Harding Lawson Associates

Final Report
Cleanup Level Matrix For Hazardous Substances in Soil Various Sites, Alaska

Engineering and Environmental Services

HLA

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Cleanup Level Matrix For Hazardous Substances in Soil Various Sites, Alaska

Prepared for

Alaska Department of Environmental Conservation
Contaminated Site Remediation Unit
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HLA Project No. 29092

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CONTENTS

1.0 INTRODUCTION 1

1.1 Background 1
1.2 Scope of Work 1

2.0 GENERAL APPROACH 2

2.1 Summary of the EPA's Approach 2
2.2 Conditions 2
2.3 Conceptual Site Models 2
2.4 Variable Parameters and Soil Screening Levels 3
2.5 Sensitivity Analysis 3
2.6 Soil Cleanup Matrix 3

3.0 DETAILED CONCEPTUAL SITE MODELS 3

4.0 EQUATIONS AND VARIABLES 5

5.0 SENSITIVITY ANALYSIS AND SOIL SCREENING LEVELS 5

5.1 Ingestion Pathway 5
5.2 Inhalation Pathway 20
5.3 Migration to Groundwater Pathway 20
5.4 Soil Cleanup Level Matrix 21

6.0 CONCLUSIONS 21

7.0 REFERENCES 21

TABLES

1 Variable Input Parameters and Defaults/Values Used to Calculate Soil Screening Levels 6
2 Soil Characteristic Data For HELP Model Soil Types Used to Calculate Soil Screening Levels 8
3 Ingestion Pathway Screening Level Equations and Variables For the Four Alaskan Climatic Regions 9
4 Inhalation Pathway Screening Level Equations For the Four Alaskan Climatic Regions 11
5 Groundwater Pathway Screening Level Equations For Three Alaskan Climatic Regions 15
6 HELP Input Parameters For Identifying Site-Specific Infiltration Rates 18
7 Preliminary Soil Screening Levels in Milligrams per Kilogram For Ingestion Pathways For the Four Alaskan Regions 19

FIGURE - Climatic Zones of Alaska 3

CONTENTS (continued)

APPENDIXES

A Inhalation Soil Screening Levels and Soil Saturation Limits
B Migration to Groundwater Soil Screening Levels
C HELP Modeling Printouts
D Soil Cleanup Matrix Questionnaire

DISTRIBUTION

1.0 INTRODUCTION

Harding Lawson Associates (HLA) was retained by the Alaska Department of Environmental Conservation (ADEC) under Notice to Proceed No. 910076030A, Contract No. 910076, to develop a soil cleanup matrix specifying soil cleanup levels for common hazardous substances spilled or improperly disposed of in Alaska. This report documents the approach and progress made toward developing a soil cleanup matrix. This report was prepared for the sole use of the ADEC, the only intended beneficiary of HLA's work. No other party should rely on this information without HLA's written consent.

1.1 Background

Between the fall of 1993 and the spring of 1994, staff from the ADEC's Contaminated Sites section met with a public regulation working group formed to provide general direction to the ADEC on developing regulations for investigating and cleaning up contaminated sites. The group recommended adopting a soil cleanup matrix to define site-specific cleanup levels less conservative than generic cleanup levels that would not require a site-specific risk assessment. The ADEC solicited proposals from term contractors in June 1994 and selected HLA to develop the matrix.

While the ADEC was meeting with the public regulation working group, the U.S. Environmental Protection Agency (EPA) Office of Solid Waste and Emergency Response was developing guidelines for contaminated soil. The EPA developed generic soil screening levels (SSLs) (formerly known as trigger levels) for 30 chemicals and published a quick-reference fact sheet titled *Draft Soil Screening Level Guidance* in September 1993. The accompanying *Technical Background Document for Draft Soil Screening Level Guidance* was published in February 1994. The SSL approach used standardized equations to model human exposures to soil contaminants via ingestion and inhalation, and the potential for contaminant migration to groundwater.

After technical review, those documents were superseded by *Draft Guidance For Soil Screening Level Framework* and *Technical Background Document for Draft Soil Screening Level Framework* in July 1994 (EPA, 1994a,b). The newer documents emphasize data requirements necessary for applying the standardized equations to site-specific evaluations of soil contaminants. In addition, default parameters were used in the standardized equations to produce a table of generic SSLs that updates and expands the table presented in the September 1993 fact sheet.

After reviewing the EPA literature, the ADEC and HLA agreed to develop a methodology that was consistent with the EPA approach and that considered Alaskan site conditions. All or part of the work completed during this project may be adopted as part of future ADEC regulations.

1.2 Scope of Work

HLA's scope of services for the project was described in our proposal dated June 27, 1994, and is summarized as follows:

1. Evaluate the EPA's soil screening framework approach for adaptability to the Alaskan site matrix concept.
2. Prepare a work plan identifying the approach for developing the soil cleanup matrix, project milestones, and a schedule for completing the project.
3. Develop SSLs for benzene, 1,1-dichloroethane, 1,1-dichloroethene, ethylbenzene, naphthalene, tetrachloroethene, toluene, 1,1,1-trichloroethane, trichloroethene, mixed xylenes, arsenic, cadmium, chromium VI, and mercury.
4. Conduct a literature search to assess whether the necessary physical properties have been defined for developing SSLs and the accompanying matrix for gasoline, diesel, and residual-range hydrocarbons.
5. Test the developed matrix with data (provided by ADEC) from Alaskan test sites representing different environmental conditions.

6. Prepare draft and final reports detailing proper usage of the soil cleanup matrix (users' guide).
7. Prepare draft and final reports detailing matrix development, supporting technical references and information, matrix assumptions and limitations, and test-site results.

Throughout the EPA methodology evaluation and SSL development processes (Tasks 1 through 3 above), HLA and the ADEC conducted planning and strategy meetings, during which progress was monitored. At the December 30, 1994, meeting, the ADEC decided to suspend further development of the cleanup matrix and accompanying SSLs, and directed HLA to cease work on the project and prepare a final report.

2.0 GENERAL APPROACH

The following sections describe the EPA's approach to calculating SSLs, and the conditions and general approach used to develop the Alaskan soil cleanup level matrix. This report is to be used in conjunction with the *Technical Background Document for Draft Soil Screening Level Framework* (EPA, 1994b).

2.1 Summary of the EPA's Approach

The EPA developed SSLs for three pathways of concern: soil ingestion, organic vapor and fugitive dust inhalation, and groundwater ingestion via contaminant migration through soil to an underlying potable aquifer. A default conceptual site model (CSM), based on conservative assumptions, was developed. Variable input parameters, such as soil characteristics and climatic data, were assigned values based on the default CSM and were used to calculate generic SSLs. If a site-specific CSM for a contaminated site indicates the default assumptions are appropriate for the site, generic SSLs may be applied to the site. Conversely, if the site-specific model indicates the site is significantly different from the default site model, the generic SSLs may not be appropriate and a more complex approach, called the "simple site-specific method," may be used to calculate SSLs. In the simple site-specific method, standardized equations used to calculate the generic SSLs are used with a combination of site-specific and default parameters. The resulting SSLs are also conservative, but more accurately reflect actual site conditions. If a site-specific CSM indicates exposure pathways are not covered by the default CSM, or if the simple site-specific SSLs are considered too inexact, the "detailed site-specific method" may be used to calculate SSLs. The detailed method uses full-scale models to estimate exposure, and is analogous to exposure modeling typically performed during baseline risk assessments (EPA, 1994b).

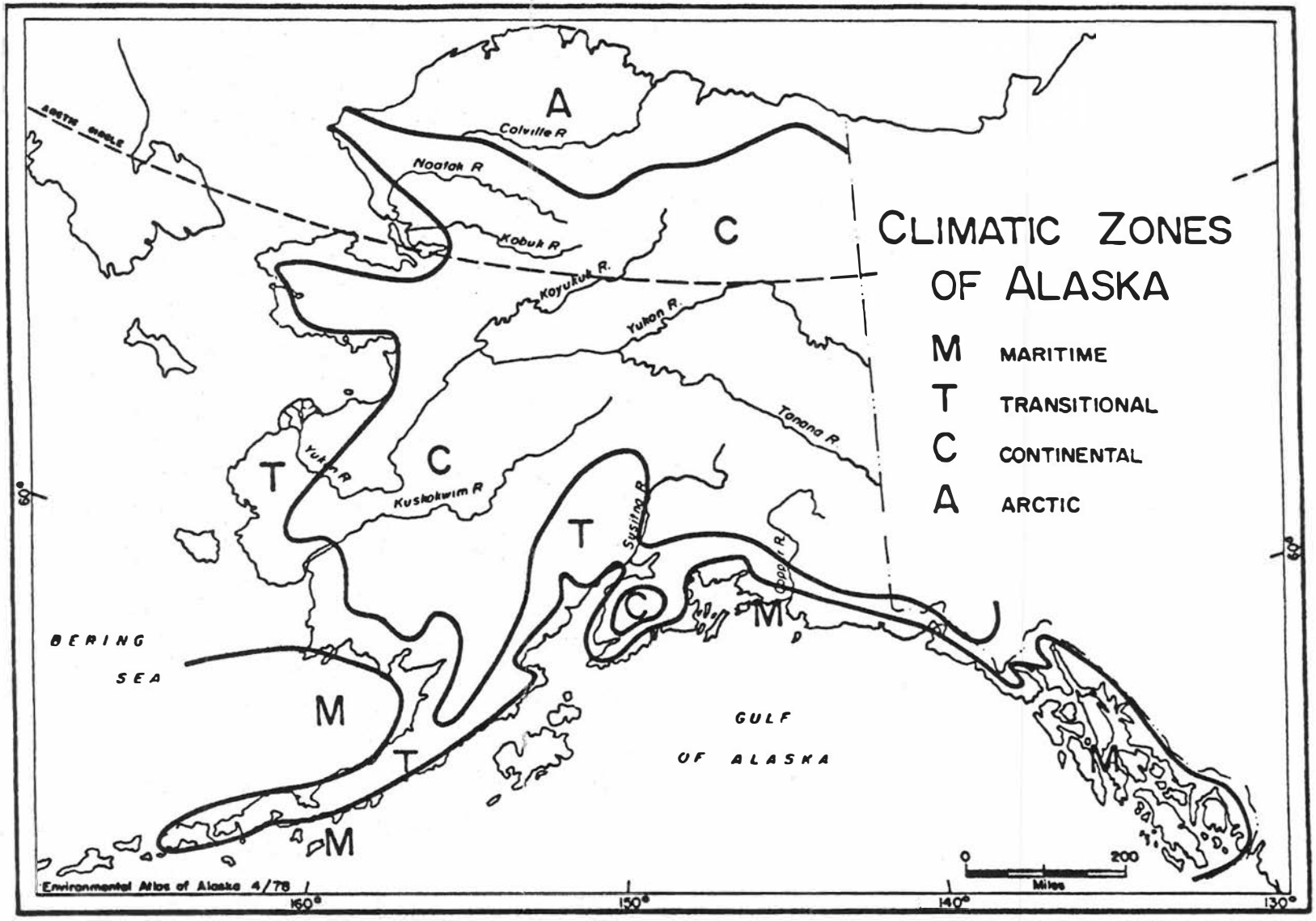
2.2 Conditions

During the planning and strategy meetings conducted by HLA and the ADEC on November 4 and 14, 1994, and December 5, 1994, the following conditions were agreed on:

- The equations used by the EPA to develop the SSL framework would not be modified.
- The soil cleanup matrix and accompanying SSLs would be based on a risk of 10^{-5} for carcinogens instead of the 10^{-6} risk used by the EPA.
- State of Alaska maximum contaminant levels (MCLs) would be used in groundwater modeling approaches instead of the more stringent maximum contaminant level goals.

2.3 Conceptual Site Models

The generic SSLs calculated by the EPA are based on a default CSM that does not accurately describe many Alaskan sites. Climatic conditions and soil properties vary significantly across the state. For this project, four different CSMs were developed to describe conditions typically found in Alaska. Each model corresponds to one of the four climatic regions present in the State of Alaska (Figure 1). The four models are presented in section 3.



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Climatic Zones of Alaska

Cleanup Matrix for Hazardous Substances in Soil
Various Sites, Alaska

FIGURE 1

DRAWN	PROJECT NUMBER	APPROVED	DATE	FILE NAME
JP	29092	SED	12/94	392j

2.4 Variable Parameters and Soil Screening Levels

The equations used by the EPA to calculate the list of generic SSLs require various input parameters including exposure assumptions and site characteristic data. The values selected by the EPA for each parameter were based on the default CSM. Similarly, input parameter values corresponding to each of the four Alaskan climatic regions were used to calculate Alaskan SSLs. A list of variable input parameters and equations used by the EPA and the values corresponding to the Alaskan models are presented in section 4. Conservative values were selected for soil properties such as organic carbon content. Where a wide range of variability exists within the Alaskan regions, the EPA default values were retained. Several combinations of input parameters were used for each Alaskan model to calculate SSL tables.

The Alaskan SSL tables, calculated to correspond to several different possible combinations of site conditions within each climatic zone, were meant to provide a step midway between the generic EPA SSLs and SSLs calculated using the EPA's simple site-specific method. This would allow users and regulators to rapidly identify SSLs that are fairly site-specific, without having to actually apply the numerous EPA equations.

2.5 Sensitivity Analysis

After appropriate ranges of possible values for site-dependent information were defined, a semi-quantitative sensitivity analysis was conducted to identify the most influential variables. The most important variables obtained with a reasonable amount of effort and expense were included in the development of the soil cleanup matrix.

2.6 Soil Cleanup Matrix

Throughout development of the Alaskan SSL tables and completion of the sensitivity analysis, a methodology was developed to allow users to identify, through site characteristic data, the most appropriate SSL table for a site. A preliminary soil cleanup matrix, somewhat similar to the ADEC matrix for evaluating underground storage tank sites (Title 18, Alaska Administrative Code, Chapter 78 [18 AAC 78]), was developed. The matrix includes a questionnaire in which the user selects from specified options the values corresponding best with the site in question. An evaluation system directs the user to the table of SSL values most appropriate for the site.

3.0 DETAILED CONCEPTUAL SITE MODELS

The EPA's soil screening framework default CSM and corresponding default values for climatic variables differ from the typical conditions found in Alaska. Alaskan climatic variables were changed to correspond to the four major climatic zones within the state. Other elements of the EPA default CSM, such as land usage and exposure pathways, remained constant. The following are input parameters and major assumptions used by the EPA to define its default CSM that were retained in the four Alaskan CSMs:

Parameters

- Body weights, soil ingestion rates, and age-adjusted soil ingestion factors;
- Residential land usage.

Assumptions

- Three pathways of exposure to site contaminants exist: soil ingestion, volatiles and fugitive dust inhalation, and groundwater ingestion via contaminant migration through soil to an underlying potable aquifer;
- The source area is a 30-acre square;
- Contamination is evenly distributed across the source area and extends from the ground surface to the top of the aquifer;
- The receptor well is entirely within the contaminant plume at the edge of the site.

Some input parameters have been changed from EPA default values to Alaskan default values. Other input parameters have been selected to correspond to the following four Alaskan climatic regions (Hartman, 1984):

- **Maritime** - Small temperature variations, heavy precipitation, little or no freezing weather, cool summers and warm winters. Mean annual temperature is 35 to 45 degrees Fahrenheit (°F). Average wind speed is 20 kilometers per hour (kph). Average total precipitation (including snow) is 80 inches. Precipitation ranges from 40 to 300 inches.
- **Transitional** - More pronounced temperature variations throughout the day and year, and lower precipitation. Mean annual temperature is 25 to 35°F. Average wind speed is 16 kph. Average total precipitation is 22 inches. Precipitation ranges from 20 to 120 inches.
- **Continental** - Large diurnal and annual temperature variations, and low precipitation. Mean annual temperature is 15 to 25°F. Average wind speed is 9 kph. Average total precipitation is 12 inches. Precipitation ranges from 10 to 80 inches.
- **Arctic** - Precipitation very light, continuous permafrost, mean annual temperature 10 to 20°F. Average wind speed is 18 kph. Average total precipitation is 8 inches. Precipitation ranges from 0 to 20 inches.

Tables 1 and 2 present variables used to calculate SSLs and to apply EPA defaults, Alaskan defaults, or Alaskan site-specific values.

4.0 EQUATIONS AND VARIABLES

The following section details the equations used to calculate SSLs and the variables comprised by the equations. For each variable, the definition, the EPA default values, and the Alaskan values used to calculate SSLs are included. Values for soil characteristic data for gravelly sand, silty sand, and silt were taken from the values assigned by the Hydrologic Evaluation of Landfill Performance (HELP) model. Values for soil characteristic data for gravel were defined by HLA, because the HELP model did not have default values for gravel. Tables 3 through 5 present the equations and variables used to calculate SSLs for ingestion, inhalation, and groundwater pathways.

For the migration to groundwater pathway, the calculated SSL is multiplied by a dilution factor or a dilution and attenuation factor (DAF) in the generic scenario. Although the EPA uses a DAF of 10 for its generic SSLs, equations for calculating simple site-specific dilution factors are included in the EPA's technical document. Those equations require generating site-specific infiltration rates using the HELP model. The HELP model uses a water balance calculation and site-specific climatic data to calculate infiltration rates. HELP contains a meteorological database of 5 years of measured precipitation, and temperature and solar radiation data for approximately 100 cities in the United States, including Fairbanks, Alaska. Instead of using the generic DAF of 10, dilution factors for the continental climate zone were calculated based on the results of HELP modeling using Fairbanks climatic data, and were applied to the Alaskan SSLs. Table 6 summarizes input parameters used in the HELP model to generate infiltration rates.

5.0 SENSITIVITY ANALYSIS AND SOIL SCREENING LEVELS

5.1 Ingestion Pathway

In the equations used to calculate SSLs for the ingestion pathway, soil characteristic data are unnecessary. The soil ingestion rates typically used in risk assessments were also used in calculating Alaskan SSLs and do not depend on soil classifications. The differences between the generic EPA ingestion SSLs and the Alaskan ingestion SSLs are attributed solely to differences in the exposure frequencies and in the target cancer risks. Therefore, sensitivity analysis was not necessary. Alaskan ingestion SSLs are identical for all soil types within the same climatic region. Table 7 presents SSLs for the ingestion pathway for the four Alaskan climatic regions.

Table 1. Variable Input Parameters and Defaults/Values Used to Calculate Soil Screening Levels

Parameters	U.S. Environmental Protection Agency Default	Alaskan Default	Site Specific Value
Body weights, soil ingestion rates, averaging times for carcinogens, exposure interval	X		
Exposure duration for inhalation, maximum leaf area index, soil characteristic data		X	
Exposure frequency, mean annual wind speed, evaporative zone depth, inverse of the mean concentration at the center of a 30-acre square source			X

Parameters	Proposed Values and Rationale
Exposure Duration for Inhalation	Exposure duration is the input parameter developed to account for how long a person lives or works at a single location. According to the U.S. Environmental Protection Agency's (EPA's) *Exposure Factors Handbook*, Alaskans stay in the same location for 5 years, only 60 percent as often as other Americans. The EPA default assumption of 30-year residency in the same area is highly conservative. To account for Alaskans' mobility, the exposure duration has been adjusted to 18 years (60 percent of the default value of 30).

Table 1. Variable Input Parameters and Defaults/Values Used to Calculate Soil Screening Levels (continued)

Parameters	Proposed Values and Rationale
Maximum Leaf Area Index	The index was selected from available values in the Hydrologic Evaluation of Landfill Performance (HELP) model. According to the model, only poor grass (index = 1.0) is possible due to precipitation conditions without irrigation and growing season length.
Soil Characteristic Data	Data were developed for four possible soil types taken from the HELP model: gravel, gravelly sand, silty sand, and silt.
Exposure frequency	An influential factor depending on climatic conditions is the length of time surface soil is frozen. It is assumed that soil is not frozen in the maritime climates, frozen 3 months per year in transitional climates, frozen 6 months per year in continental climates, and frozen 9 months per year in the arctic. The standard EPA default value for exposure frequency is 350 days per year (d/y), which assumes year-round exposure to surface soil. Since receptors are generally not exposed to surface soil when it is frozen and/or snow covered, exposure frequencies for the four Alaskan regions are as follows: maritime = 350 d/y; transitional = 270 d/y; continental = 180 d/y; and arctic = 90 d/y.
Mean Annual Wind Speed	Wind speeds were based on actual climatic data: maritime = 20 kilometers per hour (kph); transitional = 16 kph; continental = 9 kph; arctic = 18 kph.
Evaporative Zone Depth	Depths were developed to correspond to bare ground (4 inches) and fair grass cover (12 inches).
Inverse of the Mean Concentration at the Center of a 30-Acre-Square Source	Inverses were selected from available EPA values, based on similarity of climates: maritime = 42.81 (Seattle, Washington, value); transitional = 40.14 (Salt Lake City, Utah, value); continental = 46.84 (Minneapolis, Minnesota, value); arctic = 51.68 (Casper, Wyoming, value).

