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APPENDIX A

EXPOSURE ASSESSMENT

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A.1 INTRODUCTION

Risk assessments of environmental toxins are conducted for making health-based risk decisions. A risk assessment of potentially hazardous constituents in the environment is a process that integrates the results of four investigations to determine the probability, or the risk, of adverse effects on human health and the environment. These investigations include selection of the hazardous constituents, analysis of environmental pathways and exposure estimations, toxicity evaluations, and characterizations of current and future risks. This appendix describes the environmental exposure pathway and the exposure assessment. The health risk assessment is discussed in Appendix B and the potential environmental impacts are presented in Appendix C.

The methods for conducting an exposure assessment vary according to the degree of confidence that is required to support risk management decisions. The Environmental Protection Agency (EPA) drinking water quality standards, or Maximum Concentration Limits (MCLs), are based on exposure assessments that build-in large margins of safety to ensure protection of the U.S. population with a high degree of confidence. The MCL is the maximum permissible level of a contaminant in water that is delivered to any user of a public water system. The EPA accomplishes this by using the most conservative or protective assumptions, methods, and toxicity values for evaluating contaminants in drinking water.

The Nuclear Regulatory Commission (NRC) makes risk decisions about the appropriateness of Alternate Concentration Limit values (ACLs) for site-related hazardous constituents in ground water based on the results of an exposure assessment. The concept of an Alternate Concentration Limit is different than that of a Maximum Concentration Limit. An ACL value may be site-specific and higher than the MCL, or other applicable environmental standards, if the local conditions and the habits of nearby residents warrant this type of risk assessment consideration. NRC approval requires an exposure assessment to demonstrate two things: 1) that the proposed ACL values pose no substantial present or future hazard to human health and the

environment, and 2) that the ACL values are as low as reasonably achievable (ALARA) after considering practical corrective actions. The proposed ACL values are justified for use as site-specific and health-based groundwater criteria.

The method used to calculate the constituent doses to be received by hypothetical groundwater and surface water users are consistent with recommendations in NUREG/CR-5512 (NRC, 1992). Where appropriate, generic parameter values provided in this document or other government guidance has been used in the calculations. These default values are suitable for screening purposes and are "intended to produce generic dose estimates that are unlikely to be exceeded at real sites" (p.1.2 NRC, 1992). Where data are available, site-specific parameter values have been used to calculate the doses to livestock and humans. As discussed in the body of the report, natural uranium, Th-230, Ra-226+Ra-228, and selenium are the site constituents under consideration for proposed ACL values. Other constituents listed under Criterion 13 of 10 CFR Part 40, Appendix A that must be addressed are chloride, total dissolved solids (TDS), and sulfate. The human health risk associated with exposure to chloride, TDS, and sulfate is considered very small and will be treated in a qualitative manner, since not enough information is available to assess the risk. This assessment is found in Appendix B.

Throughout this appendix, dose is used as a measure of intake of a chemical constituent (e.g. mg per kg-day by ingestion or inhalation). The conventional use of dose with respect to radiation exposures refers to absorbed energy from radiation per unit mass of absorbing medium, e.g. 100 ergs/gram (rad) of tissue. In order to convert a dose to risk, the total effective dose equivalent (TEDE) will be calculated rather than the radiological dose.

A.2 PATHWAY ANALYSIS AND EXPOSURE ESTIMATIONS

A.2.1 EXPOSURE PATHWAYS

An analysis of the environmental pathways that provide opportunities for human exposure to the site constituents includes: 1) an assessment of existing and potential water uses, 2) an identification of exposure pathways and estimates of exposure for the primary pathways, and 3) an evaluation of the likelihood that people will be exposed to the hazardous constituents.

People generally have potential contact with environmental contaminants by a variety of exposure pathways. The potential environmental pathways at this site for human exposure include:

- Ingestion of drinking water from wells
- Ingestion of locally-raised food products (meat, milk, poultry, eggs, vegetables) that may have been impacted by constituents in the water or soil
- External radiation from uranium and Th-230 in soil
- Ingestion of constituents in soil or dust
- Inhalation of airborne constituents in dust

<u>Spring Creek Exposure Scenario</u>

While the above potential exposure pathways exist, it is very unlikely that alluvial ground water or surface water will be used for drinking purposes along the two-mile stretch of Spring Creek between the tailings site and the confluence of the Little Medicine Bow River. No water wells or irrigation water rights currently exist and residential development in the area is very unlikely. It is also unlikely that an alluvial well will be drilled along Spring Creek since the alluvial system is very shallow. A deeper well into the White River Aquifer should, however, produce an adequate supply of higher quality water for a ranch house. Therefore for the Spring Creek Exposure Scenario, it is assumed that the ranch house is located along Spring Creek, the ranch family drinks their water from a deeper well, but that Spring Creek water is used for watering livestock

and irrigating pasture, hay fields, and a home garden. The constituent concentrations in agricultural water are assumed to be equal to the calculated time-weighted-average concentrations in Spring Creek. It is assumed that the ranch family obtains all of the beef, poultry, eggs, and 25 percent of their vegetables from the ranch.

Little Medicine Bow River Scenario

A higher probability exposure scenario is that a ranch house will be located just below the confluence of Spring Creek and the Little Medicine Bow River. Presently a ranch house does not exist on the Little Medicine Bow alluvium within 20 miles downstream of the confluence. The alluvial system is larger in this area and an alluvial drinking water well might support the needs of the ranch house. Therefore, for the Little Medicine Bow River Scenario, it is assumed that the family drinks their water from an alluvial well, but that river water is used for watering livestock and irrigating pasture, hay fields, and a home garden. The constituent concentrations for drinking and agricultural water are assumed to be equal to the calculated time-weighted-average concentrations in the Little Medicine Bow River. It is assumed that the ranch family obtains all of the beef, poultry, eggs, and 25 percent of their vegetables from the ranch.

A.2.2 QUANTIFYING EXPOSURES TO RESIDENTS

The basic methods for quantifying human exposures to a chemical are different for non-radioactive and radioactive constituents (EPA, 1989) and (NRC, 1992). Exposure estimates for uranium are assessed as both a toxic chemical and a radioactive material. Radium and Th-230 are assessed only for their radiological properties since chemical toxicity has not been demonstrated but is considered to be insignificant when compared to their radiological properties. The remaining non-radioactive constituents are assessed for chemical toxicity.

A.2.2.1 INTAKE RATES AND DIRECT RADIATION EXPOSURE

Intake rates are an expression of the quantity, or dose, of the constituents that enters the human body per unit time. For chemical toxins, that time period is one day, given a

rate unit of daily intake (DI). For radionuclides, the intake is described as the total quantity that enters the body over the period of exposure (TI). For assessing the chemical toxicity, the total intake at the POE, including that from natural background concentrations, is used. For carcinogens, it is customary to assess the incremental cancer risk above natural background. Since radionuclides are considered carcinogens, the intake rates for cancer risk assessments were calculated excluding the contribution from naturally occurring radionuclide concentrations in the soil and groundwater. Since the water in Spring Creek or the Little Medicine Bow River is considered to be the source of water, the naturally occurring background concentrations in the creek or river above the sites will be used in the calculations.

The average daily intake (DI) of toxic constituents describes the magnitude of human exposure from contact with environmental media. This is the average amount of each constituent that enters the body each day by any exposure pathway per unit body weight. The equation for calculating the daily intake of a constituent in tap water and food (EPA, 1989) is as follows:

$$DI = \{(C_w * IR + I_f)(EF * ED)\}/(BW*AT) \qquad \text{(A-1)}$$

where:

DI	=	average daily intake of constituent per unit body weight (mg/kg-day)
C_w	=	concentration of constituent in tap water (mg/l)
IR	=	intake rate (l/day)
I_f	=	constituent ingestion rate from food (mg/day)
EF	=	exposure frequency (day/year)
ED	=	exposure duration (years)
BW	=	body weight (kg)
AT	=	averaging time (days)

The potential toxic effects for chemicals may be compared to oral reference doses (RfD) developed by the U. S. EPA or other sources. These RfDs are levels where there is

reasonable certainty that no non-carcinogenic effects will result over a lifetime of exposure by large human populations. A ten- to one hundred- fold factor of conservatism has normally been used in deriving the RfD. The potential for toxic effects from uranium in hypothetical individuals living near the site may also be evaluated by estimating the average daily intake of uranium and the retention in the kidney over a period of several years, and by comparing the concentration of retained uranium to a reference safe level.

The potential annual radiation dose to individuals living near the site in the future is evaluated by calculating the annual total effective dose equivalent (TEDE) from ingested and inhaled uranium and Th-230. The potential lifetime cancer risk from intake of radionuclides is estimated by multiplying the estimated lifetime intake of the radionuclides by appropriate risk factors. The equation to calculate the daily ingestion rate for the internal radiation dose equivalent and lifetime risk calculation for a radionuclide is as follows:

$$IRG = (C_w * IR) + I_f \qquad \text{(A-2)}$$

where:

IRG = daily ingestion rate (mg/d)

The other parameters are the same as those defined in the previous equation.

Exposure to direct radiation from these constituents in the environment (build-up on irrigated lands) is an additional source of radiation dose. For external exposure to uranium, Ra-226+Ra-228, and Th-230 in soil, the exposure estimate for each radionuclide is the product of the concentration in soil (pCi/g) multiplied by a unit dose equivalent conversion factor and the fraction of the years exposed:

$$\text{Ext Rad} = C * (EF/365) * D_f \qquad \text{(A-3)}$$

where:

C	=	radionuclide concentration in soil, pCi/g
ExtRad	=	external gamma radiation, dose equivalent, mrem/y
D_f	=	external gamma radiation dose conversion factor, mrem/y/pCi/g for continuous exposure (365 d/y)
EF	=	Fraction of year (days)

A.2.2.2 VARIABILITY AMONG INDIVIDUALS

Within a single group of people (population), there is a wide variation in intake rates and, consequently, in the doses received by different people. However this individual variability within a single population is considered in developing the TEDE and chemical intake dose limits. It is, therefore, more important to determine the average exposure rates for the population.

The hypothetical individual or family living near this site would be expected to be similar to the average population as far as socio-economics and other factors for which conservative default values for modeling parameters have been developed. The one difference that is assumed is that the family would be more reliant on the land for food and water, for 350 days of the year.

For this risk assessment the most critical parameter is tap water consumption. A life-time average consumption rate of 1.11 liter/day is recommended by the EPA (EPA, 1999) which includes water in cooking and for beverages prepared using tap water. This was based on a survey for the Department of Agriculture (Ershow and Cantor, 1989).

A.2.2.3 EXPOSURE CONCENTRATION TERMS

The exposure concentration term is the concentration in the environmental pathway that is available for human intake. The exposure estimate for residents is the product of this concentration term for each environmental pathway and the human exposure parameter values. The projected concentrations for the constituents are used for calculating

intakes to humans and animals and for projecting the deposition of constituents in soil from land irrigation.

Table A.2-1 contains constituent concentrations in water that have been used in calculating the exposures. The annual time-weighted-average (TWA) concentrations are used in the human exposure assessments since the mountain stream flows vary significantly over time. Generally, the flows are at a maximum in the spring and early summer when snow melt and run off occur. The basis for the annual TWA results is given in Section 1.2.4.2.

Table A.2-1 CONCENTRATION OF CONSTITUENTS FOR EXPOSURE SCENARIOS

Constituent	Maximum Tailings Site Concentration at POE	Spring Creek TWA*	Spring Creek Background Concentration	L.Medicine Bow River TWA*	L. Medicine Bow River Background Concentration
Uranium (mg/l)	0.15	0.065	0.026	0.020	0.011
Th-230 (pCi/l)	0.3	0.15	0.1	0.21	0.22
Ra-226 + Ra-228 (pCi/l)	1.5	1.14	1	1.02	1
Selenium (mg/l)	0.0056	0.0024	0.001	0.0012	0.001
Chloride (mg/l)	118	39	5.3	9.8	3.7
Total Dissolved Solids (mg/l)	649	384	270	210	173
Sulfates (mg/l)	183**	73**	25.2	25.8**	15.8

* Time-Weighted-Average Concentration over one year
**Scaled from TDS concentrations

A.2.2.4 ENVIRONMENTAL BACKGROUND EXPOSURES

Determining the ingestion exposures to uranium, Ra-226 + Ra-228, and Th-230 due to groundwater concentrations at POE values requires information about the background environmental exposures to these constituents. Part of the total daily intake (DI) for the

hypothetical residents is attributable to background exposures. An estimate of the average background intake value from exposure to uranium in the environment from drinking water and food is 0.001 mg/day with a range of 6.0E-04 to 3.0E-03 mg/day (EPA, 1991b). For Th-230, not enough data exist to accurately determine an average background exposure (EPA, 1999). Cothern, 1987 estimated that the U. S. population intake of Th-230 from drinking water was <0.06 pCi/day and considered the intake from food as insignificant. Fisenne, 1987 estimated that the residents of New York City had an intake of 0.17 pCi/day from the inhalation and ingestion pathways.

The average local background soil concentration for uranium was determined from samples taken annually at the four environmental background stations around the mill site during the period 1988-1992. The mean measured concentration was 1.7 pCi/g. The same data set was evaluated for Th-230. However, all data for the year 1991 were <0.04 pCi/g, indicating probable laboratory error. Data from 1988 was substituted for the 1991 data leading to a mean Th-230 concentration of 1.3 pCi/g. The NRC has accepted 3 pCi/g as the background for Ra-226. No data exist on the Th-232 decay series and therefore no Ra-228 data exist. We therefore have used the 3 pCi/g as the background for the Ra-226 + Ra-228, knowing that this will probably be an underestimate of the background values. Average or typical background values for radionuclides in Spring Creek above the site for uranium, Th-230, and Ra-226 are 0.026 mg/l, <0.2 pCi/l, and 0.3 pCi/l, respectively.

Food and drinking water generally are the most significant pathways for human exposure to groundwater constituents. Exposure assessments for Maximum Concentration Limits (MCLs), and other similar guidelines for drinking water, also include the contribution of the average background daily intakes when developing concentration limits. Quantifying background environmental exposures is another source of uncertainty in total daily intakes (DI) estimates. Soil and water concentrations of these chemicals and individual dietary consumption patterns are the primary sources of variation in the background daily intake estimates. Concentrations of the constituents in

different kinds of food is not as important as the mix of food sources, or the fraction of foods that are consumed from one source such as locally-raised food products. The paucity of data describing these variations is a source of uncertainty in the estimates of background daily intakes.

A.3 QUANTIFYING HUMAN EXPOSURES FROM DRINKING WATER

A.3.1 EXPOSURE PARAMETER VALUES

Generic exposure parameters are used to calculate the ingestion of constituents from drinking water (NRC, 1992; EPA 1991a, 1991b, 1999). These parameter values are listed below in Table A.3-1.

TABLE A.3-1. PARAMETER VALUES FOR CALCULATING EXPOSURES FROM DRINKING WATER

Parameter	Average
Drinking water intake rate for all ages	1.11 l/day
Body Weight as an Adult	70 kg
Exposure Frequency	350 days/yr
Exposure Duration	30 years
Averaging Time	30 years x 365days

Averaging time is a term that is used to differentiate the mechanism of a toxic effect, for example, between short-term and chronic exposures to toxic chemicals (EPA, 1989). For carcinogens, the potential effect is considered to be proportional to the total intake throughout the lifetime of the exposed individual. It is, however, very unlikely that anyone will live at this remote site for 30 years.

A.3.2 WATER CONCENTRATION VALUES USED IN EXPOSURE ASSESSMENT

The concentration values for exposures to the primary site constituents are provided in Table A.2-1. Water quality data for the Spring Creek and Little Medicine Bow River scenarios are provided for uranium, Th-230, Ra-226+Ra-228, selenium, chloride, TDS, and sulfate. The background values are the estimated concentrations in Spring Creek above the tailings site and in Little Medicine Bow River up-gradient of the point of confluence with Spring Creek.

A.3.3 ESTIMATES OF INTAKES FROM DRINKING WATER

The daily intakes of constituents from drinking water are calculated using Equations A-1 or A-2 with the exposure parameter values in Section A.3.1, and the concentration values in Section A.3.2. The results are presented in the intake summary table, Table A.4-7.

A.4 EXPOSURES FROM AGRICULTURAL USES OF GROUND WATER

Exposure pathways considered for the hypothetical resident include crop irrigation and livestock watering that may impact locally raised food products. Contamination of locally-raised food products occurs when livestock are exposed both directly by ingestion of constituents in drinking water and indirectly through grazing or eating hay produced by land irrigation. Locally raised fruits and vegetables can incorporate constituents from irrigation, both indirectly through soil and directly from plant surfaces.

When ground water is used for livestock watering and irrigation, the transfer of primary constituents through the food chain depends on five parameters. These include the constituent soil concentrations in the root zone of irrigated fields, the agricultural biotransfer coefficients, livestock and human exposure factors such as the drinking water and food consumption rates, and the fraction of consumption that is locally raised.

Locally raised food products are evaluated in two groups according to the expected contribution to ingestion: meat and meat products including beef, chicken, milk and eggs; and vegetables and fruits.

A.4.1 QUANTIFYING ACL CONCENTRATIONS IN FOOD PRODUCTS

The calculation of the intake of primary constituents in locally raised foods includes locally grown vegetables, beef, dairy, and poultry products. Sources such as fruit, sheep and fish are not included in the exposure estimates since they would not be expected to significantly contribute to the dose. The transfer of constituents from the water to food products requires an estimate of the concentrations in soil from land irrigation using water at the projected time-weighted-average concentrations. These calculations are done in the following sections.

A.4.1.1 ESTIMATING SOIL CONCENTRATION VALUES

Concentrations of the constituents in the soil of irrigated fields are required to estimate the quantity of each constituent transferred from soil to vegetation, and then from

vegetation to food products for human consumption. Soil concentrations are defined as the quantity of each constituent per acre.

Factors required for estimating the accumulation of the constituents in irrigated fields include the ground-water application rate, the constituent concentrations, and the site soil density. The constituents are assumed to be adsorbed within the uppermost foot of soil. This is a conservative assumption since a significant fraction of the constituents will be transported naturally from the upper foot of soil to underlying soils.

Constituent concentration in one acre

$$C_{ac} = C_w * A * V * T \qquad \text{(A-4)}$$

where:

C_{ac}	=	Constituent concentration applied per year on one acre (g/ac or pCi/ac)
C_w	=	Concentration of constituent in ground water (mg/l or pCi/l)
A	=	Application rate is 1.67[a] ft of water to site per year (ft/yr)
V	=	Conversion - 28.3 l/ft^3
T	=	Conversion - 43,560 ft^2/ac

[a] - based on local USDA consumptive use data

Mass of soil per acre to a depth of 12 inches (1 foot)

$$kg / ac = (1.0\ ft)(90\# / ft^3) * (454\ g / \#) * (43{,}560\ ft^2 / ac) / 1000\ g / kg$$

$$= 1.78E06\ kg / ac$$

where soil density is 90# / ft^3

Annual (C_Y) accumulation of constituent concentrations in soil

$$C_Y = \text{mg (chemical)/ac/ (kg (soil)/ac)} \qquad \text{(A-5)}$$

For uranium:

$$= (0.065 \text{ mg/l} * 28.3 \text{ l/ft}^3 * 1.67 \text{ ft} * 43560 \text{ ft}^2\text{/ac})/1.78\text{E}06 \text{ kg/ac}$$

$$= 0.075 \text{ mg/kg-y}$$

<u>Lifetime (C_L) accumulation of constituent concentrations-30 years</u>

For uranium:

$$C_L = C_Y * 30 \text{ yrs} + \text{Background} \qquad \text{(A-6)}$$

$$= 0.075 \text{ mg/kg-y} * 30 \text{ y} + 2.5 \text{ mg/kg}$$

$$= 4.8\text{mg/kg}$$

The additional build up of uranium in the irrigated soils for the Spring Creek Exposure scenario would be 2.3 mg/kg, or a total concentration of 3250 pCi/kg which is approximately twice natural background.

Similar calculations predict constituent concentrations in soil after 30 years of irrigation as shown in Table A.4-1. The reported build up when the units are in terms of radioactivity (pCi/g) neglects the contribution of the natural background radioactivity in water and soil. For example, the net uranium in Spring Creek is 0.065 mg/l minus the background concentration of 0.026 mg/l, or 0.039 mg/l (26 pCi/l). The 30-year net buildup can be calculated by using 26 pCi/l as C_w in Equation A-4 and letting soil background equal zero in Equation A-6 for a 30-year buildup of 902 pCi/kg. The background data were obtained from soil samples taken near the site, as discussed in Section A.2.2.4.

Table A.4-1. CONSTITUENT CONCENTRATION IN SOIL AFTER THIRTY YEARS OF IRRIGATION

CONSTITUENT	UNITS	SPRING CREEK SCENARIO	L. MEDICINE BOW RIVER SCENARIO
Uranium	mg/kg	4.76	3.19
Uranium	pCi/kg	902	212
Ra-226+Ra-228	pCi/kg	4.86	0.69
Th-230	pCi/kg	1.73	0
Selenium	mg/kg	1.18	1.14

A.4.1.2 ESTIMATING VEGETATION CONCENTRATION VALUES

The agricultural biotransfer coefficients, in Tables A.4-2 and A.4-3 below, are generic values describing the transfer of the ACL constituents from soil to pasture grass and garden produce for livestock and human consumption (NRC 1992). These coefficients reflect differences in the environmental fate and transport of the constituents from soil to vegetation and they represent steady-state concentrations in vegetation under conditions of ongoing irrigation. The biotransfer coefficient (days/kg) for transfer from soil to vegetation is defined as follows:

mg (constituent) / kg (dry grass)
per
mg/day (intake)
or
pCi (constituent) / kg (dry grass)
per
pCi/day (intake) (A-7)

TABLE A.4-2. SOIL TO VEGETATION TRANSFER FACTORS (B_v).		
Constituent	Alfalfa and Leafy Vegetables	Root Vegetables
Uranium	1.7E-02	1.4E-02
Ra-226+Ra-228	7.5E-02	3.2E-03
Selenium	2.5E-02	2.5E-02
Th-230	6.6E-03	1.2E-04

The concentrations of ACL constituents in forage are calculated as the product of the concentration of each constituent in soil and a soil to forage (NRC, 1992) transfer coefficient. Vegetation concentrations are calculated as shown below:

$$C_f = C_L * B_v * f_{dw} \qquad \text{(A-8)}$$

where:

C_f = Constituent concentration in vegetation, mg/kg fresh weight

C_L = Constituent concentration in soil, mg/kg dry

B_v = Transfer factor from soil to vegetation, mg/kg dry vegetable x 1/(mg/kg soil - dry)

f_{dw} = dry/wet fraction of vegetation, kg dry veg/kg wet veg

Table A.4-5 shows the results of the calculations for ACL constituents in locally grown garden products.

A.4.1.3 ESTIMATING CONSTITUENT CONCENTRATIONS IN LIVESTOCK

The concentrations of ACL constituents in food products from livestock ingestion of water and irrigated pasture grass are quantified using the following equations.

Livestock Water to Animal Products:

$$C_f = C_w * Q * F_p * B \qquad \text{(A-9)}$$

Livestock Feed to Animal Products:

$$C_f = C_w * Q * F_p * B \qquad \text{(A-10)}$$

where:

C_f = Concentration of constituents in food products (mg/kg or pCi/kg)

C_w = Concentration in livestock water and feed (mg/l, mg/kg or pCi/kg)

Q = Livestock water and feed ingestion rate (l/day for water, kg (dry) /day for feed)

F_p = Fraction of the total annual a) livestock water from well is 1.0 (100%) and b) grass and hay grown by irrigation is 1(100%)

B = Biotransfer coefficient from livestock water and feed to food product concentration (days/kg)

Agricultural biotransfer factors are generic values describing the transfer of ACL constituents from feed to livestock product. These coefficients reflect differences in the bioavailability of the constituents in livestock. The transfer factors for animal feed to animal product are given in Table A.4-3.

Table A.4-3. AGRICULTURAL BIOTRANSFER COEFFICIENTS FROM FEED TO LIVESTOCK PRODUCT (NRC, 1992)

Food Product	Uranium day/kg wet wt.	Ra-226+Ra-228 day/kg wet wt.	Th-230 day/kg wet wt.	Selenium day/kg wet wt.
Beet Cattle	2.0E-04	2.5E-04	6.0E-06	1.5E-02
Dairy Cows	6.0E-04	4.5E-04	5.0E-06	4.00E-03
Poultry	1.2E-00	3.0E-02	4.0E-03	8.5E+00
Eggs	9.9E-01	2.0E-05	2.0E-03	9.3E+00

For the livestock intake to food product pathway the biotransfer coefficient (days/kg) is defined as:

$$\frac{mg\ (constituent)\ /\ kg\ (fresh\ animal\ product)}{mg\ /\ day\ (intake)} \qquad \text{(A-11)}$$

or

$$\frac{pCi\ (constituent)\ /\ kg\ (fresh\ animal\ product)}{pCi\ /\ day\ (intake)}$$

The concentrations of ACL constituents in food products are a function of the concentrations in livestock watering and pasture grass, livestock watering and feed intake rates, and biotransfer factors. Table A.4-4 below lists GENERIC feed and water intake rates. Where transfer factors are given on a dry weight basis, intake rates are modified by multiplying by the appropriate dry weight/wet weight ratio as given in NRC, 1992. While it is unlikely that 100 percent of the forage that livestock eats grows on irrigated fields, this value has been assumed for conservatism.

TABLE A.4-4. LIVESTOCK INTAKE RATES.

Livestock	Livestock Water Intake Rate (l/day)		Feed Intake Rate (kg/day –wet wt.)		Fraction of Feed
	Typical	Range[b]	Typical	Range[b]	Hay/Grass
Beef Cattle	50[a]	20 – 60	27[a]	15 – 30	1
Dairy Cows	60[a]	50 – 100	36[a]	26 – 64	1
Chicken	0.3[a]	0.1 – 0.3	0.13[a]	0.07 – 0.20	1

[a] – from NRC, 1992
[b] – IAEA, 1994

Table A.4-5 (Spring Creek scenario) and Table A.4-6 (Little Medicine Bow River scenario) provide the results of the ACL constituents transferred through the environment by ground water to meat and meat products, and from ground water

TABLE A.4-5 EXPOSURE PATHWAY ESTIMATES FROM LIVESTOCK WATERING AND FORAGE (SPRING CREEK)							
			URANIUM	URANIUM*	SELENIUM	Ra-226+Ra-228*	Th-230*
		units	mg/l	pCi/l	mg/l	pCi/l	pCi/l
Concentration in Water			0.065	26	0.0024	0.14	0.05
SOIL AND FORAGE CONCENTRATIONS							
Concentration applied per year on 1 acre		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
$C_{ac} = C_W*A*V*T$ (mg/ac-yr)			1.34E+05	5.35E+07	4.94E+03	2.88E+05	1.03E+05
C_W = concentration in ground water (mg/l)							
A = application rate	1.67	(ft/yr)					
V = conversion	28.3	(l/ft^3)					
T = conversion	43560	(ft^2/ac)					
Weight of soil per acre = Depth*D*W*T/1000 (kg/ac)		1.78E+06					
Depth	1	(ft)					
W = conversion	454	(gm/lb)					
D = soil density	90	(lb/ft^3)					
Concentration in soil		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
Avg. Background			2.5E+00	0.0E+00	1.1E+00	0.0E+00	0.0E+00
$C_Y = [(mg_{chemical}/ac)/(kg_{soil}/ac)]$			7.52E-02	3.01E+01	2.78E-03	1.62E-01	5.78E-02
$C_L = C_Y$*30 Years+Avg. Background			4.76E+00	9.02E+02	1.18E+00	4.86E+00	1.73E+00
Concentration in Forage		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
$C_W = C_L*B_V*f_{DW}$ (mg/kg) (wet)			1.62E-02	3.07E+00	5.92E-03	7.29E-02	2.29E-03
B_V = biotransfer coefficient, soil:forage (dry)			1.70E-02	1.70E-02	2.50E-02	7.50E-02	6.60E-03
f_{DW} = dry to wet fraction of vegetation	0.2						
EXPOSURE ESTIMATES FOR PATHWAY FROM LIVESTOCK FEED AND WATERING TO FOOD							
Livestock Watering - Beef - Meat		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
$C_F = C_W*Q*F_P*B$ (mg/kg) (wet)			6.50E-04	2.60E-01	1.80E-03	1.75E-03	1.50E-05
C_W = concentration in ground water (mg/l)			6.50E-02	2.60E+01	2.40E-03	1.40E-01	5.00E-02
Q = water intake rate (l/day)	50						
F_P = fraction of water from well	1						
B = biotransfer coefficient intake to meat (day/kg)			2.00E-04	2.00E-04	1.50E-02	2.50E-04	6.00E-06
Irrigation - Forage - Beef - Meat		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
$C_F = C_W*Q*F_P*B$ (mg/kg) (wet)			8.73E-05	1.66E-02	2.40E-03	4.92E-04	3.71E-07
C_W = concentration in forage (mg/kg) (wet)			1.62E-02	3.07E+00	5.92E-03	7.29E-02	2.29E-03
Q = food intake rate (kg/day) (wet)	27						
F_P = fraction of feed from irrigated pasture	1						
B = biotransfer coefficient forage to meat (day/kg)			2.00E-04	2.00E-04	1.50E-02	2.50E-04	6.00E-06
Livestock Watering - Poultry - Meat		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
$C_F = C_W*Q*F_P*B$ (mg/kg) (wet)			2.34E-02	9.36E+00	6.12E-03	1.26E-03	6.00E-05
C_W = concentration in ground water (mg/l)			6.50E-02	2.60E+01	2.40E-03	1.40E-01	5.00E-02
Q = water intake rate (l/day)	0.3						
F_P = fraction of water from well	1						
B = biotransfer coefficient intake to meat (day/kg)			1.20E+00	1.20E+00	8.50E+00	3.00E-02	4.00E-03

TABLE A.4-5 EXPOSURE PATHWAY ESTIMATES FROM LIVESTOCK WATERING AND FORAGE (SPRING CREEK)							
Irrigation - Forage - Poultry - Meat		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in meat = C_W*Q*F_P*B (mg/kg) (wet)			2.52E-03	4.79E-01	6.54E-03	2.84E-04	1.19E-06
C_W = concentration in forage (mg/kg) (wet)			1.62E-02	3.07E+00	5.92E-03	7.29E-02	2.29E-03
Q = food intake rate (kg/day) (wet)	0.13						
F_P = fraction of feed from irrigated pasture	1						
B = biotransfer coefficient forage to meat (day/kg)			1.20E+00	1.20E+00	8.50E+00	3.00E-02	4.00E-03
Livestock Watering - Poultry - Eggs		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in meat = C_W*Q*F_P*B (mg/kg) (wet)			1.93E-02	7.72E+00	6.70E-03	8.40E-07	3.00E-05
C_W = concentration in ground water (mg/l)			6.50E-02	2.60E+01	2.40E-03	1.40E-01	5.00E-02
Q = water intake rate (l/day)	0.3						
F_P = fraction of water from well	1						
B = biotransfer coefficient intake to meat (day/kg)			9.90E-01	9.90E-01	9.30E+00	2.00E-05	2.00E-03
Irrigation - Forage - Poultry - Eggs		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in meat = C_W*Q*F_P*B (mg/kg) (wet)			2.08E-03	3.95E-01	7.15E-03	1.89E-07	5.95E-07
C_W = concentration in forage (mg/kg) (wet)			1.62E-02	3.07E+00	5.92E-03	7.29E-02	2.29E-03
Q = food intake rate (kg/day) (wet)	0.13						
F_P = fraction of feed from irrigated pasture	1						
B = biotransfer coefficient forage to meat (day/kg)			9.90E-01	9.90E-01	9.30E+00	2.00E-05	2.00E-03
Livestock Watering - Cow - Milk		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in meat = C_W*Q*F_P*B (mg/kg) (wet)			2.34E-03	9.36E-01	5.76E-04	3.78E-03	1.50E-05
C_W = concentration in ground water (mg/l)			6.50E-02	2.60E+01	2.40E-03	1.40E-01	5.00E-02
Q = water intake rate (l/day)	60						
F_P = fraction of water from well	1						
B = biotransfer coefficient intake to meat (day/kg)			6.00E-04	6.00E-04	4.00E-03	4.50E-04	5.00E-06
Irrigation - Forage - Cow - Milk		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in meat = C_W*Q*F_P*B (mg/kg) (wet)			3.49E-04	6.63E-02	8.52E-04	1.18E-03	4.12E-07
C_W = concentration in forage (mg/kg) (wet)			1.62E-02	3.07E+00	5.92E-03	7.29E-02	2.29E-03
Q = food intake rate (kg/day) (wet)	36						
F_P = fraction of feed from irrigated pasture	1						
B = biotransfer coefficient forage to meat (day/kg)			6.00E-04	6.00E-04	4.00E-03	4.50E-04	5.00E-06
Soil - Leafy Garden Produce		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in leafy vegetables = C_L*B_V*f_{DW} (mg/kg) (wet)			1.62E-02	3.07E+00	5.92E-03	7.29E-02	2.29E-03
C_L = concentration in soil (mg/kg) (wet)			4.76E+00	9.02E+02	1.18E+00	4.86E+00	1.73E+00
B_V = biotransfer coefficient, soil:forage (dry)			1.70E-02	1.70E-02	2.50E-02	7.50E-02	6.60E-03
f_{DW} = dry to wet fraction of vegetation	0.2						
Soil - Root Garden Produce		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in leafy vegetables = C_L*B_V*f_{DW} (mg/kg) (wet)			1.66E-02	3.16E+00	7.40E-03	3.89E-03	5.20E-05
C_L = concentration in soil (mg/kg) (wet)			4.76E+00	9.02E+02	1.18E+00	4.86E+00	1.73E+00
B_V = biotransfer coefficient, soil:forage (dry)			1.40E-02	1.40E-02	2.50E-02	3.20E-03	1.20E-04
f_{DW} = dry to wet fraction of vegetation	0.25						
* Calculations made using above-background water and soil concentrations.							

TABLE A.4-6 EXPOSURE PATHWAY ESTIMATES FROM LIVESTOCK WATERING AND FORAGE (LITTLE MEDICINE BOW RIVER)							
			URANIUM	URANIUM*	SELENIUM	Ra-226+Ra-228*	Th-230*
		units	mg/l	pCi/l	mg/l	pCi/l	pCi/l
Concentration in Water			0.02	6.1	0.0012	0.02	0
SOIL AND FORAGE CONCENTRATIONS							
Concentration applied per year on 1 acre		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
$C_{ac} = C_W*A*V*T$ (mg/ac-yr)			4.12E+04	1.26E+07	2.47E+03	4.12E+04	0.00E+00
C_W = concentration in ground water (mg/l)							
A = application rate	1.67	(ft/yr)					
V = conversion	28.3	(l/ft^3)					
T = conversion	43560	(ft^2/ac)					
Weight of soil per acre = Depth*D*W*T/1000 (kg/ac)		1.78E+06					
Depth	1	(ft)					
W = conversion	454	(gm/lb)					
D = soil density	90	(lb/ft^3)					
Concentration in soil		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
Avg. Background			2.5E+00	0.0E+00	1.1E+00	0.0E+00	0.0E+00
$C_Y = [(mg_{chemical}/ac)/(kg_{soil}/ac)]$			2.31E-02	7.06E+00	1.39E-03	2.31E-02	0.00E+00
$C_L = C_Y$*30 Years+Avg. Background			3.19E+00	2.12E+02	1.14E+00	6.94E-01	0.00E+00
Concentration in Forage		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
$C_W = C_L*B_V*f_{DW}$ (mg/kg) (wet)			1.09E-02	7.20E-01	5.71E-03	1.04E-02	0.00E+00
B_V = biotransfer coefficient, soil:forage (dry)			1.70E-02	1.70E-02	2.50E-02	7.50E-02	6.60E-03
f_{DW} = dry to wet fraction of vegetation	0.2						
EXPOSURE ESTIMATES FOR PATHWAY FROM LIVESTOCK FEED AND WATERING TO FOOD							
Livestock Watering - Beef - Meat		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
$C_F = C_W*Q*F_P*B$ (mg/kg) (wet)			2.00E-04	6.10E-02	9.00E-04	2.50E-04	0.00E+00
C_W = concentration in ground water (mg/l)			2.00E-02	6.10E+00	1.20E-03	2.00E-02	0.00E+00
Q = water intake rate (l/day)	50						
F_P = fraction of water from well	1						
B = biotransfer coefficient intake to meat (day/kg)			2.00E-04	2.00E-04	1.50E-02	2.50E-04	6.00E-06
Irrigation - Forage - Beef - Meat		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
$C_F = C_W*Q*F_P*B$ (mg/kg) (wet)			5.86E-05	3.89E-03	2.31E-03	7.03E-05	0.00E+00
C_W = concentration in forage (mg/kg) (wet)			1.09E-02	7.20E-01	5.71E-03	1.04E-02	0.00E+00
Q = food intake rate (kg/day) (wet)	27						
F_P = fraction of feed from irrigated pasture	1						
B = biotransfer coefficient forage to meat (day/kg)			2.00E-04	2.00E-04	1.50E-02	2.50E-04	6.00E-06
Livestock Watering - Poultry - Meat		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
$C_F = C_W*Q*F_P*B$ (mg/kg) (wet)			7.20E-03	2.20E+00	3.06E-03	1.80E-04	0.00E+00
C_W = concentration in ground water (mg/l)			2.00E-02	6.10E+00	1.20E-03	2.00E-02	0.00E+00
Q = water intake rate (l/day)	0.3						
F_P = fraction of water from well	1						
B = biotransfer coefficient intake to meat (day/kg)			1.20E+00	1.20E+00	8.50E+00	3.00E-02	4.00E-03

TABLE A.4-6 EXPOSURE PATHWAY ESTIMATES FROM LIVESTOCK WATERING AND FORAGE (LITTLE MEDICINE BOW RIVER)							
Irrigation - Forage - Poultry - Meat		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in meat = C_W*Q*F_P*B (mg/kg) (wet)			1.69E-03	1.12E-01	6.31E-03	4.06E-05	0.00E+00
C_W = concentration in forage (mg/kg) (wet)			1.09E-02	7.20E-01	5.71E-03	1.04E-02	0.00E+00
Q = food intake rate (kg/day) (wet)	0.13						
F_P = fraction of feed from irrigated pasture	1						
B = biotransfer coefficient forage to meat (day/kg)			1.20E+00	1.20E+00	8.50E+00	3.00E-02	4.00E-03
Livestock Watering - Poultry - Eggs		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in meat = C_W*Q*F_P*B (mg/kg) (wet)			5.94E-03	1.81E+00	3.35E-03	1.20E-07	0.00E+00
C_W = concentration in ground water (mg/l)			2.00E-02	6.10E+00	1.20E-03	2.00E-02	0.00E+00
Q = water intake rate (l/day)	0.3						
F_P = fraction of water from well	1						
B = biotransfer coefficient intake to meat (day/kg)			9.90E-01	9.90E-01	9.30E+00	2.00E-05	2.00E-03
Irrigation - Forage - Poultry - Eggs		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in meat = C_W*Q*F_P*B (mg/kg) (wet)			1.40E-03	9.26E-02	6.90E-03	2.71E-08	0.00E+00
C_W = concentration in forage (mg/kg) (wet)			1.09E-02	7.20E-01	5.71E-03	1.04E-02	0.00E+00
Q = food intake rate (kg/day) (wet)	0.13						
F_P = fraction of feed from irrigated pasture	1						
B = biotransfer coefficient forage to meat (day/kg)			9.90E-01	9.90E-01	9.30E+00	2.00E-05	2.00E-03
Livestock Watering - Cow - Milk		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in meat = C_W*Q*F_P*B (mg/kg) (wet)			7.20E-04	2.20E-01	2.88E-04	5.40E-04	0.00E+00
C_W = concentration in ground water (mg/l)			2.00E-02	6.10E+00	1.20E-03	2.00E-02	0.00E+00
Q = water intake rate (l/day)	60						
F_P = fraction of water from well	1						
B = biotransfer coefficient intake to meat (day/kg)			6.00E-04	6.00E-04	4.00E-03	4.50E-04	5.00E-06
Irrigation - Forage - Cow - Milk		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in meat = C_W*Q*F_P*B (mg/kg) (wet)			2.35E-04	1.55E-02	8.22E-04	1.69E-04	0.00E+00
C_W = concentration in forage (mg/kg) (wet)			1.09E-02	7.20E-01	5.71E-03	1.04E-02	0.00E+00
Q = food intake rate (kg/day) (wet)	36						
F_P = fraction of feed from irrigated pasture	1						
B = biotransfer coefficient forage to meat (day/kg)			6.00E-04	6.00E-04	4.00E-03	4.50E-04	5.00E-06
Soil - Leafy Garden Produce		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in leafy vegetables = C_L*B_V*f_{DW} (mg/kg) (wet)			1.09E-02	7.20E-01	5.71E-03	1.04E-02	0.00E+00
C_L = concentration in soil (mg/kg) (wet)			3.19E+00	2.12E+02	1.14E+00	6.94E-01	0.00E+00
B_V = biotransfer coefficient, soil:forage (dry)			1.70E-02	1.70E-02	2.50E-02	7.50E-02	6.60E-03
f_{DW} = dry to wet fraction of vegetation	0.2						
Soil - Root Garden Produce		units	mg/kg	pCi/kg	mg/kg	pCi/kg	pCi/kg
C_F = concentration in leafy vegetables = C_L*B_V*f_{DW} (mg/kg) (wet)			1.12E-02	7.41E-01	7.14E-03	5.55E-04	0.00E+00
C_L = concentration in soil (mg/kg) (wet)			3.19E+00	2.12E+02	1.14E+00	6.94E-01	0.00E+00
B_V = biotransfer coefficient, soil:forage (dry)			1.40E-02	1.40E-02	2.50E-02	3.20E-03	1.20E-04
f_{DW} = dry to wet fraction of vegetation	0.25						
* Calculations made using above-background water and soil concentrations.							

through irrigated soil and pasture grass or hay to meat and meat products. The total constituent concentration in these food products is the sum of these intakes.

A.4.2 HUMAN EXPOSURE ESTIMATES FOR INGESTION OF LOCALLY-RAISED FOOD PRODUCTS

The ingestion of ACL constituents from locally raised food products is determined by using the equation to estimate exposure in Section A.2.2, Quantifying Exposures to Residents. The total food intake rates for the hypothetical individuals living near the Shirley Basin site were selected from sources recommended by the EPA as given in Table A.4-7.

TABLE A.4-7. AVERAGE DAILY INGESTION RATES FOR FOOD PRODUCTS.

FOOD PRODUCT	TOTAL ADULT INGESTION RATE[a] (per day)	ADULT INGESTION RATE (local foods) (per day)
Beef	0.0929 kg	0.0929 kg
Poultry	0.0289 kg	0.0289 kg
Milk	0.243 l	0.243 l
Eggs	0.0291 kg	0.0291 kg
Leafy Vegetables	0.045 kg	0.011 kg
Root Vegetables	0.15 kg	0.038 kg

[a] = EPA, 1984; EPA, 1999

There is no standard guidance on the fraction of food ingested that is locally raised, so a value of 100% was assumed for beef. This value is considered high based on today's lifestyles but is possible considering the remoteness of the site. The fraction of locally-raised leafy and root vegetables was taken at the default value are 25% (NRC, 1992). It is assumed that the resident eats all locally grown poultry, milk, or eggs. The exposure frequency is 350 days per year to adjust for the data being in terms of yearly intake rates (EPA, 1989). Average total daily food product ingestion rates, as well as fractional rates, are presented in Table A.4-7.

Tables A.4-8 and A.4-9 present the total dose calculations for the ingestion of ACL constituents in drinking water and food for the Spring Creek scenario and Little Medicine

Bow River, respectively. The basic formulae used and the input parameters are also given in the table. For uranium, the total chemical dose in mg/day-kg is calculated using parameters that include the effect of natural background concentrations in Spring Creek or Little Medicine Bow River water and the local soils. This is done to assess the chemical toxic effect of uranium. For the radiogenic effects of uranium, Ra-226+Ra-228, and Th-230, the intake is calculated assuming the natural background concentrations in soil and water are zero. This results in the incremental dose above that which the hypothetical individual would have received if the Shirley Basin Mill and Mine had never operated. As can be seen from the Tables 4-8 and 4-9, the contribution to the total dose from food products when the water is also used for drinking is less than five percent for all constituents, except selenium for which the food contribution is approximately 50 percent.

The assumptions in the dose calculations are considered conservative for several reasons. Grain to feed dairy cows and chickens is not normally grown locally due to the short growing season and other climatic conditions. Therefore, dairy cows and chickens are uncommon in this area. In addition, it would be difficult to produce a significant fraction of the family produce for the same reasons. The growing of hay for beef production is more common. A rancher and family may, however, eat more beef than the average U.S. citizen, which may compensate for some of the conservatism in the other assumptions. In addition, a residence time of 30 years was used which is believed to be conservative due to the remoteness of the site.

