Appendix C
GWSCREEN Results

WAG 1 - PCBs, Aroclor-1260

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 4
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
>>> INPUT DATA
****
NUMBER OF RADIOACTIVE PROGENY 0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m) 2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m) 2.40E+02
THICKNESS OF SOURCE (m) 3.00E+00
PERCOLATION RATE (darcy vel m/y) 1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE 3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE 3.00E-01
BULK DENSITY AT SOURCE (g/cm**3) 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g) 1.50E+03
BULK DENSITY IN UNSAT ZONE (g/cm**3) 1.90E+00
UNSATURATED ZONE THICKNESS (m) 4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g) 1.50E+03
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci) 2.37E+06
MOLECULAR WEIGHT (g/mole) 3.70E+02
SOLUBILITY LIMIT (mg/L) 8.00E-02
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y) 1.00E+38
BULK DENSITY OF AQUIFER (g/cm**3) 1.90E+00
POROSITY OF AQUIFER 1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g) 1.50E+03
DISPERSIVITY X DIRECTION (m) 9.00E+00
DISPERSIVITY Y DIRECTION (m) 4.00E+00
PORE VELOCITY (m/y) 5.70E+02
WELL SCREEN THICKNESS (m) 1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m) 1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m) 0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L) 2.00E+02
UNITS OF CONTAMINANT mg

>>> VALUES CALCULATED IN SOURCE SUBROUTINE
****
LEACH RATE CONSTANT (1/y) 1.4813E-05
UNSATURATED PORE VELOCITY (m/y) 3.3333E-01
DECAY CONSTANT(S) (1/y) 6.9315E-39
RETARDATION FACTOR(S) (SATURATED) 2.8501E+04
RETARDATION FACTOR (UNSATURATED) 9.5010E+03
SOLUBILITY LIMITED MASS (mg) 3.1108E+10
SOLUBILITY LIMITED ACTIVITY (Ci) 0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years) 1.1401E+05
FRACTION DECAYED DURING UNSAT TRANSPORT 0.0000E+00

>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****
INTEGRATION TIME (years) 10
BODY WEIGHT (kg) 7.000E+01
AVERAGING TIME (days) 2.555E+04
WATER INTAKE RATE (L/d) 2.000E+00
EXPOSURE FREQUENCY (days/year) 3.500E+02
EXPOSURE DURATION (years) 3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y) 4.000E-03
CARCINOGENIC RISK CRITERIA 1.000E-06
HAZARD QUOTIENT 1.000E+00

>>> RESULTS OF CALCULATIONS
****
>>> CONCENTRATION VS TIME MODE
CONCENTRATION IS ZERO FOR ALL TIME PERIODS REQUESTED
LAST TIME PERIOD REQUESTED (T2): 1.0030E+04 YEARS
TRANSIT TIME IN UNSATURATED ZONE: 1.1401E+05 YEARS
EXECUTION TIME (seconds) 0

WAG 1 - Benzo(a)pyrene

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GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 4
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
*****************************************************
NUMBER OF RADIOACTIVE PROGENY                    0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)         2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)     2.40E+02
THICKNESS OF SOURCE (m)                          3.00E+00
PERCOLATION RATE (darcy vel m/y)                 1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE               3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE     3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)                 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)            2.67E+03
BULK DENSITY IN UNSAT ZONE (g/cm**3)             1.90E+00
UNSATURATED ZONE THICKNESS (m)                   4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)        2.67E+03
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)              2.24E+06
MOLECULAR WEIGHT (g/mole)                        2.52E+02
SOLUBILITY LIMIT (mg/L)                          4.00E-03
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)      1.00E+38
BULK DENSITY OF AQUIFER (g/cm**3)                1.90E+00
POROSITY OF AQUIFER                              1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)        2.67E+03
DISPERSIVITY X DIRECTION (m)                     9.00E+00
DISPERSIVITY Y DIRECTION (m)                     4.00E+00
PORE VELOCITY (m/y)                              5.70E+02
WELL SCREEN THICKNESS (m)                        1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)            1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)            0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)     2.00E+02
UNITS OF CONTAMINANT                             mg

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> > > VALUES CALCULATED IN SOURCE SUBROUTINE
*****************************************************
LEACH RATE CONSTANT (1/y)                        8.3223E-06
UNSATURATED PORE VELOCITY (m/y)                  3.3333E-01
DECAY CONSTANT(S) (1/y)                          6.9315E-39
RETARDATION FACTOR(S) (SATURATED)                5.0731E+04
RETARDATION FACTOR (UNSATURATED)                 1.6911E+04
SOLUBILITY LIMITED MASS (mg)                     2.7685E+09
SOLUBILITY LIMITED ACTIVITY (Ci)                 0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)               2.0293E+05
FRACTION DECAYED DURING UNSAT TRANSPORT          0.0000E+00
-----------------------------------------------------------
> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*****************************************************
INTEGRATION TIME (years)                         10
BODY WEIGHT (kg)                                 7.000E+01
AVERAGING TIME (days)                            2.555E+04
WATER INTAKE RATE (L/d)                          2.000E+00
EXPOSURE FREQUENCY (days/year)                   3.500E+02
EXPOSURE DURATION (years)                        3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)                  4.000E-03
CARCINOGENIC RISK CRITERIA                       1.000E-06
HAZARD QUOTIENT                                  1.000E+00
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> > > RESULTS OF CALCULATIONS
*****************************************************
> > > CONCENTRATION VS TIME MODE
CONCENTRATION IS ZERO FOR ALL TIME PERIODS REQUESTED
LAST TIME PERIOD REQUESTED (T2): 1.0030E+04 YEARS
TRANSIT TIME IN UNSATURATED ZONE: 2.0293E+05 YEARS
EXECUTION TIME (seconds)  0
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WAG 1 - Arsenic

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GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 4
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
>>> INPUT DATA
**********************************************************
NUMBER OF RADIOACTIVE PROGENY                0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)     2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m) 2.40E+02
THICKNESS OF SOURCE (m)                      3.00E+00
PERCOLATION RATE (darcy vel m/y)             1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE           3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE 3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)             1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)        3.00E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)         1.90E+00
UNSATURATED ZONE THICKNESS (m)               4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)    3.00E+00
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)          6.40E+08
MOLECULAR WEIGHT (g/mole)                    7.49E+01
SOLUBILITY LIMIT (mg/L)                      1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)  1.00E+38
BULK DENSITY OF AQUIFER (g/cm**3)            1.90E+00
POROSITY OF AQUIFER                          1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)    3.00E+00
DISPERSIVITY X DIRECTION (m)                 9.00E+00
DISPERSIVITY Y DIRECTION (m)                 4.00E+00
PORE VELOCITY (m/y)                          5.70E+02
WELL SCREEN THICKNESS (m)                    1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS   (m)  1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS   (m)  0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L) 2.00E+02
UNITS OF CONTAMINANT                         mg

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>>> VALUES CALCULATED IN SOURCE SUBROUTINE
******************************************************
LEACH RATE CONSTANT (1/y)                 6.9444E-03
UNSATURATED PORE VELOCITY (m/y)           3.3333E-01
DECAY CONSTANT(S) (1/y)                   6.9315E-39
RETARDATION FACTOR(S) (SATURATED)         5.8000E+01
RETARDATION FACTOR (UNSATURATED)          2.0000E+01
SOLUBILITY LIMITED MASS (mg)              8.2944E+14
SOLUBILITY LIMITED ACTIVITY (Ci)          0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)        2.4000E+02
FRACTION DECAYED DURING UNSAT TRANSPORT   0.0000E+00
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>>> EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
******************************************************
INTEGRATION TIME (years)           10
BODY WEIGHT (kg)                   7.000E+01
AVERAGING TIME (days)              2.555E+04
WATER INTAKE RATE (L/d)            2.000E+00
EXPOSURE FREQUENCY (days/year)     3.500E+02
EXPOSURE DURATION (years)          3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)    4.000E-03
CARCINOGENIC RISK CRITERIA         1.000E-06
HAZARD QUOTIENT                    1.000E+00
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> > > RESULTS OF CALCULATIONS

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> > > CONCENTRATION VS TIME MODE

TIME (years)	CUMULATIVE SOURCE FLUX (mg)	CUMULATIVE AQUIFER FLUX (mg)	AQUIFER FLUX (mg/year)	GW CONC ... member #1 (mg/m**3)
3.0000E+01	1.2036E+08	0.0000E+00	0.0000E+00	0.0000E+00
3.5000E+01	1.3809E+08	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+01	1.5522E+08	0.0000E+00	0.0000E+00	0.0000E+00
4.5000E+01	1.7177E+08	0.0000E+00	0.0000E+00	0.0000E+00
5.0000E+01	1.8775E+08	0.0000E+00	0.0000E+00	0.0000E+00
5.5000E+01	2.0318E+08	0.0000E+00	0.0000E+00	0.0000E+00
6.0000E+01	2.1809E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+02	3.2041E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.0500E+02	3.3132E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.1000E+02	3.4186E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.1500E+02	3.5203E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.2000E+02	3.6186E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.2500E+02	3.7135E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.3000E+02	3.8052E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+03	6.3938E+08	6.3673E+08	2.2683E+04	1.2176E-01
1.0050E+03	6.3940E+08	6.3685E+08	2.1909E+04	1.1760E-01
1.0100E+03	6.3942E+08	6.3695E+08	2.1162E+04	1.1359E-01
1.0150E+03	6.3944E+08	6.3706E+08	2.0439E+04	1.0971E-01
1.0200E+03	6.3946E+08	6.3716E+08	1.9742E+04	1.0597E-01
1.0250E+03	6.3948E+08	6.3725E+08	1.9068E+04	1.0235E-01
1.0300E+03	6.3950E+08	6.3735E+08	1.8417E+04	9.8861E-02

AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E+01 TO 6.0000E+01 YEARS = 0.00E+00 mg/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+02 TO 1.3000E+02 YEARS = 0.00E+00 mg/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+03 TO 1.0300E+03 YEARS = 1.10E-01 mg/m**3
MAXIMUM CONCENTRATION(S) mg/m**3
1.22E-01
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
1.00E+03
EXECUTION TIME (seconds) 0

WAG 1 - Barium

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 4
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	5.00E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	5.00E+01
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	1.53E+10
MOLECULAR WEIGHT (g/mole)	1.37E+02
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	1.00E+38
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	5.00E+01
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)	2.00E+02
UNITS OF CONTAMINANT	mg

> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	4.4267E-04
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	6.9315E-39
RETARDATION FACTOR(S) (SATURATED)	9.5100E+02
RETARDATION FACTOR (UNSATURATED)	3.1767E+02
SOLUBILITY LIMITED MASS (mg)	1.3012E+16
SOLUBILITY LIMITED ACTIVITY (Ci)	0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)	3.8120E+03
FRACTION DECAYED DURING UNSAT TRANSPORT	0.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

> > > RESULTS OF CALCULATIONS

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> > > CONCENTRATION VS TIME MODE

TIME (years)	CUMULATIVE SOURCE FLUX (mg)	CUMULATIVE AQUIFER FLUX (mg)	AQUIFER FLUX (mg/year)	GW CONC ... member #1 (mg/m**3)
3.0000E+01	2.0184E+08	0.0000E+00	0.0000E+00	0.0000E+00
3.5000E+01	2.3522E+08	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+01	2.6853E+08	0.0000E+00	0.0000E+00	0.0000E+00
4.5000E+01	3.0177E+08	0.0000E+00	0.0000E+00	0.0000E+00
5.0000E+01	3.3493E+08	0.0000E+00	0.0000E+00	0.0000E+00
5.5000E+01	3.6801E+08	0.0000E+00	0.0000E+00	0.0000E+00
6.0000E+01	4.0103E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+02	6.6252E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.0500E+02	6.9488E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.1000E+02	7.2717E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.1500E+02	7.5939E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.2000E+02	7.9154E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.2500E+02	8.2362E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.3000E+02	8.5562E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+04	1.5117E+10	1.4311E+10	4.3765E+05	2.3600E+00
1.0010E+04	1.5118E+10	1.4316E+10	4.3572E+05	2.3496E+00
1.0020E+04	1.5119E+10	1.4320E+10	4.3379E+05	2.3392E+00
1.0030E+04	1.5120E+10	1.4324E+10	4.3188E+05	2.3288E+00

AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E+01 TO 6.0000E+01 YEARS = 0.00E+00 mg/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+02 TO 1.3000E+02 YEARS = 0.00E+00 mg/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+04 TO 1.0030E+04 YEARS = 2.34E+00 mg/m**3
MAXIMUM CONCENTRATION(S) mg/m**3
2.36E+00
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
1.00E+04
EXECUTION TIME (seconds) 0

WAG 1 - Chromium (total)

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 4
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	1.20E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	1.20E+00
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	2.31E+09
MOLECULAR WEIGHT (g/mole)	5.20E+01
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	1.00E+38
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	1.20E+00
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)	2.00E+02
UNITS OF CONTAMINANT	mg

> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	1.5873E-02
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	6.9315E-39
RETARDATION FACTOR(S) (SATURATED)	2.3800E+01
RETARDATION FACTOR (UNSATURATED)	8.6000E+00
SOLUBILITY LIMITED MASS (mg)	3.6288E+14
SOLUBILITY LIMITED ACTIVITY (Ci)	0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)	1.0320E+02
FRACTION DECAYED DURING UNSAT TRANSPORT	0.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

> > > RESULTS OF CALCULATIONS

****

> > > CONCENTRATION VS TIME MODE

TIME (years)	CUMULATIVE SOURCE FLUX (mg)	CUMULATIVE AQUIFER FLUX (mg)	AQUIFER FLUX (mg/year)	GW CONC ... member #1 (mg/m**3)
3.0000E+01	8.7515E+08	0.0000E+00	0.0000E+00	0.0000E+00
3.5000E+01	9.8463E+08	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+01	1.0858E+09	0.0000E+00	0.0000E+00	0.0000E+00
4.5000E+01	1.1792E+09	0.0000E+00	0.0000E+00	0.0000E+00
5.0000E+01	1.2654E+09	0.0000E+00	0.0000E+00	0.0000E+00
5.5000E+01	1.3451E+09	0.0000E+00	0.0000E+00	0.0000E+00
6.0000E+01	1.4188E+09	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+02	1.8377E+09	0.0000E+00	0.0000E+00	0.0000E+00
1.0500E+02	1.8737E+09	6.5066E+07	3.5634E+07	2.6398E+01
1.1000E+02	1.9070E+09	2.3635E+08	3.2915E+07	1.0783E+02
1.1500E+02	1.9377E+09	3.9456E+08	3.0404E+07	1.5089E+02
1.2000E+02	1.9661E+09	5.4071E+08	2.8084E+07	1.4888E+02
1.2500E+02	1.9924E+09	6.7570E+08	2.5941E+07	1.3831E+02
1.3000E+02	2.0166E+09	8.0039E+08	2.3962E+07	1.2781E+02
1.0000E+03	2.3100E+09	2.3100E+09	2.4106E+01	1.2859E-04
1.0050E+03	2.3100E+09	2.3100E+09	2.2267E+01	1.1878E-04
1.0100E+03	2.3100E+09	2.3100E+09	2.0568E+01	1.0971E-04
1.0150E+03	2.3100E+09	2.3100E+09	1.8999E+01	1.0134E-04
1.0200E+03	2.3100E+09	2.3100E+09	1.7549E+01	9.3611E-05
1.0250E+03	2.3100E+09	2.3100E+09	1.6210E+01	8.6469E-05
1.0300E+03	2.3100E+09	2.3100E+09	1.4973E+01	7.9871E-05

AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E+01 TO 6.0000E+01 YEARS = 0.00E+00 mg/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+02 TO 1.3000E+02 YEARS = 1.19E+02 mg/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+03 TO 1.0300E+03 YEARS = 1.02E-04 mg/m**3
MAXIMUM CONCENTRATION(S) mg/m**3
1.51E+02
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
1.15E+02
EXECUTION TIME (seconds) 0

WAG 1 - Manganese

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 4
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	5.00E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	5.00E+01
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	8.16E+09
MOLECULAR WEIGHT (g/mole)	5.49E+01
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	1.00E+38
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	5.00E+01
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)	2.00E+02
UNITS OF CONTAMINANT	mg

> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	4.4267E-04
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	6.9315E-39
RETARDATION FACTOR(S) (SATURATED)	9.5100E+02
RETARDATION FACTOR (UNSATURATED)	3.1767E+02
SOLUBILITY LIMITED MASS (mg)	1.3012E+16
SOLUBILITY LIMITED ACTIVITY (Ci)	0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)	3.8120E+03
FRACTION DECAYED DURING UNSAT TRANSPORT	0.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

> > > RESULTS OF CALCULATIONS

****

> > > CONCENTRATION VS TIME MODE

TIME (years)	CUMULATIVE SOURCE FLUX (mg)	CUMULATIVE AQUIFER FLUX (mg)	AQUIFER FLUX (mg/year)	GW CONC ... member #1 (mg/m**3)
3.0000E+01	1.0765E+08	0.0000E+00	0.0000E+00	0.0000E+00
3.5000E+01	1.2545E+08	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+01	1.4322E+08	0.0000E+00	0.0000E+00	0.0000E+00
4.5000E+01	1.6094E+08	0.0000E+00	0.0000E+00	0.0000E+00
5.0000E+01	1.7863E+08	0.0000E+00	0.0000E+00	0.0000E+00
5.5000E+01	1.9627E+08	0.0000E+00	0.0000E+00	0.0000E+00
6.0000E+01	2.1388E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+02	3.5334E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.0500E+02	3.7060E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.1000E+02	3.8782E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.1500E+02	4.0501E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.2000E+02	4.2215E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.2500E+02	4.3926E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.3000E+02	4.5633E+08	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+04	8.0625E+09	7.6327E+09	2.3341E+05	1.2587E+00
1.0005E+04	8.0627E+09	7.6339E+09	2.3290E+05	1.2559E+00
1.0010E+04	8.0629E+09	7.6350E+09	2.3238E+05	1.2531E+00
1.0015E+04	8.0631E+09	7.6362E+09	2.3187E+05	1.2503E+00
1.0020E+04	8.0633E+09	7.6374E+09	2.3136E+05	1.2476E+00
1.0025E+04	8.0635E+09	7.6385E+09	2.3084E+05	1.2448E+00
1.0030E+04	8.0637E+09	7.6397E+09	2.3033E+05	1.2421E+00

AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E+01 TO 6.0000E+01 YEARS = 0.00E+00 mg/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+02 TO 1.3000E+02 YEARS = 0.00E+00 mg/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+04 TO 1.0030E+04 YEARS = 1.25E+00 mg/m**3
MAXIMUM CONCENTRATION(S) mg/m**3
1.26E+00
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
1.00E+04
EXECUTION TIME (seconds) 0

WAG 1 - Mercury

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 4
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	1.00E+02
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	1.00E+02
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	1.19E+08
MOLECULAR WEIGHT (g/mole)	2.01E+02
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	1.00E+38
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	1.00E+02
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING CONTAMINANT GW CONCENTRATION (mg/L)	2.00E+02
UNITS OF CONTAMINANT	mg

> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	2.2178E-04
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	6.9315E-39
RETARDATION FACTOR(S) (SATURATED)	1.9010E+03
RETARDATION FACTOR (UNSATURATED)	6.3433E+02
SOLUBILITY LIMITED MASS (mg)	2.5972E+16
SOLUBILITY LIMITED ACTIVITY (Ci)	0.0000E+00
TRANSIT TIME IN UNSAT ZONE (years)	7.6120E+03
FRACTION DECAYED DURING UNSAT TRANSPORT	0.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

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> > > RESULTS OF CALCULATIONS

