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METEOROLOGICAL, STREAM-DISCHARGE, AND WATER-QUALITY DATA FOR WATER YEAR 1992 FROM TWO BASINS IN CENTRAL NEVADA

by Patrick W. McKinley and Thomas A. Oliver

U.S. GEOLOGICAL SURVEY

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CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
cubic foot per second (ft^3/s)	0.02832	cubic meter per second
calorie (cal)	4.184	joule
foot (ft)	0.3048	meter
inch (in.)	2.54	centimeter
mile (mi)	1.609	kilometer
square foot (ft^2)	0.09294	square meter
square mile (mi^2)	2.59	square kilometer

Degree Celsius (°C) may be converted to degree Fahrenheit (°F) by using the following equation:

$$°F = 9/5\ (°C) + 32.$$

Sea level: In this report "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Meteorological, Stream-Discharge, and Water-Quality Data for Water Year 1992 from Two Basins in Central Nevada

By Patrick W. McKinley *and* Thomas A. Oliver

Abstract

Two small basins, measuring less than 2 square miles, were studied to determine the volume of precipitation available for recharge to ground water. The semiarid 3-Springs Basin is located to the east of Kawich Peak in the Kawich Range east of Tonopah, Nevada. Stewart Basin is a subalpine drainage basin north of Arc Dome in the Toiyabe Range north of Tonopah, Nevada. The purpose of this publication is to make available the meteorological, stream-discharge, and water-quality data collected during the study. Meteorological data collected include air temperature, soil temperature, solar radiation, and relative humidity. Stream-discharge data were collected from the surface-water outlet of each basin. Water-quality data are chemical analyses of water samples collected from surface- and ground-water sources.

Each basin has a meteorological station located in the lower and upper reaches of the basin. Hydrologic records include stream-discharge and water-quality data from the lower meteorological site and water-quality data from springs within the basins.

INTRODUCTION

The purpose of this report is to present the results of meteorological, stream-discharge, and water-quality measurements from two study basins in central Nevada. This is the second report of data from these basins; the first report covered the years 1986 through 1991. Collection techniques, locations, data processing, and presentation are the same as in the previous report but are restated for completeness and because the explanations are brief. A statistical representation of the study data collected from 1986 through 1992 and long term weather at Austin, Nevada, are compared to provide a means of evaluating the normality of the study period. The previous report did not contain an evaluation of the data normality as compared to a long-term record.

The U.S. Geological Survey, in cooperation with the U.S. Department of Energy, is studying Yucca Mountain, Nevada, as a potential repository for high level nuclear waste. As part of the Yucca Mountain Site Project, the analog recharge study is providing data for the evaluation of recharge to the Yucca Mountain ground-water system given a cooler and wetter climate than currently exists. The current arid climatic conditions are favorable to the isolation of radioactive waste. Because waste isolation from the accessible environment for 10,000 years is necessary, climatic change and the potential for increased ground-water recharge need to be considered as part of the characterization of the potential repository.

Two small basins, 3-Springs and East Stewart Basin, are similar geologically to the recharge area for Yucca Mountain. The 3-Springs Basin is in the Kawich Range east of Kawich Peak (fig. 1). Some basin statistics are listed in table 1. Vegetation is dominated by a pinon-juniper forest, but includes large areas of willows, mountain mahogany, and sage. The 3-Springs Creek is an intermittent creek at the basin outlet and is occasionally dry for the whole year. The major source of recharge is spring runoff; although, occasionally summer rain or heavy fall snowmelt may be sufficient to cause the creek to flow.

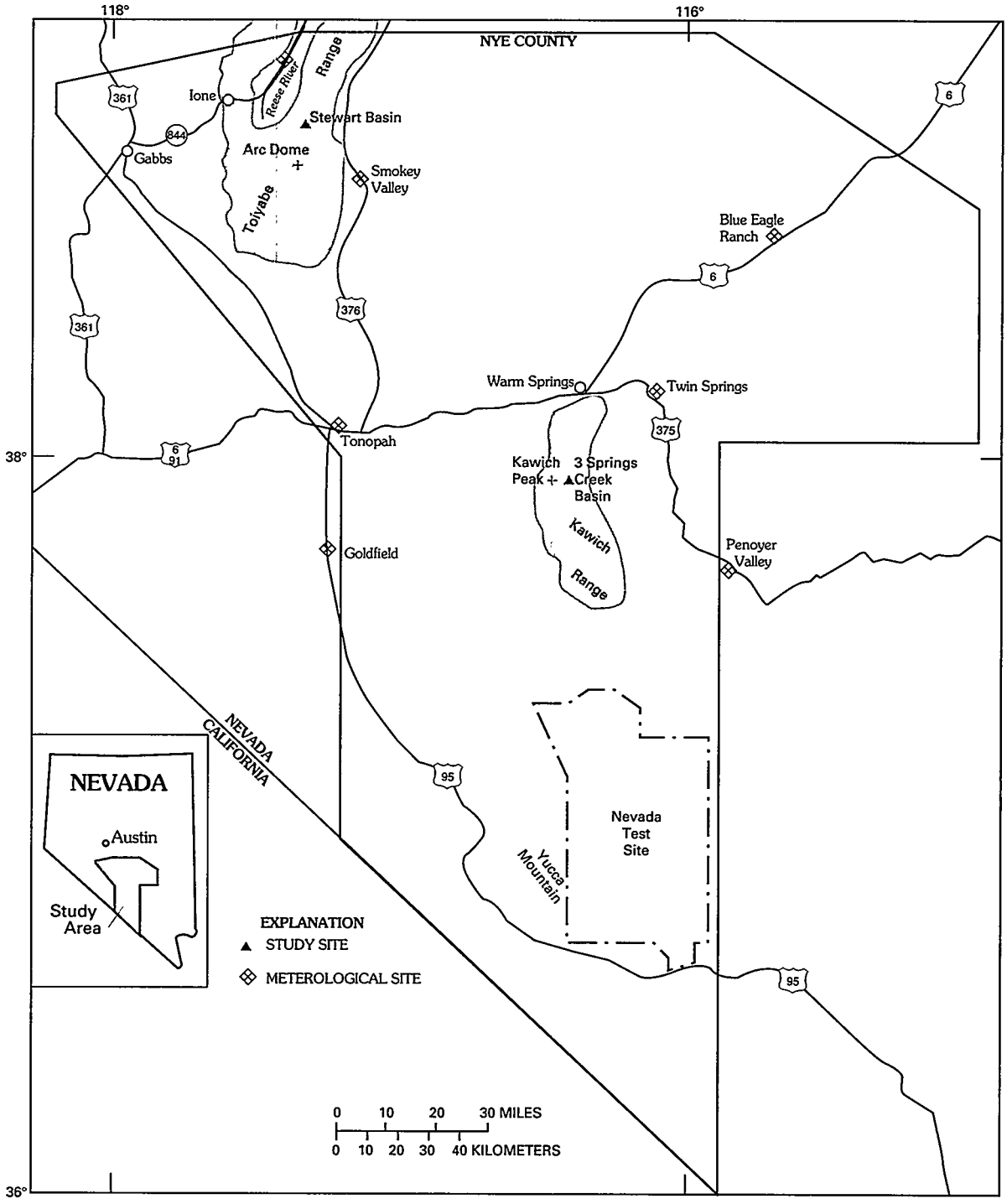

Figure 1. Location of the study areas in Nevada.

Table 1. 3-Springs and East Stewart Basin statistics

[Locations and altitudes were taken from USGS 7 1/2" Kawich Peak NW, Nevada, provisional edition 1987, and 7 1/2" South Toiyabe Peak, Nevada, 1979; mi^2, square miles; ft, feet]

Site name	Location		Drainage area (mi^2)	Altitude (ft)
	Latitude	Longitude		
3-Springs Basin			1.62	
3-Springs Base[1]	37°57'38"	116°25'20"		7,070
Kawich Peak[2]	37°57'19"	116°26'57"		9,040
East Stewart Basin			0.36	
Stewart Base[3]	38°53'23"	117°21'37"		9,455
Veg Spring	38°53'04"	117°21'13"		10,240

[1]3-Springs Base refers to the study site at 3-Springs Creek near Warm Springs, Nevada.

[2]Kawich Peak refers to the study site at Kawich Peak near Warm Springs, Nevada, and not the actual Kawich Peak.

[3]Stewart Base refers to the study site at East Stewart Creek near Ione, Nevada.

East Stewart Basin is in the Toiyabe Range north of Arc Dome (fig. 1). A subalpine forest containing aspen, mountain mahogany, and limber pine covers most of the basin. East Stewart Basin has a perennial stream that is fed by snowmelt from April through early to mid-June and by springs during the remainder of the year.

EXPLANATION OF DATA COLLECTION

Methods Used to Collect Data

Meteorological

Meteorological data were measured using Campbell Scientific Instrument Co., CSI, electronic dataloggers and the following probes: air temperature and relative humidity were measured by CSI 207 humidity probes, soil temperature was measured by CSI 107 temperature probes, and solar radiation was measured by Li-Cor Co. LI200SB probes.

Belfort weighing rain gages with Alter windshields were used to measure precipitation. Gages were mounted on adjustable platforms so they could be kept above the snow level. Precipitation was trapped by a film of oil to decrease evaporation in the summer. During the winter, an antifreeze solution was used to melt and retain the snowfall. A strip chart recorded time and amount of precipitation. Two gages were located in each basin—one at a low altitude in the basin and one in the higher part of the basin. The gage locations and altitudes are listed in table 1.

Air temperature, soil temperature, and relative humidity were measured every 30 seconds and averaged over a 24-hour period. Solar radiation was measured over a 30-second interval and was totaled for a 24-hour period. Air temperature, soil temperature, and relative humidity are reported as daily average values. Precipitation and solar radiation are reported as daily total values. Calibrations of the meteorological measurement probes were at regular intervals and when possible, were field checked during each site visit. The CSI 107 temperature probes used to measure soil temperature were stable; probe measurements rarely varying more than 0.2°C from the calibration standard. Relative humidity values reported are considered poor because the annual calibrations were generally off the standard by approximately 10 percent. Manufacturer specifications for the CSI 207 humidity probe indicated the probe was reliable between 15 through 85 percent relative humidity. The temperature measurements by the CSI 207 humidity probe were equivalent to the CSI 107 probe measurements discussed above. The LI200SB probes used for solar radiation measurements were calibrated every two years; the manufacture estimated a decline in sensitivity of about two percent per year. Radiation values were not corrected for the sensitivity decline. Calibration of rain gages was checked in the field annually using Belfort calibration weights. Rain gage accuracy was approximately 0.5 percent of full scale. More information about the measurements can be found in the Remarks section immediately preceding records for each site.

Stream-Discharge Data

Creek discharge was monitored using a V-notch weir and a Parshall flume. The gage height of the weir pool was monitored by a datalogger connected to a potentiometer-stilling well system. Gage heights were read by the datalogger every 30 seconds and averaged over a 30-minute period. In addition to the weir, 3-Springs Creek was equipped with a 6-in flume and Stewart Creek with a 9-in flume. Because 3-Springs Creek is generally dry and low flows are significant to understanding the basin hydrology, discharge at 3-Springs Creek is expressed to three decimal places to indicate the presence of flow. The additional decimal place does not infer the record accuracy has increased. The water level in the flumes was monitored every 15 minutes by an automatic digital recorder and stilling well system. Additional information about the record

is located in the Remarks section associated with the data tables at the back of the report.

Water-Quality Data

Precipitation samples taken during quarterly field trips were analyzed for major anions and cations; the stable isotopes, ^{18}O and deuterium; and the physical properties, pH and specific conductance. Concentrations of other elements and compounds were measured on an intermittent basis. Precipitation samples represent integrated soluble dry-plus-wetfall. The collection equipment and operation are described in Voegeli and Claassen (1971, p. 3–4). Surface-water samples were taken quarterly and analyzed for the same chemical constituents and properties as precipitation samples. Water temperatures reported for the surface-water samples were measured in the stream. Because of the small size of the streams, samples were dipped from the main flow of the stream and are referred to as grab samples.

Unsaturated-zone samples were taken from lysimeters located just below the root zone. Water samples were usually taken twice each year—one in the late spring, representing the infiltration resulting from snowmelt, and one in early fall representing summer rains. Springs also were sampled and were considered a representation of the shallow ground water. Chemical analysis consisted of major anions and cations; the stable isotopes ^{18}O and deuterium; and the physical properties, temperature, pH, and specific conductance.

Samples generally were filtered within 24 hours of sampling. All samples then were analyzed at the USGS National Water-Quality Laboratory in Arvada, Colorado.

Methods Used to Estimate Missing Data

Estimating daily mean air and soil data was necessary only at Veg Spring near Ione. Temperatures were estimated by step-forward regression using data from the meteorological site at East Stewart Creek near Ione. Daily maximum and minimum air temperature and mean daily relative humidity were not estimated. Unrecoverable solar radiation data at Veg Spring was estimated by step-forward regression from the East Stewart Creek meteorological site data. For periods of less than a day, the Bird and Hulstrum (1981) clear sky model was used to calculate estimates. If only a few readings were missing, simple interpolation between known values was used. The use of the several methods was necessary because there was no single method that provided the best estimate for all circumstances.

Two precipitation recorders in the East Stewart Basin enabled precipitation estimates to be made from data collected from within the immediate basin. Pen failure was the usual cause of lost precipitation record, but the amount of precipitation was available from the strip chart; only the timing of the precipitation was estimated. For example, humidity measurements from Veg Spring and precipitation records from East Stewart Creek were used to determine the timing of precipitation for the lost data at Veg Spring during the period June 12 through July 1. Estimated daily precipitation values for Veg Spring were calculated as noted in equation 1. The known daily precipitation at East Stewart Creek is P, Ta is the total precipitation at Veg Spring for the period to be estimated, and Tb is the total precipitation at East Stewart Creek for the total period to be estimated

$$\text{estimated daily precipitation} = \frac{(P)\ (Ta)}{Tb} \qquad (1)$$

No surface-water estimates were necessary during the water year.

Methods Used for Data Processing and Storage

All time-sequence data were stored as unit values in the USGS National Water Information System (NWIS) data base, which provides calculation of daily, monthly, and annual means or totals. The NWIS software tabling routines were used to organize the data for this report. More information on the NWIS data base was reported by Dempster (1990).

Meteorological data, except for precipitation, were transferred electronically to NWIS and then processed by and stored in NWIS. Precipitation data were stored in NWIS, but the original data were recorded on strip charts and then manually translated and input into NWIS.

Surface-water-data computations were made according to methods described by Rantz (1982). Unit values, 30-minute average gage heights from the weir, and 15-minute instantaneous gage heights from the flume, were input into NWIS electronically. Datum and shift corrections were applied manually to the gage heights to correct for erroneous gage operation (datum) or for changes in the control (shift). Daily mean stage was computed by NWIS from the unit values; daily mean discharge was computed from the stage-discharge relation (rating curve) and the daily mean stage.

The standard stage-discharge relation noted in equation 2, (U.S. Bureau of Reclamation, 1984),

$$Q = 2.49H^{2.48} \quad (2)$$

was used for conversion of stage to discharge from the 90° V-notch thin-plate weirs. Where Q is the discharge, in cubic feet per second, and H is the stage, gage height, or head of the weir, in feet. Flume stage-discharge relations (ratings) were developed from actual laboratory tests (Dodge, 1990). Variations from standard flume dimensions and stream approach conditions accounted for the differences between the standard Parshall flume rating and the developed rating.

Summary of Meteorological Conditions

Weather records from Austin, Nevada, provide a 60-year meteorological setting (norm) to compare the 7-year study period. Austin weather data correlated better with data from the study sites than with data from other weather stations in central Nevada. For periods prior to 1992, when data were not available from a second site within the study basins, Austin weather data were used in estimating missing data at the study sites. Data for Austin were supplied by the Western Regional Climate Center in Reno, Nevada.

The boxplots in figure 2 show the annual air temperature median for the study period, 1986 through 1992, to be as much as 0.8°C warmer than the 60-year median and above the upper quartile of the 60-year plot. During the period 1986 through 1992, monthly median air temperatures indicate that March and April were consistently above the long term monthly median for those months and were a major contributor to the annual air-temperature increase for the period. No correlation was found between median monthly air temperatures and total monthly precipitation at Austin for the period.

The boxplots in figure 2 of total annual precipitation show the precipitation median for the study period is the same as the 60- and 40-year medians. Total monthly precipitation at Austin for November 1986 and May 1987 was the maximum of record for those months; May 1987 precipitation was 5.85 in, 0.11 in less than the maximum monthly precipitation record. The precipitation at the study site was also above normal for these months and maximum of record at East Stewart Basin for May 1987.

From the above analysis, a general assessment of the period of record 1986 through 1992 is that the median annual air temperature was warmer than normal, and the total annual precipitation was about normal. There were no new annual extremes of record during the study period, but precipitation exceeded the upper quartile and the lower quartile of the 60- and 40-year boxplots. Median annual air temperature also showed a wide range but was generally above the 60- and 40-year medians.