Table A.4-8 DOSE CALCULATION FOR INGESTION OF CONSTITUENTS IN DRINKING WATER AND FOOD (SPRING CREEK)

Dose from Drinking Water (DI)

0 **DI = Cw*(IR*EF*ED/BW*AT) mg/day-kg or pCi/day-kg**

Cw = Concentration in drinking water (mg/l or pCi/l)

IR = intake rate (l/day)	=	0
BW = body weight (kg)	=	70
EF = exposure frequency (day/yr)	=	350
ED = exposure duration (yr)	=	30
AT = averaging time (days)=30*365	=	10950

Dose to Humans from Drinking Water

Element		Radioactive Elements*		
mg/day-kg		pCi/day-kg		
Uranium	Selenium	Uranium	Th-230	Ra-226+Ra-228
0.00E+00	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**
0.065	0.0024	26	0.05	0.14

Dose from Food (DI)

DI = Cw*(IR*EF*ED/BW*AT) mg/day-kg or pCi/day-kg

Cw = Concentration in food (mg/kg or pCi/kg)
(livestock watering + irrigation)

IR = Ingestion rate (kg/day)		
BW = body weight (kg)	70	
EF = exposure frequency (day/yr)	350	
ED = exposure duration (yr)	30	
AT = averaging time (days)	10950	(30*365)

Dose to Humans from Locally-Raised Food

		Elements		Radioactive Elements*		
		mg/day-kg		pCi/day-kg		
		Uranium	Selenium	Uranium	Th-230	Ra-226+Ra-228
Beef						
Watering (mg/kg or pCi/kg)		6.50E-04	1.80E-03	2.60E-01	1.50E-05	1.75E-03
Forage (mg/kg or pCi/kg)		8.73E-05	2.40E-03	1.66E-02	3.71E-07	4.92E-04
Total Exposure (mg/kg or pCi/kg)		7.37E-04	4.20E-03	2.77E-01	1.54E-05	2.24E-03
Ingestion rate (kg/day)	0.0929					
Total dose from meat (mg/day-kg or pCi/day-kg)		**9.38E-07**	**5.34E-06**	**3.52E-04**	**1.96E-08**	**2.85E-06**
Chicken						
Watering (mg/kg or pCi/kg)		2.34E-02	6.12E-03	9.36E+00	6.00E-05	1.26E-03
Forage (mg/kg or pCi/kg)		2.52E-03	6.54E-03	4.79E-01	1.19E-06	2.84E-04
Total Exposure (mg/kg or pCi/kg)		2.59E-02	1.27E-02	9.84E+00	6.12E-05	1.54E-03
Ingestion rate (kg/day)	0.0289					
Total dose from chicken (mg/day-kg or pCi/day-kg)		**1.03E-05**	**5.01E-06**	**3.90E-03**	**2.42E-08**	**6.11E-07**
Milk						
Watering (mg/kg or pCi/kg)		2.34E-03	5.76E-04	9.36E-01	1.50E-05	3.78E-03
Forage (mg/kg or pCi/kg)		3.49E-04	8.52E-04	6.63E-02	4.12E-07	1.18E-03
Total Exposure (mg/kg or pCi/kg)		2.69E-03	1.43E-03	1.00E+00	1.54E-05	4.96E-03
Ingestion rate (kg/day)	0.243					
Total dose from milk (mg/day-kg or pCi/day-kg)		**8.95E-06**	**4.75E-06**	**3.34E-03**	**5.13E-08**	**1.65E-05**
Eggs						
Watering (mg/kg or pCi/kg)		1.93E-02	6.70E-03	7.72E+00	3.00E-05	8.40E-07
Forage (mg/kg or pCi/kg)		2.08E-03	7.15E-03	3.95E-01	5.95E-07	1.89E-07
Total Exposure (mg/kg or pCi/kg)		2.14E-02	1.39E-02	8.12E+00	3.06E-05	1.03E-06
Ingestion rate (kg/day)	0.0291					
Total dose from eggs (mg/day-kg or pCi/day-kg)		**8.52E-06**	**5.52E-06**	**3.23E-03**	**1.22E-08**	**4.10E-10**
Vegetables						
Leafy (mg/kg or pCi/kg)		1.62E-02	5.92E-03	3.07E+00	2.29E-03	7.29E-02
Root (mg/kg or pCi/kg)		1.66E-02	7.40E-03	3.16E+00	5.20E-05	3.89E-03
Total (mg/kg or pCi/kg)		3.28E-02	1.33E-02	6.23E+00	2.34E-03	7.68E-02
Ingestion rate (kg/day) (leafy)	0.011					
Ingestion rate (kg/day) (root)	0.038					
Total dose from vegetables (mg/day-kg or pCi/day-kg)		**1.11E-05**	**4.74E-06**	**2.11E-03**	**3.72E-07**	**1.30E-05**
TOTAL DOSE FROM FOOD	**mg/day-kg**	**3.98E-05**	**2.54E-05**			
	pCi/day-kg			**1.29E-02**	**4.79E-07**	**3.30E-05**
TOTAL DOSE	**mg/day-kg**	**3.98E-05**	**2.54E-05**			
	pCi/day-kg			**1.29E-02**	**4.79E-07**	**3.30E-05**

*Calculations made using above-background water and soil concentrations.

Table A.4-9 DOSE CALCULATION FOR INGESTION OF CONSTITUENTS IN DRINKING WATER AND FOOD (LITTLE MEDICINE BOW RIVER)

Dose to Humans from Drinking Water

Element		Radioactive Elements*		
mg/day-kg		pCi/day-kg		
Uranium	Selenium	Uranium	Th-230	Ra-226+Ra-228
3.04E-04	**1.82E-05**	**9.28E-02**	**0.00E+00**	**3.04E-04**
0.02	0.0012	6.1	0	0.02

Dose from Drinking Water (DI)

DI = Cw*(IR*EF*ED/BW*AT) mg/day-kg or pCi/day-kg

Cw = Concentration in drinking water (mg/l or pCi/l)

IR = intake rate (l/day)	=	1.11
BW = body weight (kg)	=	70
EF = exposure frequency (day/yr)	=	350
ED = exposure duration (yr)	=	30
AT = averaging time (days)=30*365	=	10950

Dose from Food (DI)

DI = Cw*(IR*EF*ED/BW*AT) mg/day-kg or pCi/day-kg

Cw = Concentration in food (mg/kg or pCi/kg)
(livestock watering + irrigation)

IR = Ingestion rate (kg/day)		
BW = body weight (kg)	70	
EF = exposure frequency (day/yr)	350	
ED = exposure duration (yr)	30	
AT = averaging time (days)	10950	(30*365)

Dose to Humans from Locally-Raised Food

		Elements		Radioactive Elements*		
		mg/day-kg		pCi/day-kg		
		Uranium	Selenium	Uranium	Th-230	Ra-226+Ra-228
Beef						
Watering (mg/kg or pCi/kg)		2.00E-04	9.00E-04	6.10E-02	0.00E+00	2.50E-04
Forage (mg/kg or pCi/kg)		5.86E-05	2.31E-03	3.89E-03	0.00E+00	7.03E-05
Total Exposure (mg/kg or pCi/kg)		2.59E-04	3.21E-03	6.49E-02	0.00E+00	3.20E-04
Ingestion rate (kg/day)	0.0929					
Total dose from meat (mg/day-kg or pCi/day-kg)		**3.29E-07**	**4.09E-06**	**8.26E-05**	**0.00E+00**	**4.08E-07**
Chicken						
Watering (mg/kg or pCi/kg)		7.20E-03	3.06E-03	2.20E+00	0.00E+00	1.80E-04
Forage (mg/kg or pCi/kg)		1.69E-03	6.31E-03	1.12E-01	0.00E+00	4.06E-05
Total Exposure (mg/kg or pCi/kg)		8.89E-03	9.37E-03	2.31E+00	0.00E+00	2.21E-04
Ingestion rate (kg/day)	0.0289					
Total dose from chicken (mg/day-kg or pCi/day-kg)		**3.52E-06**	**3.71E-06**	**9.15E-04**	**0.00E+00**	**8.73E-08**
Milk						
Watering (mg/kg or pCi/kg)		7.20E-04	2.88E-04	2.20E-01	0.00E+00	5.40E-04
Forage (mg/kg or pCi/kg)		2.35E-04	8.22E-04	1.55E-02	0.00E+00	1.69E-04
Total Exposure (mg/kg or pCi/kg)		9.55E-04	1.11E-03	2.36E-01	0.00E+00	7.09E-04
Ingestion rate (kg/day)	0.243					
Total dose from milk (mg/day-kg or pCi/day-kg)		**3.18E-06**	**3.69E-06**	**7.84E-04**	**0.00E+00**	**2.36E-06**
Eggs						
Watering (mg/kg or pCi/kg)		5.94E-03	3.35E-03	1.81E+00	0.00E+00	1.20E-07
Forage (mg/kg or pCi/kg)		1.40E-03	6.90E-03	9.26E-02	0.00E+00	2.71E-08
Total Exposure (mg/kg or pCi/kg)		7.34E-03	1.03E-02	1.90E+00	0.00E+00	1.47E-07
Ingestion rate (kg/day)	0.0291					
Total dose from eggs (mg/day-kg or pCi/day-kg)		**2.93E-06**	**4.09E-06**	**7.58E-04**	**0.00E+00**	**5.86E-11**
Vegetables						
Leafy (mg/kg or pCi/kg)		1.09E-02	5.71E-03	7.20E-01	0.00E+00	1.04E-02
Root (mg/kg or pCi/kg)		1.12E-02	7.14E-03	7.41E-01	0.00E+00	5.55E-04
Total (mg/kg or pCi/kg)		2.21E-02	1.29E-02	1.46E+00	0.00E+00	1.10E-02
Ingestion rate (kg/day) (leafy)	0.011					
Ingestion rate (kg/day) (root)	0.038					
Total dose from vegetables (mg/day-kg or pCi/day-kg)		**7.47E-06**	**4.58E-06**	**4.94E-04**	**0.00E+00**	**1.86E-06**
TOTAL DOSE FROM FOOD	**mg/day-kg**	**1.74E-05**	**2.02E-05**			
	pCi/day-kg			**3.03E-03**	**0.00E+00**	**4.71E-06**
TOTAL DOSE	**mg/day-kg**	**3.22E-04**	**3.84E-05**			
	pCi/day-kg			**9.58E-02**	**0.00E+00**	**3.09E-04**

*Calculations made using above-background water and soil concentrations.

A.5 EXPOSURES FROM INCIDENTAL CONTACT WITH SOIL AND DUST

Residents may be exposed to ACL constituents by ingesting small amounts of dust during hand to mouth contact, by inhalation, or by proximity to surface soils emitting very low doses of gamma radiation from uranium. The source of the contamination in the dust for this hypothetical exposure situation is from the direct application of ground water by irrigation. Exposure to ACL constituents by inhalation of contaminated dust is another potential pathway. Inhalation exposure is expected to be very small due to the low concentrations in the irrigated soils and to the dilution effect of air releases, which further reduce the contribution of the already minor inhalation pathway.

The soil ingestion rate is used with the other generic exposure parameter values for the average resident (EPA, 1989) as presented in Table A.5-1.

TABLE A.5-1. EXPOSURE PARAMETER VALUES FOR INGESTION OF SOIL.

PARAMETER	EXPOSURE VALUE
Soil Ingestion Rate for Adults	50 mg/day
Inhalation Rate for Adults	28.8 m^3/day
Exposure Frequency	350 days
Exposure Duration as an Adult	30 years

The concentration terms for calculating doses expected from ingestion of contaminated dust are the predicted levels of constituents in fields that have been irrigated with ground water at the POE values for 30 years as listed in Table A.4-1. Daily intake estimates from the incidental ingestion of constituents in surface dusts for the most restrictive Spring Creek scenario (for this pathway) are shown in Table A.5-2. These exposure values are calculated by multiplying the 30-year build-up concentration (from Table A.4-1) in dust by the exposure parameter values presented in Table A.5-1.

TABLE A.5-2. INGESTION OF INCIDENTAL DUST (SPRING CREEK SCENARIO)	
	INTAKE
Uranium	2.4E-04 mg/day
Th-230	8.7E-05 pCi/day
Ra-226+Ra-228	2.4E-04 pCi/day
Selenium	5.9E-05 mg/day

These intake rates are less than few percent of the corresponding intake rates from the food pathway (see Table A.4-8), and thus have not been included in the risk assessment.

A.6 SUMMARY

Human exposures have been evaluated using two different scenarios. The Spring Creek scenario assumes that water in Spring Creek is used for watering livestock and irrigating fields and a home garden. Since the alluvial aquifer is not expected to produce adequate quantities of water for a ranch house, it was assumed that the well was completed in a deeper, higher quality aquifer.

The Little Medicine Bow River scenario did assume that the drinking water was coming from an alluvial well with water quality similar to that calculated for river water. The other exposure pathways are identical to that in the Spring Creek scenario.

Even though the concentrations of constituents in the Little Medicine Bow River are much lower than in Spring Creek, the dose calculations in Tables A.4.8 and A.4.9 show that the doses are approximately ten times higher in the Little Medicine Bow River scenario. This illustrates the importance of the drinking water pathway in determining the total dose. These low intake values will be shown in Appendix B to result in very insignificant doses to humans.

The human health risk assessment (see Appendix B) considers only the results from the Little Medicine Bow River scenario since it is the more conservative scenario.

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APPENDIX B
HUMAN HEALTH HAZARDS

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B.1 INTRODUCTION

The objective of the toxicity assessment is to evaluate the potential adverse health effects from chronic or lifetime exposures to the constituents of concern at the projected concentrations. This toxicity assessment presents an overview of the current toxicity knowledge on the health effects associated with the expected exposures.

The route of exposure can include ingestion, inhalation, and/or dermal absorption. As demonstrated by the exposure estimates in Appendix A, the most significant pathway for human exposure to ground water is the ingestion of drinking water. Dermal exposure is not significant for the constituents because they are not easily transported across the skin barrier. Inhalation, also, is an insignificant exposure pathway at this site, as discussed in Appendix A. Thus, information that is relevant to the ingestion of these constituents (oral exposure) is the focus of this toxicity evaluation.

The health effects from chronic exposure to the constituents of concern at this site fall into four groups, those constituents that are chemical toxins or carcinogens (selenium), those that are both chemical toxins and radioactive (uranium), those that are carcinogens because of their radioactive properties (radium and thorium), and those considered to have low toxicity properties for which little information exists (total dissolved solids, sulfate, and chloride). The radioactive carcinogenic effects for most radionuclides normally overwhelm any chemical carcinogenic effects.

The concentrations used in this analysis correspond to the time-weighted-average (TWA) concentrations at the point of exposure. For chemical toxicity assessments, the total constituent concentration has been used, including background levels. For calculating carcinogenic effects, the incremental effects are calculated by modeling the intakes using the concentrations above natural background levels.

B.2 CHRONIC CHEMICAL HEALTH EFFECTS

The duration of exposure is an important factor in understanding the potential for adverse chronic health effects. The exposure analysis discussed in Appendix A conservatively assumes thirty years of exposure. The intake of the constituents in terms of mg/kg-day was calculated for each of the constituents for two exposure scenarios. The human intake values for the most limiting exposure scenario, Little Medicine Bow River scenario, will be used in this assessment

B.2.1 HUMAN HEALTH ASSESSMENT FOR URANIUM CHEMICAL TOXICITY

B.2.1.1 BACKGROUND INFORMATION

Chemotoxicity in the kidney is recognized as the limiting adverse health effect from the ingestion of soluble uranium. In the bloodstream, uranium forms low-molecular weight bicarbonate complexes. About 60% of the uranium in this form in the bloodstream is eliminated with the urine. In acidic urine, the remaining 40% dissociates from the bicarbonate complex as soluble uranium oxide ions (UO_2^{2+}), which is a more bioavailable form of uranium. The uranium oxide ions bind to tissue protein in the kidney tubules where it accumulates.

Uranium targets the kidney tubule cells by initially interfering with their normal filtration function to preferentially extract water-soluble wastes from the bloodstream. Essential biochemicals such as glucose, proteins, amino acids and water are not reabsorbed as required for good health. As the dose of uranium increases, damage occurs to the structure of the cells in the tubular lining, possibly by disabling the sodium transport mechanism, which then changes the permeability of the cell membrane. Calcium, for example, is transported to the kidney tubules where it can accumulate to toxic levels. This depletes the body of the calcium necessary for the production of cellular energy in the mitochondria, eventually leading to cell death.

At the critical dose in the kidney, it begins to shed dead cells as uranium accumulates in the interstitial tissue in the tubules. The kidney, however, has a large reserve functional capacity so the loss of these cells has not been observed to impact kidney function.

Reversible weight loss and biochemical changes in urine composition can develop at moderate uranium exposure levels, with no apparent permanent renal damage. A biomarker for early change in kidney function is an increased level of proteins in the urine, or proteinuria. These abnormalities return to normal levels after the uranium exposure ceases and the kidney cells have time to regenerate. Abnormalities on the cell surface remain, but the significance of this, and other similar biochemical or tissue changes that do not reflect measurable kidney damage, are not known.

B.2.1.2 URANIUM TOXICITY

Human data on the toxicity of soluble uranium as a chronic exposure come mainly from occupational health reports. In the workplace, soluble uranium usually is inhaled as a vapor that is complexed with a halogen (e.g. fluoride), which is also toxic (EPA, 1991, Leggett, 1989). In the occupational environment, the route of exposure, the concentration, the duration of exposure and usually the chemical form are not the same as the exposure parameters to hypothetical residents near this site. These differences are important considerations in evaluating the toxicity of much lower concentrations of uranium ingested by residents through drinking water.

In one of the first reported cases of residents ingesting soluble uranium in drinking water (at concentrations 1-3.5mg/l), no significant toxic effects were observed in the kidney when compared to non-exposed residents (Moss, et. al., 1983). While there was no evidence of renal damage, the researchers did note an increase in b_2 micro globulin levels (b_2-m) in the urine with increasing exposure to uranium in drinking water. When the uranium exposure stopped, the b_2-m value decreased, thus supporting earlier observations of temporary, but not permanent, changes in the kidney. The researchers concluded, however, that the increase in b_2-m may be a sub-critical toxic effect related to low level, chronic exposures to uranium in drinking water (Moss et al., 1983). Subsequent studies of chronically exposed human populations (Limson-Zamora et.al., 1998; Mao, 1995, and others) have confirmed that these and other measurable alterations to kidney function occur at human dose levels of less than 0.01 mg/kg-day. However, no evidence of clinically observable symptoms of kidney toxicity was apparent.

Similar effects occurred in the laboratory animal studies at exposure doses of 0.05 mg/kg-day and 0.06 mg/kg-day in the rabbit and rat, respectively (Gilman et al.,1998a-c).

The US EPA (EPA, 2000a; EPA 2000b) recently evaluated the existing data for developing a primary drinking water standard. The State of New Mexico (UNM, 2001) has also reviewed the scientific findings and is in the process of modifying their drinking water standard. The UNM, 2001 review best summarizes the basic philosophy of regulatory agencies when establishing drinking water standards in their summary:

"In summary, clinical chemistry of populations exposed through elevation of environmental uranium in ground water suggests that subclinical indicators of kidney toxicity can be observed to increase in proportion to the level of uranium exposure. The most comprehensive investigations showed alterations of urine chemistry indicative of alterations in the lining of the proximal tubules, although in some cases indicators of glomerular damage were observed. These changes were observed at relatively low exposure concentrations, and although all indicators were within the normal functional ranges, the positive correlations between exposure levels and degree of indicator changes raise concern that in sensitive subpopulations such as those with kidney disease, children or the elderly, or in those with prolonged exposure the changes could lead to clinical manifestation of toxicity."

The EPA used the 0.06 mg/kg-day as a lowest observable effect level (LOEL) for rats (Gilman et.al., 1998a-c). This study was accepted as the basis for a LOEL in rats because of the observed renal lesions in the tubules. A reference dose (RfD) for humans was derived by dividing the LOEL by 100 as a safety factor resulting in an RfD of 0.6 ug U/kg-day. The RfD was converted to a proposed MCL by multiplying by a relative source contribution (RSC) of 0.8 and the 70 kg body weight divided by the water intake rate of 2 liters/day. This resulted in an MCL of 0.02 mg/l. After considering the public comments and economics, the EPA arrived at a 0.03 mg/l drinking water standard. The analysis by the State of New Mexico assumed the same LOEL for rats but used a uncertainty factor of 200, RSC of 0.7, and a water intake rate of 2.4 l/day, they arrived at a recommended drinking water limit of 0.007 mg/l. It is clearly evident that since the uncertainty is very large, one could be make an argument for any MCL below 0.2 mg/l .

In Section A.1 of Appendix A, it was pointed out that an ACL may be higher than an MCL or other environmental standard. An ACL is based on a site-specific assessment of risk and normally affects a small population group where the exposure scenarios are normally much more limited than would assume for the general population. There is also less concern for protecting the most vulnerable member of a large population.

In this analysis, the focus is on the irreversible, permanent adverse effects of uranium on the human kidney, since the relevance of b_2-m as a biomarker in kidney toxicity is currently unknown. Uranium toxicity is characterized by a critical threshold concentration in the kidney, which is expressed as micrograms of uranium per gram kidney (μg U/g). Threshold values for uranium in the kidney have been reported from observations in both humans and in laboratory animals. Data for humans are shown in Table B.2-1. In Table B.2-1, LOAEL is the "lowest observed adverse effect level" and NOAEL is the "no observed adverse effect level."

TABLE B.2-1. SUMMARY OF KIDNEY THRESHOLD VALUES.

Threshold Value (ug/g)	NOAEL or LOAEL*	Measure-ment Technique	Type of Exposure	Subject (number)	Comment	Safety Factor to Apply	Reference
0.3	NOAEL	alpha spec.	low level occup. (chronic)	Humans (7)	Autopsies		Russell, et.al., (1996)
2.6	NOAEL	not given	acute	Humans (3)	Urinary output and ICRP calculation	10	Zhao and Zhao (1990)
2 to 6	LOAEL	not given	acute	Humans	Based on body burden calculation humans		Bernard (1958)

From Table B.2-1 it can be seen that there are three studies involving human subjects (Russel, et. al., 1996; Zhao and Zhao, 1990; Bernard, 1958). In the Russel, 1996 study, histopathological examination of the kidneys of former uranium workers following long-term, low level inhalation exposures indicated no histological changes relative to the reference population.

A threshold of 1μg U/g kidney was at one time considered a safe level for preventing irreversible kidney damage. This threshold value, however, has not been "observed" in humans, but rather is an extrapolation from human and animal data combined with professional judgment (Wrenn, 1985). However, several reviewers have suggested that the nephrotoxicity threshold concentration should be lowered to 0.1 μg U/g kidney. This more conservative value has been used in this assessment.

B.2.1.3 ASSESSENT OF URANIUM ABSORPTION AND RETENTION IN THE KIDNEY

An important step in assessing the risk of ingesting uranium in food and water at this site is estimating the resulting kidney burden of uranium. This is done using a biokinetic model or a mathematical description of the absorption, distribution, storage and elimination of uranium in the body. With this biokinetic model, a prediction can be made of the mass of uranium in the kidney resulting from the anticipated ingestion of 0.023 mg/d (see Table A.4-9 in Appendix A) while at this site. A simple schematic for a two-compartment kidney model of the biokinetics of uranium in uptake and retention in the human kidney is shown in Figure B.2-1.

B.2.1.3.1 TWO-COMPARTMENT KIDNEY BIOKINETIC MODEL

The ICRP two-compartment model of uranium toxicity (ICRP, 1995) in the kidney from oral ingestion was used to predict the uranium in the kidney following chronic uranium ingestion. This model allows for the distribution of the two forms of uranium in the blood, and consists of a kidney with two compartments, as well as several other compartments

for uranium distribution, storage and elimination including the skeleton, liver, red blood cells (macrophages) and other soft tissues.

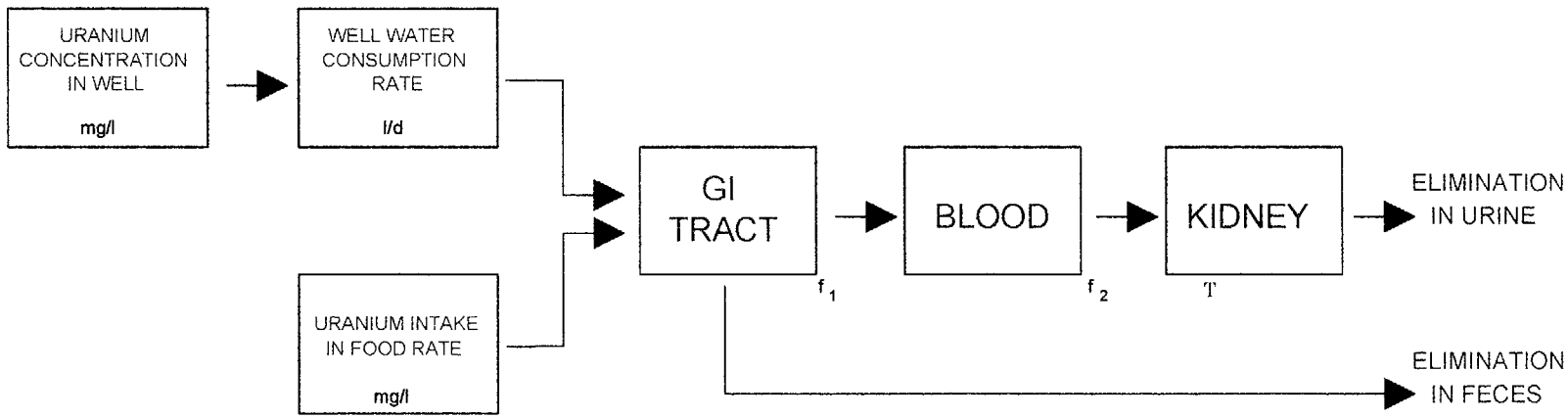

FIGURE B.2-1. SCHEMATIC FOR TWO COMPARTMENT BIOKINETIC MODEL OF URANIUM UPTAKE AND RETENTION IN KIDNEYS

Between one and two percent of ingested uranium is absorbed rapidly from the GI tract to the blood stream, where a small fraction (0.7 %) then binds with proteins in the red blood cells. Over 40 % of plasma uranium is deposited either in the skeleton (10.5 %) and soft tissues (35 %). According to the ICRP, about 8.4 % of plasma uranium reaches the kidney (ICRP, 1995). From Figure B.3-1, the mathematical representation for the kidney burden of uranium at steady state can be derived as follows:

$$Q_p = \frac{IR\, f_1}{\lambda_p (1 - f_{ps} - f_{pr} - f_{pl} - f_{pt} - f_{pk1})} \qquad \text{(B-1)}$$

where:

Q_p = uranium burden in the plasma, μg;

IR = dietary consumption rate, mg U/d;

f_1 = fractional transfer of uranium from GI tract to blood, unitless;

f_{ps} = fractional transfer of uranium from plasma to skeleton, unitless;

f_{pr} = fractional transfer of uranium from plasma to red blood cells, unitless;

f_{pl} = fractional transfer of uranium from plasma to liver, unitless;

f_{pt} = fractional transfer of uranium from plasma to soft tissue, unitless;

f_{pk1} = fractional transfer of uranium from plasma to kidney compartment 1, unitless;

λ_p = biological retention constant in the plasma, d^{-1}.

The burden in kidney compartment 1 is:

$$Q_{k1} = \lambda_p\, Q_p\, \frac{f_{pk1}}{\lambda_{k1}} \qquad \text{(B-2)}$$

where:

Q_{k1} = uranium burden in kidney compartment 1, mg;

λ_{k1} = biological retention constant of uranium in kidney compartment 1, d^{-1}.

Similarly, for compartment 2 in the kidney, the burden is:

$$Q_{k2} = \lambda_p \, Q_p \, \frac{f_{pk2}}{\lambda_{k2}} \qquad \text{(B-3)}$$

where:

Q_{k2} = uranium burden in kidney compartment 2, μg;

λ_{k2} = biological retention constant of uranium in kidney compartment 2, d^{-1};

f_{pk2} = fractional transfer of uranium from plasma to kidney compartment 2, unitless.

The total burden to the kidney is then the sum of the two compartments as follows:

$$Q_{k1} + Q_{k2} = \frac{IR \, f_1}{(1 - f_{ps} - f_{pr} - f_{pl} - f_{pt} - f_{pk1})} \left[\frac{f_{pk1}}{\lambda_{k1}} + \frac{f_{pk2}}{\lambda_{k2}} \right] \qquad \text{(B-4)}$$

B.2.1.3.2 PARAMETER VALUES

The parameter input values for the two-compartment kidney model include the daily intake of uranium estimated for residents at this site, and the ICRP recommended are listed below (ICRP, 1995).

The daily uranium intake rate is estimated in the pathway analysis in Table A.4-9 to be 0.021 mg/d for tap water ingestion, and 0.001 mg/d from food intake, for a total of 0.022 mg/d.

IR	=	0.022 mg/day	f_{pk1}	=	0.00035
f_1	=	0.02	f_{pk2}	=	0.084
f_{ps}	=	0.105	λ_p	=	35/d
f_{pr}	=	0.007	λ_{k1}	=	ln(2)/5 yrs
f_{pl}	=	0.0105	λ_{k2}	=	ln(2)/7 days
f_{pt}	=	0.347	where ln(2) = 0.693...		

B.2.1.3.3 BIOKINETIC MODEL VALIDATION

The biokinetic model was tested by comparing a prediction of the uranium burden in the kidney based on the model to actual values of the uranium burden in the kidneys of

residents in New York City and Japan (Fisenne and Welford, 1986; Igarishi, et. al., 1985). A dietary intake of 1.2 μg U/day, the average value for residents of New York City (Fisenne, et. al., 1987), was assumed. The biokinetic model predicted a total mass of 0.08 μg U, which corresponds to a concentration of 0.26 μg U/kg kidney. The model prediction is in good agreement with the lower range of the uranium concentrations in the kidneys of New York residents which ranged from 0.26 to 0.89 μg U/kg (Fisenne and Welford, 1986), and with those values reported in a Japanese study that ranged from 0.12 to 0.80 μg U/kg kidney (Igarashi, et.al, 1985). Therefore, this model seems well suited for predicting the kidney burden of uranium resulting from chronic ingestion in food and water.

B.2.1.3.4 PREDICTION OF URANIUM BURDEN IN THE KIDNEY

Given a daily uranium intake of 0.022 mg/day at this site, the calculated concentration of uranium in the kidney is 0.005 μg U/g. This is only five percent of the 0.1 μg U/g value that has been assumed to protect the kidney from the toxic effects of uranium. Since the exposure assessment was conservative, it is highly unlikely that anyone could exceed the toxicity limit for uranium.

B.2.2 HUMAN HEALTH ASSESSMENT FOR EXPOSURE TO SELENIUM

B.2.2.1 BACKGROUND INFORMATION

Naturally occurring selenium in ground and surface water is present as selenite (+IV) and selenate (+VI). Alkaline water conditions favor the formation of selenates, which are the most water-soluble inorganic selenium species, and thus the most toxic. The water-solubility of selenates also enhances their uptake and accumulation in vegetation (NAS, 1977).

Many factors influence the movement of selenium through the environment and the food chain. The bioavailability of selenium all along the food chain depends on its oxidation state in water and plants. Plants take up the water-soluble selenate ions from soil.

Selenium can be consumed in the diet in organic forms including selenomethionine (SeMet), selenocysteine and in inorganic forms including selenite and selenate. Dietary selenium from plant sources is probably mainly in the form of SeMet, while selenium from animal sources can be selenocysteine, SeMet and inorganic species (Patterson, 1996).

Estimates of daily selenium intake from diet and drinking water have ranged from 11 μg to 242 μg. Reported mean selenium intakes from food only vary from 85 μg/d to 125 μg/d (EPA, 1991a; Combs, 1986; Hawkes, 1996). Cereals, grains, meats and poultry products are high in selenium when compared to dairy products and vegetables (ATSDR, 1994; NAS, 1977).

B.2.2.2 SELENIUM BIOKINETICS

Biokinetic modeling of sodium selenite and SeMet demonstrated the differences between these two forms. The absorption and disposition of selenium in the body was more efficient for SeMet compared to selenite. SeMet is converted into selenocysteine in the body, and both selenocysteine and selenite are ultimately incorporated into proteins. In tissues, selenocysteine is found mainly in the antioxidant enzyme, glutathione peroxidase. In contrast to organic selenium, both selenite and selenate are unstable and easily reduced in the body to elemental selenium which decreases bioavailability (Patterson, 1996).

Selenium is absorbed through the gastrointestinal tract into the bloodstream where it combines with plasma proteins for distribution to all tissues. Approximately 84% of sodium selenite is absorbed from the gastrointestinal tract into the interstitial cells and plasma. The remaining selenium is eliminated in the feces, bile and urine.

Selenium is stored in the peripheral tissues including the muscles, kidneys and bone. As selenite or selenate, it turns over slowly in this large tissue pool, before returning to the plasma to be eliminated in the urine. This large tissue pool determines the whole-

body turnover of selenium because the skeletal muscle, which is in this tissue pool, contains 60% of the total body selenium burden (Swanson, et al., 1991).

For a chronic exposure to selenite, a selenium biokinetic model predicts that plasma levels rise rapidly in the first 15 days after the initial exposure, but the rate slows down thereafter (Swanson, et al, 1991). Tissue selenite levels, on the other hand, begin rising two days after the initial exposure and continued to increase past 250 days. However, the accumulation of selenite in the large tissue reservoir, or the peripheral tissues, is fairly slow. After 250 days, only 50 % of the total dose of selenite is deposited in these tissues.

In contrast, the total body turn-over of SeMet takes twice as long as that for selenite, and as a result SeMet stays in the body twice as long (Swanson, et al., 1991). The accumulated burden of SeMet results from its extensive recycling or reutilization by the body, and not from a longer retention time in the large tissue pool, where it actually has a shorter half-life. Consequently, SeMet, or the organic selenium, appears to be better absorbed and conserved by the body than the inorganic selenite.

The rate of excretion is a function of the extent of its methylation and consequently, the body level of methionine, which acts as a methyl donor. When dietary methionine was inadequate due to poor protein nutrition, a much larger fraction of SeMet was incorporated into proteins, thus reducing the rate of excretion. Generally, protein intake in the U.S. diet is adequate so this decreased rate of excretion would only be expected in a case of malnutrition (Combs, 1994).

The metabolism of selenium is dose-dependent. As the dose increases, the rate of excretion increases also unless the metabolic pathways or the selenoproteins become saturated. Consequently, some of the intermediates of selenium metabolism can be accumulated and an excess of these intermediate metabolites may lead to toxicity (Patterson, 1996).

B.2.2.3 CHRONIC TOXICITY OF SELENIUM

Until recent investigations of selenium supplementation for cancer prevention, the only information on a safe daily intake of selenium was two reports on the health status of persons residing in high seleniferous areas including Enshi County in China (Yang, 1989), South Dakota, and eastern Wyoming (Longnecker, 1991).

Clinical selenosis is the toxic end-point observed at the lowest observed adverse effect (LOAEL) of selenium toxicity (HSDB, 1996b). Selenosis is manifested as thickened and brittle nails, nail loss, hair loss, garlic breath, mottled teeth, skin lesions, and central nervous system abnormalities. Chronic exposure to moderate levels of selenium produced dermatitis, fatigue, anorexia, gastro-enteritis, diarrhea, hepatic degeneration, enlarged spleen, and increased concentrations of selenium in the hair and nails (HSDB, 1996b). Central nervous system abnormalities including peripheral neuropathy and pain have been reported for selenium intakes above 0.75 - 0.85 mg/day (Yang, et al., 1989). Endocrine effects are observed following intermediate exposures to selenium, and dermal and neurological changes are reported at the highest intake levels (ATSDR, 1994).

Persons living in an area with unusually high environmental exposures to selenium were compared to those in less seleniferous areas (Yang, et al., 1989). The average daily intake peaked at 1.44 mg (for men) in the highest area. Clinical signs of selenium toxicity were observed at a daily selenium intake rate of 1.26 mg. No clinical signs of selenosis were noted at 0.85 mg/d selenium.

At an intake rate of 1.08 mg/d where 92% dietary selenium was from sodium selenite, brittle, thickened nails were reported, as well as a garlic odor in dermal excretions. In another study of residents in a highly seleniferous area of South Dakota and Wyoming, the average daily selenium intake was 0.24 mg, or 2-3 times higher than the national average (Longnecker, et al., 1991). Selenium intake was primarily from the diet, most likely as SeMet. No signs of biochemical changes or selenosis were observed in the participants, including an individual with a daily selenium intake of 0.72 mg.

A susceptible population would be expected to exhibit different or enhanced responses to selenium, when compared with the average person. Selenium excretion is a function of the liver and respiratory systems, so persons with preexisting compromised functions in these organs may suffer from a further reduction in the detoxification and elimination processes caused by excessive selenium. The elderly with declining organ function and the youngest of the population with immature or developing organs may be more vulnerable. The elderly, however, are more prone to selenium deficiency than toxicity. Protein malnourishment also enhances the incorporation of selenium into proteins, and consequently increases the body burden.

Natural selenium is not classified as a human or an animal carcinogen by the EPA or the National Academy of Sciences (EPA, 1991a; NAS, 1977; ATSDR, 1994). EPA has assigned selenium as a Classification D chemical, for which the weight of evidence does not allow a conclusion about human carcinogenicity. It should be noted that the weight of evidence did not consider that selenium was not "unequivocally" a human carcinogen, or a Classification F chemical. The reported tumorigenic activity of selenium was never validated or reproduced in laboratory studies due to various problems with the initial studies.

On the contrary, epidemiologic and demographic studies in areas high in natural selenium suggest that cancer rates are lower when compared to geographic areas that are not seleniferous (ATSDR, 1994). A study into selenium supplementation strongly suggests that selenium can reduce cancer risks with no adverse side effects (Combs, 1996).

In a reproductive study, ingestion of a very high dose of selenium, 0.05 mg/kg-day, produced reduced birth weights in fetuses of pregnant mice, but no selenosis was observed in the mother. On the other hand, pregnant and nursing women, like the elderly, require more selenium than the general population (ATSDR, 1994).

B.2.2.4 SELENIUM TOXICITY FOR THE EXPOSED POPULATION

The chronic oral reference dose for selenium of 0.005 mg/kg-day is based primarily on the Yang data that reported a NOAEL of 0.853 mg per day for an adult. The predicted intake of selenium in drinking water and food for the Little Medicine Bow River scenario 3.8E-05 mg/kg-d (Table A.4-9) which is less than one percent of the RfD of 5.0E-03 mg/kg-d. Thus, the expected daily intake of selenium poses no additional risk when compared to the RfD.

B.2.3 HUMAN HEALTH ASSESSMENT FOR EXPOSURE TO TOTAL DISSOLVED SOLIDS, SULFATE, AND CHLORIDE

B.2.3.1 BACKGROUND INFORMATION

The major constituents of the total dissolved solids (TDS) in groundwater or surface water are the ions of calcium, magnesium, sodium, bicarbonate, sulfate, chloride, and others. Measures of the concentrations of these major constituents include hardness, TDS, alkalinity, and conductivity. Major constituents to be considered at the Shirley Basin Site in addition of those for which the NRC has established site standards include sulfate, chloride, and TDS. Addressing these constituents is required by 10 CFR Part 40, Appendix A, Criterion 13.

Most of the major ions do not have oral reference doses (RfD) for limiting the toxological or carcinogenic risk associated with ingesting these secondary constituents. While human data are not normally available on which to base an assessment, exposure to these constituents is of lesser concern. Concentrations may be limited by properties such as taste or odor rather than by health concerns.

B.2.3.2 TOTAL DISSOLVED SOLIDS

The total dissolved solids (TDS) for the Shirley Basin site are made up primarily of sulfate and chloride. The EPA secondary drinking water standard for TDS is 500 mg/l, based on taste and possible relation between hardness and cardiovascular disease.
The State of Wyoming domestic groundwater standards also limit TDS to 500 mg/l. The World Health Organization recommends a TDS level for drinking water of less than

1,000 mg/l. Usage of water with a TDS greater than 500 mg/l is very common in the western United States. The maximum TDS concentration in Spring Creek has been projected at 649 mg/l with a time-weighted average (TWA) concentration of 384 mg/l. In the Little Medicine Bow River, the TWA concentration has been projected to be 173 mg/l at the confluence with Spring Creek.

These TWA levels in Spring Creek and the Little Medicine Bow River are well within the limits for drinking water sources. It is therefore likely that little human health risk exists from using water under the proposed scenarios.

B.2.3.3 SULFATE

Sulfur is essential for normal body function. Drinking water in the western United States in 1978 showed a range of sulfate concentration from 0-820 mg/l, with a mean of 99 mg/l (EPA, 1992). Water containing 500 mg/l tastes bitter, between 600-1,000 mg/l may produce a mild laxative effect, and greater than 1,000 mg/l may be cathartic (Heath, 1982). Serious gastroenteritis has been reported in some infants and adults drinking water containing 400 mg/l to 1,000 mg/l sulfate (EPA, 1992).

The human body appears to reduce the absorption of sulfate under high doses and eliminates excess sulfate, thus not accumulating sulfate. The known health effects will normally be limited by the bad taste of water containing high sulfate.

The EPA Secondary Drinking Water Standard and the Wyoming Domestic Groundwater Standard for sulfate is 250 mg/l. The maximum concentration near the tailing site is 183 mg/l. The TWA concentrations for the Spring Creek and Little Medicine Bow River waters, under the respective exposure scenarios, are 73 and 16 mg/l. The Spring Creek scenario does not use this water for human drinking water. Since the quality of water complies with the drinking water standard, no measurable health impacts are anticipated from sulfate in water.

B.2.3.4 CHLORIDE

Chloride is the major anion in extra cellular fluid. The origin of chloride in the body is from the hydrochloric acid excreted by the stomach. Chloride helps maintain acid-base balance and is involved in the exchange of oxygen and carbon dioxide from hemoglobin. There is a lack of information on the toxicity of chloride in humans. However, Stokinger (1981) reports that water-soluble salts, such as chloride, produce a variety of acute toxic effects involving the cardiovascular, gastrointestinal, nervous and hematopoietic systems and the skeletal muscles.

The EPA secondary drinking water standard for chloride is 250 mg/l based on taste and corrosion of pipes. The Wyoming Domestic Groundwater standard is also 250 mg/l. Wyoming surface water standard (aquatic life) for chronic exposure and the National Recommended Water Quality Criteria are 230 mg/l. Wyoming groundwater standards for agriculture limit the chloride concentration to 100 mg/l.

The maximum concentration in Spring Creek is projected to be 118 mg/l with a TWA concentration of 39 mg/l. The TWA concentration in Little Medicine Bow River at the confluence with Spring Creek is projected to be only 9.8 mg/l. Comparing these concentrations to the standards, there should not be toxic health effects from the presence of chloride in the water.

B.3 CARCINOGENIC EFFECTS FROM INGESTION OF RADIONUCLIDES

B.3.1 CANCER SLOPE FACTORS AND RISK

The estimate of cancer risk from exposure to the radioactive constituents in the environment resulting directly or indirectly from ground water from the tailings site is based on knowledge about the carcinogenicity of radiation on humans. The EPA and other agencies classify chemicals into six categories according to the weight of evidence of human carcinogenicity, which ranges from known human carcinogens (Category A) to those that are unequivocally non-carcinogenic, Category E. The EPA has classified all radionuclides as Category A carcinogens (EPA, 1991b).

For carcinogens, the risk assessment model assumes that the number of cancers increases linearly with any dose greater than "zero exposure", thus eliminating the use of a threshold concentration. Therefore, the expected carcinogenic action of a substance for chronic, low exposure conditions is a linear extrapolation of the dose factors developed from human data and adjusted for dose rate effects. The slope of this linear extrapolation is the Slope Factor (SF). The SF is a measure of the rate of fatal tumors observed per unit intake of a chemical. The slope factor is the primary criterion in the U.S. for evaluating radiological carcinogenicity. The most current generic dose and risk factors recommended by the EPA and NRC have been used in this report (NRC, 1992; EPA, 1999).

The uncertainty in using slope factors lies in the possibility that the dose-response curve may not be linear especially at these low exposure levels, or that tumor induction by some radionuclides may not occur within the lifetime of the laboratory animal or human. For radionuclides, the cancer slope factors are often based on human data that is considered to contain less uncertainty about the rate of tumor induction at low doses than animal data. Consequently, the slope factors derived by the EPA are usually best estimate values that are closer to the actual value of the slope factor than the most conservative, upper bound estimate at the 95th percentile (EPA, 1995).

The cancer risk is the probability that an exposed individual will develop cancer because of that exposure. The cancer risk is the product of the intake of radionuclides from all sources (with the exception of natural background), and the slope factors, or

$$\text{CANCER RISK} = TI * SF \qquad \text{(B-5)}$$

where:

TI = Total intake of radionuclide (pCi)

SF = Slope factor (risk per pCi)

Cancer risks greater than 1 in 10,000 (1E-04) above natural background levels are considered by the NRC to require intervention or remedial action. Cancer risks close to 1E-04 may be acceptable values when the site-specific conditions are considered in the risk assessment.

B.3.2 LIFETIME CANCER RISK ESTIMATE FROM INGESTION OF RADIONUCLIDES

The potential annual radiation dose and cancer risk from a lifetime of ingesting radionuclides arising from groundwater from the tailings site is estimated using the site-specific Little Medicine Bow River scenario. For this assessment, it was assumed that residents take their tap water from an alluvial well and that the concentration of radionuclides in the well water is equal to the time-weighted-average (TWA) concentrations in the river water. Additional indirect ingestion arises from the use of river water for watering beef, dairy cows, and poultry and for irrigation of cattle pasture, hay fields, and a home garden. The estimated ingestion rate of radionuclides (excluding that arising from natural background levels in the water) in food and water pathways was developed in Appendix A (Table A.4-9). Specific data for Ra-228 is not available so all Ra-226+Ra-228 intakes are considered to be Ra-226. This assumption does not reduce the accuracy of the risk calculations since the ingestion risks are similar in magnitude for these two isotopes of radium. The incremental increase in the Th-230 concentration for the Little Medicine Bow River scenario is actually negative, since the data indicate that the total Th-230 concentration below the confluence of Spring Creek is less than up-

gradient water. We have therefore assumed that the incremental Th-230 intake is zero for this scenario.

The potential annual total effective dose equivalent from ingestion of uranium can be calculated as follows:

$$TEDE = IR * EF * D_f \qquad \text{B-6}$$

where:

TEDE = total effective dose equivalent per year from internal radiation

IR = daily ingestion rate, mg/d (from Table A.4-9)

EF = frequency of exposure, d/y = 365 d

D_f = radionuclide specific dose conversion factor, mrem/pCi taken from FGR Report No. 11 (EPA, 1988)

The potential risk from lifetime exposure attributable to ingestion of uranium can be calculated using the formula:

$$Risk = IR * EF * ED * R_f \qquad \text{(B-7)}$$

where:

Risk = probability of death from cancer arising from radiation from site

ED = duration of exposure = 30 y

R_f = risk factor, risk/pCi U

The risk factors are taken from EPA, 1995. The risk factor for natural uranium is calculated from using the risk factor and calculating an activity-weighted-average from the factors: 4.44E-11 risk/pCi U-234, 4.52E-11 risk/pCi U-235, and 4.27E-11 risk/pCi U-238. The natural uranium risk factor is calculated as follows:

$$(4.44*0.489 + 4.52*0.022 + 4.27*0.489) * E\text{-}11$$
$$= 4.4\ E\text{-}11 \text{ risk/pCi U}$$

where 0.489 is the percentage of U-238 and U-234 activity and 0.022 is the percentage of U-235 activity.

The annual TEDE and life-time cancer risk for the ingestion pathway from a 30-year exposure under the Little Medicine Bow River scenario has been calculated using the equations above. The results are presented in the following table.

TABLE B.3-1 ANNUAL TEDE AND LIFE-TIME RISK FROM RADIONUCLIDE INGESTION

Radionuclide	Intake Rate (pCi/day)	Ingestion Dose Conversion Factor (mrem/pCi)	Oral Cancer Slope Factor (Risk/pCi)	Annual TEDE (mrem/y)	Life-Time Risk
Uranium	6.71	2.69E-04	4.40E-11	0.66	3.2E-06
Th-230	0	5.48E-04	3.75E-11	0	0
Ra-226+ Ra-228	0.216	1.32E-03	2.96E-10	0.104	7.0E-07
			Total	0.76	3.9E-06

The total lifetime cancer risk from the 30-year exposure is only 3.9E-06, which is four percent of the NRC criterion of 1.0E-04 (NRC, 1996). The total calculated TEDE from ingestion is 0.76 mrem/y (76 mSv/y).

B.3.3 RADIOLOGICAL RISKS FROM PATHWAYS OTHER THAN DIRECT INGESTION

The risk from direct ingestion is normally much higher than that from the other pathways for alpha emitting radionuclides. Therefore the screening calculations in this section have been done to demonstrate that indirect ingestion of radionuclides are of little consequence.

The generic exposure parameters for calculating the internal radiation dose from the incidental contact with soil and dust are the same as those discussed in Section A.5 of Appendix A. The same soil concentration values for estimating the intake of radionuclides by incidental ingestion are used to estimate doses from both ingestion and inhalation of contaminated dust. In all cases, the incremental risk is calculated by subtracting the background concentration. Radiation dose from direct radiation to the buildup of radionuclides in the irrigated areas is considered a much smaller effect and

has not been presented. Since the soil concentrations for the Spring Creek scenario are much higher than the Little Medicine Bow River scenario, we have used this scenario for these screening calculations.