Table 2. Soil Characteristic Data For HELP Model Soil Types Used to Calculate Soil Screening Levels

Parameter/Definition (Units)	EPA Default	Gravel	Gravelly Sand	Silty Sand	Silt
n/total soil porosity (L_{pore}/L_{soil})	0.43	0.3	0.437*	0.457*	0.501*
p_s/soil particle density (g/cm^3)	2.65	2.65	2.65	2.65	2.65
p_b/dry soil bulk density (g/cm^3)	1.5 or $(1-n)p_s$	1.855	1.492	1.439	1.322
Θw/water-filled soil porosity (L_{water}/L_{soil})	$n-\Theta a$ or wp_b	0.0519	0.0931	0.1884	0.3751
Θa/air-filled soil porosity (L_{air}/L_{soil})	$n-wp_b$	0.2481	0.3439	0.2686	0.1259
w/average soil moisture content (g_{water}/g_{soil})	10 percent or 0.1 inhalation pathway; 20 percent or 0.2 migration to groundwater pathway	0.028*	0.0624*	0.1309*	0.2837*
Saturated hydraulic conductivity (cm/s)					
4-inch evaporative depth	--	1	0.0058*, .1	0.001*, .01	.00019*, .001
12-inch evaporative depth	--	1	0.0174*, .1	0.003*, .01	.00057*, .001
Organic carbon content (percent)	0.006 .001 inhalation pathway; 0.002 migration to groundwater pathway	0.0015, 0.0025, 0.0035	0.0015, 0.0025, 0.0035	0.0015, 0.0025, 0.0035	0.0015, 0.0025, 0.0035

--	EPA default not applied
*	Values selected from HELP model
cm/s	Centimeters per second
EPA	U.S. Environmental Protection Agency
g/cm^3	Grams per cubic centimeter
L_{air}/L_{soil}	Liters of air per liters of soil
L_{pore}/L_{soil}	Liters of pore space per liters of soil
L_{water}/L_{soil}	Liters of water per liters of soil

Table 3. Ingestion Pathway Screening Level Equations and Variables For the Four Alaskan Climatic Regions

Ingestion of Noncarcinogenic Contaminants in Residential Soil

$$\text{Screening Level (mg/kg)} = \frac{THQ \times BW \times AT \times 365\ d/yr}{1/RfD_o \times 10^{-6}\ kg/mg \times EF \times ED \times IR}$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental	Arctic
THQ/target hazard quotient (unitless)	1	1	1	1	1
BW/body weight (kg)	15	15	15	15	15
AT/averaging time (yr)	6[a]	6	6	6	6
RfD_o/oral reference dose (mg/kg-d)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
EF/exposure frequency (d/yr)	350	350	270	180	90
ED/exposure duration (yr)	6	6	6	6	6
IR/soil ingestion rate (mg/d)	200	200	200	200	200

Ingestion of Carcinogenic Contaminants in Residential Soil

$$\text{Screening Level (mg/kg)} = \frac{TR \times AT \times 365\ d/yr}{SF_o \times 10^{-6}\ kg/mg \times EF \times IF_{soil/adj}}$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental	Arctic
TR/target cancer risk (unitless)	10^{-6}	10^{-5}	10^{-5}	10^{-5}	10^{-5}
AT/averaging time (yr)	70	70	70	70	70
SF_o/oral slope factor $(mg/kg\text{-}d)^{-1}$	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
EF/exposure frequency (d/yr)	350	350	270	180	90
$IF_{soil/adj}$/age-adjusted soil ingestion factor (mg-yr/kg-d)	114	114	114	114	114

Table 3. Ingestion Pathway Screening Level Equations and Variables For the Four Alaskan Climatic Regions (continued)

Age-Adjusted Soil Ingestion Factor, $IF_{soil/adj}$

$$IF_{soil/adj}\ (mg\text{-}yr/kg\text{-}d) = \frac{IR_{soil/age\ 1\text{-}6} \times ED_{age\ 1\text{-}6}}{BW_{age\ 1\text{-}6}} + \frac{IR_{soil/age\ 7\text{-}31} \times ED_{age\ 7\text{-}31}}{BW_{age\ 7\text{-}31}}$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental	Arctic
$IF_{soil/adj}$/age-adjusted soil ingestion factor (mg-yr/kg-d)	114	114	114	114	114
$IR_{soil/age\ 1\text{-}6}$/ingestion rate of soil age 1-6 (mg/d)	200	200	200	200	200
$ED_{age\ 1\text{-}6}$/exposure duration during ages 1-6 (yr)	6	6	6	6	6
$IR_{soil/age\ 7\text{-}31}$/ingestion rate of soil age 7-31 (mg/d)	100	100	100	100	100
$ED_{age\ 7\text{-}31}$/exposure duration during ages 7-31 (yr)	24	24	24	24	24
$BW_{age\ 1\text{-}6}$/average body weight from ages 1-6 (kg)	15	15	15	15	15
$BW_{age\ 7\text{-}31}$/average body weight from ages 7-31 (kg)	70	70	70	70	70

EPA	U.S. Environmental Protection Agency
kg	Kilograms
d/yr	Days per year
mg/d	Milligrams per day
mg-yr/kg-d	Milligrams years per kilogram days
mg/kg-d	Milligrams per kilogram days
yr	Year

a. For noncarcinogens, averaging time is equal to exposure duration. Unlike *Risk Assessment Guidance for Superfund (RAGS) Part B*, soil screening levels are calculated only for 6-year childhood exposure.

Source: RAGS Part B (EPA, 1991a).

Table 4. Inhalation Pathway Screening Level Equations For the Four Alaskan Climatic Regions

Inhalation of Carcinogenic Contaminants in Residential Soil

$$\text{Screening Level (mg/kg)} = \frac{TR \times AT \times 365\ d/yr}{URF \times 1{,}000\ \mu g/mg \times EF \times ED \times \left(\frac{1}{VF} + \frac{1}{PEF}\right)}$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental	Arctic
TR/target cancer risk (unitless)	10^{-6}	10^{-5}	10^{-5}	10^{-5}	10^{-5}
AT/averaging time (yr)	70	70	70	70	70
URF/inhalation unit risk factor $(\mu g/m^3)^{-1}$	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
EF/exposure frequency (d/yr)	350	350	270	180	90
ED/exposure duration (yr)	30	18	18	18	18
VF/soil-to-air volatilization factor (m^3/kg)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
PEF/particulate emission factor (m^3/kg)	6.79×10^8	3.72×10^8	6.86×10^8	4.48×10^9	6.18×10^8

Inhalation of Noncarcinogenic Contaminants in Residential Soil

$$\text{Screening Level (mg/kg)} = \frac{THQ \times AT \times 365\ d/yr}{EF \times ED \times \left[\frac{1}{RfC} \times \left(\frac{1}{VF} + \frac{1}{PEF}\right)\right]}$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental	Arctic
THQ/target hazard quotient (unitless)	1	1	1	1	1
AT/averaging time (yr)	30	18	18	18	18
EF/exposure frequency (d)	350	350	270	180	90
ED/exposure duration (yr)	30	18	18	18	18
RfC/inhalation reference concentration (mg/m^3)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
VF/soil-to-air volatilization factor (m^3/kg)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
PEF/particulate emission factor (m^3/kg)	6.79×10^8	3.72×10^8	6.86×10^8	4.48×10^9	6.18×10^8

Table 4. Inhalation Pathway Screening Level Equations For the Four Alaskan Climatic Regions (continued)

Derivation of the Volatilization Factor

$$VF\ (m^3/kg) = Q/C \times \frac{(3.14 \times \alpha \times T)^{1/2}}{(2 \times D_{ei} \times \Theta_a \times K_{as})} \times 10^{-4}\ m^3/cm^3$$

where: $$\alpha = \frac{D_{ei} \times \Theta_a}{\Theta_a + (p_s)(1 - \Theta_a)/K_{as}}$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental	Arctic
VF/volatilization factor (m^3/kg)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
Q/C/inverse of the mean conc. at the center of a 30-acre square source (g/m^2-s per kg/m^3)	35.10	42.81	40.14	46.84	51.68
T/exposure interval (s)	9.5×10^8	9.5×10^8	9.5×10^8	9.5×10^8	9.5×10^8
D_{ei}/effective diffusivity (cm^2/s)	$D_i(\Theta_a^{3.33}/n^2)$	$D_i(\Theta_a^{3.33}/n^2)$	$D_i(\Theta_a^{3.33}/n^2)$	$D_i(\Theta_a^{3.33}/n^2)$	$D_i(\Theta_a^{3.33}/n^2)$
Θ_a/air-filled soil porosity (L_{air}/L_{soil})	0.28 or $n-wp_b$	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific
D_i/diffusivity in air (cm^2/s)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
n/total soil porosity (L_{pore}/L_{soil})	0.43	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific
w/average soil moisture content (g_{water}/g_{soil})	0.1 (10%)	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific
p_b/dry soil bulk density (g/cm^3)	1.5 or $(1 - n)\ p_s$	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific
p_s/soil particle density (g/cm^3)	2.65	2.65	2.65	2.65	2.65
K_{as}/soil-air partition coefficient (g-soil/cm^3-air)	$(H/K_d) \times 41$ (41 is a conversion factor)	$(H/K_d) \times 41$ (41 is a conversion factor)	$(H/K_d) \times 41$ (41 is a conversion factor)	$(H/K_d) \times 41$ (41 is a conversion factor)	$(H/K_d) \times 41$ (41 is a conversion factor)
H/Henry's law constant (atm-m^3/mol)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
K_d/soil-water partition coefficient (cm^3/g)	$K_{oc} \times f_{oc}$ (organics)	$K_{oc} \times f_{oc}$ (organics)	$K_{oc} \times f_{oc}$ (organics)	$K_{oc} \times f_{oc}$ (organics)	$K_{oc} \times f_{oc}$ (organics)
K_{oc}/organic carbon partition coefficient (cm^3/g)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
f_{oc}/organic carbon content of soil (g/g)	0.006 (0.6%)	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific

Table 4. Inhalation Pathway Screening Level Equations For the Four Alaskan Climatic Regions (continued)

Derivation of the Soil Saturation Limit

$$C_{sat} = \frac{S}{p_b}(K_d\, p_b + \Theta_w + H'\Theta_a)$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental	Arctic
C_{sat}/soil saturation concentration (mg/kg)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
S/solubility in water (mg/L-water)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
p_b/dry soil bulk density (kg/L)	1.5 or (1-n) p_s	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific
n/total soil porosity (L_{pore}/L_{soil})	0.43	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific
p_s/soil particle density (kg/L)	2.65	2.65	2.65	2.65	2.65
K_d/soil-water partition coefficient (L/kg)	K_{oc} x f_{oc} (organics)	K_{oc} x f_{oc} (organics)	K_{oc} x f_{oc} (organics)	K_{oc} x f_{oc} (organics)	K_{oc} x f_{oc} (organics)
K_{oc}/soil organic carbon-water partition (L/kg)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
f_{oc}/organic carbon content of soil (g/g)	0.006 (0.6%)	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific
Θ_w/water-filled soil porosity (L_{water}/L_{soil})	0.15 or n - Θ_a or wp_b	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific
Θ_a/air-filled soil porosity (L_{air}/L_{soil})	0.28 or n - wp_b	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific
w/average soil moisture content (g_{water}/g_{soil})	10% or 0.1	Soil type-specific	Soil type-specific	Soil type-specific	Soil type-specific
H'/Henry's law constant (unitless)	H x 41 (41 is a conversion factor)	H x 41 (41 is a conversion factor)	H x 41 (41 is a conversion factor)	H x 41 (41 is a conversion factor)	H x 41 (41 is a conversion factor)
H/Henry's law constant (atm-m^3/mol)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific

Table 4. Inhalation Pathway Screening Level Equations For the Four Alaskan Climatic Regions (continued)

Derivation of the Particulate Emission Factor

$$PEF\ (m^3/kg) = Q/C \times \frac{3{,}600\ s/h}{0.036 \times (1-V) \times (U_m/U_t)^3 \times F(x)}$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental	Arctic
PEF/particulate emission factor (m^3/kg)	6.79×10^8	3.72×10^8	6.86×10^8	4.48×10^9	6.18×10^8
Q/C/inverse of the mean conc. at the center of a 30-acre-square source (g/m^2-s per kg/m^3)	46.84	42.81	40.14	46.84	51.68
V/fraction of vegetative cover (unitless)	0.5 (50%)	0.5	0.5	0.5	0.5
U_m/mean annual wind speed (m/s)	4.69	5.56	4.44	2.5	5.0
U_t/equivalent threshold value of wind speed at 7 m (m/s)	11.32	11.32	11.32	11.32	11.32
F(x)/function dependent on U_m/U_t (unitless)	0.194	0.194	0.194	0.194	0.194

atm-m^3	Atmospheres per cubic meter	L/kg	Liters per kilogram
cm^2/s	Square centimeters per second	L_{air}/L_{soil}	Liters of air per liters of soil
cm^3-air	Cubic centimeters of air	L_{pore}/L_{soil}	Liters of pore space per liters of soil
cm^3/g	Cubic centimeters per gram	L_{water}/L_{soil}	Liters of water per liters of air
d	Days	mol	Mole
d/yr	Days per year	m^3/kg	Cubic meters per kilogram
EPA	U.S. Environmental Protection Agency	mg/kg	Milligrams per kilogram
g/cm^3	Grams per cubic centimeter	mg/L-water	Milligrams per liter in water
g/g	Grams per gram	mg/m^3	Milligrams per cubic meter
g-soil	Grams of soil	m/s	Miles per second
g_{water}/g_{soil}	Grams of water per grams of soil	s	Seconds
g/m^2-s	Grams per square meter per second	s/h	Seconds per hour
kg/L	Kilograms per liter	yr	Year
kg/m^3	Kilograms per cubic meter	$\mu g/m^3$	Micrograms per cubic meter

Source: *Risk Assessment Guidance for Superfund (RAGS) Part B* (EPA, 1991a).

Table 5. Groundwater Pathway Screening Level Equations For Three Alaskan Climatic Regions[a]

Partitioning Equation for Migration to Groundwater

$$\text{Screening Level in Soil (mg/kg)} = C_w\left(K_d + \frac{(\Theta_w + \Theta_a H')}{p_b}\right)$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental
C_w/target soil leachate concentration (mg/L)	Nonzero MCLG, MCL, HBL x dilution factor, Chemical-specific	MCL, HBL x dilution factor, Chemical-specific	MCL, HBL x dilution factor, Chemical-specific	MCL, HBL x dilution factor, Chemical-specific
K_d/soil-water partition coefficient (L/kg)	Chemical-specific, K_{oc} x f_{oc} (organics only)	Chemical-specific, K_{oc} x f_{oc} (organics only)	Chemical-specific, K_{oc} x f_{oc} (organics only)	Chemical-specific, K_{oc} x f_{oc} (organics only)
K_{oc}/soil organic carbon partition coefficient (L/kg)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific
F_{oc}/fraction organic carbon in soil (g/g)	0.002 (0.2%)	Soil type-specific	Soil type-specific	Soil type-specific
Θ_w/water-filled soil porosity (L_{water}/L_{soil})	0.3 or wp_b	Soil type-specific	Soil type-specific	Soil type-specific
w/average soil moisture content (kg [water]/kg [soil])	0.2 (20%)	Soil type-specific	Soil type-specific	Soil type-specific
p_b/dry soil bulk density (kg/L)	1.5 or (1- n) p_s	Soil type-specific	Soil type-specific	Soil type-specific
n/soil porosity (L_{pore}/L_{soil})	0.43	Soil type-specific	Soil type-specific	Soil type-specific
p_s/soil particle density (kg/L)	2.65	2.65	2.65	2.65

Table 5. Groundwater Pathway Screening Level Equations For Three Alaskan Climatic Regions[a] (continued)

Partitioning Equation for Migration to Groundwater

$$\text{Screening Level in Soil (mg/kg)} = C_w\left(K_d + \frac{(\Theta_w + \Theta_a H')}{\rho_b}\right)$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental
Θ_a/air-filled soil porosity (L_{air}/L_{soil})	0.13 or ($n - \Theta_w$)	Soil type-specific	Soil type-specific	Soil type-specific
H'/Henry's law constant (unitless)	H x 41 (41 is a conversion factor)	H x 41 (41 is a conversion factor)	H x 41 (41 is a conversion factor)	H x 41 (41 is a conversion factor)
H/Henry's law constant (atm-m^3/mol)	Chemical-specific	Chemical-specific	Chemical-specific	Chemical-specific

Derivation of the Dilution Factor

$$\text{Dilution factor} = 1 + \frac{Kid}{IL}$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental
K/aquifer hydraulic conductivity (m/yr)	NE	Soil-type specific	Soil-type specific	Soil-type specific
i/hydraulic gradient (m/m)	NE	0.001	0.001	0.001
d/mixing zone depth (m)	NE	Soil-type specific	Soil-type specific	Soil-type specific
I/infiltration rate (m/yr)	NE	Soil-type specific	Soil-type specific	Soil-type specific
L/source length parallel to groundwater flow (m)	349	349	349	349

Table 5. Groundwater Pathway Screening Level Equations For Three Alaskan Climatic Regions[a] (continued)

Estimation of Mixing Zone Depth

$$d = (0.0112\ L^2)^{0.5} + d_a\ \{1 - \exp[(-LI)/(Kid_a]\}$$

Parameter/Definition (units)	EPA Default	Maritime	Transitional	Continental
i/hydraulic gradient (m/m)	NE	0.001	0.001	0.001
L/source length parallel to groundwater flow (m)	349	349	349	349
I/infiltration rate (m/yr)	NE	Soil-type specific	Soil-type specific	Soil-type specific
K/aquifer hydraulic conductivity (m/yr)	NE	Soil-type specific	Soil-type specific	Soil-type specific
d_a/aquifer thickness (m)	NE	10	10	10

$atm\text{-}m^3$	Atmospheres per cubic meter	L_{pore}/L_{soil}	Liters of pore space per liters of soil
EPA	U.S. Environmental Protection Agency	L_{water}/L_{soil}	Liters of water per liters of soil
g/g	Grams per gram	m	Meters
HBL	Health-based level	m/m	Meters per meter
kg/L	Kilograms per liter	m/yr	Meters per year
kg [water]/kg [soil]	Kilogram of water per kilograms of soil	MCL	Maximum contaminant level
L/kg	Liters per kilogram	MCLG	Maximum contaminant level goal
L_{air}/L_{soil}	Liters of air per liters of soil	mg/L	Milligrams per liter
		mol	Mole
		NE	Not established

a. Arctic screening levels were not calculated, because the continuous permafrost eliminates the groundwater pathway.

Source: *Technical Background Document For Draft Soil Screening Level Framework* (EPA, 1994b).

Table 6. HELP Input Parameters For Identifying Site-Specific Infiltration Rates

Parameter	Value	Notes
Location of Site	Site specific	Data available for 100 cities. Select city most representative of site meteorological condition. Fairbanks data used.
Duration of Infiltration Simulation	5 years	Adequate for soil screening level application.
Grass Cover	Site specific	Bare ground and fair grass used.
Soil Texture	Site specific	Gravel, gravelly sand, silty sand, and silt used.
Number of Layers	One	
Layer Type	Vertical percolation	No drainage or barrier layers should be used.
Thickness of Layer	60 inches	U.S. Environmental Protection Agency (EPA) default value.
Site Status	Active	
Fraction of Potential Runoff Allowed	1.0	Assumes site is not located in a pit or a depression.
Area of Site	30 acres	EPA default value.

HELP Hydrologic Evaluation of Landfill Performance model

Table 7. Preliminary Soil Screening Levels In Milligrams per Kilogram For Ingestion Pathways For the Four Alaskan Climatic Regions

Chemical	EPA Default	Maritime	Transitional	Continental	Arctic
Arsenic	0.4	3.6	4.6	6.9	13.8
Benzene	22	221	286	429	859
Cadmium	39	39	51	76	152
Chromium VI	390	391	507	760	1,521
1,1-Dichloroethane	7,800	7,821	10,139	15,208	30,417
1,1-Dichloroethene	1	11	14	21	42
Ethylbenzene	7,800	7,821	10,139	15,208	30,417
Mercury	23	23.5	30.4	45.6	91.3
Naphthalene	NTD	NTD	NTD	NTD	NTD
Tetrachloroethene	12	123	160	239	479
Toluene	16,000	15,643	20,278	30,417	60,833
1,1,1-Trichloroethane	NTD	NTD	NTD	NTD	NTD
Trichloroethene	58	582	755	1132	2264
Xylenes	160,000	156,429	202,778	304,167	608,333

EPA U.S. Environmental Protection Agency
NTD No toxicity data available for this pathway

Note: All soil types have the same ingestion screening levels.