****

> > > CONCENTRATION VS TIME MODE

TIME (years)	CUMULATIVE SOURCE FLUX (mg)	CUMULATIVE AQUIFER FLUX (mg)	AQUIFER FLUX (mg/year)	GW CONC ... member #1 (mg/m**3)
3.0000E+01	7.8912E+05	0.0000E+00	0.0000E+00	0.0000E+00
3.5000E+01	9.2013E+05	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+01	1.0510E+06	0.0000E+00	0.0000E+00	0.0000E+00
4.5000E+01	1.1817E+06	0.0000E+00	0.0000E+00	0.0000E+00
5.0000E+01	1.3123E+06	0.0000E+00	0.0000E+00	0.0000E+00
5.5000E+01	1.4427E+06	0.0000E+00	0.0000E+00	0.0000E+00
6.0000E+01	1.5730E+06	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+02	2.6101E+06	0.0000E+00	0.0000E+00	0.0000E+00
1.0500E+02	2.7391E+06	0.0000E+00	0.0000E+00	0.0000E+00
1.1000E+02	2.8680E+06	0.0000E+00	0.0000E+00	0.0000E+00
1.1500E+02	2.9967E+06	0.0000E+00	0.0000E+00	0.0000E+00
1.2000E+02	3.1252E+06	0.0000E+00	0.0000E+00	0.0000E+00
1.2500E+02	3.2536E+06	0.0000E+00	0.0000E+00	0.0000E+00
1.3000E+02	3.3819E+06	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+04	1.0605E+08	4.8929E+07	1.5540E+04	8.3805E-02
1.0010E+04	1.0608E+08	4.9084E+07	1.5506E+04	8.3620E-02
1.0020E+04	1.0610E+08	4.9239E+07	1.5472E+04	8.3435E-02
1.0030E+04	1.0613E+08	4.9393E+07	1.5437E+04	8.3251E-02

AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E+01 TO 6.0000E+01 YEARS = 0.00E+00 mg/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+02 TO 1.3000E+02 YEARS = 0.00E+00 mg/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+04 TO 1.0030E+04 YEARS = 8.35E-02 mg/m**3
MAXIMUM CONCENTRATION(S) mg/m**3
8.38E-02
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
1.00E+04
EXECUTION TIME (seconds) 0
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WAG 1 - Am-241

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****
NUMBER OF RADIOACTIVE PROGENY 0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m) 2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m) 2.40E+02
THICKNESS OF SOURCE (m) 3.00E+00
PERCOLATION RATE (darcy vel m/y) 1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE 3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE 3.00E-01
BULK DENSITY AT SOURCE (g/cm**3) 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g) 3.40E+02
BULK DENSITY IN UNSAT ZONE (g/cm**3) 1.90E+00
UNSATURATED ZONE THICKNESS (m) 4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g) 3.40E+02
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci) 1.16E-03
MOLECULAR WEIGHT (g/mole) 2.41E+02
SOLUBILITY LIMIT (mg/L) 1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y) 4.32E+02
BULK DENSITY OF AQUIFER (g/cm**3) 1.90E+00
POROSITY OF AQUIFER 1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g) 3.40E+02
DISPERSIVITY X DIRECTION (m) 9.00E+00
DISPERSIVITY Y DIRECTION (m) 4.00E+00
PORE VELOCITY (m/y) 5.70E+02
WELL SCREEN THICKNESS (m) 1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m) 1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m) 0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L) 2.00E+02
UNITS OF CONTAMINANT Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 3.38E-01
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****
LEACH RATE CONSTANT (1/y) 6.5321E-05
UNSATURATED PORE VELOCITY (m/y) 3.3333E-01
DECAY CONSTANT(S) (1/y) 1.6045E-03
RETARDATION FACTOR(S) (SATURATED) 6.4610E+03
RETARDATION FACTOR (UNSATURATED) 2.1543E+03
SOLUBILITY LIMITED MASS (mg) 8.8180E+16
SOLUBILITY LIMITED ACTIVITY (Ci) 3.0304E+14
TRANSIT TIME IN UNSAT ZONE (years) 2.5852E+04
FRACTION DECAYED DURING UNSAT TRANSPORT 1.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****
INTEGRATION TIME (years) 10
BODY WEIGHT (kg) 7.000E+01
AVERAGING TIME (days) 2.555E+04
WATER INTAKE RATE (L/d) 2.000E+00
EXPOSURE FREQUENCY (days/year) 3.500E+02
EXPOSURE DURATION (years) 3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y) 4.000E-03
CARCINOGENIC RISK CRITERIA 1.000E-06
HAZARD QUOTIENT 1.000E+00

> > > RESULTS OF CALCULATIONS
****
> > > CONCENTRATION VS TIME MODE
CONCENTRATION IS ZERO FOR ALL TIME PERIODS REQUESTED
LAST TIME PERIOD REQUESTED (T2): 1.0030E+04 YEARS
TRANSIT TIME IN UNSATURATED ZONE: 2.5852E+04 YEARS
EXECUTION TIME (seconds) 0

WAG 1 - Cm-242

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	0.00E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	0.00E+00
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	1.62E-05
MOLECULAR WEIGHT (g/mole)	2.42E+02
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	4.46E-01
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	6.00E+00
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L)	2.00E+02
UNITS OF CONTAMINANT	Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 4.89E-06
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	1.1111E-01
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	1.5541E+00
RETARDATION FACTOR(S) (SATURATED)	1.1500E+02
RETARDATION FACTOR (UNSATURATED)	1.0000E+00
SOLUBILITY LIMITED MASS (mg)	5.1840E+13
SOLUBILITY LIMITED ACTIVITY (Ci)	1.7185E+14
TRANSIT TIME IN UNSAT ZONE (years)	1.2000E+01
FRACTION DECAYED DURING UNSAT TRANSPORT	1.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

> > > RESULTS OF CALCULATIONS

****

> > > CONCENTRATION VS TIME MODE

TIME (years)	CUMULATIVE SOURCE FLUX (Ci)	CUMULATIVE AQUIFER FLUX (Ci)	AQUIFER FLUX (Ci/year)	GW CONC ... member #1 (Ci/m**3)
3.0000E+01	1.0809E-06	8.5967E-15	1.3741E-27	7.5030E-33
3.5000E+01	1.0809E-06	8.5967E-15	3.3264E-31	3.4543E-36
4.0000E+01	1.0809E-06	8.5967E-15	8.0525E-35	1.5237E-39
4.5000E+01	1.0809E-06	8.5967E-15	1.9493E-38	6.4811E-43
5.0000E+01	1.0809E-06	8.5967E-15	4.7188E-42	2.4963E-46
5.5000E+01	1.0809E-06	8.5967E-15	1.1423E-45	6.0429E-50
6.0000E+01	1.0809E-06	8.5967E-15	2.7652E-49	1.4628E-53
1.0000E+02	1.0809E-06	8.5967E-15	3.2608E-78	1.7250E-82
1.0500E+02	1.0809E-06	8.5967E-15	7.8936E-82	4.1758E-86
1.1000E+02	1.0809E-06	8.5967E-15	1.9108E-85	1.0109E-89
1.1500E+02	1.0809E-06	8.5967E-15	4.6256E-89	2.4471E-93
1.2000E+02	1.0809E-06	8.5967E-15	1.1197E-92	5.9237E-97
1.2500E+02	1.0809E-06	8.5967E-15	2.7106E-96	1.4340-100
1.3000E+02	1.0809E-06	8.5967E-15	6.5618-100	3.4713-104
1.0000E+03	1.0809E-06	8.5967E-15	1.0199-231	0.0000E+00
1.0050E+03	1.0809E-06	8.5967E-15	1.0199-231	0.0000E+00
1.0100E+03	1.0809E-06	8.5967E-15	1.0199-231	0.0000E+00
1.0150E+03	1.0809E-06	8.5967E-15	1.0199-231	0.0000E+00
1.0200E+03	1.0809E-06	8.5967E-15	1.0199-231	0.0000E+00
1.0250E+03	1.0809E-06	8.5967E-15	1.0199-231	0.0000E+00
1.0300E+03	1.0809E-06	8.5967E-15	1.0199-231	0.0000E+00

AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E+01 TO 6.0000E+01 YEARS = 1.63E-34 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+02 TO 1.3000E+02 YEARS = 3.45E-84 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+03 TO 1.0300E+03 YEARS = 0.00E+00 Ci/m**3
MAXIMUM CONCENTRATION(S) Ci/m**3
7.50E-33
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
3.00E+01
EXECUTION TIME (seconds) 0