B.3.3.1 RADIATION DOSE ESTIMATE FOR INGESTED DUST

The internal radiation dose from the incidental ingestion of dust can be estimated by using the following screening calculation. Assuming that the average annual ingestion of dust by an adult is 18.25 g at a rate of 50 mg/d and the incremental soil concentration of uranium is 0.9 pCi/g (Table A.4-5, Appendix A), then the radiation dose (TEDE) of

18.25 g * 0.9 pCi U/g * 2.7E-4mrem/pCi U
= 0.0044 mrem/y

Ingestion dose factors were taken from EPA, 1988: 7.66E-08 Sv/Bq U234, 7.19E-08 Sv/Bq U235, and 6.88E-08 Sv/Bq U238. The activity-weighted-average dose equivalent factor per pCi of natural uranium inhaled is calculated to be 2.7E-4 mrem/pCiU. Similar calculations for Th-230 and Ra-226+Ra228 resulted in a TEDE of 1.7E-5 mrem/y and 1.2E-4 mrem/y, respectively. These doses are insignificant compared to the direct ingestion pathways.

B.3.3.2 RADIATION DOSE ESTIMATE FOR INTERNAL RADIATION FROM URANIUM IN INHALED DUST

The internal radiation dose from inhaling uranium-contaminated dust can be estimated using the following calculation and assumptions. It will be assumed that the average respirable particulate concentration (PM_{10}) is the same as in Grants, NM, a similarly arid area. For Grants, the New Mexico Air Quality Bureau (N.M. Air Quality Bureau, 1996) reported an average concentration of 0.025 mg/m$^{3.}$ Respirable particles are those that are small enough in diameter (less than 10 microns) to be inhaled into the respiratory tract. If the dust consists of soil containing an incremental uranium concentration of 0.9 pCi/g above background levels and the breathing rate is 8,500 m^3/y (ICRP, 1975), the excess annual total dose equivalent is calculated to be:

$$0.025\ mg/m^3 * 8{,}500\ m^3/y * 1\ g/1{,}000\ mg * 0.9\ pCi\ U/g * 0.12 mrem/pCi\ U$$
$$= 0.023\ mrem/y$$

Inhalation dose factors were taken from EPA, 1988: 3.58E-05 Sv/Bq U234, 3.32E-05 Sv/Bq U235, and 3.2E-05 Sv/Bq U238. The dose equivalent factor per mg of natural uranium inhaled is the activity-weighted-average.

Similar calculations for Th-230 and Ra-226+Ra-228 resulted in doses of 1.1E-04 mrem/y and 8.8E-06 mrem/y, respectively. This total dose equivalent of 0.023 mrem/y is insignificant compared to the other pathways and will not be considered further.

B.4 UNCERTAINTY IN HAZARD ANALYSES

The numerous sources of uncertainty in this risk assessment have been discussed throughout the text. In summary, the following table lists some of the sources of uncertainty that influence the risk estimates for exposure to uranium, selenium, radium-226 + radium-228 and thorium-230 at the POE values.

TABLE 4-1. UNCERTAINTIES IN HAZARDS ANALYSES.

Probable Direction of Error	Source of Uncertainty
Underestimation of Risk	Lack of measured concentration data for chemicals in environmental media
Overestimation of Risk	POE concentrations are the maximum value that should occur at the POE location. Average 30 year concentrations may be significantly less than the POE concentration
	Use of conservative parameters in the ion migration simulations
	Assume no constituent losses in soil over time due to weathering or biodegradation
	Conservative assumptions for human and animal exposure parameter values
Unknown direction	Variations in analytical measurements
	Uncertainties in hydrological modeling
	Toxicological interactions between chemical constituents or between the constituents and other biochemicals in the body
	Lack of adequate toxicity data relevant to exposure to these chemicals by ingesting drinking water
	Use of generic agricultural biotransfer factors

B.5 REFERENCES

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APPENDIX C

ENVIRONMENTAL HAZARDS

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C.1 INTRODUCTION

Spring Creek is a perennial stream located to the east of the tailings area. It bounds the tailings site and totally intercepts the groundwater flow. There are no ranch houses between the site and the confluence of Spring Creek with the Little Medicine Bow River, approximately two miles downstream. There are currently no existing irrigation water rights along the creek. The State of Wyoming Department of Environmental Quality/ Water Quality Division has assigned Spring Creek a Class 2C surface water classification. Class 2C waters are not considered a source of drinking water for humans but human intake of non-game fish species is assumed. Constituent concentrations in Wyoming Human Surface Water regulations under health values, "Fish Only", apply. The Little Medicine Bow River is classified as 2AB water where human health limits for "Fish and Drinking Water" apply. Neither Spring Creek nor Little Medicine Bow River is on the List of Wyoming Impaired Waters for 1998.

Uranium, Th-230, Ra-226+Ra-228, selenium, chloride, sulfates, and TDS are the constituents projected to occur in Spring Creek immediately downstream from the site at the POE concentrations. The human exposure scenario considered that a ranch was nearby along the Little Medicine Bow River where drinking water was obtained from the river or alluvial aquifer. The Little Medicine Bow River water was assumed to be used for irrigating a hay field and home garden as well as for livestock drinking water.

For the environmental assessment, the impact of the constituent concentrations in Spring Creek is assumed to be the limiting case for the aquatic pathway. The terrestrial pathway assumed that this water was used to irrigate nearby fields. The assumed concentrations are those calculated at the POE as given in Table C.1-1. Potential environmental impacts from these constituents include accumulations in terrestrial plants, livestock, wildlife, and lower food-chain organisms. In addition, the potential aquatic environmental impacts include fish, plants, lower aquatic ecosystem organisms, and birds and animals that feed upon aquatic species. No dilution of the POE concentrations were assumed for this environmental assessment.

The complexity of the ecosystem makes the environmental assessment process more difficult than human health assessments. Some standards have been developed for specific species for specific intake routes for a specific constituent. Many of these standards are based on empirical evidence that the ecosystem is not impaired. Extrapolations to other species and constituents are often used in the environmental assessment process, recognizing that large uncertainties will result.

Table C.1-1 Constituents of Concern at the POE

Constituent	Predicted Maximum Concentration at POE	Time-Weighted Average Concentration in Spring Creek	Average Background Concentration Up-gradient of Site	Water Standards
Uranium (mg/l)	0.15	0.065	0.026	0.03[b] 0.03-1.4[f] 0.02[l]
Th-230 (pCi/l)	0.3	0.15	<0.2	
Ra-226 + Ra-228 (pCi/l)	1.5	1.14	1	5[b,c,d,e]
Selenium (mg/l)	0.0056	0.0024	0.001	0.005[a,j] 0.02[d,i] 0.01[c,l] 0.05[b,e,f,g] 9[h]
Chlorides (mg/l)	118	39	5.3	860[a.i] 230[a,j] 250[b,c] 100[d] 2000[e]
Total Dissolved Solids (mg/l)	649	384	270	500[b,c] 2,000[d] 5,000[e]
Sulfates (mg/l)	183*	73*	25.2	250 [b,c] 200[d] 3,000[e] 500[l]

* Scaled from total dissolved measurements
a National Recommended Water Quality Criteria (EPA, 1998)
b. EPA Primary Drinking Water Standards
c Wyoming Groundwater Standards-Domestic
d. Wyoming Groundwater Standards-Agrioulture
e. Wyoming Groundwater Standards-Livestock
f. Wyoming Groundwater Standards-Fish/Aquatic Life
g. Wyoming Surface Water Standards-Human Health Value, Fish and Drinking Water
h. Wyoming Surface Water Standards-Human Health Value, Fish
i. Wyoming Surface Water Standards-Aquatic Life, acute
j. Wyoming Surface Water Standards-Aquatic Life, chronic
k Wyoming Surface Water Standards-Human Health Class 2C waters
l. Canadian Drinking Water Guidelines

C.2 PRIMARY CONSTITUENTS

An initial screening of the site constituents and exposure pathways will show that certain site constituents may be eliminated from further consideration in the environmental assessment. The primary method used is to compare the constituent concentrations at the POE to groundwater, surface water, or other applicable standards. Constituents with concentrations at the POE of the same order of magnitude of these standards or lower may be eliminated from the environmental assessment process.

Table C.1-1 lists the constituents, the maximum concentration at the POE or in this case, Spring Creek, and the water quality standards that have been applied to the constituent for drinking water, surface water, and other uses. There are no listed standards for Th-230 in water. Comparing the other constituent concentrations to the standards, all but uranium is considered within or slightly above existing standards and need not be considered for the environmental assessment. We have included Ra-226 in the radiological dose assessment, along with uranium and Th-230, since it will contribute to the total radiation dose.

Uranium is known to have a high chemical toxicity as well as radiotoxicity. Therefore, the environmental assessment will consider both. The chemical toxicity for Th-230 and Ra-226 + Ra-228 is considered insignificant compared to the radiotoxicity. We have assumed that all of the radium is Ra-226 since Ra-226 is a principal constituent in the uranium tailings.

C.3 URANIUM CHEMICAL TOXICITY

The chemical toxicity of uranium, compared to its radiotoxicity, has been demonstrated to be the limiting concern in man as well as other species.

C.3.1 LARGE ANIMALS

From the exposure pathway analysis in Appendix A, it was calculated that irrigation for 30 years using water containing 0.13 mg U/l results in an increase in soil concentration of 5.2 mg U/kg dry weight to a total of 8.5 mg U/kg, including background. The corresponding concentration of U in forage consumed by beef cattle is calculated to be 0.029 mg/kg wet weight. The predicted intake of uranium on a daily basis from forage and cattle watering is 0.8 mg/d and 6.5 mg/d, respectively. These values show that the greatest impact of uranium on cattle is from livestock watering.

Linsalata, et al. (1989) estimated daily intakes of uranium in feed and water by beef cattle at 6.4 to 7.7 mg/d (mainly from mineral supplements) and measured corresponding uranium concentrations in their kidneys in the range of 1.55×10^{-3} to 7.37×10^{-3} μg U/g kidney. Using these factors, ingestion of 7.3 mg U/d by livestock near the site would result in maximum uranium concentration in the kidney of 0.008 μg U/g kidney. These concentrations are a factor of more than 10 times lower than the toxicity criteria for human kidneys (0.1-1.0 μg U/g). Therefore, these levels should be far below the toxic limit for cattle. Other wildlife grazing on irrigated land would be expected to have similar uptakes.

An earlier study on dairy cows (Garner, 1963) showed that deterioration in general health and a decrease in milk production were associated with a daily intake of 400 mg U. However, these effects were transient and only lasted two weeks with general health and milk production returning to normal even though the animals were still exposed to this concentration. The daily intake for cattle from this site is about 50 times lower than the intake for transient effects reported by Garner. On this basis, therefore, cattle should not be impacted.

C.3.2 TERRESTRIAL PLANTS

An exhaustive priority substances list assessment, "Releases of Radionuclides from Nuclear Facilities (Impact on Non-Human Biota) has been recently published by federal ministries, Environment Canada and Health Canada, to comply with the Canadian Environmental Protection Act, 1999. This assessment (CAN, 2000) was prepared by a group of scientists and a special resource group prior to being approved and published in July 2000 for public comment. Agency representatives indicate that the final report will be published in 2001 with minor changes and a few additional references. This source summarizes available studies and will be used as the primary basis for this assessment.

A review of reported studies (CAN, 2000) on uptakes and terrestrial plant toxicities indicate that uranium does not biomagnify up food chains and has a relatively low toxicity to plants. Seed germination studies indicate that effects below a soil concentration of 100 mg U/kg dry weight (dw) were difficult to substantiate. Toxicity effects on tomatoes appear at lower concentrations than in other plants studied. The proposed Canadian best estimate of the Estimated No-Effects Value (ENEV) for all plants is 64 mg U/kg dw (dw-dry weight; ww-wet weight) of soil. Since irrigation for 30 years was projected to increase the soil concentration to 8.5 mg U/kg dw, this is 13 percent of the chemical toxicity threshold for terrestrial plants.

C.3.3 TERRESTRIAL MAMMALS AND BIRDS

Uranium chemical toxicity studies in man as well as other mammals have clearly shown that the primary chemical toxicity effect is on kidney function. A review of published studies indicates (CAN, 2000) that some loss of function may occur when the uranium in the kidney reaches 0.5 mg U/kg ww in the kidney. Using appropriate transfer factors and animal feed intake rates, a dose of 0.31 mg U/kg bw-day was calculated as an estimated no effect value (ENEV) for animals and birds, where "bw" is the body weight. It was noted that birds retain more uranium than most mammals. However, since no uranium toxicity data are available, the same chronic ENEV of 0.31 mg/kg bw-day was assumed.

It is known that small animals normally require a larger dose (mg/kg bw-d) than large animals to observe the same effect. This is consistent with the 2.8 E-3 mg/kg bw-day that would be required to produce a kidney concentration of 0.5 mg/kg-day ww in the kidneys of a 70 kg man, using the ICRP recommended calculations presented in Appendix B. This is also consistent with the assessment of cattle toxicity presented in Section C.3.1. Other mammals or birds are anticipated to obtain a smaller portion of their diet from the irrigated land in the exposure scenario and since the ENEV is increased for smaller species, these species should not experience toxic effects.

C.3.4 SOIL INVERTEBRATES

A review of the study of earthworms resulted in no noticeable effects on survival to 75 days with soil concentrations from 3-1,000 mg/kg dw soil. Applying a modification factor of 10 to the 1,000 mg/kg dw soil, an ENEV of 100 mg/kg dw soil was derived (CAN, 2000). This concentration is more than an order of magnitude higher that anything anticipated at this site or in the sediments of Spring Creek. Therefore toxic effects to invertebrates are of little concern.

C.3.5 AQUATIC LIFE

Parkhurst *et.al*, 1984 conducted studies on Indian Creek near Gunnison, CO to study the effects of uranium on aquatic life in Indian Creek. The creek had uranium concentrations ranging from 0.1-4 mg/liter. Field studies indicated a wide variety of benthic invertebrate communities existing in Indian Creek including mayfly nymphs, stonefly nymphs, fly larvae, caddis larvae, and other miscellaneous taxa. A maximum bioaccumulation factor in fish tissue of 0.33 mg/kg per mg U/l was measured in brown trout in nearby creeks. Laboratory studies were done on brook trout under conditions similar to Indian Creek as well as in soft water. Brook trout egg hatching rates were also studied. The most sensitive study showed that the no observable effect concentration (NOEC) for uranium, based on a 77-day brook trout embryo-larval toxicity test, is greater than 9 mg/l. The studies on brook trout resulted in 96-hour LC_{50} for uranium of 5.5 mg/l in soft water and 23 mg/l in hard water. The soft water and hard water had a hardness of (as $CaCO_3$) 35.1 mg/L and 208 mg/l, respectively.

A review (CAN, 2000) of the Parkhurst study and other available studies by the Canadian government showed a strong dependence of toxicity on water hardness. For application in Canadian waters, they selected a study done in water having a hardness of 20 mg/l to derive an ENEV of 0.280 mg/l for fish. Data were also reported for toxic effects on the reproduction of the freshwater zooplankton *Ceriodaphnia dubia* and *Daphnia pulex*, commonly called water fleas. Using data from the soft-water studies, an ENEV of 0.003 mg/l for *Ceriodaphnia dubia* and 0.022 mg/l for *Daphnia pulex*.

The maximum uranium concentration in Spring Creek has been projected to be 0.15 mg/l. Measurements of hardness of the water indicates a range of 110-120 mg/l (as $CaCO_3$), which is considerably harder than the studies on which the ENEVs for Canadian waters were developed. Not enough data are available on which to develop a definitive relationship between toxicity and hardness. However, an increase in toxic concentration values up to a factor of ten appears to be reasonable for some species when increasing the hardness from soft to 100 mg/l.

The ENEV of 0.280 mg/l for fish is significantly higher than the projected maximum uranium concentration in Spring Creek and thus no impacts on fish populations are expected. The ENEVs for zooplankton are extremely low but were based on studies done in soft water. Possible effects on specific invertebrates are a possibility, even at natural background concentrations. However, the Parkhurst, et. al., 1984 studies in streams with uranium concentrations of 0.1-4 mg/l and hardness of 180 mg/l showed a wide variety of invertebrate communities. It is therefore probable that Spring Creek will experience no affect on food sources for fish or other larger aquatic species.

The Canadian proposed ENEV for fish of 0.280 mg/l is probably very conservative for use in Spring Creek because of the hardness. However, since the projected maximum concentration of 0.15 mg/l is less than the ENEV, it can confidently be assumed that no effects on the fish will be expected. The very conservative ENEV for lower food-chain

species, although developed from studies in soft water, is of some concern. The ENEV of 0.022 mg/l is comparable to the average background measured in Spring Creek up-gradient of the site.

C.4 RADIOTOXICITY

Reviews by experts (NCRP, 1991;UNSCEAR, 1996) have concluded that radiation doses below certain levels would not likely have an effect on populations of organisms. They suggest that doses below approximately 3.7 mGy/y and 0.4 mGy/y will not affect populations of aquatic and terrestrial species, respectively (1 Gray(GY) = 100 rad). These levels are not based on the most sensitive member of the population but consider the ability of the population to compensate for physical impacts. Estimates (Macdonald, 1996;UNSCEAR, 1996) of background radiation to aquatic and terrestrial species are 0.6-7 mGy/y for leaves and needles of terrestrial plants, 1-5 mGy/y for terrestrial mammals, and 0.7 –1.7 mGy/y for freshwater organisms. A few species such as burrowing animals may receive up to 100 times higher doses arising from exposure to radon.

A recent review (CAN, 2000) of the radiation effects on plants has been done. The increasing order of radio-resistance was found to be coniferous trees, deciduous trees, shrubs, herbaceous species, lichen and fungi. Studies reported detrimental effects at dose rates between 2.4 and 19 mGy/d (0.88-6.9Gy/y). A chronic ENEV value of 2.4 mGy/d was proposed, based on the field studies of the highly sensitive Scotch Pine in Canada. This is equivalent to 10 mrad/h. Vegetation in the Spring Creek area would be classified as shrubs or herbaceous and therefore a higher ENEV probably would apply.

The buildup of radionuclides in the soil from irrigation over 30 years represents the maximum exposure scenario for plants. Amiro developed radiological dose conversion factors (DCF) for generic non-human biota for use in screening potential ecological impacts (Amiro, 1997). DCF values were derived for use for all non-human organisms. Internal dose DCFs were published for specific radionuclides and progeny (includes all progeny with less than one-day half life). In addition, DCFs for external exposure were developed for soil/sediment contamination, and submersion in contaminated air and water. No attempt to account for radiobiological effectiveness of the different types of radiation was attempted.

An attempt at estimating the dose to terrestrial plant species near Spring Creek was made. In Appendix A, maximum constituent soil concentrations were calculated after 30 years of

irrigation. These concentrations, along with soil to plant concentration factors from NRC, 1992 were used to calculate the radionuclide concentration in plants. Taking the product of soil concentration, the typical dry weight to wet weight ratio of 0.2, and the DCF results in an estimated dose from plant uptake. For terrestrial species, the radiation dose from direct radiation was calculated by multiplying the radionuclide concentration in soil by the corresponding DCF. Parameters values and the total dose to plant species from both external and internal deposited radionuclides are shown in Table C.4-1. A maximum dose of 1.9 mGy/y was calculated for terrestrial species. The 1.9 mGy/y dose to terrestrial species is slightly higher than the estimated threshold (0.4 mGy/y) for any effects (NCRP, 1991;UNSCEAR, 1996) for all terrestrial species. It should be pointed out that the calculations used the soil /plant concentration factors which may not be appropriate for many non-plant species. The Canadians have proposed an ENEV of 880 mGy/y for terrestrial plants, terrestrial invertebrates, algae, macrophytes, and amphibians, and an ENEV for small mammals of 400 mGy/y.

Fish and other aquatic life may be slightly impacted by incorporating radionuclides into their body from the elevated uranium in the stretch of Spring Creek between the site and Little Medicine Bow River. The maximum uranium concentration in Spring Creek will be equal to the POE concentration of 0.15 mg/l, including background. This level is approximately 30 percent of the NRC effluent limit (10 CFR Part 20, Appendix B, Table 2) for operating facilities. While the annual time-weighted-average concentration is only 0.065 mg/l, a calculation of the dose to aquatic species was done using the maximum concentration. The product of the water-to-fish-tissue accumulation factors given in NRC, 1992, the maximum water concentrations, and the DCFs (Amiro, 1997) were used to calculate the dose to aquatic species from internal radionuclides. The product of the radionuclide concentration and the DCF for immersion in water was used to calculate the dose from direct exposure to radiation from radionuclides. The sum of the doses is given in Table C.4-2. The maximum annual dose of 2.05 mGy/y is less than the 3.7 mGy/y that is considered protective of all populations of aquatic species (NCRP, 1991;UNSCEAR, 1996). Canada has proposed an ENEV for fish of 200 mGy/y and 600 mGy/y for benthic invertebrates.

Table C.4-1 Radiation Dose to Terrestrial Plants and Other Species

Parent Radionuclide	Internal Dose Conversion Factors		External Dose Conversion Factors		Total Dose (Gy/y)
	Internal Gy/year per Bq/kg wet	Concentration Factor Soil/Plant dw	Soil Concentration (Bq/kg)	External Dose(water) (Gy/year per Bq/kg)	
U-238	2.16E-05	1.70E-02	104.1	9.48E-09	8.63E-06
Th-234	4.56E-06	6.60E-03	104.1	3.06E-06	3.19E-04
U-234	2.46E-05	1.70E-02	104.1	1.21E-08	9.97E-06
U-235	2.36E-05	1.70E-02	4.7	9.95E-07	5.04E-06
Th-231	9.45E-07	6.60E-03	4.7	2.49E-07	1.17E-06
Th-230	2.41E-05	6.60E-03	59.6	1.07E-08	2.53E-06
Ra-226	2.46E-05	7.50E-02	112.9	4.80E-08	4.71E-05
Rn-222	1.12E-04	0.00E+00	112.9	1.34E-05	1.51E-03
Pb-210	2.17E-07	5.80E-03	112.9	3.32E-08	3.78E-06
				Total	1.91E-03

Table C.4-2 Radiation Dose to Aquatic Plants, Fish, and Other Species

Parent Radionuclide	Internal Dose Conversion Factors		External Dose Conversion Factors		Total Dose (Gy/y)
	Internal Gy/year per Bq/kg wet	Fish Bioaccumulation Factor (Tissue/water)	Water Concentration (Bq/kg)	External (water) (Gy/year per Bq/kg)	
U-238	2.16E-05	5.00E+01	1.8	6.32E-12	1.98E-03
Th-234	4.56E-06	1.00E+02	1.8	2.04E-09	8.38E-06
U-234	2.46E-05	5.00E+01	1.8	8.09E-12	4.52E-05
U-235	2.36E-05	5.00E+01	0.1	6.64E-10	1.95E-06
Th-231	9.45E-07	1.00E+02	0.1	1.66E-10	7.81E-08
Th-230	2.41E-05	1.00E+02	0.0	7.15E-12	2.68E-07
Ra-226	2.46E-05	7.00E+01	0.1	3.20E-11	1.37E-06
Rn-222	1.12E-04	0.00E+00	0.1	8.91E-09	6.22E-06
Pb-210	2.17E-07	1.00E+02	0.1	2.21E-11	1.20E-08
				Total	2.05E-03

C.5 CONCLUSION

An analysis of the environmental impacts associated with constituents in Spring Creek water at the maximum concentration (POE concentrations) resulted in no probable toxic or radiological dose effects on non-human biota, including cattle and fish and other smaller aquatic and terrestrial species. There was only one study that indicated that specific aquatic invertebrates may be affected by uranium at concentrations below the POE concentrations and at near background levels. Application of this work to Spring Creek is questionable since the studies were done in soft water. Since a variety of invertebrate communities have been observed in rivers in the U. S. having much higher uranium concentrations, it is improbable that an impact on one or more communities would seriously affect fish or other biota in the stream.

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APPENDIX E

MT3D TRANSPORT MODELING

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E.1 INTRODUCTION

The MT3D model (S.S. Papodopulous & Assoc. 1992) was used to model transport of constituents in ground-water flow in the Surficial aquifer at the Shirley Basin site. The MT3D used the cell by cell flow terms produced by the MODFLOW model. The same features incorporated in the MODFLOW are incorporated in the flow modeling. Cell references are relative to the modeling grid described in Appendix D. An updated version of the MT3D model that incorporates an implicit solution was used for the modeling described in this appendix.

The MT3D modeling was based on the scenario #2 ground-water flow modeling described in Appendix D. The modeling start time was assumed to be January, 2000, with 1½ years of continued dewatering system and collection/injection system operation.

The unit of time used in the modeling was days, and the unit of length was feet. Units of hydraulic conductivity and recharge were ft/day. The unit of flow for wells was ft^3/day and the unit of conductance for river cells and drain cells was ft^2/day. The unit of vertical conductance is day^{-1}. Units of concentration were the same as those used in the body of this report (mg/l for uranium, selenium, TDS and chloride, and pCi/l for thorium-230 and radium-226 + radium-228) and were multiplied by a multiple of 10 in the MT3D modeling to allow a simpler numeric format. The concentration is relative to a unit volume of water, and thus the units of concentration used in the modeling can be converted in this manner unless degradation, decay or reaction processes are used. These processes were not used in the modeling.

E.2 TRANSPORT MODELING

The tailings was the source of elevated concentrations of uranium, selenium, chloride, and TDS, and elevated thorium-230 and radium-226 + radium-228 activity. Seepage from the tailings carries these constituents to the Surficial aquifer, where they mix with resident water. There are natural measurable concentrations or activities of the modeled constituents and these were incorporated in the modeling.

E.2.1 DISPERSION AND ATTENUATING PROCESSES

With the extremely heterogeneous hydraulic conductivity in the Surficial aquifer and the resulting non-uniform flow field, the dispersivity of the Surficial aquifer does have some impact on the transport process. However this impact is moderated by the long duration of the source term. The seepage from the tailings will approach a steady-state rate lasting for decades. This has the effect of dramatically reducing the influence of longitudinal dispersivity, and to a lesser extent, transverse and vertical dispersivity. The longitudinal dispersivity used in the modeling was 10 feet for both the tailings and Surficial aquifers. The ratio of transverse or vertical dispersivity to longitudinal dispersivity was set at 0.2 for both aquifers. The initial concentration for constituents in the tailings was assumed to be uniform, so the dispersion process has virtually no impact. The diffusion coefficient was set at zero because diffusion is trivial in comparison to convection driven processes.

The adsorption process was not considered in the general transport modeling to add a measure of conservatism. Adsorption/desorption processes in the absence of decay processes act to slow down constituent migration and to spread a "pulse" of the constituent. The spreading does reduce peak concentrations at downgradient locations, with the reduction proportional to the effective length of the pulse and the distance downgradient. Decay processes or other permanent removal processes were not considered in the modeling. With a retardation factor of one, the constituents were assumed to migrate at the same rate as the convective velocity. This is a conservative approach in that a retardation factor greater than one reduces peak concentrations.

E.2.2 AQUIFER PROPERTIES

The effective porosity for the tailings and the Surficial aquifer were set at 0.12 and 0.10, respectively. These values are equivalent to the specific yield values used in the flow modeling. The top of the tailings elevation is presented in Table E.2-1. The thickness of tailings is presented in Table E.2-2, and the thickness of the Surficial aquifer is presented in Table E.2-3.

E.2.3 INITIAL CONCENTRATIONS

The initial concentrations in the tailings were set to reflect the mobile concentrations as evidenced by the measured concentrations in the Surficial aquifer. Geochemical processes described in Section 2.1.1 limit the mobile concentration of uranium and the mobile activity of thorium-230. Table E.2-4 presents the initial uranium concentration in the tailings, and Table E.2-5 presents the initial thorium-230 activity in the tailings. Tables E.2-8, E.2-10, E.2-12, and E.2-14 present the initial concentrations or activities in the tailings for selenium, radium-226 + radium-228, chloride, and TDS, respectively.

The baseline concentrations in the Surficial aquifer were set at the average background concentrations except directly beneath or directly adjacent to the tailings. In these areas, the concentrations were increased in direct proportion to proximity with the original Mine Creek channel. Table E.2-6 presents the initial uranium concentration in the Surficial aquifer, and Table E.2-7 presents the initial thorium-230 activity in the Surficial aquifer. Tables E.2-9, E.2-11, E.2-13, and E.2-15 present the initial concentrations or activities in the Surficial aquifer for selenium, radium-226 + radium-228, chloride, and TDS, respectively. Recharge and injection to the Surficial aquifer were at the average background concentration or activity.

TABLE E.2-8. INITIAL SELENIUM CONCENTRATION IN THE TAILINGS (mg/l).

Row	Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268
36	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268
37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268
38	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
41	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
43	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
44	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
45	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
47	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
48	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
49	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
50	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
51	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
52	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
53	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
54	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
55	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
56	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
57	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
58	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000
59	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.268
60	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.268	0.268	0.268	0.268	0.268
61	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268
62	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268
63	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
64	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268
65	0.000	0.000	0.000	0.000	0.000	0.268	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
66	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
67	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
68	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
69	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268
71	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268
72	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
74	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
76	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
77	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TABLE E.2-8. INITIAL SELENIUM CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000
37	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.26
38	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.26
39	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
40	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
41	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
42	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
43	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
44	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
45	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
46	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
47	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
48	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
49	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
50	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
51	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
52	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
53	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
54	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
55	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
56	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
57	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
58	0.000	0.000	0.000	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
59	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
60	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268
61	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.268	0.268
62	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000
63	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000
64	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
65	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
66	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
67	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
68	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
69	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
70	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000
71	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000
72	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
74	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
76	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
77	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TABLE E.2-8. INITIAL SELENIUM CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
37	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
39	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000
41	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000
42	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000
43	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000
44	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000
45	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000
46	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
47	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
48	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
49	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
50	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
51	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
52	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
53	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
54	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
55	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
56	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
57	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
58	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
59	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
60	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
61	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
62	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
63	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
64	0.268	0.268	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
65	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268
66	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.268	0.268	0.268	0.268	0.268
67	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000
68	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000
69	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
71	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
72	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
74	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
76	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
77	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TABLE E.2-8. INITIAL SELENIUM CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
43	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
44	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
48	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
49	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
51	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
52	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
53	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
54	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
56	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
57	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
58	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
59	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
60	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
61	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
62	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
63	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
64	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
65	0.268	0.268	0.268	0.268	0.268	0.268	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
66	0.268	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
67	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
68	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
69	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
71	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
72	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
74	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
76	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
77	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TABLE E.2-8. INITIAL SELENIUM CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
43	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
44	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
52	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
53	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
54	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
56	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
57	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
58	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
59	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
61	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
62	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
63	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
64	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
65	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
66	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
67	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
68	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
69	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
71	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
72	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
74	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
76	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
77	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TABLE E.2-8. INITIAL SELENIUM CONCENTRATION IN THE TAILINGS (mg/l) (continued).

	Column																
Row	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
1	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
8	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
16	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
17	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
18	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
21	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
23	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
25	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
26	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
27	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
28	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
29	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
31	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
32	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
33	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
34	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
36	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
37	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
38	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
41	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
42	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
43	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
44	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
46	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
47	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
48	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
49	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
51	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
52	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
53	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
54	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
55	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
56	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
57	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
58	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
59	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
60	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
61	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
62	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
63	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
64	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
65	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
66	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
67	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
68	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
69	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
71	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
72	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
73	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
74	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
75	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
76	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
77	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TABLE E.2-9. INITIAL SELENIUM CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l).

Row \ Column	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
3	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
4	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
6	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
7	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
8	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
9	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
10	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
11	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001
12	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001
13	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.002	0.001	0.001	0.001	0.001	0.001
14	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.004	0.003	0.001	0.001	0.001	0.001	0.001
15	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.004	0.003	0.002	0.001	0.001	0.001	0.001
16	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.004	0.004	0.005	0.005	0.003	0.002	0.001	0.001	0.001	0.001
17	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.006	0.005	0.003	0.001	0.001	0.002	0.002	0.001
18	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.005	0.005	0.003	0.001	0.001	0.002	0.002	0.001
19	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.005	0.004	0.003	0.001	0.001	0.003	0.003	0.001
20	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.005	0.004	0.002	0.001	0.002	0.004	0.003	0.001
21	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.004	0.004	0.002	0.001	0.003	0.004	0.004	0.001
22	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.003	0.002	0.001	0.003	0.005	0.004	0.001
23	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.001	0.001	0.004	0.006	0.004	0.002
24	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.002	0.001	0.002	0.005	0.006	0.005	0.002
25	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.001	0.001	0.003	0.005	0.007	0.005	0.002
26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.004	0.006	0.008	0.005	0.003
27	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.007	0.008	0.006	0.003
28	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.007	0.009	0.006	0.003
29	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.008	0.009	0.006	0.004
30	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.005	0.008	0.009	0.006	0.004
31	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.007	0.007	0.005	0.003
32	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.006	0.006	0.005	0.002
33	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.003	0.005	0.004	0.004	0.001
34	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.002	0.003	0.003	0.003	0.001
35	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.002	0.002	0.001	0.001	0.001
36	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.001	0.001	0.003	0.004	0.004
37	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.006	0.007	0.008	0.009
38	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.007	0.008	0.009	0.010	0.012	0.013	0.014
39	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.007	0.013	0.014	0.015	0.017	0.018	0.019
40	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.007	0.018	0.019	0.020	0.021	0.022	0.023
41	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.007	0.019	0.023	0.024	0.026	0.027	0.028
42	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.008	0.020	0.028	0.029	0.030	0.032	0.033
43	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.005	0.008	0.020	0.032	0.034	0.035	0.036	0.038
44	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.005	0.008	0.020	0.032	0.039	0.040	0.041	0.042
45	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.004	0.006	0.008	0.020	0.032	0.043	0.044	0.046	0.047
46	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.005	0.006	0.009	0.020	0.032	0.044	0.049	0.050	0.052
47	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.004	0.004	0.005	0.006	0.007	0.009	0.021	0.033	0.045	0.054	0.055	0.056
48	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.004	0.004	0.005	0.006	0.006	0.007	0.009	0.021	0.033	0.045	0.057	0.060	0.061
49	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.005	0.005	0.006	0.006	0.007	0.008	0.009	0.021	0.033	0.045	0.057	0.064	0.066
50	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.006	0.006	0.006	0.007	0.007	0.008	0.010	0.021	0.033	0.045	0.057	0.069	0.070
51	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.007	0.007	0.007	0.008	0.008	0.009	0.010	0.022	0.034	0.046	0.058	0.070	0.075
52	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.008	0.008	0.008	0.008	0.009	0.009	0.011	0.022	0.034	0.046	0.058	0.070	0.080
53	0.001	0.001	0.001	0.001	0.002	0.002	0.005	0.009	0.009	0.008	0.009	0.009	0.010	0.011	0.022	0.034	0.046	0.058	0.070	0.082
54	0.001	0.001	0.001	0.002	0.002	0.002	0.005	0.010	0.010	0.009	0.009	0.010	0.011	0.012	0.022	0.034	0.046	0.058	0.070	0.082
55	0.001	0.001	0.001	0.002	0.002	0.002	0.006	0.010	0.010	0.010	0.010	0.011	0.011	0.012	0.023	0.035	0.047	0.059	0.071	0.083
56	0.001	0.001	0.001	0.002	0.002	0.002	0.007	0.011	0.011	0.011	0.011	0.011	0.012	0.013	0.023	0.035	0.047	0.059	0.071	0.083
57	0.001	0.001	0.001	0.002	0.002	0.003	0.008	0.012	0.012	0.012	0.012	0.012	0.012	0.013	0.023	0.035	0.047	0.059	0.071	0.083
58	0.001	0.001	0.001	0.002	0.002	0.004	0.008	0.013	0.013	0.013	0.013	0.013	0.013	0.014	0.023	0.035	0.047	0.059	0.071	0.081
59	0.001	0.001	0.001	0.002	0.002	0.005	0.010	0.014	0.015	0.015	0.015	0.015	0.015	0.015	0.024	0.036	0.048	0.057	0.064	0.071
60	0.001	0.001	0.001	0.002	0.002	0.006	0.011	0.015	0.017	0.017	0.017	0.016	0.016	0.016	0.024	0.033	0.040	0.046	0.053	0.060
61	0.001	0.001	0.001	0.002	0.010	0.012	0.013	0.017	0.019	0.019	0.018	0.018	0.018	0.017	0.016	0.022	0.029	0.035	0.042	0.049
62	0.001	0.001	0.002	0.008	0.018	0.019	0.018	0.018	0.021	0.020	0.019	0.018	0.017	0.016	0.015	0.013	0.018	0.024	0.031	0.038
63	0.001	0.001	0.005	0.016	0.026	0.025	0.025	0.024	0.021	0.020	0.018	0.017	0.016	0.015	0.013	0.012	0.011	0.013	0.020	0.027
64	0.001	0.001	0.014	0.026	0.035	0.034	0.033	0.033	0.026	0.021	0.018	0.016	0.015	0.013	0.012	0.011	0.010	0.008	0.007	0.013
65	0.001	0.013	0.028	0.040	0.047	0.046	0.045	0.040	0.034	0.028	0.024	0.020	0.015	0.013	0.012	0.010	0.009	0.007	0.006	0.004
66	0.001	0.029	0.044	0.055	0.061	0.060	0.056	0.049	0.043	0.037	0.033	0.029	0.024	0.020	0.015	0.011	0.009	0.007	0.006	0.004
67	0.001	0.045	0.060	0.071	0.074	0.073	0.065	0.058	0.052	0.046	0.042	0.038	0.033	0.029	0.024	0.020	0.016	0.011	0.007	0.004
68	0.001	0.049	0.075	0.087	0.088	0.082	0.074	0.067	0.061	0.055	0.051	0.047	0.042	0.038	0.033	0.029	0.025	0.020	0.016	0.011
69	0.001	0.049	0.091	0.103	0.099	0.091	0.083	0.076	0.070	0.064	0.060	0.055	0.051	0.047	0.039	0.030	0.022	0.014	0.005	0.009
70	0.001	0.048	0.104	0.116	0.108	0.100	0.092	0.085	0.072	0.061	0.053	0.045	0.036	0.028	0.020	0.011	0.012	0.015	0.019	0.020
71	0.001	0.033	0.099	0.124	0.105	0.088	0.073	0.061	0.048	0.038	0.029	0.021	0.014	0.018	0.022	0.026	0.029	0.032	0.032	0.031
72	0.001	0.001	0.061	0.083	0.071	0.055	0.040	0.028	0.023	0.028	0.031	0.035	0.039	0.043	0.047	0.048	0.048	0.047	0.047	0.047
73	0.001	0.001	0.004	0.018	0.029	0.037	0.044	0.049	0.055	0.060	0.064	0.067	0.069	0.069	0.068	0.068	0.067	0.067	0.067	0.066
74	0.001	0.001	0.001	0.002	0.018	0.038	0.055	0.070	0.084	0.089	0.088	0.087	0.087	0.086	0.085	0.084	0.084	0.083	0.082	0.081
75	0.001	0.001	0.001	0.001	0.001	0.013	0.027	0.038	0.048	0.049	0.049	0.049	0.049	0.050	0.050	0.050	0.050	0.050	0.051	0.050
76	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.008	0.008	0.011	0.013	0.016	0.019	0.021	0.024	0.025	0.027	0.053	0.074
77	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.005	0.011	0.011	0.010

TABLE E.2-9. INITIAL SELENIUM CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.00
2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0
3	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.00
4	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004
6	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.005	0.005	0.006
7	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.004	0.004	0.005	0.005	0.006	0.006	0.006	0.007
8	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.005	0.006	0.006	0.007	0.007	0.008	0.008
9	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.006	0.007	0.007	0.008	0.008	0.009	0.009
10	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.006	0.007	0.008	0.008	0.009	0.009	0.010	0.010
11	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.006	0.008	0.009	0.009	0.010	0.010	0.011	0.011
12	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.006	0.008	0.010	0.010	0.011	0.011	0.012	0.012
13	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.006	0.008	0.010	0.012	0.012	0.013	0.013	0.013
14	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.007	0.009	0.011	0.013	0.013	0.014	0.014	0.015
15	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.007	0.009	0.011	0.013	0.014	0.015	0.015	0.016
16	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.007	0.009	0.011	0.013	0.015	0.016	0.016	0.017
17	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.007	0.009	0.011	0.014	0.016	0.017	0.017	0.018
18	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.008	0.010	0.012	0.014	0.016	0.018	0.018	0.019
19	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.020
20	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.006	0.008	0.010	0.012	0.014	0.016	0.018	0.020	0.021
21	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.006	0.008	0.010	0.012	0.014	0.017	0.019	0.021	0.022
22	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.006	0.008	0.011	0.013	0.015	0.017	0.019	0.021	0.023
23	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.005	0.007	0.009	0.011	0.013	0.015	0.017	0.019	0.021	0.023
24	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.005	0.008	0.010	0.012	0.015	0.017	0.019	0.021	0.024
25	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.006	0.008	0.010	0.013	0.015	0.018	0.020	0.023
26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.004	0.006	0.009	0.011	0.013	0.016	0.018	0.021
27	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.002	0.002	0.002	0.004	0.007	0.009	0.011	0.014	0.016	0.018
28	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.003	0.003	0.002	0.002	0.005	0.007	0.009	0.012	0.014	0.008
29	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.005	0.008	0.010	0.007	0.005
30	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.006	0.005	0.003	0.003
31	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.001	0.001	0.002
32	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.005	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.002	0.002	0.001
33	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.005	0.005	0.004	0.004	0.003	0.004	0.004	0.004	0.004	0.001
34	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.005	0.005	0.005	0.004	0.003	0.004	0.004	0.006	0.006	0.005	0.003
35	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.005	0.006	0.005	0.004	0.003	0.004	0.005	0.006	0.007	0.008	0.007	0.004
36	0.002	0.001	0.001	0.001	0.001	0.002	0.003	0.005	0.006	0.007	0.005	0.004	0.004	0.005	0.006	0.007	0.009	0.010	0.008	0.005
37	0.007	0.005	0.003	0.002	0.002	0.003	0.006	0.009	0.010	0.010	0.008	0.005	0.005	0.006	0.007	0.008	0.010	0.011	0.009	0.00
38	0.012	0.010	0.008	0.007	0.005	0.007	0.010	0.013	0.014	0.013	0.012	0.005	0.006	0.007	0.008	0.009	0.011	0.011	0.010	0.00
39	0.017	0.015	0.013	0.012	0.009	0.012	0.014	0.017	0.018	0.016	0.014	0.005	0.006	0.007	0.009	0.010	0.012	0.011	0.010	0.008
40	0.022	0.020	0.018	0.017	0.013	0.016	0.019	0.021	0.021	0.019	0.014	0.006	0.007	0.008	0.010	0.011	0.012	0.011	0.010	0.009
41	0.027	0.025	0.023	0.022	0.018	0.020	0.023	0.025	0.024	0.023	0.014	0.007	0.008	0.009	0.011	0.012	0.012	0.011	0.010	0.009
42	0.032	0.030	0.028	0.027	0.022	0.024	0.027	0.029	0.027	0.023	0.014	0.008	0.009	0.010	0.012	0.013	0.012	0.011	0.010	0.009
43	0.037	0.035	0.033	0.032	0.026	0.028	0.031	0.032	0.030	0.023	0.013	0.009	0.010	0.011	0.012	0.013	0.012	0.011	0.010	0.009
44	0.042	0.040	0.038	0.036	0.030	0.032	0.035	0.035	0.032	0.023	0.013	0.009	0.010	0.012	0.013	0.013	0.012	0.011	0.010	0.009
45	0.047	0.045	0.043	0.040	0.035	0.036	0.039	0.038	0.032	0.022	0.013	0.010	0.011	0.013	0.014	0.013	0.012	0.011	0.010	0.009
46	0.052	0.050	0.048	0.045	0.039	0.040	0.043	0.041	0.032	0.022	0.013	0.011	0.012	0.014	0.014	0.013	0.012	0.011	0.010	0.009
47	0.057	0.055	0.053	0.049	0.043	0.045	0.046	0.041	0.032	0.022	0.012	0.012	0.013	0.015	0.014	0.013	0.012	0.011	0.010	0.009
48	0.062	0.060	0.058	0.053	0.047	0.049	0.050	0.041	0.031	0.022	0.012	0.013	0.014	0.015	0.014	0.013	0.012	0.011	0.010	0.008
49	0.067	0.065	0.063	0.057	0.052	0.053	0.053	0.041	0.031	0.021	0.012	0.013	0.015	0.015	0.013	0.012	0.011	0.010	0.009	0.008
50	0.072	0.070	0.067	0.062	0.056	0.057	0.052	0.040	0.031	0.021	0.013	0.014	0.015	0.014	0.013	0.012	0.011	0.010	0.009	0.008
51	0.076	0.075	0.072	0.066	0.060	0.061	0.052	0.040	0.030	0.021	0.014	0.015	0.015	0.014	0.013	0.012	0.011	0.010	0.009	0.008
52	0.081	0.080	0.076	0.070	0.064	0.065	0.052	0.040	0.030	0.021	0.015	0.016	0.015	0.014	0.013	0.012	0.011	0.010	0.009	0.008
53	0.086	0.085	0.080	0.074	0.069	0.066	0.052	0.040	0.030	0.020	0.016	0.016	0.015	0.014	0.013	0.012	0.011	0.010	0.009	0.008
54	0.090	0.090	0.084	0.079	0.073	0.066	0.051	0.039	0.030	0.020	0.016	0.016	0.015	0.014	0.013	0.012	0.011	0.010	0.009	0.008
55	0.094	0.094	0.088	0.083	0.077	0.065	0.051	0.039	0.029	0.020	0.017	0.016	0.015	0.014	0.013	0.012	0.011	0.010	0.009	0.007
56	0.095	0.098	0.092	0.082	0.073	0.062	0.051	0.039	0.029	0.019	0.017	0.016	0.015	0.014	0.013	0.011	0.010	0.008	0.007	0.005
57	0.094	0.095	0.086	0.076	0.067	0.056	0.045	0.035	0.027	0.019	0.017	0.015	0.014	0.012	0.011	0.009	0.008	0.007	0.005	0.004
58	0.087	0.087	0.078	0.069	0.060	0.049	0.037	0.028	0.020	0.016	0.015	0.013	0.012	0.010	0.009	0.007	0.006	0.004	0.003	0.001
59	0.078	0.076	0.068	0.059	0.050	0.039	0.027	0.017	0.013	0.012	0.011	0.010	0.009	0.007	0.006	0.004	0.003	0.001	0.001	0.001
60	0.067	0.064	0.056	0.047	0.038	0.027	0.015	0.010	0.009	0.008	0.007	0.006	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.001
61	0.056	0.052	0.043	0.035	0.026	0.015	0.006	0.006	0.006	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002
62	0.045	0.040	0.031	0.023	0.014	0.003	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002
63	0.034	0.027	0.019	0.010	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002
64	0.020	0.012	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.002	0.002	0.002	0.003
65	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.004
66	0.003	0.002	0.003	0.003	0.004	0.004	0.005	0.005	0.005	0.005	0.004	0.004	0.005	0.004	0.004	0.005	0.005	0.005	0.006	0.006
67	0.002	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.004	0.005	0.005	0.005	0.006	0.006	0.006	0.005	0.005	0.004	0.004	0.004
68	0.007	0.002	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.004	0.006	0.007
69	0.011	0.011	0.010	0.008	0.005	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.005	0.007	0.008	0.009
70	0.020	0.020	0.019	0.018	0.015	0.012	0.009	0.007	0.005	0.003	0.001	0.001	0.001	0.002	0.003	0.008	0.014	0.020	0.027	0.033
71	0.031	0.030	0.030	0.030	0.028	0.025	0.022	0.020	0.018	0.016	0.014	0.012	0.008	0.003	0.002	0.001	0.001	0.009	0.020	0.031
72	0.046	0.046	0.046	0.045	0.045	0.043	0.040	0.038	0.036	0.034	0.032	0.027	0.022	0.018	0.013	0.008	0.007	0.006	0.005	0.004
73	0.066	0.066	0.065	0.065	0.065	0.064	0.063	0.061	0.059	0.055	0.050	0.046	0.041	0.036	0.032	0.027	0.022	0.017	0.014	0.013
74	0.081	0.080	0.079	0.079	0.078	0.078	0.087	0.080	0.076	0.074	0.071	0.066	0.062	0.057	0.052	0.047	0.043	0.038	0.033	0.029
75	0.126	0.116	0.108	0.099	0.091	0.082	0.074	0.067	0.061	0.056	0.050	0.045	0.043	0.042	0.040	0.038	0.037	0.035	0.033	0.032
76	0.073	0.071	0.069	0.065	0.060	0.056	0.052	0.048	0.045	0.042	0.037	0.032	0.026	0.021	0.015	0.012	0.011	0.009	0.007	0.006
77	0.009	0.009	0.008	0.006	0.004	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

