TA-00
Los Alamos Canyon

LIBRARY COPY

A WATER BUDGET FOR THE LOS ALAMOS CANYON WATERSHED LOS ALAMOS, SANDOVAL AND SANTA FE COUNTIES, NEW MEXICO

RECEIVED
OCT 10 1996

by

Robert N. Gray

July, 1996

1442

Oct. 8, 1996

Robert Gray
CST-7, MS-J534
Los Alamos National Laboratory
Los Alamos, NM 87545
e-mail: rgray@lanl.gov

Kim Hill
HRMB
2044-A Galisteo St.
Santa Fe, NM 87505

RECEIVED
OCT 10 1996

Dear Kim,

Enclosed is a copy of the water budget report I prepared for Los Alamos Canyon. Pat Longmire indicated to me that Teri Davis was interested in a quantification of the seepage from the alluvial aquifer into the Bandelier Tuff. Unfortunately, data is not available to directly evaluate this process. In my report, I have quantified average infiltration rates from the surface over the upper basin and mid-upper canyon areas of the watershed. I am in the process of running some MODFLOW simulations that will generate some seepage rates from the alluvium, but these results are still preliminary at the present. I hope to have this work completed before the end of the year. If I can be of any further assistance, please feel free to contact me.

Sincerely,

Robert Gray

Robert Gray

Abstract:

An annual water budget for the Los Alamos Canyon watershed was prepared for the 1993, 1994 and 1995 water years. A detailed water budget for the upper basin and middle/upper canyon areas was also prepared covering nine separate stress periods during the time interval from 7/10/94 to 11/2/95 corresponding to varying alluvium saturation level behaviors. The basic hydrologic equation was employed as the conceptual model for the water budgets. The budget calculations utilized precipitation data from five sites, streamflow discharge data from three sites, and latent heat energy flux data from one site. Average annual (water year) precipitation rates over the entire evaluated watershed area varied from ~23.0 to ~31.0 inches during the analyzed pariods. The annual evapotranspiration component was determined to represent between ~71% and ~84% of the total precipitation. Annual runoff discharges represented the smallest component of the budget, ranging between <1% and ~3% of total precipitation. Annual infiltration rates were calculated as residuals and ranged from ~4.0 to ~7.6 inches/year extrapolated over the entire evaluated watershed area, representing between ~14% and ~25% of total precipitation on an annual basis. The detailed water budget calculations determined average annual infiltration rates of ~3.8 inches/year for the upper basin area and ~5.5 inches/year for the middle/upper canyon area. These rates represented ~10% and ~29% of total precipitation by area respectively. Stream channel loss calculations showed that significantly higher infiltration rates occur in the middle canyon streambed during periods of active streamflow.

Introduction:

This report describes the construction and results of a water budget prepared for the Los Alamos Canyon watershed. The purpose for evaluating the water budget is to provide a basis for assigning hydrologic input parameters for numerical modeling of the groundwater flow system beneath the canyon. Budget calculations utilized data obtained from several sources. Meteorological data was collected by the Los Alamos National Laboratory (LANL) meteorology group (ESH-17) and the United States Department of Agriculture Bureau of Natural Resources Conservation (USDABNRC). Streamflow data was collected by the United States Geological Survey (USGS) and the LANL environmental surveillance group (ESH-18). Because of data availability limitations, annual water year budget calculations were limited to the 1993, 1994 and 1995 water years (Oct.1 to Sept. 30). Detailed budget calculations cover several more restricted periods to correlate to available subsurface water level data which was also collected by ESH-18.

Study Area Description:

Location, Geographical Setting, and Topography:

Los Alamos Canyon is located within the Pajarito Plateau of north-central New Mexico, just south of the community of Los Alamos, oriented nearly west to east and lying largely within the boundaries of Los Alamos National Laboratory (LANL), (Figures 1 and 2). Its headwaters form in the Sierra de Los Valles of the Jemez Mountains and it drains intermittent runoff to the Rio Grande. A significant topographic gradient exists in the Los Alamos Canyon watershed with elevations ranging from 10,441 feet atop Pajarito Mountain near the western boundary of the watershed to about 6,300 feet at its confluence with Pueblo Canyon near State Road 4 (Figure 3). Below this confluence, the lower Los Alamos Canyon drainage carries the runoff from several other major canyons including Pueblo Canyon, Guaje Canyon, Rendija Canyon, Bayo Canyon and Barrancas Canyon. Since the purpose of this report is to develop a water budget that will quantify input parameters for groundwater modeling of the subsurface flow system beneath only Los Alamos Canyon, the downstream limit evaluated has been restricted to the point where it crosses State Route 4, immediately above the confluence with Pueblo Canyon, rather than include the contributions of the significantly larger area drained by the other canyons. The study area as shown in Figures 2 and 3

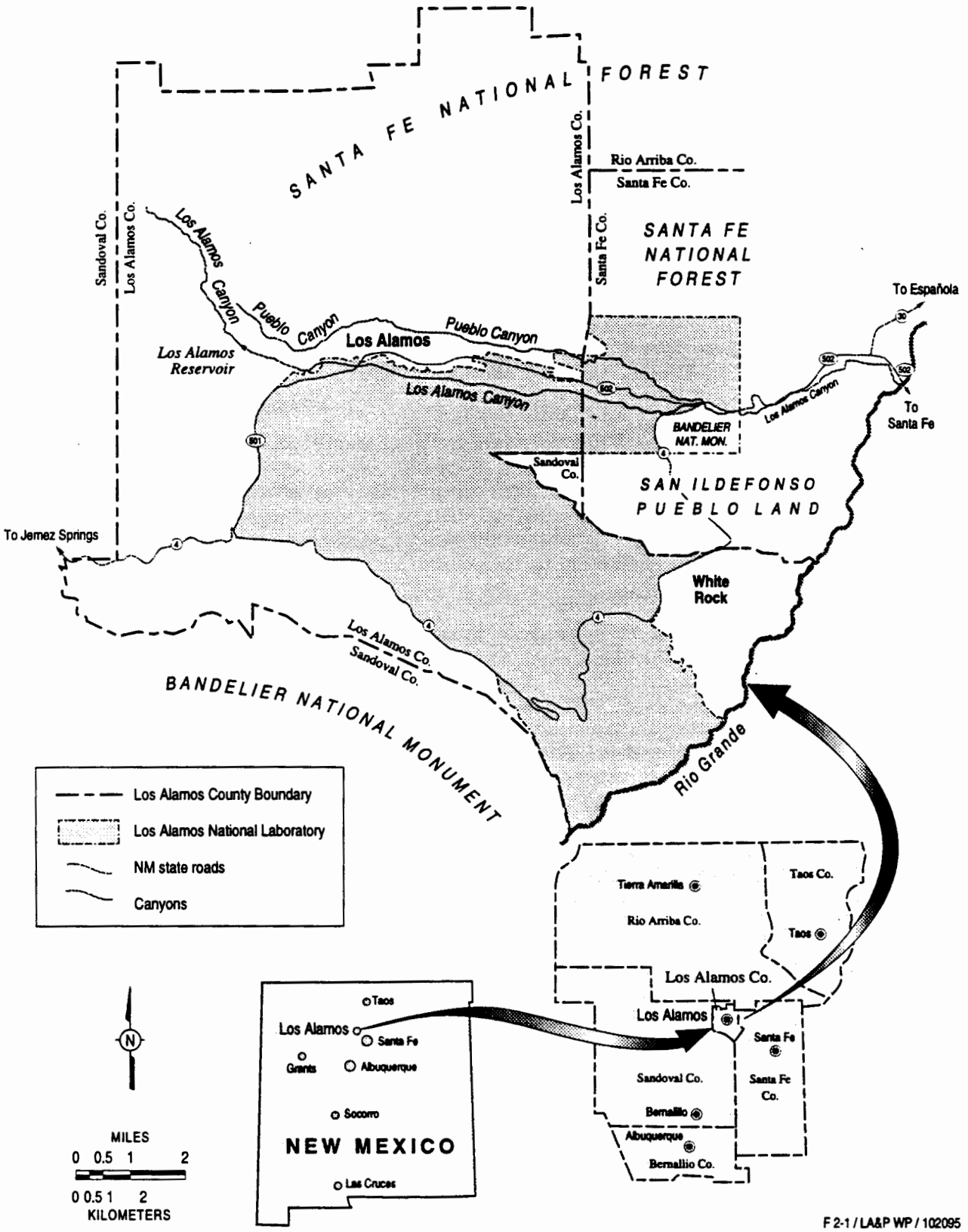


Figure 1: Los Alamos Canyon Regional Location

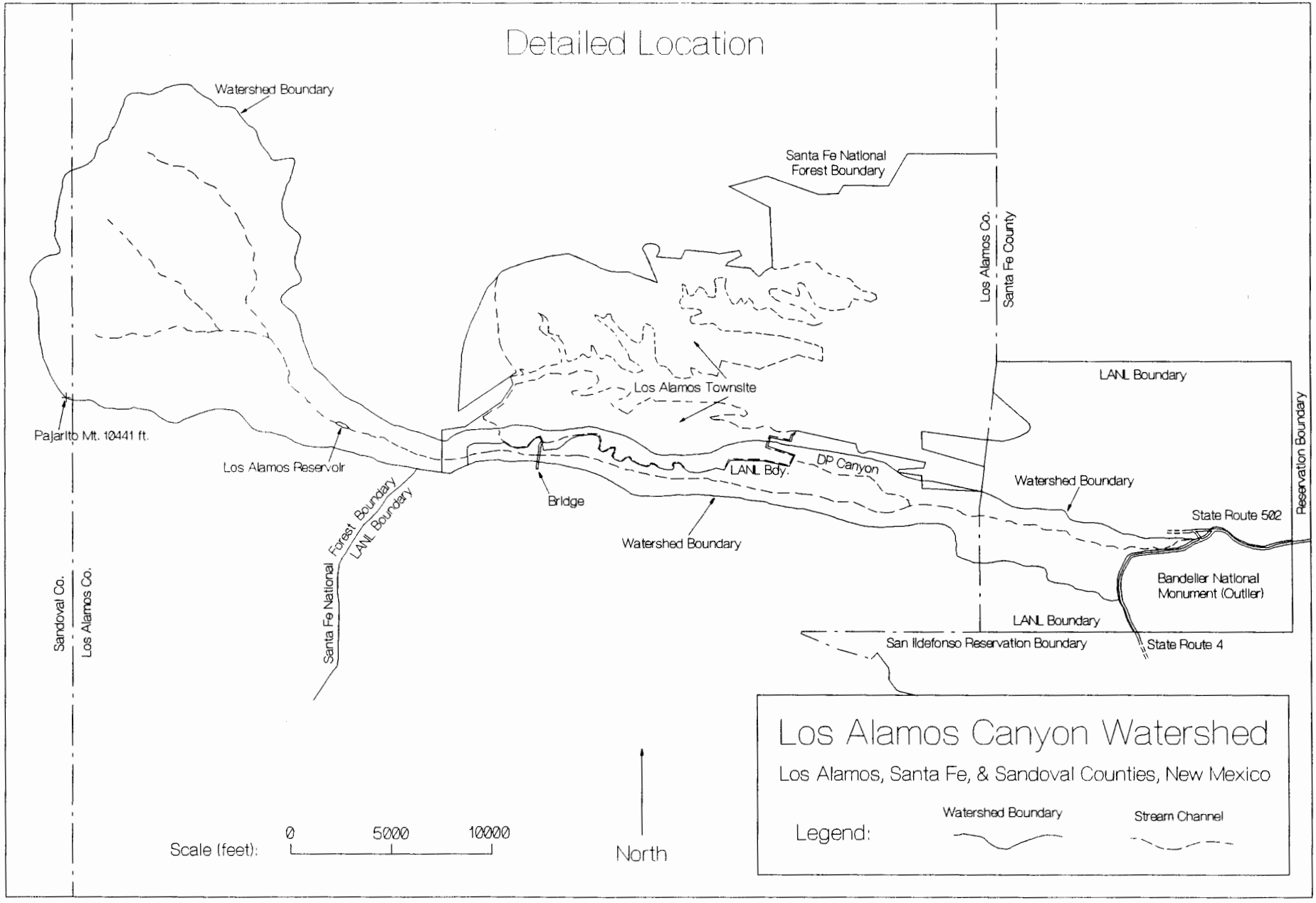

Detailed Location
Watershed Boundary
Santa Fe National Forest Boundary
Los Alamos Co.
Santa Fe County
LANL Boundary
Los Alamos Townsite
Pajarito Mt. 10441 ft.
Los Alamos Reservoir
Forest Boundary
LANL Boundary
Santa Fe National
Bridge
LANL Bdy.
DP Canyon
Watershed Boundary
Watershed Boundary
State Route 502
Reservation Boundary
Bandelier National Monument (Outlier)
LANL Boundary
San Ildefonso Reservation Boundary
State Route 4
Sandoval Co.
Los Alamos Co.
Los Alamos Canyon Watershed
Los Alamos, Santa Fe, & Sandoval Counties, New Mexico
Legend:
Watershed Boundary
Stream Channel
Scale (feet):
0
5000
10000
North

Figure 2

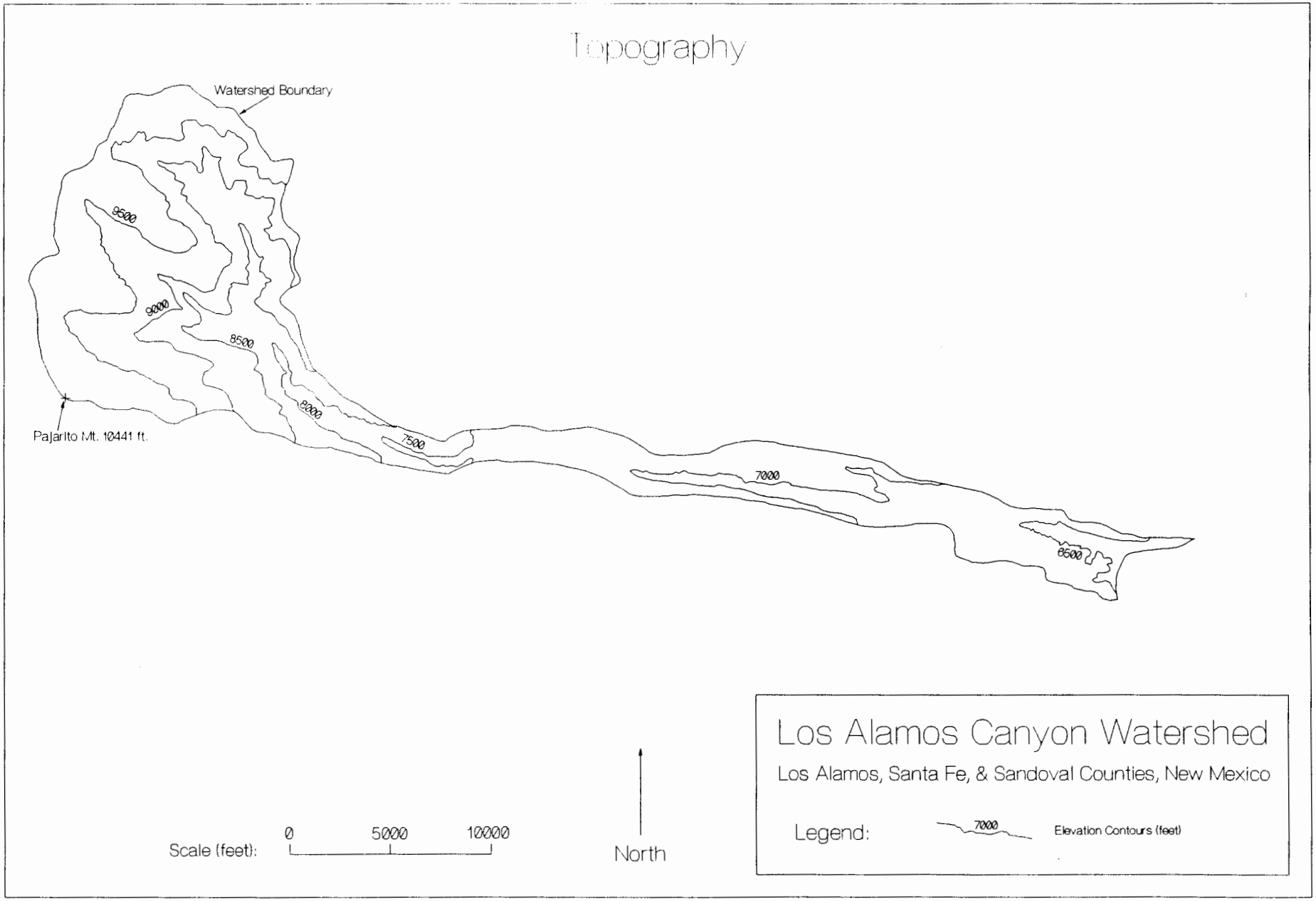

Topography
Watershed Boundary
9500
9000
8500
8000
7500
7000
6500
Pajarito Mt. 10441 ft.
Los Alamos Canyon Watershed
Los Alamos, Santa Fe, & Sandoval Counties, New Mexico
Legend:
7000
Elevation Contours (feet)
Scale (feet):
0
5000
10000
North

Figure 3

comprises an area of approximately 6483 acres or 10.13 square miles, encompassing the upper basin and upper to middle canyon areas while excluding lower Los Alamos Canyon.

The channel length within the evaluated watershed drainage is ~12.3 miles and the canyon is deeply incised throughout this length, its depth ranging from ~600 feet in the upper basin to ~300 to 400 feet in the upper and middle canyon reaches. The channel gradient ranges from ~20% in the upper basin to ~2% in the middle canyon. The canyon is generally narrow, with a floor ranging from ~100 feet or less in width in the upper basin to ~250 feet in width throughout most of the upper and middle canyon reaches. In the lower 2 miles of the study area, the floor widens to ~600 to 1000 feet.

Steep slopes are typical of the canyon walls, on the order of ~60 to 80% throughout most of the main drainage. The portions of the watershed that extend onto the adjacent mesa tops have slopes on the order of 1 to 2%. In the uppermost portion of the watershed, slopes on the order of 30 to 40% are typical.

Climate:

The Los Alamos area has a semi-arid, temperate, mountain climate. Normal monthly precipitation ranges from less than 1 inch in the winter months to nearly 4 inches in August. Normal monthly snowfall depths are on the order of 5-12 inches in the winter months, generally between November and March (Bowen, 1990). Average annual snowfall totals ~50 inches. Mean annual precipitation totals 19.3 inches in the vicinity of LANL, but varies significantly with elevation, with lower totals toward the Rio Grande valley to the east and higher totals in the Sierra de Los Valles highlands to the west. Summer rains provide ~75% of the total annual precipitation (LANL Site Development Plan, 1990). Los Alamos area precipitation is characteristic of a semi-arid climate in that variations from year to year are large, with annual precipitation amounts ranging from 6.80 to 30.34 inches between 1910 and 1989. The rainfall pattern during the summer months is monsoonal, with 40% of the annual precipitation falling in July and August (Bowen, 1990).

Geology:

The Jemez Mountains and Pajarito Plateau are composed of various volcanic rocks ranging from basalt, andesite and rhyolite to lithified volcanic ash (ignimbrite), or tuff. The upper basin area

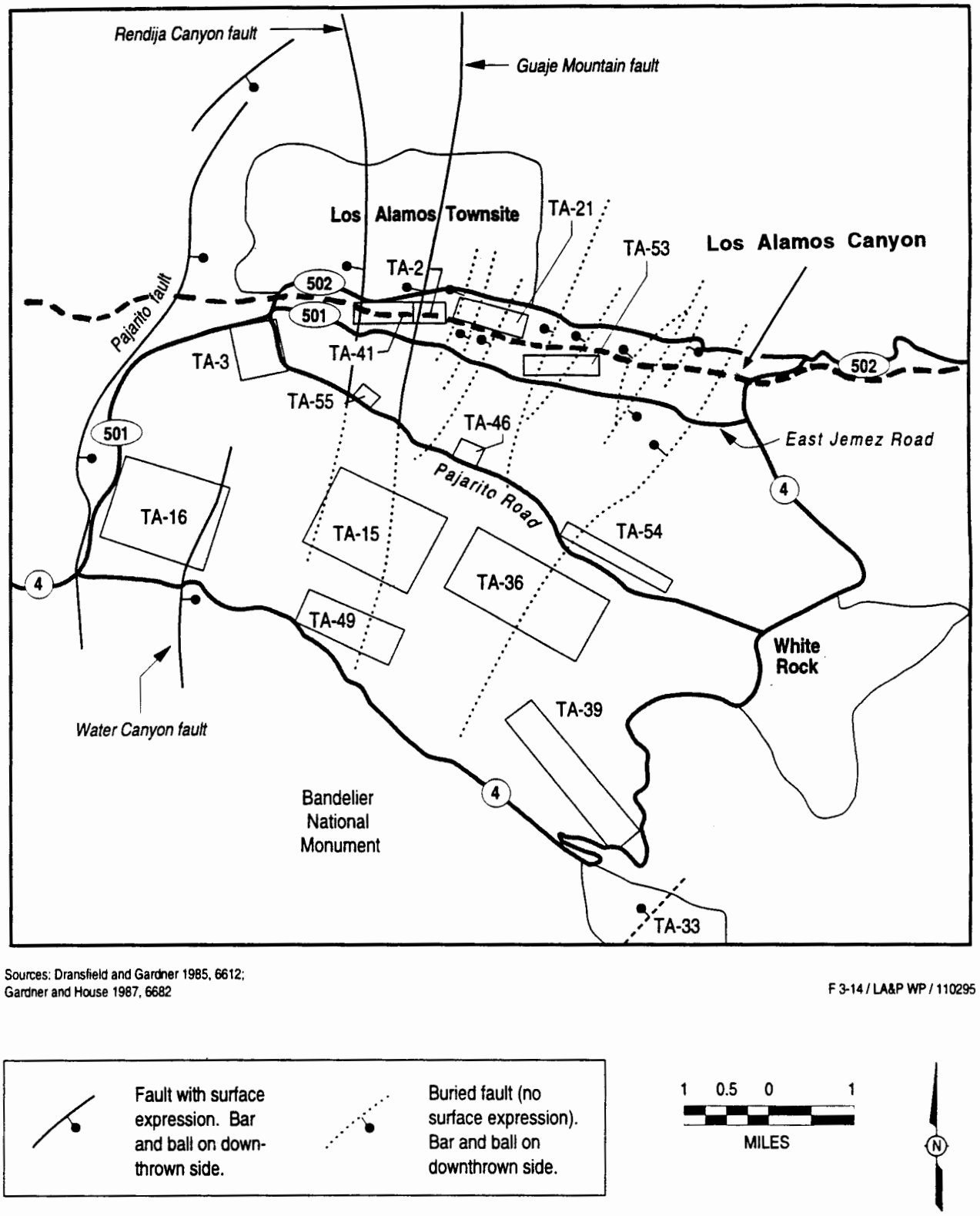
is characterized by outcrops of the Tschicoma Formation, a volcanic complex consisting of andesites, dacites, rhyodacites and quartz latites of middle Pliocene to late Miocene age. The upper and middle canyon areas are characterized by outcrops of the Bandelier Tuff of Pleistocene age which form the bulk of the Pajarito Plateau and are exposed in the walls of the canyon (Gardner, et al., 1986). Intermittent streamflow has deposited alluvium in the canyon consisting of sand, gravel, pebbles, cobbles and boulders derived from the Tschicoma Formation in the upper basin and clay, silt, sand and gravel derived from the Bandelier Tuff in the upper and middle canyon reaches (Purtyman, 1995).

Numerous faults associated with the Pajarito Fault system cut across the canyon (Figure 4). These structural features may facilitate significant amounts of infiltration of precipitation and runoff over the course of the watershed drainage and may provide pathways for contaminant migration from surface and alluvial waters to lower aquifers.

Hydrology:

Perennial streamflow only occurs in the upper watershed above Los Alamos Reservoir (see Figure 2). Below the reservoir dam streamflow is intermittent and primarily occurs during spring snowmelt and during periods of heavy rainfall generally occurring in the summer and fall. Several seeps have been observed to provide minimal flow levels to portions of the stream in the middle canyon area during intervening dry periods (personal communication, David Shaull, ESH-18). This baseflow is due to discharging groundwater which is likely derived from prior recharge in the upper basin of the watershed. For most of the canyon however, during dry periods and when winter precipitation is maintained in a frozen state as snowpack, the streambed dries up completely. Flow from spring snowmelt only occasionally extends to the confluence with the Rio Grande (approximately 4 miles east of the study area). Between 1975 and 1986, snowmelt runoff reached the Rio Grande a total of 205 days during only 5 of those years, averaging 41 days per year but only 4.7% of the days in the total 12-year period (LANL, 1995).

Los Alamos Reservoir has a surface area of approximately 2.5 acres and has a maximum depth of approximately 25 to 30 feet, holding an estimated water volume of approximately 41 acre-feet (LANL, 1987). The reservoir provided part of the LANL water supply through the late 1950's,



Sources: Dransfield and Gardner 1985, 6612; Gardner and House 1987, 6682

F 3-14 / LA&P WP / 110295

Figure 4: Locations of Major Faults

but since then the only water usage has been approximately 5 million gal/yr for irrigating the high school football field during the summer months. (personal communication, David Sneesby, LANL Utilities and Infrastructure group).

The alluvium in the canyon bottom varies from a few feet to approximately 25 feet in thickness (LANL Environmental Protection Group, 1992). Infiltration of surface water creates a variably saturated zone in the alluvium with the highest saturation levels occur during the spring snowmelt and during the summer monsoon season when active streamflow occurs. During dry periods, the alluvium dries out completely in about the lower third of the study area.

An intermediate perched saturation zone occurs in the Guaje Pumice bed at the base of the Bandelier Tuff, occurring at about 300 feet depth beneath the canyon floor. The zone of saturation is about 5 to 22 feet or more thick and may extend into the underlying Puye Formation fanglomerate (LANL, 1995). Chemical data suggests a direct connection between the alluvial aquifer and the intermediate perched aquifer (Broxten, et al., 1995). The perched aquifers in the alluvium and Guaje Pumice bed are minor in volume and localized in extent and are not utilized for water supply.

The water supply for both LANL and the community of Los Alamos comes from the so-called "main aquifer" which occurs within the sediments of the Miocene to early Pliocene Santa Fe Group about 750 feet beneath the canyon floor in the middle canyon area (Purtyman, 1995).

Conceptual Model:

The conceptual model that was employed to evaluate the water budget is the basic hydrologic equation (mod. after Viessman, Jr., et al., 1989):

$$P - R - I - ET = \Delta S \tag{1}$$

where P = precipitation, R = runoff, I = infiltration, ET = evapotranspiration, and ΔS = change in storage. For this evaluation it was assumed that $\Delta S = 0$. Since data was available to assess the P, R, and ET parameters, I was thus determined as the residual from equation 1; i.e.:

$$I = P - R - ET \tag{2}$$

Data Sources:

Data from 5 precipitation measurement stations and 3 streamflow gages were utilized in the water budget calculations (Figure 5). The TA-6, TA-53, TA-74 and North Community stations are operated by the LANL meteorology group while the Quemazon station is operated by the USDABNRC. Daily precipitation totals for the LANL stations were obtained by downloading the data from the ESH-17 World Wide Web home page (http://weather.lanl.gov/cgi-bin/datarequest.pl). Precipitation measurements at the LANL stations are made with tipping bucket gauges that are heated and protected by wind screens. Their accuracy is estimated at ±10% (personal communication, Greg Stone, ESH-17). Spreadsheet tabulations of these data for the 1993, 1994 and 1995 water years and 10/1/95 to 11/2/95 period are included as Appendices A through D.

Daily precipitation and snowpack data for the Quemazon station precipitation gauge and "SNOTEL" (snow telemetry) site were downloaded from the USDABNRC Portland, Oregon office ftp site. Daily precipitation totals are measured with a calibrated pressure transducer in a 12 inch diameter rain gauge with alter shield. Snowpack measurements are made with a 10 foot diameter hypalon rubber snow pillow filled with an anti-freeze fluid that is displaced by overlying snowpack weight into a manometer equipped with a calibrated pressure transducer. Accuracy is estimated at ±10% based on comparison to periodic ground truth field measurements (personal communication, Mike Gillespie, USDABNRC Snow Survey Office, Lakewood, Colorado). A spreadsheet tabulation of the precipitation data for the 1993, 1994 and 1995 water years is included as Appendix E which provided the annual precipitation totals for the annual water budget. A spreadsheet including precipitation and snowpack (water equivalent) data for the 1994 and 1995 water years and 10/1/95 to 11/2/95 period with calculations of daily net non-frozen precipitation yield is included as Appendix F. These data were utilized in the detailed water budget calculations. An analysis of major precipitation events indicated that the Quemazon station data was lagging the LANL data by one day (i.e. reported as occurring one day later). The data was thus adjusted by moving all daily totals back one day, and the included tabulations reflect this adjustment. Since the obtained data set extended only through 9/30/95, precipitation for the 10/1/95 to 11/2/95 period at the Quemazon site was estimated by multiplying the North Community station data for this period by the average proportion between the two stations during the comparable 10/18/94 to 11/10/94 dry period (assuming no snowpack).

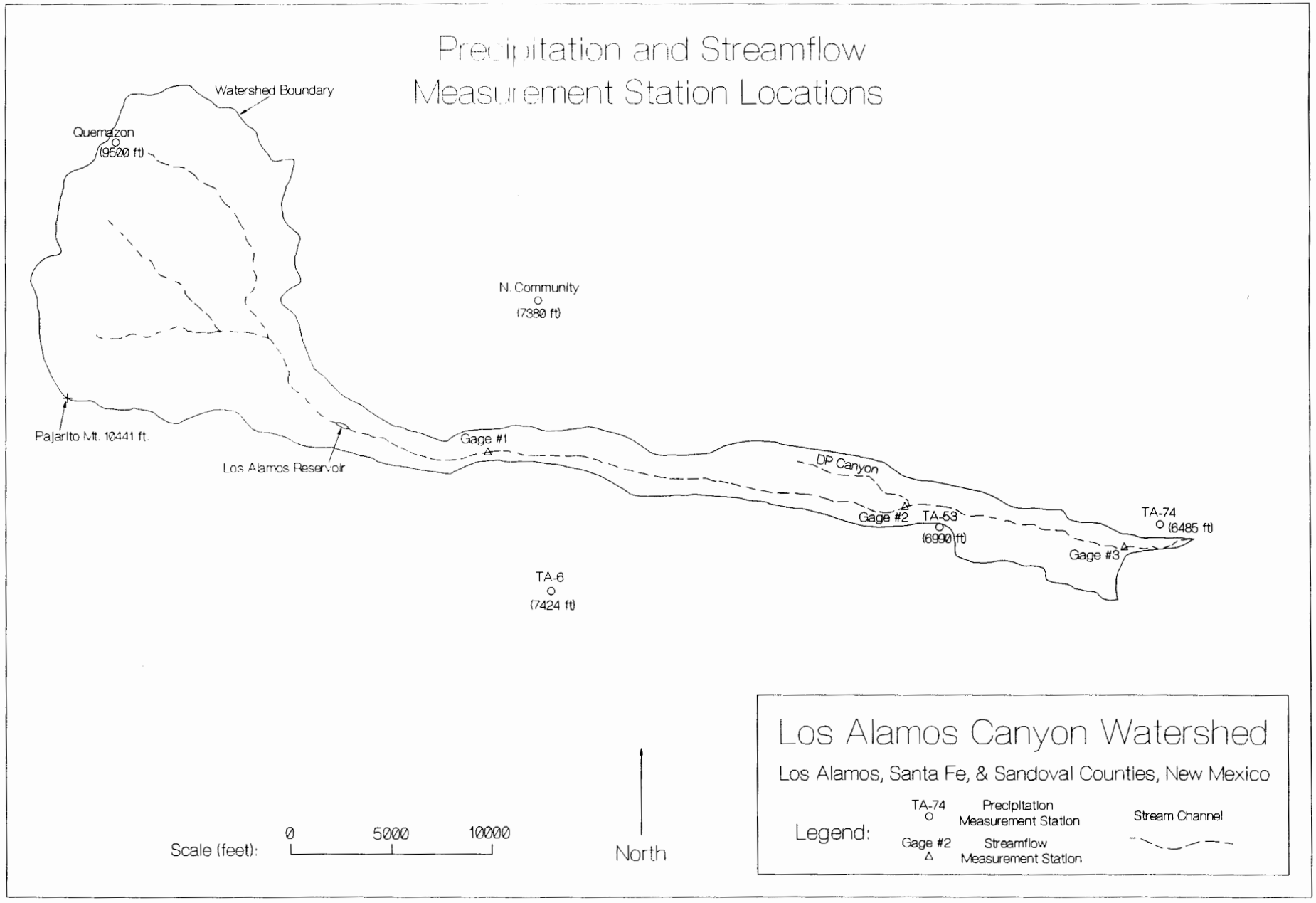

Precipitation and Streamflow
Measurement Station Locations
Watershed Boundary
Quemazon
(9500 ft)
N. Community
(7380 ft)
Pajarito Mt. 10441 ft.
Los Alamos Reservoir
Gage #1
DP Canyon
Gage #2
TA-53
(6990 ft)
TA-74
(6485 ft)
Gage #3
TA-6
(7424 ft)
Los Alamos Canyon Watershed
Los Alamos, Santa Fe, & Sandoval Counties, New Mexico
Legend:
TA-74
Precipitation Measurement Station
Gage #2
Streamflow Measurement Station
Stream Channel
Scale (feet):
0
5000
10000
North

Figure 5

At the TA-6 station, data is also collected on latent heat energy flux. This data is obtained through application of the eddy correlation method which is a standard method employed in micrometeorology. Vertical fluctuations in wind velocity and absolute humidity are measured and a covariance is performed on the two signals at an amplitude of 2 Hz. The resulting data is reported in units of mega-Joules per square meter ($J/m^2 = ML^2/T^2L^2 = M/T^2$ units). Evapotranspiration (ET) amounts are determined by dividing the latent heat energy flux by the latent heat of vaporization (in units of $J/m^3 = ML^2/T^2L^3 = M/T^2L$ units), yielding units of length. A conversion factor was determined to transform the latent heat energy data to mm of ET by the following procedure:

The latent heat of vaporization for water at 70° F = 1049 Btu/lb and the density of water at this temperature is 62.3 lb/ft^3 (Viessman, Jr. et al., 1989, p. 762). Since 1 Btu = 1055 J (Young, 1992), and 1 ft^3 = 0.0283 m^3, thus:

$$\left(\frac{1049\ Btu}{lb.}\right)\left(\frac{62.3\ lb.}{ft^3}\right)\left(\frac{1\ ft^3}{0.0283\ m^3}\right)\left(\frac{1055\ J}{Btu}\right)=\frac{2.436\times 10^9\ J}{m^3} \tag{3}$$

and:

$$\frac{1\,MJ}{m^2}\Rightarrow\frac{\left(\frac{10^6\ J}{m^2}\right)}{\left(\frac{2.436\times 10^9\ J}{m^3}\right)}=4.1\times 10^{-4}\ m\left(\frac{1000\,mm}{m}\right)=0.41\ mm\ ET. \tag{4}$$

Equation 4 was used to transform the latent heat energy data to mm of ET, which was then converted to inches to conform with the precipitation data. Testing of the wind velocity meter by the LANL meteorology group indicated that the propeller was not fast enough to accurately sense all the fluctuations and that the instrument was underestimating moisture flux by ~10%, so the ET amounts determined from equation 2 were increased by this amount. The ET calculations are included with the TA-6 precipitation summary in Appendix A. The accuracy of this method of measurement is not quantified and extrapolation of this single point data throughout the entire watershed area may entail a significant, though unknown level of error.

Streamflow discharge is measured by a Parshall flume (Gage #1), a sharp-crested weir (Gage #2), and a broad-crested weir (Gage #3), calibrated to stage levels automatically recorded by pressure transducers (see Figure 5). Measurement accuracy is ±3% for the Parshall flume (personal communication, David Shaull) and generally ±5% for the weirs (Winter, 1981). Gage #3 was operated by the USGS prior to the 1995 water year and has since been operated by ESH-18. Gages #1 and #2 are also operated by ESH-18 and were put into place just shortly before the 1995 water year began. Thus previous years' data are only available for Gage #3. These data were utilized in the annual water budget calculations for the entire watershed. Data from all three gages were utilized in the detailed water budget calculations and allowed a distinction between the upper basin and upper/middle canyon areas. Mean daily discharge values for the 1995 water year are included in Appendix G and were converted to daily total discharge volumes to facilitate the water budget calculations.

Annual Water Budget:

Annual water budget calculations were made for the 1993, 1994 and 1995 water years. Prior to this period, calibration problems with the latent heat flux instrumentation rendered that data unreliable (personal communication, Greg Stone, ESH-17).

The initial requirement for the water budget calculations is the determination of precipitation volumes for the watershed. The watershed boundary was determined by drawing a line along the topographic divide on the U.S.G.S. Los Alamos quadrangle 1:100,000 scale topographic map. The watershed boundary and topographic contours at 500 foot intervals were then digitized with an ACECAD™ model A-1212 digitizer using FASTCAD™ software (Evolution Computing, Inc.).

To determine the most appropriate method for regionalizing the discrete point precipitation data, a comparison of monthly precipitation totals from all five utilized measurement stations was made (Figure 6). Though the pattern of variation was not totally consistent, it is clear that there is a fairly strong correlation between precipitation amounts and elevation. Regression analyses were thus performed on the annual precipitation amounts for each station plotted by station elevation to extrapolate the precipitation data to intervening elevations not represented by the limited data available (Figure 7). Extrapolated annual precipitation depths were then determined for the midpoint values between the elevation contours shown in Figure 3 except for the highest topographic interval.

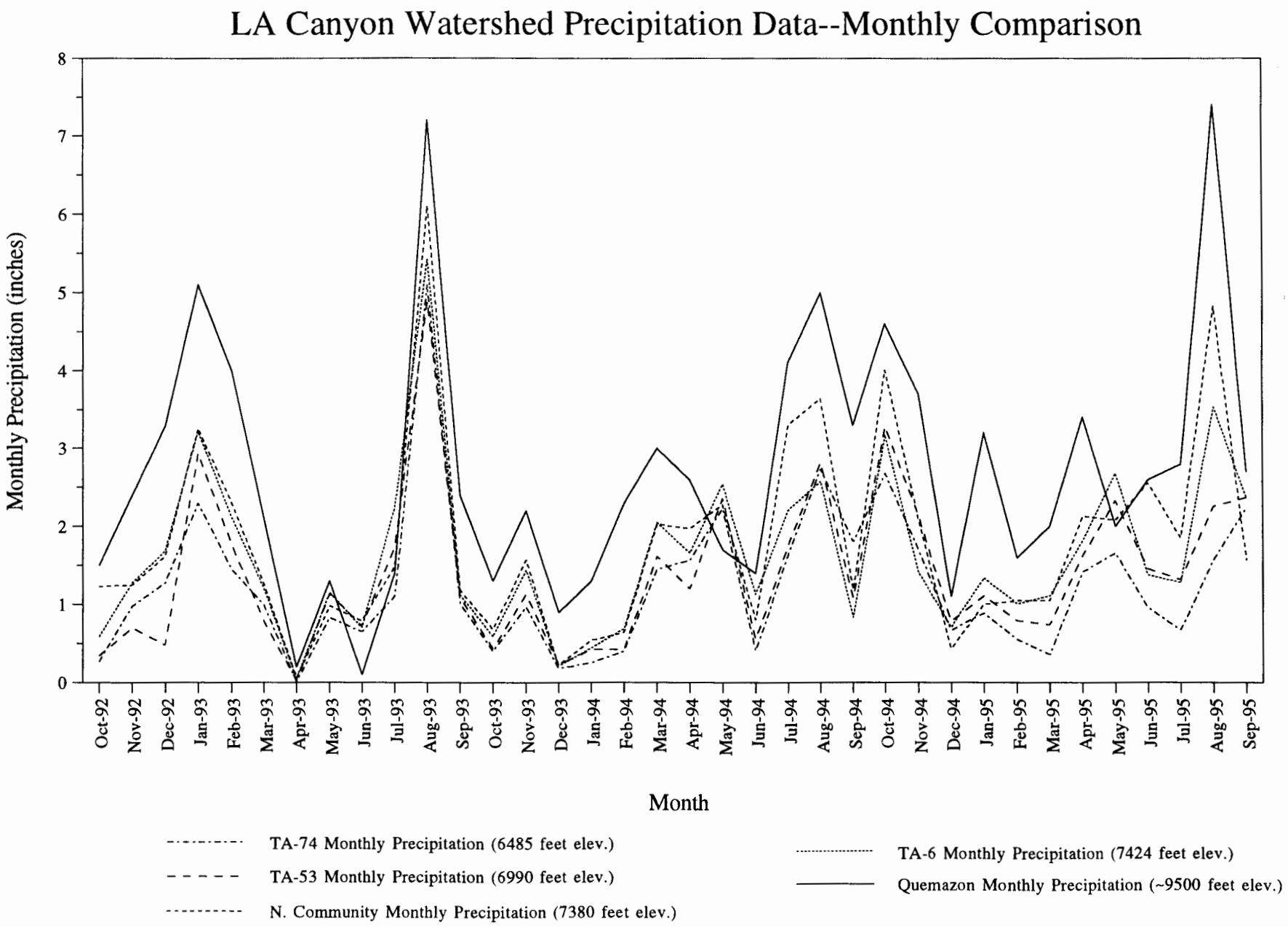
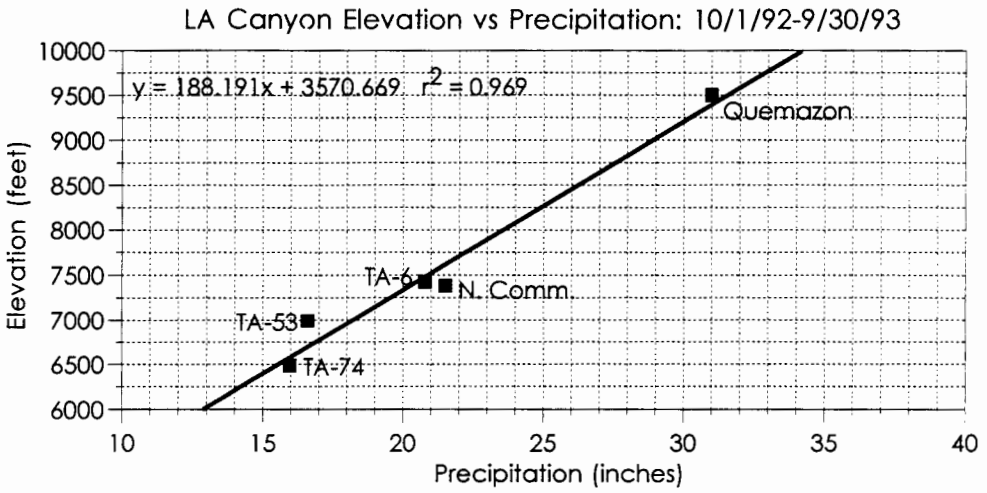
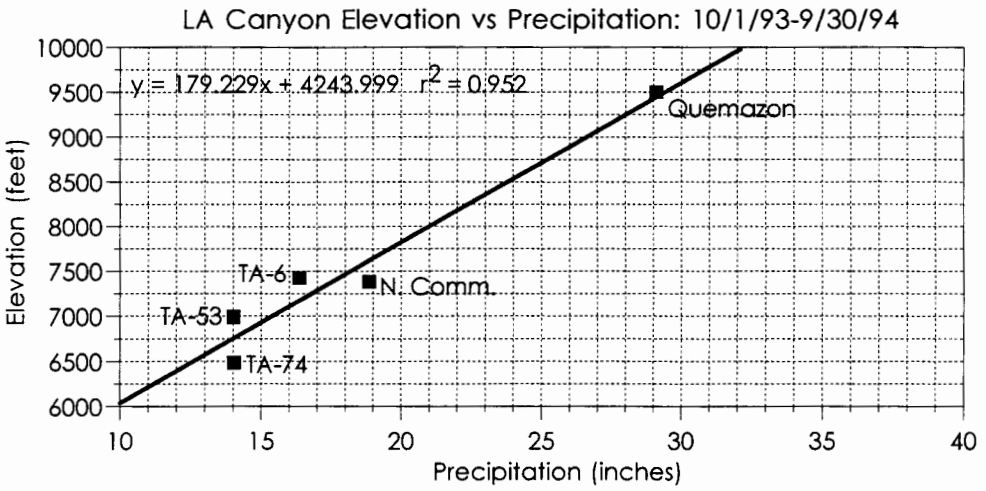

LA Canyon Watershed Precipitation Data--Monthly Comparison
Monthly Precipitation (inches)
0
1
2
3
4
5
6
7
8
Oct-92
Nov-92
Dec-92
Jan-93
Feb-93
Mar-93
Apr-93
May-93
Jun-93
Jul-93
Aug-93
Sep-93
Oct-93
Nov-93
Dec-93
Jan-94
Feb-94
Mar-94
Apr-94
May-94
Jun-94
Jul-94
Aug-94
Sep-94
Oct-94
Nov-94
Dec-94
Jan-95
Feb-95
Mar-95
Apr-95
May-95
Jun-95
Jul-95
Aug-95
Sep-95
Month
TA-74 Monthly Precipitation (6485 feet elev.)
TA-53 Monthly Precipitation (6990 feet elev.)
N. Community Monthly Precipitation (7380 feet elev.)
TA-6 Monthly Precipitation (7424 feet elev.)
Quemazon Monthly Precipitation (~9500 feet elev.)

Figure 6


LA Canyon Elevation vs Precipitation: 10/1/92-9/30/93
y = 188.191x + 3570.669 r2 = 0.969
Quemazon
TA-6
N. Comm.
TA-53
TA-74
Elevation (feet)
Precipitation (inches)
10000
9500
9000
8500
8000
7500
7000
6500
6000
10
15
20
25
30
35
40


LA Canyon Elevation vs Precipitation: 10/1/93-9/30/94
y = 179.229x + 4243.999 r2 = 0.952
Quemazon
TA-6
N. Comm.
TA-53
TA-74
Elevation (feet)
Precipitation (inches)
10000
9500
9000
8500
8000
7500
7000
6500
6000
10
15
20
25
30
35
40

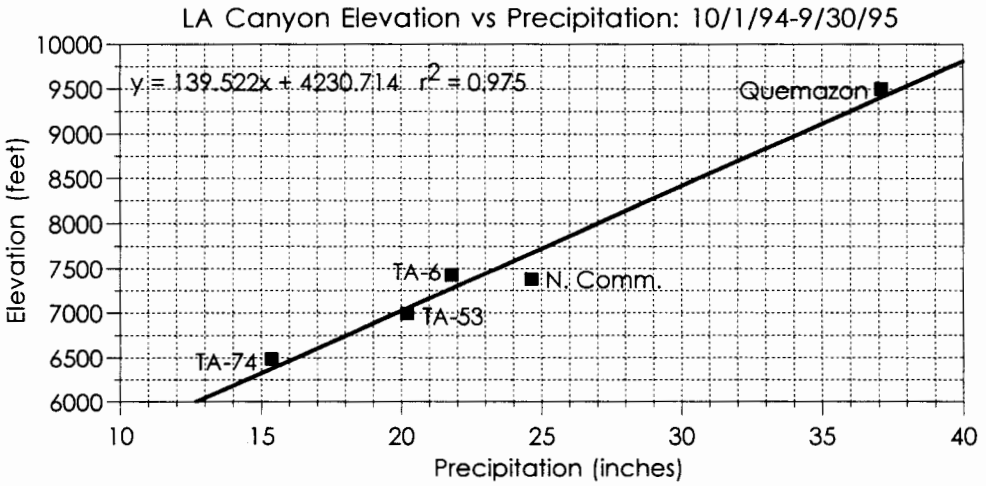

LA Canyon Elevation vs Precipitation: 10/1/94-9/30/95
y = 139.522x + 4230.714 r2 = 0.975
Quemazon
TA-6
N. Comm.
TA-53
TA-74
Elevation (feet)
Precipitation (inches)
10000
9500
9000
8500
8000
7500
7000
6500
6000
10
15
20
25
30
35
40

Figure 7

Elevations greater than the 9500 feet elevation of the uppermost measurement station were assigned the same precipitation depth as was measured at that station. The areas between the elevation contours were determined with the CAD software used to digitize the elevation data.

The ET data were compiled from the TA-6 station data and compared to the precipitation data from that site (Figure 8). As can be seen, the relation between ET and precipitation varies considerably on a seasonal basis. ET amounts vary fairly regularly on an annual cycle, resulting in a roughly sinusoidal pattern, but precipitation variation is more erratic. ET/precipitation ratio percentages were determined on a monthly and annual basis. These data are shown in Table 1. As can be seen, though the ratios also varied considerably from month to month, the annual average ratios determined by water year are much less irregular. These annual percentages were then utilized to estimate ET for the entire watershed from the extrapolated precipitation data.

Table 1: TA-6 ET vs Precipitation

Month	ET (in.)	Precip. (in.)	ET % of Precip.	Month	ET (in.)	Precip. (in.)	ET % of Precip.	Month	ET (in.)	Precip. (in.)	ET % of Precip.
Oct-92	0.78	0.59	132.7	Oct-93	0.87	0.59	147.9	Oct-94	0.93	3.17	29.4
Nov-92	0.50	1.28	39.1	Nov-93	0.45	1.44	31.6	Nov-94	0.81	1.42	57.2
Dec-92	0.26	1.69	15.4	Dec-93	0.32	0.21	150.9	Dec-94	0.37	0.71	51.7
Jan-93	0.22	3.22	6.8	Jan-94	0.19	0.44	42.8	Jan-95	0.34	1.34	25.2
Feb-93	0.45	2.12	21.1	Feb-94	0.56	0.69	81.7	Feb-95	0.88	1.01	87.0
Mar-93	0.93	1.20	77.7	Mar-94	1.09	2.05	53.1	Mar-95	1.01	1.11	90.9
Apr-93	1.33	0.05	2656.2	Apr-94	1.50	1.66	90.4	Apr-95	1.60	1.82	87.7
May-93	1.59	1.15	138.5	May-94	1.97	2.54	77.4	May-95	1.83	2.68	68.4
Jun-93	2.08	0.70	296.7	Jun-94	2.06	1.13	182.7	Jun-95	1.45	1.38	104.8
Jul-93	2.77	2.24	123.7	Jul-94	1.30	2.21	59.0	Jul-95	2.56	1.28	200.2
Aug-93	1.86	5.43	34.2	Aug-94	2.09	2.58	80.8	Aug-95	2.37	3.53	67.1
Sep-93	2.03	1.12	180.9	Sep-94	1.10	0.83	133.1	Sep-95	1.79	2.36	75.8
Totals:	14.80	20.79	**71.17**	Totals:	13.51	16.37	**82.54**	Totals:	15.93	21.81	**73.06**

The water budget was calculated in a spreadsheet using Microsoft Excel™. The extrapolated precipitation depths for each subarea were multiplied by the ET/precipitation fractions to determine ET amounts per subarea, from which remaining excess precipitation depths were determined. Excess precipitation volumes were then calculated by multiplying these depths by the measured areas between elevation contours, and the volumes were summed by water year. Annual streamflow discharge data from the lower measurement gage were compiled from USGS and LANL records and

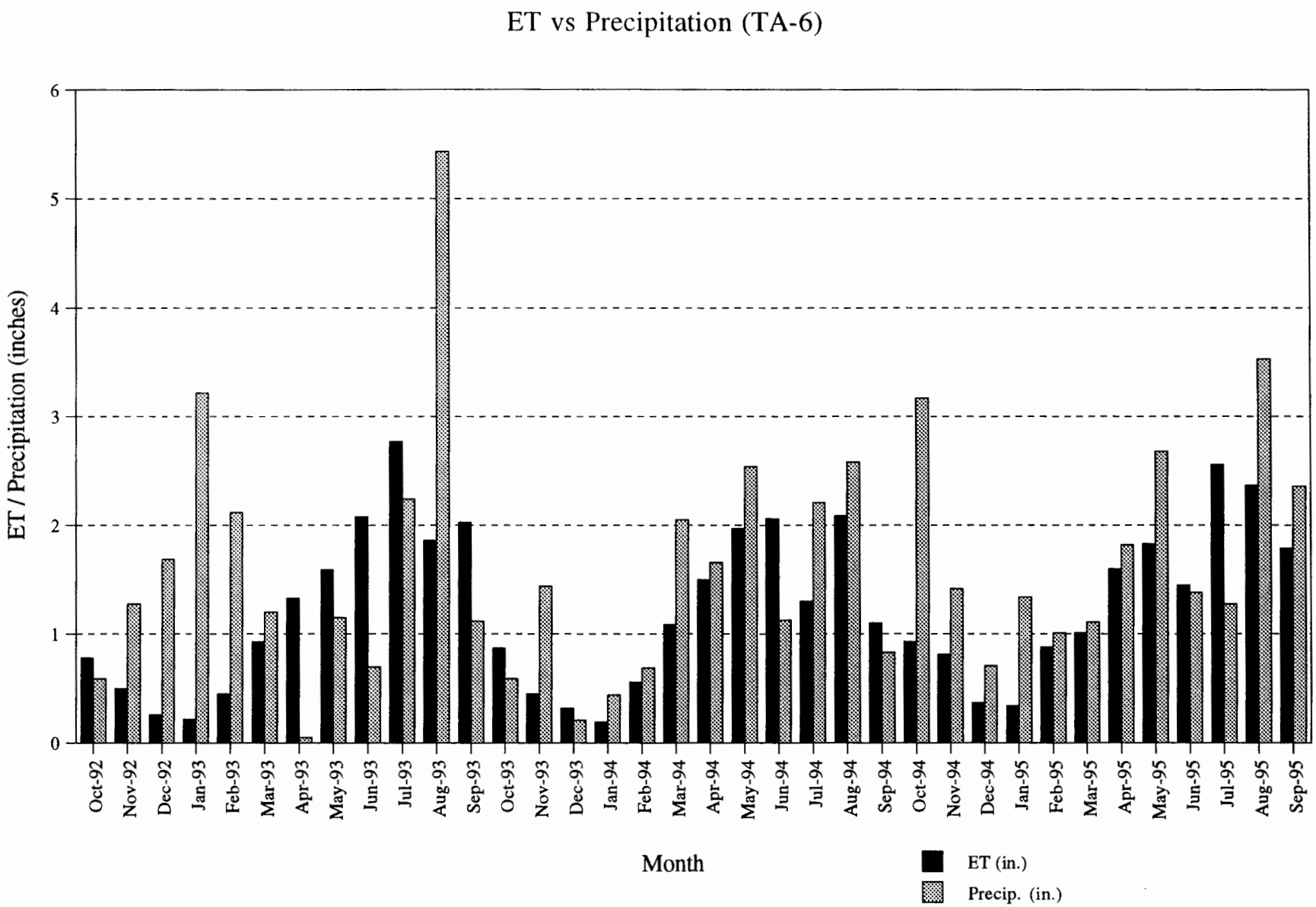

ET vs Precipitation (TA-6)
ET / Precipitation (inches)
0
1
2
3
4
5
6
Oct-92
Nov-92
Dec-92
Jan-93
Feb-93
Mar-93
Apr-93
May-93
Jun-93
Jul-93
Aug-93
Sep-93
Oct-93
Nov-93
Dec-93
Jan-94
Feb-94
Mar-94
Apr-94
May-94
Jun-94
Jul-94
Aug-94
Sep-94
Oct-94
Nov-94
Dec-94
Jan-95
Feb-95
Mar-95
Apr-95
May-95
Jun-95
Jul-95
Aug-95
Sep-95
Month
ET (in.)
Precip. (in.)

Figure 8

converted to total annual discharge volumes. The annual discharge volumes were then subtracted from the annual excess precipitation volumes to determine calculated annual infiltration volumes. The spreadsheet calculations and water balance summaries are provided in Table 2.

As can be seen, by far the major water output pathway for the watershed is through evapotranspiration, which varied between ~71% and ~83% of total precipitation over the 3-year period analyzed. The next largest pathway for water output is by infiltration, which varied between ~17% and ~26% of total precipitation. Very little water left the watershed as streamflow, as evidenced by the proportionally small runoff volumes measured, ranging from <0.1% to ~3% of the total precipitation volume over the evaluated time period. These data are shown graphically in Figure 9.