WAG 1 - Cm-243/244

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	6.00E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	6.00E+00
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	4.06E-05
MOLECULAR WEIGHT (g/mole)	2.43E+02
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	1.81E+01
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	6.00E+00
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L)	2.00E+02
UNITS OF CONTAMINANT	Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 4.99E-04
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	3.5842E-03
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	3.8295E-02
RETARDATION FACTOR(S) (SATURATED)	1.1500E+02
RETARDATION FACTOR (UNSATURATED)	3.9000E+01
SOLUBILITY LIMITED MASS (mg)	1.6070E+15
SOLUBILITY LIMITED ACTIVITY (Ci)	1.3073E+14
TRANSIT TIME IN UNSAT ZONE (years)	4.6800E+02
FRACTION DECAYED DURING UNSAT TRANSPORT	1.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

```
-----------------------------------------------------------
> > > RESULTS OF CALCULATIONS
*****************************************************
> > > CONCENTRATION VS TIME MODE

 TIME       CUMULATIVE  CUMULATIVE   AQUIFER     GW CONC ...
          SOURCE FLUX AQUIFER FLUX   FLUX       member #1
 (years)     (Ci)        (Ci)     (Ci/year)  (Ci/m**3)
-----------------------------------------------------------
 3.0000E+01  2.4855E-06  0.0000E+00  0.0000E+00  0.0000E+00
 3.5000E+01  2.6724E-06  0.0000E+00  0.0000E+00  0.0000E+00
 4.0000E+01  2.8240E-06  0.0000E+00  0.0000E+00  0.0000E+00
 4.5000E+01  2.9469E-06  0.0000E+00  0.0000E+00  0.0000E+00
 5.0000E+01  3.0466E-06  0.0000E+00  0.0000E+00  0.0000E+00
 5.5000E+01  3.1275E-06  0.0000E+00  0.0000E+00  0.0000E+00
 6.0000E+01  3.1931E-06  0.0000E+00  0.0000E+00  0.0000E+00
 1.0000E+02  3.4220E-06  0.0000E+00  0.0000E+00  0.0000E+00
 1.0500E+02  3.4319E-06  0.0000E+00  0.0000E+00  0.0000E+00
 1.1000E+02  3.4400E-06  0.0000E+00  0.0000E+00  0.0000E+00
 1.1500E+02  3.4466E-06  0.0000E+00  0.0000E+00  0.0000E+00
 1.2000E+02  3.4519E-06  0.0000E+00  0.0000E+00  0.0000E+00
 1.2500E+02  3.4562E-06  0.0000E+00  0.0000E+00  0.0000E+00
 1.3000E+02  3.4597E-06  0.0000E+00  0.0000E+00  0.0000E+00
 1.0000E+03  3.4747E-06  5.7198E-14  5.0503E-25  2.7172E-30
 1.0050E+03  3.4747E-06  5.7198E-14  4.0961E-25  2.2039E-30
 1.0100E+03  3.4747E-06  5.7198E-14  3.3222E-25  1.7875E-30
 1.0150E+03  3.4747E-06  5.7198E-14  2.6946E-25  1.4498E-30
 1.0200E+03  3.4747E-06  5.7198E-14  2.1855E-25  1.1759E-30
 1.0250E+03  3.4747E-06  5.7198E-14  1.7726E-25  9.5372E-31
 1.0300E+03  3.4747E-06  5.7198E-14  1.4377E-25  7.7353E-31
AVERAGE INTEGRATED CONCENTRATION FROM  3.0000E+01 TO  6.0000E+01 YEARS =  0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM  1.0000E+02 TO  1.3000E+02 YEARS =  0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM  1.0000E+03 TO  1.0300E+03 YEARS =  1.55E-30 Ci/m**3
MAXIMUM CONCENTRATION(S) Ci/m**3
 2.72E-30
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
 1.00E+03
EXECUTION TIME (seconds)     0
```

WAG 1 - Co-60

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	1.00E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	1.00E+01
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	2.93E+00
MOLECULAR WEIGHT (g/mole)	6.00E+01
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	5.27E+00
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	1.00E+01
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L)	2.00E+02
UNITS OF CONTAMINANT	Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 2.59E+00
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	2.1786E-03
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	1.3153E-01
RETARDATION FACTOR(S) (SATURATED)	1.9100E+02
RETARDATION FACTOR (UNSATURATED)	6.4333E+01
SOLUBILITY LIMITED MASS (mg)	2.6438E+15
SOLUBILITY LIMITED ACTIVITY (Ci)	2.9916E+15
TRANSIT TIME IN UNSAT ZONE (years)	7.7200E+02
FRACTION DECAYED DURING UNSAT TRANSPORT	1.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

> > > RESULTS OF CALCULATIONS

****

> > > CONCENTRATION VS TIME MODE

TIME (years)	CUMULATIVE SOURCE FLUX (Ci)	CUMULATIVE AQUIFER FLUX (Ci)	AQUIFER FLUX (Ci/year)	GW CONC ... member #1 (Ci/m**3)
3.0000E+01	4.6878E-02	0.0000E+00	0.0000E+00	0.0000E+00
3.5000E+01	4.7299E-02	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+01	4.7515E-02	0.0000E+00	0.0000E+00	0.0000E+00
4.5000E+01	4.7626E-02	0.0000E+00	0.0000E+00	0.0000E+00
5.0000E+01	4.7683E-02	0.0000E+00	0.0000E+00	0.0000E+00
5.5000E+01	4.7712E-02	0.0000E+00	0.0000E+00	0.0000E+00
6.0000E+01	4.7727E-02	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+02	4.7742E-02	0.0000E+00	0.0000E+00	0.0000E+00
1.0500E+02	4.7742E-02	0.0000E+00	0.0000E+00	0.0000E+00
1.1000E+02	4.7742E-02	0.0000E+00	0.0000E+00	0.0000E+00
1.1500E+02	4.7742E-02	0.0000E+00	0.0000E+00	0.0000E+00
1.2000E+02	4.7743E-02	0.0000E+00	0.0000E+00	0.0000E+00
1.2500E+02	4.7743E-02	0.0000E+00	0.0000E+00	0.0000E+00
1.3000E+02	4.7743E-02	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+03	4.7743E-02	3.8120E-46	2.9369E-60	1.5816E-65
1.0050E+03	4.7743E-02	3.8120E-46	1.5050E-60	8.1056E-66
1.0100E+03	4.7743E-02	3.8120E-46	7.7128E-61	4.1536E-66
1.0150E+03	4.7743E-02	3.8120E-46	3.9525E-61	2.1286E-66
1.0200E+03	4.7743E-02	3.8120E-46	2.0255E-61	1.0908E-66
1.0250E+03	4.7743E-02	3.8120E-46	1.0380E-61	5.5902E-67
1.0300E+03	4.7743E-02	3.8120E-46	5.3193E-62	2.8647E-67

AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E−01 TO 6.0000E+01 YEARS = 0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E−02 TO 1.3000E+02 YEARS = 0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E−03 TO 1.0300E+03 YEARS = 3.87E-66 Ci/m**3
MAXIMUM CONCENTRATION(S) Ci/m**3
1.58E-65
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
1.00E+03
EXECUTION TIME (seconds) 0

WAG 1 - Cs-134

```
GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
*********************************************************
NUMBER OF RADIOACTIVE PROGENY                0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)      2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)  2.40E+02
THICKNESS OF SOURCE (m)                      3.00E+00
PERCOLATION RATE (darcy vel m/y)             1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE           3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE  3.00E-01
BULK DENSITY AT SOURCE  (g/cm**3)            1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)        5.00E+02
BULK DENSITY IN UNSAT ZONE (g/cm**3)         1.90E+00
UNSATURATED ZONE THICKNESS (m)               4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)    5.00E+02
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)          9.78E-04
MOLECULAR WEIGHT (g/mole)                    1.34E+02
SOLUBILITY LIMIT (mg/L)                      1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)  2.06E+00
BULK DENSITY OF AQUIFER (g/cm**3)            1.90E+00
POROSITY OF AQUIFER                          1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)    5.00E+02
DISPERSIVITY X DIRECTION (m)                 9.00E+00
DISPERSIVITY Y DIRECTION (m)                 4.00E+00
PORE VELOCITY  (m/y)                         5.70E+02
WELL SCREEN THICKNESS (m)                    1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS     (m)    1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS     (m)    0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L) 2.00E+02
UNITS OF CONTAMINANT                         Ci
---------------------------------------------------------
> > > INITIAL ACTIVITY CONVERTED TO MASS (mg)  7.55E-04
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
*********************************************************
LEACH RATE CONSTANT (1/y)                    4.4427E-05
UNSATURATED PORE VELOCITY (m/y)              3.3333E-01
DECAY CONSTANT(S) (1/y)                      3.3648E-01
RETARDATION FACTOR(S) (SATURATED)            9.5010E+03
RETARDATION FACTOR (UNSATURATED)             3.1677E+03
SOLUBILITY LIMITED MASS (mg)                 1.2965E+17
SOLUBILITY LIMITED ACTIVITY (Ci)             1.6805E+17
TRANSIT TIME IN UNSAT ZONE (years)           3.8012E+04
FRACTION DECAYED DURING UNSAT TRANSPORT  1.0000E+00
---------------------------------------------------------
> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
*********************************************************
INTEGRATION TIME (years)          10
BODY WEIGHT (kg)                  7.000E+01
AVERAGING TIME (days)             2.555E+04
WATER INTAKE RATE (L/d)           2.000E+00
EXPOSURE FREQUENCY (days/year)    3.500E+02
EXPOSURE DURATION (years)         3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)   4.000E-03
CARCINOGENIC RISK CRITERIA        1.000E-06
HAZARD QUOTIENT                   1.000E+00
---------------------------------------------------------
> > > RESULTS OF CALCULATIONS
*********************************************************
> > > CONCENTRATION VS TIME MODE
CONCENTRATION IS ZERO FOR ALL TIME PERIODS REQUESTED
LAST TIME PERIOD REQUESTED (T2):  1.0030E+04 YEARS
TRANSIT TIME IN UNSATURATED ZONE:  3.8012E+04 YEARS
EXECUTION TIME (seconds)     0
```

WAG 1 - Cs-137

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY 0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m) 2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m) 2.40E+02
THICKNESS OF SOURCE (m) 3.00E+00
PERCOLATION RATE (darcy vel m/y) 1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE 3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE 3.00E-01
BULK DENSITY AT SOURCE (g/cm**3) 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g) 5.00E+02
BULK DENSITY IN UNSAT ZONE (g/cm**3) 1.90E+00
UNSATURATED ZONE THICKNESS (m) 4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g) 5.00E+02
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci) 2.90E+01
MOLECULAR WEIGHT (g/mole) 1.37E+02
SOLUBILITY LIMIT (mg/L) 1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y) 3.02E+01
BULK DENSITY OF AQUIFER (g/cm**3) 1.90E+00
POROSITY OF AQUIFER 1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g) 5.00E+02
DISPERSIVITY X DIRECTION (m) 9.00E+00
DISPERSIVITY Y DIRECTION (m) 4.00E+00
PORE VELOCITY (m/y) 5.70E+02
WELL SCREEN THICKNESS (m) 1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m) 1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m) 0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L) 2.00E+02
UNITS OF CONTAMINANT Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 3.35E+02
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y) 4.4427E-05
UNSATURATED PORE VELOCITY (m/y) 3.3333E-01
DECAY CONSTANT(S) (1/y) 2.2952E-02
RETARDATION FACTOR(S) (SATURATED) 9.5010E+03
RETARDATION FACTOR (UNSATURATED) 3.1677E+03
SOLUBILITY LIMITED MASS (mg) 1.2965E+17
SOLUBILITY LIMITED ACTIVITY (Ci) 1.1212E+16
TRANSIT TIME IN UNSAT ZONE (years) 3.8012E+04
FRACTION DECAYED DURING UNSAT TRANSPORT 1.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years) 10
BODY WEIGHT (kg) 7.000E+01
AVERAGING TIME (days) 2.555E+04
WATER INTAKE RATE (L/d) 2.000E+00
EXPOSURE FREQUENCY (days/year) 3.500E+02
EXPOSURE DURATION (years) 3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y) 4.000E-03
CARCINOGENIC RISK CRITERIA 1.000E-06
HAZARD QUOTIENT 1.000E+00