5.2 Inhalation Pathway

In the equations used to calculate SSLs for the inhalation pathway, soil characteristic data and site-specific climatic data are influential. The particulate emission factor and volatilization factor both depend on a parameter defined as the inverse of the mean concentration at the center of a 30-acre square source (Q/C). The EPA technical guidance document lists Q/C values for 29 cities, and instructs the user to select the value for the city with a climate most similar to the project site. Actual values for mean annual wind speed, an equivalent threshold value of wind speed at 7 meters high, and the corresponding value of the function dependent on both are to be used if possible. The EPA used the Minneapolis , Minnesota, Q/C value and wind data to calculate the default particulate emission factor, and the Los Angeles, California, Q/C factor to calculate default volatilization factors. HLA calculated inhalation SSLs using the EPA default particulate emission and volatilization factors. HLA also calculated SSLs using a Q/C value selected to correspond to Fairbanks and the mean annual wind speed of Fairbanks. The threshold value of wind speed and dependent function value were not readily available, therefore the EPA default (Minneapolis) values were used. For inorganic compounds (arsenic, cadmium, and chromium VI), using the EPA default particulate emission resulted in SSLs approximately one order of magnitude more conservative than using the Alaskan particulate emission factor. For organic compounds, using the EPA default particulate emission factor and volatilization factors resulted in SSLs marginally more conservative than SSLs calculated using Alaskan factors (such as the difference between 5 milligrams per kilogram [mg/kg] benzene and 7 mg/kg benzene).

In addition to varying Q/C and wind values, soil organic carbon content was varied. SSLs were calculated using soil organic carbon contents of 0.15, 0.25, and 0.35 percent, values selected based on field data generated by HLA. These values are significantly less than the EPA default value of 0.6 percent. Other values for soil characteristic data, such as porosity, densities, etc., were taken from the HELP model. The variation of organic carbon content had a significant enough effect on SSLs to consider including an organic carbon content categorization as a feature of the soil cleanup matrix questionnaire.

In some instances, the inhalation SSLs calculated using volatilization factors exceed the soil concentration at which soil particles, soil air, and soil pore water are saturated with contaminant. In those cases, the SSL is set equal to the soil saturation limit. The soil saturation limit depends on soil characteristic data. Soil saturation limits were calculated using the organic carbon content values listed above. Because the saturation limits do not depend on climatic data, the soil saturation limit calculated for each soil type is the same regardless of climatic zone.

Inhalation SSLs and soil saturation limits corresponding to the combinations of variables described above are tabulated in Appendix A. At the direction of the ADEC, only continental climatic region (Fairbanks) inhalation SSLs were calculated. To calculate inhalation SSLs for the other climatic regions would require changing Q/C and wind variables, and exposure frequencies.

5.3 Migration to Groundwater Pathway

In the equations used to calculate SSLs and dilution factors for the migration to groundwater pathway, several variables were included in the sensitivity analysis. The source length parallel to groundwater flow was varied to correspond to a source from 1 to 30 acres in size, which did not significantly change the resulting dilution factors. The thickness of the aquifer was varied from 5 to 100 meters, which did not significantly change the resulting dilution factors. Organic carbon content was varied from 0.15 percent to 0.35 percent. Similar to the inhalation pathway, the variation of organic carbon content had a significant enough effect on SSLs to consider including an organic carbon content categorization as a feature of the soil cleanup matrix questionnaire. SSLs and dilution factors were calculated using hydraulic conductivity values taken from the HELP model and values assigned by HLA. The

HELP model defines two different values for hydraulic conductivity, based on two evaporative depths. The hydraulic conductivity values assigned by HLA were constant for both evaporative depths. The variations of hydraulic conductivity did not significantly alter the infiltration rates calculated by the HELP model; however, the dilution factors were significantly changed. The greater the hydraulic conductivity is, the greater the resulting dilution rate becomes and the greater the corresponding SSL.

Migration to groundwater SSLs corresponding to the combinations of variables described above are tabulated in Appendix B. At the direction of the ADEC, only continental climatic region (Fairbanks) migration to groundwater SSLs were calculated. To calculate migration to groundwater SSLs for the other climatic regions would require obtaining additional infiltration rates using the HELP model. Copies of the HELP modeling printouts are included in Appendix C.

5.4 Soil Cleanup Level Matrix

A preliminary soil cleanup matrix questionnaire was developed to consider the different combinations of conditions and variables described above. The questionnaire would allow users to select appropriate data categories for the site in question. Further development of the soil cleanup matrix was suspended. A copy of the preliminary questionnaire is presented in Appendix D.

6.0 CONCLUSIONS

With the exception of the arctic climatic zone and in cases of nonpotable groundwater, the migration to groundwater SSLs are the most conservative and will be applied to most sites. Alaskan migration to groundwater SSLs, calculated using properties and hydraulic conductivities defined by HELP, are generally more conservative than the EPA generic migration to groundwater SSLs. Alaskan migration to groundwater SSLs calculated using hydraulic conductivities and/or properties defined by HLA are less conservative than Alaskan SSLs calculated using the HELP values and EPA generic migration to groundwater SSLs, with the exception of silt. Except for gravel, which had soil properties and hydraulic conductivity defined by HLA, the migration to groundwater SSLs for benzene, including the EPA generic SSL, were significantly more conservative than the concentrations allowed in 18 AAC 78.

7.0 REFERENCES

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APPENDIX A

INHALATION SOIL SCREENING LEVELS AND SOIL SATURATION LIMITS

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0015

Inhalation, with EPA-default particulate emission factor, volatilization factor	SW	SM	ML	GP	EPA Default
Arsenic	7.47E+03	7.47E+03	7.47E+03	7.47E+03	3.84E+02
Benzene	3.14E+00	5.60E+00	3.16E+01	4.37E+00	5.56E-01
Cadmium	1.78E+04	1.78E+04	1.78E+04	1.78E+04	9.18E+02
Chromium	2.68E+03	2.68E+03	2.68E+03	2.68E+03	1.38E+02
1,1-Dichloroethane	5.36E+02	9.63E+02	5.50E+03	7.52E+02	9.71E+02
1,1-Dichloroethene	1.81E-01	3.43E-01	2.21E+00	2.72E-01	4.05E-02
Ethylbenzene	2.21E+03	3.83E+03	2.06E+04	2.97E+03	3.58E+03
Mercury	4.13E+05	4.13E+05	4.13E+05	4.13E+05	2.12E+05
Naphthalene	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data
Tetrachloroethene	6.77E+01	1.19E+02	6.51E+02	9.22E+01	1.14E+01
Toluene	6.98E+02	1.22E+03	6.61E+03	9.44E+02	1.15E+03
1,1,1-Trichloroethane	7.25E+02	1.33E+03	7.95E+03	1.04E+03	1.42E+03
Trichloroethene	1.43E+01	2.58E+01	1.47E+02	2.01E+01	2.60E+00
Xylenes	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0015

Inhalation, with Alaskan particulate emission factor, volatilization factor	SW	SM	ML	GP	EPA Default
Arsenic	4.93E+04	4.93E+04	4.93E+04	4.93E+04	3.84E+02
Benzene	4.19E+00	7.48E+00	4.22E+01	5.83E+00	5.56E-01
Cadmium	1.18E+05	1.18E+05	1.18E+05	1.18E+05	9.18E+02
Chromium	1.77E+04	1.77E+04	1.77E+04	1.77E+04	1.38E+02
1,1-Dichloroethane	7.15E+02	1.28E+03	7.34E+03	1.00E+03	9.71E+02
1,1-Dichloroethene	2.42E-01	4.58E-01	2.95E+00	3.63E-01	4.05E-02
Ethylbenzene	2.95E+03	5.12E+03	2.75E+04	3.96E+03	3.58E+03
Mercury	2.73E+06	2.73E+06	2.73E+06	2.73E+06	2.12E+05
Naphthalene	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data
Tetrachloroethene	9.03E+01	1.59E+02	8.69E+02	1.23E+02	1.14E+01
Toluene	9.32E+02	1.63E+03	8.82E+03	1.26E+03	1.15E+03
1,1,1-Trichloroethane	9.67E+02	1.77E+03	1.06E+04	1.39E+03	1.42E+03
Trichloroethene	1.91E+01	3.44E+01	1.96E+02	2.68E+01	2.60E+00
Xylenes	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0025

Inhalation, with EPA-default particulate emission factor, volatilization factor	SW	SM	ML	GP	EPA Default
Arsenic	7.47E+03	7.47E+03	7.47E+03	7.47E+03	3.84E+02
Benzene	4.36E+00	7.65E+00	4.19E+01	5.93E+00	5.56E-01
Cadmium	1.78E+04	1.78E+04	1.78E+04	1.78E+04	9.18E+02
Chromium	2.68E+03	2.68E+03	2.68E+03	2.68E+03	1.38E+02
1,1-Dichloroethane	7.51E+02	1.32E+03	7.32E+03	1.03E+03	9.71E+02
1,1-Dichloroethene	2.74E-01	5.06E-01	3.08E+00	3.99E-01	4.05E-02
Ethylbenzene	2.95E+03	5.07E+03	2.68E+04	3.91E+03	3.58E+03
Mercury	4.13E+05	4.13E+05	4.13E+05	4.13E+05	2.12E+05
Naphthalene	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data
Tetrachloroethene	9.19E+01	1.59E+02	8.54E+02	1.23E+02	1.14E+01
Toluene	9.40E+02	1.62E+03	8.64E+03	1.25E+03	1.15E+03
1,1,1-Trichloroethane	1.05E+03	1.88E+03	1.07E+04	1.47E+03	1.42E+03
Trichloroethene	2.01E+01	3.54E+01	1.96E+02	2.75E+01	2.60E+00
Xylenes	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0025

Inhalation, with Alaskan particulate emission factor, volatilization factor	SW	SM	ML	GP	EPA Default
Arsenic	4.93E+04	4.93E+04	4.93E+04	4.93E+04	3.84E+02
Benzene	5.82E+00	1.02E+01	5.59E+01	7.92E+00	5.56E-01
Cadmium	1.18E+05	1.18E+05	1.18E+05	1.18E+05	9.18E+02
Chromium	1.77E+04	1.77E+04	1.77E+04	1.77E+04	1.38E+02
1,1-Dichloroethane	1.00E+03	1.77E+03	9.77E+03	1.37E+03	9.71E+02
1,1-Dichloroethene	3.65E-01	6.75E-01	4.12E+00	5.32E-01	4.05E-02
Ethylbenzene	3.94E+03	6.77E+03	3.58E+04	5.22E+03	3.58E+03
Mercury	2.73E+06	2.73E+06	2.73E+06	2.73E+06	2.12E+05
Naphthalene	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data
Tetrachloroethene	1.23E+02	2.12E+02	1.14E+03	1.64E+02	1.14E+01
Toluene	1.25E+03	2.16E+03	1.15E+04	1.67E+03	1.15E+03
1,1,1-Trichloroethane	1.40E+03	2.51E+03	1.43E+04	1.96E+03	1.42E+03
Trichloroethene	2.68E+01	4.73E+01	2.61E+02	3.67E+01	2.60E+00
Xylenes	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0035

Inhalation, with EPA-default particulate emission factor, volatilization factor	SW	SM	ML	GP	EPA Default
Arsenic	7.47E+03	7.47E+03	7.47E+03	7.47E+03	3.84E+02
Benzene	5.34E+00	9.29E+00	5.01E+01	7.19E+00	5.56E-01
Cadmium	1.78E+04	1.78E+04	1.78E+04	1.78E+04	9.18E+02
Chromium	2.68E+03	2.68E+03	2.68E+03	2.68E+03	1.38E+02
1,1-Dichloroethane	9.25E+02	1.61E+03	8.77E+03	1.25E+03	9.71E+02
1,1-Dichloroethene	3.52E-01	6.43E-01	3.79E+00	5.04E-01	4.05E-02
Ethylbenzene	3.55E+03	6.07E+03	3.19E+04	4.68E+03	3.58E+03
Mercury	4.13E+05	4.13E+05	4.13E+05	4.13E+05	2.12E+05
Naphthalene	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data
Tetrachloroethene	1.11E+02	1.92E+02	1.02E+03	1.48E+02	1.14E+01
Toluene	1.13E+03	1.95E+03	1.03E+04	1.50E+03	1.15E+03
1,1,1-Trichloroethane	1.31E+03	2.33E+03	1.30E+04	1.81E+03	1.42E+03
Trichloroethene	2.47E+01	4.32E+01	2.35E+02	3.35E+01	2.60E+00
Xylenes	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0035

Inhalation, with Alaskan particulate emission factor, volatilization factor	SW	SM	ML	GP	EPA Default
Arsenic	4.93E+04	4.93E+04	4.93E+04	4.93E+04	3.84E+02
Benzene	7.13E+00	1.24E+01	6.68E+01	9.59E+00	5.56E-01
Cadmium	1.18E+05	1.18E+05	1.18E+05	1.18E+05	9.18E+02
Chromium	1.77E+04	1.77E+04	1.77E+04	1.77E+04	1.38E+02
1,1-Dichloroethane	1.23E+03	2.15E+03	1.17E+04	1.67E+03	9.71E+02
1,1-Dichloroethene	4.70E-01	8.57E-01	5.05E+00	6.72E-01	4.05E-02
Ethylbenzene	4.73E+03	8.09E+03	4.26E+04	6.24E+03	3.58E+03
Mercury	2.73E+06	2.73E+06	2.73E+06	2.73E+06	2.12E+05
Naphthalene	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data
Tetrachloroethene	1.48E+02	2.56E+02	1.36E+03	1.97E+02	1.14E+01
Toluene	1.51E+03	2.60E+03	1.37E+04	2.00E+03	1.15E+03
1,1,1-Trichloroethane	1.75E+03	3.10E+03	1.73E+04	2.42E+03	1.42E+03
Trichloroethene	3.30E+01	5.76E+01	3.13E+02	4.47E+01	2.60E+00
Xylenes	No Tox Data	No Tox Data	No Tox Data	No Tox Data	No Tox Data

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0015

Soil Saturation Limit	SW	SM	ML	GP	EPA Default
Arsenic	NA	NA	NA	NA	NA
Benzene	3.54E+02	4.58E+02	6.95E+02	2.54E+02	8.60E+02
Cadmium	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA
1,1-Dichloroethane	1.01E+03	1.31E+03	1.98E+03	7.12E+02	2.36E+03
1,1-Dichloroethene	1.17E+03	1.25E+03	1.43E+03	7.78E+02	2.03E+03
Ethylbenzene	8.09E+01	9.03E+01	1.12E+02	6.96E+01	2.57E+02
Mercury	NA	NA	NA	NA	NA
Naphthalene	4.71E+01	4.92E+01	5.39E+01	4.59E+01	1.83E+02
Tetrachloroethene	1.57E+02	1.66E+02	1.86E+02	1.33E+02	4.72E+02
Toluene	1.77E+02	2.09E+02	2.81E+02	1.44E+02	5.20E+02
1,1,1-Trichloroethane	4.52E+02	4.93E+02	5.90E+02	3.25E+02	9.78E+02
Trichloroethene	3.57E+02	4.16E+02	5.50E+02	2.67E+02	8.78E+02
Xylenes	9.49E+01	1.06E+02	1.30E+02	8.40E+01	3.17E+02

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0025

Soil Saturation Limit	SW	SM	ML	GP	EPA Default
Arsenic	NA	NA	NA	NA	NA
Benzene	4.55E+02	5.60E+02	7.96E+02	3.56E+02	8.60E+02
Cadmium	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA
1,1-Dichloroethane	1.28E+03	1.58E+03	2.25E+03	9.81E+02	2.36E+03
1,1-Dichloroethene	1.37E+03	1.44E+03	1.62E+03	9.73E+02	2.03E+03
Ethylbenzene	1.19E+02	1.29E+02	1.50E+02	1.08E+02	2.57E+02
Mercury	NA	NA	NA	NA	NA
Naphthalene	7.70E+01	7.91E+01	8.38E+01	7.59E+01	1.83E+02
Tetrachloroethene	2.26E+02	2.35E+02	2.56E+02	2.03E+02	4.72E+02
Toluene	2.50E+02	2.82E+02	3.54E+02	2.17E+02	5.20E+02
1,1,1-Trichloroethane	5.68E+02	6.09E+02	7.06E+02	4.41E+02	9.78E+02
Trichloroethene	4.68E+02	5.27E+02	6.60E+02	3.78E+02	8.78E+02
Xylenes	1.43E+02	1.54E+02	1.78E+02	1.32E+02	3.17E+02

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0035

Soil Saturation Limit	SW	SM	ML	GP	EPA Default
Arsenic	NA	NA	NA	NA	NA
Benzene	5.56E+02	6.61E+02	8.97E+02	4.57E+02	8.60E+02
Cadmium	NA	NA	NA	NA	NA
Chromium	NA	NA	NA	NA	NA
1,1-Dichloroethane	1.55E+03	1.85E+03	2.52E+03	1.25E+03	2.36E+03
1,1-Dichloroethene	1.56E+03	1.64E+03	1.82E+03	1.17E+03	2.03E+03
Ethylbenzene	1.57E+02	1.67E+02	1.88E+02	1.46E+02	2.57E+02
Mercury	NA	NA	NA	NA	NA
Naphthalene	1.07E+02	1.09E+02	1.14E+02	1.06E+02	1.83E+02
Tetrachloroethene	2.96E+02	3.05E+02	3.25E+02	2.72E+02	4.72E+02
Toluene	3.23E+02	3.55E+02	4.27E+02	2.90E+02	5.20E+02
1,1,1-Trichloroethane	6.83E+02	7.25E+02	8.22E+02	5.57E+02	9.78E+02
Trichloroethene	5.79E+02	6.37E+02	7.71E+02	4.89E+02	8.78E+02
Xylenes	1.92E+02	2.02E+02	2.26E+02	1.81E+02	3.17E+02

APPENDIX B

MIGRATION TO GROUNDWATER SOIL SCREENING LEVELS

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Length = 64
Thickness = 10

Dilution Factor, with hydraulic conductivity defined by HELP	SW	SM	ML	GP	EPA Default
4-inch evaporative depth	4.964915441	2.311514364	1.282333452	458.3416167	10
12-inch evaporative depth	22.42183828	7.366385882	2.553674962	492.490315	10

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Length = 349
Thickness = 10

Dilution Factor, with hydraulic conductivity defined by HLA	SW	SM	ML	GP	EPA Default
4-inch evaporative depth	53.13655755	8.350555142	1.596068164	458.3383225	10
12-inch evaporative depth	81.61251291	16.80537459	2.67113241	492.4872495	10

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Length = 349
Thickness = 5

Dilution Factor, with hydraulic conductivity defined by HELP	SW	SM	ML	GP	EPA Default
4-inch evaporative depth	4.445521448	1.770783647	1.129647524	458.3343083	10
12-inch evaporative depth	22.27745121	6.972881603	1.977832039	492.4835126	10

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Length = 349
Thickness = 50

Dilution Factor, with hydraulic conductivity defined by HELP	SW	SM	ML	GP	EPA Default
4-inch evaporative depth	4.956324607	2.288333003	1.268532213	458.3415495	10
12-inch evaporative depth	22.42037087	7.361498909	2.5326693	492.4902525	10

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Length = 349
Thickness = 100

Dilution Factor, with hydraulic conductivity defined by HELP	SW	SM	ML	GP	EPA Default
4-inch evaporative depth	5.009761109	2.450147501	1.411179889	458.3419539	10
12-inch evaporative depth	22.42924498	7.393303296	2.674467412	492.4906287	10

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0015

Migration to Groundwater no dilution factor	SW	SM	ML	GP	EPA Default
Arsenic	1.45E+00	1.46E+00	1.46E+00	1.45E+00	1.46E+00
Benzene	9.93E-04	1.29E-03	1.95E-03	7.15E-04	1.67E-03
Cadmium	6.00E-01	6.01E-01	6.01E-01	6.00E-01	6.01E-01
Chromium	1.91E+00	1.91E+00	1.93E+00	1.90E+00	1.91E+00
1,1-Dichloroethane	7.83E-01	1.01E+00	1.54E+00	5.52E-01	1.30E+00
1,1-Dichloroethene	2.73E-03	2.91E-03	3.34E-03	1.81E-03	2.92E-03
Ethylbenzene	3.27E-01	3.66E-01	4.52E-01	2.82E-01	4.69E-01
Mercury	2.90E-01	2.90E-01	2.91E-01	2.90E-01	2.90E-01
Naphthalene	1.51E+00	1.58E+00	1.73E+00	1.48E+00	2.13E+00
Tetrachloroethene	3.38E-03	3.57E-03	4.01E-03	2.86E-03	4.31E-03
Toluene	3.17E-01	3.74E-01	5.04E-01	2.58E-01	4.84E-01
1,1,1-Trichloroethane	7.72E-02	8.43E-02	1.01E-01	5.56E-02	9.28E-02
Trichloroethene	1.51E-03	1.76E-03	2.33E-03	1.13E-03	2.13E-03
Xylenes	5.10E+00	5.68E+00	6.98E+00	4.51E+00	7.42E+00