Figure 9

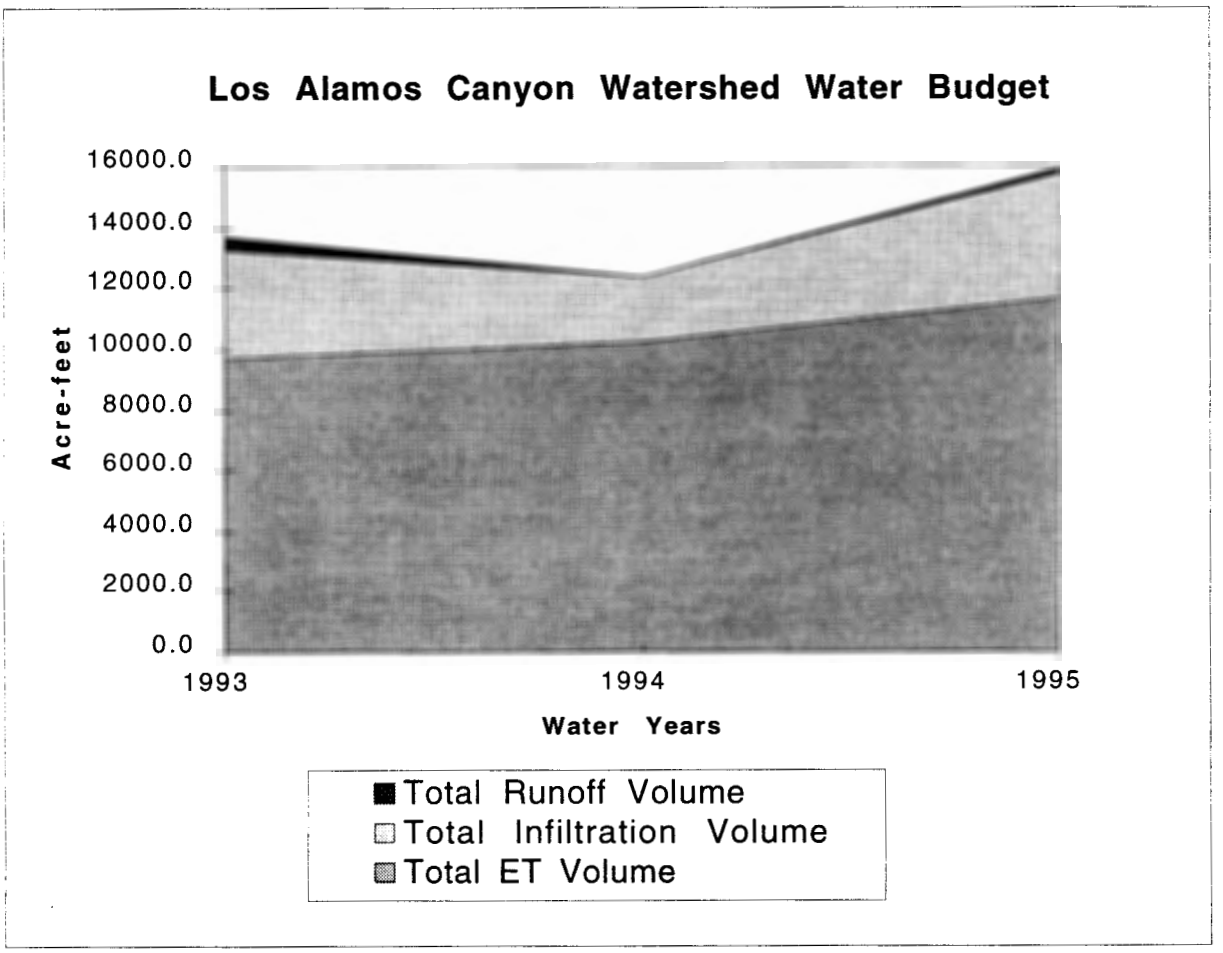


Table 2: Los Alamos Canyon Annual Water Budget

1993 Water Year (10/1/92-9/30/93):

Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	ET/Precip fraction	ET (in.)	Excess Precip. (in.)	Excess Precip. (ft.)	Excess Precip. Volume (ft^3)
6300	6500	6400	6619154	15.0	0.7117	10.7	4.3	0.36	2385378
6500	7000	6750	39591346	16.8	0.7117	12.0	4.8	0.40	15979859
7000	7500	7250	42441134	19.5	0.7117	13.9	5.6	0.47	19883141
7500	8000	7750	12713578	22.1	0.7117	15.7	6.4	0.53	6750306
8000	8500	8250	23578636	25.0	0.7117	17.8	7.2	0.60	14161918
8500	9000	8750	39283348	27.5	0.7117	19.6	7.9	0.66	25954017
9000	9500	9250	52578984	30.1	0.7117	21.4	8.7	0.72	38022624
9500	>9500		65579616	31.0	0.7117	22.1	8.9	0.74	48842059
		Total:	282385796			Total Excess Precipitation Volume (ft^3):			171979301
						Total Lower Station Streamflow Discharge* (ft^3):			18601920
						Calculated Total Infiltration Volume (ft^3):			153377381

1993 Water Year Summary:	ft^3	acre-ft	inches	% of total precip.
Total Precipitation Volume:	596528966	13694.4	25.35	
Total ET Volume:	424549665	9746.3	18.04	71.17
Total Runoff Volume:	18601920	427.0	0.79	3.12
Total Infiltration Volume:	153377381	3521.1	6.52	25.71
Balance:	0.00	0.0	0.00	100.00

* Streamflow discharge from USGS Water-Data Report NM-93-1, *Water Resources Data-New Mexico-Water Year 1993*, p. 134.

1994 Water Year (10/1/93-9/30/94):

Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	ET/Precip fraction	ET (in.)	Excess Precip. (in.)	Excess Precip. (ft.)	Excess Precip. Volume (ft^3)
6300	6500	6400	6619154	12.0	0.8254	9.9	2.1	0.17	1155704
6500	7000	6750	39591346	14.0	0.8254	11.6	2.4	0.20	8064757
7000	7500	7250	42441134	16.7	0.8254	13.8	2.9	0.24	10312559
7500	8000	7750	12713578	19.5	0.8254	16.1	3.4	0.28	3607160
8000	8500	8250	23578636	22.3	0.8254	18.4	3.9	0.32	7650442
8500	9000	8750	39283348	25.2	0.8254	20.8	4.4	0.37	14403632
9000	9500	9250	52578984	28.0	0.8254	23.1	4.9	0.41	21420678
9500	>9500		65579616	29.1	0.8254	24.0	5.1	0.42	27766737
		Total:	282385796			Total Excess Precipitation Volume (ft^3):			94381670
						Total Lower Station Streamflow Discharge** (ft^3):			133920
						Calculated Total Infiltration Volume (ft^3):			94247750

1994 Water Year Summary:	ft^3	acre-ft	inches	% of total precip.
Total Precipitation Volume:	540559394	12409.5	22.97	
Total ET Volume:	446177724	10242.8	18.96	82.54
Total Runoff Volume:	133920	3.1	0.01	0.02
Total Infiltration Volume:	94247750	2163.6	4.01	17.44
Balance:	0.00	0.0	0.00	100.00

** Streamflow discharge from USGS Water-Data Report NM-94-1, *Water Resources Data-New Mexico-Water Year 1994*, p. 133.

1995 Water Year (10/1/94-9/30/95):

Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	ET/Precip fraction	ET (in.)	Excess Precip. (in.)	Excess Precip. (ft.)	Excess Precip. Volume (ft^3)
6300	6500	6400	6619154	15.4	0.7306	11.3	4.1	0.35	2288440
6500	7000	6750	39591346	18.0	0.7306	13.2	4.8	0.40	15998863
7000	7500	7250	42441134	21.5	0.7306	15.7	5.8	0.48	20485274
7500	8000	7750	12713578	25.1	0.7306	18.3	6.8	0.56	7164038
8000	8500	8250	23578636	28.7	0.7306	21.0	7.7	0.64	15192069
8500	9000	8750	39283348	32.3	0.7306	23.6	8.7	0.73	28485731
9000	9500	9250	52578984	36.0	0.7306	26.3	9.7	0.81	42494335
9500	>9500		65579616	37.1	0.7306	27.1	10.0	0.83	54620934
		Total:	282385796			Total Excess Precipitation Volume (ft^3):			186729684
						Total Lower Station Streamflow Discharge*** (ft^3):			14298336
						Calculated Total Infiltration Volume (ft^3):			172431348

1995 Water Year Summary:	ft^3	acre-ft	inches	% of total precip.
Total Precipitation Volume:	693131713	15912.1	29.45	
Total ET Volume:	506402030	11625.4	21.52	73.06
Total Runoff Volume:	14298336	328.2	0.61	2.06
Total Infiltration Volume:	172431348	3958.5	7.33	24.88
Balance:	0.00	0.0	0.00	100.00

*** Streamflow discharge from LANL (ESH-18) records (see Appendix G)

Mean annual precipitation estimates for Los Alamos range from 17.8 inches (1911-1988) to 19.3 inches (Bowen, 1990; LANL Site Development Plan, 1990). Mean annual precipitation at the TA-6 station over the evaluated period was 19.7 inches while the annual totals ranged from 16.37 to 21.81 inches. Thus, though the analyzed time period is limited to only 3 years, and though normal climatic fluctuations certainly can cause greater variations in the proportions determined, the calculated annual water budget results should represent a reasonable approximation of the range of parameter values for an average water year for the Los Alamos Canyon watershed.

Detailed Water Budget:

Since the water budget results are to be utilized for transient groundwater modeling, the evaluation period for more detailed budget calculations was divided into separate stress periods based on varying behavior of the alluvial aquifer. Daily water level elevation data collected by ESH-18 for the instrumented alluvial observation well LAO-3 was obtained for the period from 7/10/94 to 11/2/95. This well is roughly centrally located in the middle canyon area of the watershed (see Figure 10). A hydrograph of daily head fluctuations was produced from these data by subtracting the elevation of the bottom of the alluvium from the water level elevations, producing head values which were then plotted against time (Figure 11). The hydrograph was plotted along with a precipitation hyetograph from the TA-6 station data to evaluate the correlation between precipitation and head fluctuation (thus also infiltration recharge) behavior. Periods where the hydrograph shows recession are indicative of periods of low or zero infiltration recharge, and periods showing increasing heads indicate active infiltration recharge. Periods of relatively constant head indicate a more or less steady-state situation.

As can be seen, from July through December of 1994, the hydrograph is responsive to precipitation events, especially to the major events which occurred on 10/14 and 11/11 to 11/12. From December, 1994 through mid-February, 1995 the hydrograph is in recession despite continued precipitation because the winter precipitation is largely stored as snowpack. In mid-February the snowmelt began, accompanied by significant infiltration recharge and a steady-state situation was soon reached which existed through mid-July. After this, a brief drying period occurred, followed by additional recharge from August rainstorms, followed by a final recession that marked the beginning

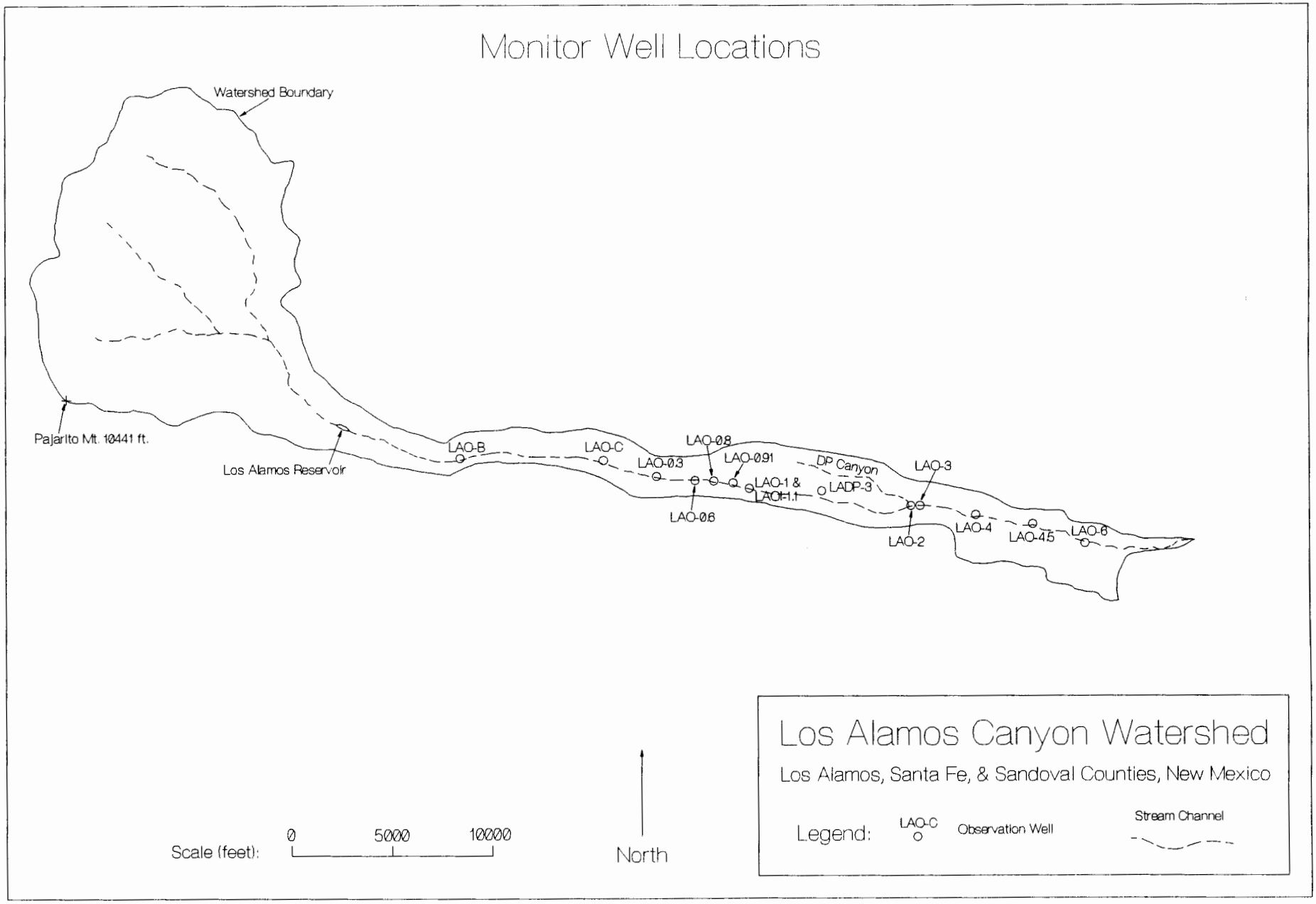

Monitor Well Locations
Watershed Boundary
Pajarito Mt. 10441 ft.
Los Alamos Reservoir
LAO-B
LAO-C
LAO-08
LAO-03
LAO-091
DP Canyon
LAO-3
LAO-1 &
LAO-1.1
LADP-3
LAO-06
LAO-2
LAO-4
LAO-45
LAO-6
Los Alamos Canyon Watershed
Los Alamos, Santa Fe, & Sandoval Counties, New Mexico
Legend:
LAO-C
Observation Well
Stream Channel
Scale (feet):
0
5000
10000
North

Figure 10

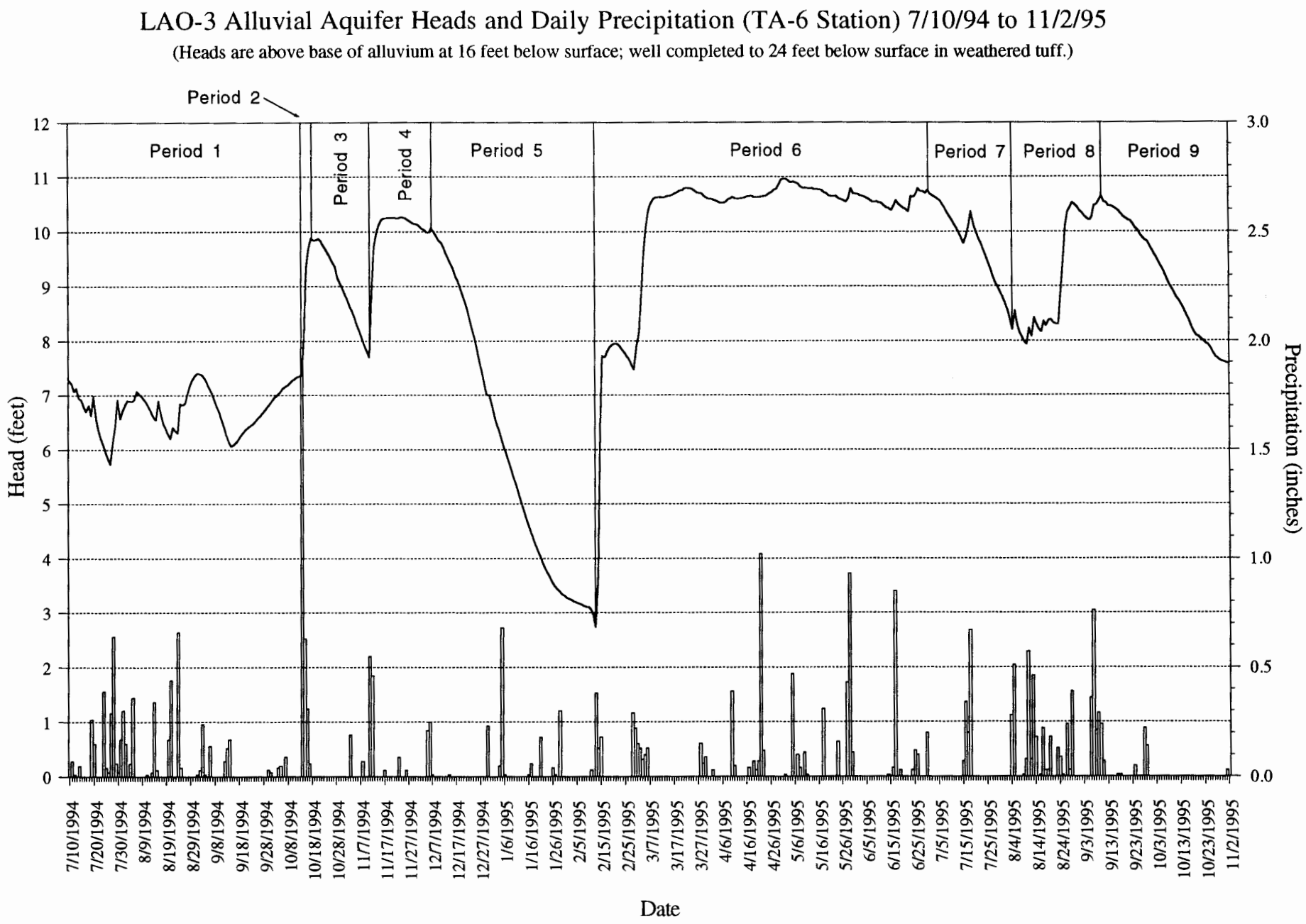

LAO-3 Alluvial Aquifer Heads and Daily Precipitation (TA-6 Station) 7/10/94 to 11/2/95
(Heads are above base of alluvium at 16 feet below surface; well completed to 24 feet below surface in weathered tuff.)
Period 1
Period 2
Period 3
Period 4
Period 5
Period 6
Period 7
Period 8
Period 9
Head (feet)
Precipitation (inches)
Date

Figure 11

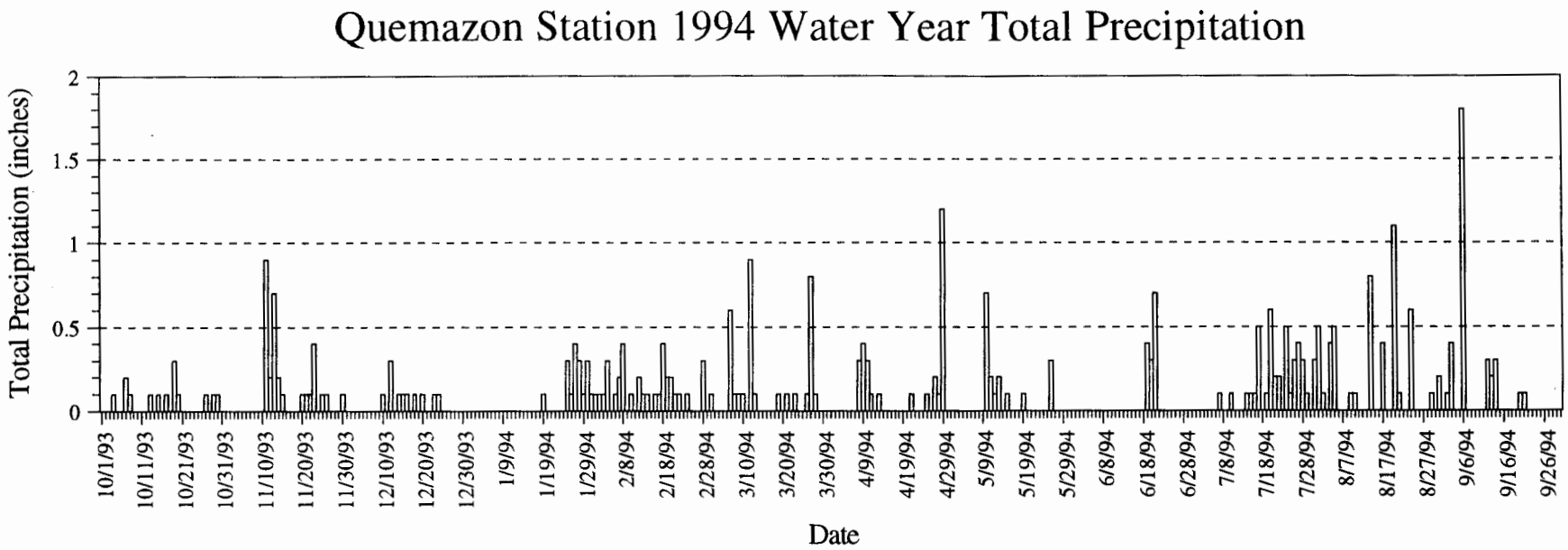
of drought conditions that persisted through mid-1996.

Based on the hydrograph behavior, the 487 day period was divided into 9 separate stress periods representing relatively consistent infiltration or drying behaviors, or as in the case of period 2, a significant precipitation event (see Figure 11). The data from each precipitation gauge and the ET data from the TA-6 site were then summed for each stress period (see Appendices A, B, C, and D). The streamflow discharge totals for each flow measurement gage were also summed by stress period (see Appendix G).

For the Quemazon station, a distinction is made between between recorded total precipitation and the net non-frozen precipitation yield as determined from the SNOTEL data. These calculations are shown in Appendix F. The procedure for determining the net non-frozen yield entailed converting the reported annual cumulative precipitation totals to daily precipitation totals by subtracting the preceeding day's cumulative total from each daily cumulative total. Daily net change in precipitation stored as snowpack was determined similarly by subtracting the preceeding day's value from each daily reported total water equivalent snowpack depth. Daily net yields were determined by subtracting the daily snowpack net changes from the daily precipitation totals.

This procedure revealed inherent inaccuracies in the data involving a lack of perfect correlation between the reported daily precipitation and snowpack values. On several days during both years analyzed, the daily snowpack net change exceeded the reported total precipitation, resulting in the calculation of negative values for net yield. The most likely cause for this discrepancy is that the precipitation gauge is less efficient at accurately measuring snowfall than the snow pillow (personal communication, Mike Gillespie, USDABNRC Snow Survey Office, Lakewood, Colorado). Thus on days when positive net change in snowpack exceeded the recorded daily precipitation, the precipitation totals were adjusted to match the snow pillow measurements, eliminating the calculated negative yields. These adjustments resulted in an increase in annual precipitation totals of approximately 11-12% over the data recorded by the precipitation gauge (see Appendix F).

A comparison of the daily precipitation and net non-frozen precipitation yield totals is shown in Figures 12 and 13. Figure 12 shows that during the 1994 water year, most of the precipitation from November, 1993 through February, 1994 was stored as snowpack, with only occasional minor releases from melting occurring during this period. The major snowmelt release occurred from mid-


Quemazon Station 1994 Water Year Total Precipitation
Total Precipitation (inches)
2
1.5
1
0.5
0
10/1/93
10/11/93
10/21/93
10/31/93
11/10/93
11/20/93
11/30/93
12/10/93
12/20/93
12/30/93
1/9/94
1/19/94
1/29/94
2/8/94
2/18/94
2/28/94
3/10/94
3/20/94
3/30/94
4/9/94
4/19/94
4/29/94
5/9/94
5/19/94
5/29/94
6/8/94
6/18/94
6/28/94
7/8/94
7/18/94
7/28/94
8/7/94
8/17/94
8/27/94
9/6/94
9/16/94
9/26/94
Date

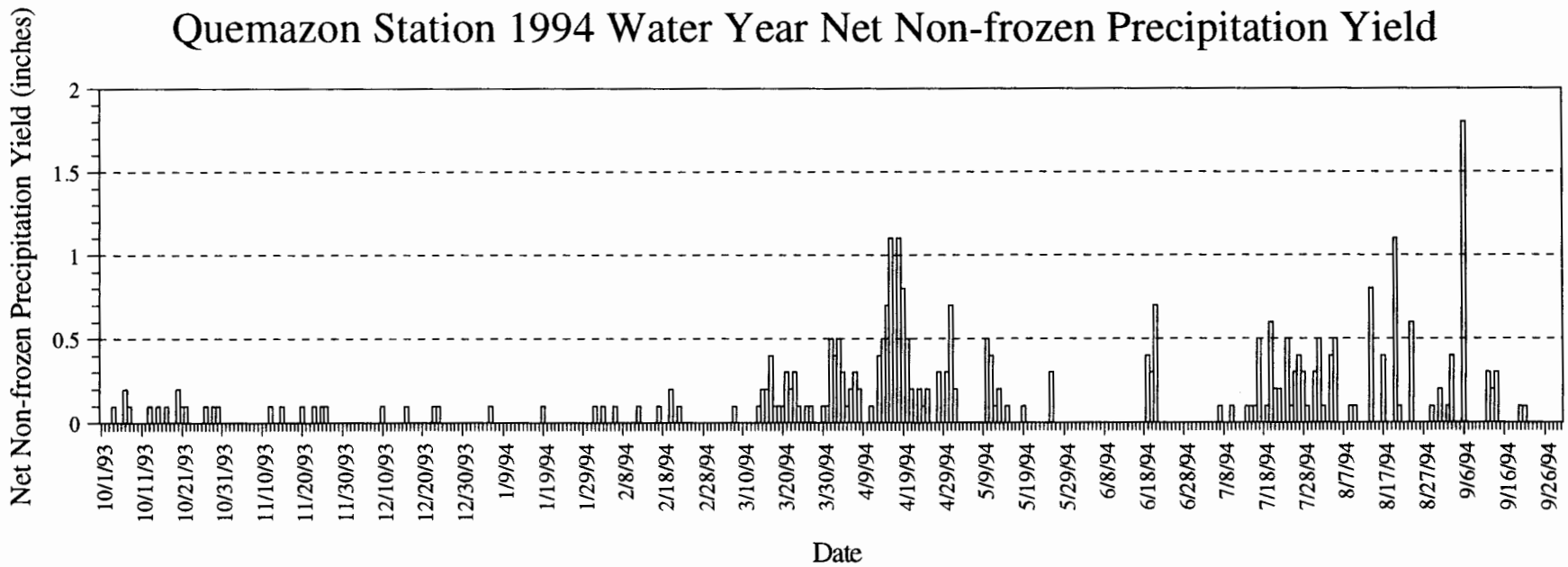
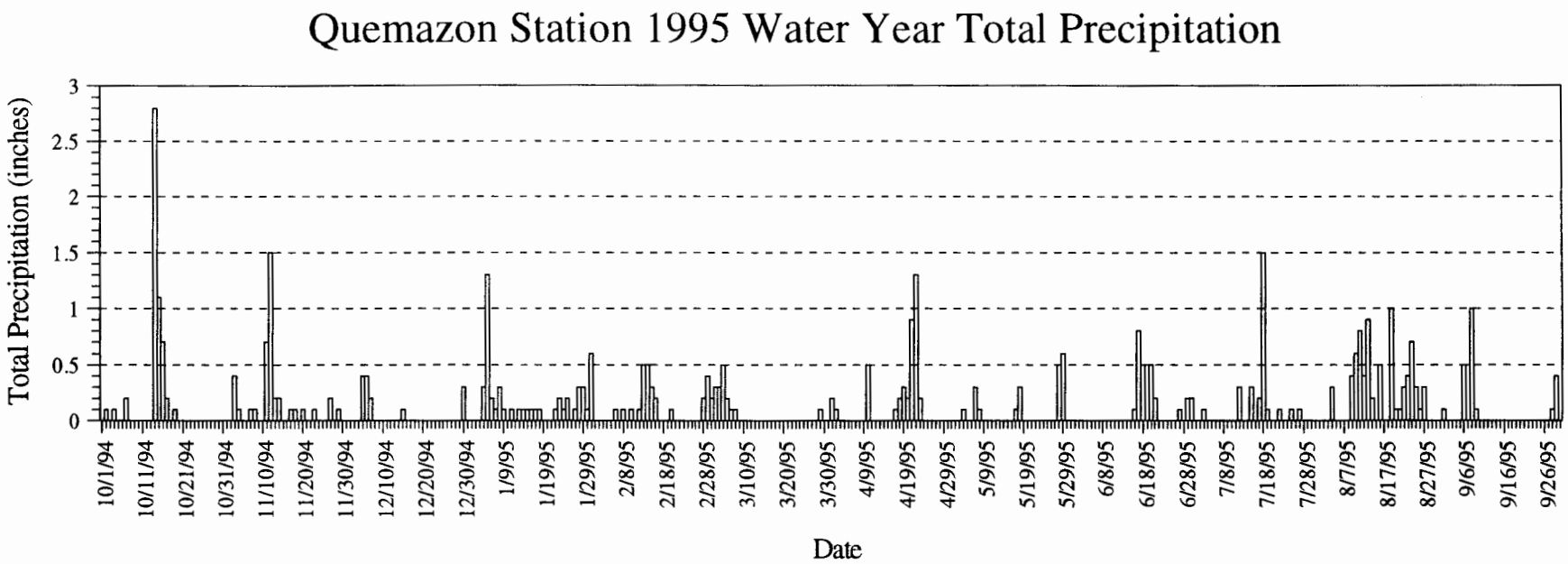

Quemazon Station 1994 Water Year Net Non-frozen Precipitation Yield
Net Non-frozen Precipitation Yield (inches)
2
1.5
1
0.5
0
10/1/93
10/11/93
10/21/93
10/31/93
11/10/93
11/20/93
11/30/93
12/10/93
12/20/93
12/30/93
1/9/94
1/19/94
1/29/94
2/8/94
2/18/94
2/28/94
3/10/94
3/20/94
3/30/94
4/9/94
4/19/94
4/29/94
5/9/94
5/19/94
5/29/94
6/8/94
6/18/94
6/28/94
7/8/94
7/18/94
7/28/94
8/7/94
8/17/94
8/27/94
9/6/94
9/16/94
9/26/94
Date

Figure 12


Quemazon Station 1995 Water Year Total Precipitation
Total Precipitation (inches)
3
2.5
2
1.5
1
0.5
0
10/1/94
10/11/94
10/21/94
10/31/94
11/10/94
11/20/94
11/30/94
12/10/94
12/20/94
12/30/94
1/9/95
1/19/95
1/29/95
2/8/95
2/18/95
2/28/95
3/10/95
3/20/95
3/30/95
4/9/95
4/19/95
4/29/95
5/9/95
5/19/95
5/29/95
6/8/95
6/18/95
6/28/95
7/8/95
7/18/95
7/28/95
8/7/95
8/17/95
8/27/95
9/6/95
9/16/95
9/26/95
Date

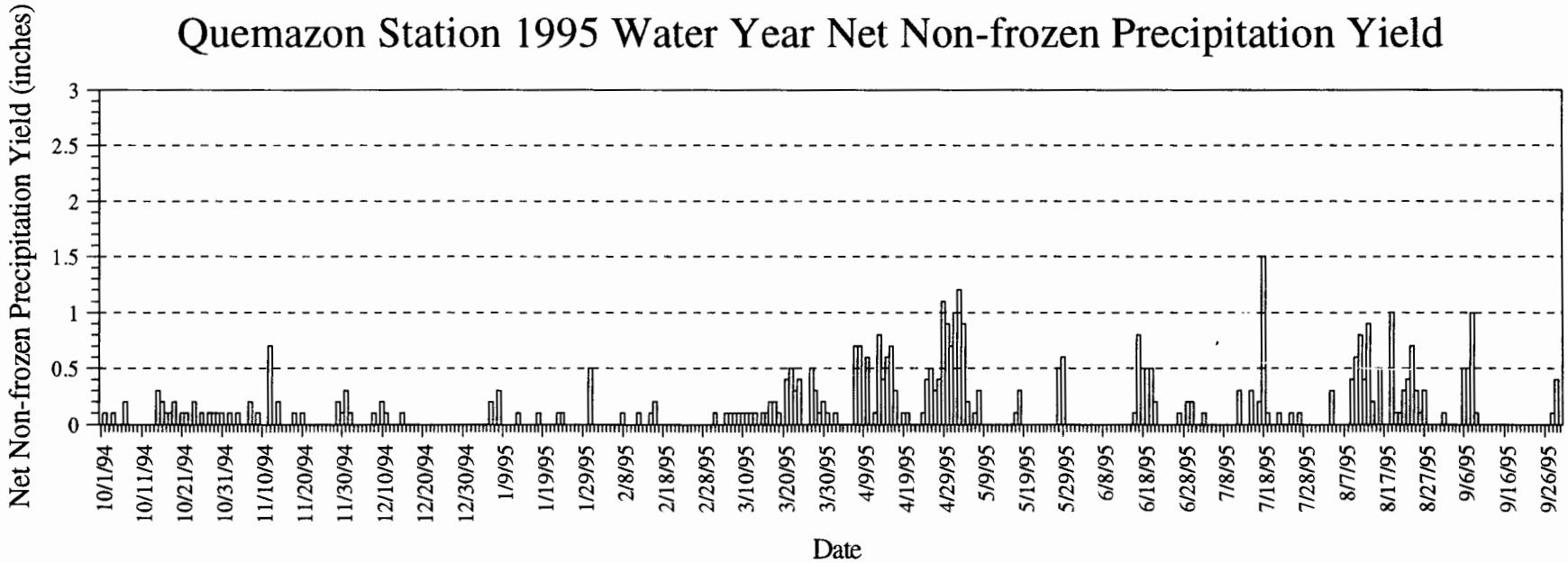

Quemazon Station 1995 Water Year Net Non-frozen Precipitation Yield
Net Non-frozen Precipitation Yield (inches)
3
2.5
2
1.5
1
0.5
0
10/1/94
10/11/94
10/21/94
10/31/94
11/10/94
11/20/94
11/30/94
12/10/94
12/20/94
12/30/94
1/9/95
1/19/95
1/29/95
2/8/95
2/18/95
2/28/95
3/10/95
3/20/95
3/30/95
4/9/95
4/19/95
4/29/95
5/9/95
5/19/95
5/29/95
6/8/95
6/18/95
6/28/95
7/8/95
7/18/95
7/28/95
8/7/95
8/17/95
8/27/95
9/6/95
9/16/95
9/26/95
Date

Figure 13

March through the end of April, 1994. Figure 13 shows a similar pattern for the 1995 water year, but with snowpack storage effects occurring somewhat earlier, beginning with a major precipitation event on 10/14/94 when 2.8 inches of precipitation was recorded during a single 24 hour period, mostly as snow.

The daily net yield values were summed by stress period as was done with the other stations' data. The relation between total precipitation and net yield by stress period is shown graphically in Figure 14. As can be seen, the two parameters were equivalent during periods 1, 7, 8 and 9. Precipitation was stored as snowpack in periods 2, 4 and 5, with some minor releases by melting. Minor melting with low precipitation caused net yield to exceed precipitation in period 3. The major release was in period 6 during which most of the snowmelt occurred. These net yield values per stress period were utilized in the detailed water budget calculations for the Quemazon data.

The precipitation totals determined for each stress period at each measurement station are shown in Table 3. For the stations where snowpack data is not available, an adjustment was made between the main winter period (period 5) and main snowmelt period (period 6) by transferring 50% of the period 5 precipitation to period 6. Though snowpack storage at the Quemazon site also occurred in periods 2, and 4, the record of alluvial aquifer head responses to precipitation during these periods (see Figure 11) indicates that most precipitation was not stored as snowpack at the lower elevations of the other stations in periods 2 and 4. However, the major recession which occurred in period 5 suggests that significant snowpack storage did occur then at all elevations above LAO-3. Examination of daily maximum and minimum temperatures at the TA-6 site during period 5 shows that most daily maximum temperatures were slightly to substantially above freezing, while the overall average temperature during the period was approximately at freezing (Figure 15), thus supporting the assumption of a nominal amount of melting for the lower measurement stations during period 5. The Quemazon data shows that 63.8% of the period 5 precipitation was stored as snowpack at that site (see Appendix F). Assuming that somewhat greater melting would occur at the lower elevations of the watershed, an arbitrary value of 50% snowpack storage was assumed for the remaining measurement stations during period 5. The adjustment is reflected in the columns labeled as Adjusted Precipitation in Table 3, and these data were utilized in the detailed water budget calculations for the LANL precipitation measurement sites.

Quemazon Station Total Precipitation and Net Non-Frozen Yield by Stress Period

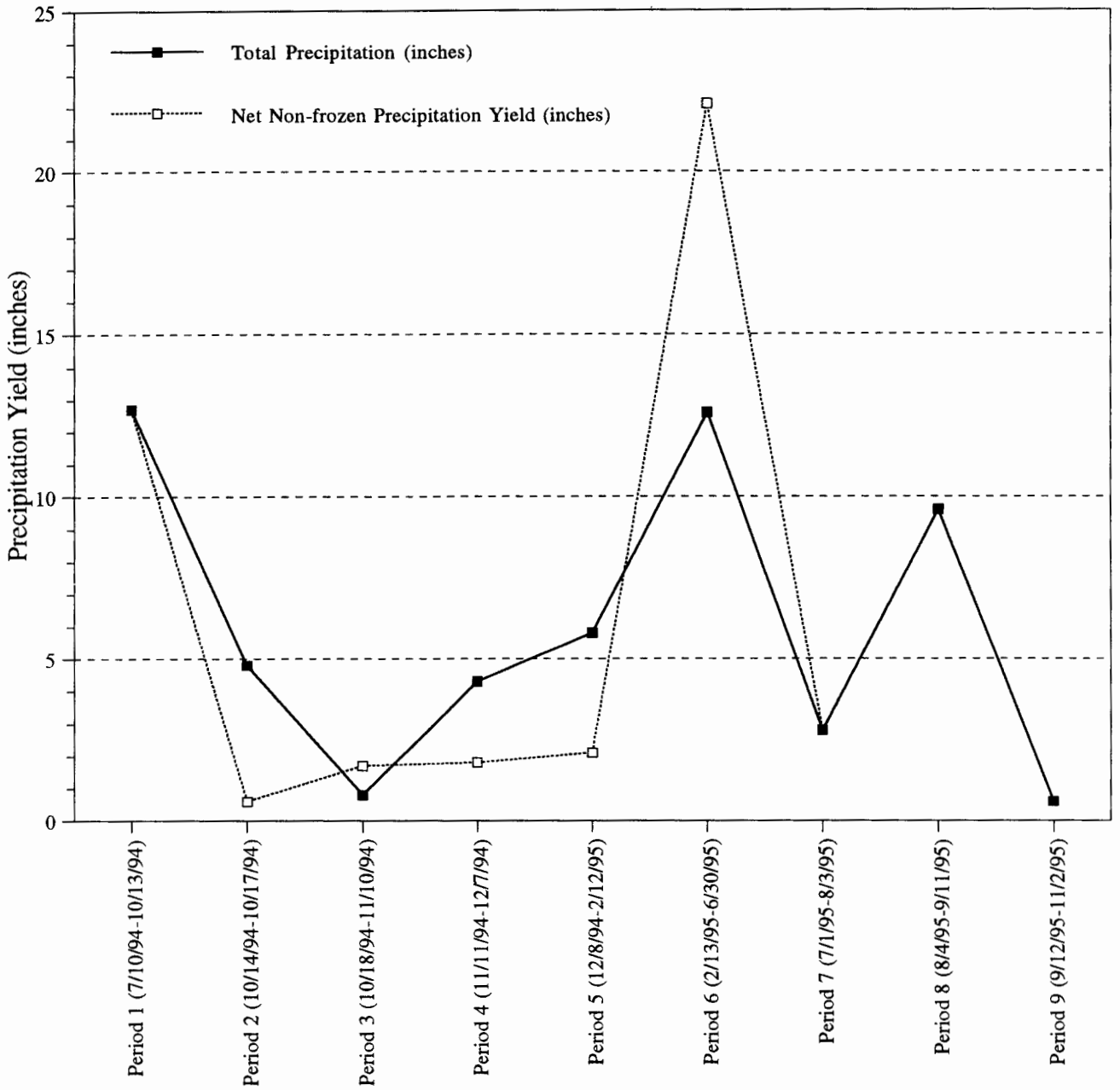


Figure 14

Table 3: Los Alamos Canyon Detailed Water Budget Stress Periods

TA-6 Station:

Period No.	Stress Periods: From	To	No. of days	Conditions	Total Precip. (inches)	Adjusted * Precip. (inches)	Measured ET (inches)	Calculated ET proportion of adjusted precip.
1	7/10/94	10/13/94	96	summer/fall rainstorms	5.78	5.78	4.44	0.77
2	10/14/94	10/17/94	4	heavy rain/snow + melting	2.97	2.97	0.16	0.06
3	10/18/94	11/10/94	24	dry	0.26	0.26	0.78	3.01
4	11/11/94	12/7/94	27	moderate snow/rain + melting	1.63	1.63	0.53	0.33
5	12/8/94	2/12/95	67	frozen + minor melting	1.61	0.81	0.97	1.20
6	2/13/95	6/30/95	138	snow melt + spring rains	7.97	8.78	6.44	0.73
7	7/1/95	8/3/95	34	relatively dry	1.28	1.28	2.70	2.11
8	8/4/95	9/11/95	39	summer rainstorms	5.46	5.46	3.01	0.55
9	9/12/95	11/2/95	58	dry	0.46	0.46	1.80	3.92
		Totals:	487		27.42	27.42	20.84	0.76

* 50% of period 5 precipitation moved to period 6 for snowmelt.

Quemazon Station:

Period No.	Stress Periods: From	To	No. of days	Conditions	Total Precip. (inches)	Net non-frozen Precip. Yield * (inches)	ET proportion of adj. precip. **	Estimated ET (inches)
1	7/10/94	10/13/94	96	summer/fall rainstorms	12.7	12.7	0.77	9.75
2	10/14/94	10/17/94	4	heavy snow + no melting	4.8	0.6	0.06	0.03
3	10/18/94	11/10/94	24	dry	0.8	1.7	3.01	5.12
4	11/11/94	12/7/94	27	moderate snow/rain + melting	4.3	1.8	0.33	0.59
5	12/8/94	2/12/95	67	frozen + minor melting	5.8	2.1	1.20	2.53
6	2/13/95	6/30/95	138	snow melt + spring snow/rain	12.6	22.1	0.73	16.22
7	7/1/95	8/3/95	34	relatively dry	2.8	2.8	2.11	5.91
8	8/4/95	9/11/95	39	summer rainstorms	9.6	9.6	0.55	5.30
9	9/12/95	11/2/95	58	dry	0.6 ***	0.6	3.92	2.18
		Totals:	487		54.0	54.0	0.88	47.6

* Net non-frozen yield based on snowpack data. ** Proportions from TA-6 data.

*** Precipitation data not available for 10/1/95-11/2/95 period. Multiplied N. Comm. data by 2.759 = average Quem./N.comm. proportion from 10/18/94-11/10/94 dry period.

TA-53 Station:

Period No.	Stress Periods: From	To	No. of days	Conditions	Total Precip. (inches)	Adjusted * Precip. (inches)	ET proportion of adj. precip. **	Estimated ET (inches)
1	7/10/94	10/13/94	96	summer/fall rainstorms	5.81	5.81	0.77	4.46
2	10/14/94	10/17/94	4	heavy rain/snow + melting	3.08	3.08	0.06	0.17
3	10/18/94	11/10/94	24	dry	0.25	0.25	3.01	0.75
4	11/11/94	12/7/94	27	moderate snow/rain + melting	2.38	2.38	0.33	0.78
5	12/8/94	2/12/95	67	frozen + minor melting	1.42	0.71	1.20	0.85
6	2/13/95	6/30/95	138	snow melt + spring rains	6.94	7.65	0.73	5.62
7	7/1/95	8/3/95	34	relatively dry	1.32	1.32	2.11	2.78
8	8/4/95	9/11/95	39	summer rainstorms	4.19	4.19	0.55	2.31
9	9/12/95	11/2/95	58	dry	0.47	0.47	3.92	1.84
		Totals:	487		25.86	25.86	0.76	19.57

* 50% of period 5 precipitation moved to period 6 for snowmelt. ** Proportions from TA-6 data.

North Community Station:

Period No.	Stress Periods: From	To	No. of days	Conditions	Total Precip. (inches)	Adjusted * Precip. (inches)	ET proportion of adj. precip. **	Estimated ET (inches)
1	7/10/94	10/13/94	96	summer/fall rainstorms	8.16	8.16	0.77	6.27
2	10/14/94	10/17/94	4	heavy rain/snow + melting	3.72	3.72	0.06	0.20
3	10/18/94	11/10/94	24	dry	0.29	0.29	3.01	0.87
4	11/11/94	12/7/94	27	moderate snow/rain + melting	2.19	2.19	0.33	0.72
5	12/8/94	2/12/95	67	frozen + minor melting	1.09	0.55	1.20	0.66
6	2/13/95	6/30/95	138	snow melt + spring rains	8.83	9.38	0.73	6.88
7	7/1/95	8/3/95	34	relatively dry	1.86	1.86	2.11	3.92
8	8/4/95	9/11/95	39	summer rainstorms	5.82	5.82	0.55	3.21
9	9/12/95	11/2/95	58	dry	0.56	0.56	3.92	2.20
		Totals:	487		32.52	32.52	0.77	24.93

* 50% of period 5 precipitation moved to period 6 for snowmelt. ** Proportions from TA-6 data.

TA-74 Station:

Period No.	Stress Periods: From	To	No. of days	Conditions	Total Precip. (inches)	Adjusted * Precip. (inches)	ET proportion of adj. precip. **	Estimated ET (inches)
1	7/10/94	10/13/94	96	summer/fall rainstorms	6.17	6.17	0.77	4.74
2	10/14/94	10/17/94	4	heavy rain/snow + melting	2.53	2.53	0.06	0.14
3	10/18/94	11/10/94	24	dry	0.19	0.19	3.01	0.57
4	11/11/94	12/7/94	27	moderate snow/rain + melting	1.90	1.90	0.33	0.62
5	12/8/94	2/12/95	67	frozen + minor melting	1.18	0.59	1.20	0.71
6	2/13/95	6/30/95	138	snow melt + spring rains	4.95	5.54	0.73	4.07
7	7/1/95	8/3/95	34	relatively dry	0.67	0.67	2.11	1.41
8	8/4/95	9/11/95	39	summer rainstorms	3.18	3.18	0.55	1.75
9	9/12/95	11/2/95	58	dry	0.63	0.63	3.92	2.47
		Totals:	487		21.40	21.40	0.77	16.49

* 50% of period 5 precipitation moved to period 6 for snowmelt. ** Proportions from TA-6 data.

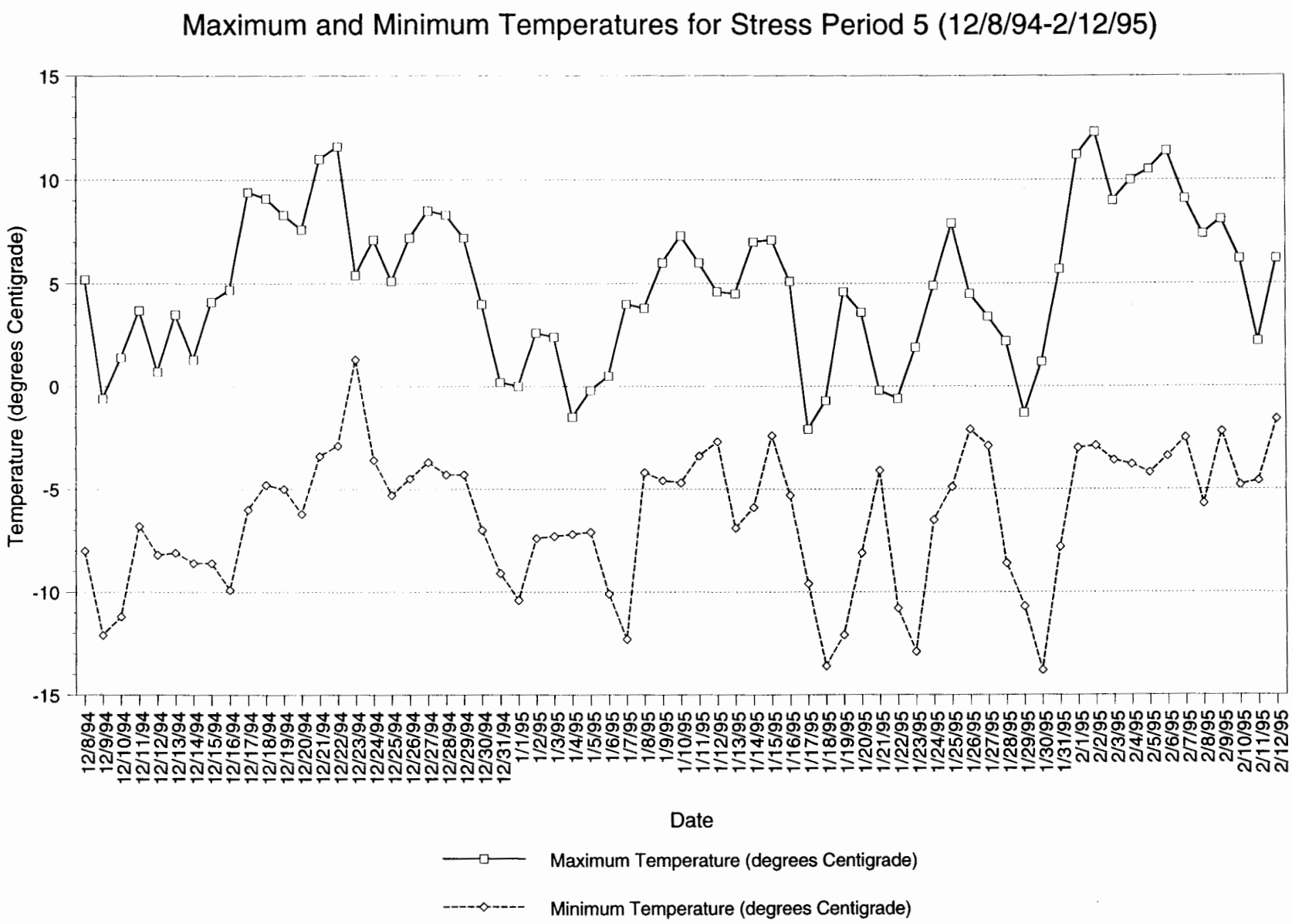

Maximum and Minimum Temperatures for Stress Period 5 (12/8/94-2/12/95)
Temperature (degrees Centigrade)
15
10
5
0
-5
-10
-15
12/8/94
12/9/94
12/10/94
12/11/94
12/12/94
12/13/94
12/14/94
12/15/94
12/16/94
12/17/94
12/18/94
12/19/94
12/20/94
12/21/94
12/22/94
12/23/94
12/24/94
12/25/94
12/26/94
12/27/94
12/28/94
12/29/94
12/30/94
12/31/94
1/1/95
1/2/95
1/3/95
1/4/95
1/5/95
1/6/95
1/7/95
1/8/95
1/9/95
1/10/95
1/11/95
1/12/95
1/13/95
1/14/95
1/15/95
1/16/95
1/17/95
1/18/95
1/19/95
1/20/95
1/21/95
1/22/95
1/23/95
1/24/95
1/25/95
1/26/95
1/27/95
1/28/95
1/29/95
1/30/95
1/31/95
2/1/95
2/2/95
2/3/95
2/4/95
2/5/95
2/6/95
2/7/95
2/8/95
2/9/95
2/10/95
2/11/95
2/12/95
Date
Maximum Temperature (degrees Centigrade)
Minimum Temperature (degrees Centigrade)

Figure 15

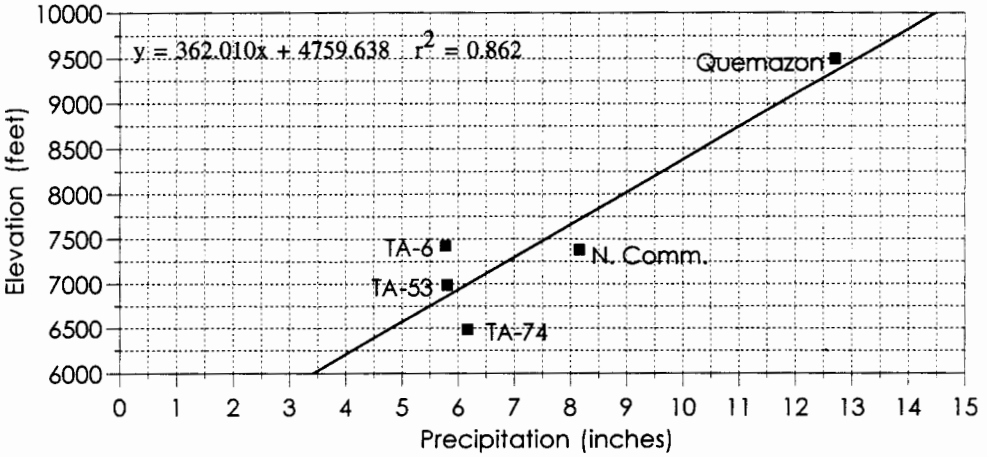
Since ET measurements were only made at the TA-6 site, the ET proportion of adjusted precipitation was calculated for each stress period at this site and these proportions were then applied to the other precipitation measurement sites to estimate ET amounts for them. These calculations are also shown in Table 3.

As was done for the annual water budget, linear regressions were performed on the adjusted precipitation totals plotted against elevation for each stress period (Figures 16, 17 and 18). The precipitation/elevation relations were not as straightforward in every period as was the case for the annual budget plots since the Quemazon station exhibited lower precipitation yields than the other sites during periods 2 and 4 as a result of snowpack storage at the higher elevation. Also, though the lower stations generally exhibited the previously recognized trend of increased precipitation at higher elevations, there were some exceptions. For example, though having almost equal elevations, the TA-6 and North Community stations exhibited divergent precipitation totals during periods 1, 2, 4, 5 and 7. In period 4, though possessing the second highest elevation, the TA-6 station recorded the lowest precipitation amount and was excluded from the regression analyses. In period 9, the TA-74 station, though representing the lowest elevation, recorded the highest precipitation amount and was also excluded from the regression analysis. The effects of these exclusions on the determination of average precipitation/elevation trends are minimal however since the affected periods exhibited low precipitation totals at all stations and the discrepancies involved minimal precipitation amounts of much less than one inch.

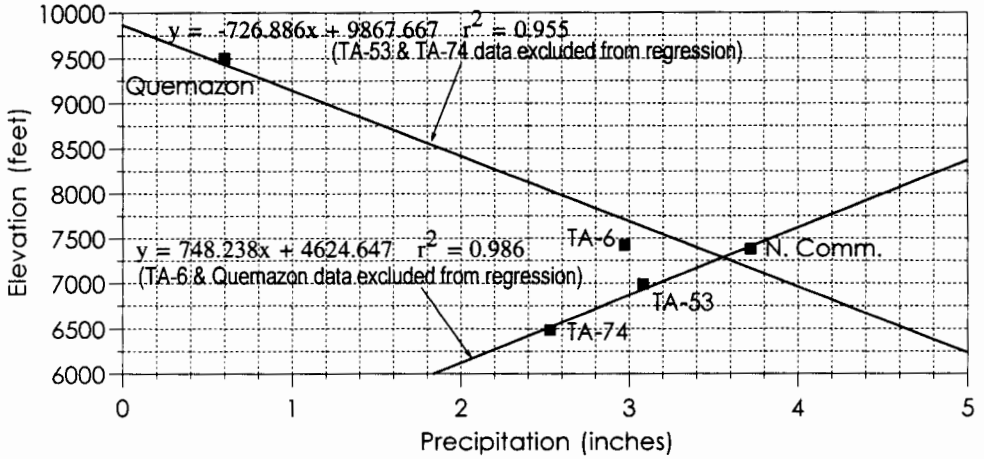
For the periods when snowpack storage effects caused lower precipitation yields at the Quemazon station, double regressions were performed, thus assuming a linear transition to decreased snowpack storage at the lower sites while maintaining a linear relation between precipitation and elevation for the lower sites. A double regression was also used for periods 3 and 5 as the linearity of the lower stations' data differed substantially from the transition to the Quemazon plot.