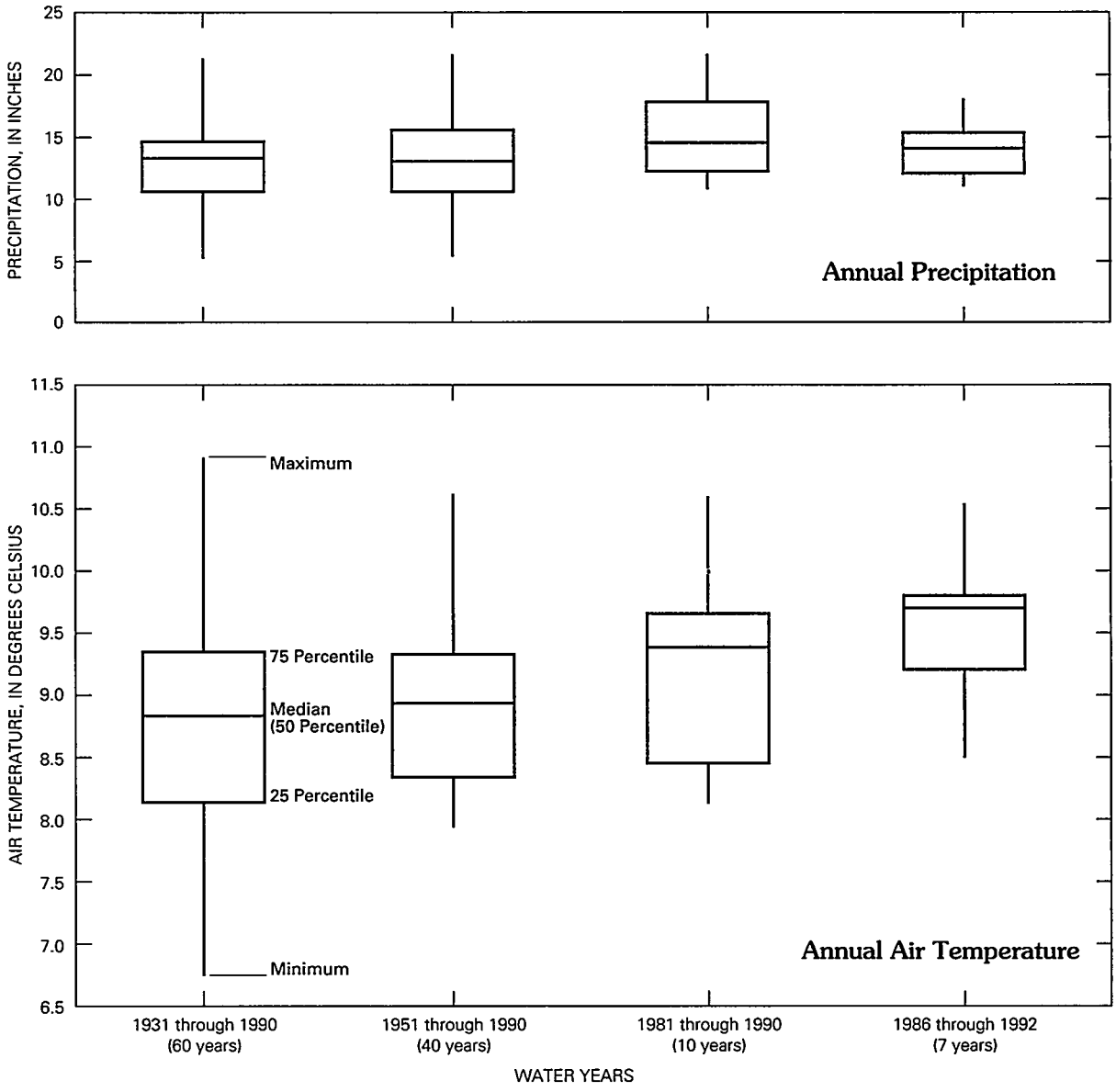

Figure 2. Annual air temperature and annual precipitation at Austin, Nevada.

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NOTE: Parenthesized numbers following each cited reference are for U.S. Department of Energy OCRWM Records Management purposes only and should not be used when ordering the publication.

RECORDS FROM 3-SPRINGS BASIN

3 SPRINGS BASIN

KAWICH PEAK NEAR WARM SPRINGS, NV

LOCATION. -- Lat 37°57'19", long 116°26'57", Nye County, Hydrologic Unit 16060012, 1.4 mi west of the 3 Springs Creek surface-water equipment, 3.9 mi west of Eden Ranch in the Reveille Valley, and 16.8 mi south of Warm Springs at the intersection of US Highway 6 and Nevada Highway 375.

PERIOD OF RECORD. -- October 1988 to current year.

REMARKS.-- Values for the daily maximum and minimum air temperature were obtained from the forty minute average values. Estimated periods of daily record are considered poor.

PERIOD OF DAILY RECORD. --
AIR TEMPERATURE: October 1988 to current year.
SOIL TEMPERATURE: October 1988 to current year.
SOLAR RADIATION: November 1990 to current year.
RELATIVE HUMIDITY: October 1990 to current year.
TOTAL PRECIPITATION: October 1988 to current year.

EXTREMES FOR PERIOD OF RECORD. --
AIR TEMPERATURE: Maximum daily, 26.6°C, July 4, 1991; minimum daily, -25.5°C, Feb. 6, 1989. See REMARKS for more information.
SOIL TEMPERATURE: Maximum daily mean, 20.0°C, Aug 25, 1991; minimum daily mean, -6.1°C, Dec. 30, 1990.
SOLAR RADIATION: Maximum daily total, 799 cal/cm^2, June 22-23, 1991; minimum daily total, 25 cal/cm^2, Dec. 13, 1990.
RELATIVE HUMIDITY: Maximum daily mean, 100 pct, Mar. 4, 1991; minimum daily mean, 14.4 pct, July 29, 1992.
TOTAL PRECIPITATION: Maximum daily, 1.45 in, May 29, 1990; no precipitation, most days of record.

EXTREMES FOR CURRENT YEAR. --
AIR TEMPERATURE: Maximum daily, 25.4°C, Aug. 18; minimum daily, -14.9°C, Nov. 30. See REMARKS for more information.
SOIL TEMPERATURE: Maximum daily mean, 16.9°C, Aug 19-20; minimum daily mean, -3.4°C, Dec. 22.
SOLAR RADIATION: Maximum daily total, 773 cal/cm^2, May 20; minimum daily total, 31 cal/cm^2, Dec. 28.
RELATIVE HUMIDITY: Maximum daily mean, 99.8 pct, Dec. 18; minimum daily mean, 14.4 pct, July 29.
TOTAL PRECIPITATION: Maximum daily, 1.21 in, Jan. 5; no precipitation, most days of record.

3 SPRINGS BASIN

KAWICH PEAK NEAR WARM SPRINGS, NV

DAILY MEAN AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.1	2.0	-8.5	-2.3	-2.6	-1.8	2.5	5.3	16.0	6.5	17.5	11.4
2	12.9	2.1	-1.1	-2.9	-3.9	-3.1	5.1	7.2	15.7	10.7	19.8	12.1
3	13.1	3.7	.1	-4.4	-5.5	-1.7	7.0	9.8	16.1	14.1	20.1	10.9
4	11.7	6.2	2.6	-5.1	-3.7	-1.2	5.8	11.2	17.3	15.1	17.5	7.0
5	14.3	7.9	2.0	-4.9	-2.5	-1.4	4.5	9.7	15.4	15.4	15.6	11.0
6	14.1	8.4	3.3	-9.4	-3.6	-4.3	4.6	7.0	10.6	16.0	14.0	11.8
7	13.3	6.5	-3.4	-8.7	-2.8	-6.0	4.5	9.2	11.5	14.3	16.4	12.4
8	11.8	6.9	-5.9	-7.2	-2.3	-3.4	6.8	10.7	11.1	13.3	16.9	15.0
9	11.0	4.4	-3.1	-.4	-3.6	-1.6	7.2	7.3	13.5	15.6	18.4	14.6
10	12.2	1.9	-2.3	2.6	-4.4	.8	6.9	8.2	13.2	16.1	18.8	15.5
11	12.9	3.7	-3.7	-5.4	-3.9	1.8	6.8	11.3	12.4	12.2	19.8	14.0
12	10.5	5.8	-1.0	-10.1	-3.5	2.8	6.2	11.2	7.4	9.3	19.2	13.2
13	12.2	5.2	-1.2	-2.7	-3.4	2.4	6.0	10.7	4.2	10.5	16.4	12.3
14	13.0	-5.9	1.9	-4.5	-5.2	1.3	4.2	11.3	.6	13.0	17.3	12.4
15	14.3	-6.9	2.5	-.6	-6.5	-.2	3.8	12.0	1.1	13.4	18.4	12.2
16	13.0	.0	.6	1.9	-6.8	-2.5	5.2	12.1	5.1	15.5	17.8	12.9
17	12.6	-.4	-.7	-2.9	-5.7	-4.0	6.7	12.2	9.7	16.6	19.1	12.3
18	12.6	-5.9	-2.3	-6.4	-4.6	-2.7	.1	12.0	12.1	17.3	20.8	6.8
19	9.4	-1.5	-9.0	-4.2	-.5	-.5	1.4	9.6	12.7	18.2	20.8	11.3
20	5.3	4.5	-7.2	-3.6	1.3	-.8	5.8	7.7	13.3	17.6	19.6	13.8
21	6.6	.1	-2.9	-2.1	3.0	-1.9	4.3	6.4	14.8	16.2	17.0	14.6
22	5.9	-4.9	-2.9	-.5	.3	-3.1	4.1	7.4	16.2	15.3	12.3	15.9
23	2.0	.9	-2.6	1.9	-2.6	-2.7	4.6	9.5	14.9	14.5	10.4	14.7
24	-.8	3.8	-2.6	2.8	1.3	-.9	7.9	13.0	13.4	14.9	11.8	13.5
25	.9	3.7	-1.1	3.1	.7	.2	10.2	13.8	10.8	15.5	13.3	8.2
26	-1.1	4.9	-.9	1.0	2.6	.0	12.1	13.9	13.4	17.3	13.4	10.1
27	-7.9	-.6	-2.2	.5	3.2	.6	13.0	12.8	16.4	17.8	15.0	13.7
28	-7.9	-8.3	-6.1	-.9	2.7	.5	13.2	10.2	15.9	19.5	15.9	14.2
29	-6.1	-10.7	-6.6	-.5	1.5	.3	12.1	10.3	10.7	20.2	15.0	15.3
30	-9.8	-12.9	-5.7	2.0	---	-1.0	9.4	10.7	9.5	19.6	11.0	14.4
31	.7	---	-4.7	1.9	---	.1	---	14.0	---	16.6	10.7	---
MEAN	7.3	.8	-2.4	-2.3	-2.1	-1.1	6.4	10.2	11.8	15.1	16.5	12.6
MAX	14.3	8.4	3.3	3.1	3.2	2.8	13.2	14.0	17.3	20.2	20.8	15.9
MIN	-9.8	-12.9	-9.0	-10.1	-6.8	-6.0	.1	5.3	.6	6.5	10.4	6.8
MED	11.7	2.0	-2.3	-2.3	-2.8	-1.0	5.9	10.7	13.0	15.5	17.0	12.6

CAL YR 1991 MEAN 5.0 MAX 21.3 MIN -12.9 MED 3.3
WTR YR 1992 MEAN 6.1 MAX 20.8 MIN -12.9 MED 6.5

3 SPRINGS BASIN

KAWICH PEAK NEAR WARM SPRINGS, NV

DAILY MAXIMUM AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.9	5.2	-1.8	3.1	-.8	-.6	6.5	10.9	21.7	12.2	23.3	16.6
2	18.0	5.8	2.5	3.4	-.9	-2.3	10.0	12.5	21.2	16.6	24.0	16.9
3	18.3	7.7	4.4	-1.9	-2.8	.4	13.3	14.9	20.9	18.7	24.3	13.5
4	17.6	9.8	8.1	-1.4	.2	3.1	10.3	15.0	22.1	20.2	21.7	13.0
5	18.9	11.6	9.5	-3.4	-.5	2.2	8.7	14.8	20.0	19.9	20.7	15.7
6	18.9	12.1	9.8	-7.4	-3.1	-2.5	9.9	12.3	15.0	20.7	19.2	16.7
7	17.4	10.5	-1.2	-2.7	-.4	-3.7	9.4	15.3	17.6	19.7	20.5	18.5
8	16.8	10.2	-2.1	-2.0	.6	-.8	11.5	15.5	16.5	16.7	21.2	19.7
9	15.8	8.4	2.5	4.9	-2.7	2.1	11.5	12.8	17.5	21.3	23.7	21.3
10	17.5	5.1	2.4	7.3	-3.7	6.1	11.9	14.2	16.8	20.9	23.4	20.4
11	17.3	8.1	.0	2.8	-1.4	7.5	10.7	16.6	16.6	16.5	24.5	17.6
12	14.2	11.0	2.9	-7.0	-2.3	8.8	9.9	16.3	10.8	14.1	23.8	16.9
13	16.5	9.0	2.6	1.2	.7	5.8	10.1	15.6	9.6	15.0	23.7	17.8
14	17.3	-2.0	5.8	-1.2	-.9	4.9	8.3	16.1	2.7	18.2	23.1	16.7
15	19.4	-4.1	6.7	5.3	-5.1	3.8	8.1	17.1	6.0	17.9	23.7	16.4
16	17.2	4.5	7.1	7.4	-1.0	3.7	9.6	17.9	11.0	20.1	23.4	17.6
17	16.7	3.0	1.7	-.2	1.4	-.6	11.3	16.5	16.5	23.7	24.4	17.5
18	16.3	-3.6	-.8	-4.4	-.2	2.3	4.1	16.6	17.2	22.9	25.4	10.7
19	14.7	4.0	-4.9	-1.4	3.5	4.1	8.1	12.9	18.7	23.0	25.1	17.1
20	9.6	8.9	-2.1	1.3	6.6	3.0	11.9	12.6	19.2	22.5	23.6	19.0
21	11.5	3.2	3.0	1.4	7.8	1.2	9.4	13.0	20.4	22.2	21.1	20.8
22	9.4	-.3	1.8	2.8	2.9	-2.1	8.5	13.3	21.0	19.3	17.3	20.2
23	6.1	7.4	.0	5.4	1.7	1.9	10.6	15.4	19.2	19.0	16.3	18.4
24	2.5	7.7	1.6	8.8	6.7	2.5	14.0	17.9	17.5	19.7	17.7	18.7
25	5.1	6.6	2.7	7.3	4.2	3.3	16.3	19.5	14.1	20.8	18.1	13.3
26	2.6	8.7	3.5	5.2	7.5	3.5	16.9	17.9	18.3	23.0	19.1	17.3
27	-5.1	4.7	1.0	6.9	9.6	5.4	18.3	17.3	22.2	21.3	20.7	19.5
28	-4.3	-4.9	-5.1	1.7	8.4	5.8	19.0	13.1	19.7	24.3	19.8	20.4
29	-3.5	-5.1	-5.8	2.9	4.9	4.6	16.4	15.3	14.7	24.7	19.0	19.4
30	-5.7	-10.1	-2.1	7.6	---	1.4	14.0	15.1	14.4	24.4	15.5	18.2
31	4.9	---	-.4	5.1	---	3.7	---	19.3	---	22.1	16.5	---
MAX	19.4	12.1	9.8	8.8	9.6	8.8	19.0	19.5	22.2	24.7	25.4	21.3

CAL YR 1991 MAX 26.6
WTR YR 1992 MAX 25.4

3 SPRINGS BASIN

KÁWICH PEAK NEAR WARM SPRINGS, NV

DAILY MINIMUM AIR TEMPERATURE, WATER YEAR·OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	.0	-14.3	-7.2	-5.5	-2.7	-.7	.1	7.8	1.0	11.0	5.7
2	8.3	-.5	-4.6	-7.7	-5.7	-4.6	.3	1.9	9.1	2.6	15.3	7.1
3	7.5	1.1	-3.4	-6.5	-8.0	-3.2	.7	2.9	9.3	10.0	14.3	5.8
4	6.9	2.9	-2.4	-6.6	-6.7	-4.6	2.2	7.3	10.7	10.6	14.3	1.9
5	10.6	5.0	-2.5	-7.1	-4.2	-5.5	1.0	5.4	9.7	11.1	9.9	4.1
6	8.7	5.5	-1.4	-10.9	-4.0	-9.3	-.6	4.7	5.6	11.7	9.1	8.4
7	10.7	3.8	-6.3	-10.9	-4.4	-10.7	-1.7	1.5	4.4	8.3	12.4	4.9
8	6.9	4.5	-7.7	-11.0	-3.8	-5.1	1.7	7.7	7.3	9.9	12.9	10.2
9	6.8	1.1	-7.3	-3.5	-4.8	-4.7	3.6	1.5	9.2	10.3	12.8	7.8
10	8.6	.0	-5.6	-1.2	-5.3	-4.9	3.3	1.1	9.6	11.0	13.9	8.9
11	9.8	-.4	-6.5	-12.9	-5.5	-1.9	3.6	6.5	7.7	6.3	13.8	11.1
12	7.4	.1	-4.6	-13.8	-4.3	-3.2	3.6	6.2	1.0	6.2	14.2	9.5
13	7.1	-1.8	-4.7	-6.5	-5.5	-.4	2.2	6.3	-2.0	6.9	10.9	5.1
14	8.9	-9.5	-2.7	-8.1	-9.3	-1.1	-.4	6.7	-2.2	6.2	10.9	9.2
15	8.0	-9.4	-2.4	-5.4	-8.6	-3.2	.1	7.0	-2.3	9.2	12.6	8.0
16	9.6	-6.8	-2.9	-3.6	-10.7	-5.6	-1.1	5.6	-1.3	8.9	12.0	9.5
17	8.3	-5.1	-2.3	-6.8	-11.0	-6.6	1.7	7.9	2.0	11.0	13.3	7.1
18	8.5	-8.2	-4.5	-8.2	-8.7	-6.7	-3.9	7.6	7.6	10.0	16.4	3.8
19	5.0	-8.9	-11.1	-7.6	-5.1	-5.8	-4.5	5.4	4.4	12.5	15.6	5.3
20	1.6	.7	-11.2	-7.6	-2.4	-2.8	-.5	2.3	8.1	11.1	14.1	8.9
21	.7	-7.4	-6.3	-5.5	.0	-4.0	-.3	3.2	7.8	8.0	12.1	10.2
22	2.9	-9.4	-7.1	-2.7	-5.1	-5.4	.1	3.3	10.8	12.0	7.3	11.9
23	-2.8	-5.8	-5.1	-2.4	-6.8	-5.2	-1.3	1.8	10.1	10.1	2.6	11.9
24	-4.7	-.3	-6.8	-2.4	-3.4	-5.8	1.0	6.5	9.7	10.4	4.2	7.5
25	-2.1	-.6	-4.0	-.6	-1.6	-2.2	3.4	8.5	5.3	10.3	8.6	4.0
26	-6.2	2.8	-3.9	-2.4	-2.0	-2.9	5.5	10.7	6.3	12.6	7.1	4.3
27	-11.4	-12.6	-4.8	-4.9	-3.1	-3.1	8.5	7.6	8.3	13.9	7.9	9.6
28	-11.8	-12.5	-6.7	-3.3	-2.8	-2.9	5.7	6.0	10.5	13.5	12.5	8.0
29	-10.6	-14.2	-7.1	-3.4	-1.0	-3.7	8.5	5.3	6.7	15.9	10.6	11.5
30	-12.7	-14.9	-8.9	-1.8	---	-2.3	3.9	6.4	4.5	15.2	7.2	11.0
31	-4.8	---	-10.5	-1.4	---	-2.1	---	9.0	---	10.7	5.8	---
MIN	-12.7	-14.9	-14.3	-13.8	-11.0	-10.7	-4.5	.1	-2.3	1.0	2.6	1.9