> > > RESULTS OF CALCULATIONS
****

> > > CONCENTRATION VS TIME MODE
CONCENTRATION IS ZERO FOR ALL TIME PERIODS REQUESTED
LAST TIME PERIOD REQUESTED (T2): 1.0030E+04 YEARS
TRANSIT TIME IN UNSATURATED ZONE: 3.8012E+04 YEARS
EXECUTION TIME (seconds) 0

WAG 1 - Eu-154

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****
NUMBER OF RADIOACTIVE PROGENY 0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m) 2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m) 2.40E+02
THICKNESS OF SOURCE (m) 3.00E+00
PERCOLATION RATE (darcy vel m/y) 1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE 3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE 3.00E-01
BULK DENSITY AT SOURCE (g/cm**3) 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g) 3.40E+02
BULK DENSITY IN UNSAT ZONE (g/cm**3) 1.90E+00
UNSATURATED ZONE THICKNESS (m) 4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g) 3.40E+02
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci) 7.01E-03
MOLECULAR WEIGHT (g/mole) 1.54E+02
SOLUBILITY LIMIT (mg/L) 1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y) 8.80E+00
BULK DENSITY OF AQUIFER (g/cm**3) 1.90E+00
POROSITY OF AQUIFER 1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g) 3.40E+02
DISPERSIVITY X DIRECTION (m) 9.00E+00
DISPERSIVITY Y DIRECTION (m) 4.00E+00
PORE VELOCITY (m/y) 5.70E+02
WELL SCREEN THICKNESS (m) 1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m) 1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m) 0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L) 2.00E+02
UNITS OF CONTAMINANT Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 2.66E-02
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****
LEACH RATE CONSTANT (1/y) 6.5321E-05
UNSATURATED PORE VELOCITY (m/y) 3.3333E-01
DECAY CONSTANT(S) (1/y) 7.8767E-02
RETARDATION FACTOR(S) (SATURATED) 6.4610E+03
RETARDATION FACTOR (UNSATURATED) 2.1543E+03
SOLUBILITY LIMITED MASS (mg) 8.8180E+16
SOLUBILITY LIMITED ACTIVITY (Ci) 2.3281E+16
TRANSIT TIME IN UNSAT ZONE (years) 2.5852E+04
FRACTION DECAYED DURING UNSAT TRANSPORT 1.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****
INTEGRATION TIME (years) 10
BODY WEIGHT (kg) 7.000E+01
AVERAGING TIME (days) 2.555E+04
WATER INTAKE RATE (L/d) 2.000E+00
EXPOSURE FREQUENCY (days/year) 3.500E+02
EXPOSURE DURATION (years) 3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y) 4.000E-03
CARCINOGENIC RISK CRITERIA 1.000E-06
HAZARD QUOTIENT 1.000E+00

> > > RESULTS OF CALCULATIONS
****
> > > CONCENTRATION VS TIME MODE
CONCENTRATION IS ZERO FOR ALL TIME PERIODS REQUESTED
LAST TIME PERIOD REQUESTED (T2): 1.0030E+04 YEARS
TRANSIT TIME IN UNSATURATED ZONE: 2.5852E+04 YEARS
EXECUTION TIME (seconds) 0

WAG 1 - H3

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	0.00E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	0.00E+00
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	5.91E-02
MOLECULAR WEIGHT (g/mole)	3.00E+00
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	1.23E+01
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	0.00E+00
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L)	2.00E+02
UNITS OF CONTAMINANT	Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 6.10E-03
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	1.1111E-01
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	5.6353E-02
RETARDATION FACTOR(S) (SATURATED)	1.0000E+00
RETARDATION FACTOR (UNSATURATED)	1.0000E+00
SOLUBILITY LIMITED MASS (mg)	5.1840E+13
SOLUBILITY LIMITED ACTIVITY (Ci)	5.0265E+14
TRANSIT TIME IN UNSAT ZONE (years)	1.2000E+01
FRACTION DECAYED DURING UNSAT TRANSPORT	4.9148E-01

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

> > > RESULTS OF CALCULATIONS

****

> > > CONCENTRATION VS TIME MODE

TIME (years)	CUMULATIVE SOURCE FLUX (Ci)	CUMULATIVE AQUIFER FLUX (Ci)	AQUIFER FLUX (Ci/year)	GW CONC ... member #1 (Ci/m**3)
3.0000E+01	3.8954E-02	1.8962E-02	1.6388E-04	8.1844E-10
3.5000E+01	3.9101E-02	1.9517E-02	7.0940E-05	3.5427E-10
4.0000E+01	3.9164E-02	1.9757E-02	3.0708E-05	1.5335E-10
4.5000E+01	3.9191E-02	1.9861E-02	1.3292E-05	6.6382E-11
5.0000E+01	3.9203E-02	1.9906E-02	5.7538E-06	2.8735E-11
5.5000E+01	3.9208E-02	1.9926E-02	2.4907E-06	1.2438E-11
6.0000E+01	3.9211E-02	1.9934E-02	1.0781E-06	5.3841E-12
1.0000E+02	3.9212E-02	1.9940E-02	1.3290E-09	6.6368E-15
1.0500E+02	3.9212E-02	1.9940E-02	5.7526E-10	2.8729E-15
1.1000E+02	3.9212E-02	1.9940E-02	2.4901E-10	1.2436E-15
1.1500E+02	3.9212E-02	1.9940E-02	1.0779E-10	5.3830E-16
1.2000E+02	3.9212E-02	1.9940E-02	4.6659E-11	2.3301E-16
1.2500E+02	3.9212E-02	1.9940E-02	2.0197E-11	1.0086E-16
1.3000E+02	3.9212E-02	1.9940E-02	8.7427E-12	4.3661E-17
1.0000E+03	3.9212E-02	1.9940E-02	4.6503E-75	2.3223E-80
1.0050E+03	3.9212E-02	1.9940E-02	2.0130E-75	1.0053E-80
1.0100E+03	3.9212E-02	1.9940E-02	8.7134E-76	4.3515E-81
1.0150E+03	3.9212E-02	1.9940E-02	3.7718E-76	1.8836E-81
1.0200E+03	3.9212E-02	1.9940E-02	1.6327E-76	8.1536E-82
1.0250E+03	3.9212E-02	1.9940E-02	7.0673E-77	3.5294E-82
1.0300E+03	3.9212E-02	1.9940E-02	3.0592E-77	1.5278E-82

AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E+01 TO 6.0000E+01 YEARS = 1.62E-10 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+02 TO 1.3000E+02 YEARS = 1.31E-15 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+03 TO 1.0300E+03 YEARS = 4.59E-81 Ci/m**3
MAXIMUM CONCENTRATION(S) Ci/m**3
8.18E-10
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
3.00E+01
EXECUTION TIME (seconds) 0

WAG 1 - Np-237

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****
NUMBER OF RADIOACTIVE PROGENY 0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m) 2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m) 2.40E+02
THICKNESS OF SOURCE (m) 3.00E+00
PERCOLATION RATE (darcy vel m/y) 1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE 3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE 3.00E-01
BULK DENSITY AT SOURCE (g/cm**3) 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g) 0.00E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3) 1.90E+00
UNSATURATED ZONE THICKNESS (m) 4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g) 0.00E+00
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci) 3.25E-05
MOLECULAR WEIGHT (g/mole) 2.37E+02
SOLUBILITY LIMIT (mg/L) 1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y) 1.23E+01
BULK DENSITY OF AQUIFER (g/cm**3) 1.90E+00
POROSITY OF AQUIFER 1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g) 0.00E+00
DISPERSIVITY X DIRECTION (m) 9.00E+00
DISPERSIVITY Y DIRECTION (m) 4.00E+00
PORE VELOCITY (m/y) 5.70E+02
WELL SCREEN THICKNESS (m) 1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m) 1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m) 0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L) 2.00E+02
UNITS OF CONTAMINANT Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 2.65E-04
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****
LEACH RATE CONSTANT (1/y) 1.1111E-01
UNSATURATED PORE VELOCITY (m/y) 3.3333E-01
DECAY CONSTANT(S) (1/y) 5.6353E-02
RETARDATION FACTOR(S) (SATURATED) 1.0000E+00
RETARDATION FACTOR (UNSATURATED) 1.0000E+00
SOLUBILITY LIMITED MASS (mg) 5.1840E+13
SOLUBILITY LIMITED ACTIVITY (Ci) 6.3627E+12
TRANSIT TIME IN UNSAT ZONE (years) 1.2000E+01
FRACTION DECAYED DURING UNSAT TRANSPORT 4.9148E-01

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****
INTEGRATION TIME (years) 10
BODY WEIGHT (kg) 7.000E+01
AVERAGING TIME (days) 2.555E+04
WATER INTAKE RATE (L/d) 2.000E+00
EXPOSURE FREQUENCY (days/year) 3.500E+02
EXPOSURE DURATION (years) 3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y) 4.000E-03
CARCINOGENIC RISK CRITERIA 1.000E-06
HAZARD QUOTIENT 1.000E+00

