+00
7500	5.8E-04	2.6E-04	2.5E-04	1.9E-04	0.0E+00	1.7E-04	2.1E-04	1.5E-04
15000	1.6E-04	7.7E-05	7.5E-05	6.0E-05	7.9E-05	5.3E-05	6.3E-05	4.8E-05
25000	6.5E-05	3.5E-05	3.3E-05	2.8E-05	3.5E-05	2.6E-05	2.9E-05	2.4E-05
35000	4.0E-05	2.4E-05	2.3E-05	2.0E-05	2.4E-05	1.9E-05	2.1E-05	1.8E-05
45000	3.1E-05	2.0E-05	1.9E-05	0.0E+00	2.0E-05	1.7E-05	1.7E-05	1.6E-05
55000	2.6E-05	1.8E-05	0.0E+00	0.0E+00	0.0E+00	1.5E-05	1.6E-05	1.4E-05
70000	2.2E-05	1.6E-05	0.0E+00	0.0E+00	1.6E-05	1.4E-05	1.5E-05	1.3E-05

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	AVG
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	6.6E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.6E-03
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.8E-04	0.0E+00	0.0E+00	1.6E-03
3500	0.0E+00	0.0E+00	0.0E+00	6.7E-04	0.0E+00	0.0E+00	0.0E+00	4.2E-04	8.6E-04
4500	0.0E+00	3.1E-04	5.0E-04	0.0E+00	5.9E-04	0.0E+00	4.5E-04	2.9E-04	5.4E-04
7500	2.9E-04	1.4E-04	2.3E-04	2.0E-04	2.6E-04	1.2E-04	2.1E-04	1.4E-04	2.3E-04
15000	8.5E-05	4.6E-05	6.8E-05	6.1E-05	7.5E-05	4.0E-05	6.3E-05	4.4E-05	6.9E-05
25000	3.6E-05	2.3E-05	3.1E-05	2.8E-05	3.4E-05	2.2E-05	3.0E-05	2.3E-05	3.1E-05
35000	2.4E-05	1.7E-05	2.1E-05	2.0E-05	2.4E-05	1.7E-05	2.1E-05	1.7E-05	2.2E-05
45000	2.0E-05	1.5E-05	1.8E-05	1.7E-05	2.0E-05	1.5E-05	1.8E-05	1.5E-05	1.9E-05
55000	1.8E-05	1.4E-05	1.6E-05	1.6E-05	1.8E-05	1.4E-05	1.6E-05	1.4E-05	1.7E-05
70000	1.6E-05	1.3E-05	1.5E-05	1.5E-05	1.6E-05	1.3E-05	1.5E-05	1.3E-05	1.5E-05

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INDIVIDUAL GENETIC DOSE EQ. (MREM)

FOR RADIONUCLIDE : SUM
AND ORGAN/CANCER : AVERAGE
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	7.8E-02	3.7E-02	3.6E-02	0.0E+00	3.5E-02	0.0E+00	0.0E+00	0.0E+00
3500	5.0E-02	2.4E-02	2.3E-02	1.7E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	3.6E-02	1.7E-02	1.6E-02	1.2E-02	1.6E-02	1.1E-02	0.0E+00	0.0E+00
7500	1.6E-02	7.5E-03	7.2E-03	5.5E-03	0.0E+00	4.9E-03	5.9E-03	4.3E-03
15000	4.7E-03	2.2E-03	2.1E-03	1.7E-03	2.2E-03	1.5E-03	1.8E-03	1.4E-03
25000	1.9E-03	9.9E-04	9.5E-04	7.9E-04	1.0E-03	7.3E-04	8.2E-04	6.8E-04
35000	1.1E-03	6.9E-04	6.6E-04	5.6E-04	6.9E-04	5.4E-04	5.8E-04	5.0E-04
45000	8.7E-04	5.7E-04	5.4E-04	0.0E+00	5.7E-04	4.6E-04	4.9E-04	4.3E-04
55000	7.4E-04	5.1E-04	0.0E+00	0.0E+00	0.0E+00	4.2E-04	4.4E-04	4.0E-04
70000	6.3E-04	4.6E-04	0.0E+00	0.0E+00	4.6E-04	3.9E-04	4.0E-04	3.7E-04