TABLE E.2-9. INITIAL SELENIUM CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
3	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003
4	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.004	0.005	0.005	0.006	0.006	0.006	0.007	0.007	0.007	0.007	0.007	0.007	0.007
5	0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.007	0.008	0.008	0.009	0.009	0.009	0.010	0.010	0.010	0.010	0.010	0.010
6	0.006	0.006	0.007	0.007	0.008	0.008	0.008	0.009	0.009	0.010	0.010	0.011	0.011	0.011	0.012	0.012	0.012	0.012	0.012	0.012
7	0.007	0.008	0.008	0.009	0.009	0.009	0.010	0.010	0.011	0.011	0.012	0.012	0.012	0.013	0.013	0.013	0.013	0.013	0.013	0.013
8	0.008	0.009	0.009	0.010	0.010	0.010	0.011	0.011	0.012	0.012	0.013	0.013	0.013	0.014	0.014	0.014	0.014	0.014	0.015	0.014
9	0.010	0.010	0.010	0.011	0.011	0.012	0.012	0.012	0.013	0.013	0.014	0.014	0.015	0.015	0.015	0.015	0.015	0.016	0.016	0.015
10	0.011	0.011	0.011	0.012	0.012	0.013	0.013	0.013	0.014	0.014	0.015	0.015	0.016	0.016	0.016	0.017	0.017	0.017	0.017	0.015
11	0.012	0.012	0.013	0.013	0.013	0.014	0.014	0.015	0.015	0.015	0.016	0.016	0.017	0.017	0.017	0.018	0.018	0.018	0.017	0.016
12	0.013	0.013	0.014	0.014	0.014	0.015	0.015	0.016	0.016	0.016	0.017	0.017	0.018	0.018	0.019	0.019	0.019	0.019	0.018	0.016
13	0.014	0.014	0.015	0.015	0.016	0.016	0.016	0.017	0.017	0.018	0.018	0.018	0.019	0.019	0.020	0.020	0.020	0.020	0.018	0.017
14	0.015	0.015	0.016	0.016	0.017	0.017	0.017	0.018	0.018	0.019	0.019	0.019	0.020	0.020	0.021	0.021	0.021	0.020	0.019	0.017
15	0.016	0.017	0.017	0.017	0.018	0.018	0.019	0.019	0.019	0.020	0.020	0.021	0.021	0.021	0.022	0.022	0.022	0.021	0.019	0.018
16	0.017	0.018	0.018	0.018	0.019	0.019	0.020	0.020	0.020	0.021	0.021	0.022	0.022	0.022	0.023	0.023	0.023	0.022	0.020	0.018
17	0.018	0.019	0.019	0.020	0.020	0.020	0.021	0.021	0.022	0.022	0.022	0.023	0.023	0.024	0.025	0.025	0.025	0.024	0.023	0.022
18	0.019	0.020	0.020	0.021	0.021	0.021	0.022	0.022	0.023	0.023	0.023	0.024	0.025	0.026	0.027	0.027	0.026	0.026	0.025	0.025
19	0.020	0.021	0.021	0.022	0.022	0.023	0.023	0.023	0.024	0.024	0.025	0.026	0.027	0.028	0.029	0.028	0.028	0.027	0.027	0.026
20	0.022	0.022	0.022	0.023	0.023	0.024	0.024	0.024	0.025	0.026	0.027	0.028	0.029	0.030	0.030	0.030	0.029	0.029	0.028	0.028
21	0.023	0.023	0.023	0.024	0.024	0.025	0.025	0.026	0.027	0.028	0.029	0.030	0.031	0.032	0.031	0.031	0.030	0.030	0.029	0.029
22	0.024	0.024	0.025	0.025	0.025	0.026	0.027	0.028	0.029	0.030	0.031	0.031	0.031	0.031	0.029	0.029	0.028	0.028	0.028	0.027
23	0.025	0.025	0.026	0.026	0.027	0.028	0.029	0.029	0.030	0.030	0.030	0.031	0.031	0.030	0.028	0.027	0.027	0.026	0.026	0.025
24	0.026	0.026	0.027	0.028	0.028	0.029	0.029	0.029	0.029	0.030	0.030	0.030	0.031	0.029	0.027	0.025	0.025	0.024	0.024	0.023
25	0.025	0.026	0.027	0.027	0.028	0.028	0.029	0.029	0.029	0.029	0.030	0.030	0.030	0.028	0.026	0.024	0.023	0.022	0.022	0.022
26	0.020	0.021	0.023	0.024	0.024	0.025	0.025	0.026	0.026	0.027	0.027	0.026	0.027	0.027	0.025	0.023	0.021	0.021	0.020	0.020
27	0.010	0.016	0.018	0.020	0.021	0.021	0.022	0.022	0.023	0.023	0.021	0.018	0.020	0.022	0.024	0.022	0.020	0.019	0.018	0.018
28	0.007	0.009	0.013	0.015	0.017	0.018	0.018	0.019	0.019	0.015	0.012	0.012	0.013	0.015	0.017	0.019	0.019	0.017	0.017	0.016
29	0.006	0.008	0.009	0.010	0.012	0.014	0.014	0.013	0.013	0.014	0.015	0.015	0.014	0.014	0.013	0.013	0.014	0.016	0.015	0.014
30	0.005	0.006	0.007	0.008	0.009	0.010	0.011	0.012	0.014	0.015	0.016	0.016	0.016	0.015	0.015	0.014	0.014	0.013	0.013	0.012
31	0.003	0.004	0.005	0.006	0.007	0.008	0.007	0.008	0.009	0.010	0.011	0.012	0.012	0.012	0.011	0.011	0.010	0.010	0.013	0.015
32	0.002	0.003	0.004	0.004	0.004	0.005	0.004	0.004	0.005	0.005	0.006	0.007	0.008	0.008	0.008	0.007	0.007	0.009	0.013	0.016
33	0.002	0.003	0.004	0.003	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.003	0.004	0.004	0.004	0.006	0.010	0.014	0.017
34	0.002	0.003	0.003	0.002	0.001	0.001	0.003	0.004	0.004	0.003	0.003	0.003	0.002	0.001	0.001	0.003	0.007	0.011	0.015	0.018
35	0.003	0.003	0.002	0.002	0.001	0.002	0.004	0.005	0.005	0.004	0.004	0.003	0.002	0.002	0.001	0.001	0.002	0.006	0.010	0.015
36	0.003	0.003	0.002	0.002	0.001	0.003	0.005	0.006	0.006	0.005	0.004	0.003	0.003	0.002	0.001	0.002	0.002	0.003	0.005	0.009
37	0.003	0.003	0.002	0.002	0.002	0.004	0.006	0.007	0.007	0.006	0.005	0.004	0.003	0.002	0.002	0.002	0.003	0.003	0.004	0.004
38	0.004	0.003	0.002	0.002	0.003	0.004	0.006	0.008	0.007	0.006	0.005	0.004	0.003	0.002	0.002	0.003	0.003	0.004	0.004	0.005
39	0.005	0.003	0.003	0.002	0.002	0.004	0.006	0.007	0.007	0.006	0.005	0.004	0.003	0.003	0.003	0.003	0.004	0.004	0.005	0.004
40	0.006	0.003	0.003	0.002	0.002	0.004	0.006	0.007	0.006	0.005	0.005	0.004	0.004	0.003	0.003	0.004	0.004	0.005	0.004	0.003
41	0.007	0.004	0.003	0.002	0.002	0.004	0.006	0.006	0.006	0.005	0.004	0.004	0.003	0.003	0.004	0.004	0.005	0.004	0.003	0.003
42	0.008	0.005	0.003	0.002	0.002	0.004	0.006	0.006	0.005	0.004	0.004	0.004	0.003	0.003	0.003	0.005	0.004	0.003	0.002	0.002
43	0.008	0.006	0.003	0.002	0.002	0.003	0.005	0.005	0.005	0.004	0.004	0.003	0.003	0.003	0.002	0.004	0.003	0.002	0.001	0.002
44	0.008	0.006	0.004	0.002	0.002	0.003	0.005	0.005	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.003	0.002	0.001	0.001	0.001
45	0.008	0.007	0.004	0.002	0.002	0.003	0.005	0.004	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001
46	0.008	0.007	0.005	0.002	0.002	0.003	0.005	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001
47	0.008	0.007	0.006	0.003	0.002	0.003	0.004	0.003	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
48	0.007	0.006	0.005	0.004	0.002	0.003	0.004	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
49	0.007	0.006	0.005	0.004	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
50	0.007	0.006	0.005	0.004	0.003	0.002	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
51	0.007	0.006	0.005	0.004	0.003	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
52	0.007	0.006	0.005	0.004	0.003	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
53	0.007	0.006	0.005	0.004	0.003	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
54	0.007	0.006	0.004	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
55	0.006	0.004	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
56	0.004	0.002	0.002	0.002	0.002	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
57	0.002	0.001	0.002	0.002	0.002	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
58	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001
59	0.001	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001
60	0.002	0.002	0.002	0.003	0.003	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001
61	0.002	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002
62	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002
63	0.003	0.003	0.004	0.004	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
64	0.003	0.004	0.004	0.005	0.005	0.005	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.003
65	0.004	0.005	0.005	0.005	0.006	0.006	0.006	0.005	0.006	0.006	0.006	0.007	0.007	0.007	0.008	0.008	0.008	0.009	0.009	0.009
66	0.006	0.005	0.005	0.007	0.008	0.010	0.012	0.013	0.015	0.016	0.017	0.018	0.018	0.018	0.019	0.019	0.019	0.020	0.020	0.020
67	0.005	0.007	0.009	0.010	0.012	0.013	0.015	0.017	0.018	0.020	0.021	0.023	0.024	0.026	0.028	0.029	0.030	0.031	0.031	0.029
68	0.009	0.010	0.012	0.014	0.015	0.017	0.018	0.020	0.021	0.022	0.024	0.027	0.033	0.040	0.046	0.052	0.059	0.065	0.071	0.078
69	0.011	0.012	0.013	0.017	0.024	0.030	0.036	0.043	0.049	0.055	0.062	0.068	0.074	0.081	0.087	0.093	0.100	0.106	0.112	0.119
70	0.039	0.046	0.052	0.058	0.065	0.071	0.077	0.084	0.090	0.096	0.103	0.109	0.115	0.122	0.128	0.134	0.141	0.147	0.153	0.160
71	0.043	0.054	0.065	0.076	0.088	0.099	0.110	0.122	0.133	0.144	0.154	0.160	0.166	0.173	0.179	0.185	0.192	0.198	0.204	0.211
72	0.003	0.002	0.001	0.001	0.001	0.009	0.020	0.031	0.042	0.054	0.065	0.076	0.088	0.099	0.110	0.121	0.133	0.144	0.155	0.167
73	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.004	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.005	0.017	0.028	0.039	0.050
74	0.024	0.021	0.020	0.019	0.018	0.017	0.016	0.015	0.014	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.005	0.004	0.003	0.002
75	0.030	0.028	0.027	0.025	0.024	0.022	0.020	0.018	0.016	0.015	0.013	0.011	0.009	0.007	0.005	0.004	0.002	0.001	0.001	0.001
76	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
77	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

TABLE E.2-9. INITIAL SELENIUM CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0
2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.0
3	0.003	0.003	0.003	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.00
4	0.007	0.007	0.006	0.005	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
5	0.010	0.009	0.008	0.006	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
6	0.012	0.010	0.009	0.007	0.006	0.004	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
7	0.012	0.011	0.009	0.008	0.006	0.005	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
8	0.013	0.011	0.010	0.008	0.007	0.005	0.004	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
9	0.013	0.012	0.010	0.009	0.007	0.006	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
10	0.014	0.012	0.011	0.009	0.008	0.007	0.005	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
11	0.014	0.013	0.011	0.010	0.008	0.007	0.006	0.004	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
12	0.015	0.013	0.012	0.010	0.009	0.008	0.006	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
13	0.015	0.014	0.012	0.011	0.009	0.008	0.007	0.005	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
14	0.016	0.014	0.013	0.011	0.010	0.009	0.007	0.006	0.004	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
15	0.016	0.015	0.013	0.012	0.011	0.009	0.008	0.006	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
16	0.017	0.015	0.014	0.012	0.011	0.010	0.008	0.007	0.005	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
17	0.020	0.018	0.016	0.015	0.013	0.011	0.009	0.007	0.006	0.004	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
18	0.023	0.021	0.020	0.018	0.016	0.014	0.013	0.011	0.009	0.007	0.005	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
19	0.026	0.025	0.023	0.021	0.019	0.018	0.016	0.014	0.012	0.009	0.006	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
20	0.027	0.027	0.026	0.024	0.023	0.021	0.019	0.016	0.012	0.009	0.006	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
21	0.028	0.028	0.028	0.027	0.025	0.022	0.019	0.016	0.012	0.009	0.006	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
22	0.027	0.026	0.026	0.025	0.024	0.021	0.019	0.015	0.012	0.009	0.006	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
23	0.025	0.024	0.024	0.023	0.022	0.020	0.017	0.015	0.012	0.009	0.006	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
24	0.023	0.023	0.022	0.021	0.020	0.018	0.016	0.013	0.011	0.008	0.005	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
25	0.021	0.021	0.020	0.019	0.018	0.017	0.014	0.012	0.009	0.006	0.004	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
26	0.019	0.019	0.018	0.017	0.016	0.015	0.013	0.010	0.007	0.005	0.002	0.001	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001
27	0.018	0.016	0.015	0.014	0.013	0.012	0.011	0.009	0.006	0.003	0.001	0.003	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.001
28	0.015	0.014	0.013	0.012	0.011	0.010	0.009	0.007	0.004	0.002	0.002	0.004	0.007	0.005	0.004	0.002	0.001	0.001	0.001	0.001
29	0.013	0.012	0.011	0.010	0.009	0.008	0.007	0.006	0.003	0.001	0.003	0.006	0.008	0.007	0.006	0.004	0.002	0.001	0.001	0.001
30	0.011	0.010	0.009	0.008	0.007	0.006	0.005	0.004	0.001	0.002	0.005	0.007	0.010	0.009	0.008	0.006	0.001	0.001	0.001	0.001
31	0.014	0.012	0.010	0.008	0.006	0.004	0.003	0.002	0.001	0.004	0.006	0.009	0.011	0.011	0.010	0.006	0.001	0.001	0.001	0.001
32	0.018	0.016	0.014	0.012	0.010	0.008	0.006	0.002	0.002	0.005	0.008	0.010	0.013	0.013	0.011	0.005	0.001	0.001	0.001	0.001
33	0.019	0.021	0.019	0.016	0.012	0.008	0.004	0.001	0.004	0.006	0.009	0.012	0.014	0.015	0.010	0.003	0.002	0.002	0.002	0.002
34	0.019	0.020	0.019	0.014	0.010	0.006	0.002	0.002	0.005	0.007	0.010	0.013	0.015	0.015	0.008	0.002	0.002	0.002	0.002	0.002
35	0.015	0.015	0.015	0.014	0.009	0.005	0.001	0.003	0.006	0.008	0.011	0.014	0.015	0.014	0.007	0.002	0.002	0.002	0.002	0.002
36	0.011	0.011	0.011	0.010	0.009	0.004	0.002	0.004	0.007	0.009	0.012	0.013	0.014	0.012	0.006	0.002	0.002	0.002	0.002	0.008
37	0.007	0.007	0.006	0.004	0.003	0.002	0.003	0.005	0.007	0.010	0.011	0.012	0.013	0.010	0.005	0.003	0.002	0.002	0.015	0.02
38	0.005	0.004	0.004	0.003	0.002	0.001	0.003	0.006	0.008	0.009	0.010	0.011	0.012	0.008	0.004	0.003	0.008	0.022	0.036	0.05
39	0.004	0.005	0.004	0.003	0.003	0.002	0.003	0.006	0.007	0.008	0.009	0.011	0.010	0.007	0.003	0.015	0.029	0.043	0.056	0.050
40	0.004	0.004	0.004	0.004	0.003	0.002	0.003	0.006	0.007	0.008	0.009	0.010	0.008	0.006	0.020	0.036	0.049	0.062	0.055	0.049
41	0.003	0.004	0.004	0.004	0.003	0.002	0.003	0.006	0.007	0.007	0.008	0.018	0.040	0.044	0.046	0.056	0.067	0.061	0.054	0.048
42	0.003	0.003	0.003	0.004	0.003	0.003	0.003	0.005	0.006	0.007	0.020	0.042	0.065	0.087	0.089	0.076	0.065	0.059	0.053	0.047
43	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.005	0.006	0.022	0.044	0.067	0.079	0.086	0.090	0.077	0.064	0.058	0.052	0.046
44	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.005	0.024	0.042	0.053	0.064	0.070	0.076	0.083	0.078	0.065	0.055	0.051	0.045
45	0.001	0.001	0.002	0.002	0.002	0.003	0.004	0.017	0.028	0.039	0.048	0.054	0.061	0.067	0.073	0.076	0.067	0.054	0.048	0.043
46	0.001	0.001	0.001	0.002	0.002	0.002	0.003	0.014	0.025	0.032	0.039	0.045	0.051	0.057	0.064	0.070	0.067	0.055	0.045	0.041
47	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.010	0.017	0.023	0.029	0.035	0.042	0.048	0.054	0.060	0.063	0.057	0.044	0.038
48	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.007	0.013	0.020	0.026	0.032	0.038	0.045	0.051	0.057	0.053	0.045	0.034
49	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.004	0.010	0.016	0.023	0.029	0.035	0.041	0.047	0.049	0.044	0.034
50	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.007	0.013	0.019	0.026	0.032	0.038	0.044	0.040	0.035
51	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.001	0.004	0.010	0.016	0.022	0.028	0.035	0.035	0.031
52	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.006	0.013	0.019	0.025	0.030	0.026
53	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.009	0.016	0.022	0.021
54	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.006	0.012	0.017
55	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.009
56	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
57	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
58	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
59	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
60	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
61	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
62	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
63	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
64	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
65	0.009	0.010	0.010	0.010	0.011	0.011	0.011	0.009	0.007	0.005	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
66	0.021	0.021	0.021	0.019	0.017	0.015	0.014	0.012	0.010	0.008	0.007	0.005	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001
67	0.027	0.025	0.024	0.022	0.020	0.018	0.017	0.015	0.013	0.011	0.010	0.008	0.006	0.005	0.003	0.001	0.001	0.001	0.001	0.001
68	0.076	0.063	0.050	0.037	0.024	0.021	0.019	0.017	0.015	0.014	0.012	0.010	0.009	0.007	0.005	0.003	0.002	0.001	0.001	0.001
69	0.125	0.131	0.138	0.143	0.129	0.116	0.103	0.090	0.077	0.064	0.051	0.037	0.024	0.011	0.007	0.005	0.003	0.002	0.001	0.001
70	0.166	0.172	0.179	0.185	0.191	0.198	0.204	0.196	0.183	0.170	0.156	0.143	0.130	0.117	0.104	0.091	0.078	0.064	0.034	0.001
71	0.217	0.223	0.230	0.236	0.242	0.249	0.255	0.261	0.268	0.274	0.280	0.275	0.262	0.249	0.236	0.223	0.210	0.164	0.103	0.041
72	0.178	0.189	0.201	0.212	0.223	0.234	0.246	0.257	0.268	0.280	0.291	0.302	0.313	0.325	0.336	0.326	0.301	0.250	0.199	0.148
73	0.062	0.073	0.084	0.096	0.107	0.118	0.129	0.141	0.152	0.163	0.175	0.186	0.168	0.146	0.124	0.103	0.081	0.059	0.037	0.01
74	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.012	0.006	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
75	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
76	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
77	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

TABLE E.2-9. INITIAL SELENIUM CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
3	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
4	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
6	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
7	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.001	0.001	0.001	0.001
8	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.001	0.001	0.001
9	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001
10	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.001
11	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.001
12	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.003	0.002	0.002	0.002	0.002
13	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002
14	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.002	0.002	0.002
15	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.004	0.003	0.003	0.003	0.003	0.002	0.002
16	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.002
17	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003	0.002
18	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.003	0.003
19	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.004	0.005	0.004	0.004	0.004	0.004	0.003	0.003	0.003
20	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.003
21	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.005	0.005	0.004	0.004	0.004	0.004	0.003	0.003
22	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.004	0.005	0.005	0.005	0.004	0.004	0.004	0.004	0.003
23	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.004
24	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.004	0.003
25	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.004	0.004	0.004	0.003	0.003	0.003
26	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
27	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.003	0.003	0.003	0.002
28	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.003	0.002	0.002	0.002
29	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.002	0.002
30	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.001
31	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.010	0.004	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.001	0.001
32	0.001	0.001	0.001	0.001	0.001	0.009	0.015	0.009	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
33	0.002	0.002	0.002	0.002	0.015	0.020	0.014	0.008	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
34	0.002	0.002	0.008	0.022	0.025	0.019	0.013	0.007	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
35	0.002	0.015	0.029	0.030	0.024	0.018	0.012	0.006	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
36	0.022	0.036	0.035	0.029	0.023	0.017	0.011	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
37	0.043	0.040	0.034	0.028	0.022	0.016	0.010	0.004	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
38	0.045	0.039	0.033	0.027	0.021	0.015	0.009	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
39	0.044	0.038	0.032	0.026	0.020	0.014	0.008	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
40	0.043	0.037	0.031	0.025	0.019	0.013	0.007	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
41	0.042	0.036	0.030	0.024	0.018	0.012	0.006	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
42	0.041	0.035	0.029	0.023	0.017	0.011	0.005	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
43	0.040	0.034	0.028	0.022	0.016	0.010	0.004	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
44	0.039	0.033	0.027	0.021	0.015	0.009	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
45	0.037	0.031	0.025	0.020	0.014	0.008	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
46	0.036	0.030	0.024	0.018	0.012	0.006	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
47	0.034	0.028	0.022	0.016	0.011	0.005	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
48	0.031	0.027	0.021	0.015	0.009	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
49	0.027	0.024	0.019	0.013	0.008	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
50	0.024	0.020	0.017	0.012	0.006	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
51	0.023	0.017	0.013	0.010	0.004	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
52	0.022	0.013	0.010	0.007	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
53	0.017	0.013	0.006	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
54	0.012	0.008	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
55	0.008	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
56	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
57	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
58	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
59	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
60	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
61	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
62	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
63	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
64	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
65	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
66	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
67	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
68	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
69	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
70	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
71	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
72	0.097	0.046	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.003
73	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
74	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
75	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
76	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
77	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

TABLE E.2-9. INITIAL SELENIUM CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
2	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
3	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
4	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
6	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
7	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
8	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
9	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
10	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
11	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
12	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
13	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
14	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
15	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.002	0.004	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001
16	0.002	0.002	0.001	0.001	0.001	0.001	0.002	0.003	0.005	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001
17	0.002	0.002	0.002	0.001	0.001	0.001	0.003	0.004	0.006	0.005	0.002	0.001	0.001	0.001	0.001	0.001	0.001
18	0.002	0.002	0.002	0.002	0.002	0.003	0.004	0.005	0.007	0.004	0.001	0.001	0.001	0.001	0.001	0.001	0.001
19	0.003	0.002	0.002	0.002	0.003	0.004	0.005	0.005	0.004	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
20	0.003	0.003	0.003	0.004	0.005	0.005	0.004	0.003	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
21	0.003	0.003	0.004	0.004	0.004	0.004	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
22	0.004	0.004	0.004	0.004	0.003	0.003	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
23	0.004	0.003	0.003	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
24	0.003	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
25	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
26	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
27	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
28	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
29	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
30	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
31	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
32	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
33	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
34	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
35	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
36	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
37	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
38	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
39	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
40	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
41	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
42	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
43	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
44	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
45	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
46	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
47	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
48	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
49	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
50	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
51	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
52	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
53	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
54	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
55	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
56	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
57	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
58	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
59	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
60	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
61	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
62	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
63	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
64	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
65	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
66	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
67	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
68	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
69	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
70	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
71	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
72	0.004	0.004	0.004	0.004	0.004	0.004	0.003	0.003	0.002	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
73	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
74	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
75	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
76	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
77	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

TABLE E.2-10. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE TAILINGS (pCi/l).

Row	Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00
36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00
37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
47	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
48	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
49	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
50	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
51	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
52	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
53	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
54	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
55	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
56	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
57	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
58	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	20.00
60	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00
61	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
62	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
63	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
64	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00
65	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
67	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
68	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00
71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00
72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE E.2-10. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE TAILINGS (pCi/l) (continued).

Row	Column 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00
37	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.0
38	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.0
39	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
40	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
41	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
42	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
43	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
44	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
45	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
46	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
47	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
48	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
49	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
50	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
51	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
52	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
53	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
54	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
55	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
58	0.00	0.00	0.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
59	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
60	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00
61	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00
62	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00
63	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00
64	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
65	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
66	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
67	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
68	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
69	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
70	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00
71	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE E.2-10. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE TAILINGS (pCi/l) (continued).

Row	Column 41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
41	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00
42	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00
43	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00
44	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00
45	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
46	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
47	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
48	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
49	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
50	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
51	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
52	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
53	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
54	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
55	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
56	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
57	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
58	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
59	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
60	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
61	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
62	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
63	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
64	20.00	20.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
65	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
66	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00
67	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00
68	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00
69	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE E.2-10. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE TAILINGS (pCi/l) (continued).

Row	Column 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	20.00	20.00	20.00	20.00	20.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE E.2-10. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE TAILINGS (pCi/l) (continued).

Row	Column 81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE E.2-10. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE TAILINGS (pCi/l) (continued).

	Column																
Row	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

TABLE E.2-11. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE SURFICIAL AQUIFER (pCi/l).

Row	Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
3	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
4	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
5	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
6	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
7	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
8	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
9	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.87	3.00	3.00	3.00	3.00	3.00	3.00
10	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.95	2.78	2.64	2.81	3.00	3.00	3.00	3.00	3.00
11	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.73	2.54	2.41	2.60	2.79	2.98	3.00	3.00	3.00
12	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.78	2.52	2.30	2.20	2.39	2.58	2.85	3.00	3.00	3.00
13	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.83	2.57	2.30	2.07	1.99	2.18	2.37	2.75	3.00	3.00	3.00
14	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.69	2.35	2.09	1.83	1.78	1.97	2.27	2.66	3.00	3.00	3.00
15	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.61	2.20	1.87	1.61	1.57	1.79	2.18	2.57	2.95	3.00	3.00
16	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.53	2.12	1.71	1.39	1.36	1.70	2.09	2.46	2.80	2.90	2.90
17	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.96	2.45	2.04	1.63	1.22	1.22	1.56	1.90	2.23	2.57	2.75	2.74
18	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.88	2.37	1.96	1.58	1.20	1.00	1.33	1.67	2.01	2.34	2.60	2.59
19	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.80	2.35	1.98	1.59	1.29	1.09	1.11	1.44	1.78	2.12	2.45	2.44
20	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.85	2.38	1.99	1.61	1.40	1.20	1.00	1.22	1.55	1.89	2.23	2.29
21	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.88	2.39	2.00	1.70	1.51	1.31	1.11	0.99	1.33	1.66	2.00	2.13
22	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.89	2.40	2.01	1.81	1.61	1.41	1.22	1.02	1.10	1.44	1.78	1.98
23	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.90	2.41	2.12	1.92	1.72	1.52	1.32	1.12	0.93	1.21	1.55	1.83
24	3.00	3.00	3.00	3.00	3.00	2.93	3.00	3.00	2.91	2.43	2.23	2.03	1.83	1.63	1.43	1.23	1.03	0.99	1.32	1.66
25	3.00	3.00	3.00	3.00	2.96	2.69	2.96	3.00	2.92	2.54	2.34	2.14	1.94	1.74	1.54	1.34	1.14	0.94	1.10	1.43
26	3.00	3.00	3.00	3.00	2.69	2.45	2.72	2.96	2.93	2.64	2.44	2.25	2.05	1.85	1.65	1.45	1.25	1.05	0.87	1.21
27	3.00	3.00	3.00	3.00	2.42	2.21	2.48	2.72	2.97	2.75	2.55	2.35	2.15	1.96	1.76	1.56	1.36	1.16	0.96	0.98
28	3.00	3.00	3.00	3.00	2.15	1.97	2.24	2.48	2.95	2.74	2.57	2.40	2.23	2.06	1.86	1.67	1.47	1.27	1.07	0.87
29	3.00	3.00	3.00	3.00	1.91	1.73	2.01	2.54	2.93	2.72	2.55	2.38	2.21	2.04	1.87	1.70	1.53	1.36	1.18	0.98
30	3.00	3.00	3.00	3.00	1.74	1.49	1.86	2.63	2.92	2.71	2.54	2.37	2.20	2.03	1.86	1.69	1.52	1.35	1.18	1.01
31	3.00	3.00	3.00	2.85	1.56	1.25	1.96	2.73	2.90	2.69	2.52	2.35	2.18	2.01	1.84	1.67	1.50	1.33	1.16	0.99
32	3.00	3.00	3.00	2.67	1.38	1.16	2.06	2.83	2.88	2.67	2.50	2.33	2.16	1.99	1.82	1.65	1.48	1.31	1.14	1.01
33	3.00	3.00	3.00	2.50	1.21	1.25	2.15	2.92	2.87	2.66	2.49	2.32	2.15	1.98	1.81	1.64	1.47	1.30	1.13	1.19
34	3.00	3.00	3.00	2.32	1.08	1.35	2.25	3.02	2.85	2.64	2.47	2.30	2.13	1.96	1.79	1.62	1.45	1.28	1.20	1.38
35	3.00	3.00	3.00	2.14	1.05	1.45	2.34	3.09	2.84	2.62	2.45	2.28	2.11	1.94	1.77	1.60	1.43	1.26	1.39	1.56
36	3.00	3.00	3.00	1.98	1.15	1.54	2.44	3.07	2.82	2.61	2.44	2.27	2.10	1.93	1.76	1.59	1.42	1.40	1.57	1.74
37	3.00	3.00	3.00	1.95	1.24	1.64	2.54	3.06	2.80	2.59	2.42	2.25	2.08	1.91	1.74	1.57	1.41	1.58	1.75	1.93
38	3.00	3.00	3.00	1.92	1.33	1.74	2.63	3.04	2.79	2.57	2.40	2.23	2.06	1.89	1.72	1.56	1.59	1.76	1.94	2.11
39	3.00	3.00	3.00	1.89	1.43	1.83	2.73	3.02	2.77	2.56	2.39	2.22	2.05	1.88	1.71	1.60	1.77	1.95	2.12	2.29
40	3.00	3.00	3.00	1.86	1.52	1.93	2.83	3.01	2.75	2.54	2.37	2.20	2.03	1.86	1.69	1.78	1.96	2.13	2.30	2.47
41	3.00	3.00	3.00	1.92	1.62	2.02	2.92	2.99	2.74	2.52	2.35	2.18	2.02	1.85	1.79	1.97	2.14	2.31	2.48	2.66
42	3.00	3.00	2.97	2.01	1.71	2.12	3.02	2.97	2.72	2.51	2.34	2.17	2.00	1.83	1.98	2.15	2.32	2.49	2.67	2.84
43	3.00	3.00	2.95	2.10	1.80	2.22	3.12	2.96	2.70	2.49	2.32	2.15	1.98	1.99	2.16	2.33	2.51	2.68	2.85	3.02
44	3.00	3.00	2.92	2.20	1.90	2.31	3.20	2.94	2.69	2.48	2.31	2.14	2.00	2.17	2.34	2.52	2.69	2.86	3.03	3.21
45	3.00	3.00	2.89	2.29	1.99	2.41	3.18	2.93	2.67	2.46	2.29	2.12	2.18	2.35	2.53	2.70	2.87	3.04	3.22	3.39
46	3.00	3.00	2.86	2.39	2.09	2.51	3.16	2.91	2.65	2.44	2.27	2.19	2.36	2.54	2.71	2.88	3.05	3.23	3.40	3.57
47	3.00	3.00	2.85	2.48	2.18	2.60	3.15	2.89	2.64	2.43	2.26	2.37	2.55	2.72	2.89	3.06	3.24	3.41	3.58	3.76
48	3.00	3.00	2.94	2.57	2.27	2.70	3.13	2.88	2.62	2.41	2.38	2.56	2.73	2.90	3.07	3.25	3.42	3.59	3.77	3.94
49	3.00	3.00	3.03	2.67	2.37	2.80	3.11	2.86	2.60	2.39	2.57	2.74	2.91	3.08	3.26	3.43	3.60	3.78	3.95	4.12
50	3.00	3.00	3.04	2.76	2.46	2.89	3.10	2.84	2.59	2.58	2.75	2.92	3.10	3.27	3.44	3.61	3.79	3.96	4.13	4.31
51	3.00	3.00	3.05	2.86	2.56	2.99	3.08	2.83	2.57	2.76	2.93	3.11	3.28	3.45	3.62	3.80	3.97	4.14	4.32	4.49
52	3.00	3.00	3.05	2.95	2.65	3.09	3.06	2.81	2.73	2.94	3.12	3.29	3.46	3.63	3.81	3.98	4.15	4.33	4.50	4.67
53	3.00	3.00	3.06	3.04	2.74	3.18	3.05	2.79	2.91	3.13	3.30	3.47	3.64	3.82	3.99	4.16	4.34	4.51	4.68	4.85
54	3.00	3.00	3.07	3.14	2.84	3.28	3.03	2.83	3.09	3.31	3.48	3.65	3.83	4.00	4.17	4.35	4.52	4.69	4.86	5.04
55	3.00	3.00	3.08	3.20	2.93	3.31	3.02	3.02	3.28	3.49	3.66	3.84	4.01	4.18	4.36	4.53	4.70	4.87	5.05	5.22
56	3.00	3.00	3.08	3.21	3.03	3.30	3.00	3.20	3.46	3.67	3.85	4.02	4.19	4.37	4.54	4.71	4.89	5.06	5.23	5.40
57	3.00	3.00	3.09	3.22	3.12	3.28	3.12	3.38	3.64	3.86	4.03	4.20	4.38	4.55	4.72	4.90	5.07	5.24	5.41	5.59
58	3.00	3.00	3.23	3.23	3.24	3.26	3.35	3.61	3.87	4.09	4.26	4.43	4.61	4.78	4.95	5.12	5.30	5.47	5.64	5.82
59	3.00	3.00	3.26	3.55	3.35	3.37	3.67	3.93	4.19	4.41	4.58	4.75	4.93	5.10	5.27	5.44	5.62	5.79	5.96	6.14
60	3.00	3.00	3.30	3.58	3.82	4.12	4.04	4.30	4.56	4.77	4.95	5.12	5.29	5.46	5.64	5.81	5.98	6.16	6.33	6.50
61	3.00	3.00	3.33	3.62	3.75	3.90	4.24	4.61	4.98	5.29	5.54	5.57	5.66	5.83	6.00	6.18	6.35	6.52	6.70	6.87
62	3.00	3.00	3.37	3.64	3.57	3.77	4.00	4.29	4.66	4.97	5.22	5.47	5.72	5.97	6.21	6.46	6.71	6.96	7.06	7.23
63	3.00	3.03	3.40	3.57	3.40	3.64	3.87	4.06	4.34	4.65	4.90	5.15	5.40	5.65	5.89	6.14	6.39	6.64	6.89	7.14
64	3.00	3.08	3.42	3.35	3.21	3.47	3.70	3.90	4.10	4.26	4.50	4.75	5.00	5.25	5.50	5.74	5.99	6.24	6.49	6.74
65	3.00	3.12	3.25	3.04	2.98	3.25	3.48	3.67	3.87	4.04	4.17	4.30	4.44	4.69	4.94	5.18	5.43	5.68	5.93	6.18
66	3.00	3.14	2.90	2.69	2.72	2.99	3.22	3.41	3.61	3.78	3.91	4.04	4.17	4.30	4.43	4.57	4.79	5.04	5.29	5.54
67	3.00	2.82	2.55	2.34	2.46	2.73	2.96	3.15	3.35	3.52	3.65	3.78	3.91	4.04	4.17	4.31	4.44	4.57	4.70	4.90
68	3.00	2.50	2.20	1.99	2.20	2.47	2.70	2.89	3.09	3.26	3.39	3.52	3.65	3.78	3.91	4.05	4.18	4.31	4.44	4.57
69	3.00	2.53	1.85	1.65	1.94	2.21	2.44	2.63	2.83	3.00	3.13	3.26	3.39	3.52	3.80	4.10	4.39	4.68	4.98	5.27
70	3.00	2.55	1.50	1.39	1.68	1.94	2.18	2.40	2.84	3.21	3.51	3.80	4.09	4.39	4.68	4.97	5.27	5.56	5.85	5.62
71	3.00	2.87	1.61	1.30	1.96	2.55	3.06	3.50	3.94	4.31	4.60	4.89	5.19	5.48	5.78	6.07	6.36	6.42	5.89	5.36
72	3.00	3.00	2.31	2.30	3.49	4.08	4.59	5.03	5.47	5.84	6.13	6.43	6.72	7.02	7.31	7.13	6.60	6.06	5.53	5.00
73	3.00	3.00	3.00	3.29	4.54	5.66	6.56	7.01	7.45	7.81	8.11	8.40	8.26	7.73	7.20	6.67	6.13	5.60	5.07	4.54
74	3.00	3.00	3.00	3.00	3.90	5.43	6.77	7.92	9.07	9.23	8.69	8.14	7.60	7.05	6.51	5.96	5.42	4.87	4.33	3.78
75	3.00	3.00	3.00	3.00	3.00	3.00	4.34	5.31	6.13	6.00	5.54	5.09	4.63	4.18	3.73	3.27	2.82	2.36	1.91	1.42
76	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.08	2.84	2.73	2.62	2.51	2.39	2.28	2.17	2.06	2.00	1.94	1.94
77	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.99	2.93	2.88	2.82	2.83	2.84

TABLE E.2-11. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE SURFICIAL AQUIFER (pCi/l) (continued).

Row	Column 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
3	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
4	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
5	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.97	2.92	2.88	2.84
6	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.95	2.89	2.84	2.79	2.74	2.70	2.65
7	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.95	2.89	2.83	2.77	2.71	2.66	2.61	2.57	2.52
8	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.96	2.90	2.84	2.79	2.73	2.67	2.61	2.55	2.51	2.46	2.42
9	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.98	2.92	2.85	2.79	2.74	2.69	2.63	2.57	2.51	2.45	2.40	2.36	2.31
10	3.00	3.00	3.00	3.00	3.00	3.00	2.96	2.88	2.81	2.74	2.68	2.63	2.58	2.53	2.47	2.41	2.35	2.30	2.25	2.21
11	3.00	3.00	3.00	3.00	3.00	2.95	2.85	2.77	2.70	2.64	2.57	2.52	2.48	2.43	2.37	2.31	2.25	2.19	2.15	2.10
12	3.00	3.00	3.00	3.00	2.94	2.84	2.74	2.66	2.59	2.53	2.47	2.42	2.37	2.32	2.27	2.21	2.15	2.09	2.04	2.00
13	3.00	3.00	3.00	2.93	2.83	2.73	2.63	2.55	2.48	2.42	2.36	2.31	2.26	2.22	2.17	2.11	2.05	1.99	1.94	1.90
14	3.00	3.00	2.91	2.82	2.72	2.62	2.52	2.44	2.38	2.31	2.25	2.21	2.16	2.11	2.06	2.01	1.95	1.89	1.83	1.79
15	3.00	2.90	2.81	2.71	2.61	2.51	2.41	2.33	2.27	2.20	2.15	2.10	2.05	2.00	1.95	1.91	1.85	1.79	1.73	1.69
16	2.88	2.80	2.70	2.60	2.50	2.40	2.30	2.22	2.16	2.09	2.04	1.99	1.94	1.90	1.85	1.80	1.75	1.69	1.63	1.58
17	2.73	2.66	2.59	2.49	2.39	2.29	2.20	2.11	2.05	1.98	1.93	1.89	1.84	1.79	1.74	1.69	1.64	1.59	1.53	1.48
18	2.58	2.51	2.45	2.38	2.28	2.19	2.09	2.01	1.94	1.88	1.83	1.78	1.73	1.68	1.63	1.59	1.54	1.49	1.43	1.37
19	2.43	2.36	2.30	2.24	2.17	2.08	1.98	1.90	1.83	1.77	1.72	1.67	1.62	1.58	1.53	1.48	1.43	1.38	1.33	1.27
20	2.28	2.21	2.15	2.09	2.03	1.97	1.87	1.79	1.72	1.66	1.61	1.57	1.52	1.47	1.42	1.37	1.32	1.28	1.23	1.17
21	2.12	2.06	2.00	1.94	1.88	1.83	1.76	1.68	1.61	1.56	1.51	1.46	1.41	1.36	1.31	1.27	1.22	1.17	1.12	1.07
22	1.97	1.91	1.85	1.79	1.73	1.67	1.62	1.57	1.50	1.45	1.40	1.35	1.30	1.26	1.21	1.16	1.11	1.06	1.01	0.97
23	1.82	1.76	1.70	1.64	1.58	1.52	1.47	1.42	1.39	1.40	1.29	1.25	1.20	1.15	1.10	1.05	1.00	0.96	0.91	0.86
24	1.67	1.61	1.55	1.49	1.43	1.37	1.31	1.38	1.50	1.61	1.60	1.48	1.37	1.25	1.14	1.02	0.90	0.85	0.80	0.75
25	1.51	1.46	1.40	1.34	1.28	1.22	1.34	1.48	1.60	1.72	1.84	1.80	1.69	1.57	1.46	1.34	1.22	1.11	0.99	0.88
26	1.36	1.31	1.25	1.19	1.13	1.27	1.44	1.59	1.71	1.83	1.95	2.07	2.01	1.89	1.78	1.66	1.54	1.43	1.31	1.20
27	1.21	1.15	1.10	1.04	1.19	1.37	1.55	1.70	1.82	1.94	2.06	2.18	2.30	2.21	2.10	1.98	1.86	1.75	1.63	2.13
28	1.06	1.00	0.95	1.12	1.30	1.48	1.66	1.81	1.93	2.05	2.17	2.29	2.41	2.53	2.41	2.30	2.18	2.07	1.95	6.62
29	0.87	0.88	1.05	1.23	1.41	1.59	1.77	1.92	2.04	2.16	2.28	2.40	2.51	2.63	2.73	2.62	2.50	2.39	5.83	5.52
30	0.84	0.94	1.14	1.34	1.52	1.70	1.88	2.03	2.15	2.27	2.38	2.50	2.62	2.74	2.86	2.94	2.82	4.64	3.70	4.25
31	1.00	0.88	1.08	1.28	1.48	1.68	1.87	2.04	2.17	2.30	2.44	2.57	2.70	2.83	2.97	3.09	3.28	1.88	2.43	2.05
32	1.18	0.82	1.02	1.22	1.42	1.61	1.81	1.98	2.11	2.24	2.37	2.51	2.64	2.77	2.90	3.04	3.69	3.77	2.91	2.20
33	1.37	0.96	0.96	1.15	1.35	1.55	1.75	1.92	2.05	2.18	2.31	2.44	2.58	2.71	2.84	2.97	3.86	3.83	3.11	2.25
34	1.55	1.28	0.89	1.09	1.29	1.49	1.69	1.85	1.99	2.12	2.25	2.38	2.52	2.65	2.78	2.91	3.72	3.69	3.30	2.44
35	1.73	1.60	0.83	1.03	1.23	1.43	1.63	1.79	1.92	2.06	2.19	2.32	2.45	2.59	2.72	3.08	3.58	3.55	3.49	2.63
36	1.92	1.92	0.82	0.97	1.17	1.37	1.56	1.73	1.86	1.99	2.13	2.26	2.39	2.52	2.66	3.35	3.44	3.40	3.37	2.82
37	2.10	2.24	1.14	0.91	1.10	1.30	1.50	1.67	1.80	1.93	2.06	2.20	2.33	2.46	2.59	3.33	3.30	3.26	3.23	3.07
38	2.28	2.43	1.46	0.84	1.04	1.24	1.44	1.61	1.74	1.87	2.00	2.13	2.27	2.40	2.53	3.19	3.16	3.12	3.09	3.0[illegible]
39	2.46	2.62	1.78	0.78	0.98	1.18	1.38	1.54	1.68	1.81	1.94	2.07	2.20	2.34	2.74	3.05	3.02	2.98	2.95	2.91
40	2.65	2.80	2.10	1.00	0.92	1.12	1.32	1.48	1.61	1.75	1.88	2.01	2.14	2.28	2.94	2.91	2.87	2.84	2.80	2.77
41	2.83	2.98	2.42	1.32	0.86	1.05	1.25	1.42	1.55	1.68	1.82	1.95	2.08	2.21	2.80	2.77	2.73	2.70	2.66	2.63
42	3.01	3.16	2.74	1.64	0.79	0.99	1.19	1.36	1.49	1.62	1.75	1.89	2.02	2.15	2.66	2.63	2.59	2.56	2.52	2.49
43	3.20	3.35	3.06	1.96	0.86	0.93	1.13	1.29	1.43	1.56	1.69	1.82	1.96	2.40	2.52	2.49	2.45	2.42	2.38	2.34
44	3.38	3.53	3.39	2.28	1.18	0.87	1.07	1.23	1.36	1.50	1.63	1.76	1.89	2.41	2.38	2.34	2.31	2.27	2.24	2.20
45	3.56	3.71	3.71	2.60	1.50	0.81	1.01	1.17	1.30	1.44	1.57	1.70	1.83	2.27	2.24	2.20	2.17	2.13	2.10	2.06
46	3.75	3.90	4.03	2.92	1.82	0.74	0.94	1.11	1.24	1.37	1.51	1.64	1.79	2.13	2.10	2.06	2.03	1.99	1.96	1.92
47	3.93	4.08	4.21	3.25	2.14	1.04	0.88	1.05	1.18	1.31	1.44	1.58	2.03	1.99	1.96	1.92	1.89	1.85	1.81	1.78
48	4.11	4.26	4.39	3.57	2.46	1.36	0.82	0.98	1.12	1.25	1.38	1.51	1.88	1.85	1.81	1.78	1.74	1.71	1.67	1.64
49	4.30	4.45	4.58	3.89	2.78	1.68	0.76	0.92	1.05	1.19	1.32	1.45	1.74	1.71	1.67	1.64	1.60	1.57	1.53	1.50
50	4.48	4.63	4.76	4.21	3.11	2.00	0.90	0.86	0.99	1.12	1.26	1.45	1.60	1.57	1.53	1.50	1.46	1.43	1.39	1.36
51	4.66	4.81	4.94	4.53	3.43	2.32	1.22	0.80	0.93	1.06	1.20	1.50	1.46	1.43	1.39	1.36	1.32	1.29	1.25	1.21
52	4.84	5.00	5.13	4.85	3.75	2.64	1.54	0.74	0.87	1.00	1.13	1.35	1.32	1.28	1.25	1.21	1.18	1.14	1.11	1.07
53	5.03	5.18	5.31	5.17	4.07	2.97	1.86	0.94	0.81	0.94	1.07	1.21	1.18	1.14	1.11	1.07	1.04	1.00	0.97	0.93
54	5.21	5.36	5.49	5.49	4.39	3.29	2.18	1.26	0.74	0.88	1.11	1.07	1.04	1.00	0.97	0.93	0.90	0.86	0.83	0.79
55	5.39	5.54	5.67	5.80	4.71	3.61	2.50	1.59	0.85	0.81	0.97	0.93	0.90	0.86	0.83	0.79	0.76	0.73	0.74	0.75
56	5.58	5.73	5.86	5.99	5.03	3.93	2.83	1.91	1.17	0.75	0.82	0.79	0.75	0.72	0.72	0.73	0.75	0.76	0.77	0.78
57	5.76	5.91	6.04	6.17	5.35	4.25	3.15	2.23	1.49	0.76	0.71	0.72	0.73	0.74	0.75	0.77	0.78	0.79	0.80	0.81
58	5.99	6.14	6.27	6.40	5.75	4.65	3.55	2.63	1.89	1.36	0.75	0.76	0.77	0.78	0.79	0.80	0.82	0.83	0.84	0.85
59	6.31	6.46	6.59	6.72	6.32	5.21	4.11	3.19	2.66	2.24	1.49	0.81	0.82	0.84	0.85	0.86	0.87	0.88	1.43	2.03
60	6.68	6.83	6.96	7.09	6.96	5.85	4.75	4.08	3.80	3.24	2.49	1.75	1.00	0.90	0.91	1.00	1.60	2.20	2.80	3.40
61	7.04	7.19	7.32	7.45	7.58	6.50	5.57	5.21	4.93	4.24	3.49	2.75	2.00	1.45	1.77	2.37	2.98	3.58	4.01	4.02
62	7.41	7.56	7.69	7.82	7.95	7.14	6.70	6.35	5.98	5.23	4.79	4.37	3.94	3.52	3.15	3.75	4.35	4.60	4.61	4.62
63	7.39	7.60	7.79	7.98	8.16	9.44	9.63	9.79	9.92	9.16	8.25	7.34	6.42	5.59	5.16	5.13	5.18	5.19	5.20	5.21
64	6.99	7.20	7.39	7.58	8.07	12.85	16.48	16.64	16.77	16.90	16.07	15.15	14.24	13.33	12.41	11.12	9.35	7.59	5.94	5.95
65	6.43	6.64	6.83	7.02	10.24	15.03	19.81	23.79	26.35	26.48	26.61	26.09	25.18	24.27	23.35	21.75	19.98	18.21	16.44	14.68
66	5.79	6.00	6.19	7.95	12.73	17.51	22.29	26.27	29.46	32.65	35.83	37.70	37.68	36.77	35.66	33.89	32.12	30.36	28.59	26.82
67	5.15	5.37	5.65	10.43	15.21	19.99	24.77	28.76	31.94	35.13	38.32	41.50	44.69	47.88	47.80	46.04	44.27	42.50	40.73	38.97
68	4.70	4.95	4.92	5.25	7.76	10.27	12.77	14.86	16.53	18.21	19.88	21.55	23.22	24.89	24.11	22.67	21.23	19.79	18.35	16.91
69	5.29	4.82	4.42	4.60	4.81	5.03	5.03	4.86	4.71	4.57	4.43	4.29	4.15	4.01	4.35	4.69	5.03	5.38	5.72	6.06
70	5.08	4.62	4.22	4.05	4.26	4.47	4.69	4.86	5.01	5.15	5.29	5.25	5.10	5.35	5.70	5.85	5.89	5.93	5.96	6.00
71	4.83	4.36	3.96	3.56	3.57	3.78	3.99	4.17	4.31	4.46	4.60	4.74	4.86	4.98	5.03	5.09	5.13	5.12	5.11	5.10
72	4.47	4.00	3.60	3.20	2.80	2.81	3.02	3.20	3.34	3.49	3.63	3.74	3.86	3.97	4.08	4.20	4.25	4.31	4.37	4.43
73	4.00	3.54	3.14	2.74	2.34	1.94	1.78	1.96	2.10	2.22	2.34	2.45	2.56	2.68	2.79	2.90	3.02	3.13	3.22	3.28
74	3.24	2.76	2.35	1.94	1.54	1.13	0.84	0.84	0.85	0.85	0.90	1.01	1.13	1.24	1.35	1.47	1.58	1.69	1.81	1.92
75	1.08	1.09	1.09	1.09	1.10	1.10	1.10	1.11	1.12	1.13	1.14	1.14	1.15	1.16	1.17	1.17	1.18	1.19	1.20	1.20
76	1.95	1.96	1.98	2.02	2.08	2.14	2.19	2.24	2.28	2.31	2.31	2.32	2.33	2.34	2.35	2.35	2.36	2.37	2.38	2.42
77	2.85	2.86	2.87	2.88	2.88	2.92	2.95	2.98	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

TABLE E.2-11. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE SURFICIAL AQUIFER (pCi/l) (continued).