The regression plots were then used as before to extrapolate the varying precipitation amounts to intervening average elevations, which when multiplied times the appropriate representative areas yielded total precipitation volumes for each stress period. The calculations were done separately for the upper basin (defined as that part of the watershed higher than the 7500 feet elevation contour) and middle/upper canyon (lower than the 7500 feet elevation contour) areas since the upper

LA Canyon Elevation vs Precipitation
Stress Period 1: 7/10/94-10/13/94



LA Canyon Elevation vs Precipitation
Stress Period 2: 10/14/94-10/17/94



LA Canyon Elevation vs Precipitation
Stress Period 3: 10/18/94-11/10/94

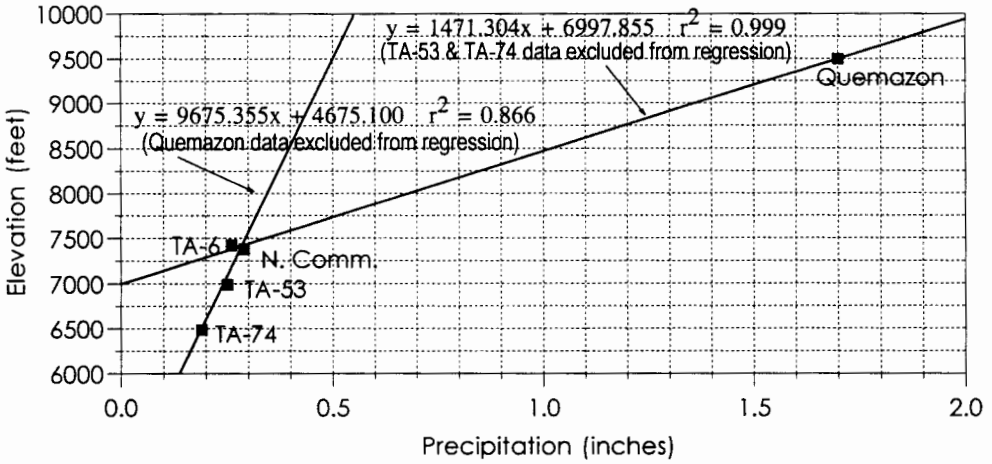


Figure 16

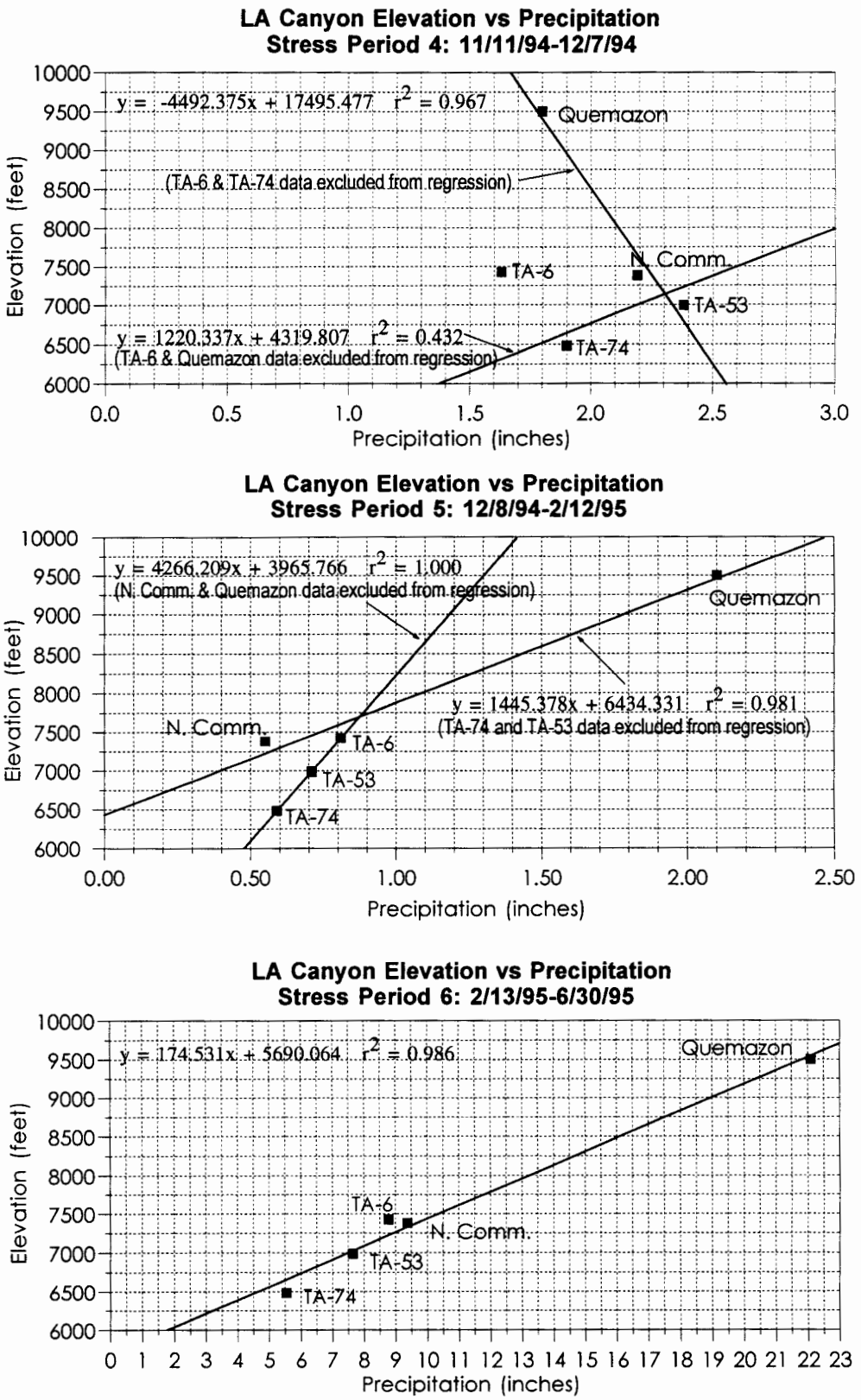
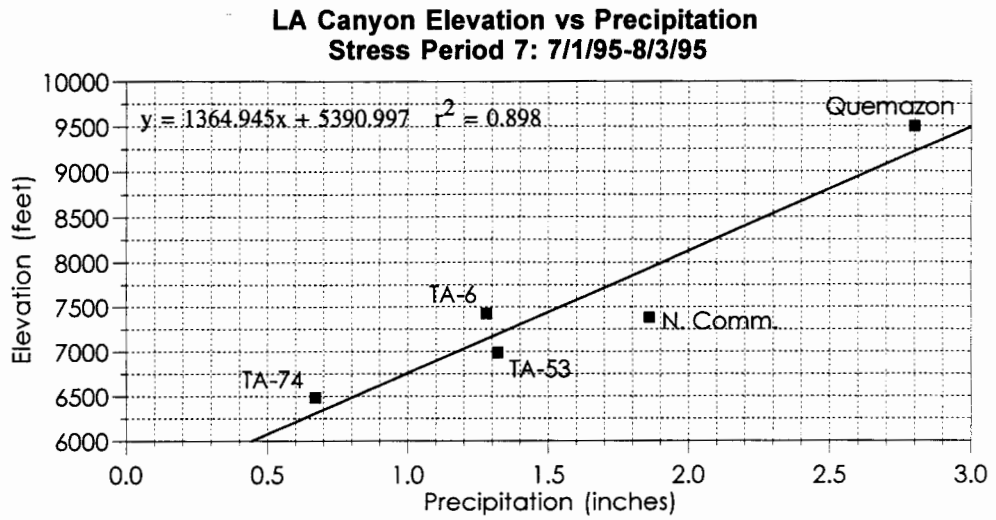
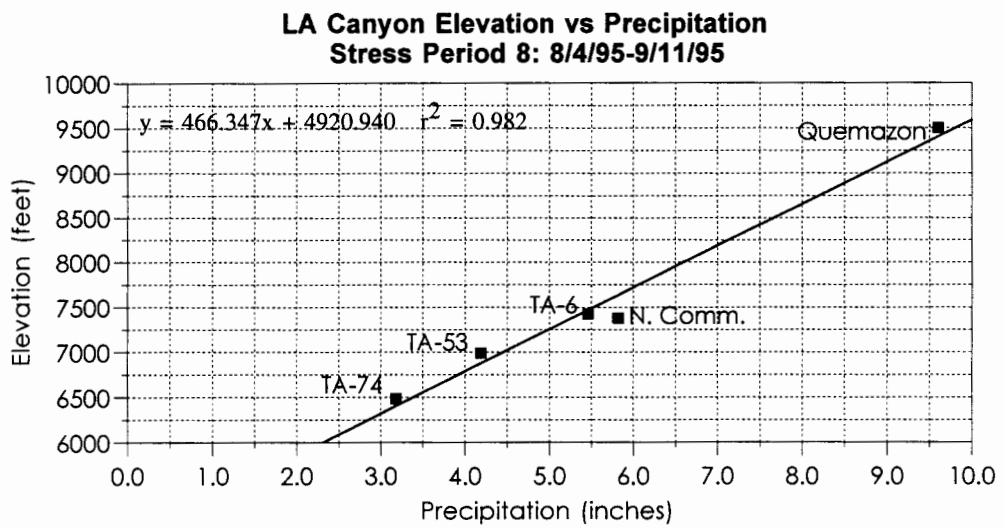

LA Canyon Elevation vs Precipitation
Stress Period 4: 11/11/94-12/7/94
y = -4492.375x + 17495.477 r2 = 0.967
Quemazon
(TA-6 & TA-74 data excluded from regression)
N. Comm.
TA-6
TA-53
TA-74
y = 1220.337x + 4319.807 r2 = 0.432
(TA-6 & Quemazon data excluded from regression)
Elevation (feet)
Precipitation (inches)
LA Canyon Elevation vs Precipitation
Stress Period 5: 12/8/94-2/12/95
y = 4266.209x + 3965.766 r2 = 1.000
(N. Comm. & Quemazon data excluded from regression)
Quemazon
y = 1445.378x + 6434.331 r2 = 0.981
(TA-74 and TA-53 data excluded from regression)
N. Comm.
TA-6
TA-53
TA-74
Elevation (feet)
Precipitation (inches)
LA Canyon Elevation vs Precipitation
Stress Period 6: 2/13/95-6/30/95
y = 174.531x + 5690.064 r2 = 0.986
Quemazon
TA-6
N. Comm.
TA-53
TA-74
Elevation (feet)
Precipitation (inches)

Figure 17


LA Canyon Elevation vs Precipitation
Stress Period 7: 7/1/95-8/3/95
y = 1364.945x + 5390.997 r2 = 0.898
Quemazon
TA-6
N. Comm.
TA-53
TA-74
Elevation (feet)
Precipitation (inches)


LA Canyon Elevation vs Precipitation
Stress Period 8: 8/4/95-9/11/95
y = 466.347x + 4920.940 r2 = 0.982
Quemazon
TA-6
N. Comm.
TA-53
TA-74
Elevation (feet)
Precipitation (inches)

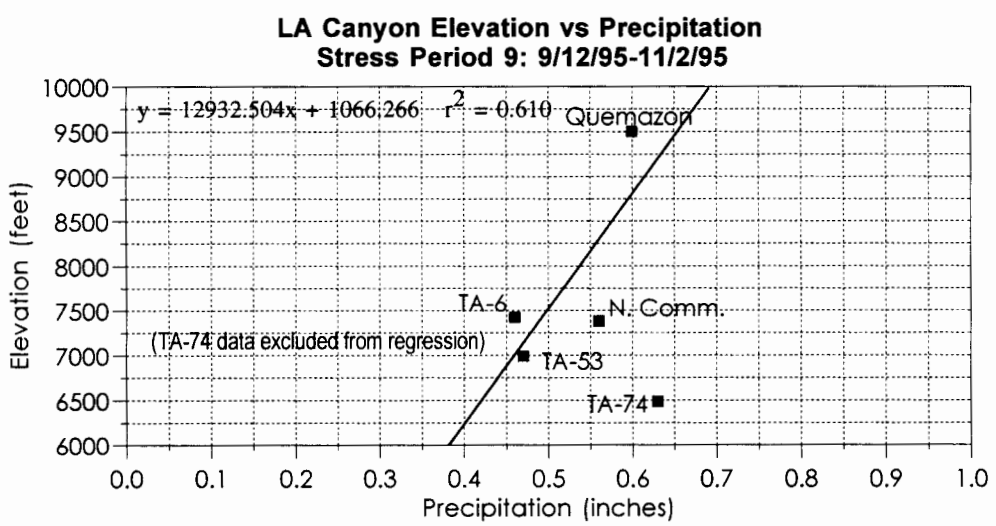

LA Canyon Elevation vs Precipitation
Stress Period 9: 9/12/95-11/2/95
y = 12932.504x + 1066.266 r2 = 0.610
Quemazon
TA-6
N. Comm.
(TA-74 data excluded from regression)
TA-53
TA-74
Elevation (feet)
Precipitation (inches)

Figure 18

streamflow gage is located approximately at this dividing line. The ET/precipitation fractions determined from the TA-6 data for each stress period were then applied to the precipitation volumes to calculate estimated ET volumes which when subtracted from the precipitation volumes yielded excess precipitation volumes by stress period and watershed area.

For the upper basin area, discharge volumes from the upper streamflow gage were subtracted from the excess precipitation volumes and estimated reservoir usage volumes were also subtracted in periods 1, 7 and 8. Since data for the upper streamflow gage were not available for most of period 1, streamflow discharge was estimated from the precipitation data by applying the average flow/precipitation ratio for this gage from periods 7-9 (see Table 4). The residual volumes determined represent total upper basin infiltration and were also converted to units of length (inches) by dividing by the total upper basin area.

For the middle/upper canyon area, the upper streamflow discharge volumes were added to the excess precipitation volumes, and the lower streamflow gage volumes were then subtracted from these totals. The remaining volumes represent total infiltration for the middle/upper canyon area and were also converted to units of length as above.

These calculations are shown in the Los Alamos Canyon Detailed Water Budget Calculations spreadsheet (Appendix H). The detailed water budget calculations are summarized in Table 4, which also shows average determinations for all evaluated parameters for the entire watershed.

Streamflow Data Analysis:

The discharge data from all three streamflow measurement stations for the 1995 water year are plotted together in Figure 19. This graph illustrates that relative discharge rates among the three gages exhibited variable behavior over the analyzed period. The upper station recorded greater flow rates than the middle and lower gages mainly during periods of generally low flow. This is apparent during the initiation of spring runoff from late February through late April. After the snowmelt runoff peaked at the upper and middle gages in late April, the greatest flows were recorded at the middle gage through late May while the upper gage then recorded the lowest flows. When the snowmelt runoff tailed off in early June, the upper gage again generally recorded the highest flow rates. This pattern indicates that the stream reach between the upper and middle gages exhibited a

Table 4: Los Alamos Canyon Detailed Water Budget Calculations Summary

Upper Basin:

Period	Stress Periods: From	To	No. of days	Conditions	Upper Basin precip. vol. (ft^3)	ET/Precip. Fraction	Estimated ET Volume (ft^3)	Est. Reservoir usage (ft^3)	Excess Volume (ft^3)	Upper Station cum. flow (ft^3)	Ratio flow:precip.	Calculated Infiltration (ft^3)	Watershed Area (ft^2)	Calculated Infiltration (in.)
1	7/10/94	10/13/94	96	summer/fall rainstorms	187349940	0.77	144259454	668400	42422086	1167785 *	0.006 **	41254301	193734162	2.56
2	10/14/94	10/17/94	4	heavy rain/snow + melting	19380006	0.06	1162800		18217205	59616	0.003	18157589	193734162	1.12
3	10/18/94	11/10/94	24	dry	22047960	3.01	66364360		-44316400	511488	0.023	-44827888	193734162	-2.78
4	11/11/94	12/7/94	27	mod. snow/rain + melting	30552750	0.33	10082407		20470342	2382048	0.078	18088294	193734162	1.12
5	12/8/94	2/12/95	67	frozen + minor melting	28687573	1.20	34425087		-5737515	9504	0.000	-5747019	193734162	-0.36
6	2/13/95	6/30/95	138	snow melt + spring rains	308093202	0.73	224908038		83185165	16118784	0.052	67066381	193734162	4.15
7	7/1/95	8/3/95	34	relatively dry	41519582	2.11	87606318	334200	-46420936	237600	0.006	-46658536	193734162	-2.89
8	8/4/95	9/11/95	39	summer rainstorms	140144429	0.55	77079436	334200	62730793	834624	0.006	61896169	193734162	3.83
9	9/12/95	11/2/95	58	dry	9622067	3.92	37718502		-28096435	120096	0.012	-28216531	193734162	-1.75
		Totals:	487		787397509		683606403	1336800	102454306	21441545	0.027	81012761	193734162	5.02
					Total precip. (inches)		Total ET (inches)					Total Infiltr. (inches)		
					48.77		42.34					5.02		

Middle/Upper Canyon:

Period	From	To	No. of days	Conditions	Mid-Upper Canyon precip. vol. (ft^3)	ET/Precip. Fraction	Estimated ET Volume (ft^3)	Upper Station cum. flow (ft^3)	Excess Volume (ft^3)	Lower Station cum. flow (ft^3)	Ratio flow:precip.	Calculated Infiltration (ft^3)	Watershed Area (ft^2)	Calculated Infiltration (in.)
1	7/10/94	10/13/94	96	summer/fall rainstorms	45031868	0.77	34674539	1167785	11525115	0	0.000	11525115	88651634	1.56
2	10/14/94	10/17/94	4	heavy rain/snow + melting	23039454	0.06	1382367	59616	21716703	973728	0.042	20742975	88651634	2.81
3	10/18/94	11/10/94	24	dry	1780054	3.01	5357963	511488	-3066421	0	0.000	-3066421	88651634	-0.42
4	11/11/94	12/7/94	27	mod. snow/rain + melting	15501108	0.33	5115366	2382048	12767791	1103328	0.071	11664463	88651634	1.58
5	12/8/94	2/12/95	67	frozen + minor melting	5182247	1.20	6218697	9504	-1026945	0	0.000	-1026945	88651634	-0.14
6	2/13/95	6/30/95	138	snow melt + spring rains	53235875	0.73	38862189	16118784	30492470	11692512	0.220	18799958	88651634	2.54
7	7/1/95	8/3/95	34	relatively dry	8416102	2.11	17757975	237600	-9104273	260064	0.031	-9364337	88651634	-1.27
8	8/4/95	9/11/95	39	summer rainstorms	32260941	0.55	17743518	834624	15352048	268704	0.008	15083344	88651634	2.04
9	9/12/95	11/2/95	58	dry	3380998	3.92	13253514	120096	-9752419	0	0.000	-9752419	88651634	-1.32
		Totals:	487		187828649		140366127	21441545	68904067	14298336	0.076	54605731	88651634	7.39
					Total precip. (inches)		Total ET (inches)					Total Infiltr. (inches)		
					25.42		19.00					7.39		

Total Watershed:

Days	Total precip. vol. (ft^3)	Total precip. (inches)	Avg. Precip. in/day	Total ET vol. (ft^3)	Total ET (inches)		Est. Reservoir usage (ft^3)	Excess Volume (ft^3)	Avg. Ratio flow:precip.	Infiltration (ft^3)	Watershed Area (ft^2)	Avg. Infiltration (in.)
487	975226158	41.44	0.09	823972530	35.01		1336800	973889358	0.015	135618492	282385796	5.76
			Avg. Precip. in/year	Avg. ET in/day	Avg. ET in/year	ET % of total Precip.	Res. usage % of total Precip.	Lower Station cum. flow (ft^3)	Flow % of total Precip.	Infiltr. % of total Precip.	Avg. Infiltration (in/day)	Avg. Infiltration (in/yr)
			31.06	0.07	26.24	84.49	0.14	14298336	1.47	13.91	0.01	4.32

* Estimated cumulative flow from flow:precip. ratio.

** Assumed ratio is average ratio from periods 7-9.

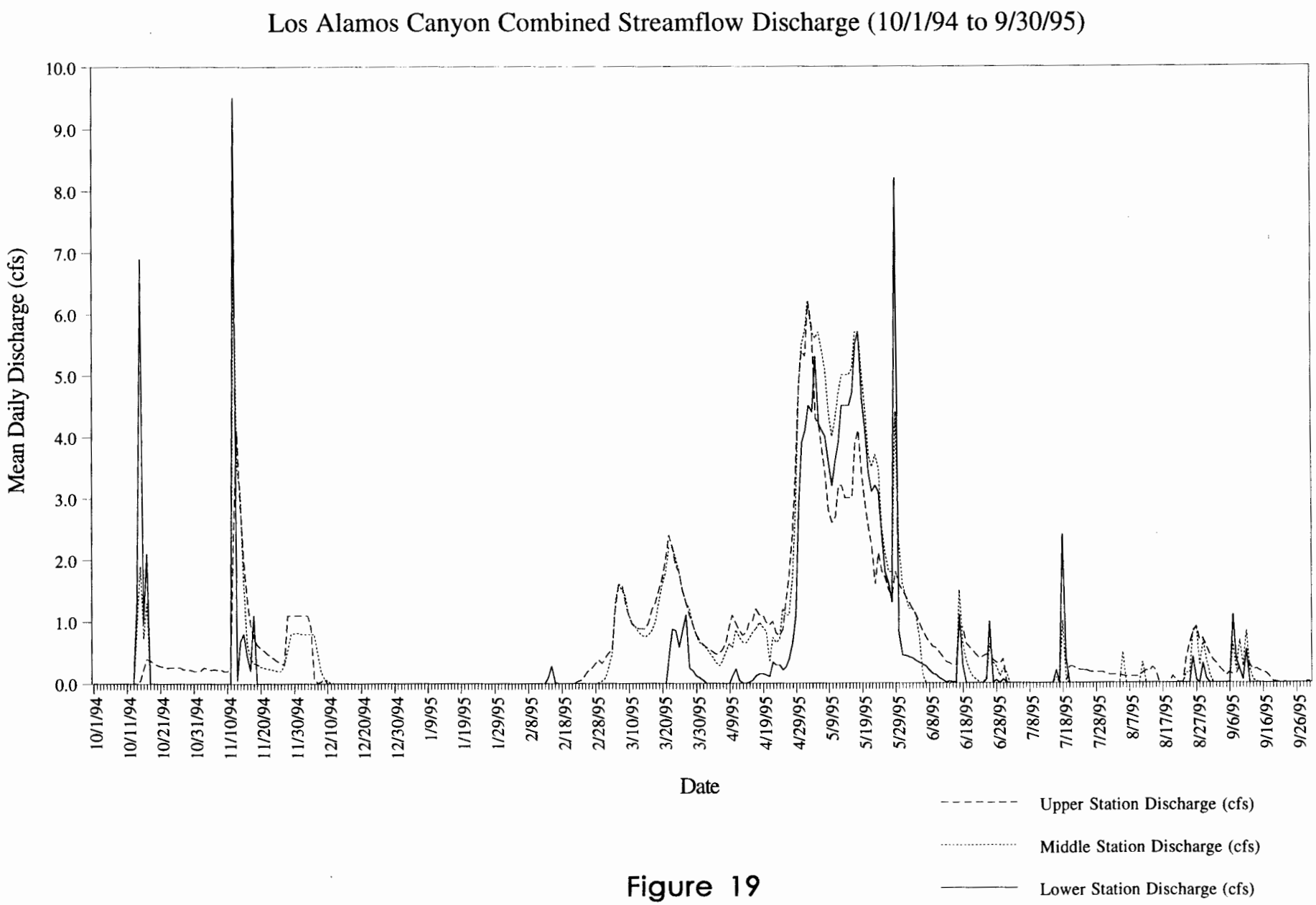

Los Alamos Canyon Combined Streamflow Discharge (10/1/94 to 9/30/95)
Mean Daily Discharge (cfs)
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
10/1/94
10/11/94
10/21/94
10/31/94
11/10/94
11/20/94
11/30/94
12/10/94
12/20/94
12/30/94
1/9/95
1/19/95
1/29/95
2/8/95
2/18/95
2/28/95
3/10/95
3/20/95
3/30/95
4/9/95
4/19/95
4/29/95
5/9/95
5/19/95
5/29/95
6/8/95
6/18/95
6/28/95
7/8/95
7/18/95
7/28/95
8/7/95
8/17/95
8/27/95
9/6/95
9/16/95
9/26/95
Date
Upper Station Discharge (cfs)
Middle Station Discharge (cfs)
Lower Station Discharge (cfs)

Figure 19

gaining behavior during the period when the main bulk of the snowmelt volume was discharged, likely due to the down-gradient migration of snowmelt induced recharge to the alluvium from the upper basin area. During the periods with lower flow levels prior to and following the peak runoff period, the data indicates that this reach exhibited a losing behavior. This pattern suggests that the alluvium was fully saturated in at least parts of the upper canyon area for about a month during the peak snowmelt runoff period.

The other notable variation is the occurrence of peak flow rates at the lower gage during several short term periods, i.e. 10/14/94-10/17/94, 11/12/94, 5/29/95, 6/26/95, 7/18/95-7/19/95, and 9/7/95-9/8/95. These periods correspond to major precipitation events (see Figure 11) and this pattern of behavior indicates that streamflow effects from the rapid and short-lived runoff from these events are primarily expressed in the middle canyon area (lower portion of study area). Wilcox, et al. (unpublished draft report), suggest that the cause for the elevated responses to precipitation events in the lower gage data is enhanced runoff from nearby urban development in DP Canyon.

Data was also obtained from a channel loss investigation (seepage run) conducted by USGS and LANL personnel on 5/3/95 during the peak runoff period. Streamflow measurements were taken at 16 sites (including the three permanent flow gages) approximately equally spaced along the stream, of which 15 were located within the study area. The first station was located at the western LANL boundary in the upper canyon area approximately 2600 feet west of the upper gage, and the station located furthest downstream in the study area was at the lower gage. The station locations were plotted on USGS 7½ minute topographic quadrangles and the intervening stream reach lengths were measured from these maps.

A spreadsheet for the channel loss calculations is shown in Table 5. As can be seen, negative flow losses occurred over much of the stream between the upper and middle gages, indicating gaining reaches as was interpreted from Figure 19 above. Average stream widths were determined for each reach from the bounding stations' data, which when multiplied times the reach lengths yielded estimates of the active flow streambed areas for each reach. Dividing the flow loss rates (L^3/T) by the streambed areas (L^2) yielded average infiltration rates for each reach in feet/second which were also converted to daily rates. These results are shown graphically in Figure 20. As can be seen, the gaining rates varied considerably with the largest rate of 10.2 feet/day occurring between stations 3 and 4.

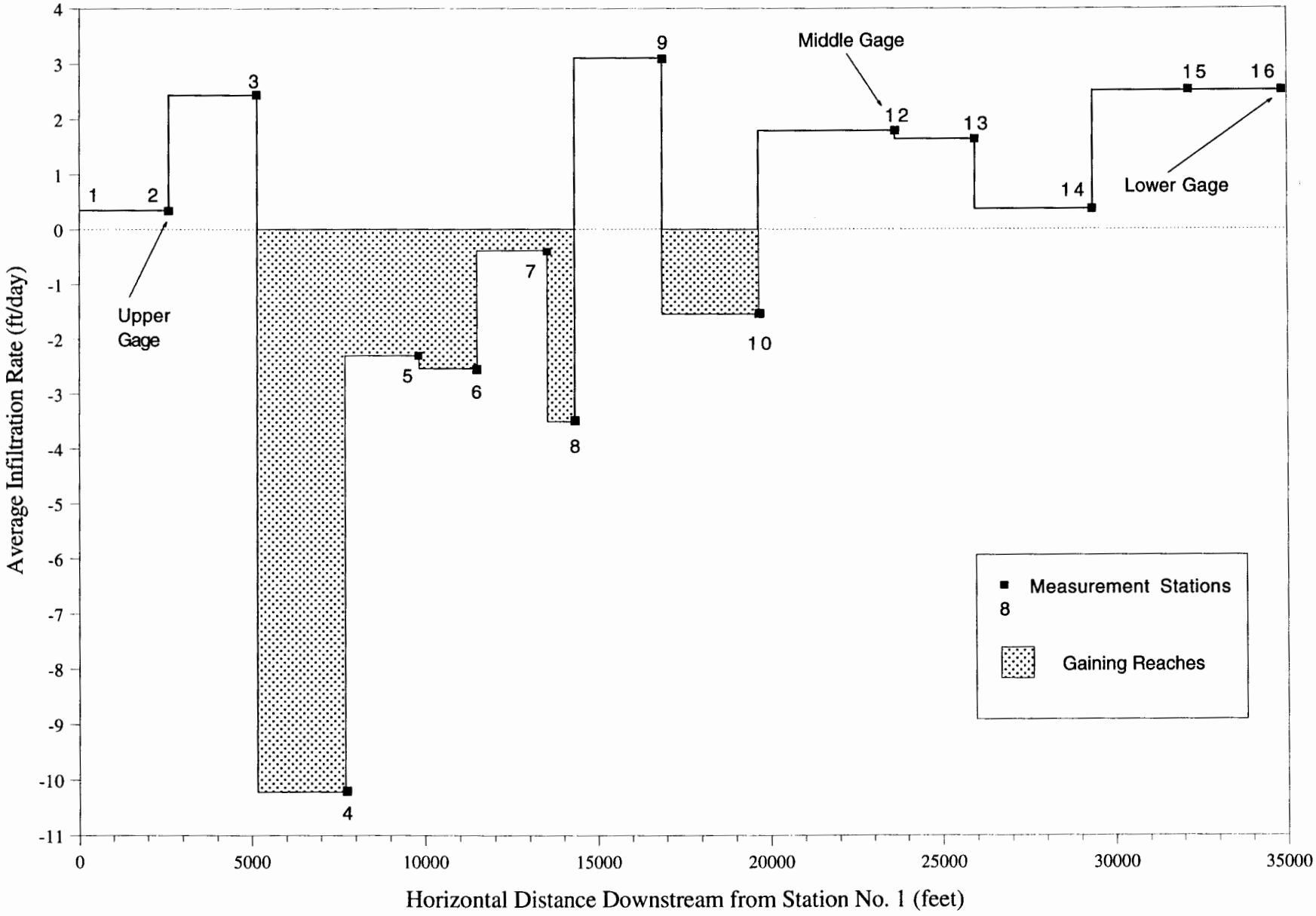
Table 5: Los Alamos Canyon Channel Loss Calculations (5/3/95)

Station No. From		Station No. To	Length of Reach (ft)	Width at "from" (ft)	Avg. Width of Reach (ft)	Active Flow Streambed Area (ft^2)	Flow Rate at "from" (cfs)	Loss* (cfs)	
1		2	2600	7.6	5.80	15080	5.57	0.06	
2	*	3	2550	4.0	3.75	9563	5.51	0.27	
3		4	2600	3.5	3.55	9230	5.24	-1.09	(gaining)
4		5	2100	3.6	3.75	7875	6.33	-0.21	(gaining)
5		6	1650	3.9	4.30	7095	6.54	-0.21	(gaining)
6		7	2050	4.7	4.40	9020	6.75	-0.04	(gaining)
7		8	800	4.1	5.25	4200	6.79	-0.17	(gaining)
8		9	2550	6.4	5.70	14535	6.96	0.52	
9		10	2800	5.0	6.60	18480	6.44	-0.33	(gaining)
10		12	3950	8.2	7.20	28440	6.77	0.59	
12	**	13	2300	6.2	7.55	17365	6.18	0.33	
13		14	3400	8.9	7.60	25840	5.85	0.11	
14		15	2800	6.3	5.85	16380	5.74	0.48	
15		16	2700	5.4	6.35	17145	5.26	0.50	
16	***			7.3			4.76		
		Total Length:	34850						
* Upper Gage									
** Middle Gage		Streambed area bet. upper and middle gages (ft^3):				108438			
*** Lower Gage		Streambed area bet. middle and lower gages (ft^3):				76730			

Station No. From		Station No. To	Average Infiltration Rate (ft/sec)	Average Infiltration Rate (ft/day)	Avg. Velocity at "from" (ft/s)	Avg. Velocity of Reach (ft/s)	Travel Time of Reach (secs)	Reach Loss (ft^3)	Avg. Reach Loss (ft)
1		2	3.98E-06	0.34	1.61	1.71	1520.5	91.2	0.01
2		3	2.82E-05	2.44	1.81	2.00	1275.0	344.2	0.04
3		4	-1.18E-04	-10.20	2.19	2.38	1094.7	-1193.3	-0.13
4		5	-2.67E-05	-2.30	2.56	2.26	929.2	-195.1	-0.02
5		6	-2.96E-05	-2.56	1.96	2.15	767.4	-161.2	-0.02
6		7	-4.43E-06	-0.38	2.34	2.43	845.4	-33.8	0.00
7		8	-4.05E-05	-3.50	2.51	2.38	336.1	-57.1	-0.01
8		9	3.58E-05	3.09	2.25	2.22	1148.6	597.3	0.04
9		10	-1.79E-05	-1.54	2.19	2.16	1296.3	-427.8	-0.02
10		12	2.07E-05	1.79	2.13	2.34	1688.0	995.9	0.04
12		13	1.90E-05	1.64	2.55	2.00	1150.0	379.5	0.02
13		14	4.26E-06	0.37	1.45	1.81	1883.7	207.2	0.01
14		15	2.93E-05	2.53	2.16	2.13	1317.6	632.5	0.04
15		16	2.92E-05	2.52	2.09	1.90	1421.1	710.5	0.04
16					1.71				

Figure 20

LA Canyon Seepage Run (5/3/95) Calculated Infiltration



Infiltration rates were less variable, generally between 1.5 and 2.5 feet/day, though two reaches (between stations 1 and 2 and between stations 13 and 14) exhibited low infiltration rates of less than 0.5 feet/day. The greatest infiltration rate was over 3 feet/day between stations 8 and 9. This reach is located just east of TA-2 and south of TA-21. Figure 4 indicates the presence of three buried faults in this zone, with several other buried faults having been identified further down the canyon (Dransfield and Gardner, 1985; Gardner and House, 1987), and their locations appear to approximately coincide with the other downstream reaches that showed significant infiltration rates (between stations 10 and 13 and between stations 14 and 16). Whether or not there is any influence from these buried faults on the infiltration behavior of the streambed remains questionable however, lacking more detailed data.

Average velocities were also determined for each station from the field data, which were then utilized to determine average velocities for each reach. Estimated travel times for each reach were determined by dividing the reach lengths (L) by the average velocities (L/T). Total reach loss volumes were then calculated by multiplying the reach loss rates (L^3/T) by the travel times (T) and the average loss depths for each reach were then determined by dividing the loss volumes (L^3) by the streambed areas (L^2). Making the assumption that the measurements were made simultaneously, the reach losses were mostly between .01 and .04 feet while the major gaining reach showed a net gain of 0.13 feet.

The relation between the total annual discharge volumes for the three streamflow gages was also analyzed (see Appendix G). Subtracting the middle gage volume from the upper gage volume and dividing by the streambed area as determined from the seepage run data yielded a net gain of 9.5 feet for the upper reach over the entire 1995 water year. Repeating the same procedure for the middle and lower gages showed a total infiltration loss of 91.4 feet for the lower reach over the entire year.

Finally the relation between streamflow discharge rates recorded at the upper gage, alluvial aquifer head fluctuations recorded in well LAO-3, and daily net non-frozen precipitation yield amounts from the Quemazon SNOTEL site were examined (Figure 21). Discharge data for the upper station prior to 10/1/94 are lacking. Nonetheless, a fairly clear correlation is seen between all three parameters. Flow peaks generally follow precipitation peaks and the pattern of variation in flow rates is strikingly similar to the variation in daily precipitation yields during the active flow periods

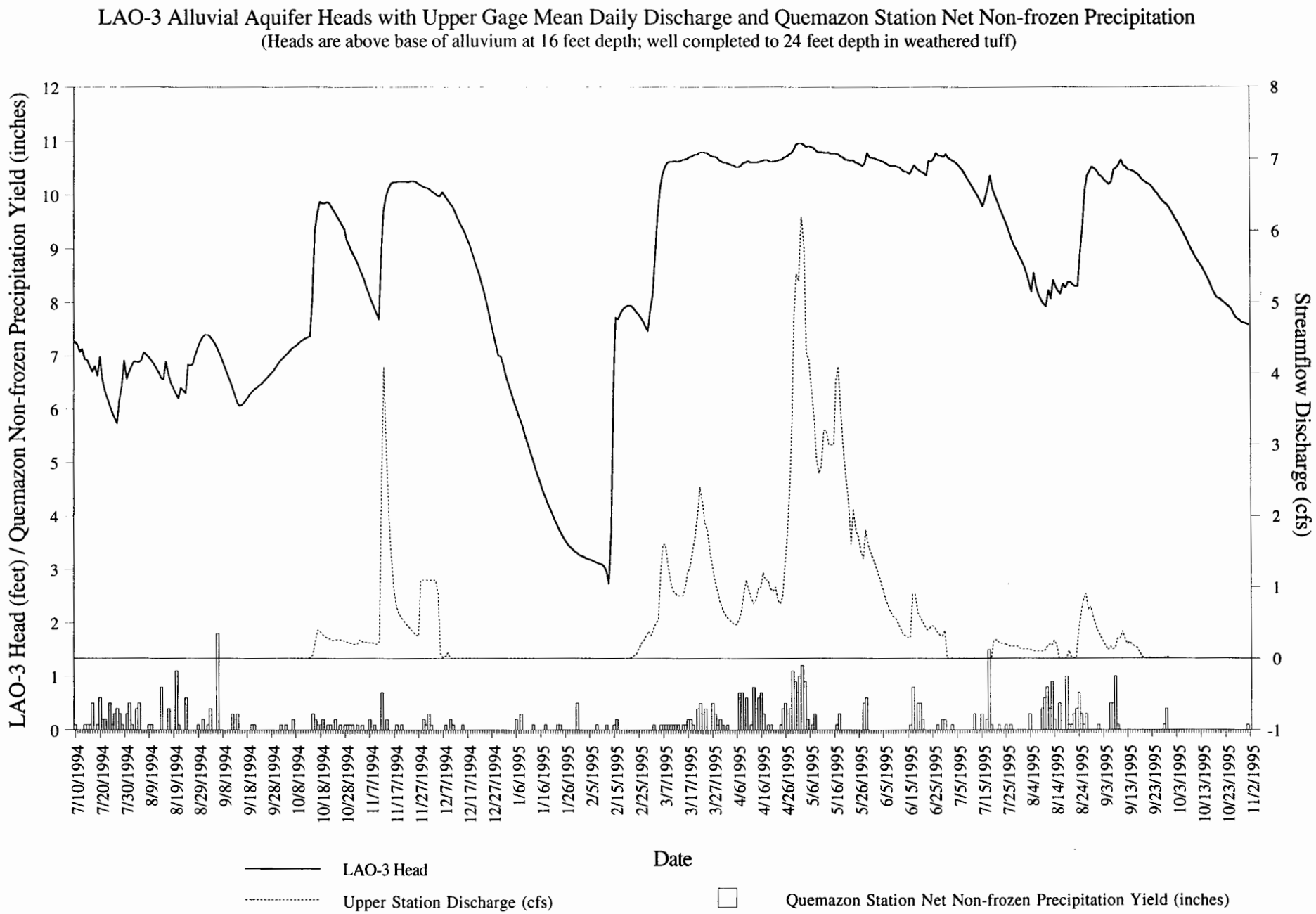

LAO-3 Alluvial Aquifer Heads with Upper Gage Mean Daily Discharge and Quemazon Station Net Non-frozen Precipitation
(Heads are above base of alluvium at 16 feet depth; well completed to 24 feet depth in weathered tuff)
LAO-3 Head (feet) / Quemazon Non-frozen Precipitation Yield (inches)
Streamflow Discharge (cfs)
Date
LAO-3 Head
Upper Station Discharge (cfs)
Quemazon Station Net Non-frozen Precipitation Yield (inches)

Figure 21

10/14/94-12/9/94 and 2/22/95-6/30/95. These periods both represent times when snowmelt releases occurred in the upper basin (see Appendix F). The correlation is not as strong during the active flow period 7/20/95-9/20/95 when runoff was strictly from rainfall. However, these data suggest that it may be possible to roughly reconstruct streamflow discharge patterns in the upper canyon area from net precipitation yield amounts determined from snowpack data for prior years before the upper streamflow gage was installed.

Also, periods of active recharge and steady state saturation conditions in the alluvium can be seen to correspond directly with periods of active streamflow. The obvious conclusion drawn from this relation is that the primary pathway for recharge to the alluvial aquifer in the middle canyon area near well LAO-3 is through streamflow infiltration as opposed to areal recharge.

Results and Conclusions:

The resulting precipitation, ET and net infiltration totals from the detailed water budget calculations are summarized by stress period and watershed area in Table 6. The individual period totals are also converted to daily and annual rates for each area. Examination of the calculated net infiltration rates shows reasonable patterns of behavior. The effect of ET in the dry periods (periods 3, 7 and 9) yielded negative values ranging from about -0.03 to -0.12 inches/day in the upper basin area, and between about -0.02 and -0.04 inches/day in the middle/upper canyon area. The highest infiltration rates occurred in response to the major precipitation event during period 2 (about 0.28 inches/day in the upper basin area and about 0.70 inches/day in the middle/upper canyon area) which totaled nearly 3 inches at the lower precipitation gauges and exceeded 4 inches at the Quemazon site over a period of 4 days, the most extreme event that occurred during the analyzed period. These high calculated infiltration rates are partly the result of the fact that period 2 was limited to this 4 day interval when the alluvial saturation levels in well LAO-3 showed a dramatic response to the effects of increased infiltration (see Figure 11), and it was desired to isolate these rates for the purpose of recreating such an aquifer response with numerical flow modeling exercises. Otherwise, the infiltration rates outside of the winter period were relatively consistent, ranging from about 0.03 to 0.10 inches/day for the upper basin area and between about 0.02 and 0.06 inches/day in the middle/upper canyon area. During the winter period (period 5), essentially zero infiltration was determined, with

Table 6: Los Alamos Canyon Detailed Water Budget Summary

Upper Basin:

Period	From	To	No. of days	Conditions	Precip. (in/period)	Precip. (in/day)	Precip. (in/year)	ET (in/period)	ET (in/day)	ET (in/year)	Net Infiltration (in/period)	Net Infiltration (in/day)	Net Infiltration (in/year)
1	7/10/94	10/13/94	96	summer/fall rainstorms	11.60	0.12	44.12	8.94	0.09	33.97	2.56	0.027	9.72
2	10/14/94	10/17/94	4	heavy rain/snow + melting	1.20	0.30	109.54	0.07	0.02	6.57	1.12	0.281	102.63
3	10/18/94	11/10/94	24	dry	1.37	0.06	20.77	4.11	0.17	62.52	-2.78	-0.116	-42.23
4	11/11/94	12/7/94	27	mod. snow/rain + melting	1.89	0.07	25.58	0.62	0.02	8.44	1.12	0.041	15.15
5	12/8/94	2/12/95	67	frozen + minor melting	1.78	0.03	9.68	2.13	0.03	11.62	-0.36	-0.005	-1.94
6	2/13/95	6/30/95	138	snow melt + spring rains	19.08	0.14	50.47	13.93	0.10	36.85	4.15	0.030	10.99
7	7/1/95	8/3/95	34	relatively dry	2.57	0.08	27.61	5.43	0.16	58.25	-2.89	-0.085	-31.03
8	8/4/95	9/11/95	39	summer rainstorms	8.68	0.22	81.24	4.77	0.12	44.68	3.83	0.098	35.88
9	9/12/95	11/2/95	58	dry	0.60	0.01	3.75	2.34	0.04	14.70	-1.75	-0.030	-11.00
		Totals:	487		48.77	0.10	36.55	42.34	0.09	31.74	5.02	0.010	3.76

Middle/Upper Canyon:

Period	From	To	No. of days	Conditions	Precip. (in/period)	Precip. (in/day)	Precip. (in/year)	ET (in/period)	ET (in/day)	ET (in/year)	Net Infiltration (in/period)	Net Infiltration (in/day)	Net Infiltration (in/year)
1	7/10/94	10/13/94	96	summer/fall rainstorms	6.10	0.06	23.18	4.69	0.05	17.85	1.56	0.016	5.93
2	10/14/94	10/17/94	4	heavy rain/snow + melting	3.12	0.78	284.58	0.19	0.05	17.07	2.81	0.702	256.21
3	10/18/94	11/10/94	24	dry	0.24	0.01	3.66	0.73	0.03	11.03	-0.42	-0.017	-6.31
4	11/11/94	12/7/94	27	mod. snow/rain + melting	2.10	0.08	28.37	0.69	0.03	9.36	1.58	0.058	21.34
5	12/8/94	2/12/95	67	frozen + minor melting	0.70	0.01	3.82	0.84	0.01	4.59	-0.14	-0.002	-0.76
6	2/13/95	6/30/95	138	snow melt + spring rains	7.21	0.05	19.06	5.26	0.04	13.91	2.54	0.018	6.73
7	7/1/95	8/3/95	34	relatively dry	1.14	0.03	12.23	2.40	0.07	25.80	-1.27	-0.037	-13.6[illegible]
8	8/4/95	9/11/95	39	summer rainstorms	4.37	0.11	40.87	2.40	0.06	22.48	2.04	0.052	19.11
9	9/12/95	11/2/95	58	dry	0.46	0.01	2.88	1.79	0.03	11.29	-1.32	-0.023	-8.31
		Totals:	487		25.42	0.05	19.06	19.00	0.04	14.24	7.39	0.015	5.54

rates of about -0.005 inches/day for the upper basin area and about -0.002 inches/day in the middle/upper canyon area.

The average annual precipitation rate for the upper basin area over the entire analyzed period was 36.55 inches/year, nearly double the 19.06 inches/year rate determined for the middle/upper canyon area. ET effects were also more pronounced in the upper basin area, totalling 31.74 inches/year and representing ~87% of total precipitation compared to 14.24 inches/year representing ~75% of total precipitation in the middle/upper canyon area. However, the calculated annual infiltration rate of 5.54 inches/year for the middle/upper canyon area was ~47% greater than the 3.76 inches/year infiltration rate determined for the upper basin area. Infiltration represented ~10.2% of total precipitation in the upper basin area but ~29.1% in the middle/upper canyon area.

For the entire watershed, precipitation averaged 31.06 inches/year over the analyzed period, while ET averaged 26.24 inches/year and the average infiltration rate was 4.32 inches/year. Out of the total precipitation volume determined for the entire watershed over the analyzed period, ET represented ~84.5%, infiltration represented ~13.9%, streamflow runoff represented ~1.5%, and estimated reservoir usage represented ~0.1% of the water budget (see Table 4).

Thus the detailed water budget calculations yielded somewhat higher overall ET and lower infiltration proportions than were determined in the annual budget calculations (see Table 2). However the differences are not significant taking into account that a 10% error margin must be considered for all of the precipitation data sources and that the error in determining ET is unquantified. Nevertheless, the results appear reasonable, and it thus seems clear that ET losses comprise the major component of the water budget for Los Alamos Canyon, while infiltration losses are nearly an order of magnitude less and streamflow runoff losses are almost 2 orders of magnitude less in significance.

Acknowledgments:

The author expresses gratitude to the following individuals for their assistance in the compilation of this report. Thanks to Steve McLin of the ESH-18 Hydrology group for providing piezometer water level data; to David Schaull of ESH-18 and to Phil Teeters of the U.S.G.S. Water Resources Division for providing streamflow discharge data; to David Rogers of ESH-18 for pointing out the need to recognize the importance of data accuracy and showing me Thomas Winter's work addressing this issue; to Bruce Gallaher of ESH-18 for reviewing the annual water budget calculations; to Greg Stone of the ESH-17 Meteorology group for information on evapotranspiration determination, site instrumentation, and for providing guidance for obtaining LANL meteorological data from the internet; to Dana Kuiper of the U.S. Department of Agriculture Natural Resources Conservation Service for providing access to precipitation and SNOTEL data from the Quemazon site; to Mike Gillespie of the U.S. Department of Agriculture Natural Resources Conservation Service's Snow Survey office for details on the Quemazon site instrumentation and insight into its data interpretation; and to David Sneesby of the FSS-8 Facilities and Infrastructure group for providing information regarding Los Alamos Reservoir.

References:

Bowen, Brent R., 1990, Los Alamos Climatology, Los Alamos National Laboratory report LA-11735-MS.

Broxten, David E., P.A. Longmire, P.G. Eller, and D. Flores, 1995, Preliminary Drilling Results for Boreholes LADP-3 and LADP-4, in: D.E. Broxten and P.G. Eller eds., Earth Science Investigations for Environmental Restoration-Los Alamos National Laboratory Technical Area 21, pp. 91-109.

Dransfield, B.J., and J. N. Gardner, 1985, Subsurface Geology of the Pajarito Plateau, Española Basin, New Mexico, Los Alamos National Laboratory Report LA-10455-MS.

Gardner, J.N., Fraser Goff, Sammy Garcia, and R.C. Hagan, 1986, Stratigraphic relations and lithologic variations in the Jemez volcanic field, New Mexico, Journal of Geophysical Research, v. 91, no. B2, p. 1763-1778.

Gardner, J.N., and L. House, 1987, Seismic Hazards Investigations at Los Alamos National Laboratory, 1984 to 1985, Los Alamos National Laboratory Report LA-11072-MS.

LANL (Los Alamos National Laboratory), 1995, Work Plan for 1049, Los Alamos National Laboratory report.

LANL Environmental Protection Group, 1992, Environmental Surveillance at Los Alamos annual report.

LANL (Los Alamos National Laboratory), 1990, Site Development Plan.

LANL (Los Alamos National Laboratory), 1987, Water Supply at Los Alamos During 1986, Los Alamos National Laboratory Report LA-11046.

Purtyman, W.D., 1995, Geologic and Hydrologic Records of Observation Wells, Test Holes, Test Wells, Supply Wells, Springs, and Surface Water Stations in the Los Alamos Area, Los Alamos National Laboratory Report LA-12883-MS, 339 p.

Viessman, Jr., Warren, Gary L. Lewis and John W. Knapp, 1989, *Introduction to Hydrology*, 3rd ed., Harper Collins, NY, NY, 779 p.

Wilcox, Bradford P., David W. Davenport, Shannon Smith, and John Ferris, Investigations of Surface Hydrology in Los Alamos Canyon, unpublished draft report, 12 p.

Winter, Thomas, C., 1981, Uncertainties in Estimating the Water Balance of Lakes, Water Resources Bulletin, v. 17, no. 1, American Water Resources Association, p. 82-115.

Young, Hugh, D., 1992, *University Physics*, 8th edition, Addison-Wesley Publishing Co., 1356 p.

Appendix A

TA-6 Station 10/92-11/95 Precipitation and ET Data

TA-6 Daily ET+ Precipitation 10-1-92 to 11-2-95

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
10/1/92	2.66	1.092	0.043	0.048	0.00
10/2/92	2.45	1.006	0.040	0.044	0.00
10/3/92	2.48	1.018	0.040	0.045	0.00
10/4/92	1.58	0.649	0.026	0.028	0.00
10/5/92	1.84	0.756	0.030	0.033	0.00
10/6/92	2.12	0.871	0.034	0.038	0.00
10/7/92	2.05	0.842	0.033	0.037	0.00
10/8/92	1.37	0.563	0.022	0.025	0.00
10/9/92	1.51	0.620	0.024	0.027	0.00
10/10/92	1.22	0.501	0.020	0.022	0.00
10/11/92	1.40	0.575	0.023	0.025	0.00
10/12/92	1.44	0.591	0.023	0.026	0.00
10/13/92	1.22	0.501	0.020	0.022	0.00
10/14/92	1.12	0.460	0.018	0.020	0.00
10/15/92	1.08	0.444	0.017	0.019	0.00
10/16/92	0.61	0.251	0.010	0.011	0.00
10/17/92	1.12	0.460	0.018	0.020	0.00
10/18/92	0.79	0.324	0.013	0.014	0.00
10/19/92	0.76	0.312	0.012	0.014	0.00
10/20/92	0.83	0.341	0.013	0.015	0.00
10/21/92	0.50	0.205	0.008	0.009	0.00
10/22/92	1.37	0.563	0.022	0.025	0.00
10/23/92	0.61	0.251	0.010	0.011	0.00
10/24/92	0.76	0.312	0.012	0.014	0.05
10/25/92	1.98	0.813	0.032	0.036	0.04
10/26/92	1.04	0.427	0.017	0.019	0.00
10/27/92	0.94	0.386	0.015	0.017	0.00
10/28/92	1.01	0.415	0.016	0.018	0.10
10/29/92	1.55	0.637	0.025	0.028	0.00
10/30/92	1.08	0.444	0.017	0.019	0.00
10/31/92	3.10	1.273	0.050	0.056	0.40
			10/92 Totals:	**0.78**	**0.59**
11/1/92	2.12	0.871	0.034	0.038	0.00
11/2/92	2.77	1.138	0.045	0.050	0.15
11/3/92	0.76	0.312	0.012	0.014	0.13
11/4/92	0.94	0.386	0.015	0.017	0.01
11/5/92	0.68	0.279	0.011	0.012	0.00
11/6/92	0.90	0.370	0.015	0.016	0.00
11/7/92	0.94	0.386	0.015	0.017	0.00
11/8/92	1.15	0.472	0.019	0.021	0.00
11/9/92	1.30	0.534	0.021	0.023	0.00
11/10/92	0.86	0.353	0.014	0.015	0.21
11/11/92					0.42
11/12/92	0.90	0.370	0.015	0.016	0.00
11/13/92	0.90	0.370	0.015	0.016	0.00
11/14/92	1.15	0.472	0.019	0.021	0.00
11/15/92	0.90	0.370	0.015	0.016	0.00
11/16/92	0.86	0.353	0.014	0.015	0.00
11/17/92	1.01	0.415	0.016	0.018	0.00
11/18/92	0.90	0.370	0.015	0.016	0.00
11/19/92	0.54	0.222	0.009	0.010	0.00
11/20/92	0.94	0.386	0.015	0.017	0.27
11/21/92	1.30	0.534	0.021	0.023	0.06
11/22/92	0.43	0.177	0.007	0.008	0.00
11/23/92	1.33	0.546	0.022	0.024	0.00
11/24/92	0.65	0.267	0.011	0.012	0.03
11/25/92	0.47	0.193	0.008	0.008	0.00
11/26/92	0.54	0.222	0.009	0.010	0.00
11/27/92	0.50	0.205	0.008	0.009	0.00
11/28/92	0.68	0.279	0.011	0.012	0.00
11/29/92	0.68	0.279	0.011	0.012	0.00
11/30/92	0.76	0.312	0.012	0.014	0.00
			11/92 totals:	**0.50**	**1.28**

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
10/1/93	2.56	1.051	0.041	0.046	0.00
10/2/93	2.59	1.064	0.042	0.047	0.00
10/3/93	1.80	0.739	0.029	0.032	0.00
10/4/93	1.94	0.797	0.031	0.035	0.00
10/5/93	2.02	0.830	0.033	0.036	0.00
10/6/93	1.98	0.813	0.032	0.036	0.00
10/7/93	3.38	1.388	0.055	0.061	0.14
10/8/93	1.73	0.710	0.028	0.031	0.00
10/9/93	1.66	0.682	0.027	0.030	0.00
10/10/93	1.66	0.682	0.027	0.030	0.00
10/11/93	1.40	0.575	0.023	0.025	0.00
10/12/93	1.51	0.620	0.024	0.027	0.00
10/13/93	1.40	0.575	0.023	0.025	0.00
10/14/93	1.40	0.575	0.023	0.025	0.03
10/15/93	2.09	0.858	0.034	0.038	0.00
10/16/93	1.15	0.472	0.019	0.021	0.02
10/17/93	3.49	1.433	0.056	0.063	0.06
10/18/93	1.44	0.591	0.023	0.026	0.00
10/19/93	1.33	0.546	0.022	0.024	0.08
10/20/93	2.02	0.830	0.033	0.036	0.00
10/21/93	1.15	0.472	0.019	0.021	0.00
10/22/93	1.01	0.415	0.016	0.018	0.00
10/23/93	0.86	0.353	0.014	0.015	0.00
10/24/93	1.08	0.444	0.017	0.019	0.00
10/25/93	0.90	0.370	0.015	0.016	0.00
10/26/93	0.68	0.279	0.011	0.012	0.04
10/27/93	1.37	0.563	0.022	0.025	0.00
10/28/93	0.90	0.370	0.015	0.016	0.00
10/29/93					0.22
10/30/93	0.94	0.386	0.015	0.017	0.00
10/31/93	1.15	0.472	0.019	0.021	0.00
			10/93 Totals:	**0.87**	**0.59**
11/1/93	0.94	0.386	0.015	0.017	0.00
11/2/93	1.01	0.415	0.016	0.018	0.00
11/3/93	1.04	0.427	0.017	0.019	0.00
11/4/93	0.90	0.370	0.015	0.016	0.00
11/5/93	0.76	0.312	0.012	0.014	0.00
11/6/93	0.47	0.193	0.008	0.008	0.00
11/7/93	0.43	0.177	0.007	0.008	0.00
11/8/93	0.47	0.193	0.008	0.008	0.00
11/9/93	0.54	0.222	0.009	0.010	0.00
11/10/93	0.58	0.238	0.009	0.010	0.00
11/11/93	0.65	0.267	0.011	0.012	0.54
11/12/93	2.16	0.887	0.035	0.039	0.00
11/13/93	0.94	0.386	0.015	0.017	0.56
11/14/93	0.36	0.148	0.006	0.006	0.06
11/15/93	0.68	0.279	0.011	0.012	0.03
11/16/93	0.54	0.222	0.009	0.010	0.00
11/17/93	1.26	0.517	0.020	0.023	0.00
11/18/93	1.30	0.534	0.021	0.023	0.00
11/19/93	0.97	0.398	0.016	0.017	0.00
11/20/93	0.79	0.324	0.013	0.014	0.00
11/21/93	0.94	0.386	0.015	0.017	0.00
11/22/93	0.58	0.238	0.009	0.010	0.00
11/23/93	1.91	0.784	0.031	0.034	0.25
11/24/93					0.00
11/25/93	1.80	0.739	0.029	0.032	0.00
11/26/93	0.72	0.296	0.012	0.013	0.00
11/27/93	0.65	0.267	0.011	0.012	0.00
11/28/93	0.76	0.312	0.012	0.014	0.00
11/29/93	0.65	0.267	0.011	0.012	0.00
11/30/93	0.50	0.205	0.008	0.009	0.00
			11/93 totals:	**0.45**	**1.44**