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	AVG
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	7.3E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.3E-02
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.5E-02	0.0E+00	0.0E+00	4.0E-02
3500	0.0E+00	0.0E+00	0.0E+00	1.9E-02	0.0E+00	0.0E+00	0.0E+00	1.2E-02	2.4E-02
4500	0.0E+00	8.7E-03	1.4E-02	0.0E+00	1.7E-02	0.0E+00	1.3E-02	8.3E-03	1.5E-02
7500	8.3E-03	4.1E-03	6.5E-03	5.8E-03	7.5E-03	3.4E-03	5.9E-03	3.9E-03	6.5E-03
15000	2.4E-03	1.3E-03	1.9E-03	1.7E-03	2.2E-03	1.1E-03	1.8E-03	1.3E-03	2.0E-03
25000	1.0E-03	6.4E-04	8.7E-04	8.0E-04	9.7E-04	6.1E-04	8.4E-04	6.3E-04	8.9E-04
35000	6.9E-04	4.8E-04	6.0E-04	5.7E-04	6.7E-04	4.7E-04	6.0E-04	4.8E-04	6.2E-04
45000	5.6E-04	4.2E-04	5.0E-04	4.9E-04	5.6E-04	4.2E-04	5.0E-04	4.2E-04	5.2E-04
55000	4.9E-04	3.9E-04	4.5E-04	4.4E-04	5.0E-04	3.9E-04	4.6E-04	3.9E-04	4.6E-04
70000	4.4E-04	3.6E-04	4.1E-04	4.0E-04	4.5E-04	3.7E-04	4.2E-04	3.6E-04	4.2E-04

DATE THR 7 September, 1989 12:05:43 PM
COLLECTIVE DOSE EQ. (PERSON REM /YEAR)

FOR RADIONUCLIDE : WLSUM
AND ORGAN/CANCER : AVERAGE
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
3500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
7500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
15000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
25000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
35000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
45000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
70000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
SUM	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	SUM
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
3500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
7500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
15000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
25000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
35000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
45000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
55000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
70000	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
SUM	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

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COLLECTIVE DOSE EQ. (PERSON REM /YEAR)

FOR RADIONUCLIDE : SUM
AND ORGAN/CANCER : WT. SUM
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	6.6E-03	1.8E-03	1.3E-03	0.0E+00	3.9E-03	0.0E+00	0.0E+00	0.0E+00
3500	9.3E-04	4.0E-03	1.2E-03	3.3E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	4.3E-03	1.9E-03	8.3E-04	3.4E-04	3.6E-04	3.4E-06	0.0E+00	0.0E+00
7500	1.5E-02	4.8E-03	1.5E-03	1.4E-03	0.0E+00	9.3E-05	2.9E-04	2.3E-04
15000	1.3E-02	5.6E-03	7.8E-03	5.1E-03	8.7E-03	2.2E-03	2.4E-03	7.6E-05
25000	7.0E-03	7.3E-03	1.8E-02	1.2E-02	1.4E-02	3.8E-03	1.6E-03	4.8E-04
35000	5.5E-03	7.6E-03	2.1E-02	6.9E-03	7.7E-03	3.6E-03	2.7E-03	5.3E-05
45000	6.1E-03	4.5E-03	2.6E-03	0.0E+00	4.7E-04	3.2E-03	4.6E-04	4.9E-05
55000	1.5E-03	9.6E-04	0.0E+00	0.0E+00	0.0E+00	3.1E-03	2.1E-04	9.8E-05
70000	5.3E-03	4.9E-05	0.0E+00	0.0E+00	4.5E-04	1.5E-03	4.1E-04	2.8E-04
SUM	6.5E-02	3.8E-02	5.4E-02	2.6E-02	3.5E-02	1.8E-02	8.0E-03	1.3E-03