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0015

Migration to Groundwater 4-inch evaporative depth dilution HELP-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	6.76E+00	2.71E+00	1.68E+00	6.65E+02	1.46E+01
Benzene	4.62E-03	2.40E-03	2.23E-03	3.27E-01	1.67E-02
Cadmium	2.79E+00	1.12E+00	6.89E-01	2.75E+02	6.01E+00
Chromium	8.86E+00	3.56E+00	2.21E+00	8.72E+02	1.91E+01
1,1-Dichloroethane	3.64E+00	1.89E+00	1.76E+00	2.53E+02	1.30E+01
1,1-Dichloroethene	1.27E-02	5.41E-03	3.82E-03	8.32E-01	2.92E-02
Ethylbenzene	1.52E+00	6.81E-01	5.18E-01	1.29E+02	4.69E+00
Mercury	1.35E+00	5.41E-01	3.33E-01	1.33E+02	2.90E+00
Naphthalene	7.03E+00	2.94E+00	1.98E+00	6.77E+02	2.13E+01
Tetrachloroethene	1.57E-02	6.64E-03	4.59E-03	1.31E+00	4.31E-02
Toluene	1.47E+00	6.97E-01	5.77E-01	1.18E+02	4.84E+00
1,1,1-Trichloroethane	3.59E-01	1.57E-01	1.16E-01	2.55E+01	9.28E-01
Trichloroethene	7.03E-03	3.28E-03	2.67E-03	5.19E-01	2.13E-02
Xylenes	2.37E+01	1.06E+01	7.99E+00	2.07E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0015

Migration to Groundwater 4-inch evaporative depth dilution HLA-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	7.72E+01	1.22E+01	2.34E+00	6.65E+02	1.46E+01
Benzene	5.28E-02	1.08E-02	3.11E-03	3.27E-01	1.67E-02
Cadmium	3.19E+01	5.02E+00	9.60E-01	2.75E+02	6.01E+00
Chromium	1.01E+02	1.60E+01	3.08E+00	8.72E+02	1.91E+01
1,1-Dichloroethane	4.16E+01	8.47E+00	2.46E+00	2.53E+02	1.30E+01
1,1-Dichloroethene	1.45E-01	2.43E-02	5.32E-03	8.32E-01	2.92E-02
Ethylbenzene	1.74E+01	3.05E+00	7.21E-01	1.29E+02	4.69E+00
Mercury	1.54E+01	2.43E+00	4.64E-01	1.33E+02	2.90E+00
Naphthalene	8.04E+01	1.32E+01	2.76E+00	6.77E+02	2.13E+01
Tetrachloroethene	1.80E-01	2.98E-02	6.40E-03	1.31E+00	4.31E-02
Toluene	1.68E+01	3.12E+00	8.04E-01	1.18E+02	4.84E+00
1,1,1-Trichloroethane	4.10E+00	7.04E-01	1.61E-01	2.55E+01	9.28E-01
Trichloroethene	8.04E-02	1.47E-02	3.72E-03	5.19E-01	2.13E-02
Xylenes	2.71E+02	4.74E+01	1.11E+01	2.07E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0015

Migration to Groundwater 12-inch evaporative depth dilution HELP-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	3.25E+01	1.04E+01	3.06E+00	7.15E+02	1.46E+01
Benzene	2.22E-02	9.21E-03	4.08E-03	3.52E-01	1.67E-02
Cadmium	1.34E+01	4.30E+00	1.26E+00	2.96E+02	6.01E+00
Chromium	4.26E+01	1.37E+01	4.03E+00	9.37E+02	1.91E+01
1,1-Dichloroethane	1.75E+01	7.26E+00	3.22E+00	2.72E+02	1.30E+01
1,1-Dichloroethene	6.11E-02	2.08E-02	6.97E-03	8.94E-01	2.92E-02
Ethylbenzene	7.32E+00	2.61E+00	9.45E-01	1.39E+02	4.69E+00
Mercury	6.49E+00	2.08E+00	6.08E-01	1.43E+02	2.90E+00
Naphthalene	3.38E+01	1.13E+01	3.62E+00	7.27E+02	2.13E+01
Tetrachloroethene	7.56E-02	2.55E-02	8.38E-03	1.41E+00	4.31E-02
Toluene	7.08E+00	2.68E+00	1.05E+00	1.27E+02	4.84E+00
1,1,1-Trichloroethane	1.73E+00	6.03E-01	2.11E-01	2.74E+01	9.28E-01
Trichloroethene	3.38E-02	1.26E-02	4.87E-03	5.58E-01	2.13E-02
Xylenes	1.14E+02	4.06E+01	1.46E+01	2.22E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0015

Migration to Groundwater 12-inch evaporative depth dilution HLA-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	1.19E+02	2.45E+01	3.91E+00	7.15E+02	1.46E+01
Benzene	8.10E-02	2.16E-02	5.21E-03	3.52E-01	1.67E-02
Cadmium	4.90E+01	1.01E+01	1.61E+00	2.96E+02	6.01E+00
Chromium	1.56E+02	3.22E+01	5.15E+00	9.37E+02	1.91E+01
1,1-Dichloroethane	6.39E+01	1.71E+01	4.11E+00	2.72E+02	1.30E+01
1,1-Dichloroethene	2.23E-01	4.88E-02	8.91E-03	8.94E-01	2.92E-02
Ethylbenzene	2.67E+01	6.14E+00	1.21E+00	1.39E+02	4.69E+00
Mercury	2.37E+01	4.88E+00	7.76E-01	1.43E+02	2.90E+00
Naphthalene	1.23E+02	2.66E+01	4.63E+00	7.27E+02	2.13E+01
Tetrachloroethene	2.76E-01	5.99E-02	1.07E-02	1.41E+00	4.31E-02
Toluene	2.58E+01	6.29E+00	1.35E+00	1.27E+02	4.84E+00
1,1,1-Trichloroethane	6.30E+00	1.42E+00	2.70E-01	2.74E+01	9.28E-01
Trichloroethene	1.23E-01	2.96E-02	6.22E-03	5.58E-01	2.13E-02
Xylenes	4.16E+02	9.54E+01	1.86E+01	2.22E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0025

Migration to Groundwater no dilution factor	SW	SM	ML	GP	EPA Default
Arsenic	1.45E+00	1.46E+00	1.46E+00	1.45E+00	1.46E+00
Benzene	1.28E-03	1.57E-03	2.24E-03	1.00E-03	1.67E-03
Cadmium	6.00E-01	6.01E-01	6.01E-01	6.00E-01	6.01E-01
Chromium	1.91E+00	1.91E+00	1.93E+00	1.90E+00	1.91E+00
1,1-Dichloroethane	9.91E-01	1.22E+00	1.75E+00	7.60E-01	1.30E+00
1,1-Dichloroethene	3.19E-03	3.36E-03	3.79E-03	2.27E-03	2.92E-03
Ethylbenzene	4.82E-01	5.20E-01	6.07E-01	4.36E-01	4.69E-01
Mercury	2.90E-01	2.90E-01	2.91E-01	2.90E-01	2.90E-01
Naphthalene	2.48E+00	2.54E+00	2.70E+00	2.44E+00	2.13E+00
Tetrachloroethene	4.88E-03	5.07E-03	5.51E-03	4.36E-03	4.31E-03
Toluene	4.48E-01	5.05E-01	6.35E-01	3.89E-01	4.84E-01
1,1,1-Trichloroethane	9.70E-02	1.04E-01	1.21E-01	7.54E-02	9.28E-02
Trichloroethene	1.98E-03	2.23E-03	2.80E-03	1.60E-03	2.13E-03
Xylenes	7.70E+00	8.28E+00	9.58E+00	7.11E+00	7.42E+00

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0025

Migration to Groundwater 4-inch evaporative depth dilution HELP-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	6.76E+00	2.71E+00	1.68E+00	6.65E+02	1.46E+01
Benzene	5.94E-03	2.93E-03	2.56E-03	4.58E-01	1.67E-02
Cadmium	2.79E+00	1.12E+00	6.89E-01	2.75E+02	6.01E+00
Chromium	8.86E+00	3.56E+00	2.21E+00	8.72E+02	1.91E+01
1,1-Dichloroethane	4.61E+00	2.28E+00	2.00E+00	3.48E+02	1.30E+01
1,1-Dichloroethene	1.48E-02	6.26E-03	4.34E-03	1.04E+00	2.92E-02
Ethylbenzene	2.24E+00	9.69E-01	6.95E-01	2.00E+02	4.69E+00
Mercury	1.35E+00	5.41E-01	3.33E-01	1.33E+02	2.90E+00
Naphthalene	1.15E+01	4.74E+00	3.09E+00	1.12E+03	2.13E+01
Tetrachloroethene	2.27E-02	9.43E-03	6.31E-03	2.00E+00	4.31E-02
Toluene	2.08E+00	9.40E-01	7.27E-01	1.78E+02	4.84E+00
1,1,1-Trichloroethane	4.51E-01	1.94E-01	1.38E-01	3.46E+01	9.28E-01
Trichloroethene	9.22E-03	4.15E-03	3.20E-03	7.34E-01	2.13E-02
Xylenes	3.58E+01	1.54E+01	1.10E+01	3.26E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0025

Migration to Groundwater 4-inch evaporative depth dilution HLA-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	7.72E+01	1.22E+01	2.34E+00	6.65E+02	1.46E+01
Benzene	6.79E-02	1.31E-02	3.57E-03	4.58E-01	1.67E-02
Cadmium	3.19E+01	5.02E+00	9.60E-01	2.75E+02	6.01E+00
Chromium	1.01E+02	1.60E+01	3.08E+00	8.72E+02	1.91E+01
1,1-Dichloroethane	5.27E+01	1.02E+01	2.79E+00	3.48E+02	1.30E+01
1,1-Dichloroethene	1.69E-01	2.81E-02	6.05E-03	1.04E+00	2.92E-02
Ethylbenzene	2.56E+01	4.34E+00	9.68E-01	2.00E+02	4.69E+00
Mercury	1.54E+01	2.43E+00	4.64E-01	1.33E+02	2.90E+00
Naphthalene	1.32E+02	2.12E+01	4.30E+00	1.12E+03	2.13E+01
Tetrachloroethene	2.59E-01	4.23E-02	8.79E-03	2.00E+00	4.31E-02
Toluene	2.38E+01	4.22E+00	1.01E+00	1.78E+02	4.84E+00
1,1,1-Trichloroethane	5.16E+00	8.69E-01	1.93E-01	3.46E+01	9.28E-01
Trichloroethene	1.05E-01	1.86E-02	4.47E-03	7.34E-01	2.13E-02
Xylenes	4.09E+02	6.91E+01	1.53E+01	3.26E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0025

Migration to Groundwater 12-inch evaporative depth dilution HELP-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	3.25E+01	1.04E+01	3.06E+00	7.15E+02	1.46E+01
Benzene	2.86E-02	1.12E-02	4.68E-03	4.92E-01	1.67E-02
Cadmium	1.34E+01	4.30E+00	1.26E+00	2.96E+02	6.01E+00
Chromium	4.26E+01	1.37E+01	4.03E+00	9.37E+02	1.91E+01
1,1-Dichloroethane	2.21E+01	8.75E+00	3.65E+00	3.74E+02	1.30E+01
1,1-Dichloroethene	7.13E-02	2.40E-02	7.93E-03	1.12E+00	2.92E-02
Ethylbenzene	1.08E+01	3.72E+00	1.27E+00	2.15E+02	4.69E+00
Mercury	6.49E+00	2.08E+00	6.08E-01	1.43E+02	2.90E+00
Naphthalene	5.54E+01	1.82E+01	5.64E+00	1.20E+03	2.13E+01
Tetrachloroethene	1.09E-01	3.62E-02	1.15E-02	2.15E+00	4.31E-02
Toluene	1.00E+01	3.61E+00	1.33E+00	1.92E+02	4.84E+00
1,1,1-Trichloroethane	2.17E+00	7.44E-01	2.52E-01	3.71E+01	9.28E-01
Trichloroethene	4.43E-02	1.60E-02	5.85E-03	7.89E-01	2.13E-02
Xylenes	1.72E+02	5.92E+01	2.00E+01	3.50E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0025

Migration to Groundwater 12-inch evaporative depth dilution HLA-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	1.19E+02	2.45E+01	3.91E+00	7.15E+02	1.46E+01
Benzene	1.04E-01	2.64E-02	5.97E-03	4.92E-01	1.67E-02
Cadmium	4.90E+01	1.01E+01	1.61E+00	2.96E+02	6.01E+00
Chromium	1.56E+02	3.22E+01	5.15E+00	9.37E+02	1.91E+01
1,1-Dichloroethane	8.09E+01	2.06E+01	4.66E+00	3.74E+02	1.30E+01
1,1-Dichloroethene	2.60E-01	5.65E-02	1.01E-02	1.12E+00	2.92E-02
Ethylbenzene	3.93E+01	8.74E+00	1.62E+00	2.15E+02	4.69E+00
Mercury	2.37E+01	4.88E+00	7.76E-01	1.43E+02	2.90E+00
Naphthalene	2.02E+02	4.28E+01	7.20E+00	1.20E+03	2.13E+01
Tetrachloroethene	3.98E-01	8.52E-02	1.47E-02	2.15E+00	4.31E-02
Toluene	3.65E+01	8.49E+00	1.70E+00	1.92E+02	4.84E+00
1,1,1-Trichloroethane	7.92E+00	1.75E+00	3.22E-01	3.71E+01	9.28E-01
Trichloroethene	1.62E-01	3.75E-02	7.47E-03	7.89E-01	2.13E-02
Xylenes	6.28E+02	1.39E+02	2.56E+01	3.50E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0035

Migration to Groundwater no dilution factor	SW	SM	ML	GP	EPA Default
Arsenic	1.45E+00	1.46E+00	1.46E+00	1.45E+00	1.46E+00
Benzene	1.56E-03	1.86E-03	2.52E-03	1.28E-03	1.67E-03
Cadmium	6.00E-01	6.01E-01	6.01E-01	6.00E-01	6.01E-01
Chromium	1.91E+00	1.91E+00	1.93E+00	1.90E+00	1.91E+00
1,1-Dichloroethane	1.20E+00	1.43E+00	1.95E+00	9.68E-01	1.30E+00
1,1-Dichloroethene	3.64E-03	3.82E-03	4.25E-03	2.72E-03	2.92E-03
Ethylbenzene	6.37E-01	6.75E-01	7.61E-01	5.91E-01	4.69E-01
Mercury	2.90E-01	2.90E-01	2.91E-01	2.90E-01	2.90E-01
Naphthalene	3.44E+00	3.51E+00	3.66E+00	3.40E+00	2.13E+00
Tetrachloroethene	6.38E-03	6.57E-03	7.01E-03	5.86E-03	4.31E-03
Toluene	5.79E-01	6.36E-01	7.66E-01	5.20E-01	4.84E-01
1,1,1-Trichloroethane	1.17E-01	1.24E-01	1.41E-01	9.52E-02	9.28E-02
Trichloroethene	2.45E-03	2.70E-03	3.27E-03	2.07E-03	2.13E-03
Xylenes	1.03E+01	1.09E+01	1.22E+01	9.71E+00	7.42E+00

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0035

Migration to Groundwater 4-inch evaporative depth dilution HELP-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	6.76E+00	2.71E+00	1.68E+00	6.65E+02	1.46E+01
Benzene	7.27E-03	3.46E-03	2.89E-03	5.89E-01	1.67E-02
Cadmium	2.79E+00	1.12E+00	6.89E-01	2.75E+02	6.01E+00
Chromium	8.86E+00	3.56E+00	2.21E+00	8.72E+02	1.91E+01
1,1-Dichloroethane	5.57E+00	2.66E+00	2.24E+00	4.44E+02	1.30E+01
1,1-Dichloroethene	1.69E-02	7.10E-03	4.86E-03	1.25E+00	2.92E-02
Ethylbenzene	2.96E+00	1.26E+00	8.72E-01	2.71E+02	4.69E+00
Mercury	1.35E+00	5.41E-01	3.33E-01	1.33E+02	2.90E+00
Naphthalene	1.60E+01	6.53E+00	4.19E+00	1.56E+03	2.13E+01
Tetrachloroethene	2.97E-02	1.22E-02	8.02E-03	2.69E+00	4.31E-02
Toluene	2.69E+00	1.18E+00	8.77E-01	2.38E+02	4.84E+00
1,1,1-Trichloroethane	5.43E-01	2.31E-01	1.61E-01	4.36E+01	9.28E-01
Trichloroethene	1.14E-02	5.03E-03	3.74E-03	9.50E-01	2.13E-02
Xylenes	4.79E+01	2.02E+01	1.39E+01	4.45E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0035

Migration to Groundwater 4-inch evaporative depth dilution HLA-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	7.72E+01	1.22E+01	2.34E+00	6.65E+02	1.46E+01
Benzene	8.31E-02	1.55E-02	4.02E-03	5.89E-01	1.67E-02
Cadmium	3.19E+01	5.02E+00	9.60E-01	2.75E+02	6.01E+00
Chromium	1.01E+02	1.60E+01	3.08E+00	8.72E+02	1.91E+01
1,1-Dichloroethane	6.37E+01	1.19E+01	3.12E+00	4.44E+02	1.30E+01
1,1-Dichloroethene	1.94E-01	3.19E-02	6.78E-03	1.25E+00	2.92E-02
Ethylbenzene	3.38E+01	5.64E+00	1.22E+00	2.71E+02	4.69E+00
Mercury	1.54E+01	2.43E+00	4.64E-01	1.33E+02	2.90E+00
Naphthalene	1.83E+02	2.93E+01	5.84E+00	1.56E+03	2.13E+01
Tetrachloroethene	3.39E-01	5.48E-02	1.12E-02	2.69E+00	4.31E-02
Toluene	3.07E+01	5.31E+00	1.22E+00	2.38E+02	4.84E+00
1,1,1-Trichloroethane	6.21E+00	1.03E+00	2.24E-01	4.36E+01	9.28E-01
Trichloroethene	1.30E-01	2.26E-02	5.22E-03	9.50E-01	2.13E-02
Xylenes	5.47E+02	9.08E+01	1.94E+01	4.45E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0035

Migration to Groundwater 12-inch evaporative depth dilution HELP-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	3.25E+01	1.04E+01	3.06E+00	7.15E+02	1.46E+01
Benzene	3.49E-02	1.33E-02	5.27E-03	6.33E-01	1.67E-02
Cadmium	1.34E+01	4.30E+00	1.26E+00	2.96E+02	6.01E+00
Chromium	4.26E+01	1.37E+01	4.03E+00	9.37E+02	1.91E+01
1,1-Dichloroethane	2.68E+01	1.02E+01	4.09E+00	4.77E+02	1.30E+01
1,1-Dichloroethene	8.14E-02	2.73E-02	8.88E-03	1.34E+00	2.92E-02
Ethylbenzene	1.42E+01	4.83E+00	1.59E+00	2.91E+02	4.69E+00
Mercury	6.49E+00	2.08E+00	6.08E-01	1.43E+02	2.90E+00
Naphthalene	7.69E+01	2.51E+01	7.65E+00	1.68E+03	2.13E+01
Tetrachloroethene	1.43E-01	4.70E-02	1.47E-02	2.89E+00	4.31E-02
Toluene	1.29E+01	4.55E+00	1.60E+00	2.56E+02	4.84E+00
1,1,1-Trichloroethane	2.61E+00	8.86E-01	2.94E-01	4.69E+01	9.28E-01
Trichloroethene	5.48E-02	1.93E-02	6.84E-03	1.02E+00	2.13E-02
Xylenes	2.30E+02	7.78E+01	2.55E+01	4.78E+03	7.42E+01