CAL YR 1991 MIN -14.9
WTR YR 1992 MIN -14.9

3 SPRINGS BASIN

KAWICH PEAK NEAR WARM SPRINGS, NV

DAILY MEAN SOIL TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	2.9	-.7	-2.7	-1.6	-.3	.0	7.8	11.2	12.8	15.6	12.3
2	8.9	2.7	-.8	-3.1	-1.7	-.2	.0	7.8	12.5	12.4	16.1	12.3
3	8.8	2.5	-.7	-3.2	-1.8	-.2	.1	8.0	12.8	12.9	16.5	12.3
4	8.9	2.3	-.6	-2.8	-2.0	-.2	.1	8.4	13.3	13.6	16.7	11.4
5	9.1	3.0	-.8	-2.6	-2.1	-.2	.1	8.5	13.6	13.4	16.5	10.8
6	9.3	4.1	-1.0	-2.3	-1.9	-.1	.1	7.9	12.6	13.6	15.8	11.7
7	9.8	4.7	-.6	-2.2	-1.8	-.1	.1	8.4	11.7	14.1	15.5	11.2
8	9.8	4.5	-.8	-2.1	-1.6	-.1	.1	8.9	12.1	14.3	15.7	12.0
9	9.4	4.8	-1.0	-2.1	-1.4	-.1	.2	8.8	11.8	13.7	16.0	12.0
10	9.4	4.9	-1.4	-2.0	-1.2	-.1	.2	8.7	12.6	14.3	16.3	12.4
11	9.3	4.1	-1.5	-1.9	-1.1	-.1	.2	9.6	12.8	14.1	16.0	13.0
12	9.2	3.3	-1.8	-1.9	-1.1	-.1	.2	10.4	12.4	11.2	16.1	12.9
13	8.8	3.4	-1.7	-2.0	-1.0	-.1	.2	10.6	10.6	10.9	15.5	12.0
14	9.4	2.7	-2.1	-2.0	-1.0	-.1	.2	10.6	9.7	10.8	15.0	12.2
15	9.6	1.5	-1.7	-1.9	-.9	-.1	.2	10.8	8.3	11.7	15.4	12.1
16	9.8	.8	-2.3	-1.9	-.9	.0	.2	11.1	8.3	12.2	15.5	12.3
17	9.9	.9	-2.1	-1.7	-.9	.0	.2	11.3	9.3	13.6	16.0	12.3
18	9.8	1.0	-1.4	-1.7	-.9	.0	.2	11.4	10.7	14.1	16.6	10.3
19	9.4	.5	-1.4	-1.8	-.8	.0	.3	10.9	11.2	15.0	16.9	9.8
20	8.9	.6	-2.2	-1.9	-.8	.0	.5	10.4	12.0	15.1	16.9	10.3
21	7.6	1.1	-2.9	-2.0	-.8	.0	.8	10.2	11.9	15.1	16.5	11.0
22	7.8	.9	-3.4	-2.0	-.7	.0	1.3	10.1	12.6	15.3	15.9	11.6
23	7.5	.4	-3.1	-1.9	-.6	.0	2.4	10.2	12.7	15.2	14.9	12.2
24	5.7	.5	-3.1	-1.8	-.5	.0	3.5	10.8	12.5	15.1	13.8	12.2
25	5.2	.9	-3.3	-1.6	-.5	.0	4.8	11.4	12.1	15.5	14.2	11.5
26	5.0	1.3	-3.2	-1.6	-.4	.0	6.1	11.3	12.8	15.4	14.1	10.4
27	4.5	1.6	-2.7	-1.7	-.4	.0	7.3	11.6	13.5	14.8	13.6	10.4
28	4.0	1.0	-2.7	-1.7	-.4	.0	7.9	11.3	14.2	15.2	13.9	10.3
29	3.6	.2	-2.8	-1.7	-.3	.0	8.2	10.8	13.9	16.2	14.4	10.6
30	3.4	-.1	-2.6	-1.7	---	.0	8.3	10.3	13.4	16.6	14.1	11.0
31	3.0	---	-2.6	-1.7	---	.0	---	10.3	---	16.3	12.9	---
MEAN	7.8	2.1	-1.9	-2.0	-1.1	-.1	1.8	10.0	12.0	14.0	15.4	11.6
MAX	9.9	4.9	-.6	-1.6	-.3	.0	8.3	11.6	14.2	16.6	16.9	13.0
MIN	3.0	-.1	-3.4	-3.2	-2.1	-.3	.0	7.8	8.3	10.8	12.9	9.8
MED	8.9	1.5	-1.8	-1.9	-.9	.0	.2	10.3	12.4	14.1	15.7	11.9

CAL YR 1991 MEAN 5.5 MAX 20.0 MIN -5.9 MED 2.7
WTR YR 1992 MEAN 5.8 MAX 16.9 MIN -3.4 MED 5.1

3 SPRINGS BASIN

KAWICH PEAK NEAR WARM SPRINGS, NV

DAILY TOTAL SOLAR RADIATION, INCIDENTAL, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
CALORIES PER SQUARE CENTIMETER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	515	343	244	260	176	172	512	591	654	592	619	412
2	510	354	271	218	308	69	603	619	588	754	646	407
3	502	331	278	62	350	180	622	650	753	590	688	289
4	503	351	279	231	298	416	501	560	746	736	565	528
5	489	352	281	47	142	407	628	525	769	465	551	580
6	469	355	267	122	38	160	602	381	417	578	467	484
7	431	353	75	211	84	165	593	687	729	725	659	595
8	412	274	183	280	199	239	629	430	423	525	696	580
9	377	271	254	276	133	384	552	731	736	570	677	577
10	462	226	249	272	75	505	493	731	769	572	532	555
11	354	342	254	241	143	508	537	730	769	336	492	417
12	216	327	256	278	77	517	530	654	705	376	405	499
13	451	273	256	254	181	487	640	678	662	302	356	576
14	457	127	236	281	171	380	448	721	477	463	614	576
15	455	116	194	286	60	514	292	694	317	469	602	555
16	449	324	253	282	364	354	583	710	770	521	592	496
17	439	284	114	189	367	445	455	754	743	618	648	497
18	435	160	154	287	284	497	685	732	771	673	665	336
19	427	308	182	305	361	490	688	526	770	736	653	536
20	427	290	256	306	367	317	648	773	750	742	657	537
21	422	305	254	294	304	297	362	471	731	741	658	537
22	346	307	239	316	413	151	647	750	664	742	593	525
23	391	299	183	314	440	485	652	666	406	744	648	419
24	267	230	246	318	431	344	619	674	618	717	631	527
25	354	251	251	209	431	356	644	529	512	725	631	524
26	184	255	254	212	451	321	640	522	713	576	644	521
27	166	259	243	325	457	377	701	707	764	362	646	512
28	394	270	31	105	457	252	688	340	731	734	494	507
29	144	157	70	331	398	379	611	534	663	730	540	410
30	373	269	104	326	---	217	692	397	699	717	619	420
31	377	---	252	344	---	228	---	582	---	390	436	---
TOTAL	12198	8363	6663	7782	7960	10613	17497	19049	19819	18521	18324	14934

CAL YR 1991 TOTAL 165516
WTR YR 1992 TOTAL 161723

3 SPRINGS BASIN

KAWICH PEAK NEAR WARM SPRINGS, NV

DAILY MEAN RELATIVE HUMIDITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
PERCENT

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	48	55	37	53	70	51	53	23	61	44	36
2	26	62	43	22	68	97	27	35	28	39	29	30
3	21	57	36	67	48	98	33	22	28	21	21	29
4	18	54	25	95	72	89	52	22	18	19	31	65
5	18	56	21	98	86	85	29	48	16	17	50	31
6	21	58	20	95	98	97	34	79	41	22	58	21
7	22	67	54	96	100	96	55	54	34	26	28	19
8	28	64	97	81	99	92	40	45	43	57	18	18
9	26	79	94	28	99	72	37	30	32	44	17	17
10	22	90	70	25	98	52	35	21	22	37	19	17
11	21	32	51	49	98	39	32	29	28	71	23	19
12	35	21	42	59	98	41	23	37	26	86	34	19
13	25	30	23	29	98	50	34	29	26	82	52	18
14	19	74	21	66	97	56	65	19	53	56	50	18
15	18	90	20	30	97	55	63	25	64	52	37	24
16	19	52	22	26	96	83	56	22	57	43	36	39
17	20	54	82	50	96	88	48	19	39	38	31	42
18	22	78	100	55	97	56	39	21	21	33	17	86
19	31	40	92	27	89	53	32	23	24	22	15	53
20	46	35	53	41	75	57	26	25	23	17	15	34
21	40	63	67	34	48	94	55	52	16	17	17	33
22	68	40	67	21	66	97	27	53	17	19	26	39
23	66	21	72	21	42	96	27	41	28	18	18	50
24	59	34	57	21	31	93	25	34	32	20	18	33
25	58	47	40	20	66	77	24	36	42	40	19	34
26	88	26	35	22	34	79	21	31	41	20	17	26
27	92	48	49	29	41	77	19	24	29	19	16	20
28	61	65	95	42	39	83	17	43	24	15	18	18
29	81	67	97	44	43	89	18	67	46	14	20	23
30	69	63	97	21	---	97	31	57	39	18	31	31
31	39	---	64	25	---	94	---	35	---	40	37	---
MEAN	39	54	57	44	75	77	36	36	32	35	28	31
MAX	92	90	100	98	100	98	65	79	64	86	58	86
MIN	18	21	20	20	31	39	17	19	16	14	15	17
MED	28	55	54	34	86	83	33	34	28	26	23	30

CAL YR 1991 MEAN 46 MAX 100 MIN 15 MED 41
WTR YR 1992 MEAN 45 MAX 100 MIN 14 MED 39

3 SPRINGS BASIN

KAWICH PEAK NEAR WARM SPRINGS, NV

DAILY TOTAL PRECIPITATION, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
INCHES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.02	.00	.03	.00	.00	.00	.00	.00	.00
2	.00	.00	.02	.00	.00	.40	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.15	.00	.25	.02	.00	.00	.00	.00	.00
4	.00	.00	.00	.04	.00	.00	.11	.00	.00	.00	.00	.20
5	.00	.00	.00	1.21	.00	.10	.00	.10	.00	.00	.10	.00
6	.00	.00	.00	.32	.67	.02	.00	.05	.05	.00	.00	.00
7	.00	.00	.17	.00	.15	.23	.00	.02	.02	.00	.00	.00
8	.00	.00	.00	.00	.10	.05	.00	.00	.05	.00	.00	.00
9	.00	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.95	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.50	.00	.00	.00	.00	.97	.00	.00
12	.00	.00	.00	.00	.90	.00	.00	.00	.00	.10	.02	.00
13	.00	.00	.00	.00	.15	.00	.00	.00	.00	.07	.18	.00
14	.00	.00	.00	.00	.03	.00	.00	.00	.00	.02	.02	.00
15	.00	.00	.00	.00	.32	.00	.05	.00	.02	.00	.00	.00
16	.00	.00	.00	.00	.00	.20	.00	.00	.04	.00	.00	.00
17	.00	.02	.00	.00	.00	.05	.00	.00	.00	.01	.00	.40
18	.00	.02	.18	.00	.00	.00	.00	.00	.00	.00	.00	.50
19	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.04	.25	.12	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	1.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00
26	e.73	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.33	.00	.00	.44	.00	.07	.00	.00	.00	.00
29	e.08	.09	.23	.00	.00	.13	.00	.01	.00	.00	.00	.00
30	.00	.00	.01	.00	---	.37	.00	.06	.00	.00	.00	.00
31	.00	---	.02	.00	---	.15	---	.01	---	.13	.00	---
TOTAL	0.81	0.21	0.99	1.74	3.91	3.73	0.30	0.34	0.18	1.30	0.32	1.10

CAL YR 1991 TOTAL 17.20
WTR YR 1992 TOTAL 14.93

e Estimated

3 SPRINGS BASIN

KAWICH PEAK NEAR WARM SPRINGS, NV

PRECIPITATION WATER QUALITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	PH WATER WHOLE LAB (STAND-ARD UNITS)	ALKA-LINITY LAB (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)
FEB 1992											
18...	1430	12	13	6.8	8.2	2.9	0.78	0.08	1.4	0.20	1.0
APR											
08...	1131	5	6	5.7	6.2	<0.5	0.17	0.02	<0.20	<0.10	0.55
JUN											
09...	1500	37	39	6.4	6.4	4.0	2.5	0.26	1.0	0.90	3.6
JUL											
28...	1145	28	18	6.1	7.5	0.5	0.66	0.08	0.30	0.20	1.4
SEP											
17...	0755	19	19	6.1	6.0	0.5	1.4	0.14	0.40	0.20	2.3

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
FEB 1992										
18...	0.42	0.03	<0.010	1.5	0.200	<0.010	7	1	-106.0	-15.15
APR										
08...	0.12	<0.01	<0.010	<0.10	0.330	<0.010	<3	1	-103.0	-14.40
JUN										
09...	0.88	0.07	<0.010	0.20	1.40	0.070	<3	38	-52.5	-7.70
JUL										
28...	0.52	0.06	<0.010	<0.10	0.630	0.060	<3	9	-124.0	-16.90
SEP										
17...	0.42	0.10	<0.010	<0.10	1.40	<0.010	<3	20	-40.5	-6.20

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR LEDGE SPRING, NEAR WARM SPRINGS, NV

LOCATION. -- Lat 37°57'42", long 116°26'23", Nye County, Hydrologic Unit 16060012, 1.1 mi upstream from the 3 Springs Creek surface-water equipment, 3.6 mi upstream from Eden Ranch in the Reveille Valley, and 16.3 miles south of Warm Springs at the intersection of US Highway 6 and Nevada Highway 375.

DRAINAGE AREA. -- 0.78 mi^2.

PERIOD OF RECORD. -- July 1985 to current year.

SURFACE-WATER QUALITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
JUN 1992												
09...	1615	92	99	6.4	7.6	7.5	37	36	7.9	1.6	8.1	2.7

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
JUN 1992											
09...	5.3	4.3	0.16	0.040	46	0.030	<0.010	<3	<1	-103.0	-14.25

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR 3 SPRING #2, NEAR WARM SPRINGS, NV

LOCATION. -- Lat 37°57'36", long 116°25'50", Nye County, Hydrologic Unit 16060012, 0.5 mi upstream from the 3 Springs Creek surface-water equipment, 0.7 mi above the confluence of 3 Springs Creek with Eden Creek, 3.2 mi upstream from Eden Ranch in the Reveille Valley, and 16.2 mi south of Warm Springs at the intersection of US Highway 6 and Nevada Highway 375.

DRAINAGE AREA. -- 1.19 mi^2.

PERIOD OF RECORD. -- July 1985 to current year.

SURFACE-WATER QUALITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
FEB 1992												
18...	1120	90	94	7.4	7.6	5.0	35	36	7.7	1.4	8.9	1.8
APR												
08...	1500	90	92	6.7	7.3	7.0	34	32	7.3	1.4	7.9	1.6
JUN												
09...	0945	88	90	6.3	7.6	8.0	34	33	7.4	1.4	7.8	1.9
JUL												
28...	0930	95	99	6.7	7.6	11.5	38	38	8.2	1.5	8.1	1.9
SEP												
17...	1200	102	103	6.8	7.3	12.0	44	39	9.2	1.6	9.7	2.6

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
FEB 1992											
18...	4.1	3.0	0.16	0.040	36	<0.010	<0.010	6	<1	-104.0	-14.25
APR											
08...	7.3	3.7	0.08	0.040	38	0.300	0.020	<3	<1	-103.0	-13.85
JUN											
09...	5.0	4.1	0.15	0.020	42	0.060	<0.010	<3	<1	-102.0	-14.00
JUL											
28...	4.8	3.6	0.17	0.040	39	0.020	<0.010	4	<1	-103.0	-14.05
SEP											
17...	4.4	3.6	0.10	0.030	49	0.310	0.030	8	<1	-104.0	-14.05

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

LOCATION. -- Lat 37°57'38", long 116°25'20", Nye County, Hydrologic Unit 16060012, on the left bank 0.2 mi above the confluence of 3 Springs Creek with Eden Creek, 2.7 mi upstream from Eden Ranch in the Reveille Valley, and 16.1 mi south of Warm Springs at the intersection of US Highway 6 and Nevada Highway 375.

DRAINAGE AREA. -- 1.62 mi^2.

PERIOD OF RECORD. -- October 1985 to current year.

GAGE. -- Two water-stage recorders on a 6 in Parshall flume and a standard 90 degree v-notch weir, and a crest-stage gage. Altitude of gage is 7,070 ft above sea level, from topographic map. The flume is considered the primary gage. See REMARKS for more information.

REMARKS.-- The weather equipment is located 0.1 mi downstream from the surface-water equipment. The surface-water-quality samples are taken upstream from the Parshall flume. The unsaturated-zone water-quality samples are taken approximately 0.1 mi north and uphill from the meteorological site. Daily discharge values are determined from the 6 in Parshall flume. Accuracy of measurement by the flume diminishes below a discharge of 0.16 ft^3/s. Daily discharges below 0.16 ft^3/s are considered fair; discharges above 0.16 ft^3/s are considered good. Estimated periods of daily record are considered poor. Values for the daily maximum and minimum air temperature were obtained from the forty minute average values.

PERIOD OF DAILY RECORD. --
AIR TEMPERATURE: October 1985 to current year.
SOIL TEMPERATURE: October 1985 to current year.
SOLAR RADIATION: October 1985 to current year.
RELATIVE HUMIDITY: October 1990 to November 1991, February 1992 to current year.
TOTAL PRECIPITATION: October 1985 to current year.
DISCHARGE: October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD. --
AIR TEMPERATURE: Maximum daily, 32.2°C, July 7, 1989 and July 4, 1991; minimum daily, -28.8°C, Feb. 6, 1989. See REMARKS for more information.
SOIL TEMPERATURE: Maximum daily mean, 31.7°C, July 7, 1990; minimum daily mean, -7.4°C, Dec. 30, 1990.
SOLAR RADIATION: Maximum daily total, 827 cal/cm^2, June 18, 1989; minimum daily total, 3 cal/cm^2, Feb 6, 1992.
RELATIVE HUMIDITY: Maximum daily mean, 99.1 pct, Jan 4, 1991; minimum daily mean, 12.5 pct, July 5, 1991 and July 29, 1992.
TOTAL PRECIPITATION: Maximum daily, 1.50 in, Nov. 1, 1987; no precipitation, most days of record.
DISCHARGE: Maximum daily mean, 2.1 ft^3/s, Apr. 29-30, 1988; no flow, most days of record.