Row	Column 41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
3	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.98	2.93	2.89	2.86	2.83	2.81	2.80	2.79	2.78	2.77
4	3.00	3.00	2.96	2.91	2.86	2.81	2.76	2.71	2.66	2.61	2.56	2.51	2.46	2.42	2.39	2.37	2.36	2.35	2.34	2.33
5	2.81	2.74	2.66	2.61	2.56	2.51	2.46	2.41	2.36	2.31	2.26	2.21	2.16	2.11	2.08	2.05	2.04	2.03	2.02	2.01
6	2.62	2.60	2.56	2.44	2.35	2.30	2.25	2.20	2.15	2.10	2.05	2.00	1.95	1.90	1.86	1.83	1.82	1.81	1.80	1.79
7	2.49	2.47	2.45	2.40	2.28	2.15	2.10	2.05	2.00	1.95	1.90	1.85	1.80	1.75	1.71	1.68	1.67	1.66	1.65	1.64
8	2.38	2.36	2.34	2.32	2.25	2.12	2.00	1.93	1.88	1.83	1.78	1.73	1.68	1.63	1.59	1.55	1.54	1.53	1.52	1.52
9	2.28	2.26	2.23	2.21	2.19	2.09	1.97	1.85	1.76	1.71	1.66	1.61	1.56	1.51	1.46	1.43	1.42	1.41	1.40	1.41
10	2.17	2.15	2.13	2.11	2.08	2.06	1.94	1.82	1.69	1.59	1.54	1.49	1.44	1.39	1.34	1.31	1.29	1.28	1.28	1.30
11	2.07	2.04	2.02	2.00	1.98	1.96	1.91	1.79	1.67	1.54	1.42	1.37	1.32	1.27	1.22	1.18	1.17	1.16	1.17	1.20
12	1.96	1.94	1.92	1.89	1.87	1.85	1.83	1.76	1.64	1.51	1.39	1.27	1.20	1.15	1.10	1.06	1.04	1.03	1.06	1.09
13	1.85	1.83	1.81	1.79	1.77	1.75	1.72	1.70	1.61	1.48	1.36	1.24	1.11	1.03	0.98	0.93	0.92	0.92	0.95	0.98
14	1.75	1.73	1.70	1.68	1.66	1.64	1.62	1.60	1.57	1.45	1.33	1.21	1.08	0.96	0.86	0.81	0.79	0.81	0.84	0.87
15	1.64	1.62	1.60	1.58	1.55	1.53	1.51	1.49	1.47	1.42	1.30	1.18	1.05	0.93	0.81	0.69	0.67	0.70	0.73	0.76
16	1.54	1.51	1.49	1.47	1.45	1.43	1.41	1.38	1.36	1.34	1.27	1.15	1.02	0.90	0.78	0.65	0.60	0.61	0.63	0.65
17	1.43	1.41	1.39	1.36	1.34	1.32	1.30	1.28	1.26	1.23	1.21	1.12	0.99	0.87	0.75	0.64	0.62	0.61	0.61	0.63
18	1.33	1.30	1.28	1.26	1.24	1.22	1.19	1.17	1.15	1.13	1.11	1.08	0.97	0.84	0.72	0.66	0.65	0.63	0.62	0.60
19	1.22	1.20	1.17	1.15	1.13	1.11	1.09	1.07	1.04	1.02	1.00	0.98	0.94	0.81	0.70	0.68	0.67	0.65	0.64	0.62
20	1.12	1.09	1.07	1.05	1.03	1.00	0.98	0.96	0.94	0.92	0.89	0.87	0.85	0.78	0.72	0.71	0.69	0.68	0.66	0.65
21	1.01	0.98	0.96	0.94	0.92	0.90	0.88	0.85	0.83	0.81	0.79	0.77	0.74	0.74	0.74	0.72	0.71	0.69	0.68	0.66
22	0.91	0.88	0.86	0.83	0.81	0.79	0.77	0.75	0.73	0.70	0.70	0.71	0.71	0.72	0.74	0.73	0.71	0.70	0.68	0.67
23	0.81	0.77	0.75	0.73	0.71	0.69	0.66	0.67	0.67	0.67	0.67	0.67	0.68	0.70	0.73	0.73	0.71	0.70	0.68	0.67
24	0.70	0.67	0.64	0.63	0.63	0.63	0.63	0.64	0.64	0.64	0.64	0.64	0.65	0.68	0.70	0.73	0.72	0.70	0.69	0.67
25	0.76	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.61	0.61	0.61	0.61	0.62	0.65	0.68	0.71	0.72	0.71	0.69	0.68
26	3.11	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.67	0.65	0.63	0.66	0.69	0.72	0.71	0.69	0.68
27	7.60	1.19	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.75	0.92	0.82	0.72	0.64	0.67	0.70	0.71	0.70	0.68
28	7.02	3.69	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.83	1.04	1.05	1.00	0.90	0.80	0.70	0.67	0.70	0.70	0.68
29	4.20	0.88	0.61	0.60	0.60	0.60	0.60	0.68	0.78	0.79	0.80	0.81	0.83	0.84	0.85	0.87	0.78	0.68	0.70	0.69
30	1.44	1.00	0.64	0.63	0.63	0.62	0.66	0.65	0.64	0.63	0.62	0.62	0.63	0.64	0.65	0.66	0.68	0.69	0.70	0.72
31	1.61	1.17	0.73	0.67	0.67	0.67	0.79	0.82	0.81	0.79	0.74	0.67	0.66	0.68	0.69	0.70	0.71	0.72	0.69	1.06
32	1.95	1.57	1.08	0.72	0.72	0.72	0.89	0.99	0.95	0.90	0.85	0.80	0.72	0.71	0.72	0.74	0.75	0.72	0.68	0.95
33	1.95	1.71	1.46	1.22	0.82	0.81	0.90	0.90	0.90	0.91	0.91	0.91	0.85	0.77	0.76	0.77	0.75	0.70	0.66	0.84
34	1.96	1.71	1.47	1.22	0.98	0.80	0.82	0.84	0.85	0.87	0.88	0.90	0.91	0.86	0.81	0.77	0.73	0.69	0.64	0.73
35	1.96	1.72	1.47	1.23	0.98	0.80	0.82	0.84	0.86	0.88	0.89	0.91	0.92	0.89	0.85	0.85	0.89	0.84	0.78	0.73
36	1.97	1.72	1.47	1.23	0.98	0.80	0.81	0.83	0.87	0.88	0.90	0.91	0.93	0.93	0.88	0.86	0.92	0.97	0.98	0.93
37	2.16	1.72	1.48	1.23	0.99	0.79	0.81	0.82	0.85	0.89	0.90	0.92	0.93	0.95	0.92	0.87	0.93	0.98	1.03	1.09
38	2.35	1.73	1.48	1.23	0.99	0.79	0.80	0.82	0.83	0.87	0.91	0.92	0.94	0.96	0.96	0.91	0.94	0.99	1.05	1.10
39	2.54	1.73	1.48	1.24	0.99	0.79	0.80	0.81	0.83	0.84	0.89	0.93	0.95	0.96	0.98	0.95	0.95	1.00	1.06	1.11
40	2.73	1.88	1.49	1.24	1.00	0.78	0.80	0.81	0.83	0.84	0.86	0.91	0.95	0.97	0.98	0.98	0.96	1.02	1.07	1.10
41	2.59	2.07	1.49	1.24	1.00	0.78	0.80	0.81	0.82	0.84	0.85	0.88	0.92	0.97	0.99	1.00	0.97	1.03	1.08	1.07
42	2.45	2.26	1.49	1.25	1.00	0.78	0.79	0.81	0.82	0.83	0.85	0.86	0.90	0.94	0.98	1.01	1.01	1.04	1.07	1.03
43	2.31	2.27	1.60	1.25	1.01	0.78	0.79	0.80	0.82	0.83	0.84	0.86	0.87	0.92	0.96	1.00	1.03	1.05	1.04	1.00
44	2.17	2.13	1.79	1.25	1.01	0.77	0.79	0.80	0.81	0.83	0.84	0.85	0.87	0.89	0.93	0.98	1.02	1.05	1.00	0.96
45	2.03	1.99	1.96	1.26	1.01	0.77	0.78	0.80	0.81	0.82	0.84	0.85	0.86	0.88	0.91	0.95	0.99	1.01	1.02	1.03
46	1.89	1.85	1.82	1.31	1.02	0.77	0.78	0.79	0.81	0.82	0.83	0.85	0.86	0.88	0.89	0.93	0.96	0.97	0.98	0.99
47	1.74	1.71	1.67	1.51	1.02	0.77	0.78	0.79	0.80	0.82	0.83	0.85	0.86	0.87	0.89	0.90	0.91	0.92	0.93	0.94
48	1.60	1.57	1.53	1.50	1.02	0.78	0.78	0.79	0.80	0.82	0.83	0.84	0.86	0.87	0.90	0.95	0.99	0.99	1.00	1.00
49	1.46	1.43	1.39	1.36	1.03	0.78	0.77	0.79	0.80	0.81	0.83	0.84	0.86	0.91	0.96	1.00	1.05	1.08	1.09	1.09
50	1.32	1.29	1.25	1.22	1.18	0.78	0.77	0.78	0.80	0.81	0.82	0.87	0.92	0.96	1.01	1.06	1.11	1.15	1.18	1.18
51	1.18	1.14	1.11	1.07	1.04	0.79	0.77	0.78	0.79	0.83	0.88	0.93	0.97	1.02	1.07	1.12	1.16	1.21	1.26	1.27
52	1.04	1.00	0.97	0.93	0.90	0.79	0.76	0.79	0.84	0.89	0.94	0.98	1.03	1.08	1.12	1.17	1.22	1.27	1.31	1.36
53	0.90	0.86	0.83	0.79	0.76	0.82	0.80	0.85	0.90	0.94	0.99	1.04	1.09	1.13	1.18	1.23	1.27	1.32	1.37	1.42
54	0.76	0.74	0.75	0.76	0.90	1.12	1.08	0.94	0.95	1.00	1.05	1.09	1.14	1.19	1.24	1.28	1.33	1.38	1.42	1.47
55	0.76	0.77	0.78	0.99	1.40	1.41	1.42	1.30	1.16	1.06	1.10	1.15	1.20	1.25	1.29	1.34	1.39	1.43	1.48	1.53
56	0.79	0.80	1.08	1.68	1.70	1.71	1.72	1.65	1.52	1.38	1.25	1.21	1.25	1.30	1.35	1.40	1.44	1.49	1.54	1.58
57	0.82	1.17	1.77	1.99	2.00	2.01	2.02	2.00	1.87	1.73	1.60	1.46	1.33	1.36	1.40	1.45	1.50	1.55	1.59	1.64
58	1.42	2.03	2.35	2.36	2.37	2.38	2.39	2.40	2.31	2.18	2.04	1.91	1.77	1.63	1.50	1.52	1.57	1.62	1.66	1.71
59	2.63	2.86	2.87	2.88	2.89	2.90	2.91	2.92	2.93	2.79	2.66	2.52	2.39	2.25	2.12	1.98	1.85	1.71	1.76	1.81
60	3.44	3.45	3.46	3.47	3.48	3.49	3.50	3.51	3.52	3.50	3.37	3.23	3.10	2.96	2.83	2.69	2.56	2.42	2.28	2.15
61	4.03	4.04	4.05	4.06	4.07	4.08	4.09	4.10	4.11	4.12	4.07	3.94	3.80	3.67	3.53	3.40	3.26	3.13	2.99	2.86
62	4.63	4.64	4.65	4.66	4.67	4.68	4.69	4.70	4.71	4.72	4.73	4.65	4.51	4.38	4.24	4.10	3.97	3.83	3.70	3.56
63	5.22	5.23	5.24	5.25	5.26	5.27	5.28	5.29	5.30	5.31	5.32	5.33	5.22	5.08	4.95	4.81	4.68	4.54	4.41	4.27
64	5.96	5.97	5.98	5.99	6.00	6.01	6.02	6.03	6.04	6.05	6.06	6.07	6.08	5.97	5.83	5.70	5.56	5.43	5.29	5.15
65	12.91	11.14	9.37	7.61	7.04	7.05	7.06	7.07	7.08	7.09	7.10	7.11	7.12	7.13	7.07	6.93	6.80	6.66	6.53	6.39
66	25.05	23.29	21.52	19.75	17.98	16.22	14.45	12.68	10.91	9.15	8.29	8.30	8.31	8.32	8.33	8.34	8.21	8.08	7.94	7.81
67	37.20	35.43	33.66	31.90	30.13	28.36	26.59	24.83	23.06	21.29	19.52	17.76	15.99	14.22	12.45	10.69	9.53	9.49	9.36	9.05
68	15.47	14.03	12.59	11.15	9.71	8.27	7.10	7.44	7.78	8.12	8.46	8.70	8.73	8.77	8.81	8.85	8.88	8.92	8.96	8.99
69	6.40	6.74	7.08	7.28	7.31	7.35	7.39	7.42	7.46	7.50	7.53	7.57	7.61	7.65	7.68	7.72	7.76	7.79	7.83	7.87
70	6.04	6.08	6.11	6.15	6.19	6.22	6.26	6.30	6.33	6.37	6.41	6.45	6.48	6.52	6.56	6.59	6.63	6.67	6.70	6.74
71	5.09	5.08	5.07	5.06	5.05	5.04	5.03	5.02	5.00	4.99	5.00	5.04	5.08	5.11	5.15	5.19	5.22	5.26	5.30	5.33
72	4.48	4.54	4.60	4.63	4.62	4.61	4.60	4.59	4.58	4.57	4.56	4.55	4.54	4.53	4.52	4.51	4.50	4.49	4.48	4.47
73	3.33	3.39	3.45	3.50	3.56	3.62	3.68	3.73	3.79	3.85	3.90	3.96	4.00	3.98	3.97	3.96	3.95	3.94	3.93	3.92
74	2.03	2.12	2.17	2.23	2.29	2.34	2.40	2.46	2.51	2.57	2.63	2.68	2.74	2.80	2.86	2.91	2.97	3.03	3.08	3.14
75	1.21	1.22	1.23	1.27	1.35	1.46	1.56	1.67	1.77	1.88	1.98	2.09	2.19	2.30	2.40	2.51	2.62	2.72	2.83	2.93
76	2.50	2.58	2.66	2.74	2.82	2.90	2.98	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
77	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

TABLE E.2-11. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE SURFICIAL AQUIFER (pCi/l) (continued).

Row	Column 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
1	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.[illegible]
3	2.76	2.75	2.73	2.73	2.76	2.77	2.70	2.69	2.68	2.67	2.66	2.62	2.58	2.57	2.56	2.54	2.53	2.56	2.60	2.6[illegible]
4	2.32	2.31	2.32	2.35	2.38	2.40	2.43	2.34	2.24	2.23	2.22	2.21	2.18	2.12	2.06	2.04	2.03	2.02	2.04	2.08
5	2.00	2.02	2.05	2.07	2.10	2.13	2.16	2.18	2.07	1.94	1.91	1.90	1.89	1.85	1.79	1.73	1.67	1.66	1.65	1.69
6	1.80	1.83	1.85	1.88	1.91	1.94	1.97	2.00	1.98	1.85	1.72	1.69	1.68	1.65	1.59	1.54	1.48	1.42	1.40	1.41
7	1.66	1.69	1.72	1.75	1.77	1.80	1.83	1.86	1.89	1.78	1.65	1.53	1.52	1.51	1.46	1.40	1.34	1.28	1.22	1.21
8	1.55	1.58	1.61	1.64	1.66	1.69	1.72	1.75	1.78	1.73	1.60	1.47	1.40	1.39	1.35	1.29	1.23	1.17	1.11	1.07
9	1.44	1.47	1.50	1.53	1.56	1.58	1.61	1.64	1.67	1.68	1.55	1.42	1.29	1.26	1.24	1.18	1.12	1.06	1.00	0.94
10	1.33	1.36	1.39	1.42	1.45	1.47	1.50	1.53	1.56	1.59	1.49	1.36	1.23	1.14	1.13	1.07	1.01	0.95	0.89	0.83
11	1.22	1.25	1.28	1.31	1.34	1.37	1.39	1.42	1.45	1.48	1.44	1.31	1.18	1.05	1.01	0.96	0.90	0.84	0.78	0.78
12	1.11	1.14	1.17	1.20	1.23	1.26	1.28	1.31	1.34	1.37	1.38	1.25	1.12	0.99	0.88	0.85	0.79	0.73	0.72	0.75
13	1.00	1.03	1.06	1.09	1.12	1.15	1.17	1.20	1.23	1.26	1.29	1.20	1.07	0.94	0.81	0.74	0.68	0.67	0.69	0.72
14	0.90	0.92	0.95	0.98	1.01	1.04	1.07	1.09	1.12	1.15	1.18	1.15	1.02	0.89	0.76	0.63	0.62	0.63	0.66	0.69
15	0.79	0.81	0.84	0.87	0.90	0.93	0.96	0.98	1.01	1.04	1.07	1.09	0.96	0.83	0.70	0.65	0.64	0.61	0.63	0.66
16	0.68	0.71	0.73	0.76	0.79	0.82	0.85	0.88	0.90	0.93	0.96	0.99	0.91	0.78	0.73	0.70	0.67	0.64	0.64	0.66
17	0.64	0.66	0.68	0.70	0.72	0.74	0.75	0.77	0.79	0.82	0.85	0.88	0.86	0.80	0.77	0.73	0.70	0.67	0.66	0.68
18	0.62	0.64	0.65	0.67	0.69	0.71	0.73	0.75	0.76	0.78	0.80	0.85	0.90	0.83	0.80	0.77	0.73	0.70	0.68	0.69
19	0.61	0.61	0.63	0.65	0.66	0.68	0.70	0.72	0.74	0.82	0.91	1.00	1.05	0.92	0.83	0.80	0.76	0.73	0.70	0.71
20	0.63	0.62	0.60	0.62	0.64	0.66	0.69	0.78	0.88	0.97	1.06	1.15	1.19	1.06	0.94	0.83	0.80	0.76	0.73	0.73
21	0.65	0.64	0.62	0.61	0.66	0.75	0.84	0.93	1.03	1.12	1.21	1.30	1.33	1.21	1.08	0.96	0.84	0.79	0.76	0.74
22	0.65	0.64	0.62	0.61	0.65	0.84	0.99	1.09	1.18	1.27	1.36	1.46	1.47	1.35	1.22	1.10	0.98	0.85	0.79	0.76
23	0.66	0.64	0.63	0.63	0.64	0.78	0.97	1.15	1.33	1.42	1.52	1.61	1.61	1.49	1.37	1.24	1.12	1.00	0.87	0.79
24	0.66	0.64	0.64	0.64	0.65	0.73	0.91	1.10	1.28	1.47	1.65	1.76	1.76	1.63	1.51	1.38	1.26	1.14	1.07	1.11
25	0.66	0.65	0.65	0.66	0.67	0.68	0.86	1.04	1.23	1.41	1.60	1.78	2.56	2.67	2.70	2.74	2.78	2.82	2.86	2.66
26	0.66	0.66	0.67	0.68	0.69	0.69	0.80	0.99	1.17	1.36	1.54	1.69	2.22	3.90	4.50	4.54	4.58	4.62	4.63	3.91
27	0.67	0.68	0.68	0.69	0.70	0.71	0.75	0.93	1.12	1.30	1.49	1.56	1.88	3.56	5.24	6.33	6.37	6.41	5.88	5.17
28	0.68	0.69	0.70	0.71	0.72	0.73	0.73	0.88	1.06	1.25	1.37	1.43	1.54	3.22	4.90	6.58	8.17	7.85	7.14	6.43
29	0.70	0.71	0.72	0.72	0.73	0.74	0.75	0.82	1.01	1.18	1.24	1.30	1.36	2.88	4.56	6.24	7.90	7.67	7.08	6.49
30	0.72	0.72	0.73	0.74	0.75	0.76	0.77	0.77	0.95	1.05	1.11	1.17	1.23	2.54	4.22	5.90	7.39	6.80	6.20	5.61
31	1.18	1.10	1.03	0.96	0.89	0.82	0.78	0.79	0.87	0.92	0.98	1.04	1.10	2.21	3.88	5.52	6.51	5.92	5.32	4.73
32	1.67	1.64	1.56	1.49	1.42	1.35	1.17	0.85	0.78	0.80	0.85	0.91	0.97	1.87	3.53	5.12	5.84	5.04	4.45	3.85
33	1.56	2.17	2.10	1.93	1.61	1.29	0.97	0.71	0.73	0.75	0.77	0.79	0.84	1.53	3.13	4.72	4.76	4.16	3.57	2.97
34	1.45	2.18	1.99	1.73	1.42	1.10	0.78	0.66	0.68	0.70	0.73	0.75	0.81	1.14	2.73	4.32	3.88	3.29	2.69	2.10
35	1.35	1.86	1.60	1.35	1.09	0.82	0.61	0.67	0.72	0.77	0.83	0.88	0.80	0.75	2.33	3.60	3.00	2.41	1.81	1.22
36	1.26	1.47	1.21	0.96	0.74	0.70	0.71	0.79	0.85	0.90	0.95	0.85	0.75	0.72	1.93	2.72	2.12	1.53	0.94	1.01
37	1.16	1.07	0.97	0.90	0.83	0.76	0.81	0.92	0.97	1.00	0.90	0.80	0.70	0.68	1.53	1.84	1.25	0.65	1.45	2.3[illegible]
38	1.13	1.07	1.00	0.92	0.84	0.77	0.86	1.03	1.05	0.95	0.85	0.75	0.67	0.65	1.13	0.96	0.96	1.90	2.83	3.7
39	1.10	1.06	0.99	0.91	0.83	0.76	0.83	1.01	0.99	0.91	0.81	0.71	0.63	0.62	0.68	1.41	2.34	3.28	4.21	3.83
40	1.06	1.02	0.98	0.90	0.83	0.75	0.81	0.98	0.91	0.82	0.74	0.66	0.60	0.76	1.72	2.79	3.72	4.55	4.15	3.75
41	1.03	0.99	0.95	0.90	0.82	0.74	0.76	0.90	0.82	0.74	0.66	0.61	0.60	0.72	2.48	4.14	4.88	4.48	4.08	3.68
42	0.99	0.95	0.91	0.87	0.81	0.74	0.76	0.82	0.74	0.65	0.62	0.61	0.61	0.60	1.88	3.77	4.90	4.43	4.01	3.61
43	0.96	0.92	0.88	0.84	0.80	0.73	0.73	0.73	0.65	0.62	0.62	0.62	0.66	0.70	0.76	2.63	4.52	4.60	4.13	3.67
44	0.92	0.88	0.84	0.80	0.76	0.72	0.71	0.65	0.63	0.65	0.70	0.75	0.79	0.83	0.88	1.50	3.39	4.71	4.30	3.83
45	0.99	0.93	0.87	0.80	0.74	0.69	0.65	0.69	0.74	0.79	0.84	0.88	0.92	0.96	1.00	1.06	2.25	4.14	4.46	3.99
46	1.00	1.01	1.02	0.97	0.91	0.84	0.78	0.83	0.88	0.93	0.97	1.01	1.05	1.09	1.13	1.18	1.25	3.00	4.43	4.16
47	0.96	0.97	0.98	0.99	1.00	1.01	0.95	0.97	1.01	1.05	1.10	1.14	1.18	1.22	1.26	1.31	1.36	1.86	3.75	4.25
48	1.01	1.02	1.02	1.03	1.04	1.04	1.05	1.10	1.14	1.18	1.23	1.27	1.31	1.35	1.39	1.44	1.48	1.55	2.61	4.16
49	1.10	1.11	1.11	1.12	1.13	1.13	1.14	1.16	1.25	1.31	1.36	1.40	1.44	1.48	1.52	1.56	1.61	1.66	1.75	3.36
50	1.19	1.20	1.20	1.21	1.22	1.22	1.23	1.23	1.32	1.41	1.48	1.53	1.57	1.61	1.65	1.69	1.74	1.78	1.85	2.23
51	1.28	1.29	1.29	1.30	1.31	1.31	1.32	1.32	1.38	1.48	1.57	1.64	1.70	1.74	1.78	1.82	1.87	1.91	1.96	2.05
52	1.37	1.38	1.38	1.39	1.39	1.40	1.41	1.41	1.45	1.55	1.64	1.72	1.80	1.87	1.91	1.95	1.99	2.04	2.08	2.15
53	1.46	1.47	1.47	1.48	1.48	1.49	1.50	1.50	1.51	1.61	1.71	1.80	1.88	1.96	2.03	2.08	2.12	2.17	2.21	2.26
54	1.52	1.56	1.56	1.57	1.57	1.58	1.59	1.59	1.60	1.67	1.77	1.87	1.96	2.04	2.11	2.19	2.25	2.30	2.34	2.38
55	1.58	1.62	1.65	1.66	1.66	1.67	1.68	1.68	1.69	1.73	1.83	1.93	2.03	2.12	2.19	2.27	2.34	2.42	2.47	2.51
56	1.63	1.68	1.73	1.75	1.75	1.76	1.77	1.77	1.78	1.79	1.89	1.99	2.09	2.19	2.27	2.35	2.43	2.50	2.58	2.64
57	1.69	1.73	1.78	1.83	1.84	1.85	1.86	1.86	1.87	1.87	1.95	2.05	2.15	2.25	2.35	2.43	2.51	2.58	2.66	2.73
58	1.76	1.80	1.85	1.90	1.95	1.96	1.97	1.97	1.98	1.99	2.03	2.13	2.23	2.33	2.42	2.52	2.61	2.68	2.76	2.83
59	1.86	1.90	1.95	2.00	2.04	2.09	2.13	2.13	2.14	2.14	2.15	2.23	2.33	2.43	2.53	2.63	2.73	2.82	2.90	2.97
60	2.01	2.02	2.06	2.11	2.16	2.20	2.25	2.30	2.32	2.32	2.33	2.36	2.45	2.55	2.65	2.75	2.85	2.95	3.00	3.00
61	2.72	2.59	2.45	2.32	2.27	2.32	2.36	2.41	2.46	2.50	2.51	2.52	2.58	2.68	2.78	2.88	2.97	3.00	3.00	3.00
62	3.43	3.29	3.16	3.02	2.89	2.75	2.62	2.52	2.57	2.62	2.67	2.69	2.70	2.80	2.90	3.00	3.00	3.00	3.00	2.99
63	4.14	4.00	3.87	3.73	3.59	3.46	3.32	3.19	3.05	2.92	2.78	2.82	2.88	2.92	3.00	3.00	3.00	3.00	3.00	2.95
64	5.02	4.88	4.75	4.61	4.48	4.34	4.21	4.07	3.94	3.80	3.67	3.53	3.36	3.04	3.00	3.00	3.00	3.00	3.00	2.89
65	6.26	6.12	5.99	5.85	5.72	5.58	5.45	5.31	5.10	4.79	4.47	4.15	3.84	3.52	3.21	3.00	3.00	3.00	2.93	2.82
66	7.67	7.54	7.40	7.23	6.92	6.60	6.28	5.97	5.65	5.34	5.02	4.70	4.39	4.07	3.76	3.44	3.12	2.95	2.84	2.73
67	8.73	8.42	8.10	7.78	7.47	7.15	6.83	6.52	6.20	5.89	5.57	5.25	4.94	4.62	4.31	3.99	3.67	3.36	3.04	2.89
68	8.90	8.62	8.33	8.04	7.76	7.47	7.18	6.90	6.60	6.29	5.98	5.67	5.35	5.04	4.73	4.42	4.11	3.80	3.49	3.18
69	7.90	7.94	7.98	7.99	7.71	7.42	7.13	6.85	6.56	6.27	5.99	5.70	5.41	5.13	4.84	4.56	4.27	3.98	3.70	3.41
70	6.78	6.82	6.85	6.89	6.93	6.96	7.00	6.80	6.51	6.23	5.94	5.65	5.37	5.08	4.79	4.51	4.22	3.93	3.65	3.38
71	5.37	5.41	5.45	5.48	5.52	5.56	5.59	5.63	5.67	5.70	5.74	5.59	5.30	5.02	4.73	4.44	4.16	3.88	3.72	3.56
72	4.46	4.45	4.43	4.42	4.41	4.40	4.39	4.38	4.37	4.36	4.35	4.34	4.33	4.32	4.31	4.27	4.20	4.07	3.92	3.77
73	3.91	3.90	3.89	3.88	3.86	3.85	3.84	3.83	3.82	3.81	3.80	3.79	3.75	3.68	3.61	3.54	3.47	3.40	3.33	3.2[illegible]
74	3.20	3.25	3.30	3.27	3.25	3.24	3.23	3.22	3.21	3.15	3.09	3.02	2.86	2.68	2.49	2.35	2.30	2.25	2.20	2.15
75	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
76	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
77	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

TABLE E.2-11. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE SURFICIAL AQUIFER (pCi/l) (continued).

Row	Column 81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
3	2.68	2.77	2.86	2.95	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
4	2.13	2.22	2.31	2.40	2.49	2.58	2.67	2.76	2.85	2.94	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
5	1.74	1.83	1.92	2.01	2.10	2.19	2.28	2.37	2.46	2.58	2.71	2.77	2.79	2.80	2.80	2.80	2.81	2.79	2.78	2.79
6	1.46	1.55	1.64	1.73	1.82	1.91	2.02	2.16	2.29	2.42	2.52	2.54	2.57	2.58	2.58	2.59	2.58	2.56	2.53	2.53
7	1.26	1.35	1.44	1.53	1.64	1.78	1.91	2.04	2.18	2.31	2.35	2.39	2.42	2.42	2.43	2.43	2.41	2.39	2.37	2.34
8	1.10	1.20	1.29	1.42	1.55	1.69	1.82	1.95	2.09	2.21	2.23	2.26	2.29	2.30	2.30	2.31	2.28	2.26	2.23	2.21
9	0.95	1.06	1.20	1.33	1.46	1.60	1.73	1.86	2.00	2.08	2.11	2.14	2.17	2.17	2.18	2.18	2.15	2.13	2.10	2.08
10	0.84	0.97	1.11	1.24	1.37	1.51	1.64	1.77	1.91	1.95	1.98	2.02	2.04	2.05	2.05	2.04	2.02	2.00	1.97	1.95
11	0.82	0.88	1.02	1.15	1.28	1.42	1.55	1.68	1.80	1.83	1.86	1.89	1.92	1.92	1.93	1.91	1.89	1.86	1.84	1.81
12	0.79	0.82	0.93	1.06	1.19	1.33	1.46	1.59	1.67	1.70	1.73	1.77	1.80	1.80	1.80	1.78	1.76	1.73	1.71	1.68
13	0.76	0.80	0.84	0.97	1.10	1.24	1.37	1.50	1.54	1.58	1.61	1.64	1.67	1.68	1.67	1.65	1.62	1.60	1.58	1.55
14	0.73	0.77	0.80	0.88	1.01	1.15	1.28	1.39	1.42	1.45	1.49	1.52	1.55	1.55	1.54	1.52	1.49	1.47	1.44	1.42
15	0.70	0.74	0.77	0.81	0.92	1.06	1.19	1.26	1.30	1.33	1.36	1.39	1.42	1.43	1.41	1.39	1.36	1.34	1.31	1.29
16	0.68	0.71	0.75	0.78	0.83	0.97	1.10	1.14	1.17	1.20	1.24	1.27	1.30	1.30	1.28	1.25	1.23	1.20	1.18	1.16
17	0.69	0.71	0.72	0.75	0.79	0.88	0.98	1.01	1.05	1.08	1.11	1.15	1.17	1.17	1.15	1.12	1.10	1.07	1.05	1.02
18	0.71	0.73	0.74	0.76	0.77	0.80	0.86	0.89	0.92	0.96	0.99	1.02	1.05	1.04	1.01	0.99	0.97	0.94	0.92	0.89
19	0.73	0.74	0.76	0.78	0.79	0.79	0.78	0.77	0.80	0.83	0.87	0.90	0.92	0.91	0.88	0.86	0.83	0.81	0.79	0.78
20	0.74	0.76	0.78	0.79	0.79	0.78	0.77	0.76	0.75	0.74	0.74	0.77	0.80	0.78	0.75	0.73	0.74	0.74	0.74	0.74
21	0.76	0.78	0.79	0.79	0.78	0.77	0.75	0.74	0.73	0.72	0.71	0.70	0.70	0.69	0.69	0.69	0.69	0.69	0.70	0.70
22	0.78	0.79	0.79	0.78	0.76	0.75	0.74	0.73	0.72	0.71	0.70	0.69	0.69	0.68	0.66	0.65	0.65	0.65	0.65	0.65
23	0.79	0.79	0.78	0.76	0.75	0.74	0.72	0.71	0.70	0.69	0.68	0.67	0.67	0.67	0.66	0.65	0.63	0.62	0.61	0.69
24	0.79	0.78	0.76	0.75	0.74	0.72	0.71	0.70	0.69	0.68	0.67	0.66	0.66	0.66	0.66	0.64	0.63	0.61	0.64	0.91
25	1.95	1.23	0.75	0.74	0.72	0.71	0.70	0.68	0.67	0.66	0.65	0.65	0.65	0.65	0.65	0.64	0.62	0.61	0.71	1.00
26	3.20	2.49	1.78	1.07	0.71	0.70	0.68	0.67	0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.63	0.62	0.61	0.78	1.07
27	4.46	3.75	3.04	2.32	1.61	0.90	0.67	0.65	0.64	0.63	0.62	0.63	0.63	0.63	0.63	0.63	0.62	0.60	0.85	1.13
28	5.72	5.00	4.29	3.58	2.87	2.16	1.44	0.73	0.63	0.61	0.61	0.61	0.61	0.62	0.62	0.62	0.61	0.63	0.92	1.20
29	5.89	5.30	4.70	4.11	3.51	2.92	2.32	1.73	1.14	0.60	0.60	0.60	0.60	0.60	0.60	0.61	0.61	0.70	0.99	1.27
30	5.01	4.42	3.82	3.23	2.64	2.04	1.45	0.85	0.89	0.66	0.83	0.81	0.79	0.78	0.76	0.74	0.72	0.82	1.10	1.38
31	4.14	3.54	2.95	2.35	1.76	1.16	0.65	1.22	0.82	0.71	0.95	1.06	1.04	1.03	1.01	0.99	0.97	1.02	1.30	1.58
32	3.26	2.66	2.07	1.47	0.88	1.09	1.55	1.15	0.75	0.75	1.00	1.21	1.30	1.28	1.26	1.24	1.22	1.22	1.50	1.78
33	2.38	1.79	1.19	0.61	1.54	1.87	1.47	1.08	0.68	0.80	1.04	1.28	1.46	1.53	1.51	1.49	1.47	1.45	1.70	1.97
34	1.50	0.91	1.05	1.99	2.20	1.80	1.40	1.00	0.61	0.84	1.08	1.33	1.56	1.70	1.76	1.74	1.72	1.70	1.89	2.17
35	0.62	1.50	2.43	2.52	2.13	1.73	1.33	0.93	0.64	0.88	1.13	1.37	1.61	1.81	1.95	1.99	1.97	1.95	2.09	2.37
36	1.94	2.88	2.85	2.45	2.05	1.66	1.26	0.86	0.68	0.93	1.17	1.42	1.66	1.90	2.05	2.20	2.22	2.20	2.29	2.57
37	3.32	3.18	2.78	2.38	1.98	1.58	1.19	0.79	0.73	0.97	1.22	1.46	1.70	1.95	2.16	2.30	2.45	2.45	2.49	2.77
38	3.50	3.10	2.70	2.31	1.91	1.51	1.11	0.71	0.77	1.02	1.26	1.50	1.75	1.99	2.23	2.40	2.55	2.69	2.69	2.97
39	3.43	3.03	2.63	2.23	1.84	1.44	1.04	0.64	0.82	1.06	1.30	1.55	1.79	2.03	2.28	2.51	2.65	2.80	2.93	2.96
40	3.36	2.96	2.56	2.16	1.76	1.37	0.97	0.62	0.86	1.10	1.35	1.59	1.83	2.08	2.32	2.57	2.75	2.90	2.98	2.92
41	3.28	2.89	2.49	2.09	1.69	1.29	0.90	0.66	0.91	1.15	1.39	1.64	1.88	2.12	2.37	2.61	2.85	3.00	2.94	2.87
42	3.21	2.81	2.42	2.02	1.62	1.22	0.82	0.71	0.95	1.19	1.44	1.68	1.92	2.17	2.41	2.65	2.92	2.95	2.89	2.83
43	3.21	2.74	2.34	1.95	1.55	1.15	0.75	0.75	0.99	1.24	1.48	1.72	1.99	2.27	2.55	2.84	2.97	2.90	2.84	2.78
44	3.37	2.91	2.44	1.98	1.52	1.08	0.68	0.79	1.05	1.33	1.62	1.90	2.19	2.47	2.76	2.99	2.92	2.85	2.79	2.74
45	3.53	3.07	2.61	2.14	1.68	1.22	0.75	0.97	1.25	1.54	1.82	2.11	2.39	2.68	2.96	2.94	2.87	2.80	2.74	2.69
46	3.69	3.23	2.77	2.30	1.84	1.38	0.98	1.24	1.49	1.75	2.02	2.31	2.59	2.88	2.96	2.88	2.82	2.75	2.69	2.64
47	3.86	3.39	2.93	2.47	2.00	1.54	1.25	1.50	1.75	2.00	2.25	2.52	2.80	2.98	2.90	2.83	2.76	2.70	2.64	2.59
48	4.02	3.56	3.09	2.63	2.17	1.70	1.51	1.76	2.01	2.26	2.51	2.77	3.00	2.92	2.84	2.77	2.71	2.65	2.59	2.54
49	3.97	3.72	3.26	2.79	2.33	1.87	1.78	2.03	2.28	2.53	2.78	2.99	2.93	2.86	2.78	2.71	2.65	2.59	2.54	2.49
50	3.88	3.79	3.42	2.95	2.49	2.03	2.04	2.29	2.54	2.79	2.99	2.93	2.87	2.80	2.72	2.66	2.59	2.54	2.48	2.44
51	2.98	3.70	3.58	3.12	2.65	2.19	2.30	2.55	2.80	2.99	2.93	2.86	2.80	2.74	2.66	2.60	2.54	2.48	2.43	2.38
52	2.25	3.60	3.51	3.28	2.82	2.35	2.57	2.82	2.98	2.92	2.86	2.80	2.74	2.68	2.60	2.53	2.48	2.42	2.38	2.33
53	2.35	2.59	3.42	3.33	2.98	2.58	2.83	2.98	2.92	2.86	2.80	2.74	2.67	2.61	2.54	2.48	2.42	2.37	2.32	2.27
54	2.45	2.55	3.32	3.24	3.14	2.84	2.98	2.92	2.86	2.79	2.73	2.67	2.61	2.55	2.48	2.41	2.36	2.31	2.26	2.22
55	2.56	2.65	2.75	3.14	3.05	2.97	2.91	2.85	2.79	2.73	2.67	2.61	2.55	2.48	2.42	2.34	2.30	2.25	2.20	2.17
56	2.68	2.75	2.85	2.96	2.97	2.91	2.85	2.79	2.73	2.67	2.60	2.54	2.48	2.42	2.36	2.28	2.23	2.19	2.15	2.10
57	2.81	2.86	2.95	2.97	2.91	2.85	2.78	2.72	2.66	2.60	2.54	2.48	2.42	2.36	2.30	2.23	2.17	2.12	2.08	2.05
58	2.91	2.99	2.95	2.89	2.83	2.77	2.70	2.64	2.58	2.52	2.46	2.40	2.34	2.28	2.21	2.15	2.08	2.05	2.00	1.98
59	3.00	2.91	2.84	2.78	2.71	2.65	2.59	2.53	2.47	2.41	2.35	2.29	2.22	2.16	2.10	2.04	1.97	1.93	1.89	1.87
60	2.97	2.86	2.75	2.65	2.59	2.52	2.46	2.40	2.34	2.28	2.22	2.16	2.10	2.03	1.97	1.91	1.85	1.79	1.77	1.73
61	2.93	2.82	2.70	2.59	2.48	2.40	2.33	2.27	2.21	2.15	2.09	2.03	1.97	1.91	1.84	1.78	1.72	1.65	1.63	1.60
62	2.88	2.77	2.66	2.55	2.44	2.33	2.21	2.14	2.08	2.02	1.96	1.90	1.84	1.78	1.72	1.66	1.59	1.53	1.48	1.47
63	2.84	2.73	2.62	2.50	2.39	2.28	2.17	2.06	1.95	1.89	1.83	1.77	1.71	1.65	1.59	1.53	1.47	1.40	1.33	1.33
64	2.78	2.67	2.56	2.45	2.34	2.23	2.11	2.00	1.89	1.78	1.67	1.61	1.55	1.49	1.43	1.37	1.30	1.24	1.18	1.14
65	2.70	2.59	2.48	2.37	2.26	2.15	2.04	1.93	1.81	1.70	1.59	1.48	1.37	1.26	1.20	1.14	1.08	1.02	0.96	0.90
66	2.62	2.50	2.39	2.28	2.17	2.06	1.95	1.84	1.72	1.61	1.50	1.39	1.28	1.17	1.06	0.95	0.83	0.76	0.70	0.64
67	2.75	2.62	2.49	2.36	2.22	2.09	1.96	1.83	1.69	1.56	1.43	1.30	1.19	1.08	0.97	0.86	0.74	0.63	0.52	0.41
68	2.94	2.81	2.68	2.55	2.42	2.28	2.15	2.02	1.89	1.76	1.62	1.49	1.36	1.23	1.10	0.97	0.83	0.70	0.57	0.43
69	3.12	2.93	2.80	2.67	2.53	2.38	2.24	2.10	1.95	1.81	1.66	1.52	1.37	1.23	1.09	0.94	0.80	0.65	0.51	0.36
70	3.22	3.06	2.90	2.75	2.60	2.45	2.30	2.14	1.99	1.84	1.69	1.54	1.38	1.23	1.08	0.93	0.78	0.62	0.47	0.32
71	3.40	3.24	3.08	2.91	2.74	2.57	2.39	2.22	2.05	1.87	1.70	1.53	1.36	1.18	1.01	0.84	0.67	0.49	0.32	0.15
72	3.62	3.47	3.32	3.17	3.02	2.91	2.72	2.52	2.33	2.12	1.92	1.70	1.49	1.26	1.02	0.80	0.54	0.32	0.09	0.26
73	3.19	3.12	3.05	2.94	2.76	2.58	2.40	2.21	2.03	1.85	1.67	1.49	1.31	1.13	0.95	0.77	0.59	0.43	0.38	0.34
74	2.11	2.06	2.01	1.96	1.91	1.86	1.82	1.77	1.72	1.67	1.62	1.58	1.53	1.48	1.43	1.38	1.34	1.29	1.24	1.19
75	2.98	2.91	2.86	2.82	2.77	2.72	2.67	2.62	2.57	2.53	2.48	2.43	2.38	2.33	2.29	2.24	2.19	2.14	2.09	2.05
76	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.95	2.90
77	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

TABLE E.2-11. INITIAL RADIUM-226 + RADIUM-228 ACTIVITY IN THE SURFICIAL AQUIFER (pCi/l) (continued).