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	SUM
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	2.4E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E-03
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E-04	0.0E+00	0.0E+00	1.4E-02
3500	0.0E+00	0.0E+00	0.0E+00	5.0E-04	0.0E+00	0.0E+00	0.0E+00	1.4E-03	8.4E-03
4500	0.0E+00	2.3E-04	2.9E-04	0.0E+00	2.3E-03	0.0E+00	8.6E-04	1.2E-03	1.3E-02
7500	3.3E-03	4.8E-04	1.6E-04	3.8E-03	2.7E-03	1.9E-03	3.4E-03	2.4E-03	4.1E-02
15000	2.6E-04	1.2E-03	9.6E-04	2.0E-04	1.2E-03	1.6E-03	2.0E-03	3.4E-03	5.6E-02
25000	6.3E-04	2.1E-03	7.8E-04	1.1E-04	2.2E-03	6.9E-04	1.2E-03	1.8E-03	7.4E-02
35000	8.2E-05	1.2E-04	6.4E-05	3.6E-05	8.2E-04	5.0E-04	8.5E-04	2.6E-03	6.0E-02
45000	2.4E-05	9.3E-05	3.9E-05	2.7E-05	1.1E-04	7.4E-05	1.1E-03	8.0E-04	2.0E-02
55000	6.2E-05	2.0E-04	1.9E-04	4.3E-05	1.7E-04	3.6E-05	8.1E-05	8.3E-04	7.5E-03
70000	1.1E-03	1.3E-04	2.0E-04	8.6E-05	1.1E-04	7.0E-04	3.2E-04	1.5E-03	1.2E-02
SUM	5.4E-03	7.0E-03	2.7E-03	4.8E-03	9.5E-03	5.7E-03	9.7E-03	1.6E- 02	3.1E-01

DATE THR 7 September, 1989 12:05:43 PM
COLLECTIVE GENETIC DOSE EQ. (PERSON REM)

FOR RADIONUCLIDE : SUM
AND ORGAN/CANCER : AVERAGE
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	1.6E-01	4.6E-02	3.3E-02	0.0E+00	1.0E-01	0.0E+00	0.0E+00	0.0E+00
3500	2.6E-02	1.1E-01	3.4E-02	9.2E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	1.2E-01	5.5E-02	2.3E-02	9.6E-03	1.0E-02	9.6E-05	0.0E+00	0.0E+00
7500	4.2E-01	1.4E-01	4.3E-02	4.0E-02	0.0E+00	2.7E-03	8.3E-03	6.6E-03
15000	3.7E-01	1.6E-01	2.2E-01	1.4E-01	2.5E-01	6.4E-02	6.8E-02	2.1E-03
25000	2.0E-01	2.1E-01	5.2E-01	3.4E-01	3.9E-01	1.1E-01	4.6E-02	1.4E-02
35000	1.6E-01	2.1E-01	5.8E-01	1.9E-01	2.2E-01	1.0E-01	7.5E-02	1.5E-03
45000	1.7E-01	1.3E-01	7.2E-02	0.0E+00	1.3E-02	9.0E-02	1.3E-02	1.4E-03
55000	4.3E-02	2.7E-02	0.0E+00	0.0E+00	0.0E+00	8.6E-02	5.9E-03	2.7E-03
70000	1.5E-01	1.4E-03	0.0E+00	0.0E+00	1.2E-02	4.3E-02	1.1E-02	7.8E-03
SUM	1.8E+00	1.1E+00	1.5E+00	7.4E-01	1.0E+00	4.9E-01	2.3E-01	3.6E-02

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	SUM
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	2.7E-02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.7E-02
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	6.5E-03	0.0E+00	0.0E+00	3.5E-01
3500	0.0E+00	0.0E+00	0.0E+00	1.4E-02	0.0E+00	0.0E+00	0.0E+00	3.8E-02	2.3E-01
4500	0.0E+00	6.6E-03	8.3E-03	0.0E+00	6.4E-02	0.0E+00	2.4E-02	3.5E-02	3.6E-01
7500	9.3E-02	1.4E-02	4.5E-03	1.1E-01	7.7E-02	5.4E-02	9.6E-02	6.8E-02	1.2E+00
15000	7.4E-03	3.3E-02	2.7E-02	5.6E-03	3.4E-02	4.5E-02	5.6E-02	9.7E-02	1.6E+00
25000	1.8E-02	6.0E-02	2.2E-02	3.1E-03	6.2E-02	2.0E-02	3.3E-02	5.2E-02	2.1E+00
35000	2.3E-03	3.3E-03	1.8E-03	1.0E-03	2.3E-02	1.4E-02	2.4E-02	7.4E-02	1.7E+00
45000	6.9E-04	2.6E-03	1.1E-03	7.5E-04	3.2E-03	2.1E-03	3.2E-02	2.2E-02	5.5E-01
55000	1.8E-03	5.5E-03	5.2E-03	1.2E-03	4.8E-03	9.9E-04	2.3E-03	2.3E-02	2.1E-01
70000	3.1E-02	3.5E-03	5.5E-03	2.4E-03	3.1E-03	1.9E-02	8.8E-03	4.1E-02	3.4E-01
SUM	1.5E-01	1.6E-01	7.6E-02	1.4E-01	2.7E-01	1.6E-01	2.8E-01	4.5E-01	8.6E+00