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
10/1/94	2.20	0.903	0.036	0.040	0.02
10/2/94	0.90	0.370	0.015	0.016	0.00
10/3/94	0.72	0.296	0.012	0.013	0.00
10/4/94	2.09	0.858	0.034	0.038	0.04
10/5/94	3.24	1.331	0.052	0.058	0.05
10/6/94	2.05	0.842	0.033	0.037	0.00
10/7/94	0.83	0.341	0.013	0.015	0.09
10/8/94	1.87	0.768	0.030	0.034	0.00
10/9/94	1.04	0.427	0.017	0.019	0.00
10/10/94	0.90	0.370	0.015	0.016	0.00
10/11/94	0.97	0.398	0.016	0.017	0.00
10/12/94	0.58	0.238	0.009	0.010	0.00
10/13/94	0.65	0.267	0.011	0.012	0.00
10/14/94	3.02	1.240	0.049	0.054	1.97
10/15/94	2.02	0.830	0.033	0.036	0.63
10/16/94	1.15	0.472	0.019	0.021	0.31
10/17/94	2.92	1.199	0.047	0.052	0.06
10/18/94	1.98	0.813	0.032	0.036	0.00
10/19/94	1.66	0.682	0.027	0.030	0.00
10/20/94	1.84	0.756	0.030	0.033	0.00
10/21/94	2.30	0.945	0.037	0.041	0.00
10/22/94	1.91	0.784	0.031	0.034	0.00
10/23/94	1.84	0.756	0.030	0.033	0.00
10/24/94	1.98	0.813	0.032	0.036	0.00
10/25/94	1.40	0.575	0.023	0.025	0.00
10/26/94	1.26	0.517	0.020	0.023	0.00
10/27/94	1.94	0.797	0.031	0.035	0.00
10/28/94	1.62	0.665	0.026	0.029	0.00
10/29/94	1.58	0.649	0.026	0.028	0.00
10/30/94	2.09	0.858	0.034	0.038	0.00
10/31/94	1.37	0.563	0.022	0.025	0.00
			10/94 Totals:	**0.93**	**3.17**
11/1/94	1.44	0.591	0.023	0.026	0.00
11/2/94	2.27	0.932	0.037	0.041	0.00
11/3/94	4.43	1.819	0.072	0.080	0.19
11/4/94	1.84	0.756	0.030	0.033	0.00
11/5/94	1.15	0.472	0.019	0.021	0.00
11/6/94	1.30	0.534	0.021	0.023	0.00
11/7/94	1.80	0.739	0.029	0.032	0.00
11/8/94	2.30	0.945	0.037	0.041	0.07
11/9/94	1.01	0.415	0.016	0.018	0.00
11/10/94	1.26	0.517	0.020	0.023	0.00
11/11/94	0.94	0.386	0.015	0.017	0.55
11/12/94	4.32	1.774	0.070	0.078	0.46
11/13/94	2.27	0.932	0.037	0.041	0.00
11/14/94	1.30	0.534	0.021	0.023	0.00
11/15/94	0.97	0.398	0.016	0.017	0.00
11/16/94	1.01	0.415	0.016	0.018	0.00
11/17/94	2.77	1.138	0.045	0.050	0.13
11/18/94	1.58	0.649	0.026	0.028	0.00
11/19/94	1.62	0.665	0.026	0.029	0.00
11/20/94	1.08	0.444	0.017	0.019	0.00
11/21/94	0.90	0.370	0.015	0.016	0.00
11/22/94	0.65	0.267	0.011	0.012	0.00
11/23/94	0.50	0.205	0.008	0.009	0.09
11/24/94	0.50	0.205	0.008	0.009	0.00
11/25/94	0.40	0.164	0.006	0.007	0.00
11/26/94	2.05	0.842	0.033	0.037	0.03
11/27/94	1.30	0.534	0.021	0.023	0.00
11/28/94	1.01	0.415	0.016	0.018	0.00
11/29/94	0.72	0.296	0.012	0.013	0.00
11/30/94	0.54	0.222	0.009	0.010	0.00
			11/94 totals:	**0.81**	**1.42**

TA-6 Daily ET+ Precipitation 10-1-92 to 11-2-95

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
12/1/92	0.76	0.312	0.012	0.014	0.00
12/2/92	0.94	0.386	0.015	0.017	0.00
12/3/92	0.79	0.324	0.013	0.014	0.00
12/4/92	0.86	0.353	0.014	0.015	0.43
12/5/92	0.76	0.312	0.012	0.014	0.24
12/6/92	0.32	0.131	0.005	0.006	0.00
12/7/92	0.04	0.016	0.001	0.001	0.00
12/8/92	0.36	0.148	0.006	0.006	0.05
12/9/92	0.14	0.057	0.002	0.003	0.00
12/10/92	0.22	0.090	0.004	0.004	0.00
12/11/92	0.18	0.074	0.003	0.003	0.00
12/12/92	0.32	0.131	0.005	0.006	0.12
12/13/92					0.27
12/14/92					0.00
12/15/92					0.00
12/16/92					0.02
12/17/92					0.00
12/18/92					0.01
12/19/92					0.00
12/20/92					0.00
12/21/92	1.58	0.649	0.026	0.028	0.00
12/22/92	4.07	1.671	0.066	0.073	0.00
12/23/92					0.00
12/24/92	0.11	0.045	0.002	0.002	0.00
12/25/92	0.47	0.193	0.008	0.008	0.00
12/26/92	0.14	0.057	0.002	0.003	0.00
12/27/92	0.11	0.045	0.002	0.002	0.00
12/28/92	0.54	0.222	0.009	0.010	0.49
12/29/92	0.04	0.016	0.001	0.001	0.06
12/30/92	1.12	0.460	0.018	0.020	0.00
12/31/92	0.61	0.251	0.010	0.011	0.00
			12/92 totals:	**0.26**	**1.69**
1/1/93	0.07	0.029	0.001	0.001	0.00
1/2/93	0.04	0.016	0.001	0.001	0.00
1/3/93	0.76	0.312	0.012	0.014	0.05
1/4/93	0.29	0.119	0.005	0.005	0.00
1/5/93	0.32	0.131	0.005	0.006	0.00
1/6/93	0.25	0.103	0.004	0.004	0.00
1/7/93	0.32	0.131	0.005	0.006	0.06
1/8/93					1.20
1/9/93	0.79	0.324	0.013	0.014	0.00
1/10/93	0.25	0.103	0.004	0.004	0.24
1/11/93	1.87	0.768	0.030	0.034	0.27
1/12/93	0.79	0.324	0.013	0.014	0.00
1/13/93	0.11	0.045	0.002	0.002	0.00
1/14/93	0.11	0.045	0.002	0.002	0.00
1/15/93	0.72	0.296	0.012	0.013	0.00
1/16/93	0.11	0.045	0.002	0.002	0.00
1/17/93					0.35
1/18/93	0.11	0.045	0.002	0.002	0.22
1/19/93	0.36	0.148	0.006	0.006	0.83
1/20/93	0.61	0.251	0.010	0.011	0.00
1/21/93	0.11	0.045	0.002	0.002	0.00
1/22/93	1.08	0.444	0.017	0.019	0.00
1/23/93	1.12	0.460	0.018	0.020	0.00
1/24/93	0.43	0.177	0.007	0.008	0.00
1/25/93	0.54	0.222	0.009	0.010	0.00
1/26/93					
1/27/93					
1/28/93					0.00
1/29/93	0.43	0.177	0.007	0.008	0.00
1/30/93	0.22	0.090	0.004	0.004	0.00
1/31/93	0.32	0.131	0.005	0.006	0.00
			1/93 totals:	**0.22**	**3.22**

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
12/1/93	0.58	0.238	0.009	0.010	0.00
12/2/93	0.65	0.267	0.011	0.012	0.00
12/3/93	0.61	0.251	0.010	0.011	0.00
12/4/93	0.40	0.164	0.006	0.007	0.00
12/5/93	0.47	0.193	0.008	0.008	0.00
12/6/93	0.65	0.267	0.011	0.012	0.00
12/7/93	0.40	0.164	0.006	0.007	0.00
12/8/93	0.50	0.205	0.008	0.009	0.00
12/9/93	0.47	0.193	0.008	0.008	0.00
12/10/93	0.32	0.131	0.005	0.006	0.00
12/11/93	0.43	0.177	0.007	0.008	0.00
12/12/93	2.74	1.125	0.044	0.049	0.19
12/13/93	0.68	0.279	0.011	0.012	0.00
12/14/93	0.65	0.267	0.011	0.012	0.00
12/15/93	0.72	0.296	0.012	0.013	0.00
12/16/93	0.72	0.296	0.012	0.013	0.00
12/17/93	0.40	0.164	0.006	0.007	0.00
12/18/93	0.36	0.148	0.006	0.006	0.00
12/19/93	0.43	0.177	0.007	0.008	0.02
12/20/93	0.68	0.279	0.011	0.012	0.00
12/21/93	0.50	0.205	0.008	0.009	0.00
12/22/93	0.61	0.251	0.010	0.011	0.00
12/23/93	0.54	0.222	0.009	0.010	0.00
12/24/93	0.61	0.251	0.010	0.011	0.00
12/25/93	0.40	0.164	0.006	0.007	0.00
12/26/93	0.25	0.103	0.004	0.004	0.00
12/27/93	0.50	0.205	0.008	0.009	0.00
12/28/93	0.36	0.148	0.006	0.006	0.00
12/29/93	0.36	0.148	0.006	0.006	0.00
12/30/93	0.29	0.119	0.005	0.005	0.00
12/31/93	0.36	0.148	0.006	0.006	0.00
			12/93 totals:	**0.32**	**0.21**
1/1/94	0.32	0.131	0.005	0.006	0.00
1/2/94	0.40	0.164	0.006	0.007	0.00
1/3/94	0.14	0.057	0.002	0.003	0.00
1/4/94	0.22	0.090	0.004	0.004	0.00
1/5/94	0.90	0.370	0.015	0.016	0.00
1/6/94	0.65	0.267	0.011	0.012	0.00
1/7/94	0.29	0.119	0.005	0.005	0.00
1/8/94	0.22	0.090	0.004	0.004	0.00
1/9/94	0.40	0.164	0.006	0.007	0.00
1/10/94	0.22	0.090	0.004	0.004	0.00
1/11/94	0.25	0.103	0.004	0.004	0.00
1/12/94	0.22	0.090	0.004	0.004	0.00
1/13/94	0.22	0.090	0.004	0.004	0.00
1/14/94	0.22	0.090	0.004	0.004	0.00
1/15/94	0.36	0.148	0.006	0.006	0.00
1/16/94	0.36	0.148	0.006	0.006	0.00
1/17/94	0.25	0.103	0.004	0.004	0.00
1/18/94	0.18	0.074	0.003	0.003	0.00
1/19/94	0.32	0.131	0.005	0.006	0.00
1/20/94	0.25	0.103	0.004	0.004	0.00
1/21/94	0.29	0.119	0.005	0.005	0.00
1/22/94	0.22	0.090	0.004	0.004	0.00
1/23/94	0.18	0.074	0.003	0.003	0.00
1/24/94	0.14	0.057	0.002	0.003	0.00
1/25/94	0.36	0.148	0.006	0.006	0.15
1/26/94	1.15	0.472	0.019	0.021	0.01
1/27/94	0.50	0.205	0.008	0.009	0.01
1/28/94					0.09
1/29/94	0.43	0.177	0.007	0.008	0.00
1/30/94	0.47	0.193	0.008	0.008	0.17
1/31/94	0.36	0.148	0.006	0.006	0.01
			1/94 totals:	**0.19**	**0.44**

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
12/1/94	0.54	0.222	0.009	0.010	0.00
12/2/94	0.54	0.222	0.009	0.010	0.00
12/3/94	0.61	0.251	0.010	0.011	0.00
12/4/94	0.43	0.177	0.007	0.008	0.00
12/5/94					0.21
12/6/94	1.19	0.489	0.019	0.021	0.25
12/7/94		0.000		0.000	0.01
12/8/94	1.87	0.768	0.030	0.034	0.00
12/9/94	1.04	0.427	0.017	0.019	0.00
12/10/94	1.15	0.472	0.019	0.021	0.00
12/11/94	1.33	0.546	0.022	0.024	0.00
12/12/94	0.32	0.131	0.005	0.006	0.00
12/13/94	0.25	0.103	0.004	0.004	0.00
12/14/94	1.22	0.501	0.020	0.022	0.01
12/15/94	0.76	0.312	0.012	0.014	0.00
12/16/94	0.65	0.267	0.011	0.012	0.00
12/17/94	0.68	0.279	0.011	0.012	0.00
12/18/94	0.50	0.205	0.008	0.009	0.00
12/19/94	0.68	0.279	0.011	0.012	0.00
12/20/94	0.65	0.267	0.011	0.012	0.00
12/21/94	0.76	0.312	0.012	0.014	0.00
12/22/94	0.72	0.296	0.012	0.013	0.00
12/23/94	0.72	0.296	0.012	0.013	0.00
12/24/94	0.40	0.164	0.006	0.007	0.00
12/25/94	0.36	0.148	0.006	0.006	0.00
12/26/94	0.47	0.193	0.008	0.008	0.00
12/27/94	0.61	0.251	0.010	0.011	0.00
12/28/94	0.50	0.205	0.008	0.009	0.00
12/29/94	0.40	0.164	0.006	0.007	0.00
12/30/94	0.36	0.148	0.006	0.006	0.23
12/31/94	0.72	0.296	0.012	0.013	0.00
			12/94 totals:	**0.37**	**0.71**
1/1/95	0.90	0.370	0.015	0.016	0.00
1/2/95	0.65	0.267	0.011	0.012	0.00
1/3/95	0.43	0.177	0.007	0.008	0.00
1/4/95	0.54	0.222	0.009	0.010	0.05
1/5/95					0.68
1/6/95	1.04	0.427	0.017	0.019	0.01
1/7/95	0.54	0.222	0.009	0.010	0.00
1/8/95	0.07	0.029	0.001	0.001	0.00
1/9/95	0.11	0.045	0.002	0.002	0.00
1/10/95	0.50	0.205	0.008	0.009	0.00
1/11/95	1.04	0.427	0.017	0.019	0.00
1/12/95	0.22	0.090	0.004	0.004	0.00
1/13/95	0.43	0.177	0.007	0.008	0.00
1/14/95	0.40	0.164	0.006	0.007	0.00
1/15/95	0.72	0.296	0.012	0.013	0.00
1/16/95	1.62	0.665	0.026	0.029	0.01
1/17/95	0.50	0.205	0.008	0.009	0.06
1/18/95	0 58	0.238	0.009	0.010	0.00
1/19/95	0.54	0.222	0.009	0.010	0.00
1/20/95	0.79	0.324	0.013	0.014	0.00
1/21/95	0.47	0.193	0.008	0.008	0.18
1/22/95	0.50	0.205	0.008	0.009	0.00
1/23/95	0.54	0.222	0.009	0.010	0.00
1/24/95	0.36	0.148	0.006	0.006	0.00
1/25/95	0.61	0.251	0.010	0.011	0.00
1/26/95	0.90	0.370	0.015	0.016	0.04
1/27/95	1.40	0.575	0.023	0.025	0.01
1/28/95	0.72	0.296	0.012	0.013	0.00
1/29/95	0.29	0.119	0.005	0.005	0.30
1/30/95	0.76	0.312	0.012	0.014	0.00
1/31/95	0.61	0.251	0.010	0.011	0.00
			1/95 totals:	**0.34**	**1.34**

TA-6 Daily ET+ Precipitation 10-1-92 to 11-2-95

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)	Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)	Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
2/1/93	1.69	0.694	0.027	0.030	0.11	2/1/94	0.43	0.177	0.007	0.008	0.00	2/1/95	0.79	0.324	0.013	0.014	0.00
2/2/93	0.25	0.103	0.004	0.004	0.00	2/2/94	0.32	0.131	0.005	0.006	0.00	2/2/95	1.30	0.534	0.021	0.023	0.00
2/3/93	0.50	0.205	0.008	0.009	0.00	2/3/94	0.54	0.222	0.009	0.010	0.00	2/3/95	1.73	0.710	0.028	0.031	0.00
2/4/93	0.54	0.222	0.009	0.010	0.12	2/4/94	0.68	0.279	0.011	0.012	0.02	2/4/95	1.30	0.534	0.021	0.023	0.00
2/5/93	0.14	0.057	0.002	0.003	0.00	2/5/94	0.58	0.238	0.009	0.010	0.02	2/5/95	1.33	0.546	0.022	0.024	0.00
2/6/93	0.32	0.131	0.005	0.006	0.00	2/6/94	0.40	0.164	0.006	0.007	0.00	2/6/95	1.58	0.649	0.026	0.028	0.00
2/7/93	0.40	0.164	0.006	0.007	0.00	2/7/94	0.65	0.267	0.011	0.012	0.02	2/7/95	1.76	0.723	0.028	0.032	0.00
2/8/93	0.36	0.148	0.006	0.006	0.06	2/8/94	1.37	0.563	0.022	0.025	0.23	2/8/95	1.12	0.460	0.018	0.020	0.00
2/9/93					0.26	2/9/94	0.76	0.312	0.012	0.014	0.00	2/9/95	2.12	0.871	0.034	0.038	0.00
2/10/93	1.33	0.546	0.022	0.024	0.00	2/10/94	0.72	0.296	0.012	0.013	0.00	2/10/95	1.51	0.620	0.024	0.027	0.00
2/11/93	1.01	0.415	0.016	0.018	0.00	2/11/94	1.30	0.534	0.021	0.023	0.00	2/11/95	1.22	0.501	0.020	0.022	0.03
2/12/93	0.65	0.267	0.011	0.012	0.00	2/12/94	0.54	0.222	0.009	0.010	0.00	2/12/95	2.23	0.916	0.036	0.040	0.00
2/13/93	0.54	0.222	0.009	0.010	0.00	2/13/94	0.54	0.222	0.009	0.010	0.00	2/13/95	1.62	0.665	0.026	0.029	0.38
2/14/93	0.18	0.074	0.003	0.003	0.53	2/14/94	0.58	0.238	0.009	0.010	0.00	2/14/95	4.36	1.791	0.070	0.078	0.13
2/15/93	0.97	0.398	0.016	0.017	0.19	2/15/94	1.33	0.546	0.022	0.024	0.00	2/15/95	1.69	0.694	0.027	0.030	0.18
2/16/93	2.20	0.903	0.036	0.040	0.02	2/16/94	1.01	0.415	0.016	0.018	0.00	2/16/95	2.66	1.092	0.043	0.048	0.00
2/17/93	1.01	0.415	0.016	0.018	0.00	2/17/94	0.94	0.386	0.015	0.017	0.00	2/17/95	1.80	0.739	0.029	0.032	0.00
2/18/93	0.50	0.205	0.008	0.009	0.00	2/18/94	3.42	1.404	0.055	0.061	0.22	2/18/95	2.12	0.871	0.034	0.038	0.00
2/19/93	0.83	0.341	0.013	0.015	0.24	2/19/94	2.05	0.842	0.033	0.037	0.08	2/19/95	1.55	0.637	0.025	0.028	0.00
2/20/93	3.17	1.302	0.051	0.057	0.03	2/20/94	1.55	0.637	0.025	0.028	0.00	2/20/95	2.30	0.945	0.037	0.041	0.00
2/21/93	1.66	0.682	0.027	0.030	0.01	2/21/94	1.08	0.444	0.017	0.019	0.00	2/21/95	1.91	0.784	0.031	0.034	0.00
2/22/93	1.08	0.444	0.017	0.019	0.00	2/22/94	2.05	0.842	0.033	0.037	0.05	2/22/95	1.94	0.797	0.031	0.035	0.00
2/23/93	1.37	0.563	0.022	0.025	0.00	2/23/94	1.55	0.637	0.025	0.028	0.00	2/23/95	2.20	0.903	0.036	0.040	0.00
2/24/93	1.30	0.534	0.021	0.023	0.13	2/24/94	1.37	0.563	0.022	0.025	0.00	2/24/95	2.20	0.903	0.036	0.040	0.00
2/25/93	0.86	0.353	0.014	0.015	0.00	2/25/94	1.51	0.620	0.024	0.027	0.00	2/25/95	1.37	0.563	0.022	0.025	0.00
2/26/93	0.86	0.353	0.014	0.015	0.00	2/26/94	1.44	0.591	0.023	0.026	0.00	2/26/95	1.33	0.546	0.022	0.024	0.00
2/27/93	0.83	0.341	0.013	0.015	0.01	2/27/94	2.16	0.887	0.035	0.039	0.00	2/27/95	1.87	0.768	0.030	0.034	0.00
2/28/93	0.36	0.148	0.006	0.006	0.41	2/28/94	0.50	0.205	0.008	0.009	0.05	2/28/95					0.29
			2/93 totals:	**0.45**	**2.12**				2/94 totals:	**0.56**	**0.69**				2/95 totals:	**0.88**	**1.01**
3/1/93	0.32	0.131	0.005	0.006	0.20	3/1/94	1.84	0.756	0.030	0.033	0.00	3/1/95					0.22
3/2/93	0.61	0.251	0.010	0.011	0.00	3/2/94	1.48	0.608	0.024	0.027	0.00	3/2/95	0.04	0.016	0.001	0.001	0.15
3/3/93	0.58	0.238	0.009	0.010	0.00	3/3/94	1.40	0.575	0.023	0.025	0.00	3/3/95	1.37	0.563	0.022	0.025	0.13
3/4/93	0.76	0.312	0.012	0.014	0.00	3/4/94	1.48	0.608	0.024	0.027	0.00	3/4/95	1.91	0.784	0.031	0.034	0.08
3/5/93	0.65	0.267	0.011	0.012	0.00	3/5/94	1.69	0.694	0.027	0.030	0.00	3/5/95	1.15	0.472	0.019	0.021	0.10
3/6/93	0.72	0.296	0.012	0.013	0.00	3/6/94	1.66	0.682	0.027	0.030	0.00	3/6/95	1.66	0.682	0.027	0.030	0.13
3/7/93	0.50	0.205	0.008	0.009	0.00	3/7/94	1.12	0.460	0.018	0.020	0.34	3/7/95	1.80	0.739	0.029	0.032	0.00
3/8/93	0.54	0.222	0.009	0.010	0.00	3/8/94	1.58	0.649	0.026	0.028	0.03	3/8/95					0.00
3/9/93	0.83	0.341	0.013	0.015	0.00	3/9/94	1.12	0.460	0.018	0.020	0.07	3/9/95	2.66	1.092	0.043	0.048	0.00
3/10/93	0.58	0.238	0.009	0.010	0.00	3/10/94	1.87	0.768	0.030	0.034	0.00	3/10/95	2.99	1.228	0.048	0.054	0.00
3/11/93					0.09	3/11/94	1.94	0.797	0.031	0.035	0.01	3/11/95	2.38	0.977	0.038	0.043	0.00
3/12/93	1.94	0.797	0.031	0.035	0.00	3/12/94	0.25	0.103	0.004	0.004	0.48	3/12/95	3.28	1.347	0.053	0.059	0.00
3/13/93	1.62	0.665	0.026	0.029	0.00	3/13/94	1.66	0.682	0.027	0.030	0.00	3/13/95	2.81	1.154	0.045	0.050	0.00
3/14/93	1.19	0.489	0.019	0.021	0.00	3/14/94	2.48	1.018	0.040	0.045	0.00	3/14/95	2.66	1.092	0.043	0.048	0.00
3/15/93					0.00	3/15/94	2.77	1.138	0.045	0.050	0.00	3/15/95	2.66	1.092	0.043	0.048	0.00
3/16/93	1.73	0.710	0.028	0.031	0.00	3/16/94	2.52	1.035	0.041	0.045	0.00	3/16/95	1.80	0.739	0.029	0.032	0.00
3/17/93	2.09	0.858	0.034	0.038	0.00	3/17/94	2.63	1.080	0.043	0.047	0.00	3/17/95	2.23	0.916	0.036	0.040	0.00
3/18/93	1.66	0.682	0.027	0.030	0.00	3/18/94	2.41	0.990	0.039	0.043	0.00	3/18/95	2.20	0.903	0.036	0.040	0.00
3/19/93	2.38	0.977	0.038	0.043	0.00	3/19/94	2.20	0.903	0.036	0.040	0.06	3/19/95	2.92	1.199	0.047	0.052	0.00
3/20/93	2.16	0.887	0.035	0.039	0.00	3/20/94	3.13	1.285	0.051	0.056	0.01	3/20/95					0.00
3/21/93	2.88	1.183	0.047	0.052	0.00	3/21/94	2.41	0.990	0.039	0.043	0.00	3/21/95					0.00
3/22/93	2.20	0.903	0.036	0.040	0.00	3/22/94	2.16	0.887	0.035	0.039	0.00	3/22/95	3.20	1.314	0.052	0.057	
3/23/93	3.53	1.450	0.057	0.063	0.00	3/23/94	2.09	0.858	0.034	0.038	0.00	3/23/95					0.00
3/24/93	3.24	1.331	0.052	0.058	0.00	3/24/94	1.37	0.563	0.022	0.025	0.13	3/24/95	2.52	1.035	0.041	0.045	0.00
3/25/93	3.06	1.257	0.049	0.055	0.00	3/25/94	3.67	1.507	0.059	0.066	0.01	3/25/95	1.84	0.756	0.030	0.033	0.00
3/26/93	2.41	0.990	0.039	0.043	0.21	3/26/94	1.98	0.813	0.032	0.036	0.06	3/26/95	1.73	0.710	0.028	0.031	0.00
3/27/93	4.61	1.893	0.075	0.083	0.40	3/27/94	1.37	0.563	0.022	0.025	0.80	3/27/95	2.12	0.871	0.034	0.038	0.00
3/28/93	3.20	1.314	0.052	0.057	0.00	3/28/94	0.72	0.296	0.012	0.013	0.05	3/28/95	1.30	0.534	0.021	0.023	0.15
3/29/93	0.61	0.251	0.010	0.011	0.30	3/29/94	1.66	0.682	0.027	0.030	0.00	3/29/95	0.97	0.398	0.016	0.017	0.06
3/30/93	2.95	1.211	0.048	0.053	0.00	3/30/94	2.59	1.064	0.042	0.047	0.00	3/30/95	2.16	0.887	0.035	0.039	0.09
3/31/93	2.34	0.961	0.038	0.042	0.00	3/31/94	3.38	1.388	0.055	0.061	0.00	3/31/95	3.78	1.552	0.061	0.068	0.00
			3/93 totals:	**0.93**	**1.20**				3/94 totals:	**1.09**	**2.05**				3/95 totals:	**1.01**	**1.11**

TA-6 Daily ET+ Precipitation 10-1-92 to 11-2-95

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)	Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)	Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
4/1/93					0.00	4/1/94	3.28	1.347	0.053	0.059	0.00	4/1/95	2.92	1.199	0.047	0.052	0.00
4/2/93	3.82	1.569	0.062	0.069	0.00	4/2/94	2.88	1.183	0.047	0.052	0.00	4/2/95	1.30	0.534	0.021	0.023	0.03
4/3/93	2.23	0.916	0.036	0.040	0.00	4/3/94	2.74	1.125	0.044	0.049	0.00	4/3/95	2.52	1.035	0.041	0.045	0.00
4/4/93	2.66	1.092	0.043	0.048	0.00	4/4/94	2.66	1.092	0.043	0.048	0.00	4/4/95	2.41	0.990	0.039	0.043	0.00
4/5/93	3.10	1.273	0.050	0.056	0.00	4/5/94	1.48	0.608	0.024	0.027	0.01	4/5/95	2.81	1.154	0.045	0.050	0.00
4/6/93	3.46	1.421	0.056	0.062	0.05	4/6/94	2.63	1.080	0.043	0.047	0.00	4/6/95	2.59	1.064	0.042	0.047	0.00
4/7/93	2.59	1.064	0.042	0.047	0.00	4/7/94	2.81	1.154	0.045	0.050	0.00	4/7/95	3.24	1.331	0.052	0.058	0.00
4/8/93	3.20	1.314	0.052	0.057	0.00	4/8/94	1.58	0.649	0.026	0.028	0.09	4/8/95	2.70	1.109	0.044	0.049	0.00
4/9/93	2.95	1.211	0.048	0.053	0.00	4/9/94	3.67	1.507	0.059	0.066	0.13	4/9/95	1.44	0.591	0.023	0.026	0.00
4/10/93	3.06	1.257	0.049	0.055	0.00	4/10/94	1.12	0.460	0.018	0.020	0.54	4/10/95	2.45	1.006	0.040	0.044	0.39
4/11/93	3.28	1.347	0.053	0.059	0.00	4/11/94	0.61	0.251	0.010	0.011	0.25	4/11/95	4.46	1.832	0.072	0.080	0.05
4/12/93	3.13	1.285	0.051	0.056	0.00	4/12/94	4.39	1.803	0.071	0.079	0.00	4/12/95					0.00
4/13/93	3.02	1.240	0.049	0.054	0.00	4/13/94	4.14	1.700	0.067	0.074	0.00	4/13/95	3.38	1.388	0.055	0.061	0.00
4/14/93	1.87	0.768	0.030	0.034	0.00	4/14/94	4.36	1.791	0.070	0.078	0.00	4/14/95	3.35	1.376	0.054	0.060	0.00
4/15/93	2.30	0.945	0.037	0.041	0.00	4/15/94	2.92	1.199	0.047	0.052	0.00	4/15/95	2.77	1.138	0.045	0.050	0.00
4/16/93	1.73	0.710	0.028	0.031	0.00	4/16/94	3.31	1.359	0.054	0.059	0.00	4/16/95	2.70	1.109	0.044	0.049	0.00
4/17/93	2.16	0.887	0.035	0.039	0.00	4/17/94	3.06	1.257	0.049	0.055	0.00	4/17/95	4.18	1.717	0.068	0.075	0.04
4/18/93	2.48	1.018	0.040	0.045	0.00	4/18/94	2.45	1.006	0.040	0.044	0.00	4/18/95	3.42	1.404	0.055	0.061	0.00
4/19/93	3.02	1.240	0.049	0.054	0.00	4/19/94	2.45	1.006	0.040	0.044	0.00	4/19/95	3.56	1.462	0.058	0.064	0.07
4/20/93	2.59	1.064	0.042	0.047	0.00	4/20/94	2.70	1.109	0.044	0.049	0.00	4/20/95	2.56	1.051	0.041	0.046	0.03
4/21/93	1.87	0.768	0.030	0.034	0.00	4/21/94	2.27	0.932	0.037	0.041	0.00	4/21/95	3.20	1.314	0.052	0.057	0.07
4/22/93	2.95	1.211	0.048	0.053	0.00	4/22/94	2.45	1.006	0.040	0.044	0.00	4/22/95					1.02
4/23/93	2.70	1.109	0.044	0.049	0.00	4/23/94	3.42	1.404	0.055	0.061	0.06	4/23/95	0.86	0.353	0.014	0.015	0.12
4/24/93	2.16	0.887	0.035	0.039	0.00	4/24/94	3.92	1.610	0.063	0.070	0.00	4/24/95	3.10	1.273	0.050	0.056	0.00
4/25/93	2.27	0.932	0.037	0.041	0.00	4/25/94	2.23	0.916	0.036	0.040	0.00	4/25/95	5.72	2.349	0.092	0.103	0.00
4/26/93	2.30	0.945	0.037	0.041	0.00	4/26/94	1.80	0.739	0.029	0.032	0.00	4/26/95	5.90	2.423	0.095	0.106	0.00
4/27/93	2.38	0.977	0.038	0.043	0.00	4/27/94	1.91	0.784	0.031	0.034	0.13	4/27/95	3.17	1.302	0.051	0.057	0.00
4/28/93					0.00	4/28/94	3.35	1.376	0.054	0.060	0.00	4/28/95	4.50	1.848	0.073	0.081	0.00
4/29/93	1.73	0.710	0.028	0.031	0.00	4/29/94	2.12	0.871	0.034	0.038	0.45	4/29/95	4.43	1.819	0.072	0.080	0.00
4/30/93	2.92	1.199	0.047	0.052	0.00	4/30/94	4.82	1.979	0.078	0.087	0.00	4/30/95	3.20	1.314	0.052	0.057	0.00
			4/93 totals:	**1.33**	**0.05**				4/94 totals:	**1.50**	**1.66**				4/95 totals:	**1.60**	**1.82**
5/1/93	2.59	1.064	0.042	0.047	0.24	5/1/94	2.88	1.183	0.047	0.052	0.00	5/1/95	3.06	1.257	0.049	0.055	0.00
5/2/93	3.71	1.524	0.060	0.067	0.00	5/2/94	2.23	0.916	0.036	0.040	0.00	5/2/95	5.18	2.127	0.084	0.093	0.01
5/3/93	2.95	1.211	0.048	0.053	0.00	5/3/94	2.48	1.018	0.040	0.045	0.00	5/3/95	2.99	1.228	0.048	0.054	0.00
5/4/93	3.13	1.285	0.051	0.056	0.00	5/4/94	2.92	1.199	0.047	0.052	0.00	5/4/95	2.52	1.035	0.041	0.045	0.00
5/5/93	2.88	1.183	0.047	0.052	0.03	5/5/94	3.17	1.302	0.051	0.057	0.00	5/5/95	5.72	2.349	0.092	0.103	0.47
5/6/93	3.49	1.433	0.056	0.063	0.00	5/6/94	2.95	1.211	0.048	0.053	0.00	5/6/95	6.30	2.587	0.102	0.113	0.00
5/7/93	3.02	1.240	0.049	0.054	0.08	5/7/94	1.62	0.665	0.026	0.029	0.00	5/7/95	3.89	1.598	0.063	0.070	0.10
5/8/93	2.88	1.183	0.047	0.052	0.00	5/8/94	2.88	1.183	0.047	0.052	0.00	5/8/95	4.90	2.012	0.079	0.088	0.04
5/9/93	2.59	1.064	0.042	0.047	0.00	5/9/94	2.27	0.932	0.037	0.041	0.00	5/9/95	4.57	1.877	0.074	0.082	0.00
5/10/93	3.13	1.285	0.051	0.056	0.00	5/10/94	1.87	0.768	0.030	0.034	0.56	5/10/95	3.02	1.240	0.049	0.054	0.11
5/11/93	3.35	1.376	0.054	0.060	0.00	5/11/94	3.67	1.507	0.059	0.066	0.21	5/11/95	5.15	2.115	0.083	0.093	0.01
5/12/93	2.48	1.018	0.040	0.045	0.00	5/12/94	3.24	1.331	0.052	0.058	0.01	5/12/95	4.57	1.877	0.074	0.082	0.00
5/13/93	3.74	1.536	0.060	0.067	0.19	5/13/94	3.28	1.347	0.053	0.059	0.12	5/13/95	3.89	1.598	0.063	0.070	0.00
5/14/93	4.14	1.700	0.067	0.074	0.00	5/14/94	4.54	1.864	0.073	0.082	0.17	5/14/95	3.38	1.388	0.055	0.061	0.00
5/15/93					0.29	5/15/94	5.33	2.189	0.086	0.096	0.24	5/15/95	4.14	1.700	0.067	0.074	0.00
5/16/93	5.54	2.275	0.090	0.100	0.01	5/16/94	5.83	2.394	0.094	0.105	0.00	5/16/95	3.92	1.610	0.063	0.070	0.00
5/17/93	2.92	1.199	0.047	0.052	0.00	5/17/94	5.26	2.160	0.085	0.094	0.00	5/17/95	1.69	0.694	0.027	0.030	0.00
5/18/93	3.46	1.421	0.056	0.062	0.07	5/18/94	3.31	1.359	0.054	0.059	0.00	5/18/95	3.20	1.314	0.052	0.057	0.31
5/19/93	3.20	1.314	0.052	0.057	0.00	5/19/94	3.13	1.285	0.051	0.056	0.00	5/19/95	4.00	1.643	0.065	0.072	0.00
5/20/93					0.05	5/20/94					0.00	5/20/95	4.54	1.864	0.073	0.082	0.00
5/21/93						5/21/94	3.64	1.495	0.059	0.065	0.00	5/21/95	3.67	1.507	0.059	0.066	0.00
5/22/93						5/22/94	2.99	1.228	0.048	0.054	0.01	5/22/95					0.00
5/23/93					0.00	5/23/94	4.03	1.655	0.065	0.072	0.01	5/23/95	2.81	1.154	0.045	0.050	0.00
5/24/93	3.67	1.507	0.059	0.066	0.01	5/24/94	3.28	1.347	0.053	0.059	0.00	5/24/95					0.16
5/25/93	3.10	1.273	0.050	0.056	0.00	5/25/94	3.28	1.347	0.053	0.059	0.83	5/25/95					0.00
5/26/93	3.06	1.257	0.049	0.055	0.00	5/26/94	2.99	1.228	0.048	0.054	0.24	5/26/95	3.02	1.240	0.049	0.054	0.00
5/27/93	3.64	1.495	0.059	0.065	0.00	5/27/94	5.18	2.127	0.084	0.093	0.14	5/27/95	3.42	1.404	0.055	0.061	0.00
5/28/93	3.49	1.433	0.056	0.063	0.01	5/28/94	5.76	2.365	0.093	0.103	0.00	5/28/95	3.82	1.569	0.062	0.069	0.43
5/29/93	3.60	1.478	0.058	0.065	0.17	5/29/94	5.65	2.320	0.091	0.101	0.00	5/29/95					0.93
5/30/93	5.00	2.053	0.081	0.090	0.00	5/30/94	5.18	2.127	0.084	0.093	0.00	5/30/95					0.11
5/31/93	3.92	1.610	0.063	0.070	0.00	5/31/94	4.57	1.877	0.074	0.082	0.00	5/31/95	4.72	1.938	0.076	0.085	0.00
			5/93 totals:	**1.59**	**1.15**				5/94 totals:	**1.97**	**2.54**				5/95 totals:	**1.83**	**2.68**

TA-6 Daily ET+ Precipitation 10-1-92 to 11-2-95

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)	Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)	Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
6/1/93	4.28	1.758	0.069	0.077	0.00	6/1/94	3.92	1.610	0.063	0.070	0.00	6/1/95	4.28	1.758	0.069	0.077	0.00
6/2/93	3.85	1.581	0.062	0.069	0.00	6/2/94	4.43	1.819	0.072	0.080	0.01	6/2/95	4.46	1.832	0.072	0.080	0.00
6/3/93	3.71	1.524	0.060	0.067	0.00	6/3/94	4.10	1.684	0.066	0.074	0.02	6/3/95	4.82	1.979	0.078	0.087	0.00
6/4/93	3.20	1.314	0.052	0.057	0.00	6/4/94	5.40	2.218	0.087	0.097	0.00	6/4/95					0.00
6/5/93	4.14	1.700	0.067	0.074	0.00	6/5/94	5.08	2.086	0.082	0.091	0.00	6/5/95	3.92	1.610	0.063	0.070	0.00
6/6/93	4.10	1.684	0.066	0.074	0.00	6/6/94	4.32	1.774	0.070	0.078	0.00	6/6/95	4.75	1.951	0.077	0.085	0.00
6/7/93	2.84	1.166	0.046	0.051	0.00	6/7/94	4.18	1.717	0.068	0.075	0.00	6/7/95	4.10	1.684	0.066	0.074	0.00
6/8/93	2.30	0.945	0.037	0.041	0.00	6/8/94	3.92	1.610	0.063	0.070	0.00	6/8/95					0.00
6/9/93	2.23	0.916	0.036	0.040	0.00	6/9/94	4.03	1.655	0.065	0.072	0.00	6/9/95	3.64	1.495	0.059	0.065	0.00
6/10/93	2.56	1.051	0.041	0.046	0.00	6/10/94	3.96	1.626	0.064	0.071	0.00	6/10/95					0.00
6/11/93	3.20	1.314	0.052	0.057	0.00	6/11/94	3.64	1.495	0.059	0.065	0.00	6/11/95	3.42	1.404	0.055	0.061	0.00
6/12/93	3.96	1.626	0.064	0.071	0.00	6/12/94	4.25	1.745	0.069	0.076	0.03	6/12/95	3.67	1.507	0.059	0.066	0.00
6/13/93	4.75	1.951	0.077	0.085	0.00	6/13/94	3.38	1.388	0.055	0.061	0.00	6/13/95					0.00
6/14/93	3.31	1.359	0.054	0.059	0.00	6/14/94	3.60	1.478	0.058	0.065	0.00	6/14/95	3.64	1.495	0.059	0.065	0.01
6/15/93					0.67	6/15/94	3.02	1.240	0.049	0.054	0.00	6/15/95	3.92	1.610	0.063	0.070	0.00
6/16/93	5.15	2.115	0.083	0.093	0.00	6/16/94	2.74	1.125	0.044	0.049	0.00	6/16/95	3.17	1.302	0.051	0.057	0.04
6/17/93	5.54	2.275	0.090	0.100	0.03	6/17/94	3.20	1.314	0.052	0.057	0.00	6/17/95	5.54	2.275	0.090	0.100	0.85
6/18/93	6.34	2.604	0.103	0.114	0.00	6/18/94	2.48	1.018	0.040	0.045	0.01	6/18/95	8.24	3.384	0.133	0.148	0.00
6/19/93	4.57	1.877	0.074	0.082	0.00	6/19/94	2.74	1.125	0.044	0.049	0.03	6/19/95					0.03
6/20/93	3.10	1.273	0.050	0.056	0.00	6/20/94	2.95	1.211	0.048	0.053	0.50	6/20/95					0.00
6/21/93	4.64	1.906	0.075	0.083	0.00	6/21/94	4.39	1.803	0.071	0.079	0.42	6/21/95					0.00
6/22/93	4.79	1.967	0.077	0.086	0.00	6/22/94	4.75	1.951	0.077	0.085	0.07	6/22/95					0.00
6/23/93	4.61	1.893	0.075	0.083	0.00	6/23/94	5.26	2.160	0.085	0.094	0.00	6/23/95	4.61	1.893	0.075	0.083	0.00
6/24/93	5.04	2.070	0.081	0.091	0.00	6/24/94	5.11	2.099	0.083	0.092	0.00	6/24/95					0.03
6/25/93	4.50	1.848	0.073	0.081	0.00	6/25/94	4.72	1.938	0.076	0.085	0.00	6/25/95					0.12
6/26/93	3.71	1.524	0.060	0.067	0.00	6/26/94	4.43	1.819	0.072	0.080	0.00	6/26/95	5.54	2.275	0.090	0.100	0.10
6/27/93	3.78	1.552	0.061	0.068	0.00	6/27/94					0.00	6/27/95	4.57	1.877	0.074	0.082	0.00
6/28/93	4.00	1.643	0.065	0.072	0.00	6/28/94	3.49	1.433	0.056	0.063	0.00	6/28/95					
6/29/93	3.10	1.273	0.050	0.056	0.00	6/29/94	4.21	1.729	0.068	0.076	0.04	6/29/95	4.25	1.745	0.069	0.076	
6/30/93	4.32	1.774	0.070	0.078	0.00	6/30/94	3.24	1.331	0.052	0.058	0.00	6/30/95					0.20
			6/93 totals:	**2.08**	**0.70**				6/94 totals:	**2.06**	**1.13**				6/95 totals:	**1.45**	**1.38**
7/1/93	3.24	1.331	0.052	0.058	0.00	7/1/94	2.77	1.138	0.045	0.050	0.00	7/1/95	8.82	3.622	0.143	0.158	0.00
7/2/93	2.92	1.199	0.047	0.052	0.00	7/2/94	2.20	0.903	0.036	0.040	0.00	7/2/95	4.82	1.979	0.078	0.087	0.00
7/3/93	2.77	1.138	0.045	0.050	0.00	7/3/94	2.38	0.977	0.038	0.043	0.00	7/3/95	6.77	2.780	0.109	0.122	0.00
7/4/93	2.88	1.183	0.047	0.052	0.00	7/4/94	2.63	1.080	0.043	0.047	0.00	7/4/95	4.28	1.758	0.069	0.077	0.00
7/5/93	3.17	1.302	0.051	0.057	0.00	7/5/94	2.38	0.977	0.038	0.043	0.00	7/5/95	4.75	1.951	0.077	0.085	0.00
7/6/93	3.06	1.257	0.049	0.055	0.00	7/6/94	1.91	0.784	0.031	0.034	0.00	7/6/95	5.76	2.365	0.093	0.103	0.00
7/7/93	3.53	1.450	0.057	0.063	0.00	7/7/94	2.45	1.006	0.040	0.044	0.00	7/7/95	5.08	2.086	0.082	0.091	0.00
7/8/93	3.10	1.273	0.050	0.056	0.00	7/8/94	1.15	0.472	0.019	0.021	0.00	7/8/95	3.85	1.581	0.062	0.069	0.00
7/9/93	2.34	0.961	0.038	0.042	0.00	7/9/94	3.24	1.331	0.052	0.058	0.04	7/9/95	3.67	1.507	0.059	0.066	0.00
7/10/93	3.31	1.359	0.054	0.059	0.00	7/10/94	2.27	0.932	0.037	0.041	0.00	7/10/95	4.64	1.906	0.075	0.083	0.00
7/11/93	3.31	1.359	0.054	0.059	0.01	7/11/94	2.92	1.199	0.047	0.052	0.07	7/11/95	4.72	1.938	0.076	0.085	0.00
7/12/93	1.55	0.637	0.025	0.028	0.00	7/12/94	2.41	0.990	0.039	0.043	0.01	7/12/95	4.14	1.700	0.067	0.074	0.00
7/13/93	4.28	1.758	0.069	0.077	0.13	7/13/94	2.48	1.018	0.040	0.045	0.00	7/13/95	3.49	1.433	0.056	0.063	0.00
7/14/93	2.88	1.183	0.047	0.052	1.17	7/14/94	3.20	1.314	0.052	0.057	0.05	7/14/95	3.60	1.478	0.058	0.065	0.00
7/15/93	6.77	2.780	0.109	0.122	0.00	7/15/94	1.08	0.444	0.017	0.019	0.00	7/15/95	3.56	1.462	0.058	0.064	0.07
7/16/93	5.62	2.308	0.091	0.101	0.00	7/16/94	1.87	0.768	0.030	0.034	0.00	7/16/95	4.18	1.717	0.068	0.075	0.34
7/17/93	3.96	1.626	0.064	0.071	0.00	7/17/94	1.80	0.739	0.029	0.032	0.00	7/17/95	4.79	1.967	0.077	0.086	0.20
7/18/93	5.33	2.189	0.086	0.096	0.00	7/18/94	0.68	0.279	0.011	0.012	0.00	7/18/95					0.67
7/19/93	8.46	3.474	0.137	0.152		7/19/94	3.64	1.495	0.059	0.065	0.26	7/19/95	4.32	1.774	0.070	0.078	0.00
7/20/93	6.16	2.530	0.100	0.111	0.56	7/20/94	3.67	1.507	0.059	0.066	0.15	7/20/95	6.44	2.645	0.104	0.116	0.00
7/21/93	8.96	3.680	0.145	0.161	0.00	7/21/94	3.67	1.507	0.059	0.066	0.00	7/21/95	4.86	1.996	0.079	0.087	0.00
7/22/93	8.46	3.474	0.137	0.152	0.00	7/22/94						7/22/95	6.19	2.542	0.100	0.111	0.00
7/23/93	8.35	3.429	0.135	0.150	0.00	7/23/94	0.58	0.238	0.009	0.010	0.00	7/23/95	5.98	2.456	0.097	0.107	0.00
7/24/93	6.30	2.587	0.102	0.113	0.00	7/24/94					0.39	7/24/95	5.00	2.053	0.081	0.090	0.00
7/25/93	6.73	2.764	0.109	0.121	0.00	7/25/94	4.10	1.684	0.066	0.074	0.04	7/25/95	4.90	2.012	0.079	0.088	0.00
7/26/93	6.95	2.854	0.112	0.125	0.00	7/26/94	2.66	1.092	0.043	0.048	0.02	7/26/95	5.18	2.127	0.084	0.093	0.00
7/27/93	7.24	2.973	0.117	0.130	0.00	7/27/94	4.90	2.012	0.079	0.088	0.29	7/27/95	4.14	1.700	0.067	0.074	0.00
7/28/93	5.29	2.172	0.086	0.095	0.23	7/28/94					0.64	7/28/95	4.90	2.012	0.079	0.088	0.00
7/29/93	6.73	2.764	0.109	0.121	0.00	7/29/94					0.06	7/29/95	5.08	2.086	0.082	0.091	0.00
7/30/93	5.36	2.201	0.087	0.096	0.14	7/30/94	4.36	1.791	0.070	0.078	0.02	7/30/95	2.70	1.109	0.044	0.049	0.00
7/31/93	5.29	2.172	0.086	0.095	0.00	7/31/94	5.18	2.127	0.084	0.093	0.17	7/31/95	2.05	0.842	0.033	0.037	0.00
			7/93 totals:	**2.77**	**2.24**				7/94 totals:	**1.30**	**2.21**				7/95 totals:	**2.56**	**1.28**

TA-6 Daily ET+ Precipitation 10-1-92 to 11-2-95

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
8/1/93	3.53	1.450	0.057	0.063	0.00
8/2/93	4.25	1.745	0.069	0.076	0.00
8/3/93					0.56
8/4/93					0.00
8/5/93					0.16
8/6/93	6.41	2.632	0.104	0.115	0.38
8/7/93	6.34	2.604	0.103	0.114	0.14
8/8/93	5.80	2.382	0.094	0.104	0.35
8/9/93	5.51	2.263	0.089	0.099	0.01
8/10/93	5.87	2.411	0.095	0.105	0.00
8/11/93	5.58	2.292	0.090	0.100	0.00
8/12/93	6.84	2.809	0.111	0.123	0.04
8/13/93					0.62
8/14/93					0.15
8/15/93					0.00
8/16/93					0.20
8/17/93	3.24	1.331	0.052	0.058	0.01
8/18/93	4.75	1.951	0.077	0.085	0.00
8/19/93	4.79	1.967	0.077	0.086	0.15
8/20/93	3.56	1.462	0.058	0.064	0.33
8/21/93	3.89	1.598	0.063	0.070	0.11
8/22/93	4.00	1.643	0.065	0.072	0.01
8/23/93	5.15	2.115	0.083	0.093	0.00
8/24/93	5.26	2.160	0.085	0.094	0.00
8/25/93					0.14
8/26/93	4.36	1.791	0.070	0.078	0.57
8/27/93	1.87	0.768	0.030	0.034	0.62
8/28/93	2.02	0.830	0.033	0.036	0.32
8/29/93	2.70	1.109	0.044	0.049	0.01
8/30/93	3.96	1.626	0.064	0.071	0.55
8/31/93	3.78	1.552	0.061	0.068	0.00
			8/93 totals:	**1.86**	**5.43**
9/1/93	3.92	1.610	0.063	0.070	0.00
9/2/93	3.71	1.524	0.060	0.067	0.00
9/3/93	5.18	2.127	0.084	0.093	0.00
9/4/93	5.11	2.099	0.083	0.092	0.00
9/5/93	4.54	1.864	0.073	0.082	0.03
9/6/93	3.02	1.240	0.049	0.054	0.44
9/7/93	4.79	1.967	0.077	0.086	0.00
9/8/93	3.85	1.581	0.062	0.069	0.00
9/9/93	4.61	1.893	0.075	0.083	0.00
9/10/93	4.36	1.791	0.070	0.078	0.00
9/11/93	4.46	1.832	0.072	0.080	0.00
9/12/93	4.54	1.864	0.073	0.082	0.38
9/13/93	3.13	1.285	0.051	0.056	0.20
9/14/93	4.32	1.774	0.070	0.078	0.00
9/15/93	4.72	1.938	0.076	0.085	0.00
9/16/93	4.57	1.877	0.074	0.082	0.00
9/17/93	4.90	2.012	0.079	0.088	0.00
9/18/93	3.78	1.552	0.061	0.068	0.00
9/19/93	3.78	1.552	0.061	0.068	0.00
9/20/93	4.21	1.729	0.068	0.076	0.00
9/21/93	3.42	1.404	0.055	0.061	0.01
9/22/93					0.00
9/23/93	3.31	1.359	0.054	0.059	0.00
9/24/93	3.06	1.257	0.049	0.055	0.03
9/25/93	3.10	1.273	0.050	0.056	0.03
9/26/93	3.28	1.347	0.053	0.059	0.00
9/27/93	2.56	1.051	0.041	0.046	0.00
9/28/93	2.77	1.138	0.045	0.050	0.00
9/29/93	2.99	1.228	0.048	0.054	0.00
9/30/93	2.81	1.154	0.045	0.050	0.00
			9/93 totals:	**2.03**	**1.12**

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
8/1/94					0.30
8/2/94	6.08	2.497	0.098	0.109	0.15
8/3/94	6.19	2.542	0.100	0.111	0.00
8/4/94	5.33	2.189	0.086	0.096	0.06
8/5/94	4.82	1.979	0.078	0.087	0.36
8/6/94	5.51	2.263	0.089	0.099	0.00
8/7/94	4.50	1.848	0.073	0.081	0.00
8/8/94	4.61	1.893	0.075	0.083	0.00
8/9/94	4.21	1.729	0.068	0.076	0.00
8/10/94	3.06	1.257	0.049	0.055	0.00
8/11/94	3.10	1.273	0.050	0.056	0.01
8/12/94	2.81	1.154	0.045	0.050	0.00
8/13/94	2.99	1.228	0.048	0.054	0.02
8/14/94	4.36	1.791	0.070	0.078	0.34
8/15/94	3.49	1.433	0.056	0.063	0.03
8/16/94	4.00	1.643	0.065	0.072	0.00
8/17/94	3.78	1.552	0.061	0.068	0.00
8/18/94	2.88	1.183	0.047	0.052	0.00
8/19/94	2.09	0.858	0.034	0.038	0.00
8/20/94	2.52	1.035	0.041	0.045	0.17
8/21/94	3.35	1.376	0.054	0.060	0.44
8/22/94	4.28	1.758	0.069	0.077	0.00
8/23/94	4.03	1.655	0.065	0.072	0.00
8/24/94	2.81	1.154	0.045	0.050	0.66
8/25/94	4.00	1.643	0.065	0.072	0.04
8/26/94	4.79	1.967	0.077	0.086	0.00
8/27/94	5.29	2.172	0.086	0.095	0.00
8/28/94	3.71	1.524	0.060	0.067	0.00
8/29/94	2.77	1.138	0.045	0.050	0.00
8/30/94	2.34	0.961	0.038	0.042	0.00
8/31/94	2.41	0.990	0.039	0.043	0.00
			8/94 totals:	**2.09**	**2.58**
9/1/94	2.34	0.961	0.038	0.042	0.01
9/2/94	2.84	1.166	0.046	0.051	0.03
9/3/94	1.33	0.546	0.022	0.024	0.24
9/4/94	3.56	1.462	0.058	0.064	0.01
9/5/94	3.85	1.581	0.062	0.069	0.00
9/6/94	3.38	1.388	0.055	0.061	0.14
9/7/94	2.56	1.051	0.041	0.046	0.00
9/8/94	3.20	1.314	0.052	0.057	0.00
9/9/94	2.38	0.977	0.038	0.043	0.00
9/10/94	2.77	1.138	0.045	0.050	0.00
9/11/94	1.98	0.813	0.032	0.036	0.00
9/12/94	1.40	0.575	0.023	0.025	0.07
9/13/94	3.24	1.331	0.052	0.058	0.13
9/14/94	4.54	1.864	0.073	0.082	0.17
9/15/94	2.59	1.064	0.042	0.047	0.00
9/16/94	2.48	1.018	0.040	0.045	0.00
9/17/94	1.37	0.563	0.022	0.025	0.00
9/18/94	1.91	0.784	0.031	0.034	0.00
9/19/94	1.55	0.637	0.025	0.028	0.00
9/20/94	1.15	0.472	0.019	0.021	0.00
9/21/94	1.08	0.444	0.017	0.019	0.00
9/22/94	0.90	0.370	0.015	0.016	0.00
9/23/94	1.33	0.546	0.022	0.024	0.00
9/24/94	1.22	0.501	0.020	0.022	0.00
9/25/94	1.22	0.501	0.020	0.022	0.00
9/26/94	1.01	0.415	0.016	0.018	0.00
9/27/94	1.15	0.472	0.019	0.021	0.00
9/28/94	1.19	0.489	0.019	0.021	0.00
9/29/94	0.97	0.398	0.016	0.017	0.00
9/30/94	1.01	0.415	0.016	0.018	0.03
			9/94 totals:	**1.10**	**0.83**

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
8/1/95	2.05	0.842	0.033	0.037	0.00
8/2/95	3.10	1.273	0.050	0.056	0.00
8/3/95	2.48	1.018	0.040	0.045	0.00
8/4/95	5.29	2.172	0.086	0.095	0.28
8/5/95					0.51
8/6/95	5.18	2.127	0.084	0.093	0.00
8/7/95	5.33	2.189	0.086	0.096	0.00
8/8/95	5.40	2.218	0.087	0.097	0.00
8/9/95	3.78	1.552	0.061	0.068	0.01
8/10/95	4.18	1.717	0.068	0.075	0.08
8/11/95	4.36	1.791	0.070	0.078	0.57
8/12/95	5.62	2.308	0.091	0.101	0.08
8/13/95	7.45	3.059	0.120	0.134	0.46
8/14/95					0.18
8/15/95	5.80	2.382	0.094	0.104	0.00
8/16/95	4.79	1.967	0.077	0.086	0.01
8/17/95	4.14	1.700	0.067	0.074	0.22
8/18/95	2.41	0.990	0.039	0.043	0.03
8/19/95	6.08	2.497	0.098	0.109	0.03
8/20/95	6.52	2.678	0.105	0.117	0.18
8/21/95	5.65	2.320	0.091	0.101	0.00
8/22/95					0.00
8/23/95	4.36	1.791	0.070	0.078	0.13
8/24/95	4.21	1.729	0.068	0.076	0.09
8/25/95	3.85	1.581	0.062	0.069	0.01
8/26/95	3.92	1.610	0.063	0.070	0.00
8/27/95	6.70	2.751	0.108	0.120	0.24
8/28/95	4.50	1.848	0.073	0.081	0.03
8/29/95	3.38	1.388	0.055	0.061	0.39
8/30/95	5.76	2.365	0.093	0.103	0.00
8/31/95	5.47	2.246	0.088	0.098	0.00
			8/95 totals:	**2.37**	**3.53**
9/1/95	5.62	2.308	0.091	0.101	0.00
9/2/95	4.68	1.922	0.076	0.084	0.00
9/3/95	4.14	1.700	0.067	0.074	0.00
9/4/95	4.00	1.643	0.065	0.072	0.00
9/5/95	3.49	1.433	0.056	0.063	0.00
9/6/95					0.36
9/7/95	3.42	1.404	0.055	0.061	0.76
9/8/95	3.56	1.462	0.058	0.064	0.21
9/9/95	4.57	1.877	0.074	0.082	0.29
9/10/95	4.54	1.864	0.073	0.082	0.24
9/11/95	5.51	2.263	0.089	0.099	0.07
9/12/95	5.51	2.263	0.089	0.099	0.00
9/13/95	5.58	2.292	0.090	0.100	0.00
9/14/95	3.89	1.598	0.063	0.070	0.00
9/15/95	2.12	0.871	0.034	0.038	0.00
9/16/95	3.06	1.257	0.049	0.055	0.00
9/17/95					0.01
9/18/95	3.53	1.450	0.057	0.063	0.01
9/19/95	4.14	1.700	0.067	0.074	0.00
9/20/95	4.79	1.967	0.077	0.086	0.00
9/21/95	1.66	0.682	0.027	0.030	0.00
9/22/95	2.23	0.916	0.036	0.040	0.00
9/23/95					0.00
9/24/95	4.50	1.848	0.073	0.081	0.05
9/25/95	3.89	1.598	0.063	0.070	0.00
9/26/95	2.09	0.858	0.034	0.038	0.00
9/27/95	2.66	1.092	0.043	0.048	0.00
9/28/95	2.81	1.154	0.045	0.050	0.22
9/29/95					0.14
9/30/95	3.64	1.495	0.059	0.065	0.00
			9/95 totals:	**1.79**	**2.36**