	Column																
Row	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
1	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
2	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
3	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
4	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
5	2.79	2.80	2.67	2.65	2.66	2.67	2.68	2.69	2.78	2.98	3.00	3.00	3.00	3.00	3.00	3.00	3.00
6	2.53	2.54	2.49	2.31	2.18	2.19	2.20	2.21	2.27	2.47	2.71	3.00	3.00	3.00	3.00	3.00	3.00
7	2.35	2.35	2.36	2.18	2.00	1.86	1.87	1.87	1.91	2.10	2.39	3.00	3.00	3.00	3.00	3.00	3.00
8	2.20	2.21	2.21	2.08	1.89	1.71	1.60	1.60	1.62	1.81	2.20	2.95	3.00	3.00	3.00	3.00	3.00
9	2.05	2.06	2.06	1.97	1.79	1.61	1.43	1.33	1.34	1.52	2.01	2.76	3.00	3.00	3.00	3.00	3.00
10	1.92	1.91	1.92	1.87	1.69	1.51	1.33	1.15	1.07	1.28	1.82	2.57	3.00	3.00	3.00	3.00	3.00
11	1.79	1.77	1.77	1.77	1.59	1.41	1.22	1.04	0.86	1.09	1.63	2.38	3.00	3.00	3.00	3.00	3.00
12	1.66	1.63	1.62	1.63	1.49	1.30	1.12	0.94	0.80	1.07	1.54	2.19	3.00	3.00	3.00	3.00	3.00
13	1.53	1.50	1.48	1.48	1.38	1.20	1.02	0.84	0.79	1.07	1.58	2.22	3.00	3.00	3.00	3.00	3.00
14	1.40	1.37	1.35	1.33	1.28	1.10	0.92	0.81	0.79	1.06	1.58	2.25	3.00	3.00	3.00	3.00	3.00
15	1.26	1.24	1.21	1.19	1.18	1.00	0.83	0.80	0.78	1.06	1.57	2.29	3.00	3.00	3.00	3.00	3.00
16	1.13	1.11	1.08	1.06	1.04	0.90	0.82	0.80	0.77	1.05	1.57	2.29	3.00	3.00	3.00	3.00	3.00
17	1.00	0.98	0.95	0.93	0.90	0.84	0.81	0.79	0.76	1.05	1.56	2.28	3.00	3.00	3.00	3.00	3.00
18	0.87	0.84	0.82	0.82	0.83	0.84	0.82	0.79	0.76	1.13	1.71	2.53	3.00	3.00	3.00	3.00	3.00
19	0.78	0.78	0.78	0.79	0.82	0.84	0.83	1.01	1.19	1.45	2.03	2.85	3.00	3.00	3.00	3.00	3.00
20	0.74	0.74	0.75	0.78	0.80	0.96	1.20	1.45	1.63	1.82	2.35	3.00	3.00	3.00	3.00	3.00	3.00
21	0.70	0.71	0.74	0.87	1.04	1.21	1.42	1.74	2.06	2.26	2.67	3.00	3.00	3.00	3.00	3.00	3.00
22	0.67	0.78	0.95	1.12	1.29	1.46	1.64	1.96	2.27	2.59	2.99	3.00	3.00	3.00	3.00	3.00	3.00
23	0.86	1.03	1.20	1.37	1.54	1.71	1.88	2.17	2.49	2.81	3.00	3.00	3.00	3.00	3.00	3.00	3.00
24	1.11	1.28	1.45	1.62	1.79	1.96	2.14	2.39	2.71	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
25	1.26	1.47	1.68	1.87	2.05	2.22	2.39	2.61	2.93	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
26	1.35	1.62	1.83	2.04	2.25	2.46	2.64	2.83	2.98	2.95	2.97	3.00	3.00	3.00	3.00	3.00	3.00
27	1.42	1.70	1.97	2.18	2.39	2.61	2.82	2.99	2.94	2.90	2.93	2.96	3.00	3.00	3.00	3.00	3.00
28	1.49	1.77	2.06	2.33	2.54	2.75	2.96	2.96	2.90	2.86	2.88	2.91	2.96	3.00	3.00	3.00	3.00
29	1.56	1.84	2.13	2.41	2.68	2.89	2.97	2.92	2.87	2.82	2.83	2.87	2.91	2.96	3.00	3.00	3.00
30	1.66	1.94	2.21	2.49	2.77	2.99	2.94	2.89	2.83	2.78	2.79	2.82	2.86	2.92	2.98	3.00	3.00
31	1.86	2.13	2.41	2.69	2.97	2.95	2.90	2.85	2.80	2.74	2.74	2.77	2.82	2.87	2.94	3.00	3.00
32	2.05	2.33	2.61	2.89	2.97	2.92	2.87	2.81	2.76	2.71	2.69	2.73	2.77	2.82	2.89	2.98	3.00
33	2.25	2.53	2.81	2.98	2.93	2.88	2.83	2.78	2.72	2.67	2.65	2.68	2.72	2.78	2.84	2.93	3.00
34	2.45	2.73	3.00	2.95	2.90	2.85	2.79	2.74	2.69	2.64	2.60	2.64	2.68	2.73	2.80	2.88	2.99
35	2.65	2.93	2.96	2.91	2.86	2.81	2.76	2.71	2.65	2.60	2.56	2.59	2.63	2.68	2.75	2.84	2.94
36	2.85	2.97	2.92	2.87	2.82	2.77	2.72	2.67	2.62	2.56	2.51	2.54	2.59	2.64	2.70	2.79	2.89
37	2.99	2.93	2.88	2.83	2.78	2.74	2.69	2.63	2.58	2.53	2.46	2.50	2.54	2.59	2.66	2.74	2.85
38	2.95	2.89	2.84	2.79	2.74	2.70	2.65	2.60	2.54	2.49	2.43	2.45	2.49	2.54	2.61	2.70	2.80
39	2.91	2.85	2.80	2.75	2.71	2.66	2.61	2.56	2.51	2.46	2.39	2.40	2.45	2.50	2.56	2.65	2.76
40	2.86	2.81	2.76	2.71	2.66	2.62	2.58	2.53	2.47	2.42	2.35	2.36	2.40	2.45	2.52	2.60	2.71
41	2.82	2.77	2.71	2.67	2.62	2.58	2.54	2.49	2.44	2.38	2.32	2.31	2.35	2.41	2.47	2.56	2.66
42	2.77	2.72	2.67	2.63	2.58	2.54	2.50	2.45	2.40	2.35	2.28	2.26	2.31	2.36	2.43	2.51	2.62
43	2.73	2.68	2.63	2.59	2.54	2.50	2.46	2.42	2.36	2.31	2.25	2.22	2.26	2.31	2.38	2.47	2.57
44	2.68	2.63	2.58	2.54	2.50	2.46	2.43	2.38	2.33	2.28	2.21	2.17	2.21	2.27	2.33	2.42	2.52
45	2.64	2.59	2.54	2.50	2.46	2.42	2.38	2.34	2.29	2.24	2.17	2.12	2.17	2.22	2.29	2.37	2.48
46	2.59	2.54	2.50	2.46	2.41	2.38	2.34	2.31	2.26	2.20	2.14	2.08	2.12	2.17	2.24	2.33	2.43
47	2.54	2.49	2.45	2.41	2.37	2.33	2.30	2.27	2.22	2.17	2.10	2.03	2.07	2.13	2.19	2.28	2.38
48	2.49	2.44	2.40	2.36	2.33	2.29	2.26	2.23	2.18	2.13	2.07	1.99	2.03	2.08	2.15	2.23	2.34
49	2.44	2.40	2.35	2.32	2.28	2.25	2.22	2.18	2.15	2.10	2.03	1.94	1.98	2.03	2.10	2.19	2.29
50	2.39	2.35	2.31	2.27	2.24	2.20	2.17	2.14	2.11	2.06	1.99	1.90	1.94	1.99	2.05	2.14	2.25
51	2.34	2.30	2.26	2.23	2.19	2.16	2.12	2.10	2.07	2.02	1.96	1.87	1.89	1.94	2.01	2.09	2.20
52	2.28	2.25	2.21	2.17	2.14	2.11	2.08	2.05	2.03	1.99	1.92	1.83	1.84	1.90	1.96	2.05	2.15
53	2.24	2.19	2.16	2.12	2.09	2.06	2.03	2.01	1.98	1.95	1.89	1.79	1.80	1.85	1.92	2.00	2.11
54	2.18	2.14	2.11	2.08	2.04	2.02	1.99	1.96	1.94	1.91	1.85	1.76	1.75	1.80	1.87	1.95	2.06
55	2.12	2.09	2.06	2.02	2.00	1.97	1.94	1.92	1.90	1.88	1.81	1.72	1.70	1.76	1.82	1.91	2.01
56	2.07	2.03	2.00	1.97	1.95	1.92	1.89	1.87	1.85	1.83	1.78	1.69	1.66	1.71	1.78	1.86	1.97
57	2.01	1.98	1.95	1.92	1.89	1.87	1.85	1.82	1.81	1.78	1.74	1.65	1.61	1.66	1.73	1.82	1.92
58	1.93	1.91	1.88	1.85	1.83	1.80	1.79	1.76	1.75	1.73	1.70	1.61	1.55	1.61	1.67	1.76	1.86
59	1.83	1.81	1.78	1.76	1.74	1.72	1.70	1.68	1.67	1.65	1.63	1.54	1.47	1.52	1.59	1.68	1.78
60	1.71	1.69	1.67	1.65	1.63	1.61	1.60	1.58	1.57	1.55	1.54	1.47	1.38	1.43	1.50	1.58	1.69
61	1.59	1.56	1.55	1.53	1.52	1.51	1.49	1.48	1.47	1.46	1.44	1.40	1.29	1.34	1.41	1.49	1.60
62	1.45	1.44	1.43	1.41	1.41	1.39	1.38	1.37	1.36	1.36	1.35	1.33	1.21	1.25	1.31	1.40	1.50
63	1.31	1.31	1.30	1.29	1.28	1.27	1.27	1.26	1.26	1.25	1.25	1.24	1.14	1.15	1.22	1.31	1.41
64	1.14	1.13	1.14	1.13	1.13	1.13	1.12	1.13	1.12	1.12	1.12	1.12	1.05	1.04	1.10	1.19	1.29
65	0.87	0.88	0.89	0.89	0.90	0.91	0.91	0.92	0.92	0.93	0.93	0.94	0.92	0.87	0.94	1.03	1.13
66	0.58	0.57	0.58	0.61	0.62	0.64	0.65	0.66	0.68	0.69	0.71	0.73	0.75	0.69	0.76	0.84	0.95
67	0.32	0.26	0.26	0.29	0.32	0.35	0.38	0.40	0.42	0.45	0.47	0.50	0.54	0.50	0.57	0.66	0.76
68	0.28	0.14	0.01	0.01	0.01	0.04	0.08	0.12	0.15	0.18	0.22	0.26	0.31	0.34	0.38	0.47	0.58
69	0.22	0.08	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.08	0.15	0.20	0.29	0.45
70	0.16	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.09	0.26	0.48
71	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.13	0.30	0.52
72	0.64	0.88	0.84	0.81	0.77	0.74	0.70	0.62	0.54	0.45	0.35	0.20	0.01	0.05	0.18	0.36	0.57
73	0.29	0.24	0.19	0.14	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.18	0.21	0.24	0.28	0.43	0.64
74	1.14	1.09	1.05	1.00	0.95	0.90	0.85	0.81	0.76	0.71	0.65	0.56	0.49	0.55	0.60	0.66	0.75
75	2.00	1.95	1.90	1.85	1.80	1.76	1.71	1.66	1.61	1.56	1.50	1.42	1.31	1.18	1.01	0.91	1.02
76	2.85	2.80	2.76	2.71	2.66	2.61	2.56	2.51	2.47	2.42	2.36	2.27	2.17	2.03	1.86	1.65	1.38
77	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	2.89	2.72	2.50	2.24

TABLE E.2-12. INITIAL CHLORIDE CONCENTRATION IN THE TAILINGS (mg/l).

Row	Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4320	4320	4320
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320
38	0	0	0	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320
39	0	0	0	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320
40	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
41	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
42	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
43	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
44	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
45	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
46	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
47	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
48	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
49	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
50	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
51	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
52	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
53	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
54	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
55	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
56	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
57	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
58	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0
59	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	4320
60	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	0	0	4320	4320	4320	4320	4320
61	0	0	0	0	0	4320	4320	4320	4320	4320	4320	0	0	4320	4320	4320	4320	4320	4320	4320
62	0	0	0	0	0	4320	4320	4320	4320	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320
63	0	0	0	0	0	4320	4320	4320	4320	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320
64	0	0	0	0	0	4320	4320	4320	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320
65	0	0	0	0	0	4320	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
66	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
67	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
68	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4320	4320	4320
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-12. INITIAL CHLORIDE CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0
37	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	432
38	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	432
39	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
40	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
41	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
42	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
43	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
44	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
45	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
46	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
47	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
48	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
49	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
50	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
51	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
52	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
53	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
54	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
55	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
56	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
57	0	0	0	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
58	0	0	0	4320	4320	4320	0	0	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320
59	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320
60	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	4320	4320	4320	4320	4320
61	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0	4320	4320
62	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0
63	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0
64	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
65	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
66	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
67	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
68	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
69	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
70	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0
71	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-12. INITIAL CHLORIDE CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0
39	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0
40	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0
41	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0
42	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0
43	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0
44	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0
45	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0
46	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
47	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
48	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
49	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
50	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
51	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
52	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
53	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
54	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
55	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
56	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
57	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
58	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
59	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
60	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
61	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
62	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
63	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
64	4320	4320	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
65	4320	4320	4320	4320	4320	4320	0	0	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
66	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	4320	4320	4320	4320	4320	4320
67	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0
68	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0
69	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-12. INITIAL CHLORIDE CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0
62	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0
63	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0
64	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0
65	4320	4320	4320	4320	4320	4320	4320	0	0	0	0	0	0	0	0	0	0	0	0	0
66	4320	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-12. INITIAL CHLORIDE CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-12. INITIAL CHLORIDE CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-13. INITIAL CHLORIDE CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l).

Row	Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
3	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
9	6	6	6	6	6	6	6	6	6	6	6	6	6	7	18	10	6	6	6	6
10	6	6	6	6	6	6	6	6	6	6	6	6	16	30	38	27	8	6	6	6
11	6	6	6	6	6	6	6	6	6	6	6	23	38	52	57	44	17	6	6	6
12	6	6	6	6	6	6	6	6	6	6	16	49	60	75	77	59	26	6	6	6
13	6	6	6	6	6	6	6	6	6	8	42	76	82	97	94	70	36	6	6	6
14	6	6	6	6	6	6	6	6	6	25	54	96	142	316	210	82	45	7	6	6
15	6	6	6	6	6	6	6	6	7	41	66	186	412	543	373	93	54	16	6	6
16	6	6	6	6	6	6	6	6	13	54	78	323	730	860	500	110	62	24	9	10
17	6	6	6	6	6	6	6	6	20	60	92	399	1016	988	575	158	65	29	19	20
18	6	6	6	6	6	6	6	6	22	60	92	387	985	881	503	129	71	35	29	31
19	6	6	6	6	6	6	6	6	18	57	88	314	695	725	469	100	77	41	38	42
20	6	6	6	6	6	6	6	6	13	52	81	200	457	525	353	97	68	47	48	53
21	6	6	6	6	6	6	6	6	9	47	75	97	257	322	159	78	59	53	64	70
22	6	6	6	6	6	6	6	6	8	45	69	88	97	120	85	59	59	74	82	86
23	6	6	6	6	6	6	6	6	7	41	60	80	82	79	59	69	86	96	100	101
24	6	6	6	6	6	6	6	6	6	32	52	72	70	58	75	101	104	107	108	108
25	6	6	6	6	6	6	6	6	6	24	44	64	58	71	102	109	113	115	116	124
26	6	6	6	6	6	6	6	6	6	24	36	55	64	108	116	116	121	123	124	148
27	6	6	6	6	6	7	6	11	6	26	39	49	104	136	131	125	129	132	138	172
28	6	6	6	6	7	7	8	16	10	28	42	95	125	133	139	140	137	140	162	196
29	6	6	6	6	7	7	12	20	14	33	48	110	124	130	136	142	148	152	186	221
30	6	6	6	6	7	7	16	25	20	35	75	114	120	127	133	139	150	176	210	245
31	6	6	6	6	7	8	20	29	26	35	102	111	117	125	133	152	173	194	235	269
32	6	6	6	6	7	12	23	33	32	40	102	110	118	133	154	175	196	217	258	293
33	6	6	6	6	8	16	27	37	39	66	104	114	135	156	177	198	219	240	272	319
34	6	6	6	6	10	20	31	41	45	89	116	137	158	179	200	221	241	262	283	340
35	6	6	6	8	14	23	35	44	64	105	134	160	181	201	222	243	264	285	306	356
36	6	6	6	11	18	26	38	48	81	116	143	172	202	224	245	266	287	308	329	366
37	6	6	6	15	21	29	42	57	96	127	153	180	209	240	268	289	310	331	352	373
38	6	6	6	17	25	32	45	70	108	138	163	189	216	246	278	310	333	354	374	395
39	6	6	6	19	29	35	48	83	120	149	172	198	225	252	282	314	347	376	397	418
40	6	6	6	20	32	38	56	94	133	161	184	207	233	259	288	317	349	383	416	441
41	6	6	6	22	34	41	67	107	146	174	196	219	242	265	294	322	352	384	418	452
42	6	6	6	24	36	45	78	120	160	186	209	231	254	277	300	328	356	387	419	453
43	6	6	6	25	37	48	89	134	173	198	221	244	267	289	312	335	359	390	420	453
44	6	6	6	25	39	49	101	147	187	210	233	256	279	302	324	347	370	393	422	453
45	6	6	6	26	41	57	115	164	202	223	245	268	291	314	337	360	382	405	428	454
46	6	6	7	26	42	68	129	178	218	237	258	281	303	326	349	372	395	418	440	463
47	6	6	7	27	42	79	142	194	232	250	270	293	316	339	361	384	407	430	453	475
48	6	6	8	27	44	89	156	211	248	265	282	305	328	351	374	396	419	442	465	488
49	6	6	9	29	46	98	171	225	261	280	295	317	340	363	386	409	432	454	477	500
50	6	6	10	31	47	111	187	239	275	296	307	330	353	375	398	421	444	467	490	500
51	6	6	11	33	49	125	204	254	288	311	319	342	365	388	411	433	456	479	500	500
52	6	6	13	34	56	139	219	267	306	328	334	354	377	400	423	446	468	491	500	500
53	6	6	14	36	64	154	232	281	326	343	349	367	389	412	435	458	481	500	500	500
54	6	6	15	37	72	169	248	301	344	362	365	379	402	425	447	470	493	500	500	500
55	6	6	17	39	78	183	265	321	363	379	382	391	414	437	460	483	500	500	500	500
56	6	6	18	40	84	197	286	341	378	395	399	404	426	449	472	495	500	500	500	500
57	6	6	20	42	90	211	305	354	392	408	415	416	439	461	484	500	500	500	500	500
58	6	6	21	43	98	232	326	380	416	433	437	436	454	477	500	500	500	500	500	500
59	6	6	24	46	118	260	359	422	454	469	469	465	476	498	500	500	500	500	500	540
60	6	6	26	49	147	297	404	470	521	572	548	503	500	500	500	500	500	564	650	753
61	6	6	29	55	173	337	456	698	880	838	793	751	713	681	701	693	718	772	857	960
62	6	6	32	62	194	373	550	1075	1257	1142	1065	1000	956	950	933	924	941	988	1083	1226
63	6	6	34	70	219	408	787	1325	1413	1119	1000	1015	1096	1124	1123	1127	1160	1229	1331	1484
64	6	10	38	79	253	454	944	1360	1131	1000	1043	1125	1206	1302	1312	1348	1393	1490	1617	1777
65	6	14	42	91	311	566	979	1088	1014	1116	1198	1279	1361	1442	1547	1585	1675	1784	1939	2814
66	6	19	47	132	399	670	949	1068	1191	1293	1374	1456	1537	1619	1700	1812	1909	2024	2093	2461
67	6	20	56	207	498	725	931	1099	1263	1400	1509	1607	1702	1794	1876	1961	2049	2122	2195	2268
68	6	21	67	314	579	751	899	1077	1277	1441	1574	1697	1796	1895	1993	2000	2057	2139	2221	2302
69	6	21	79	452	631	768	894	1012	1260	1459	1611	1757	1899	2000	2000	2000	2000	2000	2031	2113
70	6	28	89	546	666	773	873	966	1201	1470	1679	1874	2122	2000	2000	2000	2000	2000	2000	2000
71	6	10	363	637	730	813	885	947	1058	1393	1662	1932	2435	2656	2345	2034	2000	1673	1147	947
72	6	6	197	414	540	653	751	835	938	1077	1153	1228	1304	1187	987	907	827	747	674	597
73	6	6	6	140	295	436	558	661	764	847	834	794	734	663	586	507	368	240	123	99
74	6	6	6	6	77	213	332	434	524	456	295	100	96	92	87	83	79	74	70	70
75	6	6	6	6	6	6	28	46	59	60	59	56	53	51	48	45	42	40	37	33
76	6	6	6	6	6	6	6	6	7	15	12	11	12	14	15	16	18	19	19	20
77	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7	8	8	8	8

TABLE E.2-13. INITIAL CHLORIDE CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	[illegible]
3	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7
7	6	6	6	6	6	6	6	6	6	6	6	6	8	6	7	7	7	7	8	8
8	6	6	6	6	6	6	6	6	6	6	7	9	11	7	7	7	8	8	8	8
9	6	6	6	6	6	6	6	6	6	9	10	12	14	10	8	8	8	8	9	9
10	6	6	6	6	6	6	6	8	10	12	14	15	16	13	9	8	9	9	9	9
11	6	6	6	6	6	6	9	12	14	15	17	18	19	16	12	9	9	9	9	10
12	6	6	6	6	6	10	13	16	17	19	20	21	22	18	15	11	9	10	10	10
13	6	6	6	6	11	15	18	20	21	23	24	24	25	21	17	13	10	10	10	10
14	6	6	7	12	17	20	22	24	25	26	27	28	28	24	20	16	12	10	11	11
15	6	8	14	18	22	25	27	28	29	30	30	31	31	27	23	19	15	11	11	11
16	10	17	21	25	28	30	32	33	34	34	34	34	33	30	26	22	18	14	12	12
17	21	25	29	32	34	35	36	37	38	37	37	37	36	32	29	25	21	17	13	12
18	32	35	38	39	40	41	41	41	42	41	41	40	39	35	31	27	24	20	16	13
19	43	45	46	47	47	47	47	46	46	45	44	43	42	38	34	30	26	23	19	15
20	54	58	60	60	60	59	57	55	51	49	48	46	45	41	37	33	29	25	21	18
21	70	75	77	78	78	77	76	74	72	67	58	50	47	44	40	36	32	28	24	20
22	86	92	94	95	95	95	95	95	93	89	80	69	55	47	43	39	35	31	27	23
23	104	115	119	121	122	132	134	140	151	140	109	93	79	62	48	44	40	37	33	30
24	132	143	148	150	151	168	177	183	193	212	182	155	124	94	73	53	47	45	42	39
25	158	171	176	179	180	197	218	226	236	251	254	230	216	187	172	108	87	71	57	53
26	182	199	205	208	210	226	256	267	278	289	326	298	306	291	357	322	338	348	341	422
27	206	227	234	238	239	255	285	307	319	331	363	368	379	402	485	561	666	803	928	1021
28	231	254	262	267	268	284	314	339	355	374	399	439	457	531	674	798	889	1022	1049	1090
29	255	282	291	295	298	314	343	368	391	411	434	475	561	725	875	1000	1024	1069	1105	1146
30	279	309	319	324	327	343	372	397	417	442	469	545	726	906	1054	1172	1175	1116	1161	1203
31	303	333	347	353	356	372	402	426	446	467	511	678	859	1000	1109	1291	1398	1310	1221	1259
32	328	358	375	382	385	401	431	456	475	495	514	690	867	1000	1106	1225	1303	1251	1194	1219
33	352	382	403	411	415	430	460	485	500	500	500	630	718	826	965	1065	1137	1113	1110	1131
34	376	406	430	439	444	459	489	500	500	500	500	500	524	616	745	875	965	1011	1032	1053
35	402	430	456	468	473	488	500	500	500	500	500	500	500	500	556	699	930	1000	1000	1000
36	422	457	480	496	600	629	555	500	500	500	500	500	500	500	500	676	962	1000	1000	1000
37	439	480	636	1146	1776	2000	1773	1468	1327	1235	1116	986	954	964	972	971	993	1000	1000	100[illegible]
38	451	499	1061	1603	2096	2000	2000	2000	2000	2000	2000	2000	2000	2000	1886	1790	1664	1565	1472	13[illegible]
39	461	666	1214	1820	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2020	2005
40	466	745	1236	1759	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2020	2092	2127
41	485	763	1195	1653	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2020	2091	2163	2234
42	488	741	1107	1510	1912	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2020	2091	2163	2234	2305
43	487	713	1000	1422	1836	2000	2000	2000	2000	2000	2000	2000	2000	2000	2020	2091	2163	2234	2305	2376
44	487	677	937	1312	1716	2000	2000	2000	2000	2000	2000	2000	2000	2020	2091	2163	2234	2305	2376	2447
45	486	650	888	1205	1606	2000	2000	2000	2000	2000	2000	2000	2020	2091	2162	2234	2305	2376	2447	2519
46	486	626	845	1105	1502	1894	2000	2000	2000	2000	2000	2020	2091	2162	2234	2305	2376	2447	2519	2590
47	498	601	809	1008	1401	1787	2000	2000	2000	2000	2020	2091	2162	2234	2305	2376	2447	2518	2590	2661
48	500	581	773	960	1301	1682	2000	2000	2000	2020	2091	2162	2233	2305	2376	2447	2518	2590	2661	2732
49	500	562	745	920	1207	1588	1974	2000	2020	2091	2162	2233	2305	2376	2447	2518	2590	2661	2732	2803
50	500	543	718	886	1115	1503	1898	2020	2091	2162	2233	2305	2376	2447	2518	2590	2661	2732	2803	2874
51	500	524	691	853	1024	1421	1833	2053	2135	2217	2299	2376	2447	2518	2589	2661	2732	2803	2874	2946
52	500	506	665	822	974	1340	1768	2038	2119	2201	2283	2364	2446	2528	2609	2691	2772	2854	2936	3017
53	500	512	645	795	941	1255	1713	2092	2171	2250	2329	2408	2487	2566	2645	2724	2803	2882	2961	3040
54	500	530	621	752	883	1148	1638	2051	2240	2319	2398	2477	2555	2634	2713	2792	2871	2950	3029	3108
55	500	549	577	694	814	1128	1619	2023	2300	2387	2466	2545	2624	2703	2782	2860	2939	3023	3138	3254
56	506	568	602	740	878	1195	1630	2008	2267	2455	2534	2613	2692	2771	2879	2995	3111	3226	3342	3458
57	551	514	650	811	961	1279	1658	2005	2257	2510	2621	2736	2852	2968	3083	3199	3315	3430	3546	3661
58	527	607	747	896	1069	1393	1726	2030	2319	2612	2875	2991	3106	3222	3338	3453	3569	3685	3800	3916
59	666	796	923	1090	1332	1605	1894	2195	2483	2776	3069	3347	3463	3579	3694	3810	3926	4041	3972	3882
60	886	1022	1199	1394	1623	1875	2018	2350	2696	3014	3272	3551	3844	3986	4102	4191	4101	4011	3922	3832
61	1129	1317	1489	1674	1897	2018	2051	2161	2507	2853	3199	3545	3891	4214	4230	4141	4051	3961	3864	3745
62	1407	1595	1767	1952	2132	2169	2113	2111	2318	2664	2973	3281	3588	3896	4160	4091	4001	3894	3775	3656
63	1673	1858	2031	2202	2448	2368	2288	2222	2168	2408	2700	2991	3283	3577	3884	4041	3924	3805	3686	3567
64	1967	2713	3031	2942	2745	2547	2380	2314	2260	2207	2472	2764	3055	3347	3638	3753	3659	3562	3463	3362
65	3752	3655	3458	3261	3064	2866	2669	2505	2389	2336	2283	2445	2737	3028	3320	3288	3180	3090	2999	2905
66	3066	3304	3240	3178	3144	3109	3033	2869	2738	2606	2475	2377	2372	2664	2864	2756	2648	2541	2451	2363
67	2379	2888	2824	2760	2695	2631	2576	2548	2525	2502	2479	2456	2433	2410	2325	2205	2085	1943	1778	1672
68	2384	2456	2419	2351	2285	2218	2152	2098	2055	2009	1706	1311	990	934	890	861	848	874	912	908
69	2195	2170	2095	2024	1777	1413	1053	981	955	908	812	717	621	526	521	559	597	635	674	692
70	1774	1394	1062	956	904	855	808	775	757	765	773	765	683	605	532	502	502	501	500	486
71	870	802	746	693	641	594	550	515	476	427	378	332	287	284	264	239	217	198	182	166
72	517	416	323	231	143	59	1	5	8	11	13	15	31	95	94	94	94	93	93	92
73	97	95	94	92	32	34	38	42	45	47	85	85	84	84	83	82	82	81	80	80
74	70	70	70	70	70	70	70	71	71	72	72	71	70	70	69	68	68	67	66	66
75	33	34	35	36	36	37	38	39	39	40	41	41	42	42	43	44	44	45	45	46
76	19	19	19	19	18	17	16	16	15	16	17	17	18	18	19	20	20	21	21	21
77	8	8	8	8	8	8	7	7	6	6	6	6	6	6	6	6	6	6	6	6

TABLE E.2-13. INITIAL CHLORIDE CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
3	6	6	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7
4	6	6	6	6	7	7	7	8	8	8	9	9	9	10	10	10	10	10	10	11
5	7	7	8	8	9	9	9	10	10	11	11	11	12	12	12	12	13	13	13	13
6	7	8	8	9	10	11	11	11	12	12	12	13	13	14	14	14	14	14	14	14
7	8	8	9	10	10	11	12	12	13	13	14	14	14	15	15	15	15	15	15	16
8	8	9	9	10	11	12	12	13	14	14	14	15	15	15	16	16	16	16	16	16
9	9	9	10	11	11	12	13	14	14	15	15	16	16	16	17	17	17	17	17	17
10	9	10	10	11	12	12	13	14	15	16	16	16	17	17	18	18	18	18	18	18
11	10	10	11	11	12	13	14	14	15	16	17	17	18	18	18	19	19	19	19	18
12	10	10	11	12	13	13	14	15	16	16	17	18	19	19	19	20	20	20	19	19
13	11	11	12	12	13	14	15	15	16	17	18	18	19	20	20	21	21	21	20	19
14	11	11	12	13	14	14	15	16	17	17	18	19	20	20	21	21	22	21	21	20
15	12	12	12	13	14	15	15	16	17	18	19	19	20	21	22	22	22	22	21	21
16	12	12	13	14	14	15	16	17	17	18	19	20	21	21	22	22	23	22	22	21
17	12	13	13	14	15	16	16	17	18	19	19	20	21	21	21	21	21	22	22	21
18	13	13	14	15	15	16	17	18	18	19	20	20	19	19	19	19	20	20	21	21
19	13	14	14	15	16	16	17	18	19	18	18	18	18	17	17	18	18	19	19	20
20	14	14	15	15	16	17	18	17	17	17	16	16	16	15	16	16	17	17	18	18
21	17	14	15	16	16	16	16	15	15	15	14	14	15	14	16	16	17	17	17	18
22	19	15	15	16	17	18	19	20	21	22	23	24	23	22	22	22	22	23	23	23
23	27	18	25	25	26	27	28	29	30	31	31	31	19	29	27	28	28	28	29	29
24	29	26	36	36	35	36	37	38	39	39	38	29	14	36	34	33	34	34	34	35
25	49	40	48	48	48	47	46	47	46	45	40	23	22	42	41	39	39	40	40	39
26	503	499	494	487	460	393	299	173	93	80	62	50	46	49	48	45	45	45	43	40
27	1311	1199	1041	1024	1003	930	861	810	754	643	595	452	328	212	94	70	50	48	45	35
28	1158	1384	1184	1159	1132	1107	1085	1068	1071	1076	1102	946	780	616	482	176	87	50	43	22
29	1215	1284	1304	1289	1262	1234	1211	1217	1239	1260	1276	1171	999	803	660	507	249	79	30	13
30	1271	1328	1371	1358	1345	1332	1351	1374	1398	1422	1439	1247	1026	917	756	601	448	196	60	12
31	1315	1371	1428	1424	1429	1456	1482	1506	1530	1511	1448	1318	1102	981	820	685	529	353	149	36
32	1289	1358	1428	1481	1544	1586	1613	1638	1583	1520	1457	1389	1187	1020	890	738	564	434	259	106
33	1194	1263	1306	1340	1404	1467	1530	1556	1517	1479	1440	1401	1264	1079	915	734	622	520	366	213
34	1099	1149	1177	1202	1263	1326	1372	1411	1373	1334	1295	1286	1259	1079	905	780	675	572	438	266
35	1000	1022	1047	1072	1122	1170	1214	1267	1228	1189	1202	1178	1155	1075	843	749	660	608	545	450
36	1000	1000	1000	1000	1000	1010	1058	1122	1090	1117	1094	1071	1047	1024	859	807	756	705	636	584
37	1000	1000	1000	1000	1000	1000	1000	1000	1033	1010	1000	1000	1000	1027	960	903	852	793	747	694
38	1247	1139	1025	1000	1000	1000	1000	1000	1030	1084	1138	1191	1245	1207	1097	999	949	902	860	818
39	1922	1803	1684	1560	1406	1223	1059	1171	1301	1356	1409	1463	1459	1358	1265	1177	1108	1030	978	947
40	2105	2083	2062	2041	2019	1984	1839	1755	1692	1627	1681	1703	1618	1527	1438	1377	1324	1263	1205	1152
41	2224	2202	2181	2159	2138	2116	2093	2067	2037	2001	1939	1867	1785	1701	1620	1576	1552	1501	1452	1405
42	2343	2321	2300	2278	2257	2235	2212	2186	2154	2116	2072	2025	1960	1879	1811	1792	1773	1748	1704	1660
43	2448	2440	2419	2397	2376	2354	2331	2304	2271	2231	2185	2136	2086	2040	2061	2047	2060	1998	1957	1916
44	2519	2560	2538	2516	2495	2473	2450	2422	2387	2344	2297	2247	2198	2176	2530	2884	3238	3335	2999	2648
45	2590	2661	2657	2635	2614	2592	2569	2540	2502	2457	2408	2358	2318	2645	2999	3353	3543	3491	3240	2918
46	2661	2732	2776	2754	2732	2711	2687	2657	2616	2569	2519	2477	2760	3114	3468	3518	3466	3414	3321	2998
47	2732	2803	2875	2873	2851	2830	2806	2773	2729	2680	2635	2875	3229	3545	3493	3441	3389	3337	3276	3079
48	2803	2875	2946	2992	2970	2949	2924	2888	2841	2793	2990	3344	3520	3468	3416	3364	3312	3260	3204	3132
49	2875	2946	3017	3088	3089	3068	3042	3002	2952	3105	3459	3495	3443	3391	3339	3287	3235	3183	3130	3061
50	2946	3017	3088	3159	3208	3186	3159	3113	3220	3523	3470	3418	3366	3314	3262	3210	3158	3105	3053	2989
51	3017	3088	3159	3231	3302	3305	3274	3335	3498	3445	3393	3341	3289	3237	3185	3133	3080	3028	2976	2916
52	3088	3159	3231	3302	3373	3424	3450	3473	3421	3368	3316	3264	3212	3160	3108	3056	3003	2951	2899	2844
53	3119	3198	3277	3356	3434	3519	3448	3396	3343	3291	3239	3187	3135	3083	3031	2978	2926	2874	2822	2770
54	3187	3282	3397	3513	3584	3475	3382	3322	3266	3214	3162	3110	3058	3006	2954	2901	2849	2797	2745	2693
55	3370	3485	3601	3648	3549	3430	3319	3259	3200	3140	3085	3033	2981	2929	2876	2824	2772	2720	2668	2616
56	3573	3689	3713	3623	3505	3386	3267	3196	3137	3077	3017	2958	2904	2851	2799	2747	2695	2643	2591	2539
57	3777	3778	3688	3580	3461	3342	3223	3133	3074	3014	2954	2895	2835	2775	2722	2670	2618	2566	2514	2462
58	3836	3747	3643	3524	3405	3286	3167	3054	2995	2935	2875	2816	2756	2697	2637	2577	2522	2469	2417	2365
59	3792	3684	3565	3446	3327	3208	3089	2970	2884	2825	2765	2705	2646	2586	2527	2467	2407	2348	2288	2230
60	3714	3596	3477	3358	3239	3120	3001	2882	2763	2699	2639	2580	2520	2460	2400	2341	2281	2222	2162	2102
61	3626	3507	3388	3269	3150	3031	2912	2793	2674	2572	2513	2454	2394	2334	2274	2215	2155	2095	2036	1938
62	3537	3418	3299	3180	3061	2942	2823	2704	2585	2466	2387	2328	2268	2208	2149	2089	2029	1931	1784	1619
63	3448	3329	3210	3091	2972	2853	2734	2615	2496	2377	2260	2201	2142	2082	2023	1928	1802	1680	1545	1393
64	3252	3145	3039	2932	2826	2719	2612	2504	2385	2266	2147	2043	1977	1888	1799	1688	1590	1472	1342	1200
65	2808	2709	2610	2510	2411	2310	2210	2102	2000	1982	1965	1901	1785	1670	1573	1495	1414	1317	1210	1094
66	2272	2179	2084	1988	1910	1843	1785	1746	1744	1791	1837	1877	1861	1844	1772	1656	1541	1426	1310	1195
67	1576	1523	1482	1452	1425	1403	1399	1386	1375	1403	1449	1496	1542	1589	1635	1682	1722	1643	1479	1234
68	907	909	912	919	927	937	952	968	991	1019	1061	1095	1122	1126	1097	1030	967	906	824	720
69	682	674	667	662	654	647	639	634	628	625	606	597	579	555	528	498	484	463	449	457
70	465	446	431	416	404	393	383	375	368	361	354	350	346	341	332	319	299	307	316	324
71	154	144	134	128	121	117	114	111	110	110	110	111	113	114	115	124	132	140	149	157
72	92	91	91	91	91	90	90	90	90	90	90	91	88	86	84	81	80	78	76	77
73	79	78	78	78	78	78	78	78	78	77	74	72	70	67	65	63	60	58	56	54
74	65	65	64	64	64	64	63	60	58	56	53	51	49	46	44	42	39	37	35	32
75	46	47	48	47	45	43	41	38	36	33	31	29	26	24	22	19	17	14	12	10
76	19	17	16	14	12	10	8	7	6	6	6	6	6	6	6	6	6	6	6	6
77	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

TABLE E.2-13. INITIAL CHLORIDE CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	[illegible]
3	7	7	8	8	7	7	7	7	7	7	7	7	10	10	10	10	10	10	10	[illegible]
4	11	11	10	10	9	9	8	8	8	8	8	8	8	11	14	15	15	15	15	15
5	13	13	12	11	11	10	10	9	9	8	8	8	8	10	13	16	19	19	19	19
6	14	14	13	13	12	11	11	10	10	9	9	9	9	9	12	15	18	21	21	21
7	15	14	14	13	13	12	12	11	10	10	9	9	9	9	11	14	17	20	23	23
8	16	15	15	14	13	13	12	12	11	11	10	9	9	9	11	14	17	20	23	25
9	16	16	15	15	14	13	13	12	12	11	11	10	10	10	10	13	16	19	22	25
10	17	16	16	15	15	14	14	13	12	12	11	11	10	10	10	13	16	19	22	25
11	18	17	16	16	15	15	14	14	13	12	12	11	11	10	10	12	15	18	21	23
12	18	18	17	17	16	15	15	14	14	13	13	12	11	11	10	12	15	18	19	22
13	19	18	18	17	17	16	15	15	14	14	13	13	12	11	11	11	14	16	17	21
14	19	19	18	18	17	17	16	16	15	14	14	13	13	12	12	11	12	13	16	20
15	20	20	19	18	18	17	17	16	15	15	14	14	13	12	13	15	14	12	15	19
16	20	20	19	19	18	17	17	16	16	15	14	14	13	16	18	19	18	15	14	18
17	21	20	19	19	18	17	17	16	16	15	14	16	18	21	23	23	23	17	13	17
18	21	20	19	19	18	18	17	16	16	17	19	21	24	26	28	27	26	20	12	15
19	20	20	20	19	18	18	17	17	19	22	24	27	29	32	32	31	30	23	13	14
20	19	19	20	19	19	18	20	22	25	27	30	32	35	37	36	36	34	25	16	13
21	18	18	19	19	20	23	25	28	30	33	35	37	40	41	40	40	38	28	18	12
22	24	24	24	18	19	27	30	33	36	38	40	43	45	46	45	43	40	31	21	11
23	29	29	23	17	16	23	32	36	40	43	46	48	50	50	49	47	43	33	24	14
24	34	31	16	16	15	18	27	35	42	46	49	95	142	121	95	68	46	37	28	19
25	36	18	15	15	14	13	22	30	39	47	68	150	157	100	100	115	109	79	49	40
26	27	15	14	13	13	12	17	25	34	43	65	122	114	100	103	156	177	148	117	83
27	14	14	13	12	12	11	12	20	29	38	48	90	100	100	145	198	244	215	181	114
28	13	12	12	11	10	10	9	15	24	34	43	58	100	134	187	240	293	270	203	136
29	12	11	11	10	9	8	8	10	19	29	37	45	66	113	166	217	245	230	193	139
30	11	10	9	9	8	7	7	6	14	23	31	38	45	66	112	132	128	112	100	83
31	32	27	22	18	13	8	5	5	9	16	23	30	37	44	50	73	86	72	61	50
32	47	42	37	32	26	21	16	10	10	9	15	21	28	35	40	44	49	50	50	50
33	66	48	42	38	33	29	22	12	19	18	17	15	20	26	31	39	47	50	50	50
34	143	50	50	46	42	34	20	19	27	28	26	25	23	21	30	38	47	50	50	50
35	319	147	86	86	49	35	20	26	34	37	36	34	33	21	29	37	47	50	50	49
36	531	397	285	228	172	44	36	38	41	46	45	44	40	27	28	37	46	50	50	48
37	658	584	460	397	241	47	50	62	69	74	74	57	47	33	28	37	46	50	50	4[illegible]
38	789	708	632	554	477	319	275	252	202	162	112	91	64	39	27	36	46	50	50	4[illegible]
39	923	862	828	777	737	682	601	496	424	346	283	208	108	58	26	36	46	50	50	46
40	1109	1070	1041	1016	990	950	887	800	572	511	451	321	208	134	75	45	46	50	50	46
41	1358	1312	1268	1232	1197	1156	1059	1000	955	808	681	516	385	260	183	133	76	62	49	45
42	1601	1543	1490	1442	1394	1337	1246	1157	1115	1057	905	715	538	395	319	268	161	85	55	45
43	1839	1768	1707	1654	1588	1518	1432	1362	1308	1187	1055	879	694	511	403	307	204	100	70	48
44	2297	1989	1917	1845	1766	1699	1619	1559	1433	1292	1148	1001	806	612	455	350	240	126	79	55
45	2596	2274	2000	2000	1947	1880	1811	1675	1542	1410	1270	1089	895	694	496	377	259	133	84	63
46	2676	2354	2032	2000	2063	2107	1943	1815	1683	1539	1354	1170	973	767	556	410	295	182	91	71
47	2757	2435	2113	2000	2013	2323	2484	1956	1806	1633	1450	1255	1049	835	626	462	349	236	123	79
48	2837	2515	2193	2000	2000	2273	2583	2424	1925	1747	1563	1340	1119	910	715	521	403	290	177	76
49	2918	2596	2274	2000	2000	2222	2533	2430	2005	1874	1668	1435	1058	928	804	610	416	344	231	118
50	2917	2676	2354	2032	2000	2172	2482	2437	2011	2000	1712	1335	990	905	820	699	505	343	285	173
51	2846	2757	2435	2113	2000	2121	2432	2364	2018	2000	1612	1234	968	883	797	715	593	399	293	227
52	2774	2702	2515	2193	2000	2071	2374	2285	2024	1908	1511	1134	945	860	775	690	616	488	294	242
53	2701	2631	2558	2274	2000	2020	2295	2205	2030	1813	1411	1034	922	837	752	667	582	516	383	216
54	2629	2559	2487	2354	2032	2000	2215	2125	2032	1718	1311	985	900	815	730	644	559	474	417	277
55	2557	2487	2415	2343	2113	2000	2135	2046	1882	1623	1210	962	877	792	707	622	537	451	366	317
56	2485	2414	2344	2272	2193	2000	2056	1917	1686	1449	1110	940	855	769	684	599	514	429	344	266
57	2409	2342	2272	2200	2128	2000	1941	1722	1498	1257	1010	917	832	747	662	576	491	406	321	236
58	2313	2252	2181	2111	2039	1908	1701	1487	1264	1032	925	841	761	682	607	532	456	378	293	208
59	2178	2125	2055	1986	1784	1585	1384	1174	984	900	812	726	641	562	482	403	324	245	168	92
60	2043	1985	1848	1648	1445	1242	1040	940	864	781	701	612	522	434	350	267	184	101	18	6
61	1774	1609	1443	1292	1095	966	899	830	755	678	597	514	426	339	253	168	83	6	6	6
62	1458	1294	1109	999	948	875	802	730	656	583	506	416	327	239	152	65	6	6	6	6
63	1223	1052	953	887	826	774	718	645	571	497	405	314	224	135	47	6	6	6	6	6
64	1040	943	868	801	735	668	602	537	463	378	294	209	125	42	6	6	6	6	6	6
65	978	888	797	712	628	547	498	448	399	349	300	248	187	126	64	6	6	6	6	6
66	1034	900	760	663	546	476	435	395	355	315	275	235	195	154	114	74	34	6	6	6
67	985	810	639	495	463	431	399	367	335	304	272	241	209	177	146	114	83	51	20	6
68	597	494	473	450	427	403	380	355	328	304	278	251	226	199	171	145	117	89	61	33
69	461	450	439	426	407	384	361	338	314	291	268	245	221	198	175	152	128	103	79	54
70	332	341	349	357	365	354	342	326	302	279	256	233	209	186	163	140	116	93	70	46
71	165	174	182	191	199	207	216	224	233	241	234	218	194	171	148	125	101	78	61	50
72	78	80	82	83	85	86	88	90	91	93	95	96	98	99	101	100	89	79	69	58
73	52	50	48	46	44	43	45	47	48	50	51	53	55	56	53	46	36	26	15	6
74	30	28	25	24	22	20	18	16	14	12	10	8	6	6	6	6	6	6	6	6
75	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
76	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
77	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