EXTREMES FOR CURRENT YEAR. --
AIR TEMPERATURE: Maximum daily, 30.8°C, July 29; minimum daily, -16.2°C, Jan. 13. See REMARKS for more information.
SOIL TEMPERATURE: Maximum daily mean, 27.3°C, Aug. 5; minimum daily mean, -2.8°C, Dec. 22 and Dec. 25-26.
SOLAR RADIATION: Maximum daily total, 754 cal/cm^2, July 29; minimum daily total, 3 cal/cm^2, Feb 6.
RELATIVE HUMIDITY: Maximum daily mean, 98.2 pct, Oct. 27; minimum daily mean, 12.5 pct, July 29.
TOTAL PRECIPITATION: Maximum daily, 1.09 in, July 11; no precipitation, most days of record.
DISCHARGE: Maximum daily mean, 0.52 ft^3/s, Apr. 15; no flow, most days of record.

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

DAILY MEAN AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.1	.6	-8.3	-7.9	2.2	3.7	5.6	9.7	19.2	11.2	21.0	14.8
2	12.7	1.4	-.5	-6.8	-.4	.6	6.0	9.4	19.2	14.8	25.2	15.5
3	13.1	2.3	-4.0	-3.7	-2.7	1.9	9.9	12.0	18.5	19.7	24.5	16.5
4	11.5	4.0	-2.2	-3.1	-3.3	2.7	9.6	13.2	20.3	20.9	23.0	12.2
5	14.4	6.4	-2.5	-1.4	-.9	2.6	7.7	11.8	18.5	21.1	20.8	14.1
6	17.3	7.1	.5	-5.9	-.8	.9	7.8	10.7	14.2	21.3	18.9	15.7
7	17.9	7.1	1.4	-8.2	.1	-2.0	8.0	13.0	14.9	19.2	21.9	15.3
8	14.7	9.9	-3.9	-11.1	1.2	1.7	10.6	12.8	15.2	19.0	22.6	18.7
9	11.8	8.9	-4.0	-6.5	1.5	2.5	12.5	11.7	19.1	20.3	23.5	17.5
10	11.8	5.8	-2.4	-2.8	-.3	2.4	11.3	11.3	18.7	20.9	22.1	19.5
11	14.0	2.3	-4.8	-3.9	-.2	3.0	12.4	15.8	17.9	16.6	23.6	19.4
12	13.7	3.2	-1.1	-9.9	.0	4.8	12.1	16.2	13.1	13.2	24.5	17.1
13	11.9	4.8	-2.3	-7.9	-.9	7.3	11.8	15.7	8.1	14.8	18.9	15.2
14	11.6	-1.1	-3.6	-6.6	-2.5	6.6	8.6	16.6	5.5	17.9	21.1	18.0
15	12.7	-1.8	-2.6	-7.6	-2.4	5.4	6.1	15.7	5.0	17.8	21.6	17.7
16	17.1	-1.2	-3.2	-1.6	-4.5	2.5	8.0	16.2	9.9	19.2	20.7	17.8
17	12.7	2.6	1.2	-2.2	-5.4	-.8	11.8	16.8	13.9	19.9	22.8	17.1
18	12.4	-.7	2.9	-5.2	-1.4	-.8	4.9	16.7	15.6	19.4	23.2	9.9
19	10.4	-2.9	-4.1	-7.3	2.0	1.9	5.0	14.9	16.2	19.9	24.9	12.6
20	6.9	2.6	-6.5	-5.5	4.7	2.2	9.0	12.6	15.9	20.1	23.3	15.6
21	9.1	1.6	-5.0	-5.0	5.7	1.8	6.8	10.5	17.1	19.7	22.4	16.1
22	11.7	-6.8	-4.5	-5.2	4.4	1.2	8.1	10.4	19.1	21.1	17.8	20.6
23	6.6	-5.5	-2.2	-3.4	.5	1.2	6.5	12.9	19.3	19.8	12.8	19.7
24	1.0	1.5	-3.9	.0	1.5	2.3	10.0	17.0	18.4	20.2	14.5	17.6
25	5.7	3.8	-3.5	3.1	2.7	3.3	13.4	19.0	15.3	21.3	16.6	8.3
26	3.9	9.7	-2.4	-1.0	2.5	4.3	16.0	18.1	16.9	22.8	14.5	9.9
27	-4.8	4.0	-1.3	-1.5	3.8	3.6	18.1	15.6	20.5	22.9	16.8	13.3
28	-6.1	-5.1	-1.7	.6	5.6	2.7	16.7	13.7	21.6	24.2	20.9	14.3
29	-1.8	-5.8	-2.4	-1.2	6.7	3.9	16.8	14.4	16.5	25.6	20.0	16.7
30	-6.9	-9.3	-3.7	-.1	---	3.0	14.9	14.7	15.1	24.8	16.4	18.2
31	-4.4	---	-7.0	.1	---	4.0	---	17.1	---	21.6	14.2	---
MEAN	8.9	1.6	-2.8	-4.2	.7	2.6	10.2	14.1	16.0	19.7	20.5	15.8
MAX	17.9	9.9	2.9	3.1	6.7	7.3	18.1	19.0	21.6	25.6	25.2	20.6
MIN	-6.9	-9.3	-8.3	-11.1	-5.4	-2.0	4.9	9.4	5.0	11.2	12.8	8.3
MED	11.8	2.3	-2.6	-3.9	.1	2.5	9.7	14.4	16.7	19.9	21.1	16.3

CAL YR 1991 MEAN 7.5 MAX 25.6 MIN -9.8 MED 5.9
WTR YR 1992 MEAN 8.6 MAX 25.6 MIN -11.1 MED 9.8

3 SPRINGS BASIN

3 SPRINGS CREEK◦NEAR WARM SPRINGS, NV

DAILY MAXIMUM AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.8	10.6	-3.2	.5	4.8	5.7	12.3	16.5	27.1	18.8	29.4	22.4
2	24.1	12.0	7.9	3.3	4.3	2.8	15.7	18.6	27.4	22.9	30.3	22.8
3	24.4	12.7	5.9	.0	2.5	5.4	17.6	20.8	27.4	24.9	30.5	19.9
4	23.1	15.1	9.4	-1.5	4.2	10.2	15.2	21.1	28.5	25.9	27.0	19.8
5	24.9	17.6	10.3	-.1	4.3	9.2	14.8	19.7	25.9	26.0	26.0	21.6
6	24.1	18.3	10.2	-3.9	.0	3.4	14.4	17.9	20.3	26.7	24.9	23.1
7	22.9	17.9	3.9	-.3	1.5	2.4	15.4	21.2	23.3	25.4	26.0	24.5
8	22.3	16.7	-1.0	-2.4	5.3	6.0	17.3	21.5	20.9	22.5	27.2	25.5
9	21.3	14.7	3.9	3.6	2.9	8.0	17.5	17.7	24.0	27.1	29.7	27.2
10	23.5	12.2	5.5	6.0	1.1	12.1	17.3	20.0	23.1	26.4	29.2	26.1
11	23.6	13.5	3.0	5.4	1.4	12.4	17.1	21.9	22.7	21.3	30.7	23.3
12	21.0	16.0	7.6	-3.7	.6	14.6	16.5	21.4	17.4	20.0	29.6	23.2
13	22.3	14.8	5.1	.2	2.4	12.7	16.1	20.7	15.3	21.5	28.9	23.5
14	23.8	3.5	6.6	.0	.6	11.4	14.0	21.9	10.4	24.9	28.4	22.1
15	25.4	1.9	7.6	.6	-1.6	9.6	13.7	22.1	11.5	24.7	29.2	22.2
16	22.9	9.3	8.0	8.5	1.3	9.0	15.7	22.8	17.0	27.6	29.5	23.2
17	22.4	7.1	6.3	3.2	1.8	5.2	17.8	22.1	22.0	29.8	30.3	23.0
18	22.0	2.8	5.9	.3	4.3	7.2	11.1	22.3	23.7	28.4	30.7	16.0
19	19.8	6.5	.1	3.8	9.5	9.5	13.5	18.9	24.5	28.9	30.8	21.7
20	15.6	12.9	-.5	4.4	12.1	8.2	17.6	17.9	25.3	28.5	28.9	23.9
21	17.5	8.7	4.7	5.0	14.0	6.7	14.0	16.4	26.4	27.6	26.7	25.4
22	15.1	.4	4.1	7.1	10.1	4.0	15.0	19.0	26.6	25.2	23.1	25.5
23	11.7	4.1	4.2	6.3	8.2	6.4	16.2	21.1	26.4	25.0	21.7	23.2
24	8.3	12.9	4.4	11.2	12.4	9.0	19.6	23.5	24.1	25.5	23.1	24.6
25	11.5	11.4	6.3	9.6	10.0	8.9	21.7	25.2	20.5	26.8	23.5	17.9
26	8.5	13.9	5.9	6.5	12.5	9.0	21.8	23.8	24.5	28.8	25.1	21.3
27	.8	10.3	5.5	8.2	15.5	10.1	23.2	23.7	28.0	27.7	26.5	24.1
28	1.8	-.6	-1.0	6.1	14.5	10.2	24.1	18.9	25.9	29.9	25.1	25.5
29	3.3	-2.3	-1.3	7.6	11.3	10.3	21.9	21.5	20.7	30.8	24.2	24.6
30	-1.4	-5.3	.0	10.5	---	7.1	19.4	21.8	20.8	30.2	20.9	23.5
31	7.6	---	1.7	10.2	---	11.5	---	25.8	---	29.0	22.1	---
MAX	25.4	18.3	10.3	11.2	15.5	14.6	24.1	25.8	28.5	30.8	30.8	27.2

WTR YR 1992 MAX 30.8

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

DAILY MINIMUM AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	-7.4	-14.5	-14.1	-2.8	.7	-1.6	1.5	6.5	4.0	10.0	5.4
2	3.8	-4.6	-10.1	-15.2	-6.3	-.4	-2.9	-.6	10.1	3.0	19.4	5.7
3	3.0	-3.7	-10.2	-6.3	-8.7	-.3	-.8	1.0	6.5	14.6	16.0	11.1
4	2.3	-2.4	-8.0	-5.4	-10.0	-2.9	1.7	3.1	10.0	16.3	19.8	5.3
5	4.4	-.1	-9.6	-3.7	-5.8	-4.5	-2.1	3.4	7.7	16.7	13.8	1.9
6	7.1	.4	-8.2	-10.4	-2.6	-4.0	-.5	4.8	5.9	16.4	12.4	5.6
7	11.6	1.5	-3.0	-14.7	-1.0	-6.5	-1.6	2.9	3.7	9.3	18.1	2.4
8	5.8	1.6	-7.7	-16.0	-.6	-1.1	1.2	5.6	9.3	14.7	19.0	10.1
9	3.9	3.0	-9.7	-14.1	.3	-2.9	7.9	1.5	14.6	9.7	13.2	5.7
10	2.1	-.6	-7.0	-8.4	-1.2	-4.7	3.3	-2.2	14.1	12.2	14.6	7.8
11	5.4	-4.5	-9.2	-15.5	-3.3	-3.2	6.0	4.3	11.8	7.3	12.3	14.1
12	5.3	-4.5	-11.4	-16.0	-1.3	-4.4	9.2	9.1	1.0	9.3	16.5	6.5
13	4.0	-3.2	-8.8	-16.2	-3.7	1.2	7.7	7.6	-1.9	8.5	12.7	3.4
14	1.7	-4.6	-9.4	-11.1	-8.4	.2	2.3	10.9	-1.9	8.1	12.0	14.5
15	2.3	-4.7	-7.7	-14.2	-4.8	1.9	-1.6	3.9	-2.7	12.1	13.3	13.7
16	9.4	-8.3	-9.2	-7.4	-11.6	-2.3	-1.1	5.3	.6	8.1	10.5	9.5
17	3.9	-2.8	-8.0	-8.2	-13.2	-5.6	5.0	9.2	1.4	12.3	13.3	10.2
18	4.1	-8.4	.6	-13.0	-8.9	-7.4	-3.2	9.2	5.7	9.0	11.9	4.0
19	1.8	-9.0	-7.3	-14.0	-4.1	-6.2	-3.9	9.0	3.8	10.6	15.6	3.0
20	-.3	-5.2	-11.7	-11.6	-1.3	-2.4	-1.6	5.7	5.3	10.3	13.5	8.2
21	-2.1	-8.3	-12.4	-11.1	-2.1	-2.2	.3	3.8	4.4	7.4	17.7	6.6
22	8.7	-12.0	-10.1	-13.4	-.8	-2.8	.4	.9	5.9	17.9	10.2	15.4
23	-3.4	-12.6	-7.5	-10.5	-7.6	-1.7	-2.7	1.6	10.0	11.2	2.5	13.7
24	-6.0	-6.7	-9.3	-7.7	-7.7	-4.2	-1.0	6.5	13.2	11.3	1.3	5.4
25	-.7	-4.2	-8.9	-5.9	-3.5	-2.5	2.2	12.2	6.2	15.9	5.9	-.4
26	-3.6	6.7	-7.4	-7.2	-5.3	-.7	5.5	10.8	7.9	18.3	3.2	-.5
27	-9.7	-8.2	-6.8	-7.9	-4.0	-1.4	13.8	4.3	8.5	16.0	4.1	4.7
28	-12.4	-9.9	-3.2	-5.6	-3.1	-2.7	4.7	8.9	16.4	16.5	16.0	3.7
29	-6.2	-9.5	-3.2	-7.6	2.1	-1.8	8.7	6.5	12.2	20.6	13.3	6.9
30	-12.4	-15.0	-11.1	-7.2	---	.7	9.6	6.7	9.9	16.8	12.0	10.1
31	-13.1	---	-12.5	-7.5	---	-.1	---	8.5	---	12.6	5.2	---
MIN	-13.1	-15.0	-14.5	-16.2	-13.2	-7.4	-3.9	-2.2	-2.7	3.0	1.3	-.5

WTR YR 1992 MIN -16.2

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

DAILY MEAN SOIL TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.6	3.2	.5	-1.7	-.2	.9	7.0	14.3	19.7	25.0	25.6	22.1
2	13.4	3.1	.2	-2.2	-.1	.9	7.0	13.9	21.0	24.6	26.5	21.6
3	13.3	3.5	-.1	-2.0	.0	.9	8.0	14.2	21.8	25.3	27.0	21.5
4	13.1	4.1	-.4	-1.5	-.2	.9	9.1	14.4	22.8	25.8	27.1	20.7
5	12.9	4.7	-.8	-1.2	-.2	.9	9.0	14.5	23.1	25.6	27.3	20.5
6	13.5	5.3	-1.2	-.9	-.1	1.0	9.0	13.8	22.1	26.1	26.0	21.2
7	14.1	5.6	-.6	-.7	.0	1.0	9.2	14.6	20.9	26.6	26.1	20.7
8	14.0	6.1	-.2	-.7	.0	1.0	9.8	15.3	21.3	26.7	26.4	21.7
9	13.4	7.0	-.5	-.7	.2	1.1	10.4	15.1	21.3	26.4	26.9	21.6
10	13.2	7.3	-.8	-.7	.2	1.1	10.7	14.8	22.8	26.5	26.6	22.1
11	13.4	5.7	-1.0	-.7	.3	1.1	11.1	15.8	23.4	24.9	26.5	22.6
12	13.9	4.6	-1.7	-.7	.3	1.2	10.7	16.9	23.5	19.2	26.9	22.6
13	12.7	4.3	-1.7	-.8	.3	1.4	10.9	17.3	21.7	20.2	25.4	21.3
14	12.4	3.8	-2.3	-.8	.4	2.3	11.0	17.3	20.4	20.0	23.8	21.7
15	12.4	2.9	-2.4	-.8	.4	3.2	10.2	17.3	18.9	20.5	24.4	21.6
16	12.8	2.4	-2.6	-.9	.4	4.1	10.1	17.4	19.1	20.8	24.9	21.9
17	12.8	2.5	-2.4	-.8	.5	4.0	10.4	17.8	20.8	22.0	25.5	20.5
18	12.6	2.8	-.9	-.7	.5	3.6	10.2	18.0	22.1	22.3	25.8	17.9
19	12.2	1.9	-.6	-.7	.6	3.8	9.7	17.6	22.8	23.0	26.5	15.8
20	11.7	1.6	-1.5	-.9	.6	4.2	10.0	17.6	23.5	23.9	26.7	16.0
21	10.9	1.9	-2.6	-1.0	.6	4.5	10.5	17.4	23.6	24.1	26.5	16.6
22	11.8	1.4	-2.8	-1.0	.6	4.2	10.1	17.1	23.9	24.8	26.0	17.6
23	11.8	.8	-2.5	-1.1	.7	3.5	10.3	17.7	24.5	25.0	24.6	18.4
24	9.9	.6	-2.2	-1.0	.7	3.5	10.9	18.5	24.6	25.1	23.3	18.3
25	9.1	.6	-2.8	-.7	.7	4.4	11.8	19.6	24.1	25.9	23.7	17.1
26	9.4	.9	-2.8	-.7	.8	5.4	12.9	19.0	24.6	25.8	23.3	15.9
27	7.6	2.2	-2.5	-.6	.8	5.8	14.0	19.3	25.6	25.2	23.0	15.8
28	6.1	2.2	-2.0	-.5	.8	5.9	14.4	18.7	26.6	25.5	23.6	16.0
29	5.2	1.3	-1.5	-.5	.8	6.2	14.5	18.4	26.5	26.5	24.3	16.2
30	4.5	.9	-1.2	-.4	---	6.6	14.6	18.1	25.5	27.1	23.9	16.8
31	3.7	---	-1.3	-.3	---	6.8	---	18.6	---	27.0	22.9	---
MEAN	11.3	3.2	-1.5	-.9	.4	3.1	10.6	16.8	22.7	24.4	25.4	19.5
MAX	14.1	7.3	.5	-.3	.8	6.8	14.6	19.6	26.6	27.1	27.3	22.6
MIN	3.7	.6	-2.8	-2.2	-.2	.9	7.0	13.8	18.9	19.2	22.9	15.8
MED	12.6	2.8	-1.5	-.8	.4	3.5	10.3	17.3	22.8	25.1	25.8	20.6