DATE THR 7 September, 1989 12:05:43 PM
INDIVIDUAL LIFETIME RISK (DEATHS)
COMB.LET
FOR RADIONUCLIDE : WLSUM
AND ORGAN/CANCER : TOTAL
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	7.7E-08	3.5E-08	3.5E-08	0.0E+00	3.4E-08	0.0E+00	0.0E+00	0.0E+00
3500	4.5E-08	2.1E-08	2.0E-08	1.5E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	3.2E-08	1.5E-08	1.4E-08	1.1E-08	1.4E-08	9.5E-09	0.0E+00	0.0E+00
7500	1.5E-08	6.7E-09	6.4E-09	4.9E-09	0.0E+00	4.4E-09	5.3E-09	3.9E-09
15000	4.2E-09	2.0E-09	1.9E-09	1.5E-09	2.0E-09	1.4E-09	1.6E-09	1.3E-09
25000	1.7E-09	9.2E-10	8.8E-10	7.4E-10	9.3E-10	6.8E-10	7.6E-10	6.3E-10
35000	1.1E-09	6.5E-10	6.2E-10	5.3E-10	6.5E-10	5.1E-10	5.5E-10	4.8E-10
45000	8.2E-10	5.4E-10	5.2E-10	0.0E+00	5.4E-10	4.4E-10	4.7E-10	4.2E-10
55000	7.0E-10	4.9E-10	0.0E+00	0.0E+00	0.0E+00	4.1E-10	4.2E-10	3.9E-10
70000	6.0E-10	4.4E-10	0.0E+00	0.0E+00	4.4E-10	3.8E-10	3.9E-10	3.6E-10

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	AVG
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	1.4E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.4E-07
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.4E-08	0.0E+00	0.0E+00	3.9E-08
3500	0.0E+00	0.0E+00	0.0E+00	1.7E-08	0.0E+00	0.0E+00	0.0E+00	1.0E-08	2.2E-08
4500	0.0E+00	7.7E-09	1.3E-08	0.0E+00	1.5E-08	0.0E+00	1.1E-08	7.4E-09	1.4E-08
7500	7.4E-09	3.6E-09	5.8E-09	5.2E-09	6.7E-09	3.1E-09	5.2E-09	3.5E-09	5.8E-09
15000	2.2E-09	1.2E-09	1.8E-09	1.6E-09	2.0E-09	1.0E-09	1.6E-09	1.1E-09	1.8E-09
25000	9.6E-10	6.0E-10	8.1E-10	7.5E-10	9.0E-10	5.7E-10	7.8E-10	6.0E-10	8.3E-10
35000	6.5E-10	4.6E-10	5.7E-10	5.4E-10	6.4E-10	4.5E-10	5.7E-10	4.6E-10	5.9E-10
45000	5.3E-10	4.0E-10	4.8E-10	4.7E-10	5.3E-10	4.1E-10	4.8E-10	4.0E-10	5.0E-10
55000	4.7E-10	3.7E-10	4.3E-10	4.2E-10	4.8E-10	3.8E-10	4.4E-10	3.8E-10	4.4E-10
70000	4.2E-10	3.5E-10	3.9E-10	3.9E-10	4.3E-10	3.6E-10	4.0E-10	3.5E-10	4.1E-10