ADEC SOIL SCREENING LEVELS
HARDING LAWSON ASSOCIATES PROJECT: 29092
PROJECT MANAGER: S.E. DRAPER

Alaskan Organic Carbon = 0.0035

Migration to Groundwater 12-inch evaporative depth dilution HLA-defined hydraulic conductivity	SW	SM	ML	GP	EPA Default
Arsenic	1.19E+02	2.45E+01	3.91E+00	7.15E+02	1.46E+01
Benzene	1.28E-01	3.12E-02	6.73E-03	6.33E-01	1.67E-02
Cadmium	4.90E+01	1.01E+01	1.61E+00	2.96E+02	6.01E+00
Chromium	1.56E+02	3.22E+01	5.15E+00	9.37E+02	1.91E+01
1,1-Dichloroethane	9.78E+01	2.40E+01	5.22E+00	4.77E+02	1.30E+01
1,1-Dichloroethene	2.97E-01	6.41E-02	1.13E-02	1.34E+00	2.92E-02
Ethylbenzene	5.20E+01	1.13E+01	2.03E+00	2.91E+02	4.69E+00
Mercury	2.37E+01	4.88E+00	7.76E-01	1.43E+02	2.90E+00
Naphthalene	2.81E+02	5.90E+01	9.78E+00	1.68E+03	2.13E+01
Tetrachloroethene	5.21E-01	1.10E-01	1.87E-02	2.89E+00	4.31E-02
Toluene	4.72E+01	1.07E+01	2.05E+00	2.56E+02	4.84E+00
1,1,1-Trichloroethane	9.53E+00	2.08E+00	3.75E-01	4.69E+01	9.28E-01
Trichloroethene	2.00E-01	4.54E-02	8.73E-03	1.02E+00	2.13E-02
Xylenes	8.41E+02	1.83E+02	3.25E+01	4.78E+03	7.42E+01

APPENDIX C

HELP MODELING PRINTOUTS

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; GP SOIL; 1 LEAF AREA INDEX; 4" EVAPORATIVE DEPTH
DECEMBER 9, 1994; HLA JOB NO. 29092.1

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LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00 INCHES
POROSITY	=	0.3000 VOL/VOL
FIELD CAPACITY	=	0.0280 VOL/VOL
WILTING POINT	=	0.0200 VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0280 VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	1.000000000000 CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	70.00
TOTAL AREA OF COVER	=	1306800. SQ FT
EVAPORATIVE ZONE DEPTH	=	4.00 INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000
UPPER LIMIT VEG. STORAGE	=	1.2000 INCHES
INITIAL VEG. STORAGE	=	0.1195 INCHES
INITIAL SNOW WATER CONTENT	=	0.9550 INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	1.6800 INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.001	0.301	0.000	0.253
	0.192	0.180	0.049	0.106	0.083	0.000
EVAPOTRANSPIRATION	0.032	0.118	0.456	0.367	0.101	0.436
(INCHES)	0.511	0.600	0.223	0.365	0.122	0.007
PERCOLATION FROM	0.1066	0.0630	0.0576	0.3528	0.1537	0.1363
LAYER 1 (INCHES)	0.4469	0.4424	0.2819	0.4803	0.4763	0.2209

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	1.165	126816.	15.08
EVAPOTRANSPIRATION	3.338	363463.	43.23
PERCOLATION FROM LAYER 1	3.2188	350532.	41.69
CHANGE IN WATER STORAGE	-0.001	-103.	-0.01
SOIL WATER AT START OF YEAR	2.50	272349.	
SOIL WATER AT END OF YEAR	2.50	272483.	
SNOW WATER AT START OF YEAR	0.96	104003.	
SNOW WATER AT END OF YEAR	0.95	103766.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.093	0.171	0.012	0.138
	0.452	0.456	0.000	0.079	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.017	0.119	0.459	0.778	0.332	0.673
	0.722	1.058	0.452	0.297	0.092	0.008
PERCOLATION FROM LAYER 1 (INCHES)	0.1068	0.0631	0.0715	0.3678	0.1692	0.1897
	0.4364	0.3631	0.2843	0.1641	0.1440	0.0881

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	1.401	152518.	16.55
EVAPOTRANSPIRATION	5.007	545231.	59.18
PERCOLATION FROM LAYER 1	2.4481	266597.	28.94
CHANGE IN WATER STORAGE	-0.395	-43052.	-4.67
SOIL WATER AT START OF YEAR	2.50	272483.	
SOIL WATER AT END OF YEAR	2.37	258430.	
SNOW WATER AT START OF YEAR	0.95	103766.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 76

PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.123	0.070	0.198
	0.338	0.133	0.262	0.008	0.164	0.000
EVAPOTRANSPIRATION (INCHES)	0.022	0.153	0.328	0.612	0.558	0.569
	1.071	0.251	0.387	0.200	0.109	0.012
PERCOLATION FROM LAYER 1 (INCHES)	0.0607	0.0431	0.0368	0.1117	0.1741	0.1974
	0.2752	0.3278	0.2576	0.2689	0.3397	0.1564

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	1.295	141002.	17.69
EVAPOTRANSPIRATION	4.273	465358.	58.38
PERCOLATION FROM LAYER 1	2.2494	244957.	30.73
CHANGE IN WATER STORAGE	-0.497	-54169.	-6.80
SOIL WATER AT START OF YEAR	2.37	258430.	
SOIL WATER AT END OF YEAR	2.41	262701.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80
RUNOFF (INCHES)	0.000	0.000	0.000	0.182	0.293	0.860
	0.276	0.095	[illegible]	[illegible]		

(INCHES)	0.848	0.427	0.919	0.249	0.105	0.010
PERCOLATION FROM	0.0867	0.0539	0.0451	0.2683	0.2026	0.8093
LAYER 1 (INCHES)	0.3342	0.1873	0.3456	0.8981	0.4149	0.1725

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	2.460	267870.	18.95
EVAPOTRANSPIRATION	5.942	647063.	45.78
PERCOLATION FROM LAYER 1	3.8187	415860.	29.42
CHANGE IN WATER STORAGE	0.760	82728.	5.85
SOIL WATER AT START OF YEAR	2.41	262701.	
SOIL WATER AT END OF YEAR	2.42	263804.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.381	0.000	0.086	0.235
	0.215	0.742	0.165	0.000	0.048	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.318	0.160	0.149	1.097
(INCHES)	0.905	1.025	0.394	0.161	0.065	0.005
PERCOLATION FROM	0.0918	0.0562	0.3659	0.1863	0.1504	0.2271
LAYER 1 (INCHES)	0.2338	0.5403	0.3108	0.2510	0.1095	0.1485

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	1.872	203842.	17.68
EVAPOTRANSPIRATION	4.430	482456.	41.83
PERCOLATION FROM LAYER 1	2.6715	290928.	25.23
CHANGE IN WATER STORAGE	1.616	176024.	15.26
SOIL WATER AT START OF YEAR	2.42	263804.	
SOIL WATER AT END OF YEAR	2.45	266425.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271357.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.095	0.155	0.092	0.337
	0.294	0.321	0.202	0.058	0.084	0.000
STD. DEVIATIONS	0.000	0.000	0.165	0.109	0.118	0.296
	0.105	0.275	0.212	0.050	0.064	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.380	0.506	0.318	0.924
	0.811	0.672	0.475	0.255	0.099	0.009
STD. DEVIATIONS	0.006	0.016	0.071	0.243	0.194	0.571
	0.210	0.359	0.262	0.080	0.022	0.003

TOTALS	0.0905	0.0559	0.1154	0.2574	0.1700	0.3120
	0.3453	0.3722	0.2960	0.4125	0.2969	0.1573
STD. DEVIATIONS	0.0189	0.0082	0.1406	0.1092	0.0208	0.2800
	0.0950	0.1318	0.0335	0.2953	0.1631	0.0478

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	1.638	(0.531)	178410.	17.40
EVAPOTRANSPIRATION	4.598	(0.961)	500714.	48.84
PERCOLATION FROM LAYER 1	2.8813	(0.6371)	313775.	30.61
CHANGE IN WATER STORAGE	0.296	(0.888)	32286.	3.15

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.544	59209.9
PERCOLATION FROM LAYER 1	0.0729	7937.0
SNOW WATER	2.49	271465.6

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.1429

MINIMUM VEG. SOIL WATER (VOL/VOL) -0.0123

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)
1	2.45	0.0408

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; GP SOIL; 1 LEAF AREA INDEX; 12" EVAPORATIVE DEPTH
DECEMBER 9, 1994; HLA JOB NO. 29092.1

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LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00 INCHES
POROSITY	=	0.3000 VOL/VOL
FIELD CAPACITY	=	0.0280 VOL/VOL
WILTING POINT	=	0.0200 VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0280 VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	1.000000000000 CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	50.00
TOTAL AREA OF COVER	=	1306800. SQ FT
EVAPORATIVE ZONE DEPTH	=	12.00 INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000
UPPER LIMIT VEG. STORAGE	=	3.6000 INCHES
INITIAL VEG. STORAGE	=	0.4163 INCHES
INITIAL SNOW WATER CONTENT	=	0.9555 INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	1.6800 INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.192	0.000	0.079
	0.004	0.000	0.000	0.002	0.000	0.000
EVAPOTRANSPIRATION	0.032	0.118	0.456	0.537	0.111	0.506
(INCHES)	0.917	0.896	0.312	0.509	0.122	0.007
PERCOLATION FROM	0.1108	0.0642	0.0519	0.4478	0.1431	0.0930
LAYER 1 (INCHES)	0.2961	0.3869	0.1695	0.3854	0.5282	0.2420

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.277	30214.	3.59
EVAPOTRANSPIRATION	4.525	492758.	58.61
PERCOLATION FROM LAYER 1	2.9187	317847.	37.81
CHANGE IN WATER STORAGE	-0.001	-111.	-0.01
SOIL WATER AT START OF YEAR	2.47	268590.	
SOIL WATER AT END OF YEAR	2.47	268675.	
SNOW WATER AT START OF YEAR	0.96	104056.	
SNOW WATER AT END OF YEAR	0.95	103859.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.000	0.029	0.000	0.012
	0.225	0.160	0.000	0.005	0.000	0.000
EVAPOTRANSPIRATION	0.017	0.119	0.459	0.963	0.324	0.869
(INCHES)	0.968	1.403	0.573	0.298	0.093	0.008
PERCOLATION FROM	0.1112	0.0644	0.0778	0.5495	0.1485	0.1518
LAYER 1 (INCHES)	0.4195	0.3042	0.1597	0.1048	0.1436	0.0940

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	0.431	46931.	5.09
EVAPOTRANSPIRATION	6.093	663530.	72.02
PERCOLATION FROM LAYER 1	2.3287	253596.	27.53
CHANGE IN WATER STORAGE	-0.393	-42764.	-4.64
SOIL WATER AT START OF YEAR	2.47	268675.	
SOIL WATER AT END OF YEAR	2.34	255004.	
SNOW WATER AT START OF YEAR	0.95	103859.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 76

PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.056	0.000	0.042
	0.056	0.038	0.136	0.000	0.101	0.000
EVAPOTRANSPIRATION	0.022	0.153	0.328	0.774	0.593	0.774
(INCHES)	1.683	0.396	0.622	0.439	0.109	0.012
PERCOLATION FROM	0.0639	0.0447	0.0378	0.1233	0.1370	0.1720
LAYER 1 (INCHES)	0.1643	0.1721	0.1440	0.1189	0.1758	0.1272

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	0.429	46743.	5.86
EVAPOTRANSPIRATION	5.905	643075.	80.67
PERCOLATION FROM LAYER 1	1.4810	161282.	20.23
CHANGE IN WATER STORAGE	-0.495	-53952.	-6.77
SOIL WATER AT START OF YEAR	2.34	255004.	
SOIL WATER AT END OF YEAR	2.38	259491.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80
RUNOFF (INCHES)	0.000	0.000	0.000	0.006	0.109	0.453
	0.074	0.008	0.276	0.000	0.063	0.000

(INCHES)	1.171	0.486	0.998	0.492	0.109	0.010
PERCOLATION FROM	0.0782	0.0504	0.0430	0.4103	0.1893	0.8970
LAYER 1 (INCHES)	0.2710	0.1651	0.4244	0.7909	0.3946	0.1788

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	0.989	107749.	7.62
EVAPOTRANSPIRATION	7.330	798187.	56.47
PERCOLATION FROM LAYER 1	3.8930	423946.	29.99
CHANGE IN WATER STORAGE	0.768	83639.	5.92
SOIL WATER AT START OF YEAR	2.38	259491.	
SOIL WATER AT END OF YEAR	2.40	261505.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.227	0.000	0.025	0.026
	0.056	0.367	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.408	0.160	0.247	1.231
(INCHES)	1.159	1.292	0.625	0.211	0.065	0.005
PERCOLATION FROM	0.0936	0.0567	0.5885	0.1907	0.0986	0.1689
LAYER 1 (INCHES)	0.2417	0.7778	0.1961	0.2006	0.0890	0.0801

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	0.700	76196.	6.61
EVAPOTRANSPIRATION	5.553	604738.	52.44
PERCOLATION FROM LAYER 1	2.7823	302991.	26.27
CHANGE IN WATER STORAGE	1.555	169326.	14.68
SOIL WATER AT START OF YEAR	2.40	261505.	
SOIL WATER AT END OF YEAR	2.37	257626.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271158.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.045	0.057	0.027	0.122
	0.083	0.115	0.082	0.001	0.033	0.000
STD. DEVIATIONS	0.000	0.000	0.101	0.079	0.047	0.186
	0.083	0.155	0.123	0.002	0.047	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.398	0.644	0.349	1.142
	1.180	0.894	0.626	0.390	0.100	0.009
STD. DEVIATIONS	0.006	0.016	0.062	0.310	0.189	0.713
	0.303	0.456	0.245	0.130	0.022	0.003

TOTALS	0.0915	0.0561	0.1598	0.3443	0.1433	0.2965
	0.2785	0.3612	0.2187	0.3201	0.2662	0.1444
STD. DEVIATIONS	0.0206	0.0086	0.2402	0.1800	0.0323	0.3372
	0.0931	0.2508	0.1165	0.2859	0.1869	0.0665

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	0.565	(0.282)	61567.	6.01
EVAPOTRANSPIRATION	5.881	(1.011)	640458.	62.47
PERCOLATION FROM LAYER 1	2.6807	(0.8803)	291932.	28.48
CHANGE IN WATER STORAGE	0.287	(0.865)	31228.	3.05

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.345	37524.8
PERCOLATION FROM LAYER 1	0.1195	13008.4
SNOW WATER	2.49	271267.2

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.0867

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0134

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)
1	2.37	0.0394

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; SW SOIL; 1 LEAF AREA INDEX; 4" EVAPORATIVE DEPTH
DECEMBER 9, 1994; HLA JOB NO. 29092.1

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BARE GROUND

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00 INCHES
POROSITY	=	0.4370 VOL/VOL
FIELD CAPACITY	=	0.0624 VOL/VOL
WILTING POINT	=	0.0245 VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0624 VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	0.005799999926 CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	79.62
TOTAL AREA OF COVER	=	1306800. SQ FT
EVAPORATIVE ZONE DEPTH	=	4.00 INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000
UPPER LIMIT VEG. STORAGE	=	1.7480 INCHES
INITIAL VEG. STORAGE	=	0.2893 INCHES
INITIAL SNOW WATER CONTENT	=	0.9556 INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	3.7440 INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.067
	0.126	0.113	0.027	0.062	0.045	0.000
EVAPOTRANSPIRATION	0.032	0.118	0.456	0.566	0.133	0.503
(INCHES)	0.864	0.919	0.268	0.509	0.122	0.007
PERCOLATION FROM	0.0590	0.0498	0.0514	0.1534	0.1374	0.1139
LAYER 1 (INCHES)	0.1811	0.1968	0.1697	0.2085	0.2852	0.2752

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.441	47990.	5.71
EVAPOTRANSPIRATION	4.497	489758.	58.26
PERCOLATION FROM LAYER 1	1.8812	204866.	24.37
CHANGE IN WATER STORAGE	0.901	98094.	11.67
SOIL WATER AT START OF YEAR	5.21	567182.	
SOIL WATER AT END OF YEAR	6.11	665514.	
SNOW WATER AT START OF YEAR	0.96	104062.	
SNOW WATER AT END OF YEAR	0.95	103824.	
ANNUAL WATER BUDGET BALANCE	0.00	0	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.059	0.133	0.001	0.081
	0.123	0.231	0.000	0.054	0.000	0.000
EVAPOTRANSPIRATION	0.017	0.119	0.459	0.974	0.333	0.877
(INCHES)	0.926	1.354	0.586	0.298	0.093	0.008
PERCOLATION FROM	0.2071	0.1489	0.1418	0.2451	0.1976	0.1667
LAYER 1 (INCHES)	0.2453	0.2944	0.2391	0.1893	0.1724	0.1506

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	0.683	74326.	8.07
EVAPOTRANSPIRATION	6.044	658167.	71.44
PERCOLATION FROM LAYER 1	2.3984	261184.	28.35
CHANGE IN WATER STORAGE	-0.665	-72383.	-7.86
SOIL WATER AT START OF YEAR	6.11	665514.	
SOIL WATER AT END OF YEAR	5.71	622188.	
SNOW WATER AT START OF YEAR	0.95	103824.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.038	0.130
	0.137	0.101	0.086	0.000	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.022	0.153	0.328	0.834	0.591	0.783
	1.563	0.394	0.651	0.419	0.109	0.012
PERCOLATION FROM LAYER 1 (INCHES)	0.1262	0.1011	0.0941	0.1148	0.1242	0.1230
	0.1207	0.1285	0.1300	0.1305	0.1537	0.1514

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	0.492	53625.	6.73
EVAPOTRANSPIRATION	5.859	638015.	80.04
PERCOLATION FROM LAYER 1	1.4982	163151.	20.47
CHANGE IN WATER STORAGE	-0.529	-57643.	-7.23
SOIL WATER AT START OF YEAR	5.71	622188.	
SOIL WATER AT END OF YEAR	5.72	622984.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80

	0.115	0.069	0.091	0.076	0.000	0.000
EVAPOTRANSPIRATION	0.026	0.111	0.341	0.806	0.469	2.357
(INCHES)	1.142	0.466	0.997	0.514	0.109	0.010
PERCOLATION FROM	0.1274	0.0988	0.0954	0.1547	0.1609	0.4920
LAYER 1 (INCHES)	0.4840	0.3172	0.2905	0.6483	0.5076	0.3679

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	0.604	65723.	4.65
EVAPOTRANSPIRATION	7.349	800256.	56.61
PERCOLATION FROM LAYER 1	3.7446	407788.	28.85
CHANGE IN WATER STORAGE	1.283	139755.	9.89
SOIL WATER AT START OF YEAR	5.72	622984.	
SOIL WATER AT END OF YEAR	6.25	681114.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.064	0.000	0.072	0.155
	0.168	0.141	0.109	0.000	0.034	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.441	0.254	0.246	1.287
(INCHES)	1.131	1.418	0.625	0.236	0.065	0.005
PERCOLATION FROM	0.2536	0.1740	0.3397	0.3073	0.2251	0.1830
LAYER 1 (INCHES)	0.1767	0.4043	0.2738	0.2431	0.1766	0.1485

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	0.743	80955.	7.02
EVAPOTRANSPIRATION	5.859	638095.	55.33
PERCOLATION FROM LAYER 1	2.9057	316429.	27.44
CHANGE IN WATER STORAGE	1.081	117771.	10.21
SOIL WATER AT START OF YEAR	6.25	681114.	
SOIL WATER AT END OF YEAR	5.75	625720.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271119.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.025	0.053	0.041	0.092
	0.134	0.131	0.063	0.038	0.016	0.000
STD. DEVIATIONS	0.000	0.000	0.034	0.072	0.042	0.051
	0.021	0.062	0.047	0.036	0.022	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.405	0.687	0.354	1.161
	1.125	0.910	0.625	0.395	0.100	0.009

PERCOLATION FROM LAYER 1

TOTALS	0.1546	0.1145	0.1445	0.1950	0.1690	0.2157
	0.2416	0.2683	0.2206	0.2839	0.2591	0.2187
STD. DEVIATIONS	0.0762	0.0483	0.1137	0.0789	0.0419	0.1571
	0.1425	0.1075	0.0687	0.2077	0.1482	0.0995

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	0.593	(0.127)	64524.	6.29
EVAPOTRANSPIRATION	5.922	(1.011)	644858.	62.90
PERCOLATION FROM LAYER 1	2.4856	(0.8817)	270684.	26.40
CHANGE IN WATER STORAGE	0.414	(0.934)	45119.	4.40

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.094	10194.6
PERCOLATION FROM LAYER 1	0.0257	2794.3
SNOW WATER	2.49	271227.7

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.1868

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0116

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; SW SOIL; 1 LEAF AREA INDEX; 12" EVAPORATIVE DEPTH
DECEMBER 9, 1994; HLA JOB NO. 29092.1

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FAIR GRASS

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00 INCHES
POROSITY	=	0.4370 VOL/VOL
FIELD CAPACITY	=	0.0624 VOL/VOL
WILTING POINT	=	0.0245 VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0624 VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	0.017400000244 CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	55.25
TOTAL AREA OF COVER	=	1306800. SQ FT
EVAPORATIVE ZONE DEPTH	=	12.00 INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000
UPPER LIMIT VEG. STORAGE	=	5.2440 INCHES
INITIAL VEG. STORAGE	=	0.9377 INCHES
INITIAL SNOW WATER CONTENT	=	0.9550 INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	3.7440 INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.149	0.000	0.039
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.032	0.118	0.456	1.099	0.131	0.499
	1.408	1.202	0.389	0.509	0.122	0.007
PERCOLATION FROM LAYER 1 (INCHES)	0.0299	0.0280	0.0312	0.0696	0.0753	0.0638
	0.0586	0.0525	0.0462	0.0459	0.0877	0.1442