TA-6 Daily ET+ Precipitation 10-1-92 to 11-2-95

Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)	Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)	Date	Latent Heat Energy 12 m above GL (MJ/m^2)	ET (mm)	ET (inches)	ET (inches) Corrected for 10% underest.	Precipitation (inches)
TA-6 Summary Data:												10/1/95	3.31	1.359	0.054	0.059	0.00
												10/2/95	3.28	1.347	0.053	0.059	0.00
	Stress Periods:					Measured ET	Precipitation	Adjusted Precip.	ET % of adj.	ET proport. of		10/3/95	2.34	0.961	0.038	0.042	0.00
Period No.	From	To	No. of days	Conditions		(inches)	(inches)	(inches) *	Precipitation	adj. Precip.		10/4/95	2.48	1.018	0.040	0.045	0.00
												10/5/95	1.84	0.756	0.030	0.033	0.00
1	7/10/94	10/13/94	96	summer/fall rainstorms		4.44	5.78	5.78	76.8	0.77		10/6/95	1.73	0.710	0.028	0.031	0.00
2	10/14/94	10/17/94	4	heavy rain/snow + melting		0.16	2.97	2.97	5.5	0.06		10/7/95	2.12	0.871	0.034	0.038	0.00
3	10/18/94	11/10/94	24	dry		0.78	0.26	0.26	301.0	3.01		10/8/95	1.87	0.768	0.030	0.034	0.00
4	11/11/94	12/7/94	27	mod. snow/rain + melting		0.53	1.63	1.63	32.8	0.33		10/9/95	1.37	0.563	0.022	0.025	0.00
5	12/8/94	2/12/95	67	frozen/minor to no melting		0.97	1.61	0.81	120.3	1.20		10/10/95	1.58	0.649	0.026	0.028	0.00
6	2/13/95	6/30/95	138	snow melt + spring rains		6.44	7.97	8.78	73.4	0.73		10/11/95	1.58	0.649	0.026	0.028	0.00
7	7/1/95	8/3/95	34	relatively dry		2.70	1.28	1.28	210.9	2.11		10/12/95	1.55	0.637	0.025	0.028	0.00
8	8/4/95	9/11/95	39	summer rainstorms		3.01	5.46	5.46	55.2	0.55		10/13/95	1.51	0.620	0.024	0.027	0.00
9	9/12/95	11/2/95	58	dry		1.80	0.46	0.46	392.0	3.92		10/14/95	1.15	0.472	0.019	0.021	0.00
												10/15/95	1.40	0.575	0.023	0.025	0.00
		Totals:	487			20.84	27.42	27.42	76.0	0.76		10/16/95	0.99	0.407	0.016	0.018	0.00
												10/17/95	1.10	0.452	0.018	0.020	0.00
								* 50% of period 5 precip. moved to period 6 for snowmelt.				10/18/95	1.04	0.427	0.017	0.019	0.00
												10/19/95	0.99	0.407	0.016	0.018	0.00
Month	ET (in.)	Precip. (in.)	ET % of Precip.	Month	ET (in.)	Precip. (in.)	ET % of Precip.	Month	ET (in.)	Precip. (in.)	ET % of Precip.	10/20/95	0.85	0.349	0.014	0.015	0.00
												10/21/95	0.98	0.402	0.016	0.018	0.00
Oct-92	0.78	0.59	132.7	Oct-93	0.87	0.59	147.9	Oct-94	0.93	3.17	29.4	10/22/95	0.14	0.057	0.002	0.003	0.00
Nov-92	0.50	1.28	39.1	Nov-93	0.45	1.44	31.6	Nov-94	0.81	1.42	57.2	10/23/95	0.38	0.156	0.006	0.007	0.00
Dec-92	0.26	1.69	15.4	Dec-93	0.32	0.21	150.9	Dec-94	0.37	0.71	51.7	10/24/95	0.49	0.201	0.008	0.009	0.00
Jan-93	0.22	3.22	6.8	Jan-94	0.19	0.44	42.8	Jan-95	0.34	1.34	25.2	10/25/95	0.90	0.370	0.015	0.016	0.00
Feb-93	0.45	2.12	21.1	Feb-94	0.56	0.69	81.7	Feb-95	0.88	1.01	87.0	10/26/95	0.56	0.230	0.009	0.010	0.00
Mar-93	0.93	1.20	77.7	Mar-94	1.09	2.05	53.1	Mar-95	1.01	1.11	90.9	10/27/95	0.60	0.246	0.010	0.011	0.00
Apr-93	1.33	0.05	2656.2	Apr-94	1.50	1.66	90.4	Apr-95	1.60	1.82	87.7	10/28/95	0.71	0.292	0.011	0.013	0.00
May-93	1.59	1.15	138.5	May-94	1.97	2.54	77.4	May-95	1.83	2.68	68.4	10/29/95	0.49	0.201	0.008	0.009	0.00
Jun-93	2.08	0.70	296.7	Jun-94	2.06	1.13	182.7	Jun-95	1.45	1.38	104.8	10/30/95	0.58	0.238	0.009	0.010	0.00
Jul-93	2.77	2.24	123.7	Jul-94	1.30	2.21	59.0	Jul-95	2.56	1.28	200.2	10/31/95	0.47	0.193	0.008	0.008	0.00
Aug-93	1.86	5.43	34.2	Aug-94	2.09	2.58	80.8	Aug-95	2.37	3.53	67.1	11/1/95	2.71	1.113	0.044	0.049	0.03
Sep-93	2.03	1.12	180.9	Sep-94	1.10	0.83	133.1	Sep-95	1.79	2.36	75.8	11/2/95	1.19	0.489	0.019	0.021	0.00
Totals:	14.80	20.79	71.17	Totals:	13.51	16.37	82.54	Totals:	15.93	21.81	73.06			10/1/95-11/2/95	Totals:	0.80	0.03

	ET % of Precipitation:		
	Mean	Minimum	Maximum
January	14.9	6.8	42.8
February	49.5	21.1	87.0
March	69.5	53.1	90.9
* April	89.0	87.7	90.4
May	84.7	68.4	138.5
June	174.1	104.8	296.7
July	115.9	59.0	200.2
August	54.7	34.2	80.8
September	114.2	75.8	180.9
October	59.5	29.4	147.9
November	42.7	31.6	57.2
December	36.2	15.4	150.9

* excluding 1993

Appendix B

TA-53 Station 10/92-11/95 Precipitation Data

TA-53 10-92 to 11-95 precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
10/1/92	0.00	10/1/93	0.00	10/1/94	0.00
10/2/92	0.00	10/2/93	0.00	10/2/94	0.00
10/3/92	0.00	10/3/93	0.00	10/3/94	0.00
10/4/92	0.00	10/4/93	0.00	10/4/94	0.02
10/5/92	0.00	10/5/93	0.00	10/5/94	0.03
10/6/92	0.00	10/6/93	0.00	10/6/94	0.00
10/7/92	0.00	10/7/93	0.13	10/7/94	0.15
10/8/92	0.00	10/8/93	0.00	10/8/94	0.00
10/9/92	0.00	10/9/93	0.01	10/9/94	0.00
10/10/92	0.00	10/10/93	0.00	10/10/94	0.00
10/11/92	0.00	10/11/93	0.00	10/11/94	0.00
10/12/92	0.00	10/12/93	0.00	10/12/94	0.00
10/13/92	0.00	10/13/93	0.00	10/13/94	0.00
10/14/92	0.00	10/14/93	0.02	10/14/94	1.63
10/15/92	0.00	10/15/93	0.00	10/15/94	0.75
10/16/92	0.00	10/16/93	0.02	10/16/94	0.57
10/17/92	0.00	10/17/93	0.06	10/17/94	0.13
10/18/92	0.00	10/18/93	0.00	10/18/94	0.00
10/19/92	0.00	10/19/93	0.00	10/19/94	0.00
10/20/92	0.00	10/20/93	0.00	10/20/94	0.00
10/21/92	0.00	10/21/93	0.00	10/21/94	0.00
10/22/92	0.00	10/22/93	0.00	10/22/94	0.00
10/23/92	0.00	10/23/93	0.00	10/23/94	0.00
10/24/92	0.00	10/24/93	0.00	10/24/94	0.00
10/25/92	0.03	10/25/93	0.00	10/25/94	0.00
10/26/92	0.00	10/26/93	0.04	10/26/94	0.00
10/27/92	0.00	10/27/93	0.00	10/27/94	0.00
10/28/92	0.08	10/28/93	0.00	10/28/94	0.00
10/29/92	0.00	10/29/93	0.15	10/29/94	0.00
10/30/92	0.00	10/30/93	0.00	10/30/94	0.00
10/31/92	0.23	10/31/93	0.00	10/31/94	0.00
11/1/92	0.00	11/1/93	0.00	11/1/94	0.00
11/2/92	0.09	11/2/93	0.00	11/2/94	0.01
11/3/92	0.04	11/3/93	0.00	11/3/94	0.15
11/4/92	0.00	11/4/93	0.00	11/4/94	0.00
11/5/92	0.00	11/5/93	0.00	11/5/94	0.00
11/6/92	0.00	11/6/93	0.00	11/6/94	0.00
11/7/92	0.00	11/7/93	0.00	11/7/94	0.00
11/8/92	0.00	11/8/93	0.00	11/8/94	0.09
11/9/92	0.00	11/9/93	0.00	11/9/94	0.00
11/10/92	0.12	11/10/93	0.00	11/10/94	0.00
11/11/92	0.29	11/11/93	0.42	11/11/94	0.68
11/12/92	0.00	11/12/93	0.00	11/12/94	1.21
11/13/92	0.00	11/13/93	0.54	11/13/94	0.00
11/14/92	0.00	11/14/93	0.01	11/14/94	0.00
11/15/92	0.00	11/15/93	0.02	11/15/94	0.00

TA-53 10-92 to 11-95 precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
11/16/92	0.00	11/16/93	0.00	11/16/94	0.00
11/17/92	0.00	11/17/93	0.00	11/17/94	0.01
11/18/92	0.00	11/18/93	0.00	11/18/94	0.00
11/19/92	0.00	11/19/93	0.00	11/19/94	0.00
11/20/92	0.16	11/20/93	0.00	11/20/94	0.00
11/21/92	0.00	11/21/93	0.00	11/21/94	0.00
11/22/92	0.00	11/22/93	0.00	11/22/94	0.00
11/23/92	0.00	11/23/93	0.14	11/23/94	0.00
11/24/92	0.00	11/24/93	0.00	11/24/94	0.00
11/25/92	0.00	11/25/93	0.00	11/25/94	0.00
11/26/92	0.00	11/26/93	0.00	11/26/94	0.00
11/27/92	0.00	11/27/93	0.00	11/27/94	0.00
11/28/92	0.00	11/28/93	0.00	11/28/94	0.00
11/29/92	0.00	11/29/93	0.00	11/29/94	0.00
11/30/92	0.00	11/30/93	0.00	11/30/94	0.00
12/1/92	0.00	12/1/93	0.00	12/1/94	0.00
12/2/92	0.00	12/2/93	0.00	12/2/94	0.00
12/3/92	0.00	12/3/93	0.00	12/3/94	0.00
12/4/92	0.17	12/4/93	0.00	12/4/94	0.00
12/5/92	0.03	12/5/93	0.00	12/5/94	0.21
12/6/92	0.00	12/6/93	0.00	12/6/94	0.25
12/7/92	0.00	12/7/93	0.00	12/7/94	0.02
12/8/92	0.02	12/8/93	0.00	12/8/94	0.00
12/9/92	0.00	12/9/93	0.00	12/9/94	0.00
12/10/92	0.00	12/10/93	0.00	12/10/94	0.00
12/11/92	0.00	12/11/93	0.00	12/11/94	0.00
12/12/92	0.06	12/12/93	0.23	12/12/94	0.00
12/13/92	0.06	12/13/93	0.00	12/13/94	0.00
12/14/92	0.00	12/14/93	0.00	12/14/94	0.01
12/15/92	0.00	12/15/93	0.00	12/15/94	0.00
12/16/92	0.02	12/16/93	0.00	12/16/94	0.00
12/17/92	0.00	12/17/93	0.00	12/17/94	0.00
12/18/92	0.00	12/18/93	0.00	12/18/94	0.00
12/19/92	0.00	12/19/93	0.00	12/19/94	0.00
12/20/92	0.00	12/20/93	0.00	12/20/94	0.00
12/21/92	0.00	12/21/93	0.00	12/21/94	0.00
12/22/92	0.00	12/22/93	0.00	12/22/94	0.00
12/23/92	0.00	12/23/93	0.00	12/23/94	0.00
12/24/92	0.00	12/24/93	0.00	12/24/94	0.00
12/25/92	0.00	12/25/93	0.00	12/25/94	0.00
12/26/92	0.00	12/26/93	0.00	12/26/94	0.00
12/27/92	0.00	12/27/93	0.00	12/27/94	0.00
12/28/92	0.12	12/28/93	0.00	12/28/94	0.00
12/29/92	0.00	12/29/93	0.00	12/29/94	0.00
12/30/92	0.00	12/30/93	0.00	12/30/94	0.00
12/31/92	0.00	12/31/93	0.00	12/31/94	0.29

TA-53 10-92 to 11-95 precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
1/1/93	0.00	1/1/94	0.00	1/1/95	0.00
1/2/93	0.00	1/2/94	0.00	1/2/95	0.00
1/3/93	0.03	1/3/94	0.00	1/3/95	0.00
1/4/93	0.00	1/4/94	0.00	1/4/95	0.03
1/5/93	0.00	1/5/94	0.00	1/5/95	0.61
1/6/93	0.00	1/6/94	0.00	1/6/95	0.01
1/7/93	0.02	1/7/94	0.00	1/7/95	0.00
1/8/93	1.19	1/8/94	0.00	1/8/95	0.00
1/9/93	0.00	1/9/94	0.00	1/9/95	0.00
1/10/93	0.17	1/10/94	0.00	1/10/95	0.00
1/11/93	0.26	1/11/94	0.00	1/11/95	0.00
1/12/93	0.00	1/12/94	0.00	1/12/95	0.00
1/13/93	0.00	1/13/94	0.00	1/13/95	0.00
1/14/93	0.00	1/14/94		1/14/95	0.00
1/15/93	0.00	1/15/94	0.00	1/15/95	0.00
1/16/93	0.00	1/16/94	0.00	1/16/95	0.01
1/17/93	0.36	1/17/94	0.00	1/17/95	0.06
1/18/93	0.17	1/18/94	0.00	1/18/95	0.00
1/19/93	0.74	1/19/94	0.00	1/19/95	0.00
1/20/93	0.00	1/20/94	0.00	1/20/95	0.00
1/21/93	0.00	1/21/94	0.00	1/21/95	0.11
1/22/93	0.00	1/22/94	0.00	1/22/95	0.00
1/23/93	0.00	1/23/94	0.00	1/23/95	0.00
1/24/93	0.00	1/24/94	0.00	1/24/95	0.00
1/25/93	0.00	1/25/94	0.23	1/25/95	0.00
1/26/93	0.00	1/26/94	0.00	1/26/95	0.03
1/27/93	0.00	1/27/94	0.00	1/27/95	0.00
1/28/93	0.00	1/28/94	0.07	1/28/95	0.00
1/29/93	0.00	1/29/94	0.00	1/29/95	0.25
1/30/93	0.00	1/30/94	0.12	1/30/95	0.00
1/31/93	0.00	1/31/94	0.00	1/31/95	0.00
2/1/93	0.08	2/1/94	0.00	2/1/95	0.00
2/2/93	0.00	2/2/94	0.00	2/2/95	0.00
2/3/93	0.00	2/3/94	0.00	2/3/95	0.00
2/4/93	0.06	2/4/94	0.00	2/4/95	0.00
2/5/93	0.00	2/5/94	0.01	2/5/95	0.00
2/6/93	0.00	2/6/94	0.00	2/6/95	0.00
2/7/93	0.00	2/7/94	0.01	2/7/95	0.00
2/8/93	0.05	2/8/94	0.13	2/8/95	0.00
2/9/93	0.17	2/9/94	0.00	2/9/95	0.00
2/10/93	0.00	2/10/94	0.00	2/10/95	0.00
2/11/93	0.00	2/11/94	0.00	2/11/95	0.01
2/12/93	0.00	2/12/94	0.00	2/12/95	0.00
2/13/93	0.00	2/13/94	0.00	2/13/95	0.36
2/14/93	0.50	2/14/94	0.00	2/14/95	0.07
2/15/93	0.18	2/15/94	0.00	2/15/95	0.18

TA-53 10-92 to 11-95 precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
2/16/93	0.00	2/16/94	0.00	2/16/95	0.00
2/17/93	0.00	2/17/94	0.00	2/17/95	0.00
2/18/93	0.00	2/18/94	0.11	2/18/95	0.00
2/19/93	0.22	2/19/94	0.06	2/19/95	0.00
2/20/93	0.05	2/20/94	0.00	2/20/95	0.00
2/21/93	0.00	2/21/94	0.00	2/21/95	0.00
2/22/93	0.00	2/22/94	0.09	2/22/95	0.00
2/23/93	0.00	2/23/94	0.00	2/23/95	0.00
2/24/93	0.13	2/24/94	0.00	2/24/95	0.00
2/25/93	0.00	2/25/94	0.00	2/25/95	0.00
2/26/93	0.00	2/26/94	0.00	2/26/95	0.00
2/27/93	0.00	2/27/94	0.00	2/27/95	0.00
2/28/93	0.33	2/28/94	0.01	2/28/95	0.17
3/1/93	0.02	3/1/94	0.00	3/1/95	0.20
3/2/93	0.00	3/2/94	0.00	3/2/95	0.12
3/3/93	0.00	3/3/94	0.00	3/3/95	0.08
3/4/93		3/4/94	0.00	3/4/95	0.02
3/5/93	0.00	3/5/94	0.00	3/5/95	0.03
3/6/93	0.00	3/6/94	0.00	3/6/95	0.04
3/7/93	0.00	3/7/94	0.34	3/7/95	0.00
3/8/93	0.00	3/8/94	0.00	3/8/95	0.00
3/9/93	0.00	3/9/94	0.06	3/9/95	0.00
3/10/93	0.00	3/10/94	0.00	3/10/95	0.00
3/11/93	0.16	3/11/94	0.00	3/11/95	0.00
3/12/93	0.00	3/12/94	0.28	3/12/95	0.00
3/13/93	0.00	3/13/94	0.00	3/13/95	0.00
3/14/93	0.00	3/14/94	0.00	3/14/95	0.00
3/15/93	0.00	3/15/94	0.00	3/15/95	0.00
3/16/93	0.00	3/16/94	0.00	3/16/95	0.00
3/17/93	0.00	3/17/94	0.00	3/17/95	0.00
3/18/93	0.00	3/18/94	0.00	3/18/95	0.00
3/19/93	0.00	3/19/94	0.00	3/19/95	0.00
3/20/93	0.00	3/20/94	0.00	3/20/95	0.00
3/21/93	0.00	3/21/94	0.00	3/21/95	0.00
3/22/93	0.00	3/22/94	0.00	3/22/95	0.00
3/23/93	0.00	3/23/94	0.00	3/23/95	0.00
3/24/93	0.00	3/24/94	0.10	3/24/95	0.00
3/25/93	0.00	3/25/94	0.00	3/25/95	0.00
3/26/93	0.05	3/26/94	0.12	3/26/95	0.00
3/27/93	0.28	3/27/94	0.70	3/27/95	0.00
3/28/93	0.00	3/28/94	0.02	3/28/95	0.18
3/29/93	0.27	3/29/94	0.00	3/29/95	0.02
3/30/93	0.00	3/30/94	0.00	3/30/95	0.05
3/31/93	0.00	3/31/94	0.00	3/31/95	0.00
4/1/93	0.00	4/1/94	0.00	4/1/95	0.00
4/2/93	0.00	4/2/94	0.00	4/2/95	0.09

TA-53 10-92 to 11-95 precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
4/3/93	0.00	4/3/94	0.00	4/3/95	0.00
4/4/93	0.00	4/4/94	0.00	4/4/95	0.00
4/5/93	0.00	4/5/94	0.03	4/5/95	0.00
4/6/93	0.01	4/6/94	0.00	4/6/95	0.00
4/7/93	0.02	4/7/94	0.00	4/7/95	0.00
4/8/93	0.00	4/8/94	0.14	4/8/95	0.00
4/9/93	0.00	4/9/94	0.13	4/9/95	0.03
4/10/93	0.00	4/10/94		4/10/95	0.40
4/11/93	0.00	4/11/94	0.17	4/11/95	0.00
4/12/93	0.00	4/12/94	0.00	4/12/95	0.00
4/13/93	0.00	4/13/94	0.00	4/13/95	
4/14/93	0.00	4/14/94	0.00	4/14/95	0.00
4/15/93	0.00	4/15/94	0.00	4/15/95	0.00
4/16/93	0.00	4/16/94	0.00	4/16/95	0.00
4/17/93	0.00	4/17/94	0.00	4/17/95	0.02
4/18/93	0.00	4/18/94	0.00	4/18/95	0.00
4/19/93	0.00	4/19/94	0.00	4/19/95	0.00
4/20/93	0.00	4/20/94	0.00	4/20/95	0.02
4/21/93	0.00	4/21/94	0.00	4/21/95	0.27
4/22/93	0.00	4/22/94	0.01	4/22/95	0.78
4/23/93	0.00	4/23/94	0.14	4/23/95	0.02
4/24/93	0.00	4/24/94	0.00	4/24/95	0.00
4/25/93	0.00	4/25/94	0.02	4/25/95	0.00
4/26/93	0.00	4/26/94	0.00	4/26/95	0.00
4/27/93	0.00	4/27/94	0.14	4/27/95	0.00
4/28/93	0.00	4/28/94	0.00	4/28/95	0.00
4/29/93	0.00	4/29/94	0.42	4/29/95	0.00
4/30/93	0.00	4/30/94	0.00	4/30/95	0.00
5/1/93	0.36	5/1/94	0.00	5/1/95	0.00
5/2/93	0.00	5/2/94	0.00	5/2/95	0.00
5/3/93	0.00	5/3/94	0.00	5/3/95	0.00
5/4/93	0.00	5/4/94	0.00	5/4/95	0.00
5/5/93	0.02	5/5/94	0.00	5/5/95	0.25
5/6/93	0.00	5/6/94	0.00	5/6/95	0.00
5/7/93	0.05	5/7/94	0.00	5/7/95	0.08
5/8/93	0.02	5/8/94	0.00	5/8/95	0.00
5/9/93	0.00	5/9/94	0.01	5/9/95	0.00
5/10/93	0.00	5/10/94	0.41	5/10/95	0.09
5/11/93	0.00	5/11/94	0.09	5/11/95	0.00
5/12/93	0.00	5/12/94	0.02	5/12/95	0.00
5/13/93	0.02	5/13/94	0.24	5/13/95	0.00
5/14/93		5/14/94	0.11	5/14/95	0.00
5/15/93	0.16	5/15/94	0.05	5/15/95	0.00
5/16/93		5/16/94	0.00	5/16/95	0.00
5/17/93	0.00	5/17/94	0.00	5/17/95	0.00
5/18/93	0.09	5/18/94	0.00	5/18/95	0.16

TA-53 10-92 to 11-95 precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
5/19/93	0.01	5/19/94	0.01	5/19/95	0.00
5/20/93	0.13	5/20/94	0.00	5/20/95	0.00
5/21/93	0.07	5/21/94	0.00	5/21/95	0.00
5/22/93	0.00	5/22/94	0.00	5/22/95	0.00
5/23/93	0.00	5/23/94	0.01	5/23/95	0.00
5/24/93	0.04	5/24/94	0.00	5/24/95	0.16
5/25/93	0.00	5/25/94	1.06	5/25/95	0.00
5/26/93	0.00	5/26/94	0.30	5/26/95	0.00
5/27/93	0.00	5/27/94	0.05	5/27/95	0.00
5/28/93	0.00	5/28/94	0.00	5/28/95	0.42
5/29/93	0.17	5/29/94	0.00	5/29/95	1.17
5/30/93	0.00	5/30/94	0.00	5/30/95	0.00
5/31/93	0.00	5/31/94	0.00	5/31/95	0.00
6/1/93	0.00	6/1/94	0.00	6/1/95	0.00
6/2/93	0.00	6/2/94	0.00	6/2/95	0.00
6/3/93	0.00	6/3/94	0.19	6/3/95	0.00
6/4/93	0.00	6/4/94	0.00	6/4/95	0.00
6/5/93	0.00	6/5/94	0.00	6/5/95	0.00
6/6/93	0.00	6/6/94	0.00	6/6/95	0.00
6/7/93	0.00	6/7/94	0.00	6/7/95	0.00
6/8/93	0.00	6/8/94	0.00	6/8/95	0.00
6/9/93	0.05	6/9/94	0.00	6/9/95	0.00
6/10/93	0.00	6/10/94	0.00	6/10/95	0.00
6/11/93	0.00	6/11/94	0.00	6/11/95	0.00
6/12/93	0.00	6/12/94	0.00	6/12/95	0.00
6/13/93	0.00	6/13/94	0.00	6/13/95	0.00
6/14/93	0.00	6/14/94	0.00	6/14/95	0.00
6/15/93	0.61	6/15/94	0.00	6/15/95	0.00
6/16/93	0.02	6/16/94	0.00	6/16/95	0.00
6/17/93	0.04	6/17/94	0.00	6/17/95	0.46
6/18/93	0.00	6/18/94	0.04	6/18/95	0.00
6/19/93	0.00	6/19/94	0.00	6/19/95	0.03
6/20/93	0.00	6/20/94	0.20	6/20/95	0.00
6/21/93	0.00	6/21/94	0.05	6/21/95	0.00
6/22/93	0.00	6/22/94	0.07	6/22/95	0.00
6/23/93	0.00	6/23/94	0.00	6/23/95	0.00
6/24/93	0.00	6/24/94	0.00	6/24/95	0.02
6/25/93	0.00	6/25/94	0.00	6/25/95	0.17
6/26/93	0.00	6/26/94	0.00	6/26/95	0.27
6/27/93	0.00	6/27/94	0.00	6/27/95	0.00
6/28/93	0.00	6/28/94	0.00	6/28/95	0.22
6/29/93	0.00	6/29/94	0.00	6/29/95	0.15
6/30/93	0.00	6/30/94	0.00	6/30/95	0.14
7/1/93	0.00	7/1/94	0.00	7/1/95	0.00
7/2/93	0.00	7/2/94	0.00	7/2/95	0.00
7/3/93	0.00	7/3/94	0.00	7/3/95	0.00

TA-53 10-92 to 11-95 precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
7/4/93	0.00	7/4/94	0.00	7/4/95	0.00
7/5/93	0.00	7/5/94	0.00	7/5/95	0.00
7/6/93	0.00	7/6/94	0.00	7/6/95	0.00
7/7/93	0.00	7/7/94	0.00	7/7/95	0.00
7/8/93	0.00	7/8/94	0.00	7/8/95	0.01
7/9/93	0.00	7/9/94	0.05	7/9/95	0.00
7/10/93	0.01	7/10/94	0.00	7/10/95	0.00
7/11/93	0.05	7/11/94	0.00	7/11/95	0.00
7/12/93	0.06	7/12/94	0.18	7/12/95	0.00
7/13/93	0.07	7/13/94	0.00	7/13/95	0.00
7/14/93	0.44	7/14/94	0.00	7/14/95	0.00
7/15/93	0.00	7/15/94	0.00	7/15/95	0.00
7/16/93	0.00	7/16/94	0.00	7/16/95	0.61
7/17/93	0.00	7/17/94	0.15	7/17/95	0.24
7/18/93	0.00	7/18/94	0.00	7/18/95	0.46
7/19/93	0.44	7/19/94	0.00	7/19/95	0.00
7/20/93	0.48	7/20/94	0.30	7/20/95	0.00
7/21/93	0.00	7/21/94	0.00	7/21/95	0.00
7/22/93	0.00	7/22/94	0.00	7/22/95	0.00
7/23/93	0.00	7/23/94	0.00	7/23/95	0.00
7/24/93	0.00	7/24/94	0.29	7/24/95	0.00
7/25/93	0.00	7/25/94	0.00	7/25/95	0.00
7/26/93	0.00	7/26/94	0.13	7/26/95	0.00
7/27/93	0.00	7/27/94	0.29	7/27/95	0.00
7/28/93	0.17	7/28/94	0.05	7/28/95	0.00
7/29/93	0.00	7/29/94	0.26	7/29/95	0.00
7/30/93	0.00	7/30/94	0.00	7/30/95	0.00
7/31/93	0.00	7/31/94	0.06	7/31/95	0.00
8/1/93	0.01	8/1/94	0.09	8/1/95	0.00
8/2/93	0.00	8/2/94	0.11	8/2/95	0.00
8/3/93	0.83	8/3/94	0.00	8/3/95	0.00
8/4/93	0.00	8/4/94	0.00	8/4/95	0.07
8/5/93	0.09	8/5/94	0.20	8/5/95	0.38
8/6/93	0.10	8/6/94	0.00	8/6/95	0.00
8/7/93	0.00	8/7/94	0.00	8/7/95	0.00
8/8/93	0.35	8/8/94	0.10	8/8/95	0.00
8/9/93	0.00	8/9/94	0.00	8/9/95	0.04
8/10/93	0.00	8/10/94	0.00	8/10/95	0.00
8/11/93	0.00	8/11/94	0.00	8/11/95	0.42
8/12/93	0.00	8/12/94	0.00	8/12/95	0.09
8/13/93	0.17	8/13/94	0.03	8/13/95	0.38
8/14/93	0.22	8/14/94	0.26	8/14/95	0.02
8/15/93	0.00	8/15/94	0.01	8/15/95	0.00
8/16/93	0.03	8/16/94	0.00	8/16/95	0.02
8/17/93	0.01	8/17/94	0.01	8/17/95	0.14
8/18/93	0.00	8/18/94	0.07	8/18/95	0.01

TA-53 10-92 to 11-95 precip.

Date	Daily Precip. (inches)		Date	Daily Precip. (inches)		Date	Daily Precip. (inches)
8/19/93	0.17		8/19/94	0.00		8/19/95	0.01
8/20/93	0.08		8/20/94	0.21		8/20/95	0.00
8/21/93	0.32		8/21/94	1.00		8/21/95	0.00
8/22/93	0.01		8/22/94	0.00		8/22/95	0.13
8/23/93	0.00		8/23/94	0.00		8/23/95	0.01
8/24/93	0.00		8/24/94	0.42		8/24/95	0.00
8/25/93	0.10		8/25/94	0.10		8/25/95	0.00
8/26/93	1.10		8/26/94	0.00		8/26/95	0.23
8/27/93	0.50		8/27/94	0.00		8/27/95	0.07
8/28/93	0.34		8/28/94	0.21		8/28/95	0.00
8/29/93	0.27		8/29/94	0.00		8/29/95	0.24
8/30/93	0.19		8/30/94	0.00		8/30/95	0.00
8/31/93	0.00		8/31/94	0.00		8/31/95	0.00
9/1/93	0.00		9/1/94	0.02		9/1/95	0.00
9/2/93	0.00		9/2/94	0.01		9/2/95	0.00
9/3/93	0.00		9/3/94	0.28		9/3/95	0.00
9/4/93	0.00		9/4/94	0.01		9/4/95	0.00
9/5/93	0.08		9/5/94	0.01		9/5/95	0.00
9/6/93	0.28		9/6/94	0.23		9/6/95	0.04
9/7/93	0.01		9/7/94	0.00		9/7/95	0.76
9/8/93	0.00		9/8/94	0.00		9/8/95	0.61
9/9/93	0.00		9/9/94	0.00		9/9/95	0.18
9/10/93	0.00		9/10/94	0.00		9/10/95	0.05
9/11/93	0.00		9/11/94	0.00		9/11/95	0.29
9/12/93	0.34		9/12/94	0.06		9/12/95	0.00
9/13/93	0.38		9/13/94	0.23		9/13/95	0.00
9/14/93	0.00		9/14/94	0.18		9/14/95	0.31
9/15/93	0.00		9/15/94	0.00		9/15/95	0.00
9/16/93	0.00		9/16/94	0.00		9/16/95	0.00
9/17/93	0.00		9/17/94	0.03		9/17/95	0.02
9/18/93	0.00		9/18/94	0.01		9/18/95	0.00
9/19/93	0.00		9/19/94	0.00		9/19/95	0.00
9/20/93	0.00		9/20/94	0.00		9/20/95	0.00
9/21/93	0.00		9/21/94	0.00		9/21/95	0.00
9/22/93	0.00		9/22/94	0.00		9/22/95	0.00
9/23/93	0.00		9/23/94	0.00		9/23/95	0.00
9/24/93	0.00		9/24/94	0.00		9/24/95	0.05
9/25/93	0.00		9/25/94	0.00		9/25/95	0.00
9/26/93	0.00		9/26/94	0.00		9/26/95	0.00
9/27/93	0.00		9/27/94	0.00		9/27/95	0.00
9/28/93	0.00		9/28/94	0.00		9/28/95	
9/29/93	0.00		9/29/94	0.00		9/29/95	0.06
9/30/93	0.00		9/30/94	0.01		9/30/95	0.00
Total inches:	**16.60**			**14.02**			**20.22**

TA-53 10-92 to 11-95 precip.

Date	Daily Precip. (inches)		Date	Daily Precip. (inches)		Date	Daily Precip. (inches)
10/1/95 to 11/2/95 Data:				Stress Periods:			
							Total Precip.
10/1/95	0.00		Period No.	From		To	(inches)
10/2/95	0.00						
10/3/95	0.00		1	7/10/94		10/13/94	5.81
10/4/95	0.00		2	10/14/94		10/17/94	3.08
10/5/95	0.00		3	10/18/94		11/10/94	0.25
10/6/95	0.00		4	11/11/94		12/7/94	2.38
10/7/95	0.00		5	12/8/94		2/12/95	1.42
10/8/95	0.00		6	2/13/95		6/30/95	6.94
10/9/95	0.00		7	7/1/95		8/3/95	1.32
10/10/95	0.00		8	8/4/95		9/11/95	4.19
10/11/95	0.00		9	9/12/95		11/2/95	0.47
10/12/95	0.00						
10/13/95	0.00						
10/14/95	0.00						
10/15/95	0.00						
10/16/95	0.00						
10/17/95	0.00						
10/18/95	0.00						
10/19/95	0.00						
10/20/95	0.00						
10/21/95	0.00						
10/22/95	0.00						
10/23/95	0.00						
10/24/95	0.00						
10/25/95	0.00						
10/26/95	0.00						
10/27/95	0.00						
10/28/95	0.00						
10/29/95	0.00						
10/30/95	0.00						
10/31/95	0.00						
11/1/95	0.03						
11/2/95	0.00						
Total inches:	**0.03**						

Appendix C

TA-74 Station 10/92-11/95 Precipitation Data

TA-74 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
10/1/92	0.00	10/1/93	0.00	10/1/94	0.00
10/2/92	0.00	10/2/93	0.00	10/2/94	0.00
10/3/92	0.00	10/3/93	0.00	10/3/94	0.00
10/4/92	0.00	10/4/93	0.00	10/4/94	0.02
10/5/92	0.00	10/5/93	0.00	10/5/94	0.01
10/6/92	0.00	10/6/93	0.00	10/6/94	0.00
10/7/92	0.00	10/7/93	0.18	10/7/94	0.12
10/8/92	0.00	10/8/93	0.00	10/8/94	0.00
10/9/92	0.00	10/9/93	0.01	10/9/94	0.00
10/10/92	0.00	10/10/93	0.00	10/10/94	0.00
10/11/92	0.00	10/11/93	0.00	10/11/94	0.00
10/12/92	0.00	10/12/93	0.00	10/12/94	0.00
10/13/92	0.00	10/13/93	0.00	10/13/94	0.00
10/14/92	0.00	10/14/93	0.01	10/14/94	1.20
10/15/92	0.00	10/15/93	0.00	10/15/94	0.70
10/16/92	0.00	10/16/93	0.01	10/16/94	0.57
10/17/92	0.00	10/17/93	0.06	10/17/94	0.06
10/18/92	0.00	10/18/93	0.00	10/18/94	0.00
10/19/92	0.00	10/19/93	0.00	10/19/94	0.00
10/20/92	0.00	10/20/93	0.00	10/20/94	0.00
10/21/92	0.00	10/21/93	0.00	10/21/94	0.00
10/22/92	0.00	10/22/93	0.00	10/22/94	0.00
10/23/92	0.00	10/23/93	0.00	10/23/94	0.00
10/24/92	0.02	10/24/93	0.00	10/24/94	0.00
10/25/92	0.01	10/25/93	0.00	10/25/94	0.00
10/26/92	0.00	10/26/93	0.02	10/26/94	0.00
10/27/92	0.00	10/27/93	0.00	10/27/94	0.00
10/28/92	0.04	10/28/93	0.00	10/28/94	0.00
10/29/92	0.00	10/29/93	0.11	10/29/94	0.00
10/30/92	0.00	10/30/93	0.00	10/30/94	0.00
10/31/92	0.20	10/31/93	0.00	10/31/94	0.00
11/1/92	0.00	11/1/93	0.00	11/1/94	0.00
11/2/92	0.04	11/2/93	0.00	11/2/94	0.00
11/3/92	0.10	11/3/93	0.00	11/3/94	0.12
11/4/92	0.23	11/4/93	0.00	11/4/94	0.00
11/5/92	0.00	11/5/93	0.00	11/5/94	0.00
11/6/92	0.00	11/6/93	0.00	11/6/94	0.00
11/7/92	0.00	11/7/93	0.00	11/7/94	0.00
11/8/92	0.00	11/8/93	0.00	11/8/94	0.07
11/9/92	0.00	11/9/93	0.00	11/9/94	0.00
11/10/92	0.00	11/10/93	0.00	11/10/94	0.00
11/11/92	0.43	11/11/93	0.45	11/11/94	0.65
11/12/92	0.00	11/12/93	0.00	11/12/94	0.87
11/13/92	0.00	11/13/93	0.41	11/13/94	0.00
11/14/92	0.00	11/14/93	0.00	11/14/94	0.00
11/15/92	0.00	11/15/93	0.01	11/15/94	0.00

TA-74 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
11/16/92	0.00	11/16/93	0.00	11/16/94	0.00
11/17/92	0.00	11/17/93	0.00	11/17/94	0.00
11/18/92	0.00	11/18/93	0.00	11/18/94	0.00
11/19/92	0.00	11/19/93	0.00	11/19/94	0.00
11/20/92	0.18	11/20/93	0.00	11/20/94	0.00
11/21/92	0.00	11/21/93	0.00	11/21/94	0.00
11/22/92	0.00	11/22/93	0.00	11/22/94	0.00
11/23/92	0.00	11/23/93	0.10	11/23/94	0.00
11/24/92	0.00	11/24/93	0.00	11/24/94	0.00
11/25/92	0.00	11/25/93	0.00	11/25/94	0.00
11/26/92	0.00	11/26/93	0.00	11/26/94	0.00
11/27/92	0.00	11/27/93	0.00	11/27/94	0.00
11/28/92	0.00	11/28/93	0.00	11/28/94	0.00
11/29/92	0.00	11/29/93	0.00	11/29/94	0.00
11/30/92	0.00	11/30/93	0.00	11/30/94	0.00
12/1/92	0.00	12/1/93	0.00	12/1/94	0.00
12/2/92	0.00	12/2/93	0.00	12/2/94	0.00
12/3/92	0.00	12/3/93	0.00	12/3/94	0.00
12/4/92	0.21	12/4/93	0.00	12/4/94	0.00
12/5/92	0.21	12/5/93	0.00	12/5/94	0.16
12/6/92	0.00	12/6/93	0.00	12/6/94	0.21
12/7/92	0.00	12/7/93	0.00	12/7/94	0.01
12/8/92	0.04	12/8/93	0.00	12/8/94	0.00
12/9/92	0.00	12/9/93	0.00	12/9/94	0.00
12/10/92	0.00	12/10/93	0.00	12/10/94	0.00
12/11/92	0.00	12/11/93	0.00	12/11/94	0.00
12/12/92	0.10	12/12/93	0.18	12/12/94	0.00
12/13/92	0.30	12/13/93	0.00	12/13/94	0.00
12/14/92	0.00	12/14/93	0.00	12/14/94	0.00
12/15/92	0.00	12/15/93	0.00	12/15/94	0.00
12/16/92	0.00	12/16/93	0.00	12/16/94	0.00
12/17/92	0.00	12/17/93	0.00	12/17/94	0.00
12/18/92	0.00	12/18/93	0.00	12/18/94	0.00
12/19/92	0.00	12/19/93	0.00	12/19/94	0.00
12/20/92	0.00	12/20/93	0.00	12/20/94	0.00
12/21/92	0.00	12/21/93	0.00	12/21/94	0.00
12/22/92	0.00	12/22/93	0.00	12/22/94	0.00
12/23/92	0.00	12/23/93	0.00	12/23/94	0.00
12/24/92	0.00	12/24/93	0.00	12/24/94	0.00
12/25/92	0.00	12/25/93	0.00	12/25/94	0.00
12/26/92	0.00	12/26/93	0.00	12/26/94	0.00
12/27/92	0.00	12/27/93	0.00	12/27/94	0.00
12/28/92	0.35	12/28/93	0.00	12/28/94	0.00
12/29/92	0.07	12/29/93	0.00	12/29/94	0.00
12/30/92	0.00	12/30/93	0.00	12/30/94	0.29
12/31/92	0.00	12/31/93	0.00	12/31/94	0.00

TA-74 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
1/1/93	0.00	1/1/94	0.00	1/1/95	0.00
1/2/93	0.00	1/2/94	0.00	1/2/95	0.00
1/3/93	0.01	1/3/94	0.00	1/3/95	0.00
1/4/93	0.00	1/4/94	0.00	1/4/95	0.00
1/5/93	0.00	1/5/94	0.00	1/5/95	0.47
1/6/93	0.00	1/6/94	0.00	1/6/95	0.00
1/7/93	0.00	1/7/94	0.00	1/7/95	0.00
1/8/93	1.03	1/8/94	0.00	1/8/95	0.00
1/9/93	0.00	1/9/94	0.00	1/9/95	0.00
1/10/93	0.13	1/10/94	0.00	1/10/95	0.00
1/11/93	0.16	1/11/94	0.00	1/11/95	0.00
1/12/93	0.00	1/12/94	0.00	1/12/95	0.00
1/13/93	0.00	1/13/94	0.00	1/13/95	0.00
1/14/93	0.00	1/14/94	0.00	1/14/95	0.00
1/15/93	0.00	1/15/94	0.00	1/15/95	0.00
1/16/93	0.00	1/16/94	0.00	1/16/95	0.00
1/17/93	0.34	1/17/94	0.00	1/17/95	0.00
1/18/93	0.17	1/18/94	0.00	1/18/95	0.00
1/19/93	0.46	1/19/94	0.00	1/19/95	0.00
1/20/93	0.00	1/20/94	0.00	1/20/95	0.00
1/21/93	0.00	1/21/94	0.00	1/21/95	0.06
1/22/93	0.00	1/22/94	0.00	1/22/95	0.00
1/23/93	0.00	1/23/94	0.00	1/23/95	0.00
1/24/93	0.00	1/24/94	0.00	1/24/95	0.00
1/25/93	0.00	1/25/94	0.17	1/25/95	0.00
1/26/93	0.00	1/26/94	0.00	1/26/95	0.05
1/27/93	0.00	1/27/94	0.00	1/27/95	0.00
1/28/93	0.00	1/28/94	0.04	1/28/95	0.00
1/29/93	0.00	1/29/94	0.00	1/29/95	0.31
1/30/93	0.00	1/30/94	0.04	1/30/95	0.00
1/31/93	0.00	1/31/94	0.00	1/31/95	0.00
2/1/93	0.10	2/1/94	0.00	2/1/95	0.00
2/2/93	0.00	2/2/94	0.00	2/2/95	0.00
2/3/93	0.00	2/3/94	0.00	2/3/95	0.00
2/4/93	0.00	2/4/94	0.00	2/4/95	0.00
2/5/93	0.00	2/5/94	0.00	2/5/95	0.00
2/6/93	0.00	2/6/94	0.00	2/6/95	0.00
2/7/93	0.00	2/7/94	0.01	2/7/95	0.00
2/8/93	0.04	2/8/94	0.13	2/8/95	0.00
2/9/93	0.16	2/9/94	0.00	2/9/95	0.00
2/10/93	0.00	2/10/94	0.00	2/10/95	0.00
2/11/93	0.00	2/11/94	0.00	2/11/95	0.00
2/12/93	0.00	2/12/94	0.00	2/12/95	0.00
2/13/93	0.00	2/13/94	0.00	2/13/95	0.31
2/14/93	0.45	2/14/94	0.00	2/14/95	0.03
2/15/93	0.09	2/15/94	0.00	2/15/95	0.08

TA-74 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
2/16/93	0.01	2/16/94	0.00	2/16/95	0.00
2/17/93	0.00	2/17/94	0.00	2/17/95	0.00
2/18/93	0.00	2/18/94	0.08	2/18/95	0.00
2/19/93	0.18	2/19/94	0.04	2/19/95	0.00
2/20/93	0.02	2/20/94	0.00	2/20/95	0.00
2/21/93	0.00	2/21/94	0.00	2/21/95	0.00
2/22/93	0.00	2/22/94	0.13	2/22/95	0.00
2/23/93	0.00	2/23/94	0.00	2/23/95	0.00
2/24/93	0.11	2/24/94	0.00	2/24/95	0.00
2/25/93	0.00	2/25/94	0.00	2/25/95	0.00
2/26/93	0.00	2/26/94	0.00	2/26/95	0.00
2/27/93	0.00	2/27/94	0.00	2/27/95	0.00
2/28/93	0.29	2/28/94	0.01	2/28/95	0.13
3/1/93	0.02	3/1/94	0.00	3/1/95	0.13
3/2/93	0.00	3/2/94	0.00	3/2/95	0.09
3/3/93	0.00	3/3/94	0.00	3/3/95	0.03
3/4/93	0.00	3/4/94	0.00	3/4/95	0.01
3/5/93	0.00	3/5/94	0.00	3/5/95	0.02
3/6/93	0.00	3/6/94	0.00	3/6/95	0.01
3/7/93	0.00	3/7/94	0.39	3/7/95	0.00
3/8/93	0.00	3/8/94	0.02	3/8/95	0.00
3/9/93	0.00	3/9/94	0.05	3/9/95	0.00
3/10/93	0.00	3/10/94	0.00	3/10/95	0.00
3/11/93	0.20	3/11/94	0.00	3/11/95	0.00
3/12/93	0.00	3/12/94	0.22	3/12/95	0.00
3/13/93	0.00	3/13/94	0.00	3/13/95	0.00
3/14/93	0.00	3/14/94	0.00	3/14/95	0.00
3/15/93	0.00	3/15/94	0.00	3/15/95	0.00
3/16/93	0.00	3/16/94	0.00	3/16/95	0.00
3/17/93	0.00	3/17/94	0.00	3/17/95	0.00
3/18/93	0.00	3/18/94	0.00	3/18/95	0.00
3/19/93	0.00	3/19/94	0.00	3/19/95	0.00
3/20/93	0.00	3/20/94	0.00	3/20/95	0.00
3/21/93	0.00	3/21/94	0.00	3/21/95	0.00
3/22/93	0.00	3/22/94	0.00	3/22/95	0.00
3/23/93	0.00	3/23/94	0.00	3/23/95	0.00
3/24/93	0.00	3/24/94	0.07	3/24/95	0.00
3/25/93	0.00	3/25/94	0.00	3/25/95	0.00
3/26/93	0.07	3/26/94	0.20	3/26/95	0.00
3/27/93	0.48	3/27/94	0.50	3/27/95	0.00
3/28/93	0.00	3/28/94	0.00	3/28/95	0.06
3/29/93	0.22	3/29/94	0.00	3/29/95	0.00
3/30/93	0.00	3/30/94	0.00	3/30/95	0.01
3/31/93	0.00	3/31/94	0.00	3/31/95	0.00
4/1/93	0.00	4/1/94	0.00	4/1/95	0.00
4/2/93	0.00	4/2/94	0.00	4/2/95	0.04

TA-74 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)		Date	Daily Precip. (inches)		Date	Daily Precip. (inches)
4/3/93	0.00		4/3/94	0.00		4/3/95	0.00
4/4/93	0.00		4/4/94	0.00		4/4/95	0.00
4/5/93	0.00		4/5/94	0.04		4/5/95	0.00
4/6/93	0.01		4/6/94	0.00		4/6/95	0.00
4/7/93	0.00		4/7/94	0.00		4/7/95	0.00
4/8/93	0.00		4/8/94	0.13		4/8/95	0.00
4/9/93	0.00		4/9/94	0.13		4/9/95	0.00
4/10/93	0.00		4/10/94	0.48		4/10/95	0.36
4/11/93	0.00		4/11/94	0.07		4/11/95	0.00
4/12/93	0.00		4/12/94	0.00		4/12/95	0.00
4/13/93	0.00		4/13/94	0.00		4/13/95	0.00
4/14/93	0.00		4/14/94	0.00		4/14/95	0.00
4/15/93	0.00		4/15/94	0.00		4/15/95	0.00
4/16/93	0.00		4/16/94	0.00		4/16/95	0.00
4/17/93	0.00		4/17/94	0.00		4/17/95	0.00
4/18/93	0.00		4/18/94	0.00		4/18/95	0.00
4/19/93	0.00		4/19/94	0.00		4/19/95	0.00
4/20/93	0.00		4/20/94	0.00		4/20/95	0.01
4/21/93	0.00		4/21/94	0.00		4/21/95	0.36
4/22/93	0.00		4/22/94	0.00		4/22/95	0.65
4/23/93	0.00		4/23/94	0.23		4/23/95	0.00
4/24/93	0.00		4/24/94	0.00		4/24/95	0.00
4/25/93	0.00		4/25/94	0.00		4/25/95	0.00
4/26/93	0.00		4/26/94	0.00		4/26/95	0.00
4/27/93	0.00		4/27/94	0.13		4/27/95	0.00
4/28/93	0.00		4/28/94	0.00		4/28/95	0.00
4/29/93	0.00		4/29/94	0.36		4/29/95	0.00
4/30/93	0.00		4/30/94	0.00		4/30/95	0.00
5/1/93	0.40		5/1/94	0.00		5/1/95	0.00
5/2/93	0.00		5/2/94	0.00		5/2/95	0.00
5/3/93	0.00		5/3/94	0.00		5/3/95	0.00
5/4/93	0.00		5/4/94	0.00		5/4/95	0.00
5/5/93	0.00		5/5/94	0.00		5/5/95	0.15
5/6/93	0.00		5/6/94	0.00		5/6/95	0.00
5/7/93	0.02		5/7/94	0.00		5/7/95	0.07
5/8/93	0.03		5/8/94	0.00		5/8/95	0.00
5/9/93	0.00		5/9/94	0.01		5/9/95	0.00
5/10/93	0.00		5/10/94	0.39		5/10/95	0.07
5/11/93	0.00		5/11/94	0.07		5/11/95	0.00
5/12/93	0.00		5/12/94	0.04		5/12/95	0.00
5/13/93	0.00		5/13/94	0.28		5/13/95	0.00
5/14/93	0.00		5/14/94	0.12		5/14/95	0.00
5/15/93	0.14		5/15/94	0.05		5/15/95	0.00
5/16/93	0.00		5/16/94	0.00		5/16/95	0.00
5/17/93	0.00		5/17/94	0.00		5/17/95	0.00
5/18/93	0.06		5/18/94	0.00		5/18/95	0.10

TA-74 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)		Date	Daily Precip. (inches)		Date	Daily Precip. (inches)
5/19/93	0.00		5/19/94	0.11		5/19/95	0.00
5/20/93	0.05		5/20/94	0.00		5/20/95	0.00
5/21/93	0.04		5/21/94	0.00		5/21/95	0.00
5/22/93	0.00		5/22/94	0.00		5/22/95	0.00
5/23/93	0.00		5/23/94	0.03		5/23/95	0.00
5/24/93	0.03		5/24/94	0.00		5/24/95	0.00
5/25/93	0.00		5/25/94	0.89		5/25/95	0.00
5/26/93	0.00		5/26/94	0.22		5/26/95	0.00
5/27/93	0.00		5/27/94	0.02		5/27/95	0.00
5/28/93	0.00		5/28/94	0.00		5/28/95	0.54
5/29/93	0.06		5/29/94	0.00		5/29/95	0.73
5/30/93	0.00		5/30/94	0.00		5/30/95	0.00
5/31/93	0.00		5/31/94	0.00		5/31/95	0.00
6/1/93	0.00		6/1/94	0.00		6/1/95	0.00
6/2/93	0.00		6/2/94	0.01		6/2/95	0.00
6/3/93	0.00		6/3/94	0.07		6/3/95	0.00
6/4/93	0.00		6/4/94	0.00		6/4/95	0.01
6/5/93	0.00		6/5/94	0.00		6/5/95	0.00
6/6/93	0.00		6/6/94	0.00		6/6/95	0.00
6/7/93	0.00		6/7/94	0.00		6/7/95	0.00
6/8/93	0.00		6/8/94	0.00		6/8/95	0.00
6/9/93	0.00		6/9/94	0.00		6/9/95	0.00
6/10/93	0.00		6/10/94	0.00		6/10/95	0.00
6/11/93	0.00		6/11/94	0.06		6/11/95	0.00
6/12/93	0.00		6/12/94	0.03		6/12/95	0.00
6/13/93	0.00		6/13/94	0.00		6/13/95	0.00
6/14/93	0.00		6/14/94	0.00		6/14/95	0.00
6/15/93	0.60		6/15/94	0.00		6/15/95	0.00
6/16/93	0.00		6/16/94	0.00		6/16/95	0.00
6/17/93	0.05		6/17/94	0.00		6/17/95	0.16
6/18/93	0.00		6/18/94	0.08		6/18/95	0.00
6/19/93	0.00		6/19/94	0.03		6/19/95	0.05
6/20/93	0.00		6/20/94	0.04		6/20/95	0.00
6/21/93	0.00		6/21/94	0.00		6/21/95	0.00
6/22/93	0.00		6/22/94	0.09		6/22/95	0.00
6/23/93	0.00		6/23/94	0.00		6/23/95	0.00
6/24/93	0.00		6/24/94	0.00		6/24/95	0.03
6/25/93	0.00		6/25/94	0.00		6/25/95	0.04
6/26/93	0.00		6/26/94	0.00		6/26/95	0.26
6/27/93	0.00		6/27/94	0.00		6/27/95	0.00
6/28/93	0.00		6/28/94	0.00		6/28/95	0.12
6/29/93	0.00		6/29/94	0.00		6/29/95	0.14
6/30/93	0.00		6/30/94	0.00		6/30/95	0.15
7/1/93	0.00		7/1/94	0.00		7/1/95	0.00
7/2/93	0.00		7/2/94	0.00		7/2/95	0.00
7/3/93	0.00		7/3/94	0.00		7/3/95	0.00

TA-74 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
7/4/93	0.00	7/4/94	0.00	7/4/95	0.00
7/5/93	0.00	7/5/94	0.00	7/5/95	0.00
7/6/93	0.00	7/6/94	0.00	7/6/95	0.00
7/7/93	0.00	7/7/94	0.00	7/7/95	0.00
7/8/93	0.00	7/8/94	0.00	7/8/95	0.00
7/9/93	0.00	7/9/94	0.01	7/9/95	0.00
7/10/93	0.05	7/10/94	0.00	7/10/95	0.00
7/11/93	0.01	7/11/94	0.00	7/11/95	0.00
7/12/93	0.19	7/12/94	0.17	7/12/95	0.00
7/13/93	0.07	7/13/94	0.00	7/13/95	0.00
7/14/93	0.16	7/14/94	0.00	7/14/95	0.00
7/15/93	0.00	7/15/94	0.00	7/15/95	0.01
7/16/93	0.00	7/16/94	0.00	7/16/95	0.02
7/17/93	0.00	7/17/94	0.00	7/17/95	0.19
7/18/93	0.00	7/18/94	0.00	7/18/95	0.45
7/19/93	0.22	7/19/94	0.23	7/19/95	0.00
7/20/93	0.18	7/20/94	0.21	7/20/95	0.00
7/21/93	0.00	7/21/94	0.03	7/21/95	0.00
7/22/93	0.00	7/22/94	0.00	7/22/95	0.00
7/23/93	0.00	7/23/94	0.00	7/23/95	0.00
7/24/93	0.00	7/24/94	0.27	7/24/95	0.00
7/25/93	0.00	7/25/94	0.00	7/25/95	0.00
7/26/93	0.00	7/26/94	0.03	7/26/95	0.00
7/27/93	0.00	7/27/94	0.38	7/27/95	0.00
7/28/93	0.21	7/28/94	0.05	7/28/95	0.00
7/29/93	0.00	7/29/94	0.24	7/29/95	0.00
7/30/93	0.01	7/30/94	0.00	7/30/95	0.00
7/31/93	0.00	7/31/94	0.02	7/31/95	0.00
8/1/93	0.00	8/1/94	0.09	8/1/95	0.00
8/2/93	0.00	8/2/94	0.06	8/2/95	0.00
8/3/93	1.18	8/3/94	0.00	8/3/95	0.00
8/4/93	0.00	8/4/94	0.02	8/4/95	0.01
8/5/93	0.14	8/5/94	0.13	8/5/95	0.16
8/6/93	0.17	8/6/94	0.00	8/6/95	0.00
8/7/93	0.00	8/7/94	0.00	8/7/95	0.00
8/8/93	0.23	8/8/94	0.19	8/8/95	0.00
8/9/93	0.00	8/9/94	0.00	8/9/95	0.00
8/10/93	0.00	8/10/94	0.00	8/10/95	0.00
8/11/93	0.00	8/11/94	0.01	8/11/95	0.42
8/12/93	0.00	8/12/94	0.00	8/12/95	0.04
8/13/93	0.07	8/13/94	0.26	8/13/95	0.31
8/14/93	0.22	8/14/94	0.31	8/14/95	0.02
8/15/93	0.00	8/15/94	0.00	8/15/95	0.00
8/16/93	0.00	8/16/94	0.00	8/16/95	0.08
8/17/93	0.03	8/17/94	0.00	8/17/95	0.00
8/18/93	0.00	8/18/94	0.16	8/18/95	0.00