DATE THR 7 September, 1989 12:05:43 PM
INDIVIDUAL LIFETIME RISK (DEATHS)
COMB.LET
FOR RADIONUCLIDE : SUM
AND ORGAN/CANCER : TOTAL
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	7.7E-08	3.5E-08	3.5E-08	0.0E+00	3.4E-08	0.0E+00	0.0E+00	0.0E+00
3500	4.5E-08	2.1E-08	2.0E-08	1.5E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	3.2E-08	1.5E-08	1.4E-08	1.1E-08	1.4E-08	9.5E-09	0.0E+00	0.0E+00
7500	1.5E-08	6.7E-09	6.4E-09	4.9E-09	0.0E+00	4.4E-09	5.3E-09	3.9E-09
15000	4.2E-09	2.0E-09	1.9E-09	1.5E-09	2.0E-09	1.4E-09	1.6E-09	1.3E-09
25000	1.7E-09	9.2E-10	8.8E-10	7.4E-10	9.3E-10	6.8E-10	7.6E-10	6.3E-10
35000	1.1E-09	6.5E-10	6.2E-10	5.3E-10	6.5E-10	5.1E-10	5.5E-10	4.8E-10
45000	8.2E-10	5.4E-10	5.2E-10	0.0E+00	5.4E-10	4.4E-10	4.7E-10	4.2E-10
55000	7.0E-10	4.9E-10	0.0E+00	0.0E+00	0.0E+00	4.1E-10	4.2E-10	3.9E-10
70000	6.0E-10	4.4E-10	0.0E+00	0.0E+00	4.4E-10	3.8E-10	3.9E-10	3.6E-10

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	AVG
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	1.4E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.4E-07
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.4E-08	0.0E+00	0.0E+00	3.9E-08
3500	0.0E+00	0.0E+00	0.0E+00	1.7E-08	0.0E+00	0.0E+00	0.0E+00	1.0E-08	2.2E-08
4500	0.0E+00	7.7E-09	1.3E-08	0.0E+00	1.5E-08	0.0E+00	1.1E-08	7.4E-09	1.4E-08
7500	7.4E-09	3.6E-09	5.8E-09	5.2E-09	6.7E-09	3.1E-09	5.2E-09	3.5E-09	5.8E-09
15000	2.2E-09	1.2E-09	1.8E-09	1.6E-09	2.0E-09	1.0E-09	1.6E-09	1.1E-09	1.8E-09
25000	9.6E-10	6.0E-10	8.1E-10	7.5E-10	9.0E-10	5.7E-10	7.8E-10	6.0E-10	8.3E-10
35000	6.5E-10	4.6E-10	5.7E-10	5.4E-10	6.4E-10	4.5E-10	5.7E-10	4.6E-10	5.9E-10
45000	5.3E-10	4.0E-10	4.8E-10	4.7E-10	5.3E-10	4.1E-10	4.8E-10	4.0E-10	5.0E-10
55000	4.7E-10	3.7E-10	4.3E-10	4.2E-10	4.8E-10	3.8E-10	4.4E-10	3.8E-10	4.4E-10
70000	4.2E-10	3.5E-10	3.9E-10	3.9E-10	4.3E-10	3.6E-10	4.0E-10	3.5E-10	4.1E-10

DATE THR 7 September, 1989 12:05:43 PM
INDIVIDUAL GENETIC EFFECTS PER BIRTH
COMB.LET

FOR RADIONUCLIDE : SUM
AND ORGAN/CANCER : AVERAGE
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	1.9E-08	9.3E-09	9.0E-09	0.0E+00	8.9E-09	0.0E+00	0.0E+00	0.0E+00
3500	1.3E-08	6.1E-09	5.9E-09	4.3E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	9.3E-09	4.3E-09	4.1E-09	3.1E-09	4.2E-09	2.8E-09	0.0E+00	0.0E+00
7500	4.3E-09	1.9E-09	1.9E-09	1.4E-09	0.0E+00	1.3E-09	1.5E-09	1.1E-09
15000	1.2E-09	5.7E-10	5.5E-10	4.4E-10	5.8E-10	3.9E-10	4.6E-10	3.6E-10
25000	4.8E-10	2.6E-10	2.5E-10	2.1E-10	2.6E-10	1.9E-10	2.1E-10	1.8E-10
35000	3.0E-10	1.8E-10	1.7E-10	1.5E-10	1.8E-10	1.4E-10	1.5E-10	1.3E-10
45000	2.3E-10	1.5E-10	1.4E-10	0.0E+00	1.5E-10	1.2E-10	1.3E-10	1.1E-10
55000	1.9E-10	1.3E-10	0.0E+00	0.0E+00	0.0E+00	1.1E-10	1.1E-10	1.0E-10
70000	1.6E-10	1.2E-10	0.0E+00	0.0E+00	1.2E-10	1.0E-10	1.1E-10	9.7E-11