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.188	20480.	2.44
EVAPOTRANSPIRATION	5.973	650424.	77.37
PERCOLATION FROM LAYER 1	0.7330	79819.	9.49
CHANGE IN WATER STORAGE	0.826	89985.	10.70
SOIL WATER AT START OF YEAR	4.79	521438.	
SOIL WATER AT END OF YEAR	5.62	611590.	
SNOW WATER AT START OF YEAR	0.96	104002.	
SNOW WATER AT END OF YEAR	0.95	103835.	
ANNUAL WATER BUDGET BALANCE	0.00	0	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.139	0.035	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.017	0.119	0.459	1.469	0.356	1.031
(INCHES)	1.620	1.589	0.764	0.299	0.093	0.008
PERCOLATION FROM	0.1338	0.1064	0.1034	0.2135	0.1927	0.1415
LAYER 1 (INCHES)	0.1199	0.1095	0.0888	0.0786	0.0663	0.0606

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	0.173	18857.	2.05
EVAPOTRANSPIRATION	7.823	851976.	92.48
PERCOLATION FROM LAYER 1	1.4150	154096.	16.73
CHANGE IN WATER STORAGE	-0.952	-103635.	-11.25
SOIL WATER AT START OF YEAR	5.62	611590.	
SOIL WATER AT END OF YEAR	4.93	537023.	
SNOW WATER AT START OF YEAR	0.95	103835.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.013	0.000	0.000
	0.012	0.000	0.053	0.000	0.060	0.000
EVAPOTRANSPIRATION (INCHES)	0.022	0.153	0.328	1.410	0.596	0.995
	1.975	0.443	0.765	0.527	0.110	0.012
PERCOLATION FROM LAYER 1 (INCHES)	0.0542	0.0458	0.0447	0.0425	0.0445	0.0395
	0.0376	0.0349	0.0314	0.0304	0.0280	0.0329

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	0.139	15107.	1.90
EVAPOTRANSPIRATION	7.339	799187.	100.26
PERCOLATION FROM LAYER 1	0.4664	50792.	6.37
CHANGE IN WATER STORAGE	-0.624	-67938.	-8.52
SOIL WATER AT START OF YEAR	4.93	537023.	
SOIL WATER AT END OF YEAR	4.84	527524.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80

	0.025	0.000	0.209	0.000	0.022	0.000
EVAPOTRANSPIRATION	0.026	0.111	0.341	1.353	0.471	3.261
(INCHES)	1.535	0.534	1.001	0.628	0.109	0.010
PERCOLATION FROM	0.0356	0.0326	0.0356	0.0655	0.0859	0.0873
LAYER 1 (INCHES)	0.1011	0.0858	0.0728	0.1836	0.2304	0.2419

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	0.610	66386.	4.70
EVAPOTRANSPIRATION	9.379	1021371.	72.26
PERCOLATION FROM LAYER 1	1.2580	136998.	9.69
CHANGE IN WATER STORAGE	1.733	188768.	13.35
SOIL WATER AT START OF YEAR	4.84	527524.	
SOIL WATER AT END OF YEAR	5.83	634666.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.173	0.000	0.000	0.000
	0.000	0.301	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.441	0.693	0.248	1.452
(INCHES)	1.532	2.101	0.629	0.452	0.065	0.005
PERCOLATION FROM	0.1926	0.1412	0.2319	0.2604	0.1976	0.1444
LAYER 1 (INCHES)	0.1190	0.1164	0.0983	0.0859	0.0718	0.0651

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	0.474	51664.	4.48
EVAPOTRANSPIRATION	7.768	845940.	73.35
PERCOLATION FROM LAYER 1	1.7245	187800.	16.28
CHANGE IN WATER STORAGE	0.623	67848.	5.88
SOIL WATER AT START OF YEAR	5.83	634666.	
SOIL WATER AT END OF YEAR	4.86	529055.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271412.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.035	0.032	0.013	0.065
	0.035	0.067	0.052	0.000	0.016	0.000
STD. DEVIATIONS	0.000	0.000	0.077	0.066	0.030	0.125
	0.059	0.132	0.090	0.000	0.026	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.405	1.205	0.360	1.448
	1.614	1.174	0.710	0.483	0.100	0.009

PERCOLATION FROM LAYER 1

TOTALS	0.0892	0.0708	0.0893	0.1303	0.1192	0.0953
	0.0872	0.0798	0.0675	0.0849	0.0968	0.1089
STD. DEVIATIONS	0.0712	0.0503	0.0848	0.0993	0.0710	0.0467
	0.0372	0.0354	0.0282	0.0597	0.0778	0.0851

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	0.317	(0.212)	34499.	3.37
EVAPOTRANSPIRATION	7.656	(1.219)	833779.	81.33
PERCOLATION FROM LAYER 1	1.1194	(0.5120)	121901.	11.89
CHANGE IN WATER STORAGE	0.321	(1.102)	35006.	3.41

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.301	32829.5
PERCOLATION FROM LAYER 1	0.0099	1083.2
SNOW WATER	2.49	271520.8

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.1404

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0234

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; SW SOIL; 1 LEAF AREA INDEX; 4" EVAPORATIVE DEPTH
JANUARY 9, 1995; HLA JOB NO. 29092.1

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BARE GROUND

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00 INCHES
POROSITY	=	0.4370 VOL/VOL
FIELD CAPACITY	=	0.0624 VOL/VOL
WILTING POINT	=	0.0245 VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0624 VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	0.100000001490 CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	79.62
TOTAL AREA OF COVER	=	1306800. SQ FT
EVAPORATIVE ZONE DEPTH	=	4.00 INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000
UPPER LIMIT VEG. STORAGE	=	1.7480 INCHES
INITIAL VEG. STORAGE	=	0.2032 INCHES
INITIAL SNOW WATER CONTENT	=	0.9549 INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	3.7440 INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.247	0.000	0.185
	0.123	0.113	0.028	0.063	0.045	0.000
EVAPOTRANSPIRATION	0.032	0.118	0.456	0.387	0.102	0.502
(INCHES)	0.790	0.807	0.305	0.485	0.122	0.007
PERCOLATION FROM	0.1808	0.1190	0.1044	0.3050	0.2027	0.1462
LAYER 1 (INCHES)	0.2424	0.2832	0.2194	0.2957	0.3875	0.2986

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.805	87614.	10.42
EVAPOTRANSPIRATION	4.114	447985.	53.29
PERCOLATION FROM LAYER 1	2.7850	303288.	36.08
CHANGE IN WATER STORAGE	0.017	1822.	0.22

SOIL WATER AT START OF YEAR	4.29	467261.	
SOIL WATER AT END OF YEAR	4.31	469304.	
SNOW WATER AT START OF YEAR	0.95	103987.	
SNOW WATER AT END OF YEAR	0.95	103766.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.058	0.125	0.000	0.082
	0.364	0.368	0.000	0.052	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.017	0.119	0.459	0.872	0.333	0.771
	0.787	1.267	0.530	0.298	0.092	0.008
PERCOLATION FROM LAYER 1 (INCHES)	0.1870	0.1220	0.1155	0.2922	0.2001	0.1849
	0.2949	0.3351	0.2363	0.1731	0.1678	0.1310

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	1.049	114195.	12.40
EVAPOTRANSPIRATION	5.552	604586.	65.62
PERCOLATION FROM LAYER 1	2.4399	265708.	28.84
CHANGE IN WATER STORAGE	-0.580	-63196.	-6.86
SOIL WATER AT START OF YEAR	4.31	469304.	
SOIL WATER AT END OF YEAR	4.00	435107.	

SNOW WATER AT START OF YEAR	0.95	103766.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 76

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.103	0.037	0.130
	0.247	0.102	0.231	0.000	0.149	0.000
EVAPOTRANSPIRATION (INCHES)	0.022	0.153	0.328	0.700	0.588	0.693
	1.395	0.369	0.475	0.338	0.109	0.012
PERCOLATION FROM LAYER 1 (INCHES)	0.1020	0.0778	0.0698	0.0983	0.1208	0.1379
	0.1521	0.1665	0.1589	0.1661	0.1977	0.1663

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	0.998	108652.	13.63
EVAPOTRANSPIRATION	5.184	564572.	70.82
PERCOLATION FROM LAYER 1	1.6143	175794.	22.05
CHANGE IN WATER STORAGE	-0.476	-51870.	-6.51
SOIL WATER AT START OF YEAR	4.00	435107.	
SOIL WATER AT END OF YEAR	4.06	441676.	
SNOW WATER AT START OF YEAR	0.69	74767.	

SNOW WATER AT END OF YEAR	0.15	16328.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80
RUNOFF (INCHES)	0.000	0.000	0.000	0.121	0.250	0.697
	0.229	0.069	0.392	0.072	0.110	0.000
EVAPOTRANSPIRATION (INCHES)	0.026	0.111	0.341	0.693	0.471	2.036
	1.090	0.409	0.992	0.413	0.109	0.010
PERCOLATION FROM LAYER 1 (INCHES)	0.1222	0.0870	0.0791	0.1865	0.1841	0.4948
	0.3617	0.2347	0.2616	0.6573	0.4604	0.2813

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	1.940	211284.	14.95
EVAPOTRANSPIRATION	6.700	729681.	51.62
PERCOLATION FROM LAYER 1	3.4108	371440.	26.28
CHANGE IN WATER STORAGE	0.929	101117.	7.15
SOIL WATER AT START OF YEAR	4.06	441676.	
SOIL WATER AT END OF YEAR	4.23	461167.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.313	0.000	0.072	0.154
	0.168	0.596	0.109	0.000	0.033	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.410	0.160	0.246	1.144
(INCHES)	1.015	1.179	0.595	0.154	0.065	0.005
PERCOLATION FROM	0.1768	0.1160	0.2819	0.2349	0.1697	0.1631
LAYER 1 (INCHES)	0.2048	0.4191	0.2876	0.2438	0.1540	0.1459

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	1.445	157391.	13.65
EVAPOTRANSPIRATION	5.124	557985.	48.38
PERCOLATION FROM LAYER 1	2.5977	282887.	24.53
CHANGE IN WATER STORAGE	1.423	154988.	13.44
SOIL WATER AT START OF YEAR	4.23	461167.	
SOIL WATER AT END OF YEAR	4.07	443021.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271087.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.074	0.119	0.072	0.249
	0.226	0.249	0.152	0.037	0.067	0.000
STD. DEVIATIONS	0.000	0.000	0.136	0.088	0.104	0.253
	0.091	0.228	0.161	0.035	0.061	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.399	0.562	0.348	1.029
	1.015	0.806	0.579	0.338	0.100	0.009
STD. DEVIATIONS	0.006	0.016	0.062	0.285	0.190	0.610
	0.252	0.418	0.255	0.125	0.022	0.003
PERCOLATION FROM LAYER 1						
TOTALS	0.1538	0.1044	0.1301	0.2234	0.1755	0.2254
	0.2512	0.2878	0.2328	0.3072	0.2735	0.2046
STD. DEVIATIONS	0.0389	0.0204	0.0869	0.0845	0.0333	0.1517
	0.0809	0.0962	0.0487	0.2029	0.1406	0.0791

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	1.247	(0.452)	135827.	13.25
EVAPOTRANSPIRATION	5.335	(0.931)	580962.	56.67

PERCOLATION FROM LAYER 1	2.5695	(0.6489)	279823.	27.29
CHANGE IN WATER STORAGE	0.262	(0.881)	28572.	2.79

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.454	49403.7
PERCOLATION FROM LAYER 1	0.0284	3094.5
SNOW WATER	2.49	271196.2

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.1875
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0004

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)
1	4.07	0.0678
SNOW WATER	2.49	

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MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.004	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.032	0.118	0.456	0.771	0.139	0.499
(INCHES)	1.091	1.162	0.313	0.532	0.122	0.007
PERCOLATION FROM	0.0204	0.0186	0.0205	0.0481	0.0501	0.0464
LAYER 1 (INCHES)	0.0658	0.0722	0.0724	0.0807	0.1209	0.1449

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.004	461.	0.05
EVAPOTRANSPIRATION	5.244	571123.	67.93
PERCOLATION FROM LAYER 1	0.7608	82854.	9.86
CHANGE IN WATER STORAGE	1.710	186269.	22.16
SOIL WATER AT START OF YEAR	9.51	1035230.	
SOIL WATER AT END OF YEAR	11.22	1221683.	
SNOW WATER AT START OF YEAR	0.96	104018.	
SNOW WATER AT END OF YEAR	0.95	103835.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.017	0.119	0.459	1.182	0.333	1.030
(INCHES)	1.166	1.560	0.694	0.298	0.093	0.008
PERCOLATION FROM	0.1320	0.1080	0.1115	0.1990	0.1806	0.1519
LAYER 1 (INCHES)	0.1873	0.2244	0.1855	0.1619	0.1364	0.1292

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	6.959	757785.	82.25
PERCOLATION FROM LAYER 1	1.9077	207749.	22.55
CHANGE IN WATER STORAGE	-0.406	-44241.	-4.80
SOIL WATER AT START OF YEAR	11.22	1221683.	
SOIL WATER AT END OF YEAR	11.08	1206510.	
SNOW WATER AT START OF YEAR	0.95	103835.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.022	0.153	0.328	1.038	0.592	0.884
	1.951	0.401	0.764	0.528	0.109	0.012
PERCOLATION FROM LAYER 1 (INCHES)	0.1173	0.1000	0.0977	0.1064	0.1116	0.1057
	0.1092	0.0981	0.0974	0.1044	0.1039	0.1047

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	6.782	738608.	92.66
PERCOLATION FROM LAYER 1	1.2565	136834.	17.17
CHANGE IN WATER STORAGE	-0.719	-78295.	-9.82
SOIL WATER AT START OF YEAR	11.08	1206510.	
SOIL WATER AT END OF YEAR	10.90	1186654.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80

	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.026	0.111	0.341	1.038	0.469	2.703
(INCHES)	1.364	0.514	0.998	0.632	0.109	0.010
PERCOLATION FROM	0.0974	0.0817	0.0841	0.1253	0.1379	0.2801
LAYER 1 (INCHES)	0.3196	0.2479	0.2217	0.4516	0.4186	0.3530

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	0.000	19.	0.00
EVAPOTRANSPIRATION	8.314	905349.	64.05
PERCOLATION FROM LAYER 1	2.8188	306971.	21.72
CHANGE IN WATER STORAGE	1.847	201183.	14.23
SOIL WATER AT START OF YEAR	10.90	1186654.	
SOIL WATER AT END OF YEAR	11.99	1306212.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.005	0.000	0.000	0.000
	0.000	0.004	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.441	0.456	0.246	1.449
(INCHES)	1.347	1.659	0.626	0.451	0.065	0.005
PERCOLATION FROM	0.2720	0.1998	0.3266	0.3153	0.2524	0.2082
LAYER 1 (INCHES)	0.2051	0.3425	0.2575	0.2247	0.1794	0.1569

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	0.009	975.	0.08
EVAPOTRANSPIRATION	6.896	750960.	65.12
PERCOLATION FROM LAYER 1	2.9403	320193.	27.76
CHANGE IN WATER STORAGE	0.745	81123.	7.03
SOIL WATER AT START OF YEAR	11.99	1306212.	
SOIL WATER AT END OF YEAR	11.15	1214168.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271119.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.001	0.001	0.000	0.000
	0.000	0.001	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.002	0.002	0.000	0.000
	0.000	0.002	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.405	0.897	0.356	1.313
	1.384	1.059	0.679	0.488	0.100	0.009

PERCOLATION FROM LAYER 1

TOTALS	0.1278	0.1016	0.1281	0.1588	0.1465	0.1585
	0.1774	0.1970	0.1669	0.2047	0.1918	0.1777
STD. DEVIATIONS	0.0914	0.0651	0.1163	0.1028	0.0758	0.0904
	0.0977	0.1117	0.0795	0.1488	0.1298	0.0999

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	0.003	(0.004)	291.	0.03
EVAPOTRANSPIRATION	6.839	(1.088)	744765.	72.65
PERCOLATION FROM LAYER 1	1.9368	(0.9528)	210920.	20.57
CHANGE IN WATER STORAGE	0.636	(1.179)	69208.	6.75

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.005	551.6
PERCOLATION FROM LAYER 1	0.0159	1736.1
SNOW WATER	2.49	271228.3

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2971

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0521

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; SM SOIL; 1 LEAF AREA INDEX; 12" EVAPORATIVE DEPTH
DECEMBER 9, 1994; HLA JOB NO. 29092.1

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FAIR GRASS

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00	INCHES
POROSITY	=	0.4570	VOL/VOL
FIELD CAPACITY	=	0.1309	VOL/VOL
WILTING POINT	=	0.0580	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1309	VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	0.003000000026	CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	63.71	
TOTAL AREA OF COVER	=	1306800.	SQ FT
EVAPORATIVE ZONE DEPTH	=	12.00	INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000	
UPPER LIMIT VEG. STORAGE	=	5.4840	INCHES
INITIAL VEG. STORAGE	=	2.0052	INCHES
INITIAL SNOW WATER CONTENT	=	0.9565	INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	7.8540	INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.032	0.118	0.456	1.090	0.400	0.526
(INCHES)	1.572	1.157	0.460	0.490	0.122	0.007
PERCOLATION FROM	0.0038	0.0039	0.0047	0.0101	0.0142	0.0142
LAYER 1 (INCHES)	0.0147	0.0145	0.0137	0.0139	0.0135	0.0194

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	6.431	700312.	83.30
PERCOLATION FROM LAYER 1	0.1408	15333.	1.82
CHANGE IN WATER STORAGE	1.148	125063.	14.88
SOIL WATER AT START OF YEAR	8.51	927175.	
SOIL WATER AT END OF YEAR	9.66	1052460.	
SNOW WATER AT START OF YEAR	0.96	104163.	
SNOW WATER AT END OF YEAR	0.95	103942.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.017	0.119	0.459	1.468	0.528	1.032
(INCHES)	1.763	1.598	0.955	0.299	0.093	0.008
PERCOLATION FROM	0.0233	0.0227	0.0261	0.0469	0.0616	0.0584
LAYER 1 (INCHES)	0.0574	0.0542	0.0496	0.0484	0.0444	0.0435

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	8.339	908133.	98.57
PERCOLATION FROM LAYER 1	0.5367	58446.	6.34
CHANGE IN WATER STORAGE	-0.416	-45285.	-4.92
SOIL WATER AT START OF YEAR	9.66	1052460.	
SOIL WATER AT END OF YEAR	9.52	1036350.	
SNOW WATER AT START OF YEAR	0.95	103942.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.022	0.153	0.328	1.503	0.601	0.991
	1.971	0.617	0.763	0.528	0.109	0.012
PERCOLATION FROM LAYER 1 (INCHES)	0.0413	0.0368	0.0376	0.0347	0.0343	0.0318
	0.0316	0.0303	0.0281	0.0279	0.0260	0.0259

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	7.599	827530.	103.81
PERCOLATION FROM LAYER 1	0.3864	42076.	5.28
CHANGE IN WATER STORAGE	-0.665	-72458.	-9.09
SOIL WATER AT START OF YEAR	9.52	1036350.	
SOIL WATER AT END OF YEAR	9.39	1022330.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80

	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.026	0.111	0.341	1.426	0.603	3.265
(INCHES)	1.636	0.541	0.999	0.631	0.109	0.010
PERCOLATION FROM	0.0250	0.0218	0.0234	0.0257	0.0361	0.0393
LAYER 1 (INCHES)	0.0587	0.0599	0.0559	0.0993	0.1328	0.1675

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	9.696	1055924.	74.70
PERCOLATION FROM LAYER 1	0.7453	81167.	5.74
CHANGE IN WATER STORAGE	2.538	276431.	19.56
SOIL WATER AT START OF YEAR	9.39	1022330.	
SOIL WATER AT END OF YEAR	11.18	1217136.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.441	0.807	0.534	1.450
(INCHES)	1.529	2.178	0.733	0.451	0.065	0.005
PERCOLATION FROM	0.1596	0.1316	0.1997	0.2472	0.2191	0.1735
LAYER 1 (INCHES)	0.1502	0.1315	0.1185	0.1100	0.0955	0.0890

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	8.343	908513.	78.78
PERCOLATION FROM LAYER 1	1.8254	198783.	17.24
CHANGE IN WATER STORAGE	0.422	45955.	3.98
SOIL WATER AT START OF YEAR	11.18	1217136.	
SOIL WATER AT END OF YEAR	10.01	1089962.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271082.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.405	1.258	0.533	1.453
	1.694	1.218	0.782	0.480	0.100	0.009

PERCOLATION FROM LAYER 1

TOTALS	0.0506	0.0434	0.0583	0.0729	0.0731	0.0635
	0.0625	0.0581	0.0532	0.0599	0.0624	0.0691
STD. DEVIATIONS	0.0624	0.0507	0.0799	0.0983	0.0833	0.0635
	0.0524	0.0449	0.0402	0.0428	0.0502	0.0614

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	0.000	(0.000)	0.	0.00
EVAPOTRANSPIRATION	8.082	(1.194)	880082.	85.85
PERCOLATION FROM LAYER 1	0.7269	(0.6524)	79161.	7.72
CHANGE IN WATER STORAGE	0.606	(1.296)	65941.	6.43

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.000	0.0
PERCOLATION FROM LAYER 1	0.0085	928.1
SNOW WATER	2.49	271191.3

MAXIMUM VEG. SOIL WATER (VOL/VOL) 0.2396

MINIMUM VEG. SOIL WATER (VOL/VOL) 0.0580

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)

SNOW WATER 2.49

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; SM SOIL; LEAF AREA INDEX; 4" EVAPORATIVE DEPTH
JANUARY 9, 1995; HLA JOB NO. 29092.1

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BARE GROUND

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00 INCHES
POROSITY	=	0.4570 VOL/VOL
FIELD CAPACITY	=	0.1309 VOL/VOL
WILTING POINT	=	0.0580 VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1309 VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	0.009999999776 CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	83.31
TOTAL AREA OF COVER	=	1306800. SQ FT
EVAPORATIVE ZONE DEPTH	=	4.00 INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000
UPPER LIMIT VEG. STORAGE	=	1.8280 INCHES
INITIAL VEG. STORAGE	=	0.5032 INCHES
INITIAL SNOW WATER CONTENT	=	0.9553 INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	7.8540 INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.200
	0.130	0.118	0.030	0.066	0.049	0.000
EVAPOTRANSPIRATION (INCHES)	0.032	0.118	0.456	0.634	0.137	0.501
	0.950	1.009	0.266	0.532	0.122	0.007
PERCOLATION FROM LAYER 1 (INCHES)	0.0991	0.0812	0.0817	0.1923	0.1690	0.1359
	0.1579	0.1585	0.1423	0.1582	0.2246	0.2325

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.593	64529.	7.68
EVAPOTRANSPIRATION	4.765	518911.	61.72
PERCOLATION FROM LAYER 1	1.8332	199632.	23.75
CHANGE IN WATER STORAGE	0.529	57636.	6.86
SOIL WATER AT START OF YEAR	8.87	965481.	