CAL YR 1991 MEAN 9.9 MAX 28.4 MIN -6.5 MED 8.7
WTR YR 1992 MEAN 11.3 MAX 27.3 MIN -2.8 MED 10.9

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

DAILY TOTAL SOLAR RADIATION, INCIDENTAL, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
CALORIES PER SQUARE CENTIMETER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	461	289	198	207	152	213	474	572	583	605	643	e426
2	457	297	226	181	265	30	556	594	545	743	696	e421
3	450	286	223	56	295	223	577	612	708	549	704	e305
4	452	291	222	91	232	390	471	514	700	703	577	e541
5	439	293	224	31	145	399	572	447	722	465	599	e592
6	416	295	214	175	3	193	558	385	389	573	484	e497
7	381	292	63	203	10	132	576	647	610	686	676	e606
8	361	242	120	221	186	218	585	411	362	492	715	e592
9	342	229	209	225	130	383	501	688	708	559	665	e589
10	412	206	201	222	92	456	452	688	728	512	477	e567
11	358	284	208	202	168	460	491	678	725	268	510	e481
12	249	275	207	231	53	468	489	611	677	388	417	e512
13	401	239	206	203	112	438	597	626	609	372	337	e588
14	407	114	198	230	158	335	406	670	469	425	621	e588
15	405	104	161	228	51	469	307	586	335	432	626	e567
16	398	267	200	237	334	364	511	621	738	528	613	e509
17	388	228	122	165	325	315	415	710	701	558	597	448
18	382	216	178	238	298	404	639	688	733	552	671	305
19	374	254	162	252	334	420	645	498	730	705	660	513
20	374	255	205	253	331	280	609	725	684	711	667	512
21	368	252	202	254	285	266	371	418	686	708	674	514
22	325	249	186	263	354	200	602	691	561	711	620	500
23	351	245	161	263	393	321	605	592	441	716	663	368
24	238	177	200	265	391	357	572	612	591	696	645	501
25	318	201	202	178	392	316	600	510	506	695	638	500
26	197	217	207	183	404	323	590	484	654	459	661	496
27	184	215	205	273	409	322	658	683	728	402	661	488
28	336	225	58	94	410	258	641	296	698	662	493	482
29	199	134	66	281	359	412	558	471	614	754	530	399
30	321	229	65	276	---	189	636	368	627	732	e630	396
31	321	---	201	291	---	282	---	557	---	466	e450	---
TOTAL	11065	7100	5500	6472	7071	9836	16264	17653	18562	17827	18620	14803

CAL YR 1991 TOTAL 149594
WTR YR 1992 TOTAL 150773

e Estimated

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

DAILY MEAN RELATIVE HUMIDITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
PERCENT

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	72	---	---	---	52	53	46	26	53	49	35
2	40	81	---	---	---	95	43	43	30	36	24	32
3	32	83	---	---	---	96	37	29	33	18	19	22
4	25	81	---	---	---	80	50	31	21	15	23	49
5	23	77	---	---	---	73	36	59	17	15	39	31
6	22	79	---	---	---	79	34	75	54	18	50	19
7	19	80	---	---	---	90	45	57	40	22	23	19
8	27	66	---	---	---	76	39	54	43	42	15	17
9	32	69	---	---	---	64	32	31	27	37	15	17
10	30	86	---	---	---	64	34	27	19	32	19	16
11	25	66	---	---	---	53	28	28	23	62	23	16
12	36	48	---	---	---	52	19	34	22	86	27	16
13	34	45	---	---	---	42	28	27	26	73	57	18
14	25	58	---	---	---	43	56	17	43	53	50	15
15	25	69	---	---	---	38	70	27	59	51	40	19
16	17	69	---	---	---	68	60	24	49	46	39	32
17	25	51	---	---	---	84	44	18	35	46	31	36
18	28	61	---	---	---	68	39	20	21	44	22	86
19	37	60	---	---	80	57	35	22	26	32	15	59
20	45	---	---	---	68	59	30	23	24	21	15	37
21	40	---	---	---	51	87	63	46	17	19	14	36
22	48	---	---	---	59	91	33	54	17	16	19	30
23	50	---	---	---	49	91	37	43	27	16	17	37
24	48	---	---	---	45	81	35	35	29	17	17	27
25	45	---	---	---	70	74	31	33	37	28	18	39
26	72	---	---	---	57	68	24	33	38	17	17	32
27	98	---	---	---	58	76	18	28	28	17	16	23
28	82	---	---	---	44	89	21	42	19	14	15	22
29	75	---	---	---	32	80	17	62	34	12	17	22
30	71	---	---	---	---	93	25	56	31	14	23	25
31	63	---	---	---	---	90	---	39	---	37	33	---
MEAN	42	---	---	---	---	73	37	38	30	33	26	29
MAX	98	---	---	---	---	96	70	75	59	86	57	86
MIN	17	---	---	---	---	38	17	17	17	12	14	15
MED	36	---	---	---	---	76	35	33	28	28	22	26

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

DAILY TOTAL PRECIPITATION, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
INCHES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.42	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.11	.00	.20	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.03	.00	.00	.07	.00	.00	.00	.00	.00
5	.00	.00	.00	.93	.00	.00	.00	.15	.00	.00	.02	.00
6	.00	.00	.00	.19	.69	.26	.00	.02	.15	.00	.00	.00
7	.00	.00	.14	.02	.11	.14	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.68	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.26	.00	.00	.00	.00	1.09	.00	.00
12	.00	.00	.00	.00	.57	.00	.00	.00	.00	.20	.00	.00
13	.00	.00	.00	.00	.10	.00	.00	.00	.00	.16	.38	.00
14	.00	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.65	.00	.05	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.08	.11	.00	.00	.00	.00	.00	.00
17	.00	.02	.00	.00	.00	.05	.00	.00	.00	.05	.00	.68
18	.00	.03	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.10	.05	.10	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.52	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00
26	.87	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00
27	.03	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.25	.00	.00	.12	.00	.07	.00	.00	.00	.00
29	.10	.03	.15	.00	.00	.12	.00	.03	.00	.00	.00	.00
30	.00	.00	.05	.00	---	.28	.00	.00	.00	.00	.00	.00
31	.00	---	.01	.00	---	.17	---	.00	---	.06	.00	---
TOTAL	1.00	0.22	0.67	1.28	3.33	2.66	0.24	0.32	0.15	1.56	0.40	0.68

CAL YR 1991 TOTAL 14.40
WTR YR 1992 TOTAL 12.51

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

PRECIPITATION WATER QUALITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)	ALKALINITY LAB (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
FEB 1992											
18...	1015	5	7	6.4	8.1	<0.5	0.33	0.03	<0.20	0.10	0.50
APR											
08...	1200	5	6	5.7	5.5	<0.5	0.18	0.02	<0.20	<0.10	0.51
JUN											
09...	1845	33	33	6.3	6.1	3.1	2.1	0.25	0.80	0.80	3.1
JUL											
28...	1115	15	14	6.2	7.0	1.5	0.73	0.07	0.20	0.20	1.2
SEP											
17...	0930	17	17	5.4	5.5	<0.5	1.2	0.12	0.20	0.20	1.9

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
FEB 1992										
18...	0.12	0.01	<0.010	<0.10	0.250	<0.010	5	4	-103.0	-14.70
APR										
08...	0.08	<0.01	<0.010	<0.10	0.310	<0,010	4	2	-95.5	-13.55
JUN										
09...	0.67	0.06	<0.010	0.20	1.30	0.070	<3	46	-48.5	-6.50
JUL										
28...	0.28	0.05	<0.010	0.10	0.770	<0.010	4	13	-123.0	-16.75
SEP										
17...	0.32	0.07	<0.010	<0.10	1.40	<0.010	<3	21	-33.5	-5.00

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

WATER-QUALITY ANALYSIS FROM THE UNSATURATED-ZONE LYSIMETER,
WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
JUL 1992 28...	1500	78	80	6.5	7.4	24.0	20	19	7.4	1.6	4.1	2.5

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
JUL 1992 28...	6.5	3.9	0.15	<0.010	39	0.920	0.110	11	3	-101.0	-12.65

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

DAILY MEAN DISCHARGE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
CUBIC FEET PER SECOND

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.000	.000	.000	.000	.000	.000	.249	.296	.012	.001	.000	.000
2	.000	.000	.000	.000	.000	.000	.264	.289	.012	.001	.000	.000
3	.000	.000	.000	.000	.000	.000	.279	.284	.012	.001	.000	.000
4	.000	.000	.000	.000	.000	.000	.295	.283	.012	.001	.000	.000
5	.000	.000	.000	.000	.000	.000	.311	.286	.008	.001	.000	.000
6	.000	.000	.000	.000	.000	.000	.327	.285	.008	.001	.000	.000
7	.000	.000	.000	.000	.000	.000	.344	.280	.008	.001	.000	.000
8	.000	.000	.000	.000	.000	.000	.364	.278	.008	.001	.000	.000
9	.000	.000	.000	.000	.000	.000	.403	.260	.008	.001	.000	.000
10	.000	.000	.000	.000	.000	.000	.437	.230	.008	.001	.000	.000
11	.000	.000	.000	.000	.000	.000	.468	.211	.008	.001	.000	.000
12	.000	.000	.000	.000	.000	.000	.485	.190	.008	.001	.000	.000
13	.000	.000	.000	.000	.000	.000	.500	.166	.008	.001	.000	.000
14	.000	.000	.000	.000	.000	.000	.508	.141	.008	.001	.000	.000
15	.000	.000	.000	.000	.000	.000	.520	.120	.008	.001	.000	.000
16	.000	.000	.000	.000	.000	.000	.516	.104	.008	.000	.000	.000
17	.000	.000	.000	.000	.000	.000	.513	.090	.008	.000	.000	.000
18	.000	.000	.000	.000	.000	.003	.506	.080	.008	.000	.000	.000
19	.000	.000	.000	.000	.000	.047	.477	.072	.008	.000	.000	.000
20	.000	.000	.000	.000	.000	.071	.468	.065	.008	.000	.000	.000
21	.000	.000	.000	.000	.000	.100	.464	.061	.007	.000	.000	.000
22	.000	.000	.000	.000	.000	.118	.451	.053	.004	.000	.000	.000
23	.000	.000	.000	.000	.000	.130	.442	.048	.004	.000	.000	.000
24	.000	.000	.000	.000	.000	.135	.431	.043	.004	.000	.000	.000
25	.000	.000	.000	.000	.000	.153	.413	.037	.004	.000	.000	.000
26	.000	.000	.000	.000	.000	.166	.394	.033	.004	.000	.000	.000
27	.000	.000	.000	.000	.000	.179	.372	.030	.004	.000	.000	.000
28	.000	.000	.000	.000	.000	.192	.352	.029	.004	.000	.000	.000
29	.000	.000	.000	.000	.000	.206	.331	.023	.004	.000	.000	.000
30	.000	.000	.000	.000	---	.220	.311	.020	.002	.000	.000	.000
31	.000	---	.000	.000	---	.234	---	.013	---	.000	.000	---
TOTAL	0.000	0.000	0.000	0.000	0.000	1.954	12.195	4.400	0.217	0.015	0.000	0.000
MEAN	.000	.000	.000	.000	.000	.063	.41	.14	.007	.000	.000	.000
MAX	.000	.000	.000	.000	.000	.234	.520	.296	.012	.001	.000	.000
MIN	.000	.000	.000	.000	.000	.000	.249	.013	.002	.000	.000	.000
AC-FT	.00	.00	.00	.00	.00	3.9	24	8.7	.4	.03	.00	.00

CAL YR 1991 TOTAL 1.954 MEAN .005 MAX .053 MIN .000 AC-FT 3.9
WTR YR 1992 TOTAL 18.781 MEAN .051 MAX .520 MIN .000 AC-FT 37

3 SPRINGS BASIN

3 SPRINGS CREEK NEAR WARM SPRINGS, NV

SURFACE-WATER QUALITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
APR 1992 08...	1340	97	100	6.9	8.3	7.0	32	35	7.8	1.3	9.1	1.4

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
APR 1992 08...	7.4	4.0	0.20	0.040	38	0.030	0.020	<3	<1	-103.0	-13.90

RECORDS FROM EAST STEWART BASIN

EAST STEWART BASIN

VEG SPRING NEAR IONE, NV

LOCATION. -- Lat 38°53'04", long 117°21'13", Nye County, Hydrologic Unit 16040107, on the right bank 0.5 mi upstream from the East Stewart Creek surface-water equipment, 1.8 mi upstream from the Columbine campground, and 13.8 mi east of Ione on State Route 21.

PERIOD OF RECORD. -- September 1984 to current year.

REMARKS.-- The weather equipment is located approximately 200 ft southeast and uphill from Veg Spring. The two unsaturated-zone water-quality samples are taken approximately 20 ft downhill from the weather equipment. The maximum total daily precipitation was not published because the value is estimated. Estimated periods of daily record are considered poor. Values for the daily maximum and minimum air temperature were obtained from the forty minute average values.

PERIOD OF DAILY RECORD. --
AIR TEMPERATURE: October 1988 to current year.
SOIL TEMPERATURE: October 1988 to current year.
SOLAR RADIATION: November 1990 to current year.
RELATIVE HUMIDITY: October 1990 to current year.
TOTAL PRECIPITATION: October 1986 to current year.

EXTREMES FOR PERIOD OF RECORD. --
AIR TEMPERATURE: Maximum daily, 23.7°C, July 4, 1991; minimum daily, -27.0°C, Dec. 22, 1990. See REMARKS for more information.
SOIL TEMPERATURE: Maximum daily mean, 19.9°C, Aug. 6, 1990; minimum daily mean, -10.7°C, Dec. 30, 1990.
SOLAR RADIATION: Maximum daily total, 714 cal/cm^2, May 15, 1991; minimum daily total, 34 cal/cm^2, Jan. 4, 1991.
RELATIVE HUMIDITY: Maximum daily mean, 100 pct, May 14, 1991 and May 30-31, 1991; minimum daily mean, 15.5 pct, Aug. 9, 1991.
TOTAL PRECIPITATION: Maximum daily, not available; no precipitation, most days of record.

EXTREMES FOR CURRENT YEAR. --
AIR TEMPERATURE: Maximum daily, 23.6°C, Aug. 1; minimum daily, -19.2°C, Nov. 30. See REMARKS for more information.
SOIL TEMPERATURE: Maximum daily mean, 18.3°C, Aug. 9; minimum daily mean, -3.7°C, Dec. 25-26.
SOLAR RADIATION: Maximum daily total, 642 cal/cm^2, July 4; minimum daily total, 46 cal/cm^2, Jan. 5.
RELATIVE HUMIDITY: Maximum daily mean, 99.3 pct, Nov. 9; minimum daily mean, 16.5 pct, July 30.
TOTAL PRECIPITATION: Maximum daily, 1.45 in, Jan. 5; no precipitation, most days of record.

EAST STEWART BASIN

VEG SPRING NEAR IONE, NV

DAILY MEAN AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	-3.1	-8.4	-3.2	-5.3	-3.8	-.1	-.3	12.7	2.1	15.9	7.4
2	9.2	-2.2	-4.7	-2.0	-7.7	-4.9	2.8	3.4	11.9	7.8	15.9	9.5
3	9.3	.4	-1.2	-3.9	-8.5	-3.7	4.4	6.3	12.5	11.2	15.1	7.3
4	9.5	2.3	-.4	-4.7	-6.0	-4.3	1.5	8.1	12.5	12.2	14.8	2.3
5	10.6	3.4	1.9	-6.6	-5.5	-3.3	-1.4	8.2	10.0	12.0	13.9	6.3
6	11.2	3.5	2.3	-11.7	-4.6	-6.5	-1.5	6.3	7.8	10.9	12.7	7.0
7	9.0	5.2	-4.8	-11.3	-3.3	-7.2	1.2	6.6	8.1	10.4	14.6	8.8
8	8.6	4.4	-8.4	-6.4	-4.2	-6.3	1.6	7.5	8.6	11.5	15.3	10.4
9	8.7	.1	-2.6	-.2	-5.2	-5.5	2.4	1.2	11.0	12.5	16.2	12.1
10	9.6	-1.2	-4.2	.5	-5.9	-2.7	2.3	5.2	10.8	12.3	16.0	12.7
11	9.7	2.3	-5.9	-10.3	-6.5	-.5	5.2	6.5	10.3	7.7	17.0	11.5
12	8.3	4.4	-5.1	-12.1	-5.5	.3	4.2	7.1	.6	7.1	14.5	7.7
13	8.8	-.4	-2.9	-6.4	-6.8	.2	2.9	8.1	-1.2	9.4	14.3	8.2
14	10.1	-10.3	1.5	-6.7	-7.0	-1.5	.3	7.6	-4.9	10.7	13.7	9.5
15	11.4	-9.7	1.0	-1.4	-8.9	-2.8	-.3	7.2	-3.2	9.9	13.2	9.6
16	8.8	-2.6	.3	-1.8	-11.2	-5.9	1.5	8.4	.5	13.5	13.5	e10.3
17	7.5	-3.5	-1.1	-6.2	-9.5	-7.6	1.5	9.3	5.3	12.5	14.4	e8.1
18	7.2	-9.6	-4.8	-7.2	-6.1	-6.4	-4.5	8.8	6.3	12.6	16.0	e3.2
19	5.4	-3.2	-12.7	-4.2	-2.3	-3.4	-1.8	6.3	7.1	12.5	16.7	e7.8
20	2.3	.7	-4.8	-4.0	-2.0	-4.2	3.8	1.5	8.7	12.0	14.3	e9.2
21	4.7	-5.4	-1.1	-6.2	-1.5	-3.9	.5	3.4	12.1	12.2	12.3	e10.9
22	3.8	-5.3	-2.9	-5.5	-4.8	-4.5	-2.3	5.3	13.5	11.7	6.4	e13.7
23	-4.4	-.4	-2.7	-1.5	-4.0	-5.3	1.5	8.4	11.9	10.1	5.7	e11.6
24	-4.9	-.2	-3.7	.5	-.3	-3.3	5.8	11.5	9.9	11.6	8.0	e8.9
25	-3.3	-.1	-1.7	.7	-1.2	-2.0	7.8	11.5	5.3	12.8	8.7	e4.2
26	-4.3	1.0	-1.3	-1.9	1.2	-2.7	8.4	9.5	8.5	14.3	9.9	e6.8
27	-11.0	-6.1	-3.5	-.9	1.3	-1.3	8.4	8.2	13.4	15.3	12.2	e9.2
28	-11.5	-12.2	-8.6	-3.2	.3	-.5	9.9	8.9	12.6	16.5	12.8	e10.8
29	-9.2	-14.7	-8.4	-.8	-.9	-.8	10.2	8.5	5.2	16.5	8.5	e12.6
30	-10.4	-15.5	-8.2	1.9	---	-1.9	4.5	8.9	3.3	16.9	6.9	e11.9
31	-1.3	---	-4.4	1.9	---	-2.1	---	11.1	---	15.0	6.2	---
MEAN	3.9	-2.6	-3.6	-4.0	-4.5	-3.5	2.7	7.0	7.7	11.7	12.8	9.0
MAX	11.4	5.2	2.3	1.9	1.3	.3	10.2	11.5	13.5	16.9	17.0	13.7
MIN	-11.5	-15.5	-12.7	-12.1	-11.2	-7.6	-4.5	-.3	-4.9	2.1	5.7	2.3
MED	8.3	-.8	-3.5	-3.9	-5.2	-3.4	2.0	7.6	8.6	12.0	13.9	9.2