TA-74 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)		Date	Daily Precip. (inches)		Date	Daily Precip. (inches)
8/19/93	0.14		8/19/94	0.00		8/19/95	0.00
8/20/93	0.10		8/20/94	0.31		8/20/95	0.03
8/21/93	0.29		8/21/94	0.51		8/21/95	0.05
8/22/93	0.01		8/22/94	0.00		8/22/95	0.20
8/23/93	0.00		8/23/94	0.00		8/23/95	0.00
8/24/93	0.00		8/24/94	0.39		8/24/95	0.00
8/25/93	0.14		8/25/94	0.01		8/25/95	0.00
8/26/93	0.70		8/26/94	0.00		8/26/95	0.11
8/27/93	0.65		8/27/94	0.00		8/27/95	0.05
8/28/93	0.43		8/28/94	0.29		8/28/95	0.02
8/29/93	0.01		8/29/94	0.00		8/29/95	0.07
8/30/93	0.59		8/30/94	0.00		8/30/95	0.00
8/31/93	0.00		8/31/94	0.00		8/31/95	0.00
9/1/93	0.00		9/1/94	0.01		9/1/95	0.00
9/2/93	0.00		9/2/94	0.00		9/2/95	0.00
9/3/93	0.00		9/3/94	0.18		9/3/95	0.00
9/4/93	0.00		9/4/94	0.01		9/4/95	0.00
9/5/93	0.05		9/5/94	0.69		9/5/95	0.00
9/6/93	0.23		9/6/94	0.23		9/6/95	0.02
9/7/93	0.10		9/7/94	0.00		9/7/95	0.64
9/8/93	0.00		9/8/94	0.00		9/8/95	0.62
9/9/93	0.00		9/9/94	0.05		9/9/95	0.10
9/10/93	0.00		9/10/94	0.00		9/10/95	0.01
9/11/93	0.00		9/11/94	0.00		9/11/95	0.22
9/12/93	0.28		9/12/94	0.08		9/12/95	0.00
9/13/93	0.35		9/13/94	0.15		9/13/95	0.00
9/14/93	0.00		9/14/94	0.19		9/14/95	0.18
9/15/93	0.00		9/15/94	0.00		9/15/95	0.00
9/16/93	0.00		9/16/94	0.00		9/16/95	0.00
9/17/93	0.00		9/17/94	0.20		9/17/95	0.01
9/18/93	0.00		9/18/94	0.00		9/18/95	0.07
9/19/93	0.00		9/19/94	0.00		9/19/95	0.00
9/20/93	0.00		9/20/94	0.00		9/20/95	0.00
9/21/93	0.00		9/21/94	0.00		9/21/95	0.00
9/22/93	0.00		9/22/94	0.00		9/22/95	0.00
9/23/93	0.00		9/23/94	0.00		9/23/95	0.00
9/24/93	0.00		9/24/94	0.00		9/24/95	0.05
9/25/93	0.00		9/25/94	0.00		9/25/95	0.01
9/26/93	0.00		9/26/94	0.00		9/26/95	0.00
9/27/93	0.00		9/27/94	0.00		9/27/95	0.00
9/28/93	0.00		9/28/94	0.00		9/28/95	0.27
9/29/93	0.00		9/29/94	0.00		9/29/95	0.04
9/30/93	0.00		9/30/94	0.01		9/30/95	0.00
Total inches:	**15.97**			**14.04**			**15.38**

TA-74 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)		Date	Daily Precip. (inches)		Date	Daily Precip. (inches)
10/1/95 to 11/2/95 Data:				Stress Periods:			
							Total Precip.
10/1/95	0.00		Period No.	From		To	(inches)
10/2/95	0.00						
10/3/95	0.00		1	7/10/94		10/13/94	6.17
10/4/95	0.00		2	10/14/94		10/17/94	2.53
10/5/95	0.00		3	10/18/94		11/10/94	0.19
10/6/95	0.00		4	11/11/94		12/7/94	1.90
10/7/95	0.00		5	12/8/94		2/12/95	1.18
10/8/95	0.00		6	2/13/95		6/30/95	4.95
10/9/95	0.00		7	7/1/95		8/3/95	0.67
10/10/95	0.00		8	8/4/95		9/11/95	3.18
10/11/95	0.00		9	9/12/95		11/2/95	0.63
10/12/95	0.00						
10/13/95	0.00						
10/14/95	0.00						
10/15/95	0.00						
10/16/95	0.00						
10/17/95	0.00						
10/18/95	0.00						
10/19/95	0.00						
10/20/95	0.00						
10/21/95	0.00						
10/22/95	0.00						
10/23/95	0.00						
10/24/95	0.00						
10/25/95	0.00						
10/26/95	0.00						
10/27/95	0.00						
10/28/95	0.00						
10/29/95	0.00						
10/30/95	0.00						
10/31/95	0.00						
11/1/95	0.00						
11/2/95	0.00						
Total inches:	**0.00**						

Appendix D

North Community Station 10/92-11/95 Precipitation Data

N Comm. 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)		Date	Daily Precip. (inches)		Date	Daily Precip. (inches)
10/1/92	0.00		10/1/93	0.00		10/1/94	0.03
10/2/92	0.00		10/2/93	0.00		10/2/94	0.00
10/3/92	0.00		10/3/93	0.00		10/3/94	0.01
10/4/92	0.00		10/4/93	0.00		10/4/94	0.01
10/5/92	0.00		10/5/93	0.00		10/5/94	0.09
10/6/92	0.00		10/6/93	0.00		10/6/94	0.00
10/7/92	0.00		10/7/93	0.12		10/7/94	0.15
10/8/92	0.00		10/8/93	0.00		10/8/94	0.00
10/9/92	0.00		10/9/93	0.00		10/9/94	0.00
10/10/92	0.00		10/10/93	0.00		10/10/94	0.00
10/11/92	0.00		10/11/93	0.00		10/11/94	0.00
10/12/92	0.00		10/12/93	0.00		10/12/94	0.00
10/13/92	0.00		10/13/93	0.00		10/13/94	0.00
10/14/92	0.00		10/14/93	0.10		10/14/94	2.20
10/15/92	0.00		10/15/93	0.00		10/15/94	0.80
10/16/92	0.00		10/16/93	0.01		10/16/94	0.60
10/17/92	0.00		10/17/93	0.19		10/17/94	0.12
10/18/92	0.00		10/18/93	0.00		10/18/94	0.00
10/19/92	0.00		10/19/93	0.06		10/19/94	0.00
10/20/92	0.00		10/20/93	0.00		10/20/94	0.00
10/21/92	0.00		10/21/93	0.00		10/21/94	0.00
10/22/92	0.44		10/22/93	0.00		10/22/94	0.00
10/23/92	0.00		10/23/93	0.00		10/23/94	0.00
10/24/92	0.05		10/24/93	0.00		10/24/94	0.00
10/25/92	0.01		10/25/93	0.00		10/25/94	0.00
10/26/92	0.00		10/26/93	0.04		10/26/94	0.00
10/27/92	0.00		10/27/93	0.00		10/27/94	0.00
10/28/92	0.07		10/28/93	0.00		10/28/94	0.00
10/29/92	0.00		10/29/93	0.16		10/29/94	0.00
10/30/92	0.00		10/30/93	0.00		10/30/94	0.00
10/31/92	0.66		10/31/93	0.00		10/31/94	0.00
11/1/92	0.00		11/1/93	0.00		11/1/94	0.00
11/2/92	0.17		11/2/93	0.00		11/2/94	0.01
11/3/92	0.15		11/3/93	0.00		11/3/94	0.22
11/4/92	0.00		11/4/93	0.00		11/4/94	0.00
11/5/92	0.00		11/5/93	0.00		11/5/94	0.00
11/6/92	0.00		11/6/93	0.00		11/6/94	0.00
11/7/92	0.00		11/7/93	0.00		11/7/94	0.00
11/8/92	0.00		11/8/93	0.00		11/8/94	0.06
11/9/92	0.00		11/9/93	0.00		11/9/94	0.00
11/10/92	0.25		11/10/93	0.00		11/10/94	0.00
11/11/92	0.31		11/11/93	0.62		11/11/94	0.60
11/12/92	0.00		11/12/93	0.01		11/12/94	1.13
11/13/92	0.00		11/13/93	0.48		11/13/94	0.00
11/14/92	0.00		11/14/93	0.03		11/14/94	0.00
11/15/92	0.00		11/15/93	0.04		11/15/94	0.00

N Comm. 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
11/16/92	0.00	11/16/93	0.00	11/16/94	0.00
11/17/92	0.00	11/17/93	0.00	11/17/94	0.01
11/18/92	0.00	11/18/93	0.00	11/18/94	0.00
11/19/92	0.00	11/19/93	0.00	11/19/94	0.00
11/20/92	0.29	11/20/93	0.00	11/20/94	0.00
11/21/92	0.04	11/21/93	0.00	11/21/94	0.00
11/22/92	0.00	11/22/93	0.00	11/22/94	0.00
11/23/92	0.00	11/23/93	0.38	11/23/94	0.00
11/24/92	0.04	11/24/93	0.01	11/24/94	0.00
11/25/92	0.00	11/25/93	0.00	11/25/94	0.00
11/26/92	0.00	11/26/93	0.00	11/26/94	0.06
11/27/92	0.00	11/27/93	0.00	11/27/94	0.01
11/28/92	0.00	11/28/93	0.00	11/28/94	0.00
11/29/92	0.00	11/29/93	0.00	11/29/94	0.00
11/30/92	0.00	11/30/93	0.00	11/30/94	0.00
12/1/92	0.00	12/1/93	0.00	12/1/94	0.00
12/2/92	0.00	12/2/93	0.00	12/2/94	0.00
12/3/92	0.00	12/3/93	0.00	12/3/94	0.00
12/4/92	0.42	12/4/93	0.00	12/4/94	0.00
12/5/92	0.25	12/5/93	0.00	12/5/94	0.15
12/6/92	0.00	12/6/93	0.00	12/6/94	0.22
12/7/92	0.00	12/7/93	0.00	12/7/94	0.01
12/8/92	0.05	12/8/93	0.00	12/8/94	0.00
12/9/92	0.00	12/9/93	0.00	12/9/94	0.00
12/10/92	0.00	12/10/93	0.00	12/10/94	0.00
12/11/92	0.00	12/11/93	0.00	12/11/94	0.00
12/12/92	0.09	12/12/93	0.19	12/12/94	0.00
12/13/92	0.13	12/13/93	0.00	12/13/94	0.00
12/14/92	0.00	12/14/93	0.00	12/14/94	0.00
12/15/92	0.00	12/15/93	0.01	12/15/94	0.00
12/16/92	0.04	12/16/93	0.00	12/16/94	0.00
12/17/92	0.00	12/17/93	0.00	12/17/94	0.00
12/18/92	0.02	12/18/93	0.00	12/18/94	0.00
12/19/92	0.01	12/19/93	0.02	12/19/94	0.00
12/20/92	0.00	12/20/93	0.00	12/20/94	0.00
12/21/92	0.00	12/21/93	0.00	12/21/94	0.00
12/22/92	0.00	12/22/93	0.00	12/22/94	0.00
12/23/92	0.00	12/23/93	0.00	12/23/94	0.00
12/24/92	0.00	12/24/93	0.00	12/24/94	0.00
12/25/92	0.00	12/25/93	0.00	12/25/94	0.00
12/26/92	0.00	12/26/93	0.00	12/26/94	0.00
12/27/92	0.00	12/27/93	0.00	12/27/94	0.00
12/28/92	0.57	12/28/93	0.00	12/28/94	0.00
12/29/92	0.04	12/29/93	0.00	12/29/94	0.00
12/30/92	0.00	12/30/93	0.00	12/30/94	0.05
12/31/92	0.00	12/31/93	0.00	12/31/94	0.00

N Comm. 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)		Date	Daily Precip. (inches)		Date	Daily Precip. (inches)
1/1/93	0.00		1/1/94	0.00		1/1/95	0.00
1/2/93	0.00		1/2/94	0.00		1/2/95	0.00
1/3/93	0.12		1/3/94	0.00		1/3/95	0.00
1/4/93	0.00		1/4/94	0.00		1/4/95	0.05
1/5/93	0.00		1/5/94	0.00		1/5/95	0.29
1/6/93	0.00		1/6/94	0.00		1/6/95	0.02
1/7/93	0.08		1/7/94	0.00		1/7/95	0.00
1/8/93	1.14		1/8/94	0.00		1/8/95	0.00
1/9/93	0.00		1/9/94	0.00		1/9/95	0.00
1/10/93	0.29		1/10/94	0.00		1/10/95	0.00
1/11/93	0.24		1/11/94	0.00		1/11/95	0.00
1/12/93	0.00		1/12/94	0.00		1/12/95	0.00
1/13/93	0.00		1/13/94	0.00		1/13/95	0.00
1/14/93	0.00		1/14/94	0.00		1/14/95	0.00
1/15/93	0.00		1/15/94	0.00		1/15/95	0.00
1/16/93	0.00		1/16/94	0.00		1/16/95	0.10
1/17/93	0.32		1/17/94	0.00		1/17/95	0.11
1/18/93	0.48		1/18/94	0.00		1/18/95	0.00
1/19/93	0.57		1/19/94	0.00		1/19/95	0.00
1/20/93	0.00		1/20/94	0.00		1/20/95	0.00
1/21/93	0.00		1/21/94	0.00		1/21/95	0.15
1/22/93	0.00		1/22/94	0.00		1/22/95	0.00
1/23/93	0.00		1/23/94	0.00		1/23/95	0.00
1/24/93	0.00		1/24/94	0.00		1/24/95	0.00
1/25/93	0.00		1/25/94	0.18		1/25/95	0.00
1/26/93	0.00		1/26/94	0.00		1/26/95	0.05
1/27/93	0.00		1/27/94	0.05		1/27/95	0.00
1/28/93	0.00		1/28/94	0.12		1/28/95	0.00
1/29/93	0.00		1/29/94	0.00		1/29/95	0.23
1/30/93	0.00		1/30/94	0.19		1/30/95	0.00
1/31/93	0.02		1/31/94	0.00		1/31/95	0.00
2/1/93	0.09		2/1/94	0.00		2/1/95	0.00
2/2/93	0.00		2/2/94	0.00		2/2/95	0.00
2/3/93	0.00		2/3/94	0.00		2/3/95	0.00
2/4/93	0.11		2/4/94	0.03		2/4/95	0.00
2/5/93	0.00		2/5/94	0.01		2/5/95	0.00
2/6/93	0.00		2/6/94	0.00		2/6/95	0.00
2/7/93	0.00		2/7/94	0.01		2/7/95	0.00
2/8/93	0.10		2/8/94	0.17		2/8/95	0.00
2/9/93	0.14		2/9/94	0.00		2/9/95	0.00
2/10/93	0.00		2/10/94	0.00		2/10/95	0.00
2/11/93	0.00		2/11/94	0.00		2/11/95	0.04
2/12/93	0.00		2/12/94	0.01		2/12/95	0.00
2/13/93	0.00		2/13/94	0.01		2/13/95	0.34
2/14/93	0.45		2/14/94	0.00		2/14/95	0.17
2/15/93	0.21		2/15/94	0.00		2/15/95	0.20

N Comm. 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
2/16/93	0.02	2/16/94	0.00	2/16/95	0.00
2/17/93	0.00	2/17/94	0.00	2/17/95	0.00
2/18/93	0.00	2/18/94	0.26	2/18/95	0.00
2/19/93	0.23	2/19/94	0.04	2/19/95	0.00
2/20/93	0.11	2/20/94	0.00	2/20/95	0.00
2/21/93	0.01	2/21/94	0.00	2/21/95	0.00
2/22/93	0.00	2/22/94	0.01	2/22/95	0.00
2/23/93	0.00	2/23/94	0.00	2/23/95	0.00
2/24/93	0.26	2/24/94	0.00	2/24/95	0.00
2/25/93	0.00	2/25/94	0.00	2/25/95	0.00
2/26/93	0.00	2/26/94	0.00	2/26/95	0.00
2/27/93	0.00	2/27/94	0.00	2/27/95	0.00
2/28/93	0.57	2/28/94	0.09	2/28/95	0.30
3/1/93	0.08	3/1/94	0.00	3/1/95	0.20
3/2/93	0.00	3/2/94	0.00	3/2/95	0.14
3/3/93	0.00	3/3/94	0.00	3/3/95	0.06
3/4/93	0.00	3/4/94	0.00	3/4/95	0.07
3/5/93	0.00	3/5/94	0.00	3/5/95	0.21
3/6/93	0.00	3/6/94	0.00	3/6/95	0.11
3/7/93	0.00	3/7/94	0.35	3/7/95	0.00
3/8/93	0.00	3/8/94	0.02	3/8/95	0.00
3/9/93	0.00	3/9/94	0.06	3/9/95	0.00
3/10/93	0.00	3/10/94	0.00	3/10/95	0.00
3/11/93	0.20	3/11/94	0.01	3/11/95	0.03
3/12/93	0.00	3/12/94	0.43	3/12/95	0.00
3/13/93	0.00	3/13/94	0.00	3/13/95	0.00
3/14/93	0.00	3/14/94	0.00	3/14/95	0.00
3/15/93	0.00	3/15/94	0.00	3/15/95	0.00
3/16/93	0.00	3/16/94	0.00	3/16/95	0.00
3/17/93	0.00	3/17/94	0.00	3/17/95	0.00
3/18/93	0.00	3/18/94	0.01	3/18/95	0.00
3/19/93	0.00	3/19/94	0.09	3/19/95	0.00
3/20/93	0.00	3/20/94	0.00	3/20/95	0.00
3/21/93	0.00	3/21/94	0.00	3/21/95	0.00
3/22/93	0.00	3/22/94	0.00	3/22/95	0.00
3/23/93	0.00	3/23/94	0.00	3/23/95	0.00
3/24/93	0.00	3/24/94	0.14	3/24/95	0.00
3/25/93	0.00	3/25/94	0.00	3/25/95	0.00
3/26/93	0.52	3/26/94	0.00	3/26/95	0.00
3/27/93	0.12	3/27/94	0.90	3/27/95	0.00
3/28/93	0.00	3/28/94	0.01	3/28/95	0.18
3/29/93	0.34	3/29/94	0.01	3/29/95	0.03
3/30/93	0.00	3/30/94	0.00	3/30/95	0.02
3/31/93	0.00	3/31/94	0.00	3/31/95	0.00
4/1/93	0.00	4/1/94	0.00	4/1/95	0.00
4/2/93	0.00	4/2/94	0.00	4/2/95	0.01

N Comm. 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
4/3/93	0.00	4/3/94	0.00	4/3/95	0.00
4/4/93	0.00	4/4/94	0.00	4/4/95	0.00
4/5/93	0.00	4/5/94	0.02	4/5/95	0.00
4/6/93	0.03	4/6/94	0.00	4/6/95	0.00
4/7/93	0.03	4/7/94	0.00	4/7/95	0.00
4/8/93	0.00	4/8/94	0.13	4/8/95	0.00
4/9/93	0.00	4/9/94	0.19	4/9/95	0.00
4/10/93	0.00	4/10/94	0.76	4/10/95	0.40
4/11/93	0.00	4/11/94	0.06	4/11/95	0.00
4/12/93	0.00	4/12/94	0.00	4/12/95	0.00
4/13/93	0.00	4/13/94	0.00	4/13/95	0.00
4/14/93	0.00	4/14/94	0.00	4/14/95	0.00
4/15/93	0.00	4/15/94	0.00	4/15/95	0.00
4/16/93	0.00	4/16/94	0.00	4/16/95	0.00
4/17/93	0.00	4/17/94	0.00	4/17/95	0.07
4/18/93	0.00	4/18/94	0.00	4/18/95	0.00
4/19/93	0.00	4/19/94	0.00	4/19/95	0.06
4/20/93	0.00	4/20/94	0.01	4/20/95	0.05
4/21/93	0.00	4/21/94	0.11	4/21/95	0.29
4/22/93	0.00	4/22/94	0.00	4/22/95	1.17
4/23/93	0.00	4/23/94	0.00	4/23/95	0.08
4/24/93	0.00	4/24/94	0.00	4/24/95	0.00
4/25/93	0.00	4/25/94	0.00	4/25/95	0.00
4/26/93	0.00	4/26/94	0.00	4/26/95	0.00
4/27/93	0.00	4/27/94	0.12	4/27/95	0.00
4/28/93	0.00	4/28/94	0.00	4/28/95	0.00
4/29/93	0.00	4/29/94	0.57	4/29/95	0.00
4/30/93	0.00	4/30/94	0.00	4/30/95	0.00
5/1/93	0.19	5/1/94	0.00	5/1/95	0.01
5/2/93	0.01	5/2/94	0.00	5/2/95	0.01
5/3/93	0.00	5/3/94	0.00	5/3/95	0.00
5/4/93	0.00	5/4/94	0.00	5/4/95	0.00
5/5/93	0.00	5/5/94	0.00	5/5/95	0.18
5/6/93	0.00	5/6/94	0.00	5/6/95	0.00
5/7/93	0.09	5/7/94	0.00	5/7/95	0.12
5/8/93	0.03	5/8/94	0.00	5/8/95	0.01
5/9/93	0.00	5/9/94	0.00	5/9/95	0.00
5/10/93	0.00	5/10/94	0.52	5/10/95	0.10
5/11/93	0.00	5/11/94	0.11	5/11/95	0.00
5/12/93	0.00	5/12/94	0.02	5/12/95	0.00
5/13/93	0.01	5/13/94	0.19	5/13/95	0.00
5/14/93	0.00	5/14/94	0.13	5/14/95	0.00
5/15/93	0.28	5/15/94	0.02	5/15/95	0.00
5/16/93	0.01	5/16/94	0.00	5/16/95	0.00
5/17/93	0.00	5/17/94	0.00	5/17/95	0.00
5/18/93	0.11	5/18/94	0.00	5/18/95	0.34

N Comm. 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
5/19/93	0.00	5/19/94	0.00	5/19/95	0.00
5/20/93	0.09	5/20/94	0.00	5/20/95	0.00
5/21/93	0.01	5/21/94	0.00	5/21/95	0.00
5/22/93	0.00	5/22/94	0.04	5/22/95	0.00
5/23/93	0.00	5/23/94	0.02	5/23/95	0.00
5/24/93	0.01	5/24/94	0.00	5/24/95	0.08
5/25/93	0.00	5/25/94	0.96	5/25/95	0.00
5/26/93	0.00	5/26/94	0.24	5/26/95	0.02
5/27/93	0.05	5/27/94	0.03	5/27/95	0.00
5/28/93	0.03	5/28/94	0.00	5/28/95	0.40
5/29/93	0.06	5/29/94	0.00	5/29/95	0.81
5/30/93	0.00	5/30/94	0.00	5/30/95	0.00
5/31/93	0.00	5/31/94	0.00	5/31/95	0.00
6/1/93	0.00	6/1/94	0.00	6/1/95	0.00
6/2/93	0.00	6/2/94	0.00	6/2/95	0.00
6/3/93	0.00	6/3/94	0.00	6/3/95	0.00
6/4/93	0.00	6/4/94	0.00	6/4/95	0.00
6/5/93	0.00	6/5/94	0.00	6/5/95	0.00
6/6/93	0.00	6/6/94	0.00	6/6/95	0.00
6/7/93	0.00	6/7/94	0.00	6/7/95	0.00
6/8/93	0.00	6/8/94	0.00	6/8/95	0.00
6/9/93	0.01	6/9/94	0.00	6/9/95	0.00
6/10/93	0.00	6/10/94	0.00	6/10/95	0.00
6/11/93	0.00	6/11/94	0.00	6/11/95	0.00
6/12/93	0.00	6/12/94	0.00	6/12/95	0.00
6/13/93	0.00	6/13/94	0.00	6/13/95	0.00
6/14/93	0.00	6/14/94	0.00	6/14/95	0.03
6/15/93	0.74	6/15/94	0.00	6/15/95	0.02
6/16/93	0.00	6/16/94	0.00	6/16/95	0.09
6/17/93	0.00	6/17/94	0.00	6/17/95	1.09
6/18/93	0.00	6/18/94	0.00	6/18/95	0.00
6/19/93	0.00	6/19/94	0.21	6/19/95	0.00
6/20/93	0.00	6/20/94	0.20	6/20/95	0.00
6/21/93	0.04	6/21/94	0.12	6/21/95	0.00
6/22/93	0.00	6/22/94	0.25	6/22/95	0.00
6/23/93	0.00	6/23/94	0.00	6/23/95	0.00
6/24/93	0.00	6/24/94	0.00	6/24/95	0.01
6/25/93	0.00	6/25/94	0.00	6/25/95	0.21
6/26/93	0.00	6/26/94	0.00	6/26/95	0.54
6/27/93	0.00	6/27/94	0.00	6/27/95	0.05
6/28/93	0.00	6/28/94	0.00	6/28/95	0.30
6/29/93	0.00	6/29/94	0.02	6/29/95	0.11
6/30/93	0.00	6/30/94	0.00	6/30/95	0.11
7/1/93	0.00	7/1/94	0.00	7/1/95	0.00
7/2/93	0.00	7/2/94	0.00	7/2/95	0.01
7/3/93	0.00	7/3/94	0.00	7/3/95	0.03

N Comm. 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
7/4/93	0.00	7/4/94	0.00	7/4/95	0.00
7/5/93	0.00	7/5/94	0.00	7/5/95	0.00
7/6/93	0.00	7/6/94	0.00	7/6/95	0.00
7/7/93	0.00	7/7/94	0.00	7/7/95	0.00
7/8/93	0.00	7/8/94	0.00	7/8/95	0.00
7/9/93	0.00	7/9/94	0.00	7/9/95	0.00
7/10/93	0.05	7/10/94	0.00	7/10/95	0.00
7/11/93	0.01	7/11/94	0.00	7/11/95	0.00
7/12/93	0.16	7/12/94	0.00	7/12/95	0.00
7/13/93	0.07	7/13/94	0.00	7/13/95	0.00
7/14/93	0.27	7/14/94	0.09	7/14/95	0.00
7/15/93	0.00	7/15/94	0.00	7/15/95	0.19
7/16/93	0.00	7/16/94	0.15	7/16/95	0.23
7/17/93	0.00	7/17/94	0.10	7/17/95	0.18
7/18/93	0.00	7/18/94	0.00	7/18/95	1.21
7/19/93	0.07	7/19/94	0.35	7/19/95	0.00
7/20/93	0.60	7/20/94	0.96	7/20/95	0.00
7/21/93	0.00	7/21/94	0.00	7/21/95	0.00
7/22/93	0.00	7/22/94	0.00	7/22/95	0.00
7/23/93	0.00	7/23/94	0.00	7/23/95	0.00
7/24/93	0.00	7/24/94	0.31	7/24/95	0.00
7/25/93	0.00	7/25/94	0.07	7/25/95	0.00
7/26/93	0.00	7/26/94	0.08	7/26/95	0.00
7/27/93	0.00	7/27/94	0.47	7/27/95	0.00
7/28/93	0.21	7/28/94	0.32	7/28/95	0.00
7/29/93	0.00	7/29/94	0.20	7/29/95	0.00
7/30/93	0.04	7/30/94	0.06	7/30/95	0.00
7/31/93	0.00	7/31/94	0.14	7/31/95	0.00
8/1/93	0.00	8/1/94	0.11	8/1/95	0.00
8/2/93	0.00	8/2/94	0.12	8/2/95	0.00
8/3/93	1.12	8/3/94	0.00	8/3/95	0.01
8/4/93	0.00	8/4/94	0.33	8/4/95	0.59
8/5/93	0.09	8/5/94	0.19	8/5/95	0.03
8/6/93	0.18	8/6/94	0.00	8/6/95	0.01
8/7/93	0.33	8/7/94	0.00	8/7/95	0.00
8/8/93	0.49	8/8/94	0.00	8/8/95	0.00
8/9/93	0.01	8/9/94	0.00	8/9/95	0.01
8/10/93	0.01	8/10/94	0.04	8/10/95	0.07
8/11/93	0.00	8/11/94	0.00	8/11/95	0.58
8/12/93	0.09	8/12/94	0.00	8/12/95	0.02
8/13/93	1.14	8/13/94	0.30	8/13/95	0.30
8/14/93	0.24	8/14/94	0.57	8/14/95	0.43
8/15/93	0.01	8/15/94	0.00	8/15/95	0.00
8/16/93	0.24	8/16/94	0.00	8/16/95	0.00
8/17/93	0.00	8/17/94	0.06	8/17/95	0.09
8/18/93	0.00	8/18/94	0.01	8/18/95	0.03

N Comm. 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)	Date	Daily Precip. (inches)	Date	Daily Precip. (inches)
8/19/93	0.14	8/19/94	0.00	8/19/95	0.01
8/20/93	0.40	8/20/94	0.76	8/20/95	0.25
8/21/93	0.12	8/21/94	0.24	8/21/95	0.00
8/22/93	0.01	8/22/94	0.00	8/22/95	0.02
8/23/93	0.00	8/23/94	0.00	8/23/95	0.14
8/24/93	0.00	8/24/94	0.71	8/24/95	1.09
8/25/93	0.04	8/25/94	0.18	8/25/95	0.04
8/26/93	0.48	8/26/94	0.00	8/26/95	0.10
8/27/93	0.44	8/27/94	0.00	8/27/95	0.32
8/28/93	0.29	8/28/94	0.02	8/28/95	0.01
8/29/93	0.19	8/29/94	0.00	8/29/95	0.68
8/30/93	0.05	8/30/94	0.00	8/30/95	0.00
8/31/93	0.00	8/31/94	0.00	8/31/95	0.00
9/1/93	0.00	9/1/94	0.06	9/1/95	0.00
9/2/93	0.00	9/2/94	0.25	9/2/95	0.00
9/3/93	0.00	9/3/94	0.22	9/3/95	0.00
9/4/93	0.00	9/4/94	0.00	9/4/95	0.00
9/5/93	0.00	9/5/94	0.04	9/5/95	0.00
9/6/93	0.66	9/6/94	0.21	9/6/95	0.14
9/7/93	0.00	9/7/94	0.00	9/7/95	0.28
9/8/93	0.00	9/8/94	0.00	9/8/95	0.34
9/9/93	0.00	9/9/94	0.00	9/9/95	0.06
9/10/93	0.00	9/10/94	0.03	9/10/95	0.10
9/11/93	0.00	9/11/94	0.00	9/11/95	0.08
9/12/93	0.27	9/12/94	0.06	9/12/95	0.00
9/13/93	0.22	9/13/94	0.11	9/13/95	0.00
9/14/93	0.00	9/14/94	0.16	9/14/95	0.00
9/15/93	0.00	9/15/94	0.00	9/15/95	0.00
9/16/93	0.00	9/16/94	0.00	9/16/95	0.00
9/17/93	0.00	9/17/94	0.00	9/17/95	0.00
9/18/93	0.00	9/18/94	0.02	9/18/95	0.00
9/19/93	0.00	9/19/94	0.00	9/19/95	0.00
9/20/93	0.00	9/20/94	0.01	9/20/95	
9/21/93	0.00	9/21/94	0.00	9/21/95	
9/22/93	0.03	9/22/94	0.00	9/22/95	
9/23/93	0.00	9/23/94	0.00	9/23/95	
9/24/93	0.00	9/24/94	0.00	9/24/95	
9/25/93	0.00	9/25/94	0.00	9/25/95	
9/26/93	0.00	9/26/94	0.00	9/26/95	
9/27/93	0.00	9/27/94	0.00	9/27/95	0.00
9/28/93	0.00	9/28/94	0.00	9/28/95	0.21
9/29/93	0.00	9/29/94	0.00	9/29/95	0.35
9/30/93	0.00	9/30/94	0.02	9/30/95	0.00
Total Inches:	**21.52**		**18.86**		**24.65**

N Comm. 10-92 to 11-95 Precip.

Date	Daily Precip. (inches)		Date	Daily Precip. (inches)		Date	Daily Precip. (inches)
10/1/95 to 11/2/95 Data:				Stress Periods:			
							Total Precip.
10/1/95	0.00		Period No.	From		To	(inches)
10/2/95	0.00						
10/3/95	0.00		1	7/10/94		10/13/94	8.16
10/4/95	0.00		2	10/14/94		10/17/94	3.72
10/5/95	0.00		3	10/18/94		11/10/94	0.29
10/6/95	0.00		4	11/11/94		12/7/94	2.19
10/7/95	0.00		5	12/8/94		2/12/95	1.09
10/8/95	0.00		6	2/13/95		6/30/95	8.83
10/9/95	0.00		7	7/1/95		8/3/95	1.86
10/10/95	0.00		8	8/4/95		9/11/95	5.82
10/11/95	0.00		9	9/12/95		11/2/95	0.56
10/12/95	0.00						
10/13/95	0.00						
10/14/95	0.00						
10/15/95	0.00						
10/16/95	0.00						
10/17/95	0.00						
10/18/95	0.00						
10/19/95	0.00						
10/20/95	0.00						
10/21/95	0.00						
10/22/95	0.00						
10/23/95	0.00						
10/24/95	0.00						
10/25/95	0.00						
10/26/95	0.00						
10/27/95	0.00						
10/28/95	0.00						
10/29/95	0.00						
10/30/95	0.00						
10/31/95	0.00						
11/1/95	0.02						
11/2/95	0.00						
Total inches:	**0.02**						

Appendix E

Quemazon Station 10/92-11/95 Precipitation Data

Quemazon 10-92 to 11-95 Precipitation

* NOTE! All daily precipitation totals moved back one day to conform with LANL data.

Date	Cumulative (inches)	Daily Precip. (inches)	Date	Cumulative (inches)	Daily Precip. (inches)	Date	Cumulative (inches)	Daily Precip. (inches)
10/1/92	0.0	0.0	10/1/93	0.0	0.0	10/1/94	0.0	0.0
10/2/92	0.0	0.0	10/2/93	0.0	0.0	10/2/94	0.1	0.1
10/3/92	0.0	0.0	10/3/93	0.0	0.0	10/3/94	0.1	0.0
10/4/92	0.0	0.0	10/4/93	0.1	0.1	10/4/94	0.2	0.1
10/5/92	0.0	0.0	10/5/93	0.1	0.0	10/5/94	0.2	0.0
10/6/92	0.0	0.0	10/6/93	0.1	0.0	10/6/94	0.2	0.0
10/7/92	0.0	0.0	10/7/93	0.3	0.2	10/7/94	0.4	0.2
10/8/92	0.0	0.0	10/8/93	0.4	0.1	10/8/94	0.4	0.0
10/9/92	0.0	0.0	10/9/93	0.4	0.0	10/9/94	0.4	0.0
10/10/92	0.0	0.0	10/10/93	0.4	0.0	10/10/94	0.4	0.0
10/11/92	0.0	0.0	10/11/93	0.4	0.0	10/11/94	0.4	0.0
10/12/92	0.0	0.0	10/12/93	0.4	0.0	10/12/94	0.4	0.0
10/13/92	0.0	0.0	10/13/93	0.5	0.1	10/13/94	0.4	0.0
10/14/92	0.0	0.0	10/14/93	0.5	0.0	10/14/94	2.5	2.1
10/15/92	0.0	0.0	10/15/93	0.6	0.1	10/15/94	3.6	1.1
10/16/92	0.0	0.0	10/16/93	0.6	0.0	10/16/94	4.3	0.7
10/17/92	0.0	0.0	10/17/93	0.7	0.1	10/17/94	4.5	0.2
10/18/92	0.0	0.0	10/18/93	0.7	0.0	10/18/94	4.5	0.0
10/19/92	0.0	0.0	10/19/93	0.9	0.2	10/19/94	4.6	0.1
10/20/92	0.0	0.0	10/20/93	1.0	0.1	10/20/94	4.6	0.0
10/21/92	0.0	0.0	10/21/93	1.0	0.0	10/21/94	4.6	0.0
10/22/92	0.3	0.3	10/22/93	1.0	0.0	10/22/94	4.6	0.0
10/23/92	0.3	0.0	10/23/93	1.0	0.0	10/23/94	4.6	0.0
10/24/92	0.5	0.2	10/24/93	1.0	0.0	10/24/94	4.6	0.0
10/25/92	0.5	0.0	10/25/93	1.0	0.0	10/25/94	4.6	0.0
10/26/92	0.5	0.0	10/26/93	1.0	0.0	10/26/94	4.6	0.0
10/27/92	0.6	0.1	10/27/93	1.1	0.1	10/27/94	4.6	0.0
10/28/92	0.7	0.1	10/28/93	1.1	0.0	10/28/94	4.6	0.0
10/29/92	0.8	0.1	10/29/93	1.2	0.1	10/29/94	4.6	0.0
10/30/92	0.8	0.0	10/30/93	1.3	0.1	10/30/94	4.6	0.0
10/31/92	1.5	0.7	10/31/93	1.3	0.0	10/31/94	4.6	0.0
11/1/92	1.5	0.0	11/1/93	1.3	0.0	11/1/94	4.6	0.0
11/2/92	1.7	0.2	11/2/93	1.3	0.0	11/2/94	4.6	0.0
11/3/92	1.8	0.1	11/3/93	1.3	0.0	11/3/94	5.0	0.4
11/4/92	1.8	0.0	11/4/93	1.3	0.0	11/4/94	5.1	0.1
11/5/92	1.9	0.1	11/5/93	1.3	0.0	11/5/94	5.1	0.0
11/6/92	1.9	0.0	11/6/93	1.3	0.0	11/6/94	5.1	0.0
11/7/92	1.9	0.0	11/7/93	1.3	0.0	11/7/94	5.2	0.1
11/8/92	2.0	0.1	11/8/93	1.3	0.0	11/8/94	5.3	0.1
11/9/92	2.0	0.0	11/9/93	1.3	0.0	11/9/94	5.3	0.0
11/10/92	2.8	0.8	11/10/93	1.3	0.0	11/10/94	5.3	0.0
11/11/92	2.9	0.1	11/11/93	1.7	0.4	11/11/94	6.0	0.7
11/12/92	3.0	0.1	11/12/93	1.9	0.2	11/12/94	7.5	1.5
11/13/92	3.0	0.0	11/13/93	2.5	0.6	11/13/94	7.5	0.0
11/14/92	3.0	0.0	11/14/93	2.7	0.2	11/14/94	7.7	0.2
11/15/92	3.0	0.0	11/15/93	2.8	0.1	11/15/94	7.7	0.0
11/16/92	3.0	0.0	11/16/93	2.8	0.0	11/16/94	7.7	0.0
11/17/92	3.0	0.0	11/17/93	2.8	0.0	11/17/94	7.7	0.0
11/18/92	3.0	0.0	11/18/93	2.8	0.0	11/18/94	7.8	0.1
11/19/92	3.0	0.0	11/19/93	2.8	0.0	11/19/94	7.8	0.0
11/20/92	3.6	0.6	11/20/93	2.9	0.1	11/20/94	7.9	0.1
11/21/92	3.7	0.1	11/21/93	2.9	0.0	11/21/94	7.9	0.0
11/22/92	3.7	0.0	11/22/93	2.9	0.0	11/22/94	7.9	0.0
11/23/92	3.7	0.0	11/23/93	3.3	0.4	11/23/94	8.0	0.1
11/24/92	3.8	0.1	11/24/93	3.3	0.0	11/24/94	8.0	0.0
11/25/92	3.8	0.0	11/25/93	3.4	0.1	11/25/94	8.0	0.0
11/26/92	3.8	0.0	11/26/93	3.5	0.1	11/26/94	8.0	0.0
11/27/92	3.8	0.0	11/27/93	3.5	0.0	11/27/94	8.2	0.2
11/28/92	3.8	0.0	11/28/93	3.5	0.0	11/28/94	8.2	0.0
11/29/92	3.8	0.0	11/29/93	3.5	0.0	11/29/94	8.3	0.1

Quemazon 10-92 to 11-95 Precipitation

Date	Cumulative (inches)	Daily Precip. (inches)		Date	Cumulative (inches)	Daily Precip. (inches)		Date	Cumulative (inches)	Daily Precip. (inches)
11/30/92	3.9	0.1		11/30/93	3.5	0.0		11/30/94	8.3	0.0
12/1/92	3.9	0.0		12/1/93	3.5	0.0		12/1/94	8.3	0.0
12/2/92	3.9	0.0		12/2/93	3.5	0.0		12/2/94	8.3	0.0
12/3/92	3.9	0.0		12/3/93	3.5	0.0		12/3/94	8.3	0.0
12/4/92	4.6	0.7		12/4/93	3.5	0.0		12/4/94	8.3	0.0
12/5/92	5.0	0.4		12/5/93	3.5	0.0		12/5/94	8.5	0.2
12/6/92	5.0	0.0		12/6/93	3.5	0.0		12/6/94	8.9	0.4
12/7/92	5.1	0.1		12/7/93	3.5	0.0		12/7/94	9.1	0.2
12/8/92	5.2	0.1		12/8/93	3.5	0.0		12/8/94	9.1	0.0
12/9/92	5.3	0.1		12/9/93	3.5	0.0		12/9/94	9.1	0.0
12/10/92	5.3	0.0		12/10/93	3.6	0.1		12/10/94	9.1	0.0
12/11/92	5.3	0.0		12/11/93	3.6	0.0		12/11/94	9.1	0.0
12/12/92	5.4	0.1		12/12/93	3.9	0.3		12/12/94	9.1	0.0
12/13/92	5.5	0.1		12/13/93	3.9	0.0		12/13/94	9.1	0.0
12/14/92	5.5	0.0		12/14/93	3.9	0.0		12/14/94	9.1	0.0
12/15/92	5.5	0.0		12/15/93	4.0	0.1		12/15/94	9.2	0.1
12/16/92	5.7	0.2		12/16/93	4.1	0.1		12/16/94	9.2	0.0
12/17/92	5.8	0.1		12/17/93	4.1	0.0		12/17/94	9.2	0.0
12/18/92	5.8	0.0		12/18/93	4.2	0.1		12/18/94	9.2	0.0
12/19/92	5.8	0.0		12/19/93	4.2	0.0		12/19/94	9.2	0.0
12/20/92	5.9	0.1		12/20/93	4.2	0.0		12/20/94	9.2	0.0
12/21/92	5.9	0.0		12/21/93	4.2	0.0		12/21/94	9.2	0.0
12/22/92	5.9	0.0		12/22/93	4.2	0.0		12/22/94	9.2	0.0
12/23/92	5.9	0.0		12/23/93	4.3	0.1		12/23/94	9.2	0.0
12/24/92	5.9	0.0		12/24/93	4.4	0.1		12/24/94	9.2	0.0
12/25/92	5.9	0.0		12/25/93	4.4	0.0		12/25/94	9.2	0.0
12/26/92	5.9	0.0		12/26/93	4.4	0.0		12/26/94	9.2	0.0
12/27/92	6.2	0.3		12/27/93	4.4	0.0		12/27/94	9.2	0.0
12/28/92	7.0	0.8		12/28/93	4.4	0.0		12/28/94	9.2	0.0
12/29/92	7.1	0.1		12/29/93	4.4	0.0		12/29/94	9.2	0.0
12/30/92	7.1	0.0		12/30/93	4.4	0.0		12/30/94	9.4	0.2
12/31/92	7.2	0.1		12/31/93	4.4	0.0		12/31/94	9.4	0.0
1/1/93	7.2	0.0		1/1/94	4.4	0.0		1/1/95	9.4	0.0
1/2/93	7.2	0.0		1/2/94	4.4	0.0		1/2/95	9.4	0.0
1/3/93	7.5	0.3		1/3/94	4.4	0.0		1/3/95	9.4	0.0
1/4/93	7.6	0.1		1/4/94	4.4	0.0		1/4/95	9.7	0.3
1/5/93	7.6	0.0		1/5/94	4.4	0.0		1/5/95	10.3	0.6
1/6/93	7.7	0.1		1/6/94	4.4	0.0		1/6/95	10.5	0.2
1/7/93	8.0	0.3		1/7/94	4.4	0.0		1/7/95	10.6	0.1
1/8/93	9.4	1.4		1/8/94	4.4	0.0		1/8/95	10.9	0.3
1/9/93	9.4	0.0		1/9/94	4.4	0.0		1/9/95	11.0	0.1
1/10/93	10.1	0.7		1/10/94	4.4	0.0		1/10/95	11.0	0.0
1/11/93	10.3	0.2		1/11/94	4.4	0.0		1/11/95	11.0	0.0
1/12/93	10.3	0.0		1/12/94	4.4	0.0		1/12/95	11.0	0.0
1/13/93	10.4	0.1		1/13/94	4.4	0.0		1/13/95	11.1	0.1
1/14/93	10.5	0.1		1/14/94	4.4	0.0		1/14/95	11.1	0.0
1/15/93	10.5	0.0		1/15/94	4.4	0.0		1/15/95	11.1	0.0
1/16/93	10.6	0.1		1/16/94	4.4	0.0		1/16/95	11.1	0.0
1/17/93	11.2	0.6		1/17/94	4.4	0.0		1/17/95	11.2	0.1
1/18/93	11.9	0.7		1/18/94	4.4	0.0		1/18/95	11.3	0.1
1/19/93	12.1	0.2		1/19/94	4.5	0.1		1/19/95	11.3	0.0
1/20/93	12.3	0.2		1/20/94	4.5	0.0		1/20/95	11.3	0.0
1/21/93	12.3	0.0		1/21/94	4.5	0.0		1/21/95	11.3	0.0
1/22/93	12.3	0.0		1/22/94	4.5	0.0		1/22/95	11.4	0.1
1/23/93	12.3	0.0		1/23/94	4.5	0.0		1/23/95	11.6	0.2
1/24/93	12.3	0.0		1/24/94	4.5	0.0		1/24/95	11.7	0.1
1/25/93	12.3	0.0		1/25/94	4.7	0.2		1/25/95	11.7	0.0
1/26/93	12.3	0.0		1/26/94	4.8	0.1		1/26/95	11.7	0.0
1/27/93	12.3	0.0		1/27/94	5.1	0.3		1/27/95	11.8	0.1
1/28/93	12.3	0.0		1/28/94	5.3	0.2		1/28/95	11.9	0.1
1/29/93	12.3	0.0		1/29/94	5.4	0.1		1/29/95	11.9	0.0
1/30/93	12.3	0.0		1/30/94	5.7	0.3		1/30/95	12.0	0.1

Quemazon 10-92 to 11-95 Precipitation

Date	Cumulative (inches)	Daily Precip. (inches)	Date	Cumulative (inches)	Daily Precip. (inches)	Date	Cumulative (inches)	Daily Precip. (inches)
1/31/93	12.3	0.0	1/31/94	5.7	0.0	1/31/95	12.6	0.6
2/1/93	12.3	0.0	2/1/94	5.8	0.1	2/1/95	12.6	0.0
2/2/93	12.3	0.0	2/2/94	5.8	0.0	2/2/95	12.6	0.0
2/3/93	12.3	0.0	2/3/94	5.9	0.1	2/3/95	12.6	0.0
2/4/93	12.3	0.0	2/4/94	5.9	0.0	2/4/95	12.6	0.0
2/5/93	12.4	0.1	2/5/94	5.9	0.0	2/5/95	12.6	0.0
2/6/93	12.5	0.1	2/6/94	6.0	0.1	2/6/95	12.6	0.0
2/7/93	12.5	0.0	2/7/94	6.1	0.1	2/7/95	12.6	0.0
2/8/93	12.7	0.2	2/8/94	6.4	0.3	2/8/95	12.7	0.1
2/9/93	12.8	0.1	2/9/94	6.4	0.0	2/9/95	12.7	0.0
2/10/93	12.8	0.0	2/10/94	6.5	0.1	2/10/95	12.7	0.0
2/11/93	12.8	0.0	2/11/94	6.5	0.0	2/11/95	12.7	0.0
2/12/93	12.8	0.0	2/12/94	6.7	0.2	2/12/95	12.8	0.1
2/13/93	12.9	0.1	2/13/94	6.8	0.1	2/13/95	13.2	0.4
2/14/93	13.6	0.7	2/14/94	6.8	0.0	2/14/95	13.6	0.4
2/15/93	13.9	0.3	2/15/94	6.8	0.0	2/15/95	13.9	0.3
2/16/93	14.1	0.2	2/16/94	6.8	0.0	2/16/95	14.1	0.2
2/17/93	14.1	0.0	2/17/94	6.9	0.1	2/17/95	14.1	0.0
2/18/93	14.2	0.1	2/18/94	7.2	0.3	2/18/95	14.1	0.0
2/19/93	14.7	0.5	2/19/94	7.2	0.0	2/19/95	14.1	0.0
2/20/93	15.0	0.3	2/20/94	7.4	0.2	2/20/95	14.1	0.0
2/21/93	15.0	0.0	2/21/94	7.5	0.1	2/21/95	14.1	0.0
2/22/93	15.0	0.0	2/22/94	7.6	0.1	2/22/95	14.1	0.0
2/23/93	15.0	0.0	2/23/94	7.6	0.0	2/23/95	14.1	0.0
2/24/93	15.3	0.3	2/24/94	7.7	0.1	2/24/95	14.1	0.0
2/25/93	15.4	0.1	2/25/94	7.7	0.0	2/25/95	14.1	0.0
2/26/93	15.4	0.0	2/26/94	7.7	0.0	2/26/95	14.1	0.0
2/27/93	15.5	0.1	2/27/94	7.7	0.0	2/27/95	14.1	0.0
2/28/93	16.3	0.8	2/28/94	8.0	0.3	2/28/95	14.2	0.1
3/1/93	16.5	0.2	3/1/94	8.0	0.0	3/1/95	14.5	0.3
3/2/93	16.5	0.0	3/2/94	8.0	0.0	3/2/95	14.7	0.2
3/3/93	16.5	0.0	3/3/94	8.0	0.0	3/3/95	15.0	0.3
3/4/93	16.5	0.0	3/4/94	8.0	0.0	3/4/95	15.2	0.2
3/5/93	16.5	0.0	3/5/94	8.0	0.0	3/5/95	15.7	0.5
3/6/93	16.5	0.0	3/6/94	8.0	0.0	3/6/95	15.9	0.2
3/7/93	16.5	0.0	3/7/94	8.5	0.5	3/7/95	16.0	0.1
3/8/93	16.6	0.1	3/8/94	8.6	0.1	3/8/95	16.1	0.1
3/9/93	16.6	0.0	3/9/94	8.7	0.1	3/9/95	16.1	0.0
3/10/93	16.6	0.0	3/10/94	8.8	0.1	3/10/95	16.1	0.0
3/11/93	16.6	0.0	3/11/94	8.8	0.0	3/11/95	16.1	0.0
3/12/93	16.6	0.0	3/12/94	9.6	0.8	3/12/95	16.1	0.0
3/13/93	16.6	0.0	3/13/94	9.7	0.1	3/13/95	16.1	0.0
3/14/93	16.7	0.1	3/14/94	9.7	0.0	3/14/95	16.1	0.0
3/15/93	16.7	0.0	3/15/94	9.7	0.0	3/15/95	16.1	0.0
3/16/93	16.7	0.0	3/16/94	9.7	0.0	3/16/95	16.1	0.0
3/17/93	16.7	0.0	3/17/94	9.7	0.0	3/17/95	16.1	0.0
3/18/93	16.7	0.0	3/18/94	9.7	0.0	3/18/95	16.1	0.0
3/19/93	16.7	0.0	3/19/94	9.8	0.1	3/19/95	16.1	0.0
3/20/93	16.7	0.0	3/20/94	9.8	0.0	3/20/95	16.1	0.0
3/21/93	16.7	0.0	3/21/94	9.9	0.1	3/21/95	16.1	0.0
3/22/93	16.7	0.0	3/22/94	9.9	0.0	3/22/95	16.1	0.0
3/23/93	16.7	0.0	3/23/94	10.0	0.1	3/23/95	16.1	0.0
3/24/93	16.7	0.0	3/24/94	10.0	0.0	3/24/95	16.1	0.0
3/25/93	16.7	0.0	3/25/94	10.0	0.0	3/25/95	16.1	0.0
3/26/93	17.5	0.8	3/26/94	10.1	0.1	3/26/95	16.1	0.0
3/27/93	17.8	0.3	3/27/94	10.9	0.8	3/27/95	16.1	0.0
3/28/93	17.9	0.1	3/28/94	11.0	0.1	3/28/95	16.1	0.0
3/29/93	18.3	0.4	3/29/94	11.0	0.0	3/29/95	16.2	0.1
3/30/93	18.4	0.1	3/30/94	11.0	0.0	3/30/95	16.2	0.0
3/31/93	18.4	0.0	3/31/94	11.0	0.0	3/31/95	16.2	0.0
4/1/93	18.4	0.0	4/1/94	11.0	0.0	4/1/95	16.2	0.0
4/2/93	18.4	0.0	4/2/94	11.0	0.0	4/2/95	16.3	0.1

Quemazon 10-92 to 11-95 Precipitation

Date	Cumulative (inches)	Daily Precip. (inches)		Date	Cumulative (inches)	Daily Precip. (inches)		Date	Cumulative (inches)	Daily Precip. (inches)
4/3/93	18.4	0.0		4/3/94	11.0	0.0		4/3/95	16.3	0.0
4/4/93	18.4	0.0		4/4/94	11.0	0.0		4/4/95	16.3	0.0
4/5/93	18.4	0.0		4/5/94	11.0	0.0		4/5/95	16.3	0.0
4/6/93	18.5	0.1		4/6/94	11.0	0.0		4/6/95	16.3	0.0
4/7/93	18.5	0.0		4/7/94	11.0	0.0		4/7/95	16.3	0.0
4/8/93	18.5	0.0		4/8/94	11.3	0.3		4/8/95	16.3	0.0
4/9/93	18.6	0.1		4/9/94	11.7	0.4		4/9/95	16.3	0.0
4/10/93	18.6	0.0		4/10/94	12.0	0.3		4/10/95	16.8	0.5
4/11/93	18.6	0.0		4/11/94	12.1	0.1		4/11/95	16.8	0.0
4/12/93	18.6	0.0		4/12/94	12.1	0.0		4/12/95	16.8	0.0
4/13/93	18.6	0.0		4/13/94	12.2	0.1		4/13/95	16.8	0.0
4/14/93	18.6	0.0		4/14/94	12.2	0.0		4/14/95	16.8	0.0
4/15/93	18.6	0.0		4/15/94	12.2	0.0		4/15/95	16.8	0.0
4/16/93	18.6	0.0		4/16/94	12.2	0.0		4/16/95	16.8	0.0
4/17/93	18.6	0.0		4/17/94	12.2	0.0		4/17/95	16.9	0.1
4/18/93	18.6	0.0		4/18/94	12.2	0.0		4/18/95	17.0	0.1
4/19/93	18.6	0.0		4/19/94	12.2	0.0		4/19/95	17.3	0.3
4/20/93	18.6	0.0		4/20/94	12.2	0.0		4/20/95	17.5	0.2
4/21/93	18.6	0.0		4/21/94	12.3	0.1		4/21/95	18.2	0.7
4/22/93	18.6	0.0		4/22/94	12.3	0.0		4/22/95	19.4	1.2
4/23/93	18.6	0.0		4/23/94	12.3	0.0		4/23/95	19.6	0.2
4/24/93	18.6	0.0		4/24/94	12.3	0.0		4/24/95	19.6	0.0
4/25/93	18.6	0.0		4/25/94	12.4	0.1		4/25/95	19.6	0.0
4/26/93	18.6	0.0		4/26/94	12.4	0.0		4/26/95	19.6	0.0
4/27/93	18.6	0.0		4/27/94	12.6	0.2		4/27/95	19.6	0.0
4/28/93	18.6	0.0		4/28/94	12.7	0.1		4/28/95	19.6	0.0
4/29/93	18.6	0.0		4/29/94	13.6	0.9		4/29/95	19.6	0.0
4/30/93	18.6	0.0		4/30/94	13.6	0.0		4/30/95	19.6	0.0
5/1/93	18.6	0.0		5/1/94	13.6	0.0		5/1/95	19.6	0.0
5/2/93	18.6	0.0		5/2/94	13.6	0.0		5/2/95	19.6	0.0
5/3/93	18.6	0.0		5/3/94	13.6	0.0		5/3/95	19.6	0.0
5/4/93	18.6	0.0		5/4/94	13.6	0.0		5/4/95	19.7	0.1
5/5/93	18.6	0.0		5/5/94	13.6	0.0		5/5/95	19.7	0.0
5/6/93	18.6	0.0		5/6/94	13.6	0.0		5/6/95	19.7	0.0
5/7/93	18.6	0.0		5/7/94	13.6	0.0		5/7/95	20.0	0.3
5/8/93	18.7	0.1		5/8/94	13.6	0.0		5/8/95	20.1	0.1
5/9/93	18.7	0.0		5/9/94	13.6	0.0		5/9/95	20.1	0.0
5/10/93	18.7	0.0		5/10/94	14.3	0.7		5/10/95	20.1	0.0
5/11/93	18.7	0.0		5/11/94	14.5	0.2		5/11/95	20.1	0.0
5/12/93	18.7	0.0		5/12/94	14.6	0.1		5/12/95	20.1	0.0
5/13/93	18.9	0.2		5/13/94	14.8	0.2		5/13/95	20.1	0.0
5/14/93	18.9	0.0		5/14/94	14.8	0.0		5/14/95	20.1	0.0
5/15/93	19.2	0.3		5/15/94	14.9	0.1		5/15/95	20.1	0.0
5/16/93	19.2	0.0		5/16/94	14.9	0.0		5/16/95	20.1	0.0
5/17/93	19.2	0.0		5/17/94	14.9	0.0		5/17/95	20.2	0.1
5/18/93	19.2	0.0		5/18/94	14.9	0.0		5/18/95	20.5	0.3
5/19/93	19.5	0.3		5/19/94	15.0	0.1		5/19/95	20.5	0.0
5/20/93	19.5	0.0		5/20/94	15.0	0.0		5/20/95	20.5	0.0
5/21/93	19.5	0.0		5/21/94	15.0	0.0		5/21/95	20.5	0.0
5/22/93	19.5	0.0		5/22/94	15.0	0.0		5/22/95	20.5	0.0
5/23/93	19.5	0.0		5/23/94	15.0	0.0		5/23/95	20.5	0.0
5/24/93	19.5	0.0		5/24/94	15.0	0.0		5/24/95	20.5	0.0
5/25/93	19.5	0.0		5/25/94	15.0	0.0		5/25/95	20.5	0.0
5/26/93	19.5	0.0		5/26/94	15.3	0.3		5/26/95	20.5	0.0
5/27/93	19.5	0.0		5/27/94	15.3	0.0		5/27/95	20.5	0.0
5/28/93	19.9	0.4		5/28/94	15.3	0.0		5/28/95	21.0	0.5
5/29/93	19.9	0.0		5/29/94	15.3	0.0		5/29/95	21.6	0.6
5/30/93	19.9	0.0		5/30/94	15.3	0.0		5/30/95	21.6	0.0
5/31/93	19.9	0.0		5/31/94	15.3	0.0		5/31/95	21.6	0.0
6/1/93	19.9	0.0		6/1/94	15.3	0.0		6/1/95	21.6	0.0
6/2/93	19.9	0.0		6/2/94	15.3	0.0		6/2/95	21.6	0.0
6/3/93	19.9	0.0		6/3/94	15.3	0.0		6/3/95	21.6	0.0