SOIL WATER AT END OF YEAR	9.40	1023339.	
SNOW WATER AT START OF YEAR	0.96	104035.	
SNOW WATER AT END OF YEAR	0.95	103813.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.062	0.136	0.004	0.088
	0.127	0.374	0.000	0.057	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.017	0.119	0.459	1.056	0.333	0.939
	1.019	1.379	0.556	0.298	0.093	0.008
PERCOLATION FROM LAYER 1 (INCHES)	0.1871	0.1404	0.1373	0.2237	0.1880	0.1546
	0.2024	0.2434	0.1811	0.1515	0.1330	0.1242

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	0.848	92388.	10.03
EVAPOTRANSPIRATION	6.275	683395.	74.18
PERCOLATION FROM LAYER 1	2.0669	225080.	24.43
CHANGE IN WATER STORAGE	-0.731	-79569.	-8.64
SOIL WATER AT START OF YEAR	9.40	1023339.	
SOIL WATER AT END OF YEAR	8.93	972816.	

SNOW WATER AT START OF YEAR	0.95	103813.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 76

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.105	0.042	0.135
	0.258	0.105	0.235	0.000	0.152	0.000
EVAPOTRANSPIRATION	0.022	0.153	0.328	0.913	0.591	0.840
(INCHES)	1.649	0.395	0.761	0.421	0.109	0.012
PERCOLATION FROM	0.1096	0.0912	0.0875	0.0942	0.0980	0.0929
LAYER 1 (INCHES)	0.0875	0.0783	0.0708	0.0676	0.0667	0.0705

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	1.032	112385.	14.10
EVAPOTRANSPIRATION	6.196	674708.	84.64
PERCOLATION FROM LAYER 1	1.0150	110528.	13.87
CHANGE IN WATER STORAGE	-0.923	-100473.	-12.60
SOIL WATER AT START OF YEAR	8.93	972816.	
SOIL WATER AT END OF YEAR	8.55	930782.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	

ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80
RUNOFF (INCHES)	0.000	0.000	0.000	0.136	0.256	0.230
	0.234	0.073	0.096	0.079	0.112	0.000
EVAPOTRANSPIRATION (INCHES)	0.026	0.111	0.341	0.895	0.469	2.384
	1.120	0.469	0.998	0.593	0.109	0.010
PERCOLATION FROM LAYER 1 (INCHES)	0.0664	0.0562	0.0582	0.0942	0.1051	0.2460
	0.2864	0.2115	0.2015	0.4808	0.3821	0.3044

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	1.217	132530.	9.38
EVAPOTRANSPIRATION	7.524	819356.	57.97
PERCOLATION FROM LAYER 1	2.4929	271472.	19.21
CHANGE IN WATER STORAGE	1.746	190165.	13.45
SOIL WATER AT START OF YEAR	8.55	930782.	
SOIL WATER AT END OF YEAR	9.54	1039321.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.067	0.000	0.074	0.161
	0.171	0.149	0.113	0.000	0.036	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.441	0.331	0.246	1.349
(INCHES)	1.198	1.503	0.625	0.328	0.065	0.005
PERCOLATION FROM	0.2275	0.1639	0.3089	0.2910	0.2220	0.1711
LAYER 1 (INCHES)	0.1581	0.3177	0.2291	0.1995	0.1545	0.1325

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	0.772	84036.	7.29
EVAPOTRANSPIRATION	6.241	679667.	58.93
PERCOLATION FROM LAYER 1	2.5758	280510.	24.32
CHANGE IN WATER STORAGE	1.001	109039.	9.45
SOIL WATER AT START OF YEAR	9.54	1039321.	
SOIL WATER AT END OF YEAR	8.95	975166.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271147.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.026	0.075	0.075	0.163
	0.184	0.164	0.095	0.040	0.070	0.000
STD. DEVIATIONS	0.000	0.000	0.035	0.070	0.105	0.055
	0.060	0.121	0.091	0.038	0.061	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.405	0.766	0.355	1.203
	1.187	0.951	0.641	0.434	0.100	0.009
STD. DEVIATIONS	0.006	0.016	0.065	0.287	0.179	0.727
	0.275	0.508	0.269	0.127	0.022	0.003
PERCOLATION FROM LAYER 1						
TOTALS	0.1380	0.1066	0.1347	0.1791	0.1564	0.1601
	0.1785	0.2019	0.1650	0.2115	0.1922	0.1728
STD. DEVIATIONS	0.0668	0.0443	0.1016	0.0853	0.0536	0.0562
	0.0730	0.0900	0.0614	0.1580	0.1202	0.0940

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	0.892	(0.240)	97173.	9.48
EVAPOTRANSPIRATION	6.200	(0.977)	675207.	65.86
PERCOLATION FROM LAYER 1	1.9967	(0.6279)	217444.	21.21

CHANGE IN WATER STORAGE	0.325	(1.139)	35359.	3.45

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.188	20433.8
PERCOLATION FROM LAYER 1	0.0181	1968.7
SNOW WATER	2.49	271255.8

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2330
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0458

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)
1	8.95	0.1492
SNOW WATER	2.49	

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; SM SOIL; 1 LEAF AREA INDEX; 12" EVAPORATIVE DEPTH
JANUARY 9, 1995; HLA JOB NO. 29092.1

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FAIR GRASS

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00 INCHES
POROSITY	=	0.4570 VOL/VOL
FIELD CAPACITY	=	0.1309 VOL/VOL
WILTING POINT	=	0.0580 VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.1309 VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	0.009999999776 CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	63.71
TOTAL AREA OF COVER	=	1306800. SQ FT
EVAPORATIVE ZONE DEPTH	=	12.00 INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000
UPPER LIMIT VEG. STORAGE	=	5.4840 INCHES
INITIAL VEG. STORAGE	=	1.7761 INCHES
INITIAL SNOW WATER CONTENT	=	0.9564 INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	7.8540 INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.045
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.032	0.118	0.456	1.097	0.396	0.515
(INCHES)	1.491	1.203	0.393	0.510	0.122	0.007
PERCOLATION FROM	0.0171	0.0167	0.0194	0.0437	0.0536	0.0488
LAYER 1 (INCHES)	0.0469	0.0438	0.0397	0.0386	0.0385	0.0588

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.045	4899.	0.58
EVAPOTRANSPIRATION	6.341	690510.	82.13
PERCOLATION FROM LAYER 1	0.4655	50695.	6.03
CHANGE IN WATER STORAGE	0.869	94604.	11.25
SOIL WATER AT START OF YEAR	8.47	922210.	

SOIL WATER AT END OF YEAR	9.34	1017001.	
SNOW WATER AT START OF YEAR	0.96	104151.	
SNOW WATER AT END OF YEAR	0.95	103964.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.009	0.039	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.017	0.119	0.459	1.467	0.528	1.033
(INCHES)	1.764	1.599	0.955	0.299	0.093	0.008
PERCOLATION FROM	0.0648	0.0589	0.0636	0.1159	0.1349	0.1143
LAYER 1 (INCHES)	0.1030	0.0900	0.0775	0.0720	0.0632	0.0596

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	0.048	5220.	0.57
EVAPOTRANSPIRATION	8.341	908318.	98.59
PERCOLATION FROM LAYER 1	1.0178	110839.	12.03
CHANGE IN WATER STORAGE	-0.947	-103082.	-11.19
SOIL WATER AT START OF YEAR	9.34	1017001.	
SOIL WATER AT END OF YEAR	8.66	943116.	

SNOW WATER AT START OF YEAR	0.95	103964.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 76

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.023	0.000	0.002
	0.019	0.000	0.058	0.000	0.068	0.000
EVAPOTRANSPIRATION	0.022	0.153	0.328	1.500	0.583	0.990
(INCHES)	1.961	0.498	0.764	0.528	0.109	0.012
PERCOLATION FROM	0.0548	0.0475	0.0472	0.0427	0.0413	0.0376
LAYER 1 (INCHES)	0.0367	0.0347	0.0319	0.0313	0.0289	0.0285

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	0.170	18464.	2.32
EVAPOTRANSPIRATION	7.448	811047.	101.74
PERCOLATION FROM LAYER 1	0.4631	50433.	6.33
CHANGE IN WATER STORAGE	-0.760	-82796.	-10.39
SOIL WATER AT START OF YEAR	8.66	943116.	
SOIL WATER AT END OF YEAR	8.44	918759.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	

ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.065	0.142
	0.029	0.000	0.000	0.000	0.026	0.000
EVAPOTRANSPIRATION	0.026	0.111	0.341	1.431	0.618	3.256
(INCHES)	1.541	0.687	1.002	0.628	0.109	0.010
PERCOLATION FROM	0.0273	0.0236	0.0252	0.0295	0.0411	0.0395
LAYER 1 (INCHES)	0.0485	0.0489	0.0456	0.0953	0.1299	0.1621

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	0.263	28611.	2.02
EVAPOTRANSPIRATION	9.760	1062908.	75.20
PERCOLATION FROM LAYER 1	0.7164	78021.	5.52
CHANGE IN WATER STORAGE	2.240	243982.	17.26
SOIL WATER AT START OF YEAR	8.44	918759.	
SOIL WATER AT END OF YEAR	9.93	1081116.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.006	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.441	0.806	0.519	1.450
(INCHES)	1.524	2.177	0.734	0.451	0.065	0.005
PERCOLATION FROM	0.1503	0.1218	0.2149	0.2544	0.2122	0.1613
LAYER 1 (INCHES)	0.1366	0.1203	0.1081	0.0991	0.0854	0.0792

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	0.006	621.	0.05
EVAPOTRANSPIRATION	8.323	906361.	78.59
PERCOLATION FROM LAYER 1	1.7434	189861.	16.46
CHANGE IN WATER STORAGE	0.518	56408.	4.89
SOIL WATER AT START OF YEAR	9.93	1081116.	
SOIL WATER AT END OF YEAR	8.86	964337.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271140.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.000	0.005	0.013	0.038
	0.013	0.008	0.012	0.000	0.019	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.010	0.029	0.061
	0.012	0.017	0.026	0.000	0.030	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.405	1.260	0.529	1.449
	1.656	1.233	0.770	0.483	0.100	0.009
STD. DEVIATIONS	0.006	0.016	0.065	0.301	0.085	1.063
	0.201	0.683	0.241	0.121	0.022	0.003
PERCOLATION FROM LAYER 1						
TOTALS	0.0628	0.0537	0.0740	0.0972	0.0966	0.0803
	0.0743	0.0675	0.0606	0.0673	0.0691	0.0777
STD. DEVIATIONS	0.0526	0.0418	0.0807	0.0942	0.0755	0.0552
	0.0434	0.0363	0.0317	0.0314	0.0405	0.0506

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	0.106	(0.107)	11563.	1.13
EVAPOTRANSPIRATION	8.043	(1.262)	875829.	85.43
PERCOLATION FROM LAYER 1	0.8813	(0.5331)	95970.	9.36

CHANGE IN WATER STORAGE	0.384	(1.302)	41823.	4.08

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.098	10667.7
PERCOLATION FROM LAYER 1	0.0090	984.4
SNOW WATER	2.49	271248.5

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.2127
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.0545

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)
1	8.86	0.1476
SNOW WATER	2.49	

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; ML SOIL; 1 LEAF AREA INDEX; BAREGROUND (4" EVAPORATED DEPTH,
DECEMBER 8, 1994; HLA JOB NO. 29092.1

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BARE GROUND

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00 INCHES
POROSITY	=	0.5010 VOL/VOL
FIELD CAPACITY	=	0.2837 VOL/VOL
WILTING POINT	=	0.1353 VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2837 VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	0.000190000006 CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	91.61
TOTAL AREA OF COVER	=	1303800. SQ FT
EVAPORATIVE ZONE DEPTH	=	4.00 INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000
UPPER LIMIT VEG. STORAGE	=	2.0040 INCHES
INITIAL VEG. STORAGE	=	0.9704 INCHES
INITIAL SNOW WATER CONTENT	=	0.9553 INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	17.0220 INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.123	0.000	0.010
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.032	0.118	0.456	0.874	0.110	0.364
(INCHES)	1.283	0.873	0.442	0.507	0.122	0.007
PERCOLATION FROM	0.1822	0.1475	0.1471	0.1996	0.1867	0.1572
LAYER 1 (INCHES)	0.2077	0.1958	0.1652	0.1706	0.2154	0.2389

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	838778.	100.00
RUNOFF	0.133	14444.	1.72
EVAPOTRANSPIRATION	5.188	563705.	67.21
PERCOLATION FROM LAYER 1	2.2139	240537.	28.68
CHANGE IN WATER STORAGE	0.185	20092.	2.40
SOIL WATER AT START OF YEAR	16.88	1833983.	

SOIL WATER AT END OF YEAR	17.07	1854322.	
SNOW WATER AT START OF YEAR	0.96	103794.	
SNOW WATER AT END OF YEAR	0.95	103546.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.000	0.021	0.000	0.000
	0.031	0.002	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.017	0.119	0.459	1.263	0.457	0.448
	2.105	1.195	0.837	0.353	0.093	0.008
PERCOLATION FROM LAYER 1 (INCHES)	0.2095	0.1667	0.1655	0.2356	0.2148	0.1779
	0.1806	0.1724	0.1768	0.1598	0.1368	0.1267

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	919179.	100.00
RUNOFF	0.055	5923.	0.64
EVAPOTRANSPIRATION	7.355	799100.	86.94
PERCOLATION FROM LAYER 1	2.1231	230675.	25.10
CHANGE IN WATER STORAGE	-1.072	-116519.	-12.68
SOIL WATER AT START OF YEAR	17.07	1854322.	
SOIL WATER AT END OF YEAR	16.26	1766754.	

SNOW WATER AT START OF YEAR	0.95	103546.	
SNOW WATER AT END OF YEAR	0.69	74595.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 76

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.002	0.000	0.001	0.000	0.002	0.000
EVAPOTRANSPIRATION	0.022	0.153	0.328	1.103	0.578	0.626
(INCHES)	1.847	0.614	0.393	0.618	0.109	0.012
PERCOLATION FROM	0.1152	0.0997	0.0992	0.1015	0.1062	0.0975
LAYER 1 (INCHES)	0.1201	0.1305	0.1142	0.1300	0.1251	0.1290

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	795318.	100.00
RUNOFF	0.006	639.	0.08
EVAPOTRANSPIRATION	6.403	695680.	87.47
PERCOLATION FROM LAYER 1	1.3682	148657.	18.69
CHANGE IN WATER STORAGE	-0.457	-49658.	-6.24
SOIL WATER AT START OF YEAR	16.26	1766754.	
SOIL WATER AT END OF YEAR	16.34	1775401.	
SNOW WATER AT START OF YEAR	0.69	74595.	
SNOW WATER AT END OF YEAR	0.15	16290.	

ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80
RUNOFF (INCHES)	0.000	0.000	0.000	0.002	0.023	0.141
	0.000	0.000	0.127	0.000	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.026	0.111	0.341	1.086	0.405	3.055
	1.036	0.571	0.802	0.632	0.109	0.010
PERCOLATION FROM LAYER 1 (INCHES)	0.1208	0.1015	0.1046	0.1353	0.1482	0.2187
	0.2501	0.2390	0.2109	0.3953	0.3795	0.3443

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1410278.	100.00
RUNOFF	0.293	31861.	2.26
EVAPOTRANSPIRATION	8.184	889186.	63.05
PERCOLATION FROM LAYER 1	2.6482	287723.	20.40
CHANGE IN WATER STORAGE	1.855	201508.	14.29
SOIL WATER AT START OF YEAR	16.34	1775401.	
SOIL WATER AT END OF YEAR	17.45	1895471.	
SNOW WATER AT START OF YEAR	0.15	16290.	
SNOW WATER AT END OF YEAR	0.90	97728.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.134	0.000	0.000	0.000
	0.000	0.178	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.441	0.493	0.399	1.321
(INCHES)	1.466	1.686	0.814	0.508	0.065	0.005
PERCOLATION FROM	0.2801	0.2128	0.2923	0.2906	0.2462	0.2033
LAYER 1 (INCHES)	0.1943	0.2277	0.1904	0.1701	0.1447	0.1332

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1150604.	100.00
RUNOFF	0.312	33942.	2.95
EVAPOTRANSPIRATION	7.349	798502.	69.40
PERCOLATION FROM LAYER 1	2.5857	280933.	24.42
CHANGE IN WATER STORAGE	0.343	37227.	3.24
SOIL WATER AT START OF YEAR	17.45	1895471.	
SOIL WATER AT END OF YEAR	16.20	1759872.	
SNOW WATER AT START OF YEAR	0.90	97728.	
SNOW WATER AT END OF YEAR	2.49	270554.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.027	0.029	0.005	0.030
	0.007	0.036	0.026	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.060	0.053	0.010	0.062
	0.014	0.079	0.057	0.000	0.001	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.405	0.964	0.390	1.163
	1.547	0.988	0.658	0.523	0.100	0.009
STD. DEVIATIONS	0.006	0.016	0.065	0.297	0.172	1.123
	0.430	0.463	0.220	0.112	0.022	0.003
PERCOLATION FROM LAYER 1						
TOTALS	0.1815	0.1456	0.1617	0.1925	0.1804	0.1709
	0.1906	0.1931	0.1715	0.2052	0.2003	0.1944
STD. DEVIATIONS	0.0682	0.0475	0.0782	0.0760	0.0550	0.0473
	0.0472	0.0438	0.0363	0.1075	0.1062	0.0962

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1022831.	100.00
RUNOFF	0.160	(0.138)	17362.	1.70
EVAPOTRANSPIRATION	6.896	(1.144)	749235.	73.25
PERCOLATION FROM LAYER 1	2.1878	(0.5116)	237705.	23.24

CHANGE IN WATER STORAGE	0.171	(1.096)	18530.	1.81

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129293.5
RUNOFF	0.178	19354.5
PERCOLATION FROM LAYER 1	0.0134	1452.1
SNOW WATER	2.49	270662.2

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.4047
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.1308

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)
1	16.20	0.2700
SNOW WATER	2.49	

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DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.032	0.118	0.456	1.883	0.179	0.384
(INCHES)	1.295	0.993	0.465	0.508	0.122	0.007
PERCOLATION FROM	0.0748	0.0688	0.0756	0.0963	0.1081	0.0946
LAYER 1 (INCHES)	0.0891	0.0817	0.0731	0.0701	0.0659	0.0900

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	6.443	701668.	83.46
PERCOLATION FROM LAYER 1	0.9881	107604.	12.80
CHANGE IN WATER STORAGE	0.289	31436.	3.74
SOIL WATER AT START OF YEAR	15.68	1708031.	