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	AVG
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	9.3E-09	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	9.3E-09
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.9E-09	0.0E+00	0.0E+00	1.0E-08
3500	0.0E+00	0.0E+00	0.0E+00	4.8E-09	0.0E+00	0.0E+00	0.0E+00	3.0E-09	6.2E-09
4500	0.0E+00	2.3E-09	3.7E-09	0.0E+00	4.4E-09	0.0E+00	3.3E-09	2.2E-09	4.0E-09
7500	2.2E-09	1.1E-09	1.7E-09	1.5E-09	1.9E-09	8.9E-10	1.5E-09	1.0E-09	1.7E-09
15000	6.3E-10	3.4E-10	5.0E-10	4.5E-10	5.6E-10	2.9E-10	4.7E-10	3.3E-10	5.1E-10
25000	2.7E-10	1.7E-10	2.3E-10	2.1E-10	2.5E-10	1.6E-10	2.2E-10	1.6E-10	2.3E-10
35000	1.8E-10	1.2E-10	1.6E-10	1.5E-10	1.8E-10	1.2E-10	1.6E-10	1.2E-10	1.6E-10
45000	1.5E-10	1.1E-10	1.3E-10	1.3E-10	1.5E-10	1.1E-10	1.3E-10	1.1E-10	1.4E-10
55000	1.3E-10	1.0E-10	1.2E-10	1.1E-10	1.3E-10	1.0E-10	1.2E-10	1.0E-10	1.2E-10
70000	1.1E-10	9.4E-11	1.1E-10	1.0E-10	1.2E-10	9.6E-11	1.1E-10	9.5E-11	1.1E-10

DATE THR 7 September, 1989 12:05:43 PM
FATAL CANCER RATE (DEATH/YR)
COMB.LET
FOR RADIONUCLIDE : WLSUM
AND ORGAN/CANCER : TOTAL
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	2.3E-06	6.2E-07	4.4E-07	0.0E+00	1.4E-06	0.0E+00	0.0E+00	0.0E+00
3500	3.3E-07	1.4E-06	4.3E-07	1.2E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	1.5E-06	6.8E-07	2.9E-07	1.2E-07	1.3E-07	1.2E-09	0.0E+00	0.0E+00
7500	5.3E-06	1.7E-06	5.5E-07	5.1E-07	0.0E+00	3.3E-08	1.0E-07	8.3E-08
15000	4.8E-06	2.1E-06	2.8E-06	1.9E-06	3.2E-06	8.2E-07	8.8E-07	2.8E-08
25000	2.6E-06	2.7E-06	6.9E-06	4.5E-06	5.1E-06	1.4E-06	6.0E-07	1.8E-07
35000	2.1E-06	2.9E-06	7.7E-06	2.6E-06	2.9E-06	1.3E-06	1.0E-06	2.0E-08
45000	2.3E-06	1.7E-06	9.7E-07	0.0E+00	1.8E-07	1.2E-06	1.7E-07	1.9E-08
55000	5.8E-07	3.7E-07	0.0E+00	0.0E+00	0.0E+00	1.2E-06	8.0E-08	3.7E-08
70000	2.0E-06	1.9E-08	0.0E+00	0.0E+00	1.7E-07	5.8E-07	1.6E-07	1.1E-07
SUM	2.4E-05	1.4E-05	2.0E-05	9.7E-06	1.3E-05	6.6E-06	3.0E-06	4.7E-07