> > > RESULTS OF CALCULATIONS

****

> > > CONCENTRATION VS TIME MODE

TIME (years)	CUMULATIVE SOURCE FLUX (Ci)	CUMULATIVE AQUIFER FLUX (Ci)	AQUIFER FLUX (Ci/year)	GW CONC ... member #1 (Ci/m**3)
3.0000E+01	2.1422E-05	1.0427E-05	9.0122E-08	4.5007E-13
3.5000E+01	2.1502E-05	1.0733E-05	3.9011E-08	1.9482E-13
4.0000E+01	2.1537E-05	1.0865E-05	1.6887E-08	8.4332E-14
4.5000E+01	2.1552E-05	1.0922E-05	7.3097E-09	3.6505E-14
5.0000E+01	2.1558E-05	1.0947E-05	3.1641E-09	1.5802E-14
5.5000E+01	2.1561E-05	1.0957E-05	1.3696E-09	6.8400E-15
6.0000E+01	2.1563E-05	1.0962E-05	5.9288E-10	2.9608E-15
1.0000E+02	2.1563E-05	1.0966E-05	7.3082E-13	3.6497E-18
1.0500E+02	2.1563E-05	1.0966E-05	3.1635E-13	1.5798E-18
1.1000E+02	2.1563E-05	1.0966E-05	1.3694E-13	6.8386E-19
1.1500E+02	2.1563E-05	1.0966E-05	5.9275E-14	2.9602E-19
1.2000E+02	2.1563E-05	1.0966E-05	2.5658E-14	1.2814E-19
1.2500E+02	2.1563E-05	1.0966E-05	1.1107E-14	5.5467E-20
1.3000E+02	2.1563E-05	1.0966E-05	4.8077E-15	2.4010E-20
1.0000E+03	2.1563E-05	1.0966E-05	2.5573E-78	1.2771E-83
1.0050E+03	2.1563E-05	1.0966E-05	1.1070E-78	5.5281E-84
1.0100E+03	2.1563E-05	1.0966E-05	4.7916E-79	2.3929E-84
1.0150E+03	2.1563E-05	1.0966E-05	2.0742E-79	1.0358E-84
1.0200E+03	2.1563E-05	1.0966E-05	8.9783E-80	4.4838E-85
1.0250E+03	2.1563E-05	1.0966E-05	3.8864E-80	1.9409E-85
1.0300E+03	2.1563E-05	1.0966E-05	1.6823E-80	8.4015E-86

AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E+01 TO 6.0000E+01 YEARS = 8.90E-14 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+02 TO 1.3000E+02 YEARS = 7.22E-19 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+03 TO 1.0300E+03 YEARS = 2.53E-84 Ci/m**3
MAXIMUM CONCENTRATION(S) Ci/m**3
4.50E-13
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
3.00E+01
EXECUTION TIME (seconds) 0

WAG 1 - Pu-239/240

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****
NUMBER OF RADIOACTIVE PROGENY 0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m) 2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m) 2.40E+02
THICKNESS OF SOURCE (m) 3.00E+00
PERCOLATION RATE (darcy vel m/y) 1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE 3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE 3.00E-01
BULK DENSITY AT SOURCE (g/cm**3) 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g) 2.20E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3) 1.90E+00
UNSATURATED ZONE THICKNESS (m) 4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g) 2.20E+01
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci) 4.52E-02
MOLECULAR WEIGHT (g/mole) 2.39E+02
SOLUBILITY LIMIT (mg/L) 1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y) 2.41E+04
BULK DENSITY OF AQUIFER (g/cm**3) 1.90E+00
POROSITY OF AQUIFER 1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g) 2.20E+01
DISPERSIVITY X DIRECTION (m) 9.00E+00
DISPERSIVITY Y DIRECTION (m) 4.00E+00
PORE VELOCITY (m/y) 5.70E+02
WELL SCREEN THICKNESS (m) 1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m) 1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m) 0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L) 2.00E+02
UNITS OF CONTAMINANT Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 7.28E+02
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****
LEACH RATE CONSTANT (1/y) 1.0010E-03
UNSATURATED PORE VELOCITY (m/y) 3.3333E-01
DECAY CONSTANT(S) (1/y) 2.8761E-05
RETARDATION FACTOR(S) (SATURATED) 4.1900E+02
RETARDATION FACTOR (UNSATURATED) 1.4033E+02
SOLUBILITY LIMITED MASS (mg) 5.7542E+15
SOLUBILITY LIMITED ACTIVITY (Ci) 3.5744E+11
TRANSIT TIME IN UNSAT ZONE (years) 1.6840E+03
FRACTION DECAYED DURING UNSAT TRANSPORT 4.7280E-02

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****
INTEGRATION TIME (years) 10
BODY WEIGHT (kg) 7.000E+01
AVERAGING TIME (days) 2.555E+04
WATER INTAKE RATE (L/d) 2.000E+00
EXPOSURE FREQUENCY (days/year) 3.500E+02
EXPOSURE DURATION (years) 3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y) 4.000E-03
CARCINOGENIC RISK CRITERIA 1.000E-06
HAZARD QUOTIENT 1.000E+00

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-----------------------------------------------------------
> > > RESULTS OF CALCULATIONS
*****************************************************
> > > CONCENTRATION VS TIME MODE

 TIME       CUMULATIVE  CUMULATIVE   AQUIFER     GW CONC ...
          SOURCE FLUX AQUIFER FLUX   FLUX       member #1
 (years)     (Ci)        (Ci)     (Ci/year)  (Ci/m**3)
-----------------------------------------------------------
 3.0000E+01  1.3366E-03  0.0000E+00  0.0000E+00  0.0000E+00
 3.5000E+01  1.5554E-03  0.0000E+00  0.0000E+00  0.0000E+00
 4.0000E+01  1.7730E-03  0.0000E+00  0.0000E+00  0.0000E+00
 4.5000E+01  1.9896E-03  0.0000E+00  0.0000E+00  0.0000E+00
 5.0000E+01  2.2050E-03  0.0000E+00  0.0000E+00  0.0000E+00
 5.5000E+01  2.4193E-03  0.0000E+00  0.0000E+00  0.0000E+00
 6.0000E+01  2.6326E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.0000E+02  4.2994E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.0500E+02  4.5029E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.1000E+02  4.7054E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.1500E+02  4.9069E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.2000E+02  5.1074E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.2500E+02  5.3068E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.3000E+02  5.5052E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.0000E+04  4.3936E-02  4.1852E-02  8.2311E-09  4.4368E-14
 1.0010E+04  4.3936E-02  4.1852E-02  8.1467E-09  4.3913E-14
 1.0020E+04  4.3936E-02  4.1852E-02  8.0633E-09  4.3463E-14
 1.0030E+04  4.3936E-02  4.1852E-02  7.9807E-09  4.3018E-14
AVERAGE INTEGRATED CONCENTRATION FROM  3.0000E+01 TO  6.0000E+01 YEARS =  0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM  1.0000E+02 TO  1.3000E+02 YEARS =  0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM  1.0000E+04 TO  1.0030E+04 YEARS =  4.37E-14 Ci/m**3
MAXIMUM CONCENTRATION(S) Ci/m**3
 4.44E-14
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
 1.00E+04
EXECUTION TIME (seconds)     0
```

WAG 1 - Ra-226

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	1.00E+02
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	1.00E+02
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	1.15E-01
MOLECULAR WEIGHT (g/mole)	2.26E+02
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	1.60E+03
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	1.00E+02
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L)	2.00E+02
UNITS OF CONTAMINANT	Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 1.16E+02
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	2.2178E-04
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	4.3322E-04
RETARDATION FACTOR(S) (SATURATED)	1.9010E+03
RETARDATION FACTOR (UNSATURATED)	6.3433E+02
SOLUBILITY LIMITED MASS (mg)	2.5972E+16
SOLUBILITY LIMITED ACTIVITY (Ci)	2.5698E+13
TRANSIT TIME IN UNSAT ZONE (years)	7.6120E+03
FRACTION DECAYED DURING UNSAT TRANSPORT	9.6303E-01

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

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-----------------------------------------------------------
> > > RESULTS OF CALCULATIONS
*****************************************************
> > > CONCENTRATION VS TIME MODE

 TIME       CUMULATIVE  CUMULATIVE   AQUIFER     GW CONC ...
          SOURCE FLUX AQUIFER FLUX   FLUX       member #1
 (years)     (Ci)        (Ci)     (Ci/year)  (Ci/m**3)
-----------------------------------------------------------------
 3.0000E+01  7.5767E-04  0.0000E+00  0.0000E+00  0.0000E+00
 3.5000E+01  8.8250E-04  0.0000E+00  0.0000E+00  0.0000E+00
 4.0000E+01  1.0069E-03  0.0000E+00  0.0000E+00  0.0000E+00
 4.5000E+01  1.1310E-03  0.0000E+00  0.0000E+00  0.0000E+00
 5.0000E+01  1.2546E-03  0.0000E+00  0.0000E+00  0.0000E+00
 5.5000E+01  1.3778E-03  0.0000E+00  0.0000E+00  0.0000E+00
 6.0000E+01  1.5006E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.0000E+02  2.4687E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.0500E+02  2.5880E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.1000E+02  2.7068E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.1500E+02  2.8253E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.2000E+02  2.9434E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.2500E+02  3.0610E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.3000E+02  3.1784E-03  0.0000E+00  0.0000E+00  0.0000E+00
 1.0000E+04  3.8883E-02  1.1383E-03  1.9732E-07  1.0641E-12
 1.0010E+04  3.8883E-02  1.1403E-03  1.9603E-07  1.0572E-12
 1.0020E+04  3.8884E-02  1.1422E-03  1.9475E-07  1.0503E-12
 1.0030E+04  3.8884E-02  1.1442E-03  1.9348E-07  1.0434E-12
AVERAGE INTEGRATED CONCENTRATION FROM  3.0000E+01 TO  6.0000E+01 YEARS =  0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM  1.0000E+02 TO  1.3000E+02 YEARS =  0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM  1.0000E+04 TO  1.0030E+04 YEARS =  1.05E-12 Ci/m**3
MAXIMUM CONCENTRATION(S) Ci/m**3
 1.06E-12
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
 1.00E+04
EXECUTION TIME (seconds)     0
```