SOIL WATER AT END OF YEAR	15.97	1739534.	
SNOW WATER AT START OF YEAR	0.96	104194.	
SNOW WATER AT END OF YEAR	0.96	104126.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.017	0.119	0.459	2.158	0.627	0.450
(INCHES)	2.260	1.319	1.099	0.353	0.096	0.008
PERCOLATION FROM	0.0985	0.0891	0.0960	0.1192	0.1330	0.1140
LAYER 1 (INCHES)	0.1057	0.0956	0.0845	0.0803	0.0718	0.0690

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	8.965	976327.	105.97
PERCOLATION FROM LAYER 1	1.1566	125950.	13.67
CHANGE IN WATER STORAGE	-1.662	-180983.	-19.64
SOIL WATER AT START OF YEAR	15.97	1739534.	
SOIL WATER AT END OF YEAR	14.58	1587911.	

SNOW WATER AT START OF YEAR	0.96	104126.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 76

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.022	0.153	0.328	1.387	0.642	0.633
(INCHES)	2.115	0.910	0.396	0.591	0.113	0.012
PERCOLATION FROM	0.0644	0.0566	0.0570	0.0520	0.0509	0.0468
LAYER 1 (INCHES)	0.0460	0.0438	0.0405	0.0400	0.0372	0.0369

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	7.303	795293.	99.77
PERCOLATION FROM LAYER 1	0.5719	62284.	7.81
CHANGE IN WATER STORAGE	-0.555	-60429.	-7.58
SOIL WATER AT START OF YEAR	14.58	1587911.	
SOIL WATER AT END OF YEAR	14.56	1585920.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	

ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.026	0.111	0.341	1.784	0.842	3.723
	1.573	0.776	0.724	0.616	0.108	0.010
PERCOLATION FROM LAYER 1 (INCHES)	0.0354	0.0308	0.0330	0.0319	0.0366	0.0341
	0.0339	0.0327	0.0306	0.0374	0.0522	0.0735

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	10.635	1158117.	81.93
PERCOLATION FROM LAYER 1	0.4621	50327.	3.56
CHANGE IN WATER STORAGE	1.883	205078.	14.51
SOIL WATER AT START OF YEAR	14.56	1585920.	
SOIL WATER AT END OF YEAR	15.70	1709374.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.440	0.964	0.897	1.334
(INCHES)	1.602	2.055	0.787	0.609	0.065	0.005
PERCOLATION FROM	0.0794	0.0724	0.1019	0.1401	0.1387	0.1184
LAYER 1 (INCHES)	0.1094	0.0986	0.0869	0.0824	0.0736	0.0707

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	8.908	970127.	84.12
PERCOLATION FROM LAYER 1	1.1725	127685.	11.07
CHANGE IN WATER STORAGE	0.509	55439.	4.81
SOIL WATER AT START OF YEAR	15.70	1709374.	
SOIL WATER AT END OF YEAR	14.61	1591192.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271574.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.405	1.635	0.638	1.305
	1.769	1.211	0.694	0.536	0.101	0.009
STD. DEVIATIONS	0.006	0.016	0.065	0.466	0.282	1.403
	0.404	0.513	0.280	0.111	0.022	0.003
PERCOLATION FROM LAYER 1						
TOTALS	0.0705	0.0635	0.0727	0.0879	0.0935	0.0816
	0.0768	0.0705	0.0631	0.0621	0.0601	0.0680
STD. DEVIATIONS	0.0232	0.0217	0.0284	0.0453	0.0471	0.0389
	0.0348	0.0303	0.0259	0.0218	0.0154	0.0193

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	0.000	(0.000)	0.	0.00
EVAPOTRANSPIRATION	8.451	(1.627)	920306.	89.77
PERCOLATION FROM LAYER 1	0.8702	(0.3327)	94770.	9.24

CHANGE IN WATER STORAGE	0.093	(1.315)	10108.	0.99

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.000	0.0
PERCOLATION FROM LAYER 1	0.0048	517.4
SNOW WATER	2.49	271682.6

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.3244
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.1351

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)
1	14.61	0.2435
SNOW WATER	2.49	

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; ML SOIL; 1 LEAF AREA INDEX; 4" EVAPORATIVE DEPTH
JANUARY 9, 1995; HLA JOB NO. 29092.1

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BARE GROUND

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00 INCHES
POROSITY	=	0.5010 VOL/VOL
FIELD CAPACITY	=	0.2837 VOL/VOL
WILTING POINT	=	0.1353 VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2837 VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	0.001000000047 CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	91.61
TOTAL AREA OF COVER	=	1306800. SQ FT
EVAPORATIVE ZONE DEPTH	=	4.00 INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000
UPPER LIMIT VEG. STORAGE	=	2.0040 INCHES
INITIAL VEG. STORAGE	=	0.8478 INCHES
INITIAL SNOW WATER CONTENT	=	0.9552 INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	17.0220 INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.090	0.000	0.004
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION (INCHES)	0.032	0.118	0.456	0.733	0.103	0.364
	1.190	0.829	0.408	0.507	0.122	0.007
PERCOLATION FROM LAYER 1 (INCHES)	0.2470	0.1869	0.1772	0.2614	0.2270	0.1831
	0.2772	0.2462	0.2134	0.2207	0.2789	0.2881

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.094	10204.	1.21
EVAPOTRANSPIRATION	4.871	530409.	63.09
PERCOLATION FROM LAYER 1	2.8072	305708.	36.36
CHANGE IN WATER STORAGE	-0.052	-5613.	-0.67
SOIL WATER AT START OF YEAR	15.22	1657842.	

SOIL WATER AT END OF YEAR	15.17	1652466.	
SNOW WATER AT START OF YEAR	0.96	104024.	
SNOW WATER AT END OF YEAR	0.95	103787.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.000	0.003	0.000	0.000
	0.031	0.002	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.017	0.119	0.459	1.104	0.457	0.449
(INCHES)	1.668	1.194	0.645	0.353	0.093	0.008
PERCOLATION FROM	0.2372	0.1807	0.1758	0.2760	0.2371	0.1951
LAYER 1 (INCHES)	0.2369	0.2593	0.2755	0.2267	0.1861	0.1721

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	0.036	3873.	0.42
EVAPOTRANSPIRATION	6.566	715051.	77.61
PERCOLATION FROM LAYER 1	2.6584	289502.	31.42
CHANGE IN WATER STORAGE	-0.800	-87132.	-9.46
SOIL WATER AT START OF YEAR	15.17	1652466.	
SOIL WATER AT END OF YEAR	14.64	1594354.	

SNOW WATER AT START OF YEAR	0.95	103787.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 76

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.001	0.000	0.002	0.000
EVAPOTRANSPIRATION	0.022	0.153	0.328	0.950	0.576	0.625
(INCHES)	1.519	0.611	0.386	0.572	0.109	0.012
PERCOLATION FROM	0.1519	0.1266	0.1216	0.1277	0.1310	0.1295
LAYER 1 (INCHES)	0.1735	0.1989	0.1746	0.2031	0.1922	0.1835

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	0.003	321.	0.04
EVAPOTRANSPIRATION	5.865	638713.	80.12
PERCOLATION FROM LAYER 1	1.9140	208434.	26.15
CHANGE IN WATER STORAGE	-0.462	-50320.	-6.31
SOIL WATER AT START OF YEAR	14.64	1594354.	
SOIL WATER AT END OF YEAR	14.72	1602472.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	

ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.011	0.107
	0.000	0.000	0.131	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.026	0.111	0.341	0.956	0.405	2.713
(INCHES)	1.067	0.564	0.635	0.632	0.109	0.010
PERCOLATION FROM	0.1612	0.1293	0.1282	0.1743	0.1829	0.3576
LAYER 1 (INCHES)	0.3885	0.3226	0.2921	0.6094	0.5089	0.4085

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	0.250	27234.	1.93
EVAPOTRANSPIRATION	7.570	824346.	58.32
PERCOLATION FROM LAYER 1	3.6636	398964.	28.22
CHANGE IN WATER STORAGE	1.497	162978.	11.53
SOIL WATER AT START OF YEAR	14.72	1602472.	
SOIL WATER AT END OF YEAR	15.46	1683825.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.089	0.000	0.000	0.000
	0.000	0.172	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.441	0.368	0.399	1.321
(INCHES)	1.290	1.462	0.813	0.405	0.065	0.005
PERCOLATION FROM	0.3068	0.2219	0.3306	0.3150	0.2540	0.2163
LAYER 1 (INCHES)	0.2172	0.3128	0.2420	0.2208	0.1774	0.1564

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	0.261	28441.	2.47
EVAPOTRANSPIRATION	6.720	731804.	63.46
PERCOLATION FROM LAYER 1	2.9711	323548.	28.06
CHANGE IN WATER STORAGE	0.638	69459.	6.02
SOIL WATER AT START OF YEAR	15.46	1683825.	
SOIL WATER AT END OF YEAR	14.51	1580147.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271090.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.018	0.019	0.002	0.022
	0.006	0.035	0.027	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.040	0.040	0.005	0.048
	0.014	0.077	0.059	0.000	0.001	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.405	0.822	0.388	1.094
	1.347	0.932	0.578	0.494	0.100	0.009
STD. DEVIATIONS	0.006	0.016	0.065	0.286	0.175	0.980
	0.244	0.387	0.180	0.115	0.022	0.003
PERCOLATION FROM LAYER 1						
TOTALS	0.2208	0.1691	0.1867	0.2309	0.2064	0.2163
	0.2586	0.2679	0.2395	0.2961	0.2687	0.2417
STD. DEVIATIONS	0.0645	0.0407	0.0845	0.0773	0.0497	0.0852
	0.0816	0.0508	0.0474	0.1753	0.1404	0.1067

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	0.129	(0.120)	14015.	1.37
EVAPOTRANSPIRATION	6.318	(1.011)	688065.	67.12
PERCOLATION FROM LAYER 1	2.8029	(0.6285)	305231.	29.77

CHANGE IN WATER STORAGE	0.164	(0.918)	17874.	1.74

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PEAK DAILY VALUES FOR YEARS 74 THROUGH 78

	(INCHES)	(CU. FT.)
PRECIPITATION	1.19	129591.0
RUNOFF	0.172	18704.0
PERCOLATION FROM LAYER 1	0.0226	2459.9
SNOW WATER	2.49	271199.0

MAXIMUM VEG. SOIL WATER (VOL/VOL)	0.3524
MINIMUM VEG. SOIL WATER (VOL/VOL)	0.1269

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FINAL WATER STORAGE AT END OF YEAR 78

LAYER	(INCHES)	(VOL/VOL)
1	14.51	0.2418
SNOW WATER	2.49	

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SSL SITE-SPECIFIC INFILTRATION RATES
FAIRBANKS, ALASKA; ML SOIL; 1 LEAF AREA INDEX; 12" EVAPORATIVE DEPTH
JANUARY 9, 1995; HLA JOB NO. 29092.1

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FAIR GRASS

LAYER 1

VERTICAL PERCOLATION LAYER

THICKNESS	=	60.00 INCHES
POROSITY	=	0.5010 VOL/VOL
FIELD CAPACITY	=	0.2837 VOL/VOL
WILTING POINT	=	0.1353 VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2837 VOL/VOL
SATURATED HYDRAULIC CONDUCTIVITY	=	0.001000000047 CM/SEC

GENERAL SIMULATION DATA

SCS RUNOFF CURVE NUMBER	=	81.48
TOTAL AREA OF COVER	=	1306800. SQ FT
EVAPORATIVE ZONE DEPTH	=	12.00 INCHES
POTENTIAL RUNOFF FRACTION	=	1.000000
UPPER LIMIT VEG. STORAGE	=	6.0120 INCHES
INITIAL VEG. STORAGE	=	2.9094 INCHES
INITIAL SNOW WATER CONTENT	=	0.9568 INCHES
INITIAL TOTAL WATER STORAGE IN SOIL AND WASTE LAYERS	=	17.0220 INCHES

SOIL WATER CONTENT INITIALIZED BY PROGRAM.

CLIMATOLOGICAL DATA

DEFAULT RAINFALL WITH SYNTHETIC DAILY TEMPERATURES AND
SOLAR RADIATION FOR FAIRBANKS ALASKA

MAXIMUM LEAF AREA INDEX = 1.00
START OF GROWING SEASON (JULIAN DATE) = 159
END OF GROWING SEASON (JULIAN DATE) = 231

NORMAL MEAN MONTHLY TEMPERATURES, DEGREES FAHRENHEIT

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-12.80	-4.00	8.50	30.20	48.20	59.30
61.50	56.60	44.90	25.00	3.90	-10.10

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MONTHLY TOTALS FOR YEAR 74

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.14	0.33	0.27	0.21	0.11	1.22
	1.17	1.14	0.47	1.08	1.03	0.55
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.032	0.118	0.456	1.814	0.108	0.384
(INCHES)	1.297	0.992	0.460	0.506	0.122	0.007
PERCOLATION FROM	0.0925	0.0837	0.0902	0.1172	0.1274	0.1091
LAYER 1 (INCHES)	0.1009	0.0912	0.0805	0.0765	0.0768	0.1134

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ANNUAL TOTALS FOR YEAR 74

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.72	840708.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	6.298	685829.	81.58
PERCOLATION FROM LAYER 1	1.1595	126265.	15.02
CHANGE IN WATER STORAGE	0.263	28613.	3.40
SOIL WATER AT START OF YEAR	15.23	1658457.	

SOIL WATER AT END OF YEAR	15.49	1687227.	
SNOW WATER AT START OF YEAR	0.96	104192.	
SNOW WATER AT END OF YEAR	0.96	104036.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 75

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.60	0.04	0.22	0.47	0.49	0.99
	1.81	2.10	0.20	0.79	0.44	0.31
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.017	0.119	0.459	2.162	0.487	0.449
(INCHES)	2.259	1.320	1.100	0.353	0.096	0.008
PERCOLATION FROM	0.1202	0.1060	0.1118	0.1414	0.1518	0.1274
LAYER 1 (INCHES)	0.1161	0.1035	0.0904	0.0851	0.0755	0.0720

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ANNUAL TOTALS FOR YEAR 75

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	8.46	921294.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	8.830	961577.	104.37
PERCOLATION FROM LAYER 1	1.3011	141689.	15.38
CHANGE IN WATER STORAGE	-1.671	-181973.	-19.75
SOIL WATER AT START OF YEAR	15.49	1687227.	
SOIL WATER AT END OF YEAR	14.09	1534523.	

SNOW WATER AT START OF YEAR	0.96	104036.	
SNOW WATER AT END OF YEAR	0.69	74767.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 76

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.22	0.01	0.55	0.08	0.94	1.08
	1.60	0.69	1.05	0.89	0.13	0.08
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.022	0.153	0.328	1.388	0.638	0.632
(INCHES)	2.121	0.910	0.395	0.591	0.112	0.012
PERCOLATION FROM	0.0668	0.0583	0.0585	0.0532	0.0518	0.0474
LAYER 1 (INCHES)	0.0465	0.0441	0.0407	0.0401	0.0372	0.0368

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ANNUAL TOTALS FOR YEAR 76

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	7.32	797148.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	7.303	795297.	99.77
PERCOLATION FROM LAYER 1	0.5813	63304.	7.94
CHANGE IN WATER STORAGE	-0.564	-61454.	-7.71
SOIL WATER AT START OF YEAR	14.09	1534523.	
SOIL WATER AT END OF YEAR	14.06	1531508.	
SNOW WATER AT START OF YEAR	0.69	74767.	
SNOW WATER AT END OF YEAR	0.15	16328.	

ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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MONTHLY TOTALS FOR YEAR 77

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.27	0.85	0.26	0.36	1.43	3.21
	1.28	0.71	2.51	1.06	0.24	0.80
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.026	0.111	0.341	1.784	0.705	3.723
(INCHES)	1.567	0.775	0.726	0.617	0.108	0.010
PERCOLATION FROM	0.0353	0.0307	0.0328	0.0342	0.0425	0.0393
LAYER 1 (INCHES)	0.0391	0.0374	0.0347	0.0495	0.0694	0.0953

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ANNUAL TOTALS FOR YEAR 77

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	12.98	1413523.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	10.494	1142765.	80.85
PERCOLATION FROM LAYER 1	0.5402	58823.	4.16
CHANGE IN WATER STORAGE	1.946	211934.	14.99
SOIL WATER AT START OF YEAR	14.06	1531508.	
SOIL WATER AT END OF YEAR	15.26	1661817.	
SNOW WATER AT START OF YEAR	0.15	16328.	
SNOW WATER AT END OF YEAR	0.90	97953.	
ANNUAL WATER BUDGET BALANCE	0.00	1.	0.00

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MONTHLY TOTALS FOR YEAR 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION (INCHES)	0.39	0.19	0.09	0.16	0.44	1.61
	1.29	2.43	0.98	0.59	1.02	1.40
RUNOFF (INCHES)	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION	0.023	0.127	0.440	0.964	0.764	1.335
(INCHES)	1.601	2.056	0.786	0.609	0.065	0.005
PERCOLATION FROM	0.1001	0.0890	0.1274	0.1707	0.1622	0.1350
LAYER 1 (INCHES)	0.1223	0.1084	0.0943	0.0885	0.0783	0.0745

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ANNUAL TOTALS FOR YEAR 78

	(INCHES)	(CU. FT.)	PERCENT
PRECIPITATION	10.59	1153251.	100.00
RUNOFF	0.000	0.	0.00
EVAPOTRANSPIRATION	8.777	955769.	82.88
PERCOLATION FROM LAYER 1	1.3507	147093.	12.75
CHANGE IN WATER STORAGE	0.463	50389.	4.37
SOIL WATER AT START OF YEAR	15.26	1661817.	
SOIL WATER AT END OF YEAR	14.13	1538683.	
SNOW WATER AT START OF YEAR	0.90	97953.	
SNOW WATER AT END OF YEAR	2.49	271477.	
ANNUAL WATER BUDGET BALANCE	0.00	0.	0.00

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AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 74 THROUGH 78

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.32	0.28	0.28	0.26	0.68	1.62
	1.43	1.41	1.04	0.88	0.57	0.63
STD. DEVIATIONS	0.18	0.34	0.17	0.16	0.51	0.92
	0.27	0.81	0.89	0.20	0.43	0.51
RUNOFF						
TOTALS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
STD. DEVIATIONS	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000
EVAPOTRANSPIRATION						
TOTALS	0.024	0.126	0.405	1.623	0.541	1.305
	1.769	1.211	0.693	0.535	0.101	0.009
STD. DEVIATIONS	0.006	0.016	0.065	0.459	0.263	1.404
	0.405	0.513	0.282	0.111	0.022	0.003
PERCOLATION FROM LAYER 1						
TOTALS	0.0830	0.0735	0.0841	0.1033	0.1071	0.0916
	0.0850	0.0769	0.0681	0.0679	0.0674	0.0784
STD. DEVIATIONS	0.0328	0.0294	0.0386	0.0580	0.0563	0.0452
	0.0394	0.0337	0.0283	0.0218	0.0173	0.0287

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AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 74 THROUGH 78

	(INCHES)		(CU. FT.)	PERCENT
PRECIPITATION	9.41	(2.359)	1025185.	100.00
RUNOFF	0.000	(0.000)	0.	0.00
EVAPOTRANSPIRATION	8.340	(1.606)	908247.	88.59
PERCOLATION FROM LAYER 1	0.9865	(0.3953)	107435.	10.48

PRELIMINARY SOIL CLEANUP MATRIX QUESTIONNAIRE

SELECT WHICH CLIMATIC ZONE THE SITE IS LOCATED IN:

A. ARCTIC
B. MARITIME
C. TRANSITIONAL
D. CONTINENTAL

SELECT THE SOIL TYPE MOST APPROPRIATE:

E. GRAVEL
F. GRAVELLY SAND
G. SILTY SAND
H. SILT

SELECT THE ORGANIC CARBON RANGE MOST APPROPRIATE:

I. LESS THAN 0.0015 PERCENT
J. BETWEEN 0.0015 AND 0.0025 PERCENT
K. GREATER THAN 0.0025 PERCENT

SELECT THE MOST APPROPRIATE GROUND COVER:

L. BARE GROUND 4"
M. FAIR GRASS 12"

GO TO TABLE

DISTRIBUTION

Final Report
Cleanup Level Matrix for
Hazardous Substances in Soil
Various Sites, Alaska

January 17, 1995

5 Copies:	Mr. Brad Hahn ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION Contaminated Site Remediation Unit 3601 C Street, Suite 316 Anchorage, Alaska 99503
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Quality Control Reviewer

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LP/mm/W0140R