Quemazon 10-92 to 11-95 Precipitation

Date	Cumulative (inches)	Daily Precip. (inches)		Date	Cumulative (inches)	Daily Precip. (inches)		Date	Cumulative (inches)	Daily Precip. (inches)
6/4/93	19.9	0.0		6/4/94	15.3	0.0		6/4/95	21.6	0.0
6/5/93	19.9	0.0		6/5/94	15.3	0.0		6/5/95	21.6	0.0
6/6/93	19.9	0.0		6/6/94	15.3	0.0		6/6/95	21.6	0.0
6/7/93	19.9	0.0		6/7/94	15.3	0.0		6/7/95	21.6	0.0
6/8/93	19.9	0.0		6/8/94	15.3	0.0		6/8/95	21.6	0.0
6/9/93	19.9	0.0		6/9/94	15.3	0.0		6/9/95	21.6	0.0
6/10/93	19.9	0.0		6/10/94	15.3	0.0		6/10/95	21.6	0.0
6/11/93	19.9	0.0		6/11/94	15.3	0.0		6/11/95	21.6	0.0
6/12/93	19.9	0.0		6/12/94	15.3	0.0		6/12/95	21.6	0.0
6/13/93	20.0	0.1		6/13/94	15.3	0.0		6/13/95	21.6	0.0
6/14/93	20.0	0.0		6/14/94	15.3	0.0		6/14/95	21.6	0.0
6/15/93	20.0	0.0		6/15/94	15.3	0.0		6/15/95	21.6	0.0
6/16/93	20.0	0.0		6/16/94	15.3	0.0		6/16/95	21.7	0.1
6/17/93	20.0	0.0		6/17/94	15.3	0.0		6/17/95	22.5	0.8
6/18/93	20.0	0.0		6/18/94	15.3	0.0		6/18/95	22.5	0.0
6/19/93	20.0	0.0		6/19/94	15.7	0.4		6/19/95	23.0	0.5
6/20/93	20.0	0.0		6/20/94	16.0	0.3		6/20/95	23.5	0.5
6/21/93	20.0	0.0		6/21/94	16.7	0.7		6/21/95	23.7	0.2
6/22/93	20.0	0.0		6/22/94	16.7	0.0		6/22/95	23.7	0.0
6/23/93	20.0	0.0		6/23/94	16.7	0.0		6/23/95	23.7	0.0
6/24/93	20.0	0.0		6/24/94	16.7	0.0		6/24/95	23.7	0.0
6/25/93	20.0	0.0		6/25/94	16.7	0.0		6/25/95	23.7	0.0
6/26/93	20.0	0.0		6/26/94	16.7	0.0		6/26/95	23.7	0.0
6/27/93	20.0	0.0		6/27/94	16.7	0.0		6/27/95	23.8	0.1
6/28/93	20.0	0.0		6/28/94	16.7	0.0		6/28/95	23.8	0.0
6/29/93	20.0	0.0		6/29/94	16.7	0.0		6/29/95	24.0	0.2
6/30/93	20.0	0.0		6/30/94	16.7	0.0		6/30/95	24.2	0.2
7/1/93	20.0	0.0		7/1/94	16.7	0.0		7/1/95	24.2	0.0
7/2/93	20.0	0.0		7/2/94	16.7	0.0		7/2/95	24.2	0.0
7/3/93	20.0	0.0		7/3/94	16.7	0.0		7/3/95	24.3	0.1
7/4/93	20.0	0.0		7/4/94	16.7	0.0		7/4/95	24.3	0.0
7/5/93	20.0	0.0		7/5/94	16.7	0.0		7/5/95	24.3	0.0
7/6/93	20.0	0.0		7/6/94	16.7	0.0		7/6/95	24.3	0.0
7/7/93	20.0	0.0		7/7/94	16.8	0.1		7/7/95	24.3	0.0
7/8/93	20.0	0.0		7/8/94	16.8	0.0		7/8/95	24.3	0.0
7/9/93	20.0	0.0		7/9/94	16.8	0.0		7/9/95	24.3	0.0
7/10/93	20.0	0.0		7/10/94	16.9	0.1		7/10/95	24.3	0.0
7/11/93	20.0	0.0		7/11/94	16.9	0.0		7/11/95	24.3	0.0
7/12/93	20.2	0.2		7/12/94	16.9	0.0		7/12/95	24.6	0.3
7/13/93	20.5	0.3		7/13/94	16.9	0.0		7/13/95	24.6	0.0
7/14/93	20.5	0.0		7/14/94	17.0	0.1		7/14/95	24.6	0.0
7/15/93	20.7	0.2		7/15/94	17.1	0.1		7/15/95	24.9	0.3
7/16/93	20.7	0.0		7/16/94	17.2	0.1		7/16/95	24.9	0.0
7/17/93	20.7	0.0		7/17/94	17.7	0.5		7/17/95	25.1	0.2
7/18/93	20.7	0.0		7/18/94	17.7	0.0		7/18/95	26.6	1.5
7/19/93	20.7	0.0		7/19/94	17.8	0.1		7/19/95	26.7	0.1
7/20/93	20.9	0.2		7/20/94	18.4	0.6		7/20/95	26.7	0.0
7/21/93	20.9	0.0		7/21/94	18.6	0.2		7/21/95	26.7	0.0
7/22/93	20.9	0.0		7/22/94	18.8	0.2		7/22/95	26.8	0.1
7/23/93	20.9	0.0		7/23/94	18.8	0.0		7/23/95	26.8	0.0
7/24/93	20.9	0.0		7/24/94	19.3	0.5		7/24/95	26.8	0.0
7/25/93	20.9	0.0		7/25/94	19.4	0.1		7/25/95	26.9	0.1
7/26/93	20.9	0.0		7/26/94	19.7	0.3		7/26/95	26.9	0.0
7/27/93	20.9	0.0		7/27/94	20.1	0.4		7/27/95	27.0	0.1
7/28/93	21.3	0.4		7/28/94	20.4	0.3		7/28/95	27.0	0.0
7/29/93	21.4	0.1		7/29/94	20.5	0.1		7/29/95	27.0	0.0
7/30/93	21.4	0.0		7/30/94	20.5	0.0		7/30/95	27.0	0.0
7/31/93	21.4	0.0		7/31/94	20.8	0.3		7/31/95	27.0	0.0
8/1/93	21.4	0.0		8/1/94	21.3	0.5		8/1/95	27.0	0.0
8/2/93	21.4	0.0		8/2/94	21.4	0.1		8/2/95	27.0	0.0
8/3/93	21.5	0.1		8/3/94	21.4	0.0		8/3/95	27.0	0.0
8/4/93	21.6	0.1		8/4/94	21.8	0.4		8/4/95	27.3	0.3

Quemazon 10-92 to 11-95 Precipitation

Date	Cumulative (inches)	Daily Precip. (inches)		Date	Cumulative (inches)	Daily Precip. (inches)		Date	Cumulative (inches)	Daily Precip. (inches)
8/5/93	21.7	0.1		8/5/94	22.3	0.5		8/5/95	27.3	0.0
8/6/93	21.9	0.2		8/6/94	22.3	0.0		8/6/95	27.3	0.0
8/7/93	21.9	0.0		8/7/94	22.3	0.0		8/7/95	27.3	0.0
8/8/93	21.9	0.0		8/8/94	22.3	0.0		8/8/95	27.3	0.0
8/9/93	22.1	0.2		8/9/94	22.4	0.1		8/9/95	27.7	0.4
8/10/93	22.1	0.0		8/10/94	22.5	0.1		8/10/95	28.3	0.6
8/11/93	22.1	0.0		8/11/94	22.5	0.0		8/11/95	29.1	0.8
8/12/93	22.2	0.1		8/12/94	22.5	0.0		8/12/95	29.5	0.4
8/13/93	22.5	0.3		8/13/94	22.5	0.0		8/13/95	30.4	0.9
8/14/93	23.1	0.6		8/14/94	23.3	0.8		8/14/95	30.6	0.2
8/15/93	23.1	0.0		8/15/94	23.3	0.0		8/15/95	30.6	0.0
8/16/93	23.2	0.1		8/16/94	23.3	0.0		8/16/95	31.1	0.5
8/17/93	23.2	0.0		8/17/94	23.7	0.4		8/17/95	31.1	0.0
8/18/93	23.7	0.5		8/18/94	23.7	0.0		8/18/95	31.1	0.0
8/19/93	24.0	0.3		8/19/94	23.7	0.0		8/19/95	32.1	1.0
8/20/93	24.7	0.7		8/20/94	24.8	1.1		8/20/95	32.2	0.1
8/21/93	24.9	0.2		8/21/94	24.9	0.1		8/21/95	32.3	0.1
8/22/93	24.9	0.0		8/22/94	24.9	0.0		8/22/95	32.6	0.3
8/23/93	24.9	0.0		8/23/94	24.9	0.0		8/23/95	33.0	0.4
8/24/93	24.9	0.0		8/24/94	25.5	0.6		8/24/95	33.7	0.7
8/25/93	25.5	0.6		8/25/94	25.5	0.0		8/25/95	34.0	0.3
8/26/93	26.1	0.6		8/26/94	25.5	0.0		8/26/95	34.1	0.1
8/27/93	27.0	0.9		8/27/94	25.5	0.0		8/27/95	34.4	0.3
8/28/93	27.7	0.7		8/28/94	25.5	0.0		8/28/95	34.4	0.0
8/29/93	27.8	0.1		8/29/94	25.6	0.1		8/29/95	34.4	0.0
8/30/93	28.6	0.8		8/30/94	25.6	0.0		8/30/95	34.4	0.0
8/31/93	28.6	0.0		8/31/94	25.8	0.2		8/31/95	34.4	0.0
9/1/93	28.6	0.0		9/1/94	25.8	0.0		9/1/95	34.5	0.1
9/2/93	28.6	0.0		9/2/94	25.9	0.1		9/2/95	34.5	0.0
9/3/93	28.6	0.0		9/3/94	26.3	0.4		9/3/95	34.5	0.0
9/4/93	28.6	0.0		9/4/94	26.3	0.0		9/4/95	34.5	0.0
9/5/93	28.6	0.0		9/5/94	26.3	0.0		9/5/95	34.5	0.0
9/6/93	29.8	1.2		9/6/94	28.1	1.8		9/6/95	35.0	0.5
9/7/93	29.8	0.0		9/7/94	28.1	0.0		9/7/95	35.5	0.5
9/8/93	29.8	0.0		9/8/94	28.1	0.0		9/8/95	36.5	1.0
9/9/93	29.8	0.0		9/9/94	28.1	0.0		9/9/95	36.6	0.1
9/10/93	29.8	0.0		9/10/94	28.1	0.0		9/10/95	36.6	0.0
9/11/93	29.8	0.0		9/11/94	28.1	0.0		9/11/95	36.6	0.0
9/12/93	30.1	0.3		9/12/94	28.4	0.3		9/12/95	36.6	0.0
9/13/93	30.5	0.4		9/13/94	28.6	0.2		9/13/95	36.6	0.0
9/14/93	30.5	0.0		9/14/94	28.9	0.3		9/14/95	36.6	0.0
9/15/93	30.5	0.0		9/15/94	28.9	0.0		9/15/95	36.6	0.0
9/16/93	30.5	0.0		9/16/94	28.9	0.0		9/16/95	36.6	0.0
9/17/93	30.5	0.0		9/17/94	28.9	0.0		9/17/95	36.6	0.0
9/18/93	30.5	0.0		9/18/94	28.9	0.0		9/18/95	36.6	0.0
9/19/93	30.5	0.0		9/19/94	28.9	0.0		9/19/95	36.6	0.0
9/20/93	30.5	0.0		9/20/94	29.0	0.1		9/20/95	36.6	0.0
9/21/93	30.8	0.3		9/21/94	29.1	0.1		9/21/95	36.6	0.0
9/22/93	30.9	0.1		9/22/94	29.1	0.0		9/22/95	36.6	0.0
9/23/93	30.9	0.0		9/23/94	29.1	0.0		9/23/95	36.6	0.0
9/24/93	30.9	0.0		9/24/94	29.1	0.0		9/24/95	36.6	0.0
9/25/93	31.0	0.1		9/25/94	29.1	0.0		9/25/95	36.6	0.0
9/26/93	31.0	0.0		9/26/94	29.1	0.0		9/26/95	36.6	0.0
9/27/93	31.0	0.0		9/27/94	29.1	0.0		9/27/95	36.6	0.0
9/28/93	31.0	0.0		9/28/94	29.1	0.0		9/28/95	36.7	0.1
9/29/93	31.0	0.0		9/29/94	29.1	0.0		9/29/95	37.1	0.4
9/30/93	31.0	0.0		9/30/94	29.1	0.0		9/30/95	37.1	0.0
Total Inches:		**31.0**				**29.1**				**37.1**

Appendix F

Quemazon Station 10/93-11/95 Precipitation and Snowpack Data

Quemazon 10/93 to 11/95 Precipitation Summary with Snowpack Data

Quemazon Precipitation Summary: 10/1/93-11/2/95 units = inches

(USDA NRCS data adjusted by moving all cumulative amounts back one day to conform with LANL data)

* Daily precipitation was adjusted to match snowpack net change on days when positive snowpack net change exceeded recorded precipitation.

Date	cum.	daily	snowpack (wat equiv)	snowpack net change	adjusted daily *	net non-frozen	Date	cum.	daily	snowpack (wat equiv)	snowpack net change	adjusted daily *	net non-frozen
10/1/93	0.0	0.0	0.0	0.0	0.0	0.0	10/1/94	0.0	0.0	0.0	0.0	0.0	0.0
10/2/93	0.0	0.0	0.0	0.0	0.0	0.0	10/2/94	0.1	0.1	0.0	0.0	0.1	0.1
10/3/93	0.0	0.0	0.0	0.0	0.0	0.0	10/3/94	0.1	0.0	0.0	0.0	0.0	0.0
10/4/93	0.1	0.1	0.0	0.0	0.1	0.1	10/4/94	0.2	0.1	0.0	0.0	0.1	0.1
10/5/93	0.1	0.0	0.0	0.0	0.0	0.0	10/5/94	0.2	0.0	0.0	0.0	0.0	0.0
10/6/93	0.1	0.0	0.0	0.0	0.0	0.0	10/6/94	0.2	0.0	0.0	0.0	0.0	0.0
10/7/93	0.3	0.2	0.0	0.0	0.2	0.2	10/7/94	0.4	0.2	0.0	0.0	0.2	0.2
10/8/93	0.4	0.1	0.0	0.0	0.1	0.1	10/8/94	0.4	0.0	0.0	0.0	0.0	0.0
10/9/93	0.4	0.0	0.0	0.0	0.0	0.0	10/9/94	0.4	0.0	0.0	0.0	0.0	0.0
10/10/93	0.4	0.0	0.0	0.0	0.0	0.0	10/10/94	0.4	0.0	0.0	0.0	0.0	0.0
10/11/93	0.4	0.0	0.0	0.0	0.0	0.0	10/11/94	0.4	0.0	0.0	0.0	0.0	0.0
10/12/93	0.4	0.0	0.0	0.0	0.0	0.0	10/12/94	0.4	0.0	0.0	0.0	0.0	0.0
10/13/93	0.5	0.1	0.0	0.0	0.1	0.1	10/13/94	0.4	0.0	0.0	0.0	0.0	0.0
10/14/93	0.5	0.0	0.0	0.0	0.0	0.0	10/14/94	2.5	2.1	2.8	2.8	2.8	0.0
10/15/93	0.6	0.1	0.0	0.0	0.1	0.1	10/15/94	3.6	1.1	3.6	0.8	1.1	0.3
10/16/93	0.6	0.0	0.0	0.0	0.0	0.0	10/16/94	4.3	0.7	4.1	0.5	0.7	0.2
10/17/93	0.7	0.1	0.0	0.0	0.1	0.1	10/17/94	4.5	0.2	4.2	0.1	0.2	0.1
10/18/93	0.7	0.0	0.0	0.0	0.0	0.0	10/18/94	4.5	0.0	4.1	-0.1	0.0	0.1
10/19/93	0.9	0.2	0.3	0.3	0.3	0.0	10/19/94	4.6	0.1	4.0	-0.1	0.1	0.2
10/20/93	1.0	0.1	0.2	-0.1	0.1	0.2	10/20/94	4.6	0.0	4.0	0.0	0.0	0.0
10/21/93	1.0	0.0	0.1	-0.1	0.0	0.1	10/21/94	4.6	0.0	3.9	-0.1	0.0	0.1
10/22/93	1.0	0.0	0.0	-0.1	0.0	0.1	10/22/94	4.6	0.0	3.8	-0.1	0.0	0.1
10/23/93	1.0	0.0	0.0	0.0	0.0	0.0	10/23/94	4.6	0.0	3.8	0.0	0.0	0.0
10/24/93	1.0	0.0	0.0	0.0	0.0	0.0	10/24/94	4.6	0.0	3.6	-0.2	0.0	0.2
10/25/93	1.0	0.0	0.0	0.0	0.0	0.0	10/25/94	4.6	0.0	3.6	0.0	0.0	0.0
10/26/93	1.0	0.0	0.0	0.0	0.0	0.0	10/26/94	4.6	0.0	3.5	-0.1	0.0	0.1
10/27/93	1.1	0.1	0.0	0.0	0.1	0.1	10/27/94	4.6	0.0	3.5	0.0	0.0	0.0
10/28/93	1.1	0.0	0.0	0.0	0.0	0.0	10/28/94	4.6	0.0	3.4	-0.1	0.0	0.1
10/29/93	1.2	0.1	0.0	0.0	0.1	0.1	10/29/94	4.6	0.0	3.3	-0.1	0.0	0.1
10/30/93	1.3	0.1	0.0	0.0	0.1	0.1	10/30/94	4.6	0.0	3.2	-0.1	0.0	0.1
10/31/93	1.3	0.0	0.0	0.0	0.0	0.0	10/31/94	4.6	0.0	3.1	-0.1	0.0	0.1
11/1/93	1.3	0.0	0.0	0.0	0.0	0.0	11/1/94	4.6	0.0	3.1	0.0	0.0	0.0
11/2/93	1.3	0.0	0.0	0.0	0.0	0.0	11/2/94	4.6	0.0	3.0	-0.1	0.0	0.1
11/3/93	1.3	0.0	0.0	0.0	0.0	0.0	11/3/94	5.0	0.4	3.4	0.4	0.4	0.0
11/4/93	1.3	0.0	0.0	0.0	0.0	0.0	11/4/94	5.1	0.1	3.4	0.0	0.1	0.1
11/5/93	1.3	0.0	0.0	0.0	0.0	0.0	11/5/94	5.1	0.0	3.4	0.0	0.0	0.0
11/6/93	1.3	0.0	0.0	0.0	0.0	0.0	11/6/94	5.1	0.0	3.4	0.0	0.0	0.0
11/7/93	1.3	0.0	0.0	0.0	0.0	0.0	11/7/94	5.2	0.1	3.3	-0.1	0.1	0.2
11/8/93	1.3	0.0	0.0	0.0	0.0	0.0	11/8/94	5.3	0.1	3.4	0.1	0.1	0.0
11/9/93	1.3	0.0	0.0	0.0	0.0	0.0	11/9/94	5.3	0.0	3.3	-0.1	0.0	0.1
11/10/93	1.3	0.0	0.0	0.0	0.0	0.0	11/10/94	5.3	0.0	3.3	0.0	0.0	0.0
11/11/93	1.7	0.4	0.9	0.9	0.9	0.0	11/11/94	6.0	0.7	4.0	0.7	0.7	0.0
11/12/93	1.9	0.2	1.0	0.1	0.2	0.1	11/12/94	7.5	1.5	4.8	0.8	1.5	0.7
11/13/93	2.5	0.6	1.7	0.7	0.7	0.0	11/13/94	7.5	0.0	5.0	0.2	0.2	0.0
11/14/93	2.7	0.2	1.9	0.2	0.2	0.0	11/14/94	7.7	0.2	5.0	0.0	0.2	0.2
11/15/93	2.8	0.1	1.9	0.0	0.1	0.1	11/15/94	7.7	0.0	5.0	0.0	0.0	0.0
11/16/93	2.8	0.0	1.9	0.0	0.0	0.0	11/16/94	7.7	0.0	5.0	0.0	0.0	0.0
11/17/93	2.8	0.0	1.9	0.0	0.0	0.0	11/17/94	7.7	0.0	5.1	0.1	0.1	0.0
11/18/93	2.8	0.0	1.9	0.0	0.0	0.0	11/18/94	7.8	0.1	5.1	0.0	0.1	0.1
11/19/93	2.8	0.0	1.9	0.0	0.0	0.0	11/19/94	7.8	0.0	5.1	0.0	0.0	0.0
11/20/93	2.9	0.1	1.9	0.0	0.1	0.1	11/20/94	7.9	0.1	5.1	0.0	0.1	0.1
11/21/93	2.9	0.0	2.0	0.1	0.1	0.0	11/21/94	7.9	0.0	5.1	0.0	0.0	0.0
11/22/93	2.9	0.0	2.1	0.1	0.1	0.0	11/22/94	7.9	0.0	5.1	0.0	0.0	0.0
11/23/93	3.3	0.4	2.4	0.3	0.4	0.1	11/23/94	8.0	0.1	5.2	0.1	0.1	0.0
11/24/93	3.3	0.0	2.4	0.0	0.0	0.0	11/24/94	8.0	0.0	5.2	0.0	0.0	0.0
11/25/93	3.4	0.1	2.4	0.0	0.1	0.1	11/25/94	8.0	0.0	5.2	0.0	0.0	0.0
11/26/93	3.5	0.1	2.4	0.0	0.1	0.1	11/26/94	8.0	0.0	5.2	0.0	0.0	0.0
11/27/93	3.5	0.0	2.4	0.0	0.0	0.0	11/27/94	8.2	0.2	5.4	0.2	0.2	0.0
11/28/93	3.5	0.0	2.4	0.0	0.0	0.0	11/28/94	8.2	0.0	5.4	0.0	0.0	0.0
11/29/93	3.5	0.0	2.4	0.0	0.0	0.0	11/29/94	8.3	0.1	5.3	-0.1	0.1	0.2
11/30/93	3.5	0.0	2.5	0.1	0.1	0.0	11/30/94	8.3	0.0	5.2	-0.1	0.0	0.1
12/1/93	3.5	0.0	2.5	0.0	0.0	0.0	12/1/94	8.3	0.0	4.9	-0.3	0.0	0.3
12/2/93	3.5	0.0	2.5	0.0	0.0	0.0	12/2/94	8.3	0.0	4.8	-0.1	0.0	0.1
12/3/93	3.5	0.0	2.5	0.0	0.0	0.0	12/3/94	8.3	0.0	4.8	0.0	0.0	0.0
12/4/93	3.5	0.0	2.5	0.0	0.0	0.0	12/4/94	8.3	0.0	4.8	0.0	0.0	0.0
12/5/93	3.5	0.0	2.5	0.0	0.0	0.0	12/5/94	8.5	0.2	5.2	0.4	0.4	0.0
12/6/93	3.5	0.0	2.5	0.0	0.0	0.0	12/6/94	8.9	0.4	5.6	0.4	0.4	0.0
12/7/93	3.5	0.0	2.5	0.0	0.0	0.0	12/7/94	9.1	0.2	5.8	0.2	0.2	0.0
12/8/93	3.5	0.0	2.5	0.0	0.0	0.0	12/8/94	9.1	0.0	5.7	-0.1	0.0	0.1
12/9/93	3.5	0.0	2.5	0.0	0.0	0.0	12/9/94	9.1	0.0	5.7	0.0	0.0	0.0
12/10/93	3.6	0.1	2.5	0.0	0.1	0.1	12/10/94	9.1	0.0	5.5	-0.2	0.0	0.2
12/11/93	3.6	0.0	2.5	0.0	0.0	0.0	12/11/94	9.1	0.0	5.4	-0.1	0.0	0.1
12/12/93	3.9	0.3	2.8	0.3	0.3	0.0	12/12/94	9.1	0.0	5.4	0.0	0.0	0.0
12/13/93	3.9	0.0	2.8	0.0	0.0	0.0	12/13/94	9.1	0.0	5.4	0.0	0.0	0.0
12/14/93	3.9	0.0	2.9	0.1	0.1	0.0	12/14/94	9.1	0.0	5.4	0.0	0.0	0.0
12/15/93	4.0	0.1	3.0	0.1	0.1	0.0	12/15/94	9.2	0.1	5.4	0.0	0.1	0.1
12/16/93	4.1	0.1	3.0	0.0	0.1	0.1	12/16/94	9.2	0.0	5.4	0.0	0.0	0.0
12/17/93	4.1	0.0	3.0	0.0	0.0	0.0	12/17/94	9.2	0.0	5.4	0.0	0.0	0.0

Quemazon 10/93 to 11/95 Precipitation Summary with Snowpack Data

Date	cum.	daily	snowpack (wat equiv)	snowpack net change	adjusted daily *	net non-frozen	Date	cum.	daily	snowpack (wat equiv)	snowpack net change	adjusted daily *	net non-frozen
12/18/93	4.2	0.1	3.1	0.1	0.1	0.0	12/18/94	9.2	0.0	5.4	0.0	0.0	0.0
12/19/93	4.2	0.0	3.1	0.0	0.0	0.0	12/19/94	9.2	0.0	5.4	0.0	0.0	0.0
12/20/93	4.2	0.0	3.2	0.1	0.1	0.0	12/20/94	9.2	0.0	5.4	0.0	0.0	0.0
12/21/93	4.2	0.0	3.2	0.0	0.0	0.0	12/21/94	9.2	0.0	5.4	0.0	0.0	0.0
12/22/93	4.2	0.0	3.2	0.0	0.0	0.0	12/22/94	9.2	0.0	5.4	0.0	0.0	0.0
12/23/93	4.3	0.1	3.2	0.0	0.1	0.1	12/23/94	9.2	0.0	5.4	0.0	0.0	0.0
12/24/93	4.4	0.1	3.2	0.0	0.1	0.1	12/24/94	9.2	0.0	5.4	0.0	0.0	0.0
12/25/93	4.4	0.0	3.2	0.0	0.0	0.0	12/25/94	9.2	0.0	5.4	0.0	0.0	0.0
12/26/93	4.4	0.0	3.2	0.0	0.0	0.0	12/26/94	9.2	0.0	5.4	0.0	0.0	0.0
12/27/93	4.4	0.0	3.2	0.0	0.0	0.0	12/27/94	9.2	0.0	5.4	0.0	0.0	0.0
12/28/93	4.4	0.0	3.2	0.0	0.0	0.0	12/28/94	9.2	0.0	5.4	0.0	0.0	0.0
12/29/93	4.4	0.0	3.2	0.0	0.0	0.0	12/29/94	9.2	0.0	5.4	0.0	0.0	0.0
12/30/93	4.4	0.0	3.2	0.0	0.0	0.0	12/30/94	9.4	0.2	5.7	0.3	0.3	0.0
12/31/93	4.4	0.0	3.2	0.0	0.0	0.0	12/31/94	9.4	0.0	5.7	0.0	0.0	0.0
1/1/94	4.4	0.0	3.2	0.0	0.0	0.0	1/1/95	9.4	0.0	5.7	0.0	0.0	0.0
1/2/94	4.4	0.0	3.2	0.0	0.0	0.0	1/2/95	9.4	0.0	5.7	0.0	0.0	0.0
1/3/94	4.4	0.0	3.2	0.0	0.0	0.0	1/3/95	9.4	0.0	5.7	0.0	0.0	0.0
1/4/94	4.4	0.0	3.2	0.0	0.0	0.0	1/4/95	9.7	0.3	6.0	0.3	0.3	0.0
1/5/94	4.4	0.0	3.2	0.0	0.0	0.0	1/5/95	10.3	0.6	7.3	1.3	1.3	0.0
1/6/94	4.4	0.0	3.1	-0.1	0.0	0.1	1/6/95	10.5	0.2	7.3	0.0	0.2	0.2
1/7/94	4.4	0.0	3.1	0.0	0.0	0.0	1/7/95	10.6	0.1	7.4	0.1	0.1	0.0
1/8/94	4.4	0.0	3.1	0.0	0.0	0.0	1/8/95	10.9	0.3	7.4	0.0	0.3	0.3
1/9/94	4.4	0.0	3.1	0.0	0.0	0.0	1/9/95	11.0	0.1	7.5	0.1	0.1	0.0
1/10/94	4.4	0.0	3.1	0.0	0.0	0.0	1/10/95	11.0	0.0	7.5	0.0	0.0	0.0
1/11/94	4.4	0.0	3.1	0.0	0.0	0.0	1/11/95	11.0	0.0	7.6	0.1	0.1	0.0
1/12/94	4.4	0.0	3.1	0.0	0.0	0.0	1/12/95	11.0	0.0	7.6	0.0	0.0	0.0
1/13/94	4.4	0.0	3.1	0.0	0.0	0.0	1/13/95	11.1	0.1	7.6	0.0	0.1	0.1
1/14/94	4.4	0.0	3.1	0.0	0.0	0.0	1/14/95	11.1	0.0	7.7	0.1	0.1	0.0
1/15/94	4.4	0.0	3.1	0.0	0.0	0.0	1/15/95	11.1	0.0	7.8	0.1	0.1	0.0
1/16/94	4.4	0.0	3.1	0.0	0.0	0.0	1/16/95	11.1	0.0	7.9	0.1	0.1	0.0
1/17/94	4.4	0.0	3.1	0.0	0.0	0.0	1/17/95	11.2	0.1	8.0	0.1	0.1	0.0
1/18/94	4.4	0.0	3.1	0.0	0.0	0.0	1/18/95	11.3	0.1	8.0	0.0	0.1	0.1
1/19/94	4.5	0.1	3.1	0.0	0.1	0.1	1/19/95	11.3	0.0	8.0	0.0	0.0	0.0
1/20/94	4.5	0.0	3.1	0.0	0.0	0.0	1/20/95	11.3	0.0	8.0	0.0	0.0	0.0
1/21/94	4.5	0.0	3.1	0.0	0.0	0.0	1/21/95	11.3	0.0	8.0	0.0	0.0	0.0
1/22/94	4.5	0.0	3.1	0.0	0.0	0.0	1/22/95	11.4	0.1	8.1	0.1	0.1	0.0
1/23/94	4.5	0.0	3.1	0.0	0.0	0.0	1/23/95	11.6	0.2	8.2	0.1	0.2	0.1
1/24/94	4.5	0.0	3.1	0.0	0.0	0.0	1/24/95	11.7	0.1	8.2	0.0	0.1	0.1
1/25/94	4.7	0.2	3.4	0.3	0.3	0.0	1/25/95	11.7	0.0	8.4	0.2	0.2	0.0
1/26/94	4.8	0.1	3.5	0.1	0.1	0.0	1/26/95	11.7	0.0	8.4	0.0	0.0	0.0
1/27/94	5.1	0.3	3.9	0.4	0.4	0.0	1/27/95	11.8	0.1	8.5	0.1	0.1	0.0
1/28/94	5.3	0.2	4.2	0.3	0.3	0.0	1/28/95	11.9	0.1	8.8	0.3	0.3	0.0
1/29/94	5.4	0.1	4.3	0.1	0.1	0.0	1/29/95	11.9	0.0	9.1	0.3	0.3	0.0
1/30/94	5.7	0.3	4.6	0.3	0.3	0.0	1/30/95	12.0	0.1	9.2	0.1	0.1	0.0
1/31/94	5.7	0.0	4.7	0.1	0.1	0.0	1/31/95	12.6	0.6	9.3	0.1	0.6	0.5
2/1/94	5.8	0.1	4.7	0.0	0.1	0.1	2/1/95	12.6	0.0	9.3	0.0	0.0	0.0
2/2/94	5.8	0.0	4.8	0.1	0.1	0.0	2/2/95	12.6	0.0	9.3	0.0	0.0	0.0
2/3/94	5.9	0.1	4.8	0.0	0.1	0.1	2/3/95	12.6	0.0	9.3	0.0	0.0	0.0
2/4/94	5.9	0.0	5.1	0.3	0.3	0.0	2/4/95	12.6	0.0	9.3	0.0	0.0	0.0
2/5/94	5.9	0.0	5.1	0.0	0.0	0.0	2/5/95	12.6	0.0	9.3	0.0	0.0	0.0
2/6/94	6.0	0.1	5.1	0.0	0.1	0.1	2/6/95	12.6	0.0	9.4	0.1	0.1	0.0
2/7/94	6.1	0.1	5.3	0.2	0.2	0.0	2/7/95	12.6	0.0	9.4	0.0	0.0	0.0
2/8/94	6.4	0.3	5.7	0.4	0.4	0.0	2/8/95	12.7	0.1	9.4	0.0	0.1	0.1
2/9/94	6.4	0.0	5.7	0.0	0.0	0.0	2/9/95	12.7	0.0	9.4	0.0	0.0	0.0
2/10/94	6.5	0.1	5.8	0.1	0.1	0.0	2/10/95	12.7	0.0	9.5	0.1	0.1	0.0
2/11/94	6.5	0.0	5.8	0.0	0.0	0.0	2/11/95	12.7	0.0	9.5	0.0	0.0	0.0
2/12/94	6.7	0.2	5.9	0.1	0.2	0.1	2/12/95	12.8	0.1	9.5	0.0	0.1	0.1
2/13/94	6.8	0.1	6.0	0.1	0.1	0.0	2/13/95	13.2	0.4	10.0	0.5	0.5	0.0
2/14/94	6.8	0.0	6.1	0.1	0.1	0.0	2/14/95	13.6	0.4	10.5	0.5	0.5	0.0
2/15/94	6.8	0.0	6.1	0.0	0.0	0.0	2/15/95	13.9	0.3	10.7	0.2	0.3	0.1
2/16/94	6.8	0.0	6.2	0.1	0.1	0.0	2/16/95	14.1	0.2	10.7	0.0	0.2	0.2
2/17/94	6.9	0.1	6.2	0.0	0.1	0.1	2/17/95	14.1	0.0	10.7	0.0	0.0	0.0
2/18/94	7.2	0.3	6.6	0.4	0.4	0.0	2/18/95	14.1	0.0	10.7	0.0	0.0	0.0
2/19/94	7.2	0.0	6.8	0.2	0.2	0.0	2/19/95	14.1	0.0	10.7	0.0	0.0	0.0
2/20/94	7.4	0.2	6.8	0.0	0.2	0.2	2/20/95	14.1	0.0	10.8	0.1	0.1	0.0
2/21/94	7.5	0.1	6.9	0.1	0.1	0.0	2/21/95	14.1	0.0	10.8	0.0	0.0	0.0
2/22/94	7.6	0.1	6.9	0.0	0.1	0.1	2/22/95	14.1	0.0	10.8	0.0	0.0	0.0
2/23/94	7.6	0.0	6.9	0.0	0.0	0.0	2/23/95	14.1	0.0	10.8	0.0	0.0	0.0
2/24/94	7.7	0.1	7.0	0.1	0.1	0.0	2/24/95	14.1	0.0	10.8	0.0	0.0	0.0
2/25/94	7.7	0.0	7.0	0.0	0.0	0.0	2/25/95	14.1	0.0	10.8	0.0	0.0	0.0
2/26/94	7.7	0.0	7.0	0.0	0.0	0.0	2/26/95	14.1	0.0	10.8	0.0	0.0	0.0
2/27/94	7.7	0.0	7.0	0.0	0.0	0.0	2/27/95	14.1	0.0	10.8	0.0	0.0	0.0
2/28/94	8.0	0.3	7.3	0.3	0.3	0.0	2/28/95	14.2	0.1	11.0	0.2	0.2	0.0
3/1/94	8.0	0.0	7.3	0.0	0.0	0.0	3/1/95	14.5	0.3	11.4	0.4	0.4	0.0
3/2/94	8.0	0.0	7.4	0.1	0.1	0.0	3/2/95	14.7	0.2	11.6	0.2	0.2	0.0
3/3/94	8.0	0.0	7.4	0.0	0.0	0.0	3/3/95	15.0	0.3	11.8	0.2	0.3	0.1
3/4/94	8.0	0.0	7.4	0.0	0.0	0.0	3/4/95	15.2	0.2	12.1	0.3	0.3	0.0
3/5/94	8.0	0.0	7.4	0.0	0.0	0.0	3/5/95	15.7	0.5	12.6	0.5	0.5	0.0
3/6/94	8.0	0.0	7.4	0.0	0.0	0.0	3/6/95	15.9	0.2	12.7	0.1	0.2	0.1
3/7/94	8.5	0.5	8.0	0.6	0.6	0.0	3/7/95	16.0	0.1	12.7	0.0	0.1	0.1
3/8/94	8.6	0.1	8.0	0.0	0.1	0.1	3/8/95	16.1	0.1	12.7	0.0	0.1	0.1
3/9/94	8.7	0.1	8.1	0.1	0.1	0.0	3/9/95	16.1	0.0	12.6	-0.1	0.0	0.1

Quemazon 10/93 to 11/95 Precipitation Summary with Snowpack Data

Date	cum.	daily	snowpack (wat equiv)	snowpack net change	adjusted daily *	net non-frozen		Date	cum.	daily	snowpack (wat equiv)	snowpack net change	adjusted daily *	net non-frozen
3/10/94	8.8	0.1	8.2	0.1	0.1	0.0		3/10/95	16.1	0.0	12.5	-0.1	0.0	0.1
3/11/94	8.8	0.0	8.2	0.0	0.0	0.0		3/11/95	16.1	0.0	12.4	-0.1	0.0	0.1
3/12/94	9.6	0.8	9.1	0.9	0.9	0.0		3/12/95	16.1	0.0	12.3	-0.1	0.0	0.1
3/13/94	9.7	0.1	9.2	0.1	0.1	0.0		3/13/95	16.1	0.0	12.2	-0.1	0.0	0.1
3/14/94	9.7	0.0	9.1	-0.1	0.0	0.1		3/14/95	16.1	0.0	12.2	0.0	0.0	0.0
3/15/94	9.7	0.0	8.9	-0.2	0.0	0.2		3/15/95	16.1	0.0	12.1	-0.1	0.0	0.1
3/16/94	9.7	0.0	8.7	-0.2	0.0	0.2		3/16/95	16.1	0.0	12.0	-0.1	0.0	0.1
3/17/94	9.7	0.0	8.3	-0.4	0.0	0.4		3/17/95	16.1	0.0	11.8	-0.2	0.0	0.2
3/18/94	9.7	0.0	8.2	-0.1	0.0	0.1		3/18/95	16.1	0.0	11.6	-0.2	0.0	0.2
3/19/94	9.8	0.1	8.2	0.0	0.1	0.1		3/19/95	16.1	0.0	11.5	-0.1	0.0	0.1
3/20/94	9.8	0.0	8.1	-0.1	0.0	0.1		3/20/95	16.1	0.0	11.5	0.0	0.0	0.0
3/21/94	9.9	0.1	7.9	-0.2	0.1	0.3		3/21/95	16.1	0.0	11.1	-0.4	0.0	0.4
3/22/94	9.9	0.0	7.7	-0.2	0.0	0.2		3/22/95	16.1	0.0	10.6	-0.5	0.0	0.5
3/23/94	10.0	0.1	7.5	-0.2	0.1	0.3		3/23/95	16.1	0.0	10.3	-0.3	0.0	0.3
3/24/94	10.0	0.0	7.4	-0.1	0.0	0.1		3/24/95	16.1	0.0	9.9	-0.4	0.0	0.4
3/25/94	10.0	0.0	7.4	0.0	0.0	0.0		3/25/95	16.1	0.0	9.9	0.0	0.0	0.0
3/26/94	10.1	0.1	7.4	0.0	0.1	0.1		3/26/95	16.1	0.0	9.9	0.0	0.0	0.0
3/27/94	10.9	0.8	8.1	0.7	0.8	0.1		3/27/95	16.1	0.0	9.4	-0.5	0.0	0.5
3/28/94	11.0	0.1	8.2	0.1	0.1	0.0		3/28/95	16.1	0.0	9.1	-0.3	0.0	0.3
3/29/94	11.0	0.0	8.2	0.0	0.0	0.0		3/29/95	16.2	0.1	9.1	0.0	0.1	0.1
3/30/94	11.0	0.0	8.1	-0.1	0.0	0.1		3/30/95	16.2	0.0	8.9	-0.2	0.0	0.2
3/31/94	11.0	0.0	8.0	-0.1	0.0	0.1		3/31/95	16.2	0.0	8.8	-0.1	0.0	0.1
4/1/94	11.0	0.0	7.5	-0.5	0.0	0.5		4/1/95	16.2	0.0	9.0	0.2	0.2	0.0
4/2/94	11.0	0.0	7.1	-0.4	0.0	0.4		4/2/95	16.3	0.1	9.0	0.0	0.1	0.1
4/3/94	11.0	0.0	6.6	-0.5	0.0	0.5		4/3/95	16.3	0.0	9.0	0.0	0.0	0.0
4/4/94	11.0	0.0	6.3	-0.3	0.0	0.3		4/4/95	16.3	0.0	9.0	0.0	0.0	0.0
4/5/94	11.0	0.0	6.2	-0.1	0.0	0.1		4/5/95	16.3	0.0	9.0	0.0	0.0	0.0
4/6/94	11.0	0.0	6.0	-0.2	0.0	0.2		4/6/95	16.3	0.0	9.0	0.0	0.0	0.0
4/7/94	11.0	0.0	5.7	-0.3	0.0	0.3		4/7/95	16.3	0.0	8.3	-0.7	0.0	0.7
4/8/94	11.3	0.3	5.8	0.1	0.3	0.2		4/8/95	16.3	0.0	7.6	-0.7	0.0	0.7
4/9/94	11.7	0.4	6.2	0.4	0.4	0.0		4/9/95	16.3	0.0	7.6	0.0	0.0	0.0
4/10/94	12.0	0.3	6.5	0.3	0.3	0.0		4/10/95	16.8	0.5	7.5	-0.1	0.5	0.6
4/11/94	12.1	0.1	6.5	0.0	0.1	0.1		4/11/95	16.8	0.0	7.5	0.0	0.0	0.0
4/12/94	12.1	0.0	6.5	0.0	0.0	0.0		4/12/95	16.8	0.0	7.4	-0.1	0.0	0.1
4/13/94	12.2	0.1	6.2	-0.3	0.1	0.4		4/13/95	16.8	0.0	6.6	-0.8	0.0	0.8
4/14/94	12.2	0.0	5.7	-0.5	0.0	0.5		4/14/95	16.8	0.0	6.2	-0.4	0.0	0.4
4/15/94	12.2	0.0	5.0	-0.7	0.0	0.7		4/15/95	16.8	0.0	5.6	-0.6	0.0	0.6
4/16/94	12.2	0.0	3.9	-1.1	0.0	1.1		4/16/95	16.8	0.0	4.9	-0.7	0.0	0.7
4/17/94	12.2	0.0	2.9	-1.0	0.0	1.0		4/17/95	16.9	0.1	4.7	-0.2	0.1	0.3
4/18/94	12.2	0.0	1.8	-1.1	0.0	1.1		4/18/95	17.0	0.1	4.9	0.2	0.2	0.0
4/19/94	12.2	0.0	1.0	-0.8	0.0	0.8		4/19/95	17.3	0.3	5.1	0.2	0.3	0.1
4/20/94	12.2	0.0	0.5	-0.5	0.0	0.5		4/20/95	17.5	0.2	5.2	0.1	0.2	0.1
4/21/94	12.3	0.1	0.4	-0.1	0.1	0.2		4/21/95	18.2	0.7	6.1	0.9	0.9	0.0
4/22/94	12.3	0.0	0.4	0.0	0.0	0.0		4/22/95	19.4	1.2	7.4	1.3	1.3	0.0
4/23/94	12.3	0.0	0.2	-0.2	0.0	0.2		4/23/95	19.6	0.2	7.6	0.2	0.2	0.0
4/24/94	12.3	0.0	0.1	-0.1	0.0	0.1		4/24/95	19.6	0.0	7.5	-0.1	0.0	0.1
4/25/94	12.4	0.1	0.0	-0.1	0.1	0.2		4/25/95	19.6	0.0	7.1	-0.4	0.0	0.4
4/26/94	12.4	0.0	0.0	0.0	0.0	0.0		4/26/95	19.6	0.0	6.6	-0.5	0.0	0.5
4/27/94	12.6	0.2	0.2	0.2	0.2	0.0		4/27/95	19.6	0.0	6.3	-0.3	0.0	0.3
4/28/94	12.7	0.1	0.0	-0.2	0.1	0.3		4/28/95	19.6	0.0	5.9	-0.4	0.0	0.4
4/29/94	13.6	0.9	1.2	1.2	1.2	0.0		4/29/95	19.6	0.0	4.8	-1.1	0.0	1.1
4/30/94	13.6	0.0	0.9	-0.3	0.0	0.3		4/30/95	19.6	0.0	3.9	-0.9	0.0	0.9
5/1/94	13.6	0.0	0.2	-0.7	0.0	0.7		5/1/95	19.6	0.0	3.2	-0.7	0.0	0.7
5/2/94	13.6	0.0	0.0	-0.2	0.0	0.2		5/2/95	19.6	0.0	2.2	-1.0	0.0	1.0
5/3/94	13.6	0.0	0.0	0.0	0.0	0.0		5/3/95	19.6	0.0	1.0	-1.2	0.0	1.2
5/4/94	13.6	0.0	0.0	0.0	0.0	0.0		5/4/95	19.7	0.1	0.2	-0.8	0.1	0.9
5/5/94	13.6	0.0	0.0	0.0	0.0	0.0		5/5/95	19.7	0.0	0.0	-0.2	0.0	0.2
5/6/94	13.6	0.0	0.0	0.0	0.0	0.0		5/6/95	19.7	0.0	0.0	0.0	0.0	0.0
5/7/94	13.6	0.0	0.0	0.0	0.0	0.0		5/7/95	20.0	0.3	0.2	0.2	0.3	0.1
5/8/94	13.6	0.0	0.0	0.0	0.0	0.0		5/8/95	20.1	0.1	0.0	-0.2	0.1	0.3
5/9/94	13.6	0.0	0.0	0.0	0.0	0.0		5/9/95	20.1	0.0	0.0	0.0	0.0	0.0
5/10/94	14.3	0.7	0.2	0.2	0.7	0.5		5/10/95	20.1	0.0	0.0	0.0	0.0	0.0
5/11/94	14.5	0.2	0.0	-0.2	0.2	0.4		5/11/95	20.1	0.0	0.0	0.0	0.0	0.0
5/12/94	14.6	0.1	0.0	0.0	0.1	0.1		5/12/95	20.1	0.0	0.0	0.0	0.0	0.0
5/13/94	14.8	0.2	0.0	0.0	0.2	0.2		5/13/95	20.1	0.0	0.0	0.0	0.0	0.0
5/14/94	14.8	0.0	0.0	0.0	0.0	0.0		5/14/95	20.1	0.0	0.0	0.0	0.0	0.0
5/15/94	14.9	0.1	0.0	0.0	0.1	0.1		5/15/95	20.1	0.0	0.0	0.0	0.0	0.0
5/16/94	14.9	0.0	0.0	0.0	0.0	0.0		5/16/95	20.1	0.0	0.0	0.0	0.0	0.0
5/17/94	14.9	0.0	0.0	0.0	0.0	0.0		5/17/95	20.2	0.1	0.0	0.0	0.1	0.1
5/18/94	14.9	0.0	0.0	0.0	0.0	0.0		5/18/95	20.5	0.3	0.0	0.0	0.3	0.3
5/19/94	15.0	0.1	0.0	0.0	0.1	0.1		5/19/95	20.5	0.0	0.0	0.0	0.0	0.0
5/20/94	15.0	0.0	0.0	0.0	0.0	0.0		5/20/95	20.5	0.0	0.0	0.0	0.0	0.0
5/21/94	15.0	0.0	0.0	0.0	0.0	0.0		5/21/95	20.5	0.0	0.0	0.0	0.0	0.0
5/22/94	15.0	0.0	0.0	0.0	0.0	0.0		5/22/95	20.5	0.0	0.0	0.0	0.0	0.0
5/23/94	15.0	0.0	0.0	0.0	0.0	0.0		5/23/95	20.5	0.0	0.0	0.0	0.0	0.0
5/24/94	15.0	0.0	0.0	0.0	0.0	0.0		5/24/95	20.5	0.0	0.0	0.0	0.0	0.0
5/25/94	15.0	0.0	0.0	0.0	0.0	0.0		5/25/95	20.5	0.0	0.0	0.0	0.0	0.0
5/26/94	15.3	0.3	0.0	0.0	0.3	0.3		5/26/95	20.5	0.0	0.0	0.0	0.0	0.0
5/27/94	15.3	0.0	0.0	0.0	0.0	0.0		5/27/95	20.5	0.0	0.0	0.0	0.0	0.0
5/28/94	15.3	0.0	0.0	0.0	0.0	0.0		5/28/95	21.0	0.5	0.0	0.0	0.5	0.5
5/29/94	15.3	0.0	0.0	0.0	0.0	0.0		5/29/95	21.6	0.6	0.0	0.0	0.6	0.6
5/30/94	15.3	0.0	0.0	0.0	0.0	0.0		5/30/95	21.6	0.0	0.0	0.0	0.0	0.0

Quemazon 10/93 to 11/95 Precipitation Summary with Snowpack Data

Date	cum.	daily	snowpack (wat equiv)	snowpack net change	adjusted daily *	net non-frozen		Date	cum.	daily	snowpack (wat equiv)	snowpack net change	adjusted daily *	net non-frozen
5/31/94	15.3	0.0	0.0	0.0	0.0	0.0		5/31/95	21.6	0.0	0.0	0.0	0.0	0.0
6/1/94	15.3	0.0	0.0	0.0	0.0	0.0		6/1/95	21.6	0.0	0.0	0.0	0.0	0.0
6/2/94	15.3	0.0	0.0	0.0	0.0	0.0		6/2/95	21.6	0.0	0.0	0.0	0.0	0.0
6/3/94	15.3	0.0	0.0	0.0	0.0	0.0		6/3/95	21.6	0.0	0.0	0.0	0.0	0.0
6/4/94	15.3	0.0	0.0	0.0	0.0	0.0		6/4/95	21.6	0.0	0.0	0.0	0.0	0.0
6/5/94	15.3	0.0	0.0	0.0	0.0	0.0		6/5/95	21.6	0.0	0.0	0.0	0.0	0.0
6/6/94	15.3	0.0	0.0	0.0	0.0	0.0		6/6/95	21.6	0.0	0.0	0.0	0.0	0.0
6/7/94	15.3	0.0	0.0	0.0	0.0	0.0		6/7/95	21.6	0.0	0.0	0.0	0.0	0.0
6/8/94	15.3	0.0	0.0	0.0	0.0	0.0		6/8/95	21.6	0.0	0.0	0.0	0.0	0.0
6/9/94	15.3	0.0	0.0	0.0	0.0	0.0		6/9/95	21.6	0.0	0.0	0.0	0.0	0.0
6/10/94	15.3	0.0	0.0	0.0	0.0	0.0		6/10/95	21.6	0.0	0.0	0.0	0.0	0.0
6/11/94	15.3	0.0	0.0	0.0	0.0	0.0		6/11/95	21.6	0.0	0.0	0.0	0.0	0.0
6/12/94	15.3	0.0	0.0	0.0	0.0	0.0		6/12/95	21.6	0.0	0.0	0.0	0.0	0.0
6/13/94	15.3	0.0	0.0	0.0	0.0	0.0		6/13/95	21.6	0.0	0.0	0.0	0.0	0.0
6/14/94	15.3	0.0	0.0	0.0	0.0	0.0		6/14/95	21.6	0.0	0.0	0.0	0.0	0.0
6/15/94	15.3	0.0	0.0	0.0	0.0	0.0		6/15/95	21.6	0.0	0.0	0.0	0.0	0.0
6/16/94	15.3	0.0	0.0	0.0	0.0	0.0		6/16/95	21.7	0.1	0.0	0.0	0.1	0.1
6/17/94	15.3	0.0	0.0	0.0	0.0	0.0		6/17/95	22.5	0.8	0.0	0.0	0.8	0.8
6/18/94	15.3	0.0	0.0	0.0	0.0	0.0		6/18/95	22.5	0.0	0.0	0.0	0.0	0.0
6/19/94	15.7	0.4	0.0	0.0	0.4	0.4		6/19/95	23.0	0.5	0.0	0.0	0.5	0.5
6/20/94	16.0	0.3	0.0	0.0	0.3	0.3		6/20/95	23.5	0.5	0.0	0.0	0.5	0.5
6/21/94	16.7	0.7	0.0	0.0	0.7	0.7		6/21/95	23.7	0.2	0.0	0.0	0.2	0.2
6/22/94	16.7	0.0	0.0	0.0	0.0	0.0		6/22/95	23.7	0.0	0.0	0.0	0.0	0.0
6/23/94	16.7	0.0	0.0	0.0	0.0	0.0		6/23/95	23.7	0.0	0.0	0.0	0.0	0.0
6/24/94	16.7	0.0	0.0	0.0	0.0	0.0		6/24/95	23.7	0.0	0.0	0.0	0.0	0.0
6/25/94	16.7	0.0	0.0	0.0	0.0	0.0		6/25/95	23.7	0.0	0.0	0.0	0.0	0.0
6/26/94	16.7	0.0	0.0	0.0	0.0	0.0		6/26/95	23.7	0.0	0.0	0.0	0.0	0.0
6/27/94	16.7	0.0	0.0	0.0	0.0	0.0		6/27/95	23.8	0.1	0.0	0.0	0.1	0.1
6/28/94	16.7	0.0	0.0	0.0	0.0	0.0		6/28/95	23.8	0.0	0.0	0.0	0.0	0.0
6/29/94	16.7	0.0	0.0	0.0	0.0	0.0		6/29/95	24.0	0.2	0.0	0.0	0.2	0.2
6/30/94	16.7	0.0	0.0	0.0	0.0	0.0		6/30/95	24.2	0.2	0.0	0.0	0.2	0.2
7/1/94	16.7	0.0	0.0	0.0	0.0	0.0		7/1/95	24.2	0.0	0.0	0.0	0.0	0.0
7/2/94	16.7	0.0	0.0	0.0	0.0	0.0		7/2/95	24.2	0.0	0.0	0.0	0.0	0.0
7/3/94	16.7	0.0	0.0	0.0	0.0	0.0		7/3/95	24.3	0.1	0.0	0.0	0.1	0.1
7/4/94	16.7	0.0	0.0	0.0	0.0	0.0		7/4/95	24.3	0.0	0.0	0.0	0.0	0.0
7/5/94	16.7	0.0	0.0	0.0	0.0	0.0		7/5/95	24.3	0.0	0.0	0.0	0.0	0.0
7/6/94	16.7	0.0	0.0	0.0	0.0	0.0		7/6/95	24.3	0.0	0.0	0.0	0.0	0.0
7/7/94	16.8	0.1	0.0	0.0	0.1	0.1		7/7/95	24.3	0.0	0.0	0.0	0.0	0.0
7/8/94	16.8	0.0	0.0	0.0	0.0	0.0		7/8/95	24.3	0.0	0.0	0.0	0.0	0.0
7/9/94	16.8	0.0	0.0	0.0	0.0	0.0		7/9/95	24.3	0.0	0.0	0.0	0.0	0.0
7/10/94	16.9	0.1	0.0	0.0	0.1	0.1		7/10/95	24.3	0.0	0.0	0.0	0.0	0.0
7/11/94	16.9	0.0	0.0	0.0	0.0	0.0		7/11/95	24.3	0.0	0.0	0.0	0.0	0.0
7/12/94	16.9	0.0	0.0	0.0	0.0	0.0		7/12/95	24.6	0.3	0.0	0.0	0.3	0.3
7/13/94	16.9	0.0	0.0	0.0	0.0	0.0		7/13/95	24.6	0.0	0.0	0.0	0.0	0.0
7/14/94	17.0	0.1	0.0	0.0	0.1	0.1		7/14/95	24.6	0.0	0.0	0.0	0.0	0.0
7/15/94	17.1	0.1	0.0	0.0	0.1	0.1		7/15/95	24.9	0.3	0.0	0.0	0.3	0.3
7/16/94	17.2	0.1	0.0	0.0	0.1	0.1		7/16/95	24.9	0.0	0.0	0.0	0.0	0.0
7/17/94	17.7	0.5	0.0	0.0	0.5	0.5		7/17/95	25.1	0.2	0.0	0.0	0.2	0.2
7/18/94	17.7	0.0	0.0	0.0	0.0	0.0		7/18/95	26.6	1.5	0.0	0.0	1.5	1.5
7/19/94	17.8	0.1	0.0	0.0	0.1	0.1		7/19/95	26.7	0.1	0.0	0.0	0.1	0.1
7/20/94	18.4	0.6	0.0	0.0	0.6	0.6		7/20/95	26.7	0.0	0.0	0.0	0.0	0.0
7/21/94	18.6	0.2	0.0	0.0	0.2	0.2		7/21/95	26.7	0.0	0.0	0.0	0.0	0.0
7/22/94	18.8	0.2	0.0	0.0	0.2	0.2		7/22/95	26.8	0.1	0.0	0.0	0.1	0.1
7/23/94	18.8	0.0	0.0	0.0	0.0	0.0		7/23/95	26.8	0.0	0.0	0.0	0.0	0.0
7/24/94	19.3	0.5	0.0	0.0	0.5	0.5		7/24/95	26.8	0.0	0.0	0.0	0.0	0.0
7/25/94	19.4	0.1	0.0	0.0	0.1	0.1		7/25/95	26.9	0.1	0.0	0.0	0.1	0.1
7/26/94	19.7	0.3	0.0	0.0	0.3	0.3		7/26/95	26.9	0.0	0.0	0.0	0.0	0.0
7/27/94	20.1	0.4	0.0	0.0	0.4	0.4		7/27/95	27.0	0.1	0.0	0.0	0.1	0.1
7/28/94	20.4	0.3	0.0	0.0	0.3	0.3		7/28/95	27.0	0.0	0.0	0.0	0.0	0.0
7/29/94	20.5	0.1	0.0	0.0	0.1	0.1		7/29/95	27.0	0.0	0.0	0.0	0.0	0.0
7/30/94	20.5	0.0	0.0	0.0	0.0	0.0		7/30/95	27.0	0.0	0.0	0.0	0.0	0.0
7/31/94	20.8	0.3	0.0	0.0	0.3	0.3		7/31/95	27.0	0.0	0.0	0.0	0.0	0.0
8/1/94	21.3	0.5	0.0	0.0	0.5	0.5		8/1/95	27.0	0.0	0.0	0.0	0.0	0.0
8/2/94	21.4	0.1	0.0	0.0	0.1	0.1		8/2/95	27.0	0.0	0.0	0.0	0.0	0.0
8/3/94	21.4	0.0	0.0	0.0	0.0	0.0		8/3/95	27.0	0.0	0.0	0.0	0.0	0.0
8/4/94	21.8	0.4	0.0	0.0	0.4	0.4		8/4/95	27.3	0.3	0.0	0.0	0.3	0.3
8/5/94	22.3	0.5	0.0	0.0	0.5	0.5		8/5/95	27.3	0.0	0.0	0.0	0.0	0.0
8/6/94	22.3	0.0	0.0	0.0	0.0	0.0		8/6/95	27.3	0.0	0.0	0.0	0.0	0.0
8/7/94	22.3	0.0	0.0	0.0	0.0	0.0		8/7/95	27.3	0.0	0.0	0.0	0.0	0.0
8/8/94	22.3	0.0	0.0	0.0	0.0	0.0		8/8/95	27.3	0.0	0.0	0.0	0.0	0.0
8/9/94	22.4	0.1	0.0	0.0	0.1	0.1		8/9/95	27.7	0.4	0.0	0.0	0.4	0.4
8/10/94	22.5	0.1	0.0	0.0	0.1	0.1		8/10/95	28.3	0.6	0.0	0.0	0.6	0.6
8/11/94	22.5	0.0	0.0	0.0	0.0	0.0		8/11/95	29.1	0.8	0.0	0.0	0.8	0.8
8/12/94	22.5	0.0	0.0	0.0	0.0	0.0		8/12/95	29.5	0.4	0.0	0.0	0.4	0.4
8/13/94	22.5	0.0	0.0	0.0	0.0	0.0		8/13/95	30.4	0.9	0.0	0.0	0.9	0.9
8/14/94	23.3	0.8	0.0	0.0	0.8	0.8		8/14/95	30.6	0.2	0.0	0.0	0.2	0.2
8/15/94	23.3	0.0	0.0	0.0	0.0	0.0		8/15/95	30.6	0.0	0.0	0.0	0.0	0.0
8/16/94	23.3	0.0	0.0	0.0	0.0	0.0		8/16/95	31.1	0.5	0.0	0.0	0.5	0.5
8/17/94	23.7	0.4	0.0	0.0	0.4	0.4		8/17/95	31.1	0.0	0.0	0.0	0.0	0.0
8/18/94	23.7	0.0	0.0	0.0	0.0	0.0		8/18/95	31.1	0.0	0.0	0.0	0.0	0.0
8/19/94	23.7	0.0	0.0	0.0	0.0	0.0		8/19/95	32.1	1.0	0.0	0.0	1.0	1.0
8/20/94	24.8	1.1	0.0	0.0	1.1	1.1		8/20/95	32.2	0.1	0.0	0.0	0.1	0.1