WAG 1 - Sr-90

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****
NUMBER OF RADIOACTIVE PROGENY 0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m) 2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m) 2.40E+02
THICKNESS OF SOURCE (m) 3.00E+00
PERCOLATION RATE (darcy vel m/y) 1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE 3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE 3.00E-01
BULK DENSITY AT SOURCE (g/cm**3) 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g) 2.40E+01
BULK DENSITY IN UNSAT ZONE (g/cm**3) 1.90E+00
UNSATURATED ZONE THICKNESS (m) 4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g) 2.40E+01
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci) 9.60E-04
MOLECULAR WEIGHT (g/mole) 9.00E+01
SOLUBILITY LIMIT (mg/L) 1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y) 2.86E+01
BULK DENSITY OF AQUIFER (g/cm**3) 1.90E+00
POROSITY OF AQUIFER 1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g) 2.40E+01
DISPERSIVITY X DIRECTION (m) 9.00E+00
DISPERSIVITY Y DIRECTION (m) 4.00E+00
PORE VELOCITY (m/y) 5.70E+02
WELL SCREEN THICKNESS (m) 1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m) 1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m) 0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L) 2.00E+02
UNITS OF CONTAMINANT Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 6.91E-03
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****
LEACH RATE CONSTANT (1/y) 9.1827E-04
UNSATURATED PORE VELOCITY (m/y) 3.3333E-01
DECAY CONSTANT(S) (1/y) 2.4236E-02
RETARDATION FACTOR(S) (SATURATED) 4.5700E+02
RETARDATION FACTOR (UNSATURATED) 1.5300E+02
SOLUBILITY LIMITED MASS (mg) 6.2726E+15
SOLUBILITY LIMITED ACTIVITY (Ci) 8.7191E+14
TRANSIT TIME IN UNSAT ZONE (years) 1.8360E+03
FRACTION DECAYED DURING UNSAT TRANSPORT 1.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****
INTEGRATION TIME (years) 10
BODY WEIGHT (kg) 7.000E+01
AVERAGING TIME (days) 2.555E+04
WATER INTAKE RATE (L/d) 2.000E+00
EXPOSURE FREQUENCY (days/year) 3.500E+02
EXPOSURE DURATION (years) 3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y) 4.000E-03
CARCINOGENIC RISK CRITERIA 1.000E-06
HAZARD QUOTIENT 1.000E+00

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-----------------------------------------------------
> > > RESULTS OF CALCULATIONS
*****************************************************
> > > CONCENTRATION VS TIME MODE