TABLE E.2-13. INITIAL CHLORIDE CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
3	9	8	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
4	14	14	13	12	11	10	9	8	7	6	6	6	6	6	6	6	6	6	6	6
5	18	17	17	16	15	14	13	12	11	10	10	8	7	6	6	6	6	6	6	6
6	21	20	19	18	17	17	16	15	13	12	11	10	8	7	6	5	5	5	5	5
7	23	22	21	20	19	18	17	16	14	13	12	11	9	8	7	5	5	5	5	5
8	24	24	23	22	20	19	18	16	15	14	13	11	10	9	7	6	5	4	4	4
9	26	25	24	22	21	20	19	17	16	15	13	12	11	10	8	7	6	4	4	4
10	27	26	24	23	22	21	19	18	17	15	14	13	12	10	9	8	6	5	4	4
11	25	25	24	23	22	21	20	19	17	16	15	14	12	11	10	8	7	6	5	3
12	24	25	24	23	22	21	20	19	18	17	16	14	13	12	11	9	8	7	5	4
13	23	24	23	22	22	21	20	19	18	17	16	15	14	13	11	10	9	7	6	5
14	22	23	23	22	21	20	19	18	17	17	16	15	14	13	12	11	9	8	7	6
15	21	22	22	22	21	20	19	18	17	16	15	14	13	12	12	11	10	9	8	6
16	20	20	21	21	20	19	18	17	17	16	15	14	13	12	11	10	9	8	8	7
17	19	19	20	20	20	19	18	17	16	15	14	13	13	12	11	10	9	8	7	6
18	18	18	19	19	19	18	18	17	16	15	14	13	12	11	10	9	8	8	7	6
19	17	17	18	18	19	18	17	16	15	14	13	13	12	11	10	9	8	7	6	5
20	15	16	16	17	17	18	17	16	15	14	13	12	11	10	9	8	8	7	6	5
21	14	15	15	16	16	17	16	15	14	13	13	12	11	10	9	8	7	6	5	4
22	13	14	14	15	15	16	16	15	14	13	12	11	10	9	8	8	7	6	5	5
23	12	13	13	14	14	15	15	14	13	13	12	11	10	9	8	7	6	5	5	5
24	11	12	12	13	13	14	14	14	13	12	11	10	9	9	8	7	6	6	6	6
25	26	17	11	11	12	12	13	13	13	12	11	10	9	8	7	7	7	7	7	7
26	47	34	24	15	11	11	12	12	12	11	10	9	9	8	8	8	8	7	7	7
27	100	48	41	32	23	13	11	11	12	11	10	9	8	8	8	8	8	8	8	8
28	100	48	43	39	34	29	21	11	11	10	9	9	9	9	9	9	9	9	9	8
29	80	47	43	38	33	29	24	19	14	10	10	10	10	10	10	10	10	10	9	9
30	49	45	40	35	31	27	22	18	13	10	10	10	10	10	10	10	10	10	9	9
31	48	44	39	35	30	26	21	17	13	10	9	9	9	9	9	9	9	9	9	8
32	47	43	38	34	30	25	21	16	12	10	9	9	9	9	9	9	9	9	9	8
33	46	42	38	33	29	24	20	16	11	10	9	9	9	9	9	9	9	9	8	8
34	45	41	37	32	28	24	19	15	10	10	9	9	8	8	8	8	8	8	8	8
35	45	40	36	32	27	23	18	14	10	10	9	9	8	8	8	8	8	8	8	7
36	44	39	35	31	27	22	18	13	10	10	9	9	8	8	8	7	7	8	7	7
37	43	39	34	30	26	21	17	13	10	10	9	9	8	8	8	7	7	7	7	7
38	43	38	34	29	25	21	16	12	10	10	9	9	8	8	7	7	7	7	7	6
39	42	37	33	29	24	20	16	11	10	10	9	9	8	8	7	7	7	6	6	6
40	41	37	32	28	23	19	15	11	10	10	9	9	8	8	7	7	7	6	6	6
41	40	36	32	27	23	18	14	11	10	10	9	9	8	8	7	7	6	6	6	6
42	40	35	31	26	22	18	13	11	10	10	9	9	8	8	7	7	6	6	6	6
43	43	37	31	26	21	17	13	11	10	10	9	9	8	8	7	7	6	6	6	6
44	46	40	34	28	22	16	12	11	10	10	9	8	8	7	7	6	6	6	6	6
45	45	40	34	29	23	17	12	10	10	9	9	8	8	7	6	6	6	6	6	6
46	50	40	34	28	23	17	11	10	9	9	8	8	7	7	6	6	6	6	6	6
47	58	38	34	28	22	17	11	9	9	8	8	7	7	6	6	6	6	6	6	6
48	66	45	33	28	22	16	11	9	8	8	7	7	6	6	6	6	6	6	6	6
49	65	53	32	27	22	16	10	8	8	7	7	6	6	6	6	6	6	6	6	6
50	60	55	40	25	21	16	10	8	7	7	6	6	6	6	6	6	6	6	6	6
51	114	49	44	26	20	15	10	7	7	6	6	6	6	6	6	6	6	6	6	6
52	168	55	39	34	17	15	10	7	6	6	6	6	6	6	6	6	6	6	6	6
53	191	109	34	29	21	12	9	6	6	6	6	6	6	6	6	6	6	6	6	6
54	165	141	50	23	18	10	7	6	6	6	6	6	6	6	6	6	6	6	6	6
55	172	115	90	18	13	8	6	6	6	6	6	6	6	6	6	6	6	6	6	6
56	217	89	64	39	8	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
57	166	118	38	13	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
58	123	54	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
59	17	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
60	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
61	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
62	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
63	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
64	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
65	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
66	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
67	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
68	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
69	28	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
70	26	14	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
71	39	27	16	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
72	48	36	24	12	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
73	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
74	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
75	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
76	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
77	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

TABLE E.2-13. INITIAL CHLORIDE CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
1	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
2	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
3	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
4	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
6	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6
7	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6
8	4	4	4	4	4	4	4	5	5	5	5	6	6	6	6	6	6
9	4	4	4	4	4	4	4	4	5	5	5	6	6	6	6	6	6
10	4	4	4	4	4	4	4	4	4	4	5	5	6	6	6	6	6
11	3	3	3	3	3	3	3	4	4	4	5	5	6	6	6	6	6
12	3	3	3	3	3	3	3	3	4	4	4	5	6	6	6	6	6
13	4	2	2	2	3	3	3	3	3	4	4	5	6	6	6	6	6
14	4	3	2	2	2	2	2	3	3	3	4	5	6	6	6	6	6
15	5	4	2	2	2	2	2	2	3	3	4	5	6	6	6	6	6
16	6	5	3	2	1	2	2	2	3	3	4	5	6	6	6	6	6
17	5	4	3	3	1	1	2	2	3	3	4	5	6	6	6	6	6
18	5	4	3	2	2	1	2	3	3	4	4	5	6	6	6	6	6
19	4	3	3	2	2	2	2	3	3	4	5	5	6	6	6	6	6
20	4	3	3	3	3	2	3	3	4	4	5	6	6	6	6	6	6
21	4	4	4	3	3	3	3	4	4	5	5	6	6	6	6	6	6
22	5	4	4	4	4	3	3	4	4	5	6	6	6	6	6	6	6
23	5	5	5	5	4	4	4	4	5	5	6	6	6	6	6	6	6
24	6	6	5	5	5	4	4	5	5	6	6	6	6	6	6	6	6
25	6	6	6	6	5	5	5	5	6	6	6	6	6	6	6	6	6
26	7	7	6	6	6	6	5	5	6	6	6	6	6	6	6	6	6
27	8	7	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6
28	8	8	8	7	7	7	6	6	6	6	6	6	6	6	6	6	6
29	9	8	8	7	7	7	6	6	6	6	6	6	6	6	6	6	6
30	8	8	8	7	7	6	6	6	6	6	6	6	6	6	6	6	6
31	8	8	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6
32	8	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6
33	7	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6
34	7	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
35	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
36	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
37	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
38	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
39	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
40	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
41	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
42	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
43	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
44	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
45	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
46	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
47	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
48	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
49	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
50	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
51	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
52	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
53	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
54	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
55	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
56	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
57	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
58	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
59	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
60	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
61	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
62	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
63	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
64	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
65	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
66	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
67	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
68	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
69	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
70	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
71	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
72	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
73	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
74	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
75	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
76	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
77	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6

TABLE E.2-14. INITIAL TDS CONCENTRATION IN THE TAILINGS (mg/l).

Row	Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15000	15000	15000
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000
38	0	0	0	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000
39	0	0	0	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000
40	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
41	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
42	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
43	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
44	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
45	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
46	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
47	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
48	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
49	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
50	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
51	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
52	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
53	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
54	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
55	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
56	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
57	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
58	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0
59	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	15000
60	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	0	0	15000	15000	15000	15000	15000
61	0	0	0	0	0	15000	15000	15000	15000	15000	15000	0	0	15000	15000	15000	15000	15000	15000	15000
62	0	0	0	0	0	15000	15000	15000	15000	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000
63	0	0	0	0	0	15000	15000	15000	15000	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000
64	0	0	0	0	0	15000	15000	15000	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000
65	0	0	0	0	0	15000	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
66	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
67	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
68	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15000	15000	15000
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-14. INITIAL TDS CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0
37	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	150[illegible]
38	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	150[illegible]
39	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
40	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
41	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
42	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
43	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
44	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
45	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
46	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
47	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
48	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
49	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
50	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
51	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
52	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
53	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
54	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
55	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
56	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
57	0	0	0	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
58	0	0	0	15000	15000	15000	0	0	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000
59	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000
60	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	15000	15000	15000	15000	15000
61	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	0	15000	15000
62	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0
63	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0
64	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
65	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
66	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
67	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
68	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
69	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
70	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0
71	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-14. INITIAL TDS CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0
39	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0
40	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0
41	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0
42	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0
43	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0
44	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0
45	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
46	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
47	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
48	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
49	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
50	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
51	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
52	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
53	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
54	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
55	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
56	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
57	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
58	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
59	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
60	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
61	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
62	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
63	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
64	15000	15000	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
65	15000	15000	15000	15000	15000	15000	0	0	0	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
66	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	15000	15000	15000	15000	15000	15000
67	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0
68	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0
69	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-14. INITIAL TDS CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0
62	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0
63	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0
64	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0
65	15000	15000	15000	15000	15000	15000	15000	0	0	0	0	0	0	0	0	0	0	0	0	0
66	15000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-14. INITIAL TDS CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-14. INITIAL TDS CONCENTRATION IN THE TAILINGS (mg/l) (continued).

Row	Column 101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
54	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE E.2-15. INITIAL TDS CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l).

Row	Column 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
2	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
3	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
4	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	368	359	351	350	350
5	350	350	350	350	350	350	350	350	350	350	350	350	387	433	471	487	478	470	450	403
6	350	350	350	350	350	350	350	350	350	350	359	437	491	532	563	570	562	553	507	442
7	350	350	350	350	350	350	350	350	350	350	418	505	565	603	628	629	621	594	537	469
8	350	350	350	350	350	350	350	350	350	368	465	560	624	660	680	677	669	625	559	492
9	350	350	350	350	350	350	350	350	350	419	512	610	684	716	733	724	704	649	581	514
10	350	350	350	350	350	350	350	350	350	477	560	657	743	773	780	772	735	671	604	536
11	350	350	350	350	350	350	350	350	393	531	619	704	798	830	828	816	761	693	626	555
12	350	350	350	350	350	350	350	350	447	585	679	759	849	888	876	847	783	716	643	564
13	350	350	350	350	350	350	350	350	500	638	739	819	899	946	923	873	805	731	653	573
14	350	350	350	350	350	350	350	388	554	692	799	879	959	1035	959	895	823	743	662	580
15	350	350	350	350	350	350	350	435	603	746	856	939	1197	1553	985	912	834	753	670	587
16	350	350	350	350	350	350	350	478	632	792	910	999	1812	2033	1069	925	843	760	677	594
17	350	350	350	350	350	350	357	512	671	805	933	1512	2426	2350	1205	931	847	764	682	600
18	350	350	350	350	350	350	391	540	688	822	933	1394	2313	2197	1066	929	847	765	684	602
19	350	350	350	350	350	350	419	562	706	826	921	1160	1917	1843	1000	922	840	758	675	592
20	350	350	350	350	350	350	416	554	692	807	899	988	1459	1387	976	911	828	745	662	579
21	350	350	350	350	350	350	394	532	670	785	877	960	995	986	924	898	815	732	649	566
22	350	350	350	350	350	351	378	510	648	763	855	927	911	911	872	885	802	719	636	553
23	350	350	350	350	350	356	384	488	626	741	834	872	818	836	820	871	788	705	622	539
24	350	350	350	350	350	361	389	466	604	719	812	816	761	761	768	827	775	692	609	526
25	350	350	350	350	350	367	395	444	582	698	787	761	706	686	716	775	762	679	596	561
26	350	350	350	350	350	370	400	424	561	676	758	705	650	609	664	723	749	666	583	638
27	350	350	350	350	350	368	405	429	539	654	705	650	595	552	612	671	730	653	606	714
28	350	350	350	350	349	366	409	435	517	632	650	595	539	578	587	619	678	640	682	790
29	350	350	350	350	347	365	407	440	495	610	594	539	561	604	617	624	630	650	758	854
30	350	350	350	350	345	363	406	442	473	587	539	543	586	628	647	654	660	680	768	857
31	350	350	350	350	343	361	404	441	475	539	525	568	611	653	677	684	690	708	777	866
32	350	350	350	350	341	359	402	439	476	507	550	593	635	678	707	714	720	740	787	875
33	350	350	350	350	340	370	416	455	495	532	575	618	660	703	737	744	750	772	802	885
34	350	350	350	350	339	399	445	485	524	562	600	642	685	728	763	774	780	804	833	894
35	350	350	350	350	348	429	475	514	553	592	625	667	710	753	789	804	810	836	866	904
36	350	350	350	350	373	456	504	543	583	621	656	692	735	778	816	834	840	869	898	928
37	350	350	350	350	397	481	533	573	612	651	686	718	760	802	842	864	871	901	930	958
38	350	350	350	350	421	505	563	602	641	680	717	749	785	827	868	894	904	933	963	990
39	350	350	350	350	445	529	592	631	671	710	747	780	812	852	894	922	936	965	995	1487
40	350	350	350	367	469	554	621	661	700	740	777	811	843	877	920	948	968	997	1341	1857
41	350	350	350	378	494	578	649	690	729	769	806	841	873	906	945	974	1001	1261	1624	2023
42	350	350	350	390	518	602	674	719	759	799	836	872	904	936	969	1001	1054	1447	1738	2112
43	350	350	350	400	539	626	700	749	788	828	865	902	935	967	999	1044	1089	1379	1772	2172
44	350	350	350	404	555	650	724	778	817	858	895	932	966	998	1036	1088	1133	1310	1703	2096
45	350	350	350	409	566	674	748	806	847	887	924	961	996	1014	1074	1130	1177	1241	1635	2028
46	350	350	350	413	589	695	772	832	876	917	954	991	1017	1039	1112	1169	1220	1266	1566	1959
47	350	350	350	417	597	716	797	858	906	946	983	1018	1044	1065	1141	1207	1263	1309	1498	1891
48	350	350	350	422	601	731	821	883	935	976	1011	1043	1071	1092	1166	1242	1301	1353	1429	1822
49	350	350	350	426	605	755	843	908	963	1005	1037	1069	1097	1119	1192	1268	1340	1396	1442	1754
50	350	350	350	431	610	769	862	932	989	1030	1062	1095	1124	1146	1218	1293	1369	1434	1485	1685
51	350	350	350	435	614	774	886	957	1077	1056	1088	1120	1151	1173	1243	1319	1395	1470	1529	1617
52	350	350	350	456	620	778	910	981	1206	1179	1114	1146	1178	1200	1269	1345	1420	1496	1567	1618
53	350	350	350	465	647	787	922	1027	1336	1323	1139	1171	1203	1227	1295	1370	1446	1522	1597	1662
54	350	350	350	458	670	814	937	1157	1473	1467	1182	1197	1229	1254	1320	1396	1472	1547	1623	1699
55	350	350	350	465	687	840	964	1292	1604	1612	1327	1223	1255	1281	1346	1422	1497	1573	1649	1724
56	350	350	350	476	680	863	991	1421	1748	1756	1471	1248	1280	1307	1372	1447	1523	1599	1674	1750
57	350	350	350	486	672	883	1076	1556	1881	1900	1615	1330	1306	1334	1397	1473	1549	1624	1700	1776
58	350	350	350	500	663	874	1233	1721	2061	2080	1795	1510	1338	1368	1429	1505	1581	1656	1732	1896
59	350	350	350	519	663	877	1445	1960	2299	2332	2047	1762	1477	1415	1474	1550	1626	1779	2027	2274
60	350	350	372	573	719	1005	1726	2263	2613	2620	2335	2050	1765	1480	1526	1717	1965	2212	2459	2702
61	350	350	409	681	831	1282	2022	2592	2959	2908	2634	2402	2162	1958	1959	2167	2406	2646	2892	3308
62	350	350	450	734	938	1537	2305	2928	3683	3430	3212	3005	2817	2698	2659	2749	2929	3258	3782	4401
63	350	350	494	788	1005	1781	2530	3461	3931	3451	3068	3155	3359	3346	3363	3487	3741	4131	4718	5380
64	350	350	558	866	1299	2009	2724	3639	3392	3000	3255	3539	3823	3952	4030	4291	4628	5116	5730	6705
65	350	350	653	987	1595	2196	2796	3214	3153	3508	3792	4077	4361	4632	4874	5187	5632	6431	7659	8655
66	350	350	787	1258	1769	2279	2738	3231	3767	4123	4407	4691	4975	5260	5578	5972	7246	8000	8000	8240
67	350	350	883	1436	1917	2343	2710	3046	3706	4232	4632	5036	5416	5777	6470	7851	8000	8000	8000	8000
68	350	350	930	1474	1916	2298	2630	2911	3579	4261	4782	5302	5795	6742	8000	8000	8000	8000	8000	8000
69	350	350	943	1463	1905	2297	2640	2870	3281	4256	5029	5763	6798	8000	8000	8000	8000	8000	7293	6745
70	350	350	977	1673	2115	2419	2616	2783	2949	4024	5313	6556	7684	8000	8000	8000	7935	6947	6037	5666
71	350	350	1131	1954	2231	2477	2692	2877	3062	3141	4761	6709	7948	8000	8000	7164	6198	5606	5178	4747
72	350	350	505	3750	4813	5060	5275	5001	4399	3939	3461	2933	2991	3287	3350	3329	3256	3135	3009	2892
73	350	350	350	2248	8048	6876	5800	4878	3955	3187	2572	2424	2097	1843	1712	1603	1460	1256	1014	984
74	350	350	350	350	350	530	902	1316	1566	1409	1247	989	955	920	884	847	809	770	734	734
75	350	350	350	350	350	350	389	522	629	679	686	656	627	597	568	538	509	479	450	419
76	350	350	350	350	350	350	350	350	350	377	354	356	359	361	364	366	368	371	372	374
77	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	353	354	355	356	357

TABLE E.2-15. INITIAL TDS CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
2	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
3	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
4	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
5	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
6	374	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
7	402	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
8	424	365	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	349
9	446	387	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	349	349	349
10	467	397	350	350	350	350	350	350	350	350	350	350	350	350	350	350	349	349	348	348
11	475	404	350	350	350	350	350	350	350	350	350	350	350	350	349	349	349	348	348	347
12	482	411	350	350	350	350	350	350	350	350	350	350	349	349	349	348	348	348	347	347
13	490	418	356	350	350	350	350	350	350	353	363	357	349	348	348	348	347	347	347	346
14	498	425	363	350	350	350	350	350	360	370	380	369	356	348	347	347	347	346	346	346
15	504	432	370	350	350	350	354	366	377	387	394	382	369	356	347	347	346	346	345	345
16	511	439	377	350	350	355	371	383	394	404	407	394	381	368	356	346	346	345	345	344
17	517	445	383	350	357	372	388	400	411	421	419	406	394	381	368	355	345	345	344	344
18	520	449	387	359	374	389	405	417	428	438	431	419	406	393	381	368	355	344	344	343
19	509	436	388	417	391	406	422	434	445	455	444	431	418	406	393	380	368	355	343	343
20	496	423	465	484	450	423	439	451	462	469	456	444	431	418	405	393	380	367	354	342
21	483	460	541	550	517	484	456	468	479	481	469	456	443	431	418	405	392	380	367	354
22	470	536	612	613	585	551	518	490	496	494	481	468	456	443	430	417	405	392	379	367
23	517	612	677	677	652	618	585	557	535	542	536	531	525	519	513	507	501	496	490	484
24	594	688	741	740	719	685	652	624	620	621	643	671	674	668	662	656	651	645	639	633
25	670	765	805	803	786	753	719	710	707	707	715	741	767	795	811	806	800	794	788	827
26	746	841	868	867	853	820	802	797	795	794	796	812	838	863	891	919	947	943	982	1959
27	822	917	932	930	920	894	889	885	882	881	882	889	909	936	960	987	1587	3010	3133	3732
28	899	987	995	993	987	981	976	972	970	968	969	972	983	1097	1612	2302	3155	3269	3403	3673
29	941	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1233	1521	1832	2464	3223	3648	3517	3671	3918
30	945	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1310	1925	2346	2936	3674	4140	3970	3935	4164
31	955	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1386	2002	2617	3270	4051	4632	4462	4292	4405
32	964	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1462	2078	2649	3301	3887	4167	4093	4019	4184
33	973	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1538	1893	2362	2886	3246	3489	3483	3608	3735
34	983	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1022	1307	1592	1983	2416	2921	3043	3196	3322
35	992	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1103	2055	3000	3000	3000	3000
36	1000	1000	1008	1575	2158	2675	2962	2742	2553	2311	1918	1548	1067	1154	1700	2350	3000	3000	3000	3000
37	1000	2299	4413	7659	8603	8000	7493	8000	8000	8000	8000	7230	6203	5563	4410	3651	3022	3000	3000	300
38	2186	5768	6826	8000	9401	8000	2120	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	800
39	2747	5666	6995	7872	8715	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
40	2722	5021	6542	7362	8029	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000
41	2654	4344	6134	6925	7586	7499	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8020
42	2586	3640	5524	6542	7192	7770	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8013	8043
43	2541	2980	4735	6189	6815	7393	7968	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8006	8036	8066
44	2490	2846	3930	5592	6442	7024	7607	8000	8000	8000	8000	8000	8000	8000	8000	8000	8000	8029	8059	8090
45	2421	2765	3129	4737	6077	6660	7253	7757	8000	8000	8000	8000	8000	8000	8000	8000	8022	8052	8082	8113
46	2353	2697	2933	3913	5344	6304	6906	7419	7834	8000	8000	8000	8000	8000	8000	8015	8045	8075	8106	8136
47	2284	2628	2854	3142	4550	5899	6568	7090	7514	7941	8000	8000	8000	8000	8008	8038	8068	8099	8129	8159
48	2216	2560	2774	2934	3784	5142	6242	6776	7208	7645	8000	8000	8000	8000	8031	8061	8091	8122	8152	8182
49	2147	2491	2693	2851	3029	4398	5842	6481	6925	7368	7815	8000	8000	8024	8054	8084	8115	8145	8175	8206
50	2078	2423	2613	2768	2919	3650	5149	6209	6663	7118	7573	8000	8017	8047	8077	8108	8138	8168	8199	8229
51	2010	2354	2531	2685	2844	2989	4453	5928	6435	6901	7364	7827	8023	8060	8096	8131	8161	8191	8222	8252
52	1941	2285	2449	2602	2769	2915	3785	5378	6253	6725	7194	7664	8010	8046	8083	8119	8155	8192	8228	8265
53	1873	2208	2366	2527	2694	2842	3197	4952	6128	6598	7074	7545	8001	8037	8073	8110	8146	8182	8218	8255
54	1804	2128	2284	2452	2619	2777	2993	4780	6081	6544	7009	7473	7937	8032	8068	8104	8141	8178	8215	8252
55	1794	2047	2209	2377	2544	2763	3156	4935	6184	6622	7060	7498	7935	8029	8066	8104	8141	8179	8216	8255
56	1826	1967	2161	2404	2647	2855	3692	5321	6394	7019	7457	7609	7970	8031	8068	8106	8145	8483	9176	9869
57	1873	2089	2308	2551	2794	2987	4307	5771	6624	7392	7653	7819	7984	8035	8149	8841	9534	10227	10920	11613
58	2143	2345	2554	2768	2982	3911	5112	6279	6766	7252	7692	7852	8488	9636	10329	11022	11715	12407	13100	13793
59	2503	2708	2905	3184	4199	5216	6100	6449	6754	7086	7437	7918	10153	12688	13381	14074	14767	15460	14237	12805
60	2916	3408	4088	4538	5546	6257	6501	6780	7064	7343	7652	7995	12318	16177	16870	17287	15856	14424	12992	11561
61	3993	4685	5378	6083	6348	6810	6930	7169	7391	7614	7837	9976	14478	17845	17475	16043	14611	13180	12055	11722
62	5115	5848	6501	7068	7358	7356	7576	7599	7780	7939	8225	9095	11360	13908	16230	14799	13367	12599	12266	11933
63	6188	7032	7678	8048	8208	8090	8000	8063	8086	8652	9526	10400	11274	11994	12702	13554	13143	12810	12477	12144
64	7794	8474	8711	8530	8245	8073	8000	8100	8281	8324	8985	9859	10733	11607	12481	12844	12590	12350	12068	11778
65	9311	9058	8773	8487	8202	8049	8000	8150	8332	8514	8653	9102	9976	10850	11724	11662	11381	11115	10888	10653
66	8672	8767	8724	8438	8153	8022	8000	8208	8390	8572	8753	8935	9110	9984	10593	10311	10030	9749	9467	9236
67	8032	8271	8208	8174	8104	8000	8039	8266	8448	8630	8811	8993	9175	9356	9230	8927	8624	8320	8017	7534
68	7695	7086	6892	7025	7032	7021	7052	7081	7072	7069	7007	6865	6609	6284	5973	5857	5738	5619	5492	5360
69	6344	6063	5967	5886	5795	5698	5444	5338	5259	5177	5101	5036	4971	4907	4824	4709	4594	4479	4364	4235
70	5406	5230	5114	5009	4905	4784	4661	4463	4236	4009	3782	3626	3554	3566	3597	3627	3536	3398	3264	3129
71	4474	4240	4088	3964	3835	3708	3563	3431	3324	3137	3016	2891	2533	2176	1823	1485	1173	1000	999	999
72	2722	2518	2288	2017	1667	1267	995	985	978	970	962	955	948	943	948	961	973	986	989	989
73	967	953	940	928	915	903	892	882	874	887	861	873	885	898	911	923	936	949	962	974
74	733	733	733	733	732	732	741	764	783	803	819	831	844	857	870	882	895	908	920	933
75	426	459	488	516	545	574	602	625	644	662	681	699	718	736	755	773	792	810	829	848
76	374	373	373	373	372	371	376	399	418	436	455	473	492	510	529	548	566	585	603	622
77	357	357	357	357	357	357	356	356	355	355	354	354	353	353	352	351	351	350	350	350

TABLE E.2-15. INITIAL TDS CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
1	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
2	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
3	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
4	350	350	350	350	350	350	350	350	350	350	350	350	351	355	360	364	368	371	373	375
5	350	350	350	350	350	350	351	355	360	364	369	373	377	382	386	391	395	397	399	400
6	350	350	350	354	361	365	369	374	378	383	387	391	396	400	405	409	413	416	417	418
7	350	349	349	355	367	378	383	387	391	396	400	405	409	413	418	422	426	429	430	431
8	349	349	349	355	368	380	393	398	402	406	411	415	420	424	428	433	437	439	440	441
9	348	348	348	356	368	381	393	406	413	417	421	426	430	435	439	443	447	450	450	452
10	348	348	347	356	369	381	394	406	419	428	432	436	441	445	450	454	458	460	461	465
11	347	347	347	357	369	382	394	407	419	431	443	447	451	456	460	465	468	470	472	479
12	347	346	346	357	370	382	395	407	420	432	444	457	462	466	471	475	479	480	485	492
13	346	346	345	358	370	383	395	408	420	432	445	457	470	477	481	486	489	491	498	506
14	345	345	346	358	371	383	396	408	420	433	445	458	470	483	492	496	500	505	512	519
15	345	344	346	359	371	384	396	409	421	433	446	458	471	483	496	507	511	518	525	533
16	344	344	347	359	372	384	397	409	421	434	446	459	471	484	496	501	502	507	511	515
17	344	343	347	360	372	385	397	410	422	434	447	459	472	473	468	464	469	474	479	483
18	343	343	348	360	373	385	398	410	422	435	447	445	440	435	429	431	436	441	446	451
19	342	342	348	361	373	386	398	410	423	418	413	407	402	396	392	397	402	407	412	418
20	342	341	349	361	374	386	396	390	385	380	374	369	364	358	359	364	369	374	379	384
21	341	341	349	362	368	363	357	352	347	341	336	336	354	331	337	341	345	349	353	357
22	354	341	340	352	370	387	405	423	440	458	475	493	461	424	347	351	355	359	363	367
23	478	363	504	509	526	544	561	579	596	614	630	590	400	517	423	362	366	370	374	378
24	673	476	697	689	683	700	718	735	753	753	719	529	354	610	527	373	377	381	385	389
25	651	606	891	883	874	859	874	892	876	849	659	468	447	703	632	472	387	391	395	399
26	2625	2831	2765	2517	2221	1918	1624	999	975	808	723	667	540	796	736	576	416	402	406	410
27	5102	4591	3550	3500	3413	3337	3258	3159	3074	2877	2814	1423	899	889	841	681	520	413	417	421
28	3970	5006	4127	4037	3945	3856	3779	3692	3866	3879	3873	3457	2421	1092	937	785	625	465	428	432
29	4216	4513	4606	4569	4477	4385	4299	4493	4658	4713	4819	4272	3586	2660	1467	889	729	569	438	445
30	4460	4679	4850	4824	4797	4771	5048	5294	5463	5547	5683	4947	4112	3476	2821	1836	988	774	560	463
31	4624	4843	5062	5067	5181	5462	5863	6056	6070	6000	5968	5277	4580	3900	3465	3021	2144	1355	897	629
32	4465	4745	5025	5340	5645	5890	6140	6281	6084	6000	5991	5640	4903	4419	3811	3349	3055	2300	1598	990
33	3989	4269	4461	4698	5105	5511	6041	6216	6093	6000	5891	5755	5308	4700	4093	3671	3351	3022	2330	1438
34	3514	3738	3875	4056	4463	4943	5487	5984	6010	5812	5522	5232	4942	4645	4345	3964	3633	3301	2907	1758
35	3015	3152	3289	3434	3828	4201	4637	5002	5181	5890	5352	4813	4338	4048	3747	3405	3221	3141	3061	2667
36	3000	3000	3000	3000	3011	3302	3663	4036	4514	6000	5492	4954	4416	3878	3623	3558	3494	3429	3365	3299
37	3000	3000	3000	3000	3000	3000	3000	3159	4213	5887	5633	5095	4556	4270	4179	4111	4046	3981	3917	3787
38	7302	6421	4832	3000	3000	3000	3000	3000	3912	5586	5774	5235	4923	4828	4737	4663	4598	4534	4467	4317
39	8004	8023	8016	8010	8005	7762	6116	5223	5331	5285	5914	5577	5481	5386	5295	5219	5150	5086	4991	4827
40	8027	8057	8051	8045	8040	8034	8027	8016	8004	7592	6990	6518	6137	5944	5852	5777	5702	5634	5539	5414
41	8050	8081	8087	8080	8075	8069	8062	8050	8040	8030	8020	8010	8000	7554	7173	6870	6621	6392	6218	6063
42	8073	8104	8122	8115	8110	8104	8097	8085	8075	8065	8055	8045	8035	8195	8321	8123	7873	7569	7318	7098
43	8097	8127	8157	8150	8145	8139	8132	8120	8110	8100	8090	8080	8168	8363	8559	8754	8634	8444	8262	8068
44	8120	8150	8181	8186	8180	8174	8166	8155	8145	8135	8125	8141	8337	8532	8728	8923	9119	9150	8876	8586
45	8143	8173	8204	8221	8215	8209	8201	8190	8180	8170	8160	8310	8506	8701	8897	9092	9208	9208	9040	8818
46	8166	8197	8227	8257	8250	8244	8236	8225	8215	8205	8284	8479	8675	8870	9065	9114	9113	9112	9052	8848
47	8190	8220	8250	8281	8285	8279	8271	8260	8250	8257	8453	8648	8843	9021	9020	9019	9018	9017	8988	8878
48	8213	8243	8273	8304	8320	8314	8305	8295	8285	8426	8621	8817	8926	8925	8925	8924	8923	8922	8921	8829
49	8236	8266	8297	8327	8356	8349	8340	8330	8399	8595	8790	8832	8831	8830	8829	8828	8827	8827	8826	8765
50	8259	8290	8320	8350	8381	8385	8375	8373	8568	8739	8738	8737	8736	8735	8734	8733	8732	8731	8730	8701
51	8282	8313	8343	8373	8404	8420	8410	8542	8644	8643	8643	8642	8641	8640	8639	8638	8637	8636	8635	8634
52	8302	8336	8366	8397	8427	8455	8515	8550	8549	8548	8547	8546	8545	8545	8544	8543	8542	8541	8540	8539
53	8291	8327	8363	8400	8437	8571	8456	8455	8454	8453	8452	8451	8450	8449	8448	8447	8447	8446	8445	8444
54	8289	8326	8459	9152	9380	8668	8438	8414	8389	8364	8357	8356	8355	8354	8353	8352	8351	8350	8349	8349
55	8817	9510	10203	10190	9107	8774	8441	8396	8372	8347	8323	8298	8273	8259	8258	8257	8256	8255	8254	8253
56	10561	11254	10999	9567	9212	8879	8546	8378	8354	8330	8306	8281	8256	8232	8207	8182	8161	8160	8159	8158
57	12306	11808	10377	9651	9318	8985	8651	8360	8336	8313	8288	8264	8239	8215	8190	8165	8140	8116	8091	8066
58	12462	11031	10116	9783	9450	9116	8783	8450	8314	8290	8266	8242	8218	8193	8169	8144	8119	8095	8070	8045
59	11374	10634	10301	9967	9634	9301	8968	8635	8301	8258	8235	8211	8187	8163	8139	8114	8090	8065	8040	8016
60	11178	10845	10511	10178	9845	9512	9179	8845	8512	8221	8198	8175	8152	8128	8104	8079	8055	8031	8006	7491
61	11389	11056	10722	10389	10056	9723	9389	9056	8723	8390	8161	8139	8115	8092	8068	8044	8020	7883	7218	6547
62	11600	11266	10933	10600	10267	9934	9600	9267	8934	8601	8267	8101	8079	8056	8032	8008	7588	6944	6286	5815
63	11811	11477	11144	10811	10478	10144	9811	9478	9145	8812	8478	8145	8042	8019	7891	7285	6666	6033	5719	5423
64	11492	11200	10906	10611	10315	10018	9721	9423	9125	8826	8528	8229	7876	7335	6784	6190	5822	5539	5255	4965
65	10410	10167	9889	9600	9310	9020	8730	8443	8156	7812	7378	6920	6421	5959	5730	5485	5234	4972	4713	4446
66	9009	8778	8540	8297	8054	7712	7316	6938	6550	6303	5955	5782	5609	5424	5235	5031	4779	4528	4276	4025
67	7087	6655	6260	5959	5818	5680	5543	5406	5267	5130	5020	4885	4783	4680	4578	4475	4314	4102	3851	3641
68	5227	5090	4952	4814	4674	4534	4402	4284	4159	4033	3905	3774	3651	3514	3383	3281	3111	2959	2859	2862
69	4098	3958	3817	3673	3531	3390	3250	3109	3000	2917	2841	2772	2705	2643	2559	2471	2377	2275	2367	2460
70	2991	2770	2584	2432	2305	2273	2282	2100	2008	2009	1988	1995	1959	1964	1886	1794	1779	1872	1966	2059
71	999	999	998	998	998	998	998	998	999	999	999	1000	1003	1060	1091	1184	1277	1371	1464	1557
72	989	988	988	988	988	988	988	988	989	989	989	990	980	956	932	909	885	869	890	978
73	975	975	975	975	975	975	975	975	976	971	947	924	900	877	853	830	806	782	759	735
74	946	958	960	960	960	960	954	930	906	883	859	836	812	789	765	741	718	694	671	647
75	866	885	903	908	890	868	844	821	797	773	750	726	703	679	655	632	608	585	561	538
76	628	610	592	573	555	537	519	501	482	464	446	428	410	391	373	353	350	350	350	350
77	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350

TABLE E.2-15. INITIAL TDS CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
1	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	35
2	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	3
3	350	350	350	350	350	350	350	350	350	350	350	350	350	353	355	358	361	363	366	36
4	376	376	377	380	387	394	401	404	406	407	409	410	413	443	466	468	471	473	476	479
5	401	402	406	413	421	428	435	442	449	451	452	454	455	469	500	530	550	552	555	557
6	419	423	430	437	444	451	459	466	473	480	483	484	486	487	517	548	579	607	610	612
7	432	439	447	454	461	468	475	483	490	497	504	506	508	509	530	561	592	622	649	652
8	446	453	460	467	474	482	489	496	503	511	518	524	525	527	540	571	602	632	663	683
9	459	466	474	481	488	495	502	510	517	524	531	538	543	544	550	581	612	643	673	704
10	473	480	487	494	501	509	516	523	530	538	545	552	559	562	563	591	622	653	684	714
11	486	493	500	508	515	522	529	537	544	551	558	565	573	579	581	602	632	663	694	698
12	499	507	514	521	528	536	543	550	557	564	572	579	586	593	598	612	643	673	668	710
13	513	520	527	535	542	549	556	563	571	578	585	592	600	607	614	622	653	648	651	722
14	526	534	541	548	555	562	570	577	584	591	599	606	613	620	627	635	629	611	663	734
15	540	547	554	561	567	571	575	579	583	587	591	595	599	603	623	675	641	606	675	745
16	519	523	527	531	535	539	543	547	551	555	559	563	568	629	690	717	682	648	687	757
17	487	491	495	499	503	507	511	515	519	523	527	573	634	696	757	757	723	691	698	769
18	455	459	463	467	471	475	479	484	488	517	578	640	701	762	809	798	769	733	710	781
19	423	427	431	435	440	444	448	461	523	584	645	706	768	829	856	839	811	775	738	792
20	389	394	400	404	408	412	467	528	589	650	712	773	834	889	902	882	853	817	781	804
21	361	365	369	373	411	472	533	595	656	717	778	840	901	941	948	929	895	859	823	816
22	371	375	379	385	419	530	611	671	725	784	845	906	968	992	993	973	937	901	865	828
23	382	386	390	404	421	510	620	725	805	873	934	990	1072	1040	1000	1000	975	943	907	871
24	393	397	405	422	439	490	601	711	823	918	998	1155	1222	1135	1048	1000	981	954	926	899
25	403	407	423	440	457	474	581	692	803	913	1040	1212	1262	1180	1093	1006	974	940	907	878
26	414	424	441	458	475	492	562	672	783	894	1002	1116	1165	1127	1052	985	948	915	882	862
27	425	442	459	476	493	510	542	653	764	874	965	997	1059	1045	998	962	923	889	866	846
28	443	460	477	494	511	528	545	633	744	855	906	938	972	981	956	930	899	870	851	831
29	462	479	495	512	529	546	563	614	724	814	847	882	918	929	903	876	864	875	853	832
30	480	497	514	531	548	565	582	599	705	755	791	827	864	877	850	823	869	889	868	846
31	533	544	555	565	576	586	600	617	664	701	737	773	809	823	797	814	874	903	882	861
32	611	603	614	625	635	646	708	686	645	649	682	719	755	770	760	820	879	917	896	875
33	1059	663	673	728	851	816	729	657	661	665	670	674	701	717	765	825	884	928	910	889
34	1546	1268	991	951	880	793	706	674	678	682	686	692	708	711	770	830	890	939	925	903
35	2341	1905	1505	1019	919	815	688	709	724	740	755	770	779	704	776	835	895	951	939	918
36	2996	2585	2051	1653	1248	890	763	787	802	818	833	846	840	754	814	840	900	960	953	932
37	3515	3112	2620	2262	1689	897	838	889	880	896	911	908	898	804	794	867	905	965	968	94
38	4084	3601	3239	2854	2445	1780	1244	991	978	973	975	969	955	853	772	908	918	970	979	96
39	4604	4270	3938	3598	3305	3046	2687	2336	1781	1532	1463	1165	1072	903	749	886	973	975	990	975
40	5178	4980	4707	4435	4186	3903	3558	3075	2675	2312	2083	1612	1341	990	1030	1050	1057	1047	1013	991
41	5897	5717	5514	5311	5042	4733	4298	3889	3517	3146	2676	2212	1712	1335	1194	1173	1170	1129	1082	1031
42	6830	6560	6324	6142	5882	5513	5148	4703	4290	3782	3289	2748	2275	1808	1592	1498	1287	1160	1113	1061
43	7764	7331	7013	6746	6475	6087	5957	5429	4902	4374	3838	3249	2712	2207	2018	1762	1585	1407	1230	1076
44	8296	8005	7622	7277	6946	6232	5895	5997	5464	4919	4339	3735	3130	2563	2340	2060	1883	1705	1528	1350
45	8595	8371	8090	7738	7166	6377	5784	5891	6000	5430	4826	4215	3557	2946	2537	2358	2181	2003	1794	1534
46	8625	8403	8180	8000	7621	6949	6564	6626	6447	5917	5297	4625	3968	3276	2833	2618	2367	2106	1846	1585
47	8655	8433	8210	8000	8000	7917	7577	7382	6849	6294	5653	4947	4252	3570	2937	2679	2418	2157	1897	1636
48	8685	8463	8240	8018	8000	8000	7974	7537	6982	6427	5908	5211	4361	3242	2872	2730	2469	2208	1948	1687
49	8669	8493	8270	8048	8000	8000	8000	7583	7092	6600	6086	5069	3949	2975	2812	2649	2520	2260	1999	1738
50	8606	8510	8300	8078	8000	8000	8000	7481	6863	6246	5721	4657	3538	2915	2752	2589	2425	2311	2050	1790
51	8542	8446	8330	8108	8000	8000	7849	7023	6405	5840	5365	4246	3126	2855	2692	2529	2365	2221	2101	1841
52	8478	8382	8286	8138	8000	8000	7338	6564	5960	5497	4953	3834	2958	2795	2632	2469	2305	2142	2017	1892
53	8414	8318	8223	8127	8000	7538	6844	6133	5616	5153	4542	3422	2898	2735	2572	2409	2245	2082	1919	1813
54	8348	8255	8159	8063	7762	7063	6363	5759	5273	4809	4130	3011	2838	2675	2512	2349	2185	2022	1859	1709
55	8252	8191	8095	7994	7293	6593	5924	5425	4929	4466	3719	2942	2778	2615	2452	2289	2125	1962	1799	1636
56	8157	8127	8031	7527	6826	6125	5591	5092	4594	4122	3307	2882	2718	2555	2392	2229	2065	1902	1739	1576
57	8062	8061	7762	7060	6358	5757	5258	4759	4260	3778	2985	2822	2658	2495	2332	2169	2005	1842	1679	1516
58	8020	7875	7175	6474	5851	5370	4877	4368	3844	3349	2910	2746	2583	2420	2257	2093	1930	1767	1604	1441
59	7747	7052	6354	5787	5345	4871	4419	3925	3403	2958	2778	2599	2442	2296	2151	1988	1825	1662	1499	1335
60	6807	6117	5664	5249	4819	4382	3928	3459	2991	2806	2622	2441	2262	2084	1909	1736	1571	1408	1262	1117
61	5932	5555	5181	4766	4348	3924	3491	3045	2830	2642	2457	2273	2091	1911	1733	1557	1383	1211	1041	873
62	5478	5127	4764	4373	4009	3578	3151	2866	2668	2471	2284	2094	1916	1731	1550	1372	1196	1020	847	676
63	5100	4770	4426	4066	3697	3316	2956	2744	2536	2329	2125	1929	1739	1542	1359	1175	1000	821	646	472
64	4668	4363	4049	3731	3390	3041	2811	2599	2386	2174	1961	1748	1536	1323	1130	936	747	562	381	350
65	4170	3868	3598	3290	2983	2784	2593	2401	2207	2013	1819	1625	1431	1237	1052	870	689	507	350	350
66	3773	3522	3270	3019	2841	2670	2500	2340	2172	2004	1848	1691	1525	1367	1213	1059	901	746	594	442
67	3414	3178	2968	2840	2712	2584	2455	2318	2181	2043	1906	1769	1632	1495	1358	1224	1090	956	816	677
68	2955	2955	2943	2929	2801	2670	2539	2408	2276	2145	2014	1883	1752	1621	1493	1367	1241	1114	988	862
69	2554	2647	2740	2834	2856	2844	2784	2653	2522	2391	2260	2129	1998	1867	1736	1605	1474	1342	1211	1080
70	2152	2246	2339	2432	2526	2619	2712	2758	2745	2637	2506	2375	2244	2113	1981	1850	1719	1588	1457	1326
71	1651	1744	1837	1930	2024	2117	2210	2304	2397	2490	2584	2632	2551	2420	2289	2158	2026	1895	1764	1593
72	1066	1154	1241	1329	1417	1505	1593	1681	1769	1857	1945	2033	2121	2209	2297	2350	2219	2078	1937	178
73	712	697	685	673	725	813	901	989	1076	1164	1252	1340	1428	1516	1604	1534	1442	1334	1205	106
74	624	600	577	553	529	511	500	488	476	464	483	571	659	747	705	627	549	443	350	350
75	514	490	467	443	420	396	373	350	350	350	350	350	350	350	350	350	350	350	350	350
76	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
77	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350

TABLE E.2-15. INITIAL TDS CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
2	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
3	371	364	357	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
4	480	473	466	455	438	422	406	390	374	358	350	350	350	350	350	350	350	350	350	350
5	558	551	541	525	509	492	476	460	444	428	412	396	379	363	350	350	350	350	350	350
6	613	606	590	574	558	542	526	509	493	477	461	445	429	408	385	362	370	369	368	368
7	652	641	625	609	593	577	561	544	528	506	483	460	437	414	391	377	388	398	397	397
8	683	669	653	637	621	603	580	557	534	511	488	465	442	419	396	391	402	413	420	420
9	714	698	676	654	631	608	585	562	539	516	493	470	447	424	401	405	416	428	439	443
10	727	705	682	659	636	613	590	567	544	521	498	475	452	430	408	419	431	442	453	464
11	738	710	687	664	641	618	595	572	549	526	503	480	458	435	422	433	445	456	467	478
12	748	715	692	669	646	623	600	577	554	531	508	486	463	440	436	448	459	470	481	493
13	758	724	697	674	651	628	605	582	559	537	514	491	468	445	451	462	473	484	496	507
14	768	735	702	679	656	633	610	587	565	542	519	496	473	453	465	476	487	498	510	521
15	779	745	711	684	661	638	615	593	570	547	524	501	478	468	479	490	501	513	524	535
16	789	755	721	689	666	644	621	598	575	552	529	506	483	482	493	504	516	527	538	549
17	799	765	731	698	672	649	626	603	580	557	534	511	488	496	507	518	530	541	552	564
18	810	776	742	708	677	654	631	608	585	562	539	516	499	510	521	533	544	555	566	578
19	820	786	752	718	684	659	636	613	590	567	544	521	513	524	536	547	558	569	581	592
20	830	796	762	728	695	664	641	618	595	572	549	526	527	539	550	561	572	584	595	606
21	841	807	773	739	705	671	646	623	600	577	554	532	541	553	564	575	586	598	609	620
22	851	817	783	749	715	681	651	628	605	583	560	544	556	567	578	589	601	612	623	625
23	861	827	793	759	725	692	658	633	611	588	565	559	570	581	592	604	615	625	623	621
24	872	838	804	770	736	702	668	639	616	593	570	573	584	595	606	618	623	622	620	618
25	858	838	814	780	746	712	678	644	621	598	576	587	598	609	621	622	620	618	616	615
26	842	823	803	783	756	722	688	655	626	603	590	601	612	622	621	619	617	615	613	609
27	827	807	787	768	748	728	699	665	631	608	604	615	621	619	617	615	614	612	610	595
28	811	791	772	752	732	713	693	673	641	613	618	619	618	616	614	612	610	608	599	582
29	811	789	768	747	725	704	683	661	640	620	618	616	614	612	611	609	607	603	586	569
30	825	804	782	761	740	718	697	676	654	625	623	620	618	615	613	610	608	590	573	556
31	839	818	797	775	754	732	711	690	658	631	628	626	623	621	618	615	602	578	561	544
32	853	832	811	789	768	747	725	702	655	636	633	631	628	626	623	617	592	568	549	531
33	868	846	825	804	782	761	745	700	653	641	639	636	634	631	629	607	582	558	536	519
34	882	861	839	818	797	781	744	697	650	647	644	642	639	637	621	597	572	548	524	507
35	896	875	854	832	816	788	741	694	655	652	650	647	645	636	611	587	563	538	514	495
36	911	889	868	851	832	785	738	691	660	657	655	652	650	626	601	577	553	528	504	483
37	925	904	886	871	830	783	736	689	665	663	660	658	640	616	592	567	543	518	494	470
38	939	921	907	874	827	780	733	686	671	668	666	655	630	606	582	557	533	508	484	460
39	956	942	918	871	824	777	730	683	676	674	669	645	620	596	572	547	523	498	474	450
40	978	961	916	869	822	775	728	684	682	679	659	635	611	586	562	537	513	489	464	440
41	997	960	913	866	819	772	725	689	687	674	649	625	601	576	552	527	503	479	454	430
42	1010	967	910	863	816	769	722	695	688	664	639	615	591	566	542	517	493	469	444	420
43	1030	981	925	868	814	767	720	700	678	654	630	605	581	556	532	508	483	459	434	410
44	1173	990	936	880	824	768	717	693	668	644	620	595	571	546	522	498	473	449	424	400
45	1273	1013	920	867	813	760	707	678	654	629	604	580	555	530	506	481	456	432	407	382
46	1324	1064	903	850	796	743	690	655	633	611	587	562	537	513	488	463	439	414	389	365
47	1376	1115	872	833	779	726	673	632	611	589	567	544	520	495	470	446	421	396	372	350
48	1427	1166	905	813	763	709	656	610	588	566	544	523	501	478	453	428	404	379	354	350
49	1478	1217	957	783	746	692	639	587	565	543	522	500	478	457	434	411	386	361	350	350
50	1529	1268	1008	752	723	675	622	569	542	521	499	477	456	434	412	391	367	350	350	350
51	1580	1320	1059	798	693	659	605	552	520	498	476	455	433	411	389	368	350	350	350	350
52	1631	1371	1110	849	662	633	588	535	497	475	453	432	410	388	367	350	350	350	350	350
53	1682	1422	1161	901	640	603	571	518	474	452	431	409	387	366	350	350	350	350	350	350
54	1609	1473	1212	952	691	572	543	501	451	430	408	386	365	350	350	350	350	350	350	350
55	1505	1406	1263	1003	742	542	513	484	431	407	385	363	350	350	350	350	350	350	350	350
56	1412	1301	1202	1054	793	533	482	453	414	384	362	350	350	350	350	350	350	350	350	350
57	1352	1197	1097	998	845	584	452	423	394	361	350	350	350	350	350	350	350	350	350	350
58	1277	1114	967	867	768	648	414	385	356	350	350	350	350	350	350	350	350	350	350	350
59	1172	1009	846	685	585	486	386	350	350	350	350	350	350	350	350	350	350	350	350	350
60	971	825	680	534	389	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
61	708	543	378	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
62	507	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
63	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
64	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
65	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
66	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
67	538	398	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
68	736	610	484	358	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
69	949	818	687	556	389	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
70	1195	1057	886	714	543	371	350	350	350	350	350	350	350	350	350	350	350	350	350	350
71	1421	1250	1078	907	735	564	392	350	350	350	350	350	350	350	350	350	350	350	350	350
72	1614	1447	1280	1114	947	780	614	447	350	350	350	350	350	350	350	350	350	350	350	350
73	923	782	640	499	358	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
74	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
75	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
76	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
77	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350

TABLE E.2-15. INITIAL TDS CONCENTRATION IN THE SURFICIAL AQUIFER (mg/l) (continued).