Quemazon 10/93 to 11/95 Precipitation Summary with Snowpack Data

Date	cum.	daily	snowpack (wat equiv)	snowpack net change	adjusted daily *	net non-frozen	Date	cum.	daily	snowpack (wat equiv)	snowpack net change	adjusted daily *	net non-frozen
8/21/94	24.9	0.1	0.0	0.0	0.1	0.1	8/21/95	32.3	0.1	0.0	0.0	0.1	0.1
8/22/94	24.9	0.0	0.0	0.0	0.0	0.0	8/22/95	32.6	0.3	0.0	0.0	0.3	0.3
8/23/94	24.9	0.0	0.0	0.0	0.0	0.0	8/23/95	33.0	0.4	0.0	0.0	0.4	0.4
8/24/94	25.5	0.6	0.0	0.0	0.6	0.6	8/24/95	33.7	0.7	0.0	0.0	0.7	0.7
8/25/94	25.5	0.0	0.0	0.0	0.0	0.0	8/25/95	34.0	0.3	0.0	0.0	0.3	0.3
8/26/94	25.5	0.0	0.0	0.0	0.0	0.0	8/26/95	34.1	0.1	0.0	0.0	0.1	0.1
8/27/94	25.5	0.0	0.0	0.0	0.0	0.0	8/27/95	34.4	0.3	0.0	0.0	0.3	0.3
8/28/94	25.5	0.0	0.0	0.0	0.0	0.0	8/28/95	34.4	0.0	0.0	0.0	0.0	0.0
8/29/94	25.6	0.1	0.0	0.0	0.1	0.1	8/29/95	34.4	0.0	0.0	0.0	0.0	0.0
8/30/94	25.6	0.0	0.0	0.0	0.0	0.0	8/30/95	34.4	0.0	0.0	0.0	0.0	0.0
8/31/94	25.8	0.2	0.0	0.0	0.2	0.2	8/31/95	34.4	0.0	0.0	0.0	0.0	0.0
9/1/94	25.8	0.0	0.0	0.0	0.0	0.0	9/1/95	34.5	0.1	0.0	0.0	0.1	0.1
9/2/94	25.9	0.1	0.0	0.0	0.1	0.1	9/2/95	34.5	0.0	0.0	0.0	0.0	0.0
9/3/94	26.3	0.4	0.0	0.0	0.4	0.4	9/3/95	34.5	0.0	0.0	0.0	0.0	0.0
9/4/94	26.3	0.0	0.0	0.0	0.0	0.0	9/4/95	34.5	0.0	0.0	0.0	0.0	0.0
9/5/94	26.3	0.0	0.0	0.0	0.0	0.0	9/5/95	34.5	0.0	0.0	0.0	0.0	0.0
9/6/94	28.1	1.8	0.0	0.0	1.8	1.8	9/6/95	35.0	0.5	0.0	0.0	0.5	0.5
9/7/94	28.1	0.0	0.0	0.0	0.0	0.0	9/7/95	35.5	0.5	0.0	0.0	0.5	0.5
9/8/94	28.1	0.0	0.0	0.0	0.0	0.0	9/8/95	36.5	1.0	0.0	0.0	1.0	1.0
9/9/94	28.1	0.0	0.0	0.0	0.0	0.0	9/9/95	36.6	0.1	0.0	0.0	0.1	0.1
9/10/94	28.1	0.0	0.0	0.0	0.0	0.0	9/10/95	36.6	0.0	0.0	0.0	0.0	0.0
9/11/94	28.1	0.0	0.0	0.0	0.0	0.0	9/11/95	36.6	0.0	0.0	0.0	0.0	0.0
9/12/94	28.4	0.3	0.0	0.0	0.3	0.3	9/12/95	36.6	0.0	0.0	0.0	0.0	0.0
9/13/94	28.6	0.2	0.0	0.0	0.2	0.2	9/13/95	36.6	0.0	0.0	0.0	0.0	0.0
9/14/94	28.9	0.3	0.0	0.0	0.3	0.3	9/14/95	36.6	0.0	0.0	0.0	0.0	0.0
9/15/94	28.9	0.0	0.0	0.0	0.0	0.0	9/15/95	36.6	0.0	0.0	0.0	0.0	0.0
9/16/94	28.9	0.0	0.0	0.0	0.0	0.0	9/16/95	36.6	0.0	0.0	0.0	0.0	0.0
9/17/94	28.9	0.0	0.0	0.0	0.0	0.0	9/17/95	36.6	0.0	0.0	0.0	0.0	0.0
9/18/94	28.9	0.0	0.0	0.0	0.0	0.0	9/18/95	36.6	0.0	0.0	0.0	0.0	0.0
9/19/94	28.9	0.0	0.0	0.0	0.0	0.0	9/19/95	36.6	0.0	0.0	0.0	0.0	0.0
9/20/94	29.0	0.1	0.0	0.0	0.1	0.1	9/20/95	36.6	0.0	0.0	0.0	0.0	0.0
9/21/94	29.1	0.1	0.0	0.0	0.1	0.1	9/21/95	36.6	0.0	0.0	0.0	0.0	0.0
9/22/94	29.1	0.0	0.0	0.0	0.0	0.0	9/22/95	36.6	0.0	0.0	0.0	0.0	0.0
9/23/94	29.1	0.0	0.0	0.0	0.0	0.0	9/23/95	36.6	0.0	0.0	0.0	0.0	0.0
9/24/94	29.1	0.0	0.0	0.0	0.0	0.0	9/24/95	36.6	0.0	0.0	0.0	0.0	0.0
9/25/94	29.1	0.0	0.0	0.0	0.0	0.0	9/25/95	36.6	0.0	0.0	0.0	0.0	0.0
9/26/94	29.1	0.0	0.0	0.0	0.0	0.0	9/26/95	36.6	0.0	0.0	0.0	0.0	0.0
9/27/94	29.1	0.0	0.0	0.0	0.0	0.0	9/27/95	36.6	0.0	0.0	0.0	0.0	0.0
9/28/94	29.1	0.0	0.0	0.0	0.0	0.0	9/28/95	36.7	0.1	0.0	0.0	0.1	0.1
9/29/94	29.1	0.0	0.0	0.0	0.0	0.0	9/29/95	37.1	0.4	0.0	0.0	0.4	0.4
9/30/94	29.1	0.0	0.0	0.0	0.0	0.0	9/30/95	37.1	0.0	0.0	0.0	0.0	0.0
Totals:		29.1			32.4	32.4	Totals:		37.1			41.6	41.6
		Total Precipitation Adjustment %:			11.34				Total Precipitation Adjustment %:			12.13	

Estimated 10/1/95-11/2/95 Precipitation:
(multiplied N. Comm. data by 2.759=average Quem./N. Comm. proportion from 10/18/94-11/10/94 dry period)

10/1/95	0.00	0.0	0.0	0.0	0.0	0.0
10/2/95	0.00	0.0	0.0	0.0	0.0	0.0
10/3/95	0.00	0.0	0.0	0.0	0.0	0.0
10/4/95	0.00	0.0	0.0	0.0	0.0	0.0
10/5/95	0.00	0.0	0.0	0.0	0.0	0.0
10/6/95	0.00	0.0	0.0	0.0	0.0	0.0
10/7/95	0.00	0.0	0.0	0.0	0.0	0.0
10/8/95	0.00	0.0	0.0	0.0	0.0	0.0
10/9/95	0.00	0.0	0.0	0.0	0.0	0.0
10/10/95	0.00	0.0	0.0	0.0	0.0	0.0
10/11/95	0.00	0.0	0.0	0.0	0.0	0.0
10/12/95	0.00	0.0	0.0	0.0	0.0	0.0
10/13/95	0.00	0.0	0.0	0.0	0.0	0.0
10/14/95	0.00	0.0	0.0	0.0	0.0	0.0
10/15/95	0.00	0.0	0.0	0.0	0.0	0.0
10/16/95	0.00	0.0	0.0	0.0	0.0	0.0
10/17/95	0.00	0.0	0.0	0.0	0.0	0.0
10/18/95	0.00	0.0	0.0	0.0	0.0	0.0
10/19/95	0.00	0.0	0.0	0.0	0.0	0.0
10/20/95	0.00	0.0	0.0	0.0	0.0	0.0
10/21/95	0.00	0.0	0.0	0.0	0.0	0.0
10/22/95	0.00	0.0	0.0	0.0	0.0	0.0
10/23/95	0.00	0.0	0.0	0.0	0.0	0.0
10/24/95	0.00	0.0	0.0	0.0	0.0	0.0
10/25/95	0.00	0.0	0.0	0.0	0.0	0.0
10/26/95	0.00	0.0	0.0	0.0	0.0	0.0
10/27/95	0.00	0.0	0.0	0.0	0.0	0.0
10/28/95	0.00	0.0	0.0	0.0	0.0	0.0
10/29/95	0.00	0.0	0.0	0.0	0.0	0.0
10/30/95	0.00	0.0	0.0	0.0	0.0	0.0
10/31/95	0.00	0.0	0.0	0.0	0.0	0.0
11/1/95	0.02	0.1	0.0	0.0	0.1	0.1
11/2/95	0.00	0.0	0.0	0.0	0.0	0.0

Stress Periods:

Period No.	From	To	Adjusted Total Precip. (inches)	Net Non-frozen Precip. Yield (inches)	Stored (-) or Melted (+) (inches)	Stored (-) (%)
1	7/10/94	10/13/94	12.7	12.7	0.0	0.0
2	10/14/94	10/17/94	4.8	0.6	-4.2	-87.5
3	10/18/94	11/10/94	0.8	1.7	0.9	0.0
4	11/11/94	12/7/94	4.3	1.8	-2.5	-58.1
5	12/8/94	2/12/95	5.8	2.1	-3.7	-63.8
6	2/13/95	6/30/95	12.6	22.1	9.5	0.0
7	7/1/95	8/3/95	2.8	2.8	0.0	0.0
8	8/4/95	9/11/95	9.6	9.6	0.0	0.0
9	9/12/95	11/2/95	0.6	0.6	0.0	0.0
		Total:	54.0	54.0	0.0	

Appendix G

10/94-9/95 Streamflow Discharge Data

94-95 LA Canyon Discharge Data

Date	Upper Station (8313025) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Middle Station (08313030) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Lower Station (08313042) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)
10/1/94	0.00	0	0.00	0	0.00	0
10/2/94	0.00	0	0.00	0	0.00	0
10/3/94	0.00	0	0.00	0	0.00	0
10/4/94	0.00	0	0.00	0	0.00	0
10/5/94	0.00	0	0.00	0	0.00	0
10/6/94	0.00	0	0.00	0	0.00	0
10/7/94	0.00	0	0.00	0	0.00	0
10/8/94	0.00	0	0.00	0	0.00	0
10/9/94	0.00	0	0.00	0	0.00	0
10/10/94	0.00	0	0.00	0	0.00	0
10/11/94	0.00	0	0.00	0	0.00	0
10/12/94	0.00	0	0.00	0	0.00	0
10/13/94	0.00	0	0.00	0	0.00	0
10/14/94	0.01	864	0.96	82944	1.30	112320
10/15/94	0.05	4320	1.90	164160	6.90	596160
10/16/94	0.23	19872	0.72	62208	0.97	83808
10/17/94	0.40	34560	1.30	112320	2.10	181440
10/18/94	0.37	31968	0.00	0	0.00	0
10/19/94	0.33	28512	0.00	0	0.00	0
10/20/94	0.30	25920	0.00	0	0.00	0
10/21/94	0.28	24192	0.00	0	0.00	0
10/22/94	0.27	23328	0.00	0	0.00	0
10/23/94	0.25	21600	0.00	0	0.00	0
10/24/94	0.26	22464	0.00	0	0.00	0
10/25/94	0.26	22464	0.00	0	0.00	0
10/26/94	0.26	22464	0.00	0	0.00	0
10/27/94	0.26	22464	0.00	0	0.00	0
10/28/94	0.23	19872	0.00	0	0.00	0
10/29/94	0.23	19872	0.00	0	0.00	0
10/30/94	0.22	19008	0.00	0	0.00	0
10/31/94	0.20	17280	0.00	0	0.00	0
11/1/94	0.20	17280	0.00	0	0.00	0
11/2/94	0.20	17280	0.00	0	0.00	0
11/3/94	0.26	22464	0.00	0	0.00	0
11/4/94	0.24	20736	0.00	0	0.00	0
11/5/94	0.22	19008	0.00	0	0.00	0
11/6/94	0.23	19872	0.00	0	0.00	0
11/7/94	0.22	19008	0.00	0	0.00	0
11/8/94	0.23	19872	0.00	0	0.00	0
11/9/94	0.20	17280	0.00	0	0.00	0
11/10/94	0.20	17280	0.00	0	0.00	0
11/11/94	0.24	20736	0.00	0	0.00	0
11/12/94	2.50	216000	7.10	613440	9.50	820800
11/13/94	4.10	354240	3.50	302400	0.05	4320
11/14/94	2.90	250560	3.10	267840	0.68	58752
11/15/94	2.00	172800	1.60	138240	0.80	69120
11/16/94	1.40	120960	0.65	56160	0.44	38016
11/17/94	0.96	82944	0.40	34560	0.20	17280
11/18/94	0.73	63072	0.33	28512	1.10	95040
11/19/94	0.63	54432	0.31	26784	0.00	0
11/20/94	0.57	49248	0.27	23328	0.00	0
11/21/94	0.53	45792	0.26	22464	0.00	0
11/22/94	0.48	41472	0.24	20736	0.00	0
11/23/94	0.44	38016	0.23	19872	0.00	0
11/24/94	0.40	34560	0.22	19008	0.00	0
11/25/94	0.36	31104	0.20	17280	0.00	0
11/26/94	0.33	28512	0.20	17280	0.00	0

Date	Upper Station (8313025) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Middle Station (08313030) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Lower Station (08313042) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)
11/27/94	0.31	26784	0.30	25920	0.00	0
11/28/94	1.10	95040	0.55	47520	0.00	0
11/29/94	1.10	95040	0.80	69120	0.00	0
11/30/94	1.10	95040	0.81	69984	0.00	0
12/1/94	1.10	95040	0.82	70848	0.00	0
12/2/94	1.10	95040	0.80	69120	0.00	0
12/3/94	1.10	95040	0.80	69120	0.00	0
12/4/94	1.10	95040	0.80	69120	0.00	0
12/5/94	0.91	78624	0.80	69120	0.00	0
12/6/94	0.07	6048	0.80	69120	0.00	0
12/7/94	0.01	864	0.50	43200	0.00	0
12/8/94	0.03	2592	0.20	17280	0.00	0
12/9/94	0.08	6912	0.08	6912	0.00	0
12/10/94	0.00	0	0.04	3456	0.00	0
12/11/94	0.00	0	0.01	864	0.00	0
12/12/94	0.00	0	0.00	0	0.00	0
12/13/94	0.00	0	0.00	0	0.00	0
12/14/94	0.00	0	0.00	0	0.00	0
12/15/94	0.00	0	0.00	0	0.00	0
12/16/94	0.00	0	0.00	0	0.00	0
12/17/94	0.00	0	0.00	0	0.00	0
12/18/94	0.00	0	0.00	0	0.00	0
12/19/94	0.00	0	0.00	0	0.00	0
12/20/94	0.00	0	0.00	0	0.00	0
12/21/94	0.00	0	0.00	0	0.00	0
12/22/94	0.00	0	0.00	0	0.00	0
12/23/94	0.00	0	0.00	0	0.00	0
12/24/94	0.00	0	0.00	0	0.00	0
12/25/94	0.00	0	0.00	0	0.00	0
12/26/94	0.00	0	0.00	0	0.00	0
12/27/94	0.00	0	0.00	0	0.00	0
12/28/94	0.00	0	0.00	0	0.00	0
12/29/94	0.00	0	0.00	0	0.00	0
12/30/94	0.00	0	0.00	0	0.00	0
12/31/94	0.00	0	0.00	0	0.00	0
1/1/95	0.00	0	0.00	0	0.00	0
1/2/95	0.00	0	0.00	0	0.00	0
1/3/95	0.00	0	0.00	0	0.00	0
1/4/95	0.00	0	0.00	0	0.00	0
1/5/95	0.00	0	0.00	0	0.00	0
1/6/95	0.00	0	0.00	0	0.00	0
1/7/95	0.00	0	0.00	0	0.00	0
1/8/95	0.00	0	0.00	0	0.00	0
1/9/95	0.00	0	0.00	0	0.00	0
1/10/95	0.00	0	0.00	0	0.00	0
1/11/95	0.00	0	0.00	0	0.00	0
1/12/95	0.00	0	0.00	0	0.00	0
1/13/95	0.00	0	0.00	0	0.00	0
1/14/95	0.00	0	0.00	0	0.00	0
1/15/95	0.00	0	0.00	0	0.00	0
1/16/95	0.00	0	0.00	0	0.00	0
1/17/95	0.00	0	0.00	0	0.00	0
1/18/95	0.00	0	0.00	0	0.00	0
1/19/95	0.00	0	0.00	0	0.00	0
1/20/95	0.00	0	0.00	0	0.00	0
1/21/95	0.00	0	0.00	0	0.00	0
1/22/95	0.00	0	0.00	0	0.00	0

Date	Upper Station (8313025) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Middle Station (08313030) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Lower Station (08313042) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)
1/23/95	0.00	0	0.00	0	0.00	0
1/24/95	0.00	0	0.00	0	0.00	0
1/25/95	0.00	0	0.00	0	0.00	0
1/26/95	0.00	0	0.00	0	0.00	0
1/27/95	0.00	0	0.00	0	0.00	0
1/28/95	0.00	0	0.00	0	0.00	0
1/29/95	0.00	0	0.00	0	0.00	0
1/30/95	0.00	0	0.00	0	0.00	0
1/31/95	0.00	0	0.00	0	0.00	0
2/1/95	0.00	0	0.00	0	0.00	0
2/2/95	0.00	0	0.00	0	0.00	0
2/3/95	0.00	0	0.00	0	0.00	0
2/4/95	0.00	0	0.00	0	0.00	0
2/5/95	0.00	0	0.00	0	0.00	0
2/6/95	0.00	0	0.00	0	0.00	0
2/7/95	0.00	0	0.00	0	0.00	0
2/8/95	0.00	0	0.00	0	0.00	0
2/9/95	0.00	0	0.00	0	0.00	0
2/10/95	0.00	0	0.00	0	0.00	0
2/11/95	0.00	0	0.00	0	0.00	0
2/12/95	0.00	0	0.00	0	0.00	0
2/13/95	0.00	0	0.00	0	0.00	0
2/14/95	0.00	0	0.00	0	0.10	8640
2/15/95	0.00	0	0.00	0	0.28	24192
2/16/95	0.00	0	0.00	0	0.02	1728
2/17/95	0.00	0	0.00	0	0.00	0
2/18/95	0.00	0	0.00	0	0.00	0
2/19/95	0.00	0	0.00	0	0.00	0
2/20/95	0.00	0	0.00	0	0.00	0
2/21/95	0.00	0	0.00	0	0.00	0
2/22/95	0.01	864	0.00	0	0.00	0
2/23/95	0.04	3456	0.00	0	0.00	0
2/24/95	0.06	5184	0.00	0	0.00	0
2/25/95	0.14	12096	0.00	0	0.00	0
2/26/95	0.21	18144	0.00	0	0.00	0
2/27/95	0.25	21600	0.00	0	0.00	0
2/28/95	0.32	27648	0.00	0	0.00	0
3/1/95	0.38	32832	0.01	864	0.00	0
3/2/95	0.32	27648	0.04	3456	0.00	0
3/3/95	0.41	35424	0.09	7776	0.00	0
3/4/95	0.49	42336	0.27	23328	0.00	0
3/5/95	0.55	47520	0.49	42336	0.00	0
3/6/95	1.20	103680	1.30	112320	0.00	0
3/7/95	1.60	138240	1.60	138240	0.00	0
3/8/95	1.60	138240	1.50	129600	0.00	0
3/9/95	1.30	112320	1.40	120960	0.00	0
3/10/95	1.10	95040	1.10	95040	0.00	0
3/11/95	0.95	82080	0.97	83808	0.00	0
3/12/95	0.91	78624	0.91	78624	0.00	0
3/13/95	0.88	76032	0.82	70848	0.00	0
3/14/95	0.88	76032	0.77	66528	0.00	0
3/15/95	0.88	76032	0.75	64800	0.00	0
3/16/95	0.99	85536	0.79	68256	0.00	0
3/17/95	1.20	103680	0.86	74304	0.00	0
3/18/95	1.30	112320	1.00	86400	0.00	0
3/19/95	1.50	129600	1.30	112320	0.00	0
3/20/95	1.70	146880	1.60	138240	0.00	0

Date	Upper Station (8313025) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Middle Station (08313030) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Lower Station (08313042) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)
3/21/95	2.00	172800	1.80	155520	0.00	0
3/22/95	2.40	207360	2.20	190080	0.42	36288
3/23/95	2.20	190080	2.20	190080	0.87	75168
3/24/95	1.90	164160	2.00	172800	0.85	73440
3/25/95	1.80	155520	1.80	155520	0.58	50112
3/26/95	1.50	129600	1.50	129600	0.83	71712
3/27/95	1.30	112320	1.30	112320	1.10	95040
3/28/95	1.10	95040	1.20	103680	0.24	20736
3/29/95	0.95	82080	0.96	82944	0.20	17280
3/30/95	0.80	69120	0.78	67392	0.12	10368
3/31/95	0.70	60480	0.66	57024	0.09	7776
4/1/95	0.63	54432	0.62	53568	0.05	4320
4/2/95	0.58	50112	0.57	49248	0.00	0
4/3/95	0.54	46656	0.49	42336	0.00	0
4/4/95	0.51	44064	0.42	36288	0.00	0
4/5/95	0.47	40608	0.34	29376	0.00	0
4/6/95	0.48	41472	0.28	24192	0.00	0
4/7/95	0.55	47520	0.38	32832	0.00	0
4/8/95	0.66	57024	0.51	44064	0.00	0
4/9/95	0.91	78624	0.64	55296	0.00	0
4/10/95	1.10	95040	0.57	49248	0.12	10368
4/11/95	0.97	83808	0.86	74304	0.23	19872
4/12/95	0.86	74304	0.75	64800	0.05	4320
4/13/95	0.77	66528	0.66	57024	0.00	0
4/14/95	0.82	70848	0.65	56160	0.00	0
4/15/95	0.98	84672	0.73	63072	0.02	1728
4/16/95	1.00	86400	0.82	70848	0.05	4320
4/17/95	1.20	103680	0.88	76032	0.12	10368
4/18/95	1.10	95040	0.98	84672	0.15	12960
4/19/95	1.10	95040	0.90	77760	0.15	12960
4/20/95	0.98	84672	0.83	71712	0.13	11232
4/21/95	0.94	81216	0.34	29376	0.11	9504
4/22/95	1.00	86400	0.74	63936	0.34	29376
4/23/95	0.81	69984	0.66	57024	0.29	25056
4/24/95	0.77	66528	0.70	60480	0.29	25056
4/25/95	0.86	74304	1.20	103680	0.21	18144
4/26/95	1.30	112320	1.10	95040	0.27	23328
4/27/95	1.70	146880	1.10	95040	0.39	33696
4/28/95	2.40	207360	1.70	146880	0.65	56160
4/29/95	3.40	293760	2.90	250560	1.10	95040
4/30/95	4.80	414720	4.80	414720	2.90	250560
5/1/95	5.40	466560	5.50	475200	3.90	336960
5/2/95	5.30	457920	5.70	492480	4.10	354240
5/3/95	6.20	535680	6.20	535680	4.50	388800
5/4/95	5.80	501120	5.70	492480	4.40	380160
5/5/95	4.30	371520	5.60	483840	5.30	457920
5/6/95	4.20	362880	5.70	492480	4.20	362880
5/7/95	3.80	328320	5.40	466560	4.10	354240
5/8/95	3.40	293760	5.10	440640	4.00	345600
5/9/95	2.80	241920	4.40	380160	3.60	311040
5/10/95	2.60	224640	4.00	345600	3.20	276480
5/11/95	2.70	233280	4.30	371520	3.60	311040
5/12/95	3.20	276480	4.70	406080	3.90	336960
5/13/95	3.20	276480	5.00	432000	4.50	388800
5/14/95	3.00	259200	5.00	432000	4.50	388800
5/15/95	3.00	259200	5.00	432000	4.50	388800
5/16/95	3.00	259200	5.10	440640	4.70	406080

Date	Upper Station (8313025) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Middle Station (08313030) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Lower Station (08313042) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)
5/17/95	3.90	336960	5.70	492480	5.50	475200
5/18/95	4.10	354240	5.70	492480	5.70	492480
5/19/95	3.40	293760	5.00	432000	4.60	397440
5/20/95	2.90	250560	4.40	380160	4.10	354240
5/21/95	2.50	216000	3.70	319680	3.40	293760
5/22/95	2.20	190080	3.50	302400	3.10	267840
5/23/95	1.60	138240	3.70	319680	3.20	276480
5/24/95	2.10	181440	3.50	302400	3.10	267840
5/25/95	1.80	155520	2.50	216000	2.40	207360
5/26/95	1.70	146880	2.10	181440	1.80	155520
5/27/95	1.50	129600	1.80	155520	1.60	138240
5/28/95	1.40	120960	1.80	155520	1.30	112320
5/29/95	1.80	155520	4.40	380160	8.20	708480
5/30/95	1.60	138240	2.30	198720	0.82	70848
5/31/95	1.50	129600	1.60	138240	0.45	38880
6/1/95	1.40	120960	1.40	120960	0.44	38016
6/2/95	1.30	112320	1.20	103680	0.42	36288
6/3/95	1.20	103680	1.20	103680	0.40	34560
6/4/95	1.10	95040	1.10	95040	0.36	31104
6/5/95	0.97	83808	0.73	63072	0.33	28512
6/6/95	0.84	72576	0.12	10368	0.30	25920
6/7/95	0.75	64800	0.00	0	0.27	23328
6/8/95	0.66	57024	0.00	0	0.20	17280
6/9/95	0.59	50976	0.00	0	0.15	12960
6/10/95	0.57	49248	0.00	0	0.13	11232
6/11/95	0.50	43200	0.00	0	0.08	6912
6/12/95	0.42	36288	0.00	0	0.05	4320
6/13/95	0.34	29376	0.00	0	0.01	864
6/14/95	0.32	27648	0.00	0	0.03	2592
6/15/95	0.29	25056	0.00	0	0.02	1728
6/16/95	0.29	25056	0.00	0	0.01	864
6/17/95	0.90	77760	1.50	129600	1.10	95040
6/18/95	0.90	77760	0.64	55296	0.27	23328
6/19/95	0.64	55296	0.36	31104	0.00	0
6/20/95	0.58	50112	0.20	17280	0.00	0
6/21/95	0.52	44928	0.09	7776	0.00	0
6/22/95	0.45	38880	0.05	4320	0.00	0
6/23/95	0.40	34560	0.01	864	0.00	0
6/24/95	0.43	37152	0.00	0	0.00	0
6/25/95	0.46	39744	0.09	7776	0.06	5184
6/26/95	0.43	37152	0.63	54432	0.99	85536
6/27/95	0.37	31968	0.33	28512	0.01	864
6/28/95	0.33	28512	0.26	22464	0.05	4320
6/29/95	0.31	26784	0.11	9504	0.00	0
6/30/95	0.39	33696	0.23	19872	0.06	5184
7/1/95	0.00	0	0.17	14688	0.01	864
7/2/95	0.00	0	0.00	0	0.00	0
7/3/95	0.00	0	0.00	0	0.00	0
7/4/95	0.00	0	0.00	0	0.00	0
7/5/95	0.00	0	0.00	0	0.00	0
7/6/95	0.00	0	0.00	0	0.00	0
7/7/95	0.00	0	0.00	0	0.00	0
7/8/95	0.00	0	0.00	0	0.00	0
7/9/95	0.00	0	0.00	0	0.00	0
7/10/95	0.00	0	0.00	0	0.00	0
7/11/95	0.00	0	0.00	0	0.00	0
7/12/95	0.00	0	0.00	0	0.00	0

Date	Upper Station (8313025) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Middle Station (08313030) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Lower Station (08313042) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)
7/13/95	0.00	0	0.00	0	0.00	0
7/14/95	0.00	0	0.00	0	0.00	0
7/15/95	0.00	0	0.00	0	0.00	0
7/16/95	0.00	0	0.09	7776	0.20	17280
7/17/95	0.00	0	0.00	0	0.00	0
7/18/95	0.00	0	1.00	86400	2.40	207360
7/19/95	0.00	0	0.03	2592	0.40	34560
7/20/95	0.26	22464	0.00	0	0.00	0
7/21/95	0.26	22464	0.00	0	0.00	0
7/22/95	0.23	19872	0.00	0	0.00	0
7/23/95	0.21	18144	0.00	0	0.00	0
7/24/95	0.20	17280	0.00	0	0.00	0
7/25/95	0.20	17280	0.00	0	0.00	0
7/26/95	0.18	15552	0.00	0	0.00	0
7/27/95	0.17	14688	0.00	0	0.00	0
7/28/95	0.17	14688	0.00	0	0.00	0
7/29/95	0.17	14688	0.00	0	0.00	0
7/30/95	0.17	14688	0.00	0	0.00	0
7/31/95	0.14	12096	0.00	0	0.00	0
8/1/95	0.13	11232	0.00	0	0.00	0
8/2/95	0.13	11232	0.00	0	0.00	0
8/3/95	0.13	11232	0.00	0	0.00	0
8/4/95	0.13	11232	0.00	0	0.00	0
8/5/95	0.11	9504	0.49	42336	0.00	0
8/6/95	0.10	8640	0.00	0	0.00	0
8/7/95	0.10	8640	0.00	0	0.00	0
8/8/95	0.10	8640	0.00	0	0.00	0
8/9/95	0.10	8640	0.00	0	0.00	0
8/10/95	0.10	8640	0.00	0	0.00	0
8/11/95	0.16	13824	0.33	28512	0.00	0
8/12/95	0.20	17280	0.00	0	0.00	0
8/13/95	0.18	15552	0.00	0	0.00	0
8/14/95	0.25	21600	0.00	0	0.00	0
8/15/95	0.19	16416	0.00	0	0.00	0
8/16/95	0.00	0	0.00	0	0.00	0
8/17/95	0.00	0	0.00	0	0.00	0
8/18/95	0.00	0	0.00	0	0.00	0
8/19/95	0.00	0	0.00	0	0.00	0
8/20/95	0.11	9504	0.00	0	0.00	0
8/21/95	0.02	1728	0.00	0	0.00	0
8/22/95	0.00	0	0.00	0	0.00	0
8/23/95	0.01	864	0.00	0	0.00	0
8/24/95	0.40	34560	0.16	13824	0.00	0
8/25/95	0.63	54432	0.15	12960	0.00	0
8/26/95	0.82	70848	0.84	72576	0.41	35424
8/27/95	0.91	78624	0.91	78624	0.04	3456
8/28/95	0.68	58752	0.27	23328	0.00	0
8/29/95	0.72	62208	0.68	58752	0.31	26784
8/30/95	0.58	50112	0.37	31968	0.07	6048
8/31/95	0.46	39744	0.13	11232	0.00	0
9/1/95	0.37	31968	0.01	864	0.00	0
9/2/95	0.31	26784	0.00	0	0.00	0
9/3/95	0.24	20736	0.00	0	0.00	0
9/4/95	0.18	15552	0.00	0	0.00	0
9/5/95	0.12	10368	0.00	0	0.00	0
9/6/95	0.17	14688	0.01	864	0.00	0
9/7/95	0.13	11232	0.65	56160	1.10	95040

94-95 LA Canyon Discharge Data

Date	Upper Station (8313025) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Middle Station (08313030) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)	Lower Station (08313042) Mean Daily Discharge (cfs)	Total Daily Discharge Volume (ft^3)
9/8/95	0.15	12960	0.21	18144	0.38	32832
9/9/95	0.28	24192	0.69	59616	0.21	18144
9/10/95	0.27	23328	0.27	23328	0.05	4320
9/11/95	0.38	32832	0.84	72576	0.54	46656
9/12/95	0.29	25056	0.23	19872	0.00	0
9/13/95	0.20	17280	0.05	4320	0.00	0
9/14/95	0.23	19872	0.01	864	0.00	0
9/15/95	0.19	16416	0.00	0	0.00	0
9/16/95	0.17	14688	0.00	0	0.00	0
9/17/95	0.15	12960	0.00	0	0.00	0
9/18/95	0.09	7776	0.00	0	0.00	0
9/19/95	0.02	1728	0.00	0	0.00	0
9/20/95	0.01	864	0.00	0	0.00	0
9/21/95	0.00	0	0.00	0	0.00	0
9/22/95	0.01	864	0.00	0	0.00	0
9/23/95	0.00	0	0.00	0	0.00	0
9/24/95	0.00	0	0.00	0	0.00	0
9/25/95	0.00	0	0.00	0	0.00	0
9/26/95	0.00	0	0.00	0	0.00	0
9/27/95	0.00	0	0.00	0	0.00	0
9/28/95	0.00	0	0.00	0	0.00	0
9/29/95	0.02	1728	0.00	0	0.00	0
9/30/95	0.01	864	0.00	0	0.00	0
	Totals (ft^3):	20273760		21308832		14298336
	Totals (acre-ft):	465.42		489.18		328.24

Loss between upper station and middle station (ft^3):	-1035072
Stream bed area between upper and middle stations per 5/3/95 seepage run (ft^2):	108438
Loss between upper station and middle station (ft):	-9.5
Loss between middle station and lower station (ft^3):	7010496
Stream bed area between middle and lower stations per 5/3/95 seepage run (ft^2):	76730
Loss between middle station and lower station (ft):	91.4

Stress Periods: From	To	No. of days		Conditions	Upper Station Volume (ft^3)	Middle Station Volume (ft^3)	Lower Station Volume (ft^3)
7/10/94	10/13/94	96	*	summer/fall rainstorms	0 + ?	0 + ?	0
10/14/94	10/17/94	4		heavy rain/snow + melting	59616	421632	973728
10/18/94	11/10/94	24		dry	511488	0	0
11/11/94	12/7/94	27		mod. snow/rain + melting	2382048	2280096	1103328
12/8/94	2/12/95	67		frozen/minor to no melting	9504	28512	0
2/13/95	6/30/95	138		snow melt + spring rains	16118784	17836416	11692512
7/1/95	8/3/95	34		relatively dry	237600	111456	260064
8/4/95	9/11/95	39		summer rainstorms	834624	605664	268704
9/12/95	11/2/95	58	**	dry	120096	25056	0
	Totals:	487			20273760	21308832	14298336

* Upper and middle stations' data not available for 7/10/94-9/30/94 period; lower station recorded zero flow during 7/10/94-9/30/94 per USGS Water-Data Report NM-94-1, *Water Resources Data-New Mexico-Water Year 1994,* p. 133.

** No flow data analyzed for 10/1/95-11/2/95 period (Precipitation records indicate extremely dry conditions).

Appendix H

Detailed Water Budget Calculations

Los Alamos Canyon Detailed Water Budget Calculations

Stress Period 1 (7/10/94-10/13/94):											
Upper	Elevation (ft.)				Extrapolated	Precip. Vol.	ET/Precip	Estimated	ET Volume	Excess	Excess Precip.
Basin:	From	To	Avg.	Area (ft^2)	Precip. (in.)	(ft^3)	fraction*	ET (in.)	(ft^3)	Precip. (in.)	Volume (ft^3)
	7500	8000	7750	12713578	8.25	8740585	0.77	6.35	6730250	1.90	2010335
	8000	8500	8250	23578636	9.60	18862909	0.77	7.39	14524440	2.21	4338469
	8500	9000	8750	39283348	11.00	36009736	0.77	8.47	27727496	2.53	8282239
	9000	9500	9250	52578984	12.40	54331617	0.77	9.55	41835345	2.85	12496272
	9500	>9500		65579616	12.70	69405094	0.77	9.78	53441922	2.92	15963172
			Totals:	193734162	11.60	187349940		8.94	144259454	2.67	43090486
							Total Upper Station Streamflow Discharge (ft^3)**:				1167785
								Estimated Reservoir Usage (ft^3):			668400
							Upper Basin Calculated Total Infiltration Volume (ft^3):				41254301
							Upper Basin Calculated Total Infiltration (inches):				2.56
Middle-Upper	Elevation (ft.)				Extrapolated	Precip. Vol.	ET/Precip	Estimated	ET Volume	Excess	Excess Precip.
Canyon:	From	To	Avg.	Area (ft^2)	Precip. (in.)	(ft^3)	fraction*	ET (in.)	(ft^3)	Precip. (in.)	Volume (ft^3)
	6300	6500	6400	6619154	4.50	2482183	0.77	3.47	1911281	1.04	570902
	6500	7000	6750	39591346	5.50	18146034	0.77	4.24	13972446	1.27	4173588
	7000	7500	7250	42441134	6.90	24403652	0.77	5.31	18790812	1.59	5612840
			Totals:	88651634	6.10	45031868		4.69	34674539	1.40	10357330
							Total Upper Station Streamflow Discharge (ft^3):				1167785
							Middle-Upper Canyon Total Water Input Volume (ft^3):				11525115
							Total Lower Station Streamflow Discharge (ft^3):				0
							Middle-Upper Canyon Calculated Total Infiltration Volume (ft^3):				11525115
							Middle-Upper Canyon Calculated Total Infiltration (inches):				1.56

* ET/Precipitation fraction from TA-6 data.

** Upper station discharge data unavailable for 7/10/94-9/30/94 period; estimated discharge volume from avg. flow:precip. ratio from 7/1/95-11/2/95 period.

Los Alamos Canyon Detailed Water Budget Calculations

Stress Period 2 (10/14/94-10/17/94):

Upper Basin:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	7500	8000	7750	12713578	2.92	3093637	0.06	0.18	185618	2.74	2908019
	8000	8500	8250	23578636	2.22	4362048	0.06	0.13	261723	2.09	4100325
	8500	9000	8750	39283348	1.53	5008627	0.06	0.09	300518	1.44	4708109
	9000	9500	9250	52578984	0.83	3636713	0.06	0.05	218203	0.78	3418510
	9500	>9500		65579616	0.60	3278981	0.06	0.04	196739	0.56	3082242
			Totals:	193734162	1.20	19380006		0.07	1162800	1.13	18217205
										Total Upper Station Streamflow Discharge (ft^3):	59616
										Upper Basin Calculated Total Infiltration Volume (ft^3):	18157589
										Upper Basin Calculated Total Infiltration (inches):	1.12

Middle-Upper Canyon:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	6300	6500	6400	6619154	2.40	1323831	0.06	0.14	79430	2.26	1244401
	6500	7000	6750	39591346	2.83	9336959	0.06	0.17	560218	2.66	8776742
	7000	7500	7250	42441134	3.50	12378664	0.06	0.21	742720	3.29	11635944
			Totals:	88651634	3.12	23039454		0.19	1382367	2.93	21657087
										Total Upper Station Streamflow Discharge (ft^3):	59616
										Middle-Upper Canyon Total Water Input Volume (ft^3):	21716703
										Total Lower Station Streamflow Discharge (ft^3):	973728
										Middle-Upper Canyon Calculated Total Infiltration Volume (ft^3):	20742975
										Middle-Upper Canyon Calculated Total Infiltration (inches):	2.81

* ET/Precipitation fraction from TA-6 data.

Los Alamos Canyon Detailed Water Budget Calculations

Stress Period 3 (10/18/94-11/10/94):											
Upper Basin:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	7500	8000	7750	12713578	0.51	540327	3.01	1.54	1626384	-1.03	-1086057
	8000	8500	8250	23578636	0.84	1650505	3.01	2.53	4968019	-1.69	-3317514
	8500	9000	8750	39283348	1.18	3862863	3.01	3.55	11627216	-2.37	-7764354
	9000	9500	9250	52578984	1.53	6703820	3.01	4.61	20178500	-3.08	-13474679
	9500	>9500		65579616	1.70	9290446	3.01	5.12	27964241	-3.42	-18673796
			Totals:	193734162	1.37	22047960		4.11	66364360	-2.74	-44316400
							Total Upper Station Streamflow Discharge (ft^3):				511488
							Upper Basin Calculated Total Infiltration Volume (ft^3):				-44827888
							Upper Basin Calculated Total Infiltration (inches):				-2.78
Middle-Upper Canyon:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	6300	6500	6400	6619154	0.18	99287	3.01	0.54	298855	-0.36	-199567
	6500	7000	6750	39591346	0.22	725841	3.01	0.66	2184782	-0.44	-1458941
	7000	7500	7250	42441134	0.27	954926	3.01	0.81	2874326	-0.54	-1919400
			Totals:	88651634	0.24	1780054		0.73	5357963	-0.48	-3577909
							Total Upper Station Streamflow Discharge (ft^3):				511488
							Middle-Upper Canyon Total Water Input Volume (ft^3):				-3066421
							Total Lower Station Streamflow Discharge (ft^3):				0
							Middle-Upper Canyon Calculated Total Infiltration Volume (ft^3):				-3066421
							Middle-Upper Canyon Calculated Total Infiltration (inches):				-0.42

* ET/Precipitation fraction from TA-6 data.

Los Alamos Canyon Detailed Water Budget Calculations

Stress Period 4 (11/11/94-12/7/94):

Upper Basin:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	7500	8000	7750	12713578	2.17	2299039	0.33	0.72	758683	1.45	1540356
	8000	8500	8250	23578636	2.06	4047666	0.33	0.68	1335730	1.38	2711936
	8500	9000	8750	39283348	1.94	6350808	0.33	0.64	2095767	1.30	4255041
	9000	9500	9250	52578984	1.83	8018295	0.33	0.60	2646037	1.23	5372258
	9500	>9500		65579616	1.80	9836942	0.33	0.59	3246191	1.21	6590751
			Totals:	193734162	1.89	30552750		0.62	10082407	1.27	20470342
							Total Upper Station Streamflow Discharge (ft^3):				2382048
							Upper Basin Calculated Total Infiltration Volume (ft^3):				18088294
							Upper Basin Calculated Total Infiltration (inches):				1.12

Middle-Upper Canyon:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	6300	6500	6400	6619154	1.70	937713	0.33	0.56	309445	1.14	628268
	6500	7000	6750	39591346	1.97	6499579	0.33	0.65	2144861	1.32	4354718
	7000	7500	7250	42441134	2.28	8063815	0.33	0.75	2661059	1.53	5402756
			Totals:	88651634	2.10	15501108		0.69	5115366	1.41	10385743
							Total Upper Station Streamflow Discharge (ft^3):				2382048
							Middle-Upper Canyon Total Water Input Volume (ft^3):				12767791
							Total Lower Station Streamflow Discharge (ft^3):				1103328
							Middle-Upper Canyon Calculated Total Infiltration Volume (ft^3):				11664463
							Middle-Upper Canyon Calculated Total Infiltration (inches):				1.58

* ET/Precipitation fraction from TA-6 data.

Los Alamos Canyon Detailed Water Budget Calculations

Stress Period 5 (12/8/94-2/12/95):

Upper Basin:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	7500	8000	7750	12713578	0.90	953518	1.20	1.08	1144222	-0.18	-190704
	8000	8500	8250	23578636	1.26	2475757	1.20	1.51	2970908	-0.25	-495151
	8500	9000	8750	39283348	1.60	5237780	1.20	1.92	6285336	-0.32	-1047556
	9000	9500	9250	52578984	1.95	8544085	1.20	2.34	10252902	-0.39	-1708817
	9500	>9500		65579616	2.10	11476433	1.20	2.52	13771719	-0.42	-2295287
			Totals:	193734162	1.78	28687573		2.13	34425087	-0.36	-5737515
										Total Upper Station Streamflow Discharge (ft^3):	9504
										Upper Basin Calculated Total Infiltration Volume (ft^3):	-5747019
										Upper Basin Calculated Total Infiltration (inches):	-0.36

Middle-Upper Canyon:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	6300	6500	6400	6619154	0.57	314410	1.20	0.68	377292	-0.11	-62882
	6500	7000	6750	39591346	0.65	2144531	1.20	0.78	2573437	-0.13	-428906
	7000	7500	7250	42441134	0.77	2723306	1.20	0.92	3267967	-0.15	-544661
			Totals:	88651634	0.70	5182247		0.84	6218697	-0.14	-1036449
										Total Upper Station Streamflow Discharge (ft^3):	9504
										Middle-Upper Canyon Total Water Input Volume (ft^3):	-1026945
										Total Lower Station Streamflow Discharge (ft^3):	0
										Middle-Upper Canyon Calculated Total Infiltration Volume (ft^3):	-1026945
										Middle-Upper Canyon Calculated Total Infiltration (inches):	-0.14

* ET/Precipitation fraction from TA-6 data.

Los Alamos Canyon Detailed Water Budget Calculations

Stress Period 6 (2/13/95-6/30/95):

Upper Basin:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	7500	8000	7750	12713578	11.70	12395739	0.73	8.54	9048889	3.16	3346849
	8000	8500	8250	23578636	14.60	28687340	0.73	10.66	20941759	3.94	7745582
	8500	9000	8750	39283348	17.50	57288216	0.73	12.78	41820398	4.73	15467818
	9000	9500	9250	52578984	20.30	88946115	0.73	14.82	64930664	5.48	24015451
	9500	>9500		65579616	22.10	120775793	0.73	16.13	88166329	5.97	32609464
			Totals:	193734162	19.08	308093202		13.93	224908038	5.15	83185165
										Total Upper Station Streamflow Discharge (ft^3):	16118784
										Upper Basin Calculated Total Infiltration Volume (ft^3):	67066381
										Upper Basin Calculated Total Infiltration (inches):	4.15

Middle-Upper Canyon:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	6300	6500	6400	6619154	4.20	2316704	0.73	3.07	1691194	1.13	625510
	6500	7000	6750	39591346	6.00	19795673	0.73	4.38	14450841	1.62	5344832
	7000	7500	7250	42441134	8.80	31123498	0.73	6.42	22720154	2.38	8403345
			Totals:	88651634	7.21	53235875		5.26	38862189	1.95	14373686
										Total Upper Station Streamflow Discharge (ft^3):	16118784
										Middle-Upper Canyon Total Water Input Volume (ft^3):	30492470
										Total Lower Station Streamflow Discharge (ft^3):	11692512
										Middle-Upper Canyon Calculated Total Infiltration Volume (ft^3):	18799958
										Middle-Upper Canyon Calculated Total Infiltration (inches):	2.54

* ET/Precipitation fraction from TA-6 data.

Los Alamos Canyon Detailed Water Budget Calculations

Stress Period 7 (7/1/95-8/3/95):

Upper Basin:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	7500	8000	7750	12713578	1.72	1822280	2.11	3.63	3845010	-1.91	-2022730
	8000	8500	8250	23578636	2.09	4106612	2.11	4.41	8664952	-2.32	-4558340
	8500	9000	8750	39283348	2.45	8020350	2.11	5.17	16922939	-2.72	-8902589
	9000	9500	9250	52578984	2.80	12268430	2.11	5.91	25886386	-3.11	-13617957
	9500	>9500		65579616	2.80	15301910	2.11	5.91	32287031	-3.11	-16985121
			Totals:	193734162	2.57	41519582		5.43	87606318	-2.85	-46086736
										Total Upper Station Streamflow Discharge (ft^3):	237600
										Estimated Reservoir Usage (ft^3):	334200
										Upper Basin Calculated Total Infiltration Volume (ft^3):	-46658536
										Upper Basin Calculated Total Infiltration (inches):	-2.89

Middle-Upper Canyon:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	6300	6500	6400	6619154	0.74	408181	2.11	1.56	861262	-0.82	-453081
	6500	7000	6750	39591346	0.98	3233293	2.11	2.07	6822249	-1.09	-3588956
	7000	7500	7250	42441134	1.35	4774628	2.11	2.85	10074464	-1.50	-5299837
			Totals:	88651634	1.14	8416102		2.40	17757975	-1.26	-9341873
										Total Upper Station Streamflow Discharge (ft^3):	237600
										Middle-Upper Canyon Total Water Input Volume (ft^3):	-9104273
										Total Lower Station Streamflow Discharge (ft^3):	260064
										Middle-Upper Canyon Calculated Total Infiltration Volume (ft^3):	-9364337
										Middle-Upper Canyon Calculated Total Infiltration (inches):	-1.27

* ET/Precipitation fraction from TA-6 data.

Los Alamos Canyon Detailed Water Budget Calculations

Stress Period 8 (8/4/95-9/11/95):

Upper Basin:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	7500	8000	7750	12713578	6.00	6356789	0.55	3.30	3496234	2.70	2860555
	8000	8500	8250	23578636	7.10	13950693	0.55	3.91	7672881	3.20	6277812
	8500	9000	8750	39283348	8.20	26843621	0.55	4.51	14763992	3.69	12079630
	9000	9500	9250	52578984	9.25	40529634	0.55	5.09	22291298	4.16	18238335
	9500	>9500		65579616	9.60	52463693	0.55	5.28	28855031	4.32	23608662
			Totals:	193734162	8.68	140144429		4.77	77079436	3.91	63064993

Total Upper Station Streamflow Discharge (ft^3):	834624
Estimated Reservoir Usage (ft^3):	334200
Upper Basin Calculated Total Infiltration Volume (ft^3):	61896169
Upper Basin Calculated Total Infiltration (inches):	3.83

Middle-Upper Canyon:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	6300	6500	6400	6619154	3.10	1709948	0.55	1.71	940471	1.40	769477
	6500	7000	6750	39591346	3.90	12867187	0.55	2.15	7076953	1.76	5790234
	7000	7500	7250	42441134	5.00	17683806	0.55	2.75	9726093	2.25	7957713
			Totals:	88651634	4.37	32260941		2.40	17743518	1.97	14517424

Total Upper Station Streamflow Discharge (ft^3):	834624
Middle-Upper Canyon Total Water Input Volume (ft^3):	15352048
Total Lower Station Streamflow Discharge (ft^3):	268704
Middle-Upper Canyon Calculated Total Infiltration Volume (ft^3):	15083344
Middle-Upper Canyon Calculated Total Infiltration (inches):	2.04

* ET/Precipitation fraction from TA-6 data.

Los Alamos Canyon Detailed Water Budget Calculations

Stress Period 9 (9/12/95-11/2/95):											
Upper Basin:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	7500	8000	7750	12713578	0.52	550922	3.92	2.04	2159613	-1.52	-1608691
	8000	8500	8250	23578636	0.56	1100336	3.92	2.20	4313318	-1.64	-3212982
	8500	9000	8750	39283348	0.59	1931431	3.92	2.31	7571211	-1.72	-5639779
	9000	9500	9250	52578984	0.63	2760397	3.92	2.47	10820755	-1.84	-8060358
	9500	>9500		65579616	0.60	3278981	3.92	2.35	12853605	-1.75	-9574624
			Totals:	193734162	0.60	9622067		2.34	37718502	-1.74	-28096435
										Total Upper Station Streamflow Discharge (ft^3):	120096
										Upper Basin Calculated Total Infiltration Volume (ft^3):	-28216531
										Upper Basin Calculated Total Infiltration (inches):	-1.75
Middle-Upper Canyon:	Elevation (ft.) From	To	Avg.	Area (ft^2)	Extrapolated Precip. (in.)	Precip. Vol. (ft^3)	ET/Precip fraction*	Estimated ET (in.)	ET Volume (ft^3)	Excess Precip. (in.)	Excess Precip. Volume (ft^3)
	6300	6500	6400	6619154	0.42	231670	3.92	1.65	908148	-1.23	-676478
	6500	7000	6750	39591346	0.44	1451683	3.92	1.72	5690596	-1.28	-4238913
	7000	7500	7250	42441134	0.48	1697645	3.92	1.88	6654770	-1.40	-4957124
			Totals:	88651634	0.46	3380998		1.79	13253514	-1.34	-9872515
										Total Upper Station Streamflow Discharge (ft^3):	120096
										Middle-Upper Canyon Total Water Input Volume (ft^3):	-9752419
										Total Lower Station Streamflow Discharge (ft^3):	0
										Middle-Upper Canyon Calculated Total Infiltration Volume (ft^3):	-9752419
										Middle-Upper Canyon Calculated Total Infiltration (inches):	-1.32
* ET/Precipitation fraction from TA-6 data.											