CAL YR 1991 MEAN 1.9 MAX 17.8 MIN -15.5 MED .1
WTR YR 1992 MEAN 3.1 MAX 17.0 MIN -15.5 MED 2.3

e Estimated

EAST STEWART BASIN

VEG SPRING NEAR IONE, NV

DAILY MAXIMUM AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.9	.7	-5.4	2.7	-3.1	3.0	6.7	4.0	19.3	7.4	23.6	14.0
2	15.5	2.2	-.9	4.0	-4.8	-3.2	11.1	9.1	17.1	15.2	21.7	14.5
3	15.5	4.6	5.2	-1.0	-5.8	.5	13.0	13.4	18.3	17.0	20.3	13.1
4	15.2	10.5	6.4	-.4	.7	4.1	6.0	14.2	17.3	17.9	21.2	6.2
5	16.1	9.7	8.4	-3.9	-3.3	3.2	3.2	13.0	15.5	16.9	17.6	11.7
6	16.4	9.0	5.8	-10.8	-2.5	.3	3.8	10.5	12.1	15.6	17.4	11.0
7	13.5	13.4	2.0	-6.7	2.1	-.5	6.6	12.6	13.6	17.3	20.4	14.4
8	14.6	7.0	-4.7	-.7	3.0	-4.3	7.3	12.2	14.3	16.2	20.2	15.7
9	14.5	1.6	4.1	6.7	.2	-.2	6.7	6.4	17.2	19.1	22.7	18.3
10	14.7	3.1	2.6	3.1	-2.2	6.5	5.6	10.3	16.4	17.7	20.4	17.5
11	14.0	9.3	-2.0	-.3	-4.7	7.9	9.2	12.3	16.5	13.2	21.5	16.4
12	13.2	10.0	-1.0	-6.5	-4.2	8.9	8.2	11.7	7.0	12.2	18.7	12.6
13	14.6	3.0	2.5	-2.0	-1.6	5.5	9.1	13.3	5.5	13.6	22.6	13.4
14	15.8	-8.1	6.3	-3.2	-.6	2.5	4.7	14.3	-4.0	15.7	19.5	14.6
15	18.1	-7.1	3.4	6.3	-5.8	4.9	6.7	13.5	2.1	13.5	18.5	15.9
16	12.8	2.6	6.4	1.9	-9.4	-1.8	7.5	15.0	6.7	20.4	18.9	---
17	11.8	.0	1.9	-3.0	-5.9	-1.8	5.2	14.2	11.7	19.9	20.1	---
18	12.8	-8.2	-2.3	-4.9	-2.2	1.0	.7	13.9	11.6	17.3	22.0	---
19	11.0	4.5	-9.3	1.0	.5	1.9	5.7	12.6	12.3	19.6	21.7	---
20	7.8	2.6	1.6	3.2	.2	-.8	10.2	7.4	14.2	17.3	19.4	---
21	9.4	-1.4	7.1	-1.4	.7	2.0	4.2	9.1	17.7	19.0	18.4	---
22	5.9	-.4	1.8	-1.4	-1.7	.6	2.4	11.0	18.6	17.2	11.6	---
23	-.3	7.9	.7	3.2	2.4	.2	9.7	13.6	16.0	15.9	13.7	---
24	-2.7	2.7	-.6	6.3	7.7	4.4	12.4	16.9	15.5	18.3	14.3	---
25	-1.1	3.5	4.2	2.5	5.7	2.6	14.4	17.8	9.3	18.3	15.1	---
26	-1.3	3.8	2.1	.5	8.4	3.7	14.0	14.1	14.5	19.6	16.8	---
27	-7.9	1.1	.0	5.9	8.4	8.3	14.1	14.9	20.4	21.3	19.1	---
28	-7.1	-8.2	-6.2	.2	7.1	5.2	17.0	13.1	17.7	22.5	19.3	---
29	-6.0	-10.8	-7.2	4.2	4.5	4.1	15.8	13.0	8.6	21.7	13.7	---
30	-2.1	-12.8	-3.7	8.2	---	2.3	10.7	13.8	9.3	23.2	13.0	---
31	5.4	---	1.2	5.7	---	.3	---	17.5	---	19.4	10.9	---
MAX	18.1	13.4	8.4	8.2	8.4	8.9	17.0	17.8	20.4	23.2	23.6	---

CAL YR 1991 MAX 23.7

EAST STEWART BASIN

VEG SPRING NEAR IONE, NV

DAILY MINIMUM AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	-4.9	-13.6	-5.3	-8.5	-5.7	-4.4	-4.7	8.0	-2.1	11.3	4.6
2	5.6	-4.9	-6.6	-4.1	-9.8	-6.6	-3.1	-1.9	7.6	.4	13.0	5.5
3	5.9	-1.9	-3.3	-7.1	-10.2	-6.2	-.6	1.4	7.3	6.2	10.9	-1.0
4	6.0	-1.0	-2.0	-7.6	-9.3	-7.5	-3.3	3.5	8.6	8.0	10.2	-1.9
5	7.3	1.2	-1.3	-9.8	-7.4	-6.3	-4.2	4.5	5.4	7.7	11.0	2.4
6	7.7	1.6	.5	-12.3	-5.6	-10.3	-4.7	3.8	4.5	6.9	9.5	4.1
7	6.7	1.6	-10.4	-13.1	-5.1	-10.9	-2.0	3.0	5.0	4.9	10.7	4.4
8	4.9	1.2	-11.1	-12.6	-6.6	-7.6	-2.1	3.8	4.3	7.0	11.5	6.5
9	5.2	-1.2	-5.6	-3.0	-7.4	-9.2	-.3	-3.4	7.3	7.0	10.9	7.1
10	6.1	-3.5	-8.2	-1.4	-7.2	-8.9	-1.2	-1.5	7.6	8.4	12.6	9.3
11	7.3	-1.6	-7.3	-14.6	-7.5	-4.4	2.5	1.6	6.0	4.2	13.7	6.8
12	5.8	2.0	-8.6	-16.5	-7.5	-3.5	.9	3.7	-6.3	4.3	10.7	4.6
13	5.7	-8.0	-6.0	-8.9	-9.6	-2.2	-.6	3.8	-7.0	5.0	10.3	3.3
14	6.8	-12.6	-.8	-9.2	-9.4	-4.6	-2.0	3.0	-6.4	7.3	10.4	5.5
15	8.5	-11.9	-.3	-6.0	-11.9	-6.6	-3.0	2.0	-5.8	7.0	10.2	5.4
16	5.4	-7.6	-2.0	-4.2	-13.6	-8.4	-2.7	3.7	-3.7	8.9	9.7	---
17	4.9	-8.5	-3.1	-9.9	-11.5	-10.0	-5.0	5.7	.0	8.2	10.3	---
18	4.8	-12.5	-10.5	-10.0	-9.3	-11.2	-8.5	4.9	2.8	8.8	12.0	---
19	.3	-10.7	-14.3	-7.1	-4.1	-7.5	-8.0	-.9	2.9	7.3	11.5	---
20	-.7	-1.7	-13.7	-7.0	-4.1	-5.4	-1.9	-2.9	5.1	6.5	10.0	---
21	1.0	-9.9	-5.0	-7.5	-4.4	-6.8	-4.6	-1.6	6.8	5.8	6.1	---
22	.2	-9.2	-5.2	-6.7	-9.6	-7.2	-6.1	-.3	10.1	5.9	.9	---
23	-7.2	-3.4	-4.5	-6.4	-9.1	-9.1	-4.9	2.9	6.9	4.8	-1.2	---
24	-7.5	-2.8	-5.3	-2.8	-3.6	-8.9	.7	6.4	4.2	6.0	3.9	---
25	-5.7	-2.0	-4.5	-1.7	-3.4	-4.2	3.3	8.0	3.2	8.2	4.0	---
26	-8.2	-1.2	-2.9	-5.4	-2.5	-6.6	4.9	6.0	3.8	9.5	4.7	---
27	-13.5	-14.9	-7.6	-4.7	-1.4	-6.3	4.2	3.5	7.1	12.4	7.4	---
28	-15.5	-14.4	-10.2	-5.7	-3.0	-4.4	4.1	5.6	8.4	13.5	8.5	---
29	-15.0	-17.4	-9.1	-4.2	-4.3	-4.1	4.8	3.9	-.1	12.1	3.9	---
30	-16.0	-19.2	-9.7	-.9	---	-4.0	-3.3	4.9	-1.1	12.9	3.5	---
31	-3.5	---	-7.4	-3.3	---	-3.9	---	5.6	---	12.9	3.3	---
MIN	-16.0	-19.2	-14.3	-16.5	-13.6	-11.2	-8.5	-4.7	-7.0	-2.1	-1.2	---

CAL YR 1991 MIN -19.2

EAST STEWART BASIN

VEG SPRING NEAR IONE, NV

DAILY MEAN SOIL TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	.5	-2.5	-3.2	-2.4	-1.4	-.9	-.2	12.9	9.5	15.1	9.3
2	8.3	.5	-2.5	-3.3	-2.4	-1.4	-.8	-.2	13.2	10.0	16.0	10.2
3	8.5	.6	-2.4	-3.3	-2.5	-1.4	-.8	-.2	13.5	12.0	15.8	10.7
4	8.4	.5	-2.4	-3.2	-2.6	-1.4	-.7	-.2	14.3	13.6	15.7	6.3
5	8.9	.6	-2.5	-3.1	-2.7	-1.4	-.7	-.2	13.9	13.5	15.0	6.2
6	9.3	.6	-2.6	-3.0	-2.8	-1.4	-.6	-.2	13.0	12.5	15.4	7.8
7	9.2	.6	-2.4	-2.8	-2.7	-1.3	-.6	-.2	11.4	13.1	16.9	9.0
8	8.9	.6	-2.2	-2.7	-2.5	-1.3	-.5	-.2	11.6	14.8	17.8	10.4
9	8.5	.6	-2.3	-2.6	-2.4	-1.3	-.5	-.2	12.6	14.8	18.3	12.0
10	8.5	.5	-2.4	-2.5	-2.3	-1.3	-.5	-.2	13.7	14.7	17.3	12.5
11	8.2	.5	-2.5	-2.4	-2.2	-1.3	-.5	2.8	14.1	13.1	16.1	13.1
12	8.8	.4	-2.7	-2.3	-2.2	-1.3	-.5	4.0	11.9	12.5	14.8	12.1
13	8.1	.3	-2.8	-2.2	-2.1	-1.2	-.4	6.2	9.0	11.9	13.5	11.6
14	7.9	.2	-3.0	-2.2	-2.0	-1.2	-.4	7.3	6.9	10.8	13.0	11.9
15	7.9	.1	-2.9	-2.1	-2.0	-1.1	-.4	8.2	4.2	10.8	12.9	12.0
16	7.7	-.2	-2.9	-2.1	-2.0	-1.1	-.4	8.4	3.0	11.2	13.5	e11.6
17	7.2	-.4	-3.0	-2.0	-1.9	-1.1	-.4	9.4	2.5	12.7	14.1	e11.3
18	7.0	-.5	-2.8	-2.0	-1.9	-1.0	-.4	10.0	3.1	12.3	14.7	e9.8
19	6.3	-.7	-2.8	-2.0	-1.9	-1.0	-.4	9.9	5.0	14.2	16.6	e8.6
20	5.2	-.7	-2.7	-2.0	-1.8	-1.0	-.4	8.1	6.5	15.0	17.0	e9.2
21	4.5	-.5	-3.1	-2.1	-1.8	-1.1	-.3	8.1	7.7	15.2	16.3	e9.8
22	4.6	-1.4	-3.4	-2.2	-1.8	-1.1	-.3	7.9	9.6	15.8	14.5	e10.9
23	3.8	-2.3	-3.5	-2.3	-1.7	-1.1	-.3	8.3	10.6	15.6	13.5	e11.5
24	1.6	-2.2	-3.5	-2.4	-1.7	-1.1	-.3	10.6	10.7	16.0	13.6	e10.8
25	.9	-2.1	-3.7	-2.4	-1.6	-1.0	-.3	11.0	9.7	15.3	13.9	e9.3
26	.9	-2.1	-3.7	-2.4	-1.6	-1.0	-.3	11.9	10.4	15.2	14.3	e8.6
27	1.1	-2.2	-3.5	-2.3	-1.6	-1.0	-.3	11.8	11.6	15.1	14.9	e8.6
28	.6	-2.3	-3.5	-2.3	-1.5	-1.0	-.3	11.4	12.3	15.4	15.5	e8.7
29	.4	-2.2	-3.5	-2.3	-1.5	-1.0	-.3	10.7	9.9	15.6	13.8	e9.4
30	.5	-2.3	-3.3	-2.3	---	-.9	-.2	10.7	9.5	16.5	10.1	e10.4
31	.5	---	-3.2	-2.4	---	-.9	---	11.9	---	15.3	9.7	---
MEAN	5.8	-.5	-2.9	-2.5	-2.1	-1.2	-.5	6.0	9.9	13.7	14.8	10.1
MAX	9.3	.6	-2.2	-2.0	-1.5	-.9	-.2	11.9	14.3	16.5	18.3	13.1
MIN	.4	-2.3	-3.7	-3.3	-2.8	-1.4	-.9	-.2	2.5	9.5	9.7	6.2
MED	7.7	.0	-2.8	-2.3	-2.0	-1.1	-.4	8.1	10.6	14.2	14.9	10.3

CAL YR 1991 MEAN 2.4 MAX 18.1 MIN -9.6 MED -.1
WTR YR 1992 MEAN 4.3 MAX 18.3 MIN -3.7 MED .5

e Estimated

EAST STEWART BASIN

VEG SPRING NEAR IONE, NV

DAILY TOTAL SOLAR RADIATION, INCIDENTAL, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
CALORIES PER SQUARE CENTIMETER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	355	206	131	129	157	307	528	405	506	347	401	240
2	343	192	134	133	200	157	546	363	439	607	433	364
3	335	205	130	132	203	178	555	367	555	564	494	300
4	334	195	132	155	205	315	439	508	632	642	343	309
5	322	195	130	46	122	329	550	425	525	543	199	484
6	274	196	136	56	113	314	548	339	289	437	368	519
7	253	194	61	98	204	271	559	431	328	621	584	506
8	312	141	55	139	192	199	519	447	371	544	591	488
9	250	67	123	137	174	307	496	622	541	604	596	494
10	281	160	129	139	204	380	381	626	605	451	276	428
11	198	199	126	96	209	385	419	627	633	238	261	387
12	236	146	124	137	149	396	366	399	319	421	129	477
13	261	125	123	135	203	405	396	549	556	277	286	452
14	257	91	133	141	252	339	267	550	73	269	237	461
15	260	106	102	147	156	388	310	579	239	221	256	456
16	254	160	125	131	191	247	464	451	357	426	314	e432
17	250	62	137	143	259	249	322	620	337	324	273	e309
18	250	123	129	149	204	442	600	568	472	357	325	e76
19	239	167	117	150	202	418	591	525	247	623	532	e429
20	244	77	124	152	247	308	501	338	390	636	534	e422
21	242	156	125	152	183	275	328	489	511	634	501	e425
22	155	143	122	156	271	253	563	451	588	603	512	e414
23	188	138	117	168	280	267	558	481	360	621	540	e346
24	146	134	121	126	287	390	567	592	487	613	460	e409
25	113	148	125	168	288	301	606	404	215	384	515	e410
26	81	144	126	141	290	365	449	586	393	410	540	e405
27	113	81	128	171	295	441	610	574	583	299	540	e399
28	237	147	131	81	289	380	605	309	506	375	494	e396
29	91	117	107	182	264	466	594	363	180	383	239	e385
30	241	135	126	191	---	356	481	391	603	499	294	e378
31	219	---	127	191	---	199	---	560	---	245	328	---
TOTAL	7334	4350	3756	4272	6293	10027	14718	14939	12840	14218	12395	12000

CAL YR 1991 TOTAL 120942
WTR YR 1992 TOTAL 117142

e Estimated

EAST STEWART BASIN

VEG SPRING NEAR IONE, NV

DAILY MEAN RELATIVE HUMIDITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
PERCENT

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	70	55	25	51	66	48	83	24	76	31	48
2	29	85	54	22	52	95	30	43	34	40	33	33
3	24	63	35	59	42	97	26	25	28	25	21	42
4	18	58	22	63	72	94	30	24	26	19	20	86
5	20	79	20	86	80	66	26	30	19	17	29	42
6	19	76	20	91	96	82	31	59	28	19	39	26
7	23	64	69	91	94	79	36	63	37	22	26	24
8	23	59	69	51	85	96	28	54	40	24	17	20
9	25	99	44	38	59	83	25	39	33	19	18	26
10	23	75	59	23	93	41	45	26	24	27	18	19
11	23	24	33	68	80	29	28	34	26	78	20	24
12	34	25	56	69	91	29	21	30	53	84	37	25
13	26	55	23	50	88	42	42	43	37	61	49	25
14	21	92	21	66	66	45	86	41	96	60	53	20
15	18	92	21	25	91	37	82	38	96	65	59	20
16	21	60	21	33	91	79	65	26	92	39	56	---
17	29	86	43	59	92	94	74	21	58	44	51	---
18	33	93	69	37	79	80	57	21	43	40	37	---
19	38	82	90	23	83	45	38	33	44	28	21	---
20	50	75	33	23	75	60	25	53	39	21	21	---
21	33	80	22	34	77	88	53	42	24	20	20	---
22	41	23	30	23	96	91	37	30	18	20	21	---
23	77	26	44	22	28	94	25	28	37	20	21	---
24	52	50	35	21	38	73	24	21	45	21	19	---
25	75	59	29	21	53	58	24	22	76	19	21	---
26	94	25	26	28	23	72	22	33	73	19	18	---
27	92	64	46	24	29	61	20	28	36	19	17	---
28	83	90	89	49	31	61	21	22	27	17	17	---
29	93	88	89	21	34	68	20	39	58	17	47	---
30	71	74	88	21	---	86	49	33	62	16	45	---
31	47	---	25	21	---	96	---	24	---	26	58	---
MEAN	42	66	45	42	68	71	38	36	44	33	31	---
MAX	94	99	90	91	96	97	86	83	96	84	59	---
MIN	18	23	20	21	23	29	20	21	18	16	17	---
MED	33	72	35	33	77	73	30	33	37	22	21	---