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	SUM
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	7.3E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.3E-07
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.5E-08	0.0E+00	0.0E+00	4.8E-06
3500	0.0E+00	0.0E+00	0.0E+00	1.8E-07	0.0E+00	0.0E+00	0.0E+00	4.9E-07	3.0E-06
4500	0.0E+00	8.3E-08	1.0E-07	0.0E+00	8.1E-07	0.0E+00	3.1E-07	4.4E-07	4.5E-06
7500	1.2E-06	1.7E-07	5.7E-08	1.4E-06	9.7E-07	6.9E-07	1.2E-06	8.5E-07	1.5E-05
15000	9.4E-08	4.3E-07	3.5E-07	7.2E-08	4.3E-07	5.9E-07	7.2E-07	1.2E-06	2.0E-05
25000	2.4E-07	7.9E-07	2.9E-07	4.2E-08	8.2E-07	2.6E-07	4.3E-07	6.9E-07	2.8E-05
35000	3.1E-08	4.5E-08	2.4E-08	1.4E-08	3.1E-07	1.9E-07	3.2E-07	9.9E-07	2.2E-05
45000	9.2E-09	3.5E-08	1.5E-08	1.0E-08	4.3E-08	2.8E-08	4.3E-07	3.0E-07	7.4E-06
55000	2.4E-08	7.6E-08	7.1E-08	1.6E-08	6.5E-08	1.4E-08	3.1E-08	3.1E-07	2.8E-06
70000	4.2E-07	4.7E-08	7.6E-08	3.2E-08	4.2E-08	2.6E-07	1.2E-07	5.6E-07	4.6E-06
SUM	2.0E-06	2.4E-06	9.9E-07	1.7E-06	3.5E-06	2.1E-06	3.6E-06	5.9E-06	1.1E-04

DATE THR 7 September, 1989 12:05:43 PM
FATAL CANCER RATE (DEATH/YR)
COMB.LET

FOR RADIONUCLIDE : SUM
AND ORGAN/CANCER : TOTAL
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	2.3E-06	6.2E-07	4.4E-07	0.0E+00	1.4E-06	0.0E+00	0.0E+00	0.0E+00
3500	3.3E-07	1.4E-06	4.3E-07	1.2E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	1.5E-06	6.8E-07	2.9E-07	1.2E-07	1.3E-07	1.2E-09	0.0E+00	0.0E+00
7500	5.3E-06	1.7E-06	5.5E-07	5.1E-07	0.0E+00	3.3E-08	1.0E-07	8.3E-08
15000	4.8E-06	2.1E-06	2.8E-06	1.9E-06	3.2E-06	8.2E-07	8.8E-07	2.8E-08
25000	2.6E-06	2.7E-06	6.9E-06	4.5E-06	5.1E-06	1.4E-06	6.0E-07	1.8E-07
35000	2.1E-06	2.9E-06	7.7E-06	2.6E-06	2.9E-06	1.3E-06	1.0E-06	2.0E-08
45000	2.3E-06	1.7E-06	9.7E-07	0.0E+00	1.8E-07	1.2E-06	1.7E-07	1.9E-08
55000	5.8E-07	3.7E-07	0.0E+00	0.0E+00	0.0E+00	1.2E-06	8.0E-08	3.7E-08
70000	2.0E-06	1.9E-08	0.0E+00	0.0E+00	1.7E-07	5.8E-07	1.6E-07	1.1E-07
SUM	2.4E-05	1.4E-05	2.0E-05	9.7E-06	1.3E-05	6.6E-06	3.0E-06	4.7E-07

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	SUM
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	7.3E-07	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	7.3E-07
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	8.5E-08	0.0E+00	0.0E+00	4.8E-06
3500	0.0E+00	0.0E+00	0.0E+00	1.8E-07	0.0E+00	0.0E+00	0.0E+00	4.9E-07	3.0E-06
4500	0.0E+00	8.3E-08	1.0E-07	0.0E+00	8.1E-07	0.0E+00	3.1E-07	4.4E-07	4.5E-06
7500	1.2E-06	1.7E-07	5.7E-08	1.4E-06	9.7E-07	6.9E-07	1.2E-06	8.5E-07	1.5E-05
15000	9.4E-08	4.3E-07	3.5E-07	7.2E-08	4.3E-07	5.9E-07	7.2E-07	1.2E-06	2.0E-05
25000	2.4E-07	7.9E-07	2.9E-07	4.2E-08	8.2E-07	2.6E-07	4.3E-07	6.9E-07	2.8E-05
35000	3.1E-08	4.5E-08	2.4E-08	1.4E-08	3.1E-07	1.9E-07	3.2E-07	9.9E-07	2.2E-05
45000	9.2E-09	3.5E-08	1.5E-08	1.0E-08	4.3E-08	2.8E-08	4.3E-07	3.0E-07	7.4E-06
55000	2.4E-08	7.6E-08	7.1E-08	1.6E-08	6.5E-08	1.4E-08	3.1E-08	3.1E-07	2.8E-06
70000	4.2E-07	4.7E-08	7.6E-08	3.2E-08	4.2E-08	2.6E-07	1.2E-07	5.6E-07	4.6E-06
SUM	2.0E-06	2.4E-06	9.9E-07	1.7E-06	3.5E-06	2.1E-06	3.6E-06	5.9E-06	1.1E-04