Row	Column 101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117
1	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
2	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
3	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
4	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
5	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350	350
6	367	366	365	364	364	363	362	361	360	360	351	350	350	350	350	350	350
7	396	395	394	393	393	392	391	390	389	389	374	353	350	350	350	350	350
8	419	418	417	416	416	415	414	413	412	407	392	371	350	350	350	350	350
9	442	441	440	440	439	438	437	436	436	425	410	389	362	350	350	350	350
10	465	464	463	463	462	461	460	459	455	443	428	407	380	350	350	350	350
11	488	487	486	486	485	484	483	483	474	461	446	425	395	350	350	350	350
12	504	510	510	509	508	507	506	504	492	480	465	443	403	351	350	350	350
13	518	529	533	532	531	530	529	522	510	498	483	454	411	360	350	350	350
14	532	544	555	555	554	553	552	540	528	516	495	462	420	368	350	350	350
15	546	558	569	578	577	576	570	558	546	527	503	470	426	367	350	350	350
16	561	572	583	594	600	600	589	573	554	535	510	472	424	365	350	350	350
17	575	586	597	609	620	619	599	578	556	535	508	470	422	363	350	350	350
18	589	600	611	623	629	612	594	575	554	533	506	468	420	361	350	350	350
19	603	614	626	627	616	599	581	562	544	525	502	466	418	359	350	350	350
20	617	628	626	620	603	586	568	550	531	512	489	457	415	357	350	350	350
21	626	624	622	607	590	572	555	537	518	500	477	444	402	351	350	350	350
22	623	621	611	593	576	559	542	524	506	487	464	431	389	350	350	350	350
23	619	615	597	580	563	546	528	511	493	474	451	419	377	350	350	350	350
24	616	601	584	567	549	532	515	498	480	462	438	406	364	350	350	350	350
25	605	588	571	553	536	519	502	484	467	449	426	393	351	350	350	350	350
26	592	574	557	540	523	505	488	471	454	436	413	380	350	350	350	350	350
27	578	561	544	527	509	492	475	458	440	423	400	368	350	350	350	350	350
28	565	548	530	513	496	479	461	444	427	410	388	355	350	350	350	350	350
29	552	534	517	500	483	465	448	431	414	396	375	350	350	350	350	350	350
30	539	521	504	487	469	452	435	418	400	383	362	350	350	350	350	350	350
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32	514	497	480	463	446	428	411	394	377	359	350	350	350	350	350	350	350
33	502	485	468	451	433	416	399	382	365	350	350	350	350	350	350	350	350
34	490	473	455	438	421	404	387	370	352	350	350	350	350	350	350	350	350
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36	465	448	431	414	397	379	362	350	350	350	350	350	350	350	350	350	350
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E.3 MODEL RESULTS

A series of monitoring points were included in the modeling to allow analysis of constituent migration and the eventual concentrations in Surficial discharge to surface water. The monitoring points included wells, drain cells representing Mine Creek, and river cells representing Spring Creek. The transport of constituents is concentrated primarily in the Mine Creek area. The bulk of the seepage from the tailings migrates in the more transmissive areas of the Surficial aquifer.

E.3.1 URANIUM TRANSPORT

Figures E.3-1 and E.3-2 present the predicted uranium concentration in the POC wells and two other wells in the general Mine Creek area. The two POC wells, RPI-19B and NP01, and well RPI-20A are located near the Mine Creek channel. The predicted peak concentrations in these wells are similar and the shape of the concentration curves reflects the distance from the tailings and a lateral distance from the heart of the Mine Creek channel.

Figures E.3-3 and E.3-4 present the predicted uranium concentration in selected drain cells and river cells, respectively. Discharge from the drain and river cells enters Spring Creek and combines with the base flow to give a composite concentration. The concentration curve for each of the cells is a function of hydraulic remoteness from the tailings source and the ratio of tailings seepage to natural recharge. In Figure E.3-3, the slight difference in the concentration curves for the ten Mine Creek drain cells results primarily from the increasing distance from the tailings with descending row number. Each of the drain cells is located in the heart of the Mine Creek channel in relatively similar materials.

The Spring Creek river cells are distributed along the model reach with a concentration of cells in the vicinity of Mine Creek. The large differences in concentration curves for the ground-water discharge to the river cells reflect the heterogeneity of hydraulic properties and the resulting differences in hydraulic remoteness of cells. Cell 18, 4 is on the upgradient reach of the Spring Creek and shows virtually no impact from tailings

seepage. Cell 11,35 is located slightly north and west of the historic Mine Creek plume area and shows dramatically delayed and attenuated impacts (Figure E.3-4). As the cells get closer to the more transmissive region of the Mine Creek channel, the concentration curve becomes more similar to those of the Mine Creek drain cells with a larger peak concentration and generally a shorter time to the decay of the concentration curve.

The combination of the ground-water discharge to Mine Creek and Spring Creek and the base flow in Spring Creek gives a composite uranium concentration. Baseline uranium concentration in Spring Creek is low (approximately 0.026 mg/l) and the majority of the uranium concentration comes from the ground-water discharge in the Mine Creek area. The analysis of the composite uranium concentration was done by averaging the concentration in 12 river cells at the middle and end of each stress period in the modeling. The concentration in 10 drain cells was also averaged at the middle and end of each stress period. The ground-water discharge rate for the river and drain cells for each stress period was than multiplied by the corresponding average concentration, and numerically composited with a Spring Creek base flow of 290 gpm. This compositing technique gives a maximum uranium concentration in Spring Creek of 0.15 mg/l in approximately 2011.

E.3.2 THORIUM-230 TRANSPORT

Figures E.3-5 and E.3-6 present the predicted thorium-230 activity in the POC wells and two other wells in the general Mine Creek area. The two POC wells, RPI-19B and NP01, and well RPI-20A are located near the Mine Creek channel. The predicted peak concentrations in these wells are similar and the shape of the concentration curves reflects the distance from the tailings and a lateral distance from the heart of the Mine Creek channel.

Figures E.3-7 and E.3-8 present the predicted thorium-230 activity in selected drain cells and river cells, respectively. The technique for compositing the ground-water discharge and base flow in Spring Creek was described in the previous section. This compositing

technique gives a maximum thorium-230 activity in Spring Creek of 0.28 pCi/l in approximately 2011. This value was rounded to 0.30 pCi/l because of the measurement resolution for thorium-230 activity.

E.3.3 SELENIUM TRANSPORT

Figures E.3-9 and E.3-10 present the predicted selenium concentration in the POC wells and two other wells in the general Mine Creek area. The predicted maximum selenium concentration at the POE is 0.0056 mg/l.

E.3.4 RADIUM-226 + RADIUM-228 TRANSPORT

Figures E.3-11 and E.3-12 present the predicted radium-226 + radium-228 activity in the POC wells and two other wells in the general Mine Creek area. The predicted maximum radium-226 + radium-228 activity at the POE is 1.5 pCi/l.

E.3.5 CHLORIDE TRANSPORT

Figures E.3-13 and E.3-14 present the predicted chloride concentration in the POC wells and two other wells in the general Mine Creek area. The predicted maximum chloride concentration at the POE is 118 mg/l.

E.3.6 TDS TRANSPORT

Figures E.3-15 and E.3-16 present the predicted TDS concentration in the POC wells and two other wells in the general Mine Creek area. The predicted maximum TDS concentration at the POE is 649 mg/l.

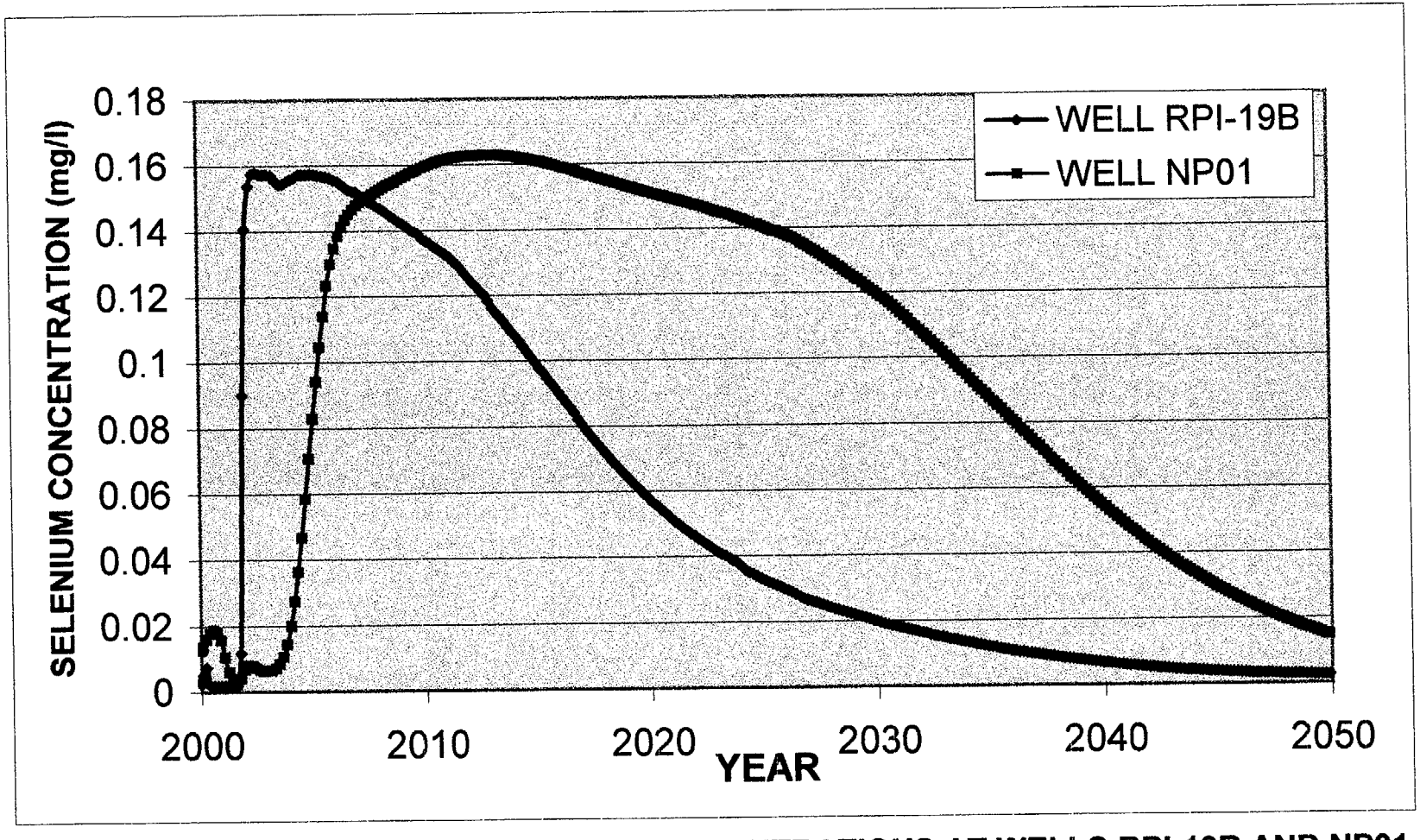

FIGURE E.3-9. PREDICTED SELENIUM CONCENTRATIONS AT WELLS RPI-19B AND NP01

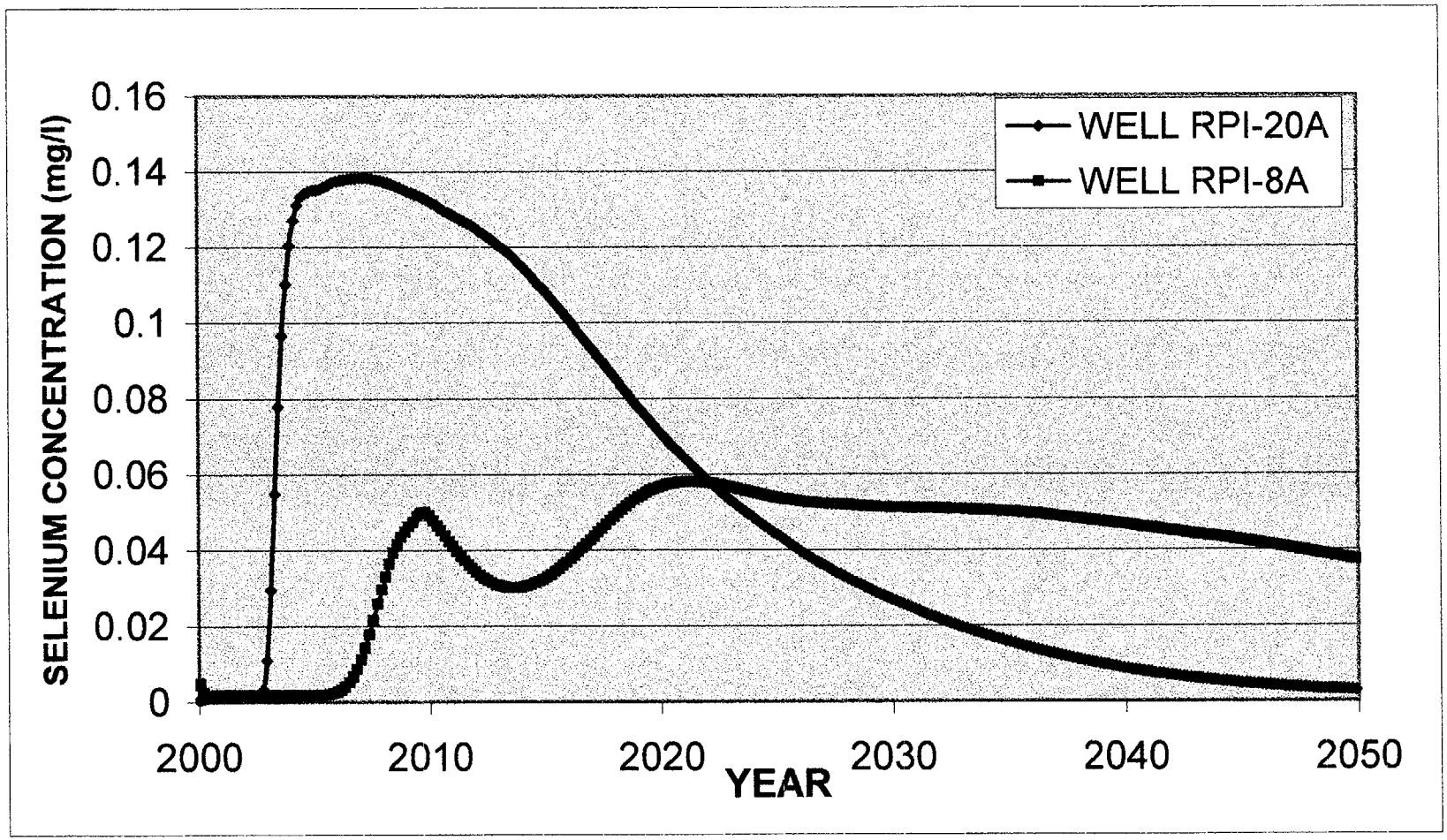

FIGURE E.3-10. PREDICTED SELENIUM CONCENTRATIONS AT WELLS RPI-8A AND RPI-20A

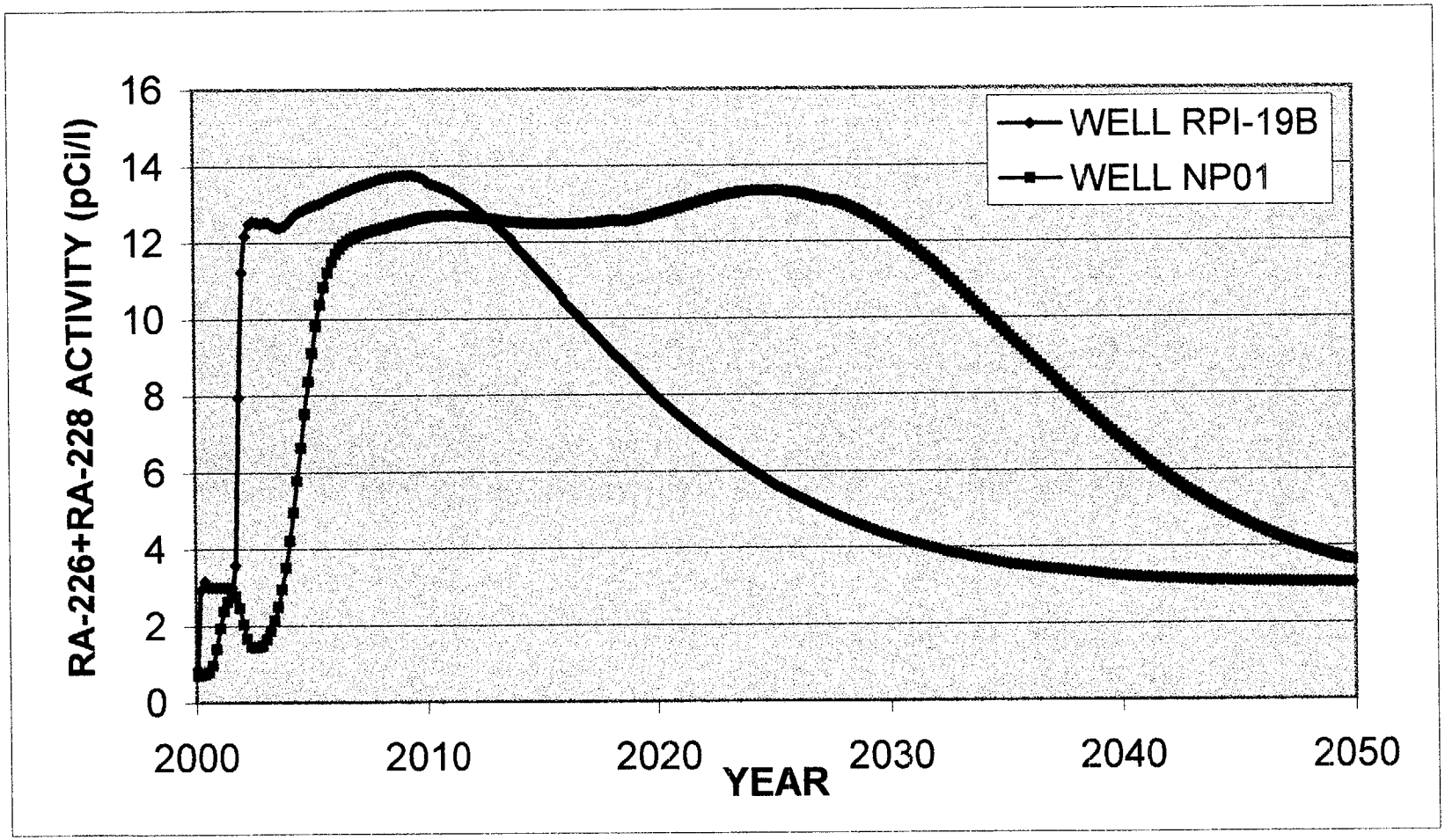

FIGURE E.3-11. PREDICTED RA-226+RA-228 ACTIVITY AT WELLS RPI-19B AND NP01

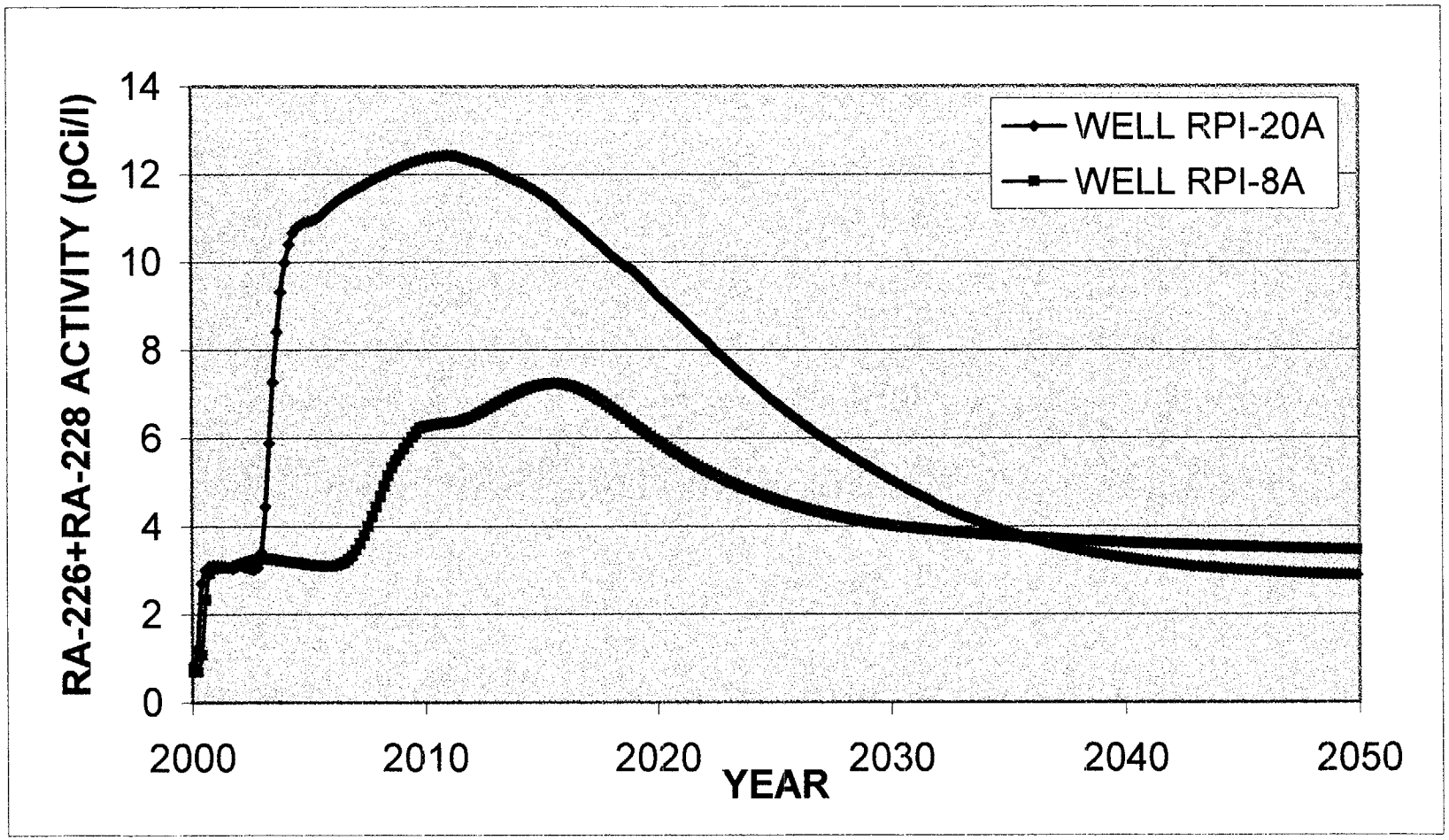

FIGURE E.3-12. PREDICTED RA-226+RA-228 ACTIVITY AT WELLS RPI-8A AND RPI-20A

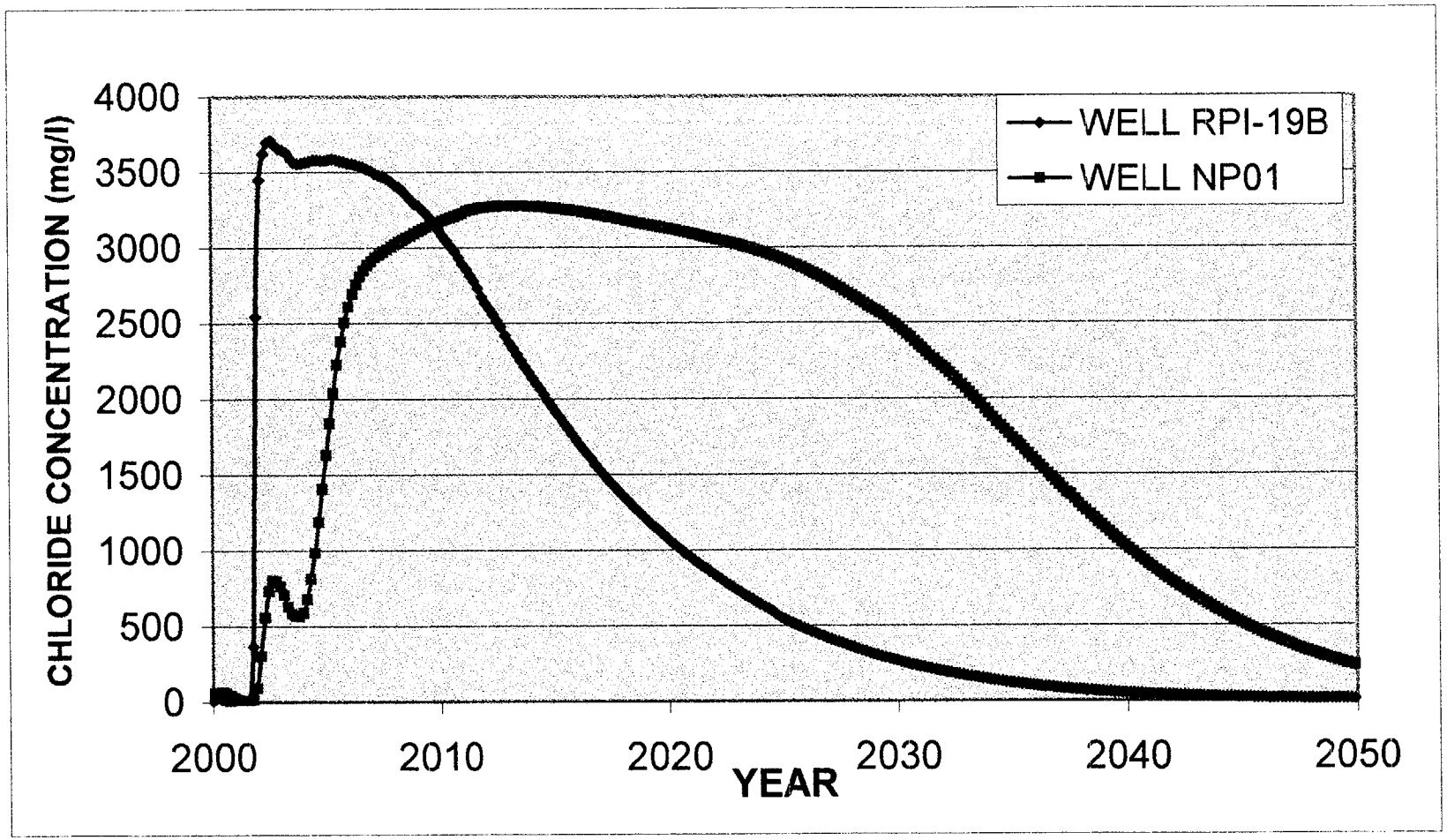

FIGURE E.3-13. PREDICTED CHLORIDE CONCENTRATIONS AT WELLS RPI-19B AND NP01

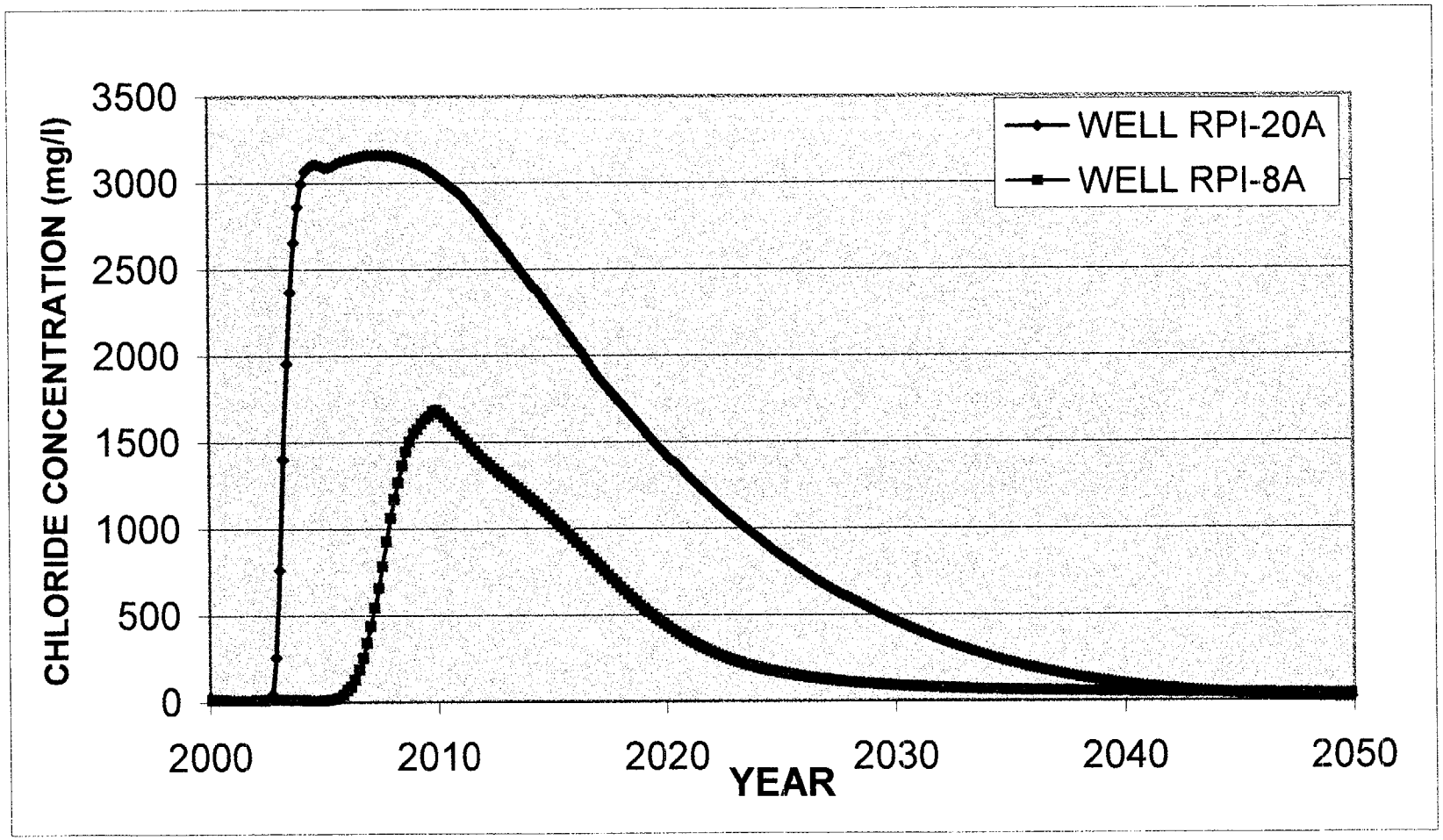

FIGURE E.3-14. PREDICTED CHLORIDE CONCENTRATIONS AT WELLS RPI-8A AND RPI-20A

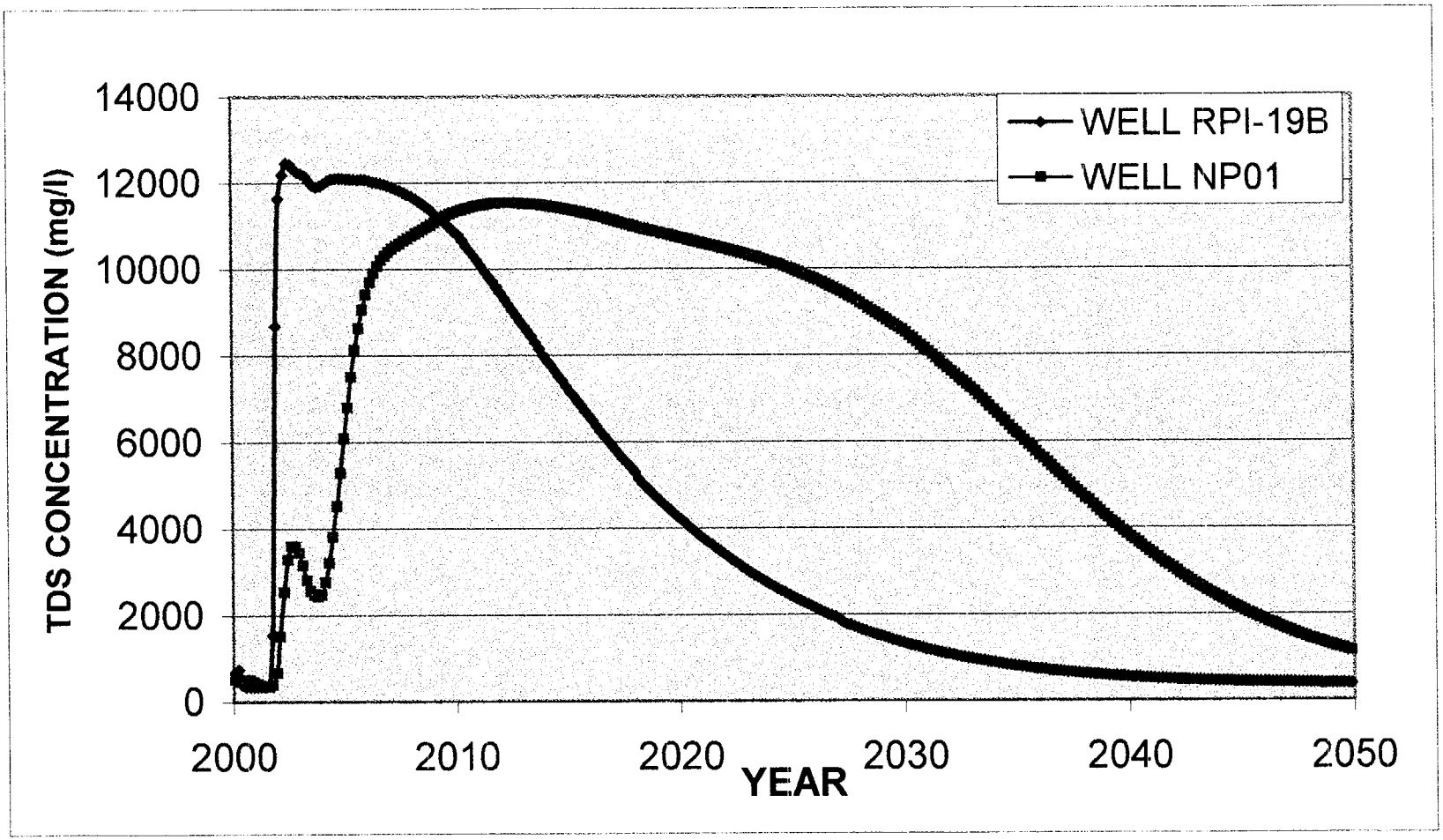

FIGURE E.3-15. PREDICTED TDS CONCENTRATIONS AT WELLS RPI-19B AND NP01

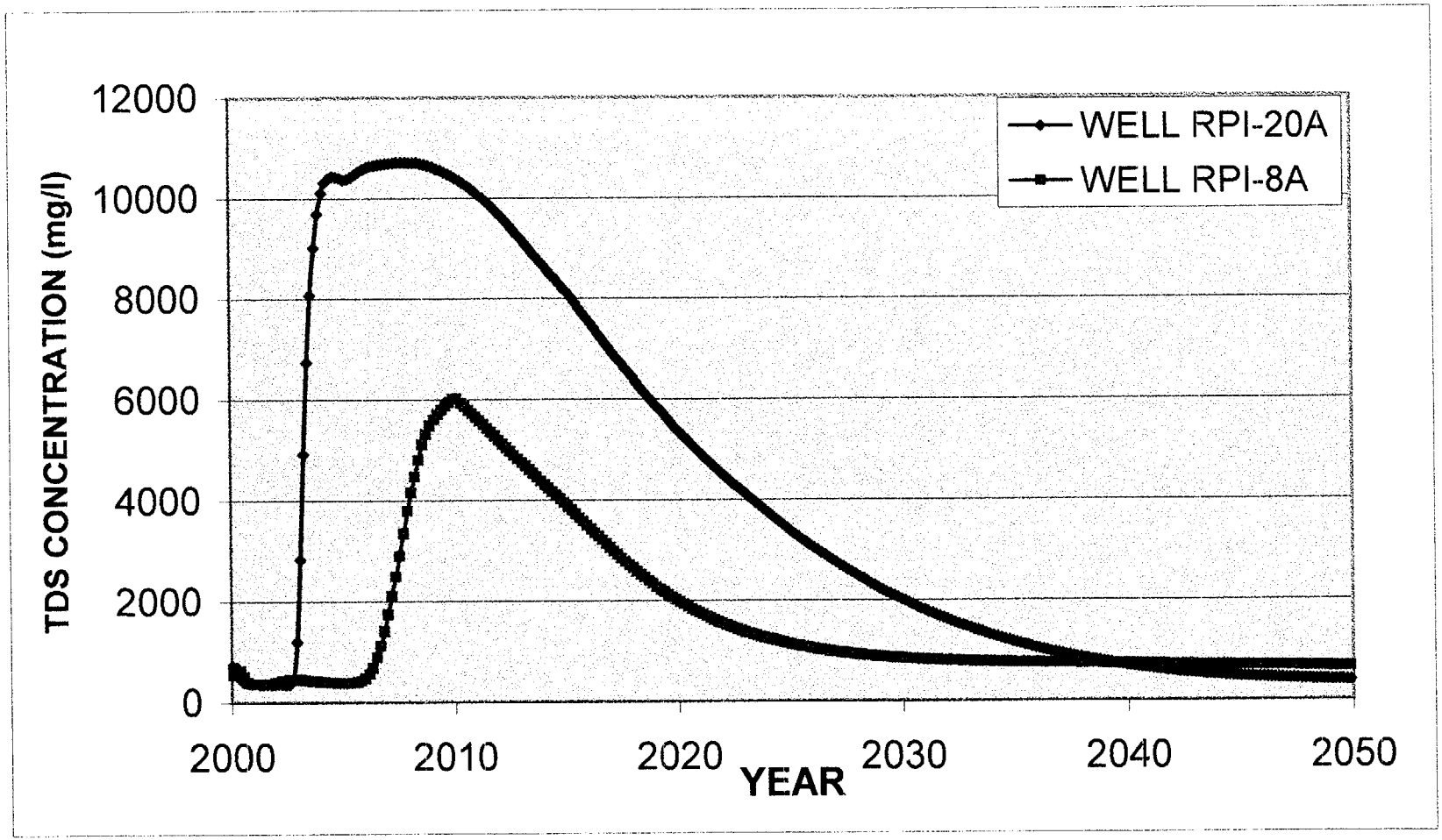

FIGURE E.3-16. PREDICTED TDS CONCENTRATIONS AT WELLS RPI-8A AND RPI-20A

E.4 SUMMARY AND CONCLUSION

The modeling of uranium and thorium-230 transport produced results that indicate the critical combination of ground-water discharge and base flow will occur in approximately 2011. The compositing of the ground-water discharge with the Spring Creek base flow is done with conservative assumptions of a modest late season flow and no retardation or attenuation of the constituent transport. Any attenuating processes will slow down constituent migration, or in some cases, reduce the concentration or activity of constituents by a permanent absorption or precipitation process. These conservative approaches combine to produce an upper bound estimate of the maximum constituent concentrations or activities in Spring Creek. The variation of scenario #2 described in Appendix D was also considered as an additional sensitivity test. This variation reduced the operational time of the injection/recharge systems and the collection below the toe of the No. 5 Dam by six months to the end of year 2000. No changes were made in the MT3D modeling approach. Rather, the differences in contaminant migration resulted from the minor changes in the flow components of the modeling. The maximum predicted uranium concentration at the POE under this variation increased to 0.153 mg/l from 0.150 mg/l predicted by the original scenario #2 simulation. This increase is within measurement resolution as well as the modeling resolution with conservative assumptions. This leads to the conclusion that the variation of the proposed corrective action program is an acceptable alternative. This variation has now been rendered moot.

The transport of constituents selenium, radium-226 + radium-228, chloride and TDS paralleled that of uranium and thorium-230. There are slight differences in the timing of the appearance of peak concentrations for the various constituents due to differences in the intial distribution of the constituents.

APPENDIX G
SPRING CREEK AREA WELL LOGS

Spring Creek Area Well Logs

WSC -2

Date Drilled 4/18/01

Interval	Description
0' - 5.5'	Reddish Brown Clay
5.5' - 7'	Light Brown Clay
7' - 8.5'	Tan Clay
8.5' - 17'	Light Brown Hard Clay w/ bentonite
17' - 21'	Brown Clay w/ some coarse sand (dry)
21' - 25'	Hard Brown Clay

Completion

0 - 12'	Blank 2" Casing
12' - 17'	Perforated 2" Casing
17' - 22'	Blank 2" Casing
0 - 13'	Bentonite chips
13' - 17'	Sand
17' - 22'	Bentonite chips
24.16'	Total Depth
2.5'	Stickup
7045.62 ft-MSL	Measuring Point Elevation

WSC -3

Date Drilled 4/18/01

Interval	Description
0' - 4.5'	Reddish Brown Clay
4.5' - 7'	Tan-Brown Clay
7' - 10.5'	Medium Sand
10.5' - 11.5'	Brown Clay

Completion

0' - 6.5'	Blank 2" Casing
6.5' - 11.5'	Perforated 2" Casing
0 - 6'	Bentonite chips
6' - 11.5'	Sand
24.16'	Total Depth
2.5'	Stickup
7036.73 ft-MSL	Measuring Point Elevation

WSC -4

Date Drilled 4/18/01

Interval	Description
0' - 2.5'	Dark Brown Clay
2.5' - 8'	Tan Clay
8' - 9'	Gray Silty Sand (damp)
9' - 12.5'	Hard Brown Clay

Completion

0 - 8'	Blank 2" Casing
8' - 12.5'	Perforated 2" Casing
0 - 6'	Bentonite chips
6' - 12.5'	Sand
15.01'	Total Depth
2.5'	Stickup
7034.82 ft-MSL	Measuring Point Elevation

WSC -5

Date Drilled 4/18/01

Interval	Description
0' - 3'	Tan Clay
3' - 4.5'	Red Clay
4.5' - 11'	Grey Silty Sand
11' - 12'	Hard Brown Clay

Completion

0' - 2'	Blank 2" Casing
2' - 12'	Perforated 2" Casing
0' - 3.5'	Bentonite chips
3.5' - 12'	Sand
15.27'	Total Depth
3.12'	Stickup
7043.60 ft-MSL	Measuring Point Elevation