CAL YR 1991 MEAN 49 MAX 100 MIN 15 MED 43

EAST STEWART BASIN

VEG SPRING NEAR IONE, NV

DAILY TOTAL PRECIPITATION, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
INCHES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.37	.00	.00	.00	.05	.00	.10
2	.00	.00	.00	.00	.00	.50	.00	.00	.00	.00	.00	.10
3	.00	.00	.00	.00	.00	.20	.00	.00	.00	.10	.00	1.05
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.15
5	.00	.00	.00	1.45	.00	.00	.00	.00	.00	.00	.00	.15
6	.00	.00	.10	.30	.50	.55	.00	.10	.00	.00	.00	.00
7	.00	.00	.10	.00	.27	.05	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00
9	.05	.50	.00	.00	.48	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.20	.30	.00	.00	.00	.00	.00	.00	.05
11	.00	.00	.00	.20	.40	.00	.00	.00	.00	e.18	.00	.00
12	.00	.00	.00	.00	.40	.00	.00	.00	e.07	.00	.20	.00
13	.00	.45	.00	.00	.00	.00	.05	.00	e.06	.00	.10	.00
14	.00	.05	.00	.00	.10	.00	.10	.00	e.37	.00	.00	.00
15	.00	.00	.00	.00	.70	.00	.00	.00	e.42	.27	.00	.00
16	.05	.00	.00	.00	.25	.05	.00	.00	e.15	.00	.20	.00
17	.05	.50	.00	.00	.00	.22	.05	.00	.00	.05	.00	.15
18	.00	.10	.05	.00	.25	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.10	.00	.00	.00	.10	.10	.00	.00	.00	.00	.00	.00
22	.10	.00	.00	.00	.05	.50	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.20	.00	.00	.00	.00	.00	.00	.00	e.12	.00	.00	.00
26	.40	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.22	.85	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.30	.05	.10	.05	.00	.00	.00	.00	e.04	.00	.00	.00
29	.30	.05	.45	.00	.00	.05	.00	.00	.00	.00	.15	.00
30	.00	.00	.00	.00	---	.20	.10	.00	e.08	.00	.00	.00
31	.00	---	.00	.00	---	.15	---	.00	---	.05	.10	---
TOTAL	1.55	2.00	1.70	2.25	3.80	2.94	0.30	0.10	1.31	0.70	0.75	1.75

CAL YR 1991 TOTAL 22.34
WTR YR 1992 TOTAL 19.15

e Estimated

EAST STEWART CREEK BASIN

VEG SPRING NEAR IONE, NV

WATER-QUALITY ANALYSIS FROM THE UNSATURATED-ZONE LYSIMETER #1,
WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	PH WATER WHOLE LAB (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKA-LINITY LAB (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
JUN 1992 10...	1715	39	39	6.9	7.2	10.0	16	14	3.0	0.59	1.9	3.4

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
JUN 1992 10...	0.72	0.46	0.08	<0.010	6.6	0.090	0.030	12	<1	-112.0	-15.20

EAST STEWART CREEK BASIN

VEG SPRING NEAR IONE, NV

SURFACE-WATER QUALITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
JUN 1992												
11...	1315	30	30	6.3	6.6	5.0	12	12	2.3	0.31	3.1	0.50
JUL												
29...	1000	28	30	6.6	7.3	4.5	12	9.1	2.2	0.27	3.2	0.40
SEP												
16...	1220	30	30	6.6	7.3	4.5	12	11	2.3	0.28	3.3	0.50

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
JUN 1992											
11...	1.2	0.55	0.03	<0.010	18	0.290	<0.010	<3	<1	-121.0	-16.45
JUL											
29...	1.1	0.56	0.07	<0.010	17	0.150	<0.010	3	<1	-122.0	-16.60
SEP											
16...	1.2	0.59	0.05	<0.010	19	0.220	<0.010	<3	<1	-121.0	-16.65

EAST STEWART BASIN

EAST STEWART CREEK NEAR IONE, NV

LOCATION. -- Lat 38°53'23", long 117°21'37", Nye County, Hydrologic Unit 16040107, on the right bank 1.3 mi upstream from the Columbine campground, and 13.3 mi east of Ione on State Route 21.

DRAINAGE AREA. -- 0.36 mi^2.

PERIOD OF RECORD. -- September 1984 to current year.

GAGE. -- Two water-stage recorders on a 9 in Parshall flume and a standard 90 degree v-notch weir, and a crest-stage gage. Elevation of gage is 9,455 ft above sea level, from topographic map. The flume is considered the primary gage. See REMARKS for more information.

REMARKS.-- The weather equipment is located approximately 150 ft northeast of the surface-water equipment. The surface-water-quality samples are taken upstream from the weir pool and the unsaturated-zone water-quality samples are taken approximately 100 ft upstream on the left bank from the trail crossing or about 700 ft upstream from the surface water site. Discharge records are determined from the 9 in Parshall flume. Accuracy of measurement by the flume diminishes below a discharge of 0.25 ft^3/s. Daily discharges below 0.25 ft^3/s are considered fair; discharges above 0.25 ft^3/s are considered good. Ice effects are considered minimal if they occurred at all during the winter months. Estimated periods of daily record are considered poor. Values for the daily maximum and minimum air temperature were obtained from the forty minute average values.

PERIOD OF DAILY RECORD. --
AIR TEMPERATURE: January 1986 to current year.
SOIL TEMPERATURE: January 1986 to current year.
SOLAR RADIATION: January 1986 to current year.
RELATIVE HUMIDITY: October 1990 to current year.
TOTAL PRECIPITATION: October 1985 to current year.
DISCHARGE: May 1987 to current year.

EXTREMES FOR PERIOD OF RECORD. --
AIR TEMPERATURE: Maximum daily, 25.6°C, July 4, 1991; minimum daily, -28.2°C, Dec. 22, 1990. See REMARKS for more information.
SOIL TEMPERATURE: Maximum daily mean, 21.2°C, July 18, 1991; minimum daily mean, -5.6°C, Dec. 20-21, 1989.
SOLAR RADIATION: Maximum daily total, 809 cal/cm^2, June 29, 1990; minimum daily total, 7 cal/cm^2, Nov. 2, 1987.
RELATIVE HUMIDITY: Maximum daily mean, 99.8 pct, June 14, 1992; minimum daily mean, 15.3 pct, Aug. 30, 1991.
TOTAL PRECIPITATION: Maximum daily, 1.50 in, Jan. 5, 1992; no precipitation, most days of record.
DISCHARGE: Maximum daily mean, 3.4 ft^3/s, June 13-14, 1991; minimum daily mean, 0.03 ft^3/s, Feb. 3-4, 1991.

EXTREMES FOR CURRENT YEAR. --
AIR TEMPERATURE: Maximum daily, 25.3°C, July 30; minimum daily, -18.2°C, Nov. 30. See REMARKS for more information.
SOIL TEMPERATURE: Maximum daily mean, 20.1°C, Aug. 9; minimum daily mean, -0.6°C, Feb. 5-7.
SOLAR RADIATION: Maximum daily total, 732 cal/cm^2, July 2; minimum daily total, 18 cal/cm^2, Jan. 6.
RELATIVE HUMIDITY: Maximum daily mean, 99.8 pct, June 14; minimum daily mean, 16.1 pct, July 30.
TOTAL PRECIPITATION: Maximum daily, 1.50 in, Jan. 5; no precipitation, most days of record.
DISCHARGE: Maximum daily mean, 1.6 ft^3/s, May 17-20; minimum daily mean, 0.10 ft^3/s, Mar. 7-12.

EAST STEWART BASIN

EAST STEWART CREEK NEAR IONE, NV

DAILY MEAN AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	-2.2	-7.9	-3.6	-3.3	-1.7	2.6	1.6	13.9	4.0	17.2	8.8
2	9.0	-.8	-3.0	-2.2	-5.4	-2.7	4.9	6.0	13.5	9.8	17.8	12.0
3	9.0	1.7	-.9	-1.8	-6.0	-2.1	5.2	9.1	13.8	13.9	15.9	9.6
4	8.1	2.3	-2.7	-2.7	-3.7	-2.6	3.2	10.5	13.7	14.0	15.7	3.8
5	9.7	4.0	-1.0	-4.8	-3.3	-1.3	1.1	10.6	11.1	13.0	14.9	7.7
6	11.6	4.0	3.4	-10.0	-2.8	-4.6	.4	8.3	9.8	12.4	14.3	8.4
7	8.5	5.4	-3.0	-9.5	-1.5	-4.9	2.7	8.3	9.2	11.4	16.7	8.7
8	9.6	6.9	-6.0	-5.4	-2.2	-4.6	2.8	9.3	10.6	12.8	17.2	9.9
9	9.8	1.6	-3.7	.1	-4.3	-3.0	4.6	3.4	13.0	13.1	16.9	12.5
10	11.4	.9	-3.5	2.6	-3.9	-1.9	4.7	7.0	13.4	13.7	17.3	15.1
11	11.5	3.3	-4.6	-8.9	-4.1	1.1	7.4	8.7	12.8	9.6	18.4	13.1
12	9.0	4.7	-4.5	-10.5	-3.4	1.4	6.2	8.7	3.1	8.5	16.0	7.9
13	9.8	1.4	-3.7	-5.4	-4.9	2.4	4.9	10.1	.4	9.9	16.0	8.7
14	11.9	-8.5	1.2	-5.1	-4.5	.9	1.9	9.6	-3.5	11.7	16.0	11.0
15	11.3	-7.7	4.1	-1.3	-7.2	-.2	.9	8.6	-2.0	11.6	14.8	10.5
16	10.4	-1.6	1.2	-1.5	-9.2	-4.1	3.1	11.3	2.5	14.9	14.5	12.1
17	8.7	-1.4	1.0	-4.8	-7.5	-6.3	4.0	12.1	6.8	14.3	16.5	8.8
18	7.5	-8.2	-2.5	-4.7	-3.8	-5.1	-2.4	11.2	8.7	13.7	18.1	4.2
19	6.9	-1.0	-11.1	-2.0	.3	-1.6	-.3	8.6	9.4	13.1	17.1	8.9
20	3.9	2.9	-4.7	-4.4	.5	-1.5	5.5	3.2	10.8	13.0	14.6	9.7
21	5.6	-4.1	-1.7	-5.8	.6	-2.3	2.8	5.4	13.6	12.8	12.9	12.0
22	6.1	-5.8	-2.8	-5.7	-2.5	-2.6	.1	7.2	15.8	13.7	7.6	15.8
23	-2.5	-1.3	-1.7	-1.5	-2.6	-3.9	3.2	10.3	14.2	10.9	6.4	13.2
24	-3.0	.7	-3.0	.8	1.5	-1.4	8.4	13.1	12.4	13.4	8.0	9.5
25	-1.1	.7	-.3	1.7	1.2	.4	10.7	12.9	6.7	14.5	9.6	4.9
26	-2.5	2.5	1.5	-.5	3.1	-.7	10.3	10.7	10.5	15.5	10.1	8.1
27	-9.3	-4.0	-.8	-.4	1.5	.4	9.2	9.9	15.0	16.5	12.0	9.8
28	-9.8	-11.0	-6.3	-1.2	2.2	.9	11.0	10.9	14.4	17.7	12.4	12.1
29	-7.5	-13.2	-6.2	.5	1.4	.8	12.6	9.7	7.1	17.4	9.4	14.4
30	-9.0	-15.1	-7.3	4.6	---	.0	6.9	10.7	5.9	18.8	8.6	13.8
31	-.7	---	-4.5	4.7	---	.5	---	12.3	---	16.5	6.7	---
MEAN	4.9	-1.4	-2.7	-2.9	-2.5	-1.6	4.6	9.0	9.6	13.1	13.9	10.2
MAX	11.9	6.9	4.1	4.7	3.1	2.4	12.6	13.1	15.8	18.8	18.4	15.8
MIN	-9.8	-15.1	-11.1	-10.5	-9.2	-6.3	-2.4	1.6	-3.5	4.0	6.4	3.8
MED	8.5	.0	-3.0	-2.2	-3.3	-1.6	4.3	9.6	10.7	13.1	14.9	9.7

CAL YR 1991 MEAN 3.0 MAX 19.1 MIN -15.1 MED 1.4
WTR YR 1992 MEAN 4.5 MAX 18.8 MIN -15.1 MED 4.4

EAST STEWART BASIN

EAST STEWART CREEK NEAR IONE, NV

DAILY MAXIMUM AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.7	3.0	-4.0	4.4	-.8	3.6	8.9	6.9	21.7	10.8	24.9	15.6
2	17.9	4.5	1.1	3.4	-1.5	.3	13.0	11.6	20.1	17.2	24.1	16.9
3	18.0	7.7	6.9	1.2	-2.7	1.2	12.4	14.6	21.0	19.3	23.3	16.1
4	17.6	9.8	6.0	.8	1.1	3.6	9.1	17.0	20.0	20.1	24.1	10.7
5	18.5	10.6	6.4	-1.4	-1.0	5.0	6.7	17.2	17.6	20.1	20.7	15.2
6	18.4	10.7	8.2	-8.4	-1.0	-.5	6.5	15.1	15.0	18.7	20.0	14.1
7	16.3	12.8	4.1	-.5	3.2	.7	9.7	15.5	16.1	19.5	22.1	17.5
8	16.8	9.7	-2.0	1.8	2.7	-2.4	11.0	14.5	17.4	19.8	22.9	18.7
9	16.0	2.9	5.3	7.6	.6	3.0	10.8	8.7	18.8	21.5	25.3	20.7
10	18.1	5.4	3.4	6.0	-1.3	6.4	9.6	14.0	18.6	20.9	22.9	20.1
11	16.5	9.9	.6	1.9	-1.7	7.9	10.3	15.5	18.5	16.0	24.4	18.3
12	15.1	12.6	2.0	-6.4	-2.3	8.5	9.2	14.6	9.4	14.5	22.9	15.6
13	16.5	6.5	3.2	.4	-.8	6.0	10.8	15.6	8.4	16.2	23.9	16.4
14	18.6	-6.3	6.7	-.6	.6	3.8	6.3	16.4	-1.8	19.8	22.4	16.8
15	20.1	-3.8	5.6	5.5	-5.0	4.5	7.4	15.9	1.4	17.0	20.7	17.5
16	15.4	4.8	6.5	7.3	-6.0	-.1	9.8	17.4	8.4	22.4	21.5	17.7
17	14.7	2.2	3.1	.5	-3.0	-2.2	8.3	17.0	14.2	22.2	23.1	15.7
18	14.9	-6.7	.5	-1.0	.4	2.5	2.4	16.0	14.9	20.2	24.0	6.0
19	12.8	6.6	-8.6	2.6	3.5	5.2	7.3	14.7	15.1	21.0	24.5	16.8
20	9.4	4.9	2.7	4.8	3.7	2.9	12.5	9.7	17.3	20.5	22.6	18.3
21	11.7	.6	5.7	-.9	4.3	3.6	7.6	11.3	20.4	21.5	20.3	21.0
22	9.4	1.9	2.8	2.4	.1	1.3	6.2	12.9	21.8	20.2	14.2	20.8
23	1.8	8.3	3.4	6.2	3.0	.5	11.8	15.5	20.3	18.7	15.8	18.4
24	.1	6.3	3.5	7.5	7.5	6.3	14.6	19.2	18.4	20.7	17.0	16.1
25	1.3	6.2	4.9	4.8	5.4	6.7	16.3	20.0	11.8	21.1	17.6	13.5
26	1.3	7.4	4.4	3.5	10.0	4.3	15.2	16.4	17.4	21.5	19.5	17.3
27	-6.2	3.8	1.9	6.2	10.9	8.0	17.8	17.2	22.4	23.4	21.4	18.7
28	-4.7	-7.4	-4.0	3.1	10.1	6.7	19.2	15.1	20.2	24.6	20.8	20.5
29	-4.4	-10.0	-5.1	5.3	4.4	6.8	17.5	15.2	11.7	25.0	16.9	19.0
30	-1.9	-11.8	-1.7	9.6	---	4.0	13.3	15.8	12.7	25.3	14.6	18.2
31	5.8	---	4.2	6.7	---	4.2	---	19.8	---	22.5	13.9	---
MAX	20.1	12.8	8.2	9.6	10.9	8.5	19.2	20.0	22.4	25.3	25.3	21.0

CAL YR 1991 MAX 25.6
WTR YR 1992 MAX 25.3

EAST STEWART BASIN

EAST STEWART CREEK NEAR IONE, NV

DAILY MINIMUM AIR TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	-5.4	-13.8	-7.8	-8.1	-3.5	-1.9	-2.8	5.3	-1.5	8.9	2.5
2	3.6	-4.8	-5.5	-6.7	-8.2	-4.6	-.9	.7	6.5	-.2	13.6	7.3
3	3.3	-2.2	-5.5	-5.6	-8.1	-5.3	-1.7	4.5	5.5	7.4	8.5	-.1
4	2.0	-2.4	-5.8	-6.7	-7.6	-7.2	-1.8	4.5	5.4	7.1	8.5	-.7
5	3.7	.5	-5.3	-8.5	-5.1	-7.4	-3.3	3.4	2.8	5.1	9.5	.1
6	4.5	.7	-1.8	-10.7	-4.1	-8.0	-3.6	3.4	3.5	5.1	10.9	2.4
7	3.4	.1	-8.5	-14.4	-3.3	-9.8	-3.2	2.3	2.6	2.3	10.4	1.5
8	2.5	3.3	-8.9	-13.5	-6.4	-5.9	-3.0	3.2	3.1	5.9	10.8	3.2
9	4.0	.4	-9.0	-4.9	-8.6	-6.7	-2.3	-1.3	7.6	3.9	9.2	4.6
10	6.8	-3.1	-6.2	-3.5	-4.9	-9.5	.2	-1.6	9.8	6.3	10.3	11.0
11	7.3	-.6	-7.7	-13.0	-5.5	-4.7	5.1	1.8	8.2	5.7	13.0	4.8
12	4.4	-.3	-9.5	-14.9	-5.1	-5.2	3.7	1.4	-6.1	4.6	10.5	1.8
13	4.9	-6.8	-7.7	-10.9	-9.2	.4	.5	4.2	-7.8	3.4	11.0	.7
14	4.6	-10.8	-2.2	-7.7	-7.9	-1.7	-1.8	3.5	-6.0	5.3	12.2	3.3
15	3.7	-10.1	2.5	-7.9	-10.2	-3.6	-3.4	1.4	-6.6	8.1	10.5	3.1
16	4.1	-8.5	-3.0	-6.1	-13.5	-6.8	-3.5	4.8	-2.5	7.1	8.1	7.0
17	3.4	-6.9	-2.2	-8.0	-11.0	-9.9	-2.9	8.2	-.6	8.0	11.3	3.2
18	3.1	-11.7	-9.0	-8.2	-7.6	-11.3	-6.6	6.0	1.9	7.0	12.6	2.7
19	2.4	-8.7	-13.6	-6.5	-1.9	-8.1	-6.5	-.5	1.7	4.8	8.8	1.9
20	-.8	-.2	-10.8	-9.4	-3.7	-3.6	-2.5	-2.9	5.5	4.7	7.4	3.8
21	-2.1	-11.3	-7.8	-9.1	-3.1	-6.1	-3.1	-.8	4.9	3.1	3.7	4.6
22	1.8	-11.8	-7.9	-9.6	-7.6	-7.5	-5.5	2.0	10.3	4.0	-.3	12.6
23	-6.5	-5.7	-5.8	-8.1	-9.7	-8.4	-5.2	1.8	9.1	2.3	-2.8	6.2
24	-7.0	-2.9	-7.4	-4.3	-3.8	-8.6	3.8	7.1	4.3	7.4	.8	-.1
25	-3.6	-3.5	-6.7	-4.1	-1.9	-2.1	6.7	6.0	2.0	6.9	2.1	-.9
26	-6.4	-2.3	-.2	-5.5	-2.5	-4.9	3.4	5.5	5.2	8.5	1.6	1.7
27	-11.8	-13.2	-5.4	-7.1	-3.7	-5.9	2.0	2.3	5.6	10.2	3.0	3.2
28	-13.7	-12.8	-7.8	-4.4	-3.7	-4.8	2.5	6.5	8.6	12.0	4.8	4.5
29	-12.9	-15.4	-7.1	-2.9	-1.9	-3.7	7.5	3.0	1.6	9.0	4.1	11.0
30	-15.0	-18.2	-10.9	-1.5	---	-2.6	-1.7	5.7	.1	13.9	2.2	11.5
31	-6.5	---	-10.1	-.6	---	-2.1	---	3.8	---	12.0	.6	---
MIN	-15.0	-18.2	-13.8	-14.9	-13.5	-11.3	-6.6	-2.9	-7.8	-1.5	-2.8	-.9