DATE THR 7 September, 1989 12:05:43 PM
COLLECTIVE GENETIC EFFECT(EFFECTIVE/YR)
COMB.LET
FOR RADIONUCLIDE : SUM
AND ORGAN/CANCER : AVERAGE
AND PATHWAY : ALL

DIRECTIONS: DISTANCE (METERS):	N	NNE	NE	ENE	E	ESE	SE	SSE
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	5.6E-07	1.6E-07	1.1E-07	0.0E+00	3.6E-07	0.0E+00	0.0E+00	0.0E+00
3500	9.4E-08	4.1E-07	1.2E-07	3.4E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00
4500	4.5E-07	2.0E-07	8.6E-08	3.5E-08	3.7E-08	3.5E-10	0.0E+00	0.0E+00
7500	1.5E-06	5.0E-07	1.6E-07	1.5E-07	0.0E+00	9.7E-09	3.0E-08	2.4E-08
15000	1.4E-06	5.9E-07	8.2E-07	5.3E-07	9.1E-07	2.3E-07	2.5E-07	7.9E-09
25000	7.4E-07	7.6E-07	1.9E-06	1.2E-06	1.4E-06	4.0E-07	1.7E-07	5.0E-08
35000	5.8E-07	7.9E-07	2.1E-06	7.1E-07	8.0E-07	3.7E-07	2.7E-07	5.4E-09
45000	6.3E-07	4.6E-07	2.6E-07	0.0E+00	4.9E-08	3.3E-07	4.7E-08	5.0E-09
55000	1.6E-07	9.9E-08	0.0E+00	0.0E+00	0.0E+00	3.1E-07	2.2E-08	1.0E-08
70000	5.5E-07	5.1E-09	0.0E+00	0.0E+00	4.6E-08	1.6E-07	4.2E-08	2.9E-08
SUM	6.7E-06	4.0E-06	5.6E-06	2.7E-06	3.6E-06	1.8E-06	8.3E-07	1.3E-07

DISTANCE (METERS):	S	SSW	SW	WSW	W	WNW	NW	NNW	SUM
250	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
750	0.0E+00	4.9E-08	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.9E-08
1500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
2500	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.3E-08	0.0E+00	0.0E+00	1.2E-06
3500	0.0E+00	0.0E+00	0.0E+00	5.2E-08	0.0E+00	0.0E+00	0.0E+00	1.4E-07	8.5E-07
4500	0.0E+00	2.4E-08	3.0E-08	0.0E+00	2.4E-07	0.0E+00	8.9E-08	1.3E-07	1.3E-06
7500	3.4E-07	5.0E-08	1.7E-08	4.0E-07	2.8E-07	2.0E-07	3.5E-07	2.5E-07	4.3E-06
15000	2.7E-08	1.2E-07	1.0E-07	2.1E-08	1.2E-07	1.7E-07	2.1E-07	3.5E-07	5.8E-06
25000	6.6E-08	2.2E-07	8.1E-08	1.2E-08	2.3E-07	7.2E-08	1.2E-07	1.9E-07	7.7E-06
35000	8.6E-09	1.2E-08	6.6E-09	3.7E-09	8.5E-08	5.1E-08	8.8E-08	2.7E-07	6.2E-06
45000	2.5E-09	9.5E-09	4.1E-09	2.8E-09	1.2E-08	7.6E-09	1.2E-07	8.2E-08	2.0E-06
55000	6.4E-09	2.0E-08	1.9E-08	4.4E-09	1.8E-08	3.6E-09	8.3E-09	8.4E-08	7.7E-07
70000	1.1E-07	1.3E-08	2.0E-08	8.7E-09	1.1E-08	7.1E-08	3.2E-08	1.5E-07	1.2E-06
SUM	5.7E-07	5.2E-07	2.8E-07	5.0E-07	1.0E-06	5.9E-07	1.0E-06	1.6E-06	3.1E-05