 TIME       CUMULATIVE  CUMULATIVE   AQUIFER     GW CONC ...
          SOURCE FLUX AQUIFER FLUX   FLUX       member #1
 (years)     (Ci)        (Ci)     (Ci/year)  (Ci/m**3)
-----------------------------------------------------------
 3.0000E+01  1.8568E-05  0.0000E+00  0.0000E+00  0.0000E+00
 3.5000E+01  2.0515E-05  0.0000E+00  0.0000E+00  0.0000E+00
 4.0000E+01  2.2232E-05  0.0000E+00  0.0000E+00  0.0000E+00
 4.5000E+01  2.3747E-05  0.0000E+00  0.0000E+00  0.0000E+00
 5.0000E+01  2.5082E-05  0.0000E+00  0.0000E+00  0.0000E+00
 5.5000E+01  2.6259E-05  0.0000E+00  0.0000E+00  0.0000E+00
 6.0000E+01  2.7298E-05  0.0000E+00  0.0000E+00  0.0000E+00
 1.0000E+02  3.2213E-05  0.0000E+00  0.0000E+00  0.0000E+00
 1.0500E+02  3.2548E-05  0.0000E+00  0.0000E+00  0.0000E+00
 1.1000E+02  3.2843E-05  0.0000E+00  0.0000E+00  0.0000E+00
 1.1500E+02  3.3103E-05  0.0000E+00  0.0000E+00  0.0000E+00
 1.2000E+02  3.3333E-05  0.0000E+00  0.0000E+00  0.0000E+00
 1.2500E+02  3.3535E-05  0.0000E+00  0.0000E+00  0.0000E+00
 1.3000E+02  3.3714E-05  0.0000E+00  0.0000E+00  0.0000E+00
 1.0000E+04  3.5046E-05  1.6587E-24  2.7176-115  1.4649-120
 1.0010E+04  3.5046E-05  1.6587E-24  2.1132-115  1.1391-120
 1.0020E+04  3.5046E-05  1.6587E-24  1.6432-115  8.8575-121
 1.0030E+04  3.5046E-05  1.6587E-24  1.2778-115  6.8876-121
AVERAGE INTEGRATED CONCENTRATION FROM  3.0000E+01 TO  6.0000E+01 YEARS =  0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM  1.0000E+02 TO  1.3000E+02 YEARS =  0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM  1.0000E+04 TO  1.0030E+04 YEARS =  1.03-120 Ci/m**3
MAXIMUM CONCENTRATION(S) Ci/m**3
 1.46-120
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
 1.00E+04
EXECUTION TIME (seconds)     0
```

WAG 1 - Th-232

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****
NUMBER OF RADIOACTIVE PROGENY 0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m) 2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m) 2.40E+02
THICKNESS OF SOURCE (m) 3.00E+00
PERCOLATION RATE (darcy vel m/y) 1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE 3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE 3.00E-01
BULK DENSITY AT SOURCE (g/cm**3) 1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g) 1.00E+02
BULK DENSITY IN UNSAT ZONE (g/cm**3) 1.90E+00
UNSATURATED ZONE THICKNESS (m) 4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g) 1.00E+02
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1) 0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci) 1.22E+00
MOLECULAR WEIGHT (g/mole) 2.32E+02
SOLUBILITY LIMIT (mg/L) 1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y) 1.41E+10
BULK DENSITY OF AQUIFER (g/cm**3) 1.90E+00
POROSITY OF AQUIFER 1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g) 1.00E+02
DISPERSIVITY X DIRECTION (m) 9.00E+00
DISPERSIVITY Y DIRECTION (m) 4.00E+00
PORE VELOCITY (m/y) 5.70E+02
WELL SCREEN THICKNESS (m) 1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m) 1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m) 0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L) 2.00E+02
UNITS OF CONTAMINANT Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 1.12E+10
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****
LEACH RATE CONSTANT (1/y) 2.2178E-04
UNSATURATED PORE VELOCITY (m/y) 3.3333E-01
DECAY CONSTANT(S) (1/y) 4.9159E-11
RETARDATION FACTOR(S) (SATURATED) 1.9010E+03
RETARDATION FACTOR (UNSATURATED) 6.3433E+02
SOLUBILITY LIMITED MASS (mg) 2.5972E+16
SOLUBILITY LIMITED ACTIVITY (Ci) 2.8407E+06
TRANSIT TIME IN UNSAT ZONE (years) 7.6120E+03
FRACTION DECAYED DURING UNSAT TRANSPORT 3.7420E-07

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****
INTEGRATION TIME (years) 10
BODY WEIGHT (kg) 7.000E+01
AVERAGING TIME (days) 2.555E+04
WATER INTAKE RATE (L/d) 2.000E+00
EXPOSURE FREQUENCY (days/year) 3.500E+02
EXPOSURE DURATION (years) 3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y) 4.000E-03
CARCINOGENIC RISK CRITERIA 1.000E-06
HAZARD QUOTIENT 1.000E+00

> > > RESULTS OF CALCULATIONS
****
> > > CONCENTRATION VS TIME MODE
CONCENTRATION IS ZERO FOR ALL TIME PERIODS REQUESTED
LAST TIME PERIOD REQUESTED (T2): 1.0300E+03 YEARS
TRANSIT TIME IN UNSATURATED ZONE: 7.6120E+03 YEARS
EXECUTION TIME (seconds) 0

WAG 1 - Th-234

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	1.00E+02
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	1.00E+02
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	5.76E-02
MOLECULAR WEIGHT (g/mole)	2.34E+02
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	6.60E-02
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	1.00E+02
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L)	2.00E+02
UNITS OF CONTAMINANT	Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 2.49E-03
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	2.2178E-04
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	1.0502E+01
RETARDATION FACTOR(S) (SATURATED)	1.9010E+03
RETARDATION FACTOR (UNSATURATED)	6.3433E+02
SOLUBILITY LIMITED MASS (mg)	2.5972E+16
SOLUBILITY LIMITED ACTIVITY (Ci)	6.0169E+17
TRANSIT TIME IN UNSAT ZONE (years)	7.6120E+03
FRACTION DECAYED DURING UNSAT TRANSPORT	1.0000E+00

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

> > > RESULTS OF CALCULATIONS
****
> > > CONCENTRATION VS TIME MODE
CONCENTRATION IS ZERO FOR ALL TIME PERIODS REQUESTED
LAST TIME PERIOD REQUESTED (T2): 1.0300E+03 YEARS
TRANSIT TIME IN UNSATURATED ZONE: 7.6120E+03 YEARS
EXECUTION TIME (seconds) 0

WAG 1 - U-235

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	6.00E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	6.00E+00
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	6.50E-05
MOLECULAR WEIGHT (g/mole)	2.35E+02
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	7.04E+08
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	6.00E+00
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L)	2.00E+02
UNITS OF CONTAMINANT	Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 3.01E+04
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	3.5842E-03
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	9.8458E-10
RETARDATION FACTOR(S) (SATURATED)	1.1500E+02
RETARDATION FACTOR (UNSATURATED)	3.9000E+01
SOLUBILITY LIMITED MASS (mg)	1.6070E+15
SOLUBILITY LIMITED ACTIVITY (Ci)	3.4755E+06
TRANSIT TIME IN UNSAT ZONE (years)	4.6800E+02
FRACTION DECAYED DURING UNSAT TRANSPORT	4.6079E-07

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

> > > RESULTS OF CALCULATIONS

****

> > > CONCENTRATION VS TIME MODE

TIME (years)	CUMULATIVE SOURCE FLUX (Ci)	CUMULATIVE AQUIFER FLUX (Ci)	AQUIFER FLUX (Ci/year)	GW CONC ... member #1 (Ci/m**3)
3.0000E+01	6.6266E-06	0.0000E+00	0.0000E+00	0.0000E+00
3.5000E+01	7.6634E-06	0.0000E+00	0.0000E+00	0.0000E+00
4.0000E+01	8.6818E-06	0.0000E+00	0.0000E+00	0.0000E+00
4.5000E+01	9.6821E-06	0.0000E+00	0.0000E+00	0.0000E+00
5.0000E+01	1.0665E-05	0.0000E+00	0.0000E+00	0.0000E+00
5.5000E+01	1.1630E-05	0.0000E+00	0.0000E+00	0.0000E+00
6.0000E+01	1.2578E-05	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+02	1.9579E-05	0.0000E+00	0.0000E+00	0.0000E+00
1.0500E+02	2.0386E-05	0.0000E+00	0.0000E+00	0.0000E+00
1.1000E+02	2.1179E-05	0.0000E+00	0.0000E+00	0.0000E+00
1.1500E+02	2.1957E-05	0.0000E+00	0.0000E+00	0.0000E+00
1.2000E+02	2.2721E-05	0.0000E+00	0.0000E+00	0.0000E+00
1.2500E+02	2.3472E-05	0.0000E+00	0.0000E+00	0.0000E+00
1.3000E+02	2.4210E-05	0.0000E+00	0.0000E+00	0.0000E+00
1.0000E+03	6.3196E-05	5.5344E-05	3.4609E-08	1.8621E-13
1.0050E+03	6.3228E-05	5.5515E-05	3.3994E-08	1.8291E-13
1.0100E+03	6.3259E-05	5.5684E-05	3.3391E-08	1.7966E-13
1.0150E+03	6.3290E-05	5.5849E-05	3.2798E-08	1.7647E-13
1.0200E+03	6.3321E-05	5.6012E-05	3.2215E-08	1.7333E-13
1.0250E+03	6.3350E-05	5.6172E-05	3.1643E-08	1.7025E-13
1.0300E+03	6.3380E-05	5.6328E-05	3.1081E-08	1.6723E-13

AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E+01 TO 6.0000E+01 YEARS = 0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+02 TO 1.3000E+02 YEARS = 0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+03 TO 1.0300E+03 YEARS = 1.77E-13 Ci/m**3
MAXIMUM CONCENTRATION(S) Ci/m**3
1.86E-13
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
1.00E+03
EXECUTION TIME (seconds) 0

WAG 1 - U-238

GAUSSIAN QUADRATURE SOLUTION
MODEL OPTIONS
IMODE: 3
KFLAG: 0 (0)CONC VS TIME; (1)PEAK CONC AND LIMITING SOIL CONC
IMODEL:1 (1) SURF OR BURIED SOURCE; (2)POND SOURCE; (3) TABULATED SOURCE FUNCTION
> > > INPUT DATA
****

NUMBER OF RADIOACTIVE PROGENY	0
LENGTH OF SOURCE PARALLEL TO GW FLOW (m)	2.40E+02
WIDTH OF SOURCE PERPENDICULAR TO GW FLOW (m)	2.40E+02
THICKNESS OF SOURCE (m)	3.00E+00
PERCOLATION RATE (darcy vel m/y)	1.00E-01
VOLUMETRIC WATER CONTENT IN SOURCE	3.00E-01
VOLUMETRIC WATER CONTENT IN UNSATURATED ZONE	3.00E-01
BULK DENSITY AT SOURCE (g/cm**3)	1.50E+00
SORPTION COEFFICIENT AT SOURCE (ml/g)	6.00E+00
BULK DENSITY IN UNSAT ZONE (g/cm**3)	1.90E+00
UNSATURATED ZONE THICKNESS (m)	4.00E+00
SORPTION COEFFICIENT IN UNSAT ZONE (ml/g)	6.00E+00
OPTIONAL LOSS RATE CONSTANT FOR SOURCE (y**-1)	0.00E+00
INITIAL MASS OR ACTIVITY (mg or Ci)	1.71E+00
MOLECULAR WEIGHT (g/mole)	2.38E+02
SOLUBILITY LIMIT (mg/L)	1.00E+06
HALF-LIFE(S) OF CONTAMINANT AND PROGENY (y)	4.47E+09
BULK DENSITY OF AQUIFER (g/cm**3)	1.90E+00
POROSITY OF AQUIFER	1.00E-01
SORPTION COEFFICIENT(S) IN AQUIFER (ml/g)	6.00E+00
DISPERSIVITY X DIRECTION (m)	9.00E+00
DISPERSIVITY Y DIRECTION (m)	4.00E+00
PORE VELOCITY (m/y)	5.70E+02
WELL SCREEN THICKNESS (m)	1.50E+01
DISTANCE TO RECEPTOR ALONG X AXIS (m)	1.20E+02
DISTANCE TO RECEPTOR ALONG Y AXIS (m)	0.00E+00
LIMITING RADIONUCLIDE GW CONCENTRATION (Ci/L)	2.00E+02
UNITS OF CONTAMINANT	Ci

> > > INITIAL ACTIVITY CONVERTED TO MASS (mg) 5.08E+09
> > > VALUES CALCULATED IN SOURCE SUBROUTINE
****

LEACH RATE CONSTANT (1/y)	3.5842E-03
UNSATURATED PORE VELOCITY (m/y)	3.3333E-01
DECAY CONSTANT(S) (1/y)	1.5507E-10
RETARDATION FACTOR(S) (SATURATED)	1.1500E+02
RETARDATION FACTOR (UNSATURATED)	3.9000E+01
SOLUBILITY LIMITED MASS (mg)	1.6070E+15
SOLUBILITY LIMITED ACTIVITY (Ci)	5.4047E+05
TRANSIT TIME IN UNSAT ZONE (years)	4.6800E+02
FRACTION DECAYED DURING UNSAT TRANSPORT	7.2571E-08

> > > EXPOSURE DATA FOR LIMITING SOIL CONCENTRATION
****

INTEGRATION TIME (years)	10
BODY WEIGHT (kg)	7.000E+01
AVERAGING TIME (days)	2.555E+04
WATER INTAKE RATE (L/d)	2.000E+00
EXPOSURE FREQUENCY (days/year)	3.500E+02
EXPOSURE DURATION (years)	3.000E+01
RADIOLOGICAL DOSE LIMIT (rem/y)	4.000E-03
CARCINOGENIC RISK CRITERIA	1.000E-06
HAZARD QUOTIENT	1.000E+00

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-----------------------------------------------------------
> > > RESULTS OF CALCULATIONS
*****************************************************
> > > CONCENTRATION VS TIME MODE

 TIME       CUMULATIVE  CUMULATIVE   AQUIFER     GW CONC ...
          SOURCE FLUX AQUIFER FLUX   FLUX       member #1
 (years)     (Ci)        (Ci)     (Ci/year)  (Ci/m**3)
-----------------------------------------------------------
 3.0000E+01  1.7433E-01  0.0000E+00  0.0000E+00  0.0000E+00
 3.5000E+01  2.0161E-01  0.0000E+00  0.0000E+00  0.0000E+00
 4.0000E+01  2.2840E-01  0.0000E+00  0.0000E+00  0.0000E+00
 4.5000E+01  2.5471E-01  0.0000E+00  0.0000E+00  0.0000E+00
 5.0000E+01  2.8056E-01  0.0000E+00  0.0000E+00  0.0000E+00
 5.5000E+01  3.0595E-01  0.0000E+00  0.0000E+00  0.0000E+00
 6.0000E+01  3.3089E-01  0.0000E+00  0.0000E+00  0.0000E+00
 1.0000E+02  5.1509E-01  0.0000E+00  0.0000E+00  0.0000E+00
 1.0500E+02  5.3631E-01  0.0000E+00  0.0000E+00  0.0000E+00
 1.1000E+02  5.5716E-01  0.0000E+00  0.0000E+00  0.0000E+00
 1.1500E+02  5.7764E-01  0.0000E+00  0.0000E+00  0.0000E+00
 1.2000E+02  5.9775E-01  0.0000E+00  0.0000E+00  0.0000E+00
 1.2500E+02  6.1750E-01  0.0000E+00  0.0000E+00  0.0000E+00
 1.3000E+02  6.3691E-01  0.0000E+00  0.0000E+00  0.0000E+00
 1.0000E+03  1.6625E+00  1.4560E+00  9.1049E-04  4.8989E-09
 1.0050E+03  1.6634E+00  1.4605E+00  8.9432E-04  4.8119E-09
 1.0100E+03  1.6642E+00  1.4649E+00  8.7843E-04  4.7264E-09
 1.0150E+03  1.6650E+00  1.4693E+00  8.6283E-04  4.6424E-09
 1.0200E+03  1.6658E+00  1.4735E+00  8.4751E-04  4.5600E-09
 1.0250E+03  1.6666E+00  1.4777E+00  8.3245E-04  4.4790E-09
 1.0300E+03  1.6674E+00  1.4819E+00  8.1767E-04  4.3994E-09
AVERAGE INTEGRATED CONCENTRATION FROM 3.0000E+01 TO 6.0000E+01 YEARS =  0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+02 TO 1.3000E+02 YEARS =  0.00E+00 Ci/m**3
AVERAGE INTEGRATED CONCENTRATION FROM 1.0000E+03 TO 1.0300E+03 YEARS =  4.64E-09 Ci/m**3
MAXIMUM CONCENTRATION(S) Ci/m**3
 4.90E-09
TIME(S) OF MAXIMUM CONCENTRATIONS (years)
 1.00E+03
EXECUTION TIME (seconds)     0
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