CAL YR 1991 MIN -18.2
WTR YR 1992 MIN -18.2

EAST STEWART BASIN

EAST STEWART CREEK NEAR IONE, NV

DAILY MEAN SOIL TEMPERATURE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DEGREES CELSIUS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	1.2	.3	-.1	-.4	-.3	.0	1.9	14.1	13.2	16.7	10.1
2	6.1	1.1	.3	-.1	-.4	-.2	.0	4.0	14.7	13.8	18.0	11.1
3	5.8	1.1	.3	-.2	-.4	-.2	.0	5.5	14.9	16.0	18.4	11.4
4	5.3	1.0	.3	-.2	-.5	-.2	.0	7.1	15.7	17.1	17.9	6.1
5	5.3	1.0	.3	-.2	-.6	-.2	.0	8.2	15.3	16.8	17.0	7.1
6	5.3	.9	.2	-.3	-.6	-.2	.0	8.6	14.1	16.2	16.8	9.2
7	5.4	.9	.2	-.2	-.6	-.2	.0	9.0	13.0	16.6	18.2	9.8
8	5.2	.9	.2	-.2	-.5	-.2	.0	9.4	13.4	17.3	19.7	10.6
9	5.3	.7	.2	-.2	-.4	-.2	.0	9.6	14.8	17.8	20.1	11.7
10	5.3	.7	.2	-.2	-.4	-.2	.0	9.4	15.9	17.8	18.9	12.4
11	5.7	.8	.2	-.2	-.4	-.2	.0	10.5	16.7	16.5	18.3	13.6
12	6.9	.8	.2	-.2	-.4	-.1	.0	10.4	14.3	14.8	17.2	12.7
13	5.8	.7	.2	-.2	-.3	-.1	.0	11.6	12.2	13.4	15.7	11.9
14	5.2	.6	.2	-.2	-.3	.0	.0	11.9	9.9	13.7	15.7	12.2
15	4.6	.6	.1	-.2	-.3	.0	.0	11.9	6.3	13.9	15.6	11.7
16	5.1	.5	.1	-.2	-.3	.0	.0	11.7	4.4	14.4	15.8	12.0
17	4.7	.5	.1	-.2	-.3	.0	.0	12.5	5.8	15.7	15.6	11.7
18	4.5	.5	.1	-.2	-.3	.0	.0	12.7	9.2	15.3	15.9	10.2
19	4.0	.5	.1	-.2	-.3	.0	.0	12.5	9.9	16.6	17.4	9.0
20	3.4	.5	.1	-.2	-.3	.0	.0	10.8	11.3	17.6	17.2	9.6
21	2.7	.5	.1	-.2	-.3	.0	.0	10.5	12.6	17.6	16.7	10.2
22	3.5	.5	.1	-.3	-.3	.0	.0	10.5	14.5	18.3	15.2	11.3
23	3.3	.5	.1	-.3	-.3	.0	.0	11.0	15.3	18.1	14.0	11.9
24	1.5	.4	.1	-.3	-.2	.0	.0	12.1	15.0	18.5	13.9	11.2
25	1.3	.4	.0	-.4	-.2	.0	.0	12.3	13.1	17.8	14.3	9.7
26	1.5	.4	.0	-.4	-.2	.0	.0	13.2	14.0	17.1	14.4	9.0
27	1.5	.3	.0	-.4	-.2	.0	.0	13.4	15.4	16.6	14.7	9.0
28	1.5	.3	.0	-.4	-.2	.0	.0	13.1	16.4	17.3	15.1	9.1
29	1.4	.3	.0	-.4	-.2	.0	.0	12.3	14.2	17.8	14.3	9.8
30	1.3	.3	.0	-.4	---	.0	.3	12.1	14.0	18.8	11.4	10.8
31	1.3	---	.0	-.4	---	.0	---	13.0	---	17.5	10.9	---
MEAN	4.1	.6	.1	-.3	-.3	-.1	.0	10.4	13.0	16.4	16.2	10.5
MAX	6.9	1.2	.3	-.1	-.2	.0	.3	13.4	16.7	18.8	20.1	13.6
MIN	1.3	.3	.0	-.4	-.6	-.3	.0	1.9	4.4	13.2	10.9	6.1
MED	4.7	.5	.1	-.2	-.3	.0	.0	11.0	14.1	16.8	15.9	10.7

CAL YR 1991 MEAN 4.9 MAX 21.2 MIN -3.8 MED .9
WTR YR 1992 MEAN 5.9 MAX 20.1 MIN -.6 MED 1.3

EAST STEWART BASIN

EAST STEWART CREEK NEAR IONE, NV

DAILY TOTAL SOLAR RADIATION, INCIDENTAL, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
CALORIES PER SQUARE CENTIMETER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	434	275	163	161	169	342	540	351	632	402	476	292
2	426	261	180	166	247	179	557	455	549	732	539	410
3	418	252	174	155	252	157	563	467	667	672	579	356
4	417	253	174	161	256	361	458	525	731	724	448	349
5	407	260	171	43	183	399	567	483	634	651	291	525
6	350	256	175	18	137	385	564	433	327	555	375	562
7	298	252	57	37	241	377	574	508	463	727	659	545
8	394	155	34	146	264	162	535	516	467	586	665	521
9	348	74	162	175	221	341	513	682	617	712	680	528
10	380	149	165	173	247	442	405	686	692	559	335	471
11	260	233	161	96	223	446	454	687	731	324	341	444
12	306	207	157	188	147	456	373	512	388	391	204	520
13	360	151	157	162	264	446	409	592	636	303	342	498
14	362	85	146	187	315	368	262	616	60	388	341	507
15	362	102	123	190	144	443	305	639	158	284	312	505
16	356	218	156	175	208	247	490	544	460	524	418	485
17	350	65	144	164	316	225	332	695	462	413	340	350
18	348	108	158	200	257	475	636	625	576	474	379	95
19	335	198	93	204	287	454	628	595	372	724	602	482
20	338	85	157	208	306	320	532	394	497	724	613	474
21	333	200	157	208	184	264	338	580	627	722	567	477
22	229	200	145	213	245	272	599	542	688	691	583	465
23	216	196	140	219	363	270	580	560	457	704	609	391
24	177	163	152	181	360	450	590	630	570	704	527	460
25	117	180	153	191	370	310	595	488	240	486	585	461
26	84	177	159	148	379	395	482	633	497	433	597	456
27	122	74	161	225	386	453	640	673	700	395	594	449
28	290	165	150	78	377	370	628	364	612	478	524	446
29	84	112	113	233	346	474	619	444	279	534	264	434
30	297	173	151	232	---	351	539	470	688	555	362	426
31	292	---	160	243	---	. 204	---	664	---	327	389	---
TOTAL	9490	5279	4548	5180	7694	10838	15307	17053	15477	16898	14540	13384

CAL YR 1991 TOTAL 140154
WTR YR 1992 TOTAL 135688

EAST STEWART BASIN

EAST STEWART CREEK NEAR IONE, NV

DAILY MEAN RELATIVE HUMIDITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
PERCENT

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	68	61	31	45	54	40	77	27	75	36	53
2	37	81	53	25	47	96	30	38	35	39	32	30
3	32	64	41	56	37	99	31	23	29	22	23	40
4	22	65	32	59	62	83	32	23	29	19	22	83
5	27	81	23	85	70	54	25	29	20	18	32	46
6	23	80	21	96	96	81	29	60	26	20	39	28
7	30	70	69	96	89	72	36	64	39	27	26	32
8	28	54	61	61	75	94	34	53	41	26	17	26
9	29	99	51	42	54	68	26	35	33	21	19	31
10	25	73	63	22	81	48	39	27	23	29	19	18
11	25	32	34	70	65	31	25	32	24	77	22	23
12	38	32	56	65	77	33	20	30	47	86	44	31
13	29	53	28	45	76	39	37	38	40	69	48	29
14	21	93	23	66	54	41	80	38	100	68	49	19
15	20	92	20	27	80	33	81	39	99	68	66	21
16	22	47	22	35	93	73	62	24	84	42	65	35
17	31	81	38	55	82	98	66	19	59	45	47	46
18	36	98	64	33	71	69	50	20	40	44	36	92
19	37	51	94	22	75	42	38	30	42	32	24	50
20	48	67	27	25	65	51	25	49	38	26	27	45
21	35	83	26	35	71	79	46	38	26	24	25	39
22	38	24	36	24	83	84	34	27	17	20	22	33
23	70	30	47	24	29	91	26	27	35	22	23	44
24	49	53	40	22	34	63	22	20	41	21	20	35
25	67	59	32	22	50	51	21	23	77	19	23	36
26	96	27	24	28	24	63	22	35	73	21	19	26
27	97	64	38	27	35	58	23	29	37	20	17	23
28	95	94	71	46	32	60	24	22	29	18	18	21
29	98	92	71	21	30	63	18	42	59	18	56	21
30	75	82	82	20	---	79	42	33	58	16	47	30
31	52	---	27	20	---	82	---	26	---	29	67	---
MEAN	44	66	44	42	61	66	36	35	44	35	33	36
MAX	98	99	94	96	96	99	81	77	100	86	67	92
MIN	20	24	20	20	24	31	18	19	17	16	17	18
MED	36	68	38	33	65	63	31	30	38	26	26	32

CAL YR 1991 MEAN 47 MAX 99 MIN 15 MED 40
WTR YR 1992 MEAN 45 MAX 100 MIN 16 MED 38

EAST STEWART BASIN

EAST STEWART CREEK NEAR IONE, NV

DAILY TOTAL PRECIPITATION, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
INCHES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.30	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.30	.00	.00	.00	.00	.00	1.40
4	.00	.00	.00	.00	.00	.20	.00	.00	.00	.00	.00	.11
5	.00	.60	.00	1.50	.10	.00	.00	.00	.00	.00	.00	.04
6	.00	.10	.00	.20	.50	.35	.00	.00	.00	.00	.00	.00
7	.00	.00	.35	.00	.10	.05	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
9	.00	.00	.00	.00	.15	.00	.00	.00	.00	.00	.00	.00
10	.00	.30	.00	.00	.35	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.20	.10	.00	.00	.00	.00	.28	.00	.00
12	.00	.00	.00	.00	.20	.00	.00	.00	.08	.00	.08	.00
13	.00	.50	.00	.00	.10	.00	.08	.00	.07	.00	.18	.00
14	.00	.00	.00	.00	.05	.00	.12	.00	.45	.00	.02	.00
15	.00	.00	.00	.00	.40	.00	.05	.00	.52	.07	.18	.00
16	.00	.00	.00	.00	.25	.10	.00	.00	.18	.00	.02	.00
17	.00	.60	.00	.00	.00	.30	.10	.00	.00	.05	.00	.35
18	.00	.00	.30	.00	.05	.00	.00	.00	.00	.00	.00	.15
19	.00	.00	.20	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.05	.10	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.20	.30	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.10	.00	.00	.00	.00	.00	.00	.00	.15	.00	.00	.00
26	1.10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.10	.40	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.90	.10	.20	.10	.00	.00	.00	.00	.05	.00	.00	.00
29	.00	.25	.10	.00	.00	.10	.00	.00	.00	.00	.22	.00
30	.00	.00	.00	.00	---	.20	.10	.00	.10	.00	.00	.00
31	.00	---	.00	.00	---	.10	---	.00	---	.04	.15	---
TOTAL	2.20	2.85	1.15	2.00	2.60	2.70	0.45	0.10	1.60	0.44	0.85	2.05

CAL YR 1991 TOTAL 23.64
WTR YR 1992 TOTAL 18.99

EAST STEWART CREEK BASIN

EAST STEWART CREEK NEAR IONE, NV

PRECIPITATION WATER QUALITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)	ALKALINITY LAB (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)
FEB 1992											
19...	1100	9	10	6.6	6.5	2.6	0.73	0.17	<0.20	1.1	0.26
APR											
09...	1045	33	6	7.1	6.1	<0.5	0.20	0.02	<0.20	<0.10	0.60
JUN											
11...	1135	36	38	6.3	7.1	6.1	2.4	0.23	2.0	0.70	3.4
JUL											
29...	0915	23	21	6.2	5.7	5.7	0.90	0.21	<0.20	3.7	0.93
SEP											
16...	1100	12	10	5.9	6.2	0.7	0.63	0.06	<0.20	0.20	1.1

DATE	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
FEB 1992										
19...	0.43	0.09	<0.010	<0.10	0.010	<0.010	8	15	-118.0	-16.50
APR										
09...	0.07	<0.01	<0.010	<0.10	0.230	<0.010	8	2	-109.0	-15.10
JUN										
11...	1.1	0.16	<0.010	<0.10	1.20	<0.010	<3	19	--	--
JUL										
29...	0.31	0.13	0.040	<0.10	<0.010	0.220	<3	12	-111.0	-15.70
SEP										
16...	0.22	0.07	<0.010	<0.10	0.710	<0.010	<3	11	-85.0	-12.05

EAST STEWART CREEK BASIN

EAST STEWART CREEK NEAR IONE, NV

WATER-QUALITY ANALYSIS FROM THE UNSATURATED-ZONE LYSIMETER,
WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE LAB (STANDARD UNITS)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
JUN 1992								
11...	1430	130	7.3	9.6	1.9	5.9	2.2	1.4

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
JUN 1992							
11...	<0.10	0.020	8.3	18	3	-90.0	-12.05

EAST STEWART BASIN

EAST STEWART CREEK NEAR IONE, NV

DAILY MEAN DISCHARGE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
CUBIC FEET PER SECOND

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.20	.18	.14	.12	.11	.12	.62	1.2	.48	.30	.23
2	.25	.20	.17	.14	.13	.11	.13	.61	1.2	.46	.29	.22
3	.24	.20	.17	.14	.12	.11	.14	.61	1.2	.45	.28	.24
4	.24	.20	.17	.14	.11	.11	.15	.65	1.2	.44	.28	.28
5	.24	.20	.17	.14	.11	.11	.15	.69	1.1	.43	.28	.24
6	.23	.20	.17	.14	.11	.12	.15	.76	1.0	.43	.28	.23
7	.23	.20	.17	.14	.12	.10	.17	.86	.97	.42	.28	.22
8	.23	.20	.17	.13	.11	.10	.18	.98	.93	.41	.26	.22
9	.23	.23	.17	.13	.11	.10	.19	1.0	.90	.40	.26	.21
10	.23	.21	.17	.13	.12	.10	.21	1.1	.87	.39	.26	.21
11	.23	.20	.17	.13	.11	.10	.21	1.1	.83	.41	.26	.21
12	.23	.19	.17	.13	.12	.10	.21	1.1	.78	.40	.27	.21
13	.23	.19	.16	.13	.11	.11	.22	1.2	.73	.39	.26	.21
14	.23	.18	.16	.13	.11	.11	.21	1.3	.71	.38	.26	.21
15	.23	.20	.16	.13	.12	.11	.21	1.4	.68	.38	.26	.21
16	.23	.19	.16	.13	.11	.11	.22	1.5	.67	.37	.26	.21
17	.23	.17	.16	.13	.11	.11	.27	1.6	.66	.37	.25	.21
18	.23	.19	.16	.13	.11	.11	.26	1.6	.63	.36	.25	.22
19	.23	.19	.16	.13	.11	.11	.25	1.6	.60	.35	.24	.20
20	.23	.19	.16	.13	.11	.11	.26	1.6	.59	.34	.24	.19
21	.23	.19	.16	.13	.11	.11	.27	1.5	.57	.34	.24	.19
22	.21	.19	.16	.13	.11	.11	.25	1.5	.56	.34	.24	.19
23	.21	.19	.16	.13	.11	.11	.26	1.4	.56	.33	.24	.20
24	.21	.18	.16	.13	.11	.11	.30	1.5	.54	.32	.23	.20
25	.21	.18	.16	.13	.11	.11	.35	1.5	.54	.32	.23	.21
26	.17	.19	.16	.13	.11	.11	.37	1.5	.54	.31	.23	.20
27	.22	.19	.15	.13	.11	.11	.42	1.5	.51	.31	.23	.20
28	.21	.19	.15	.13	.11	.11	.48	1.4	.51	.31	.22	.19
29	.20	.18	.14	.13	.11	.11	.56	1.4	.50	.30	.23	.19
30	.21	.18	.14	.13	---	.11	.61	1.3	.49	.30	.23	.19
31	.21	---	.14	.12	---	.11	---	1.3	---	.30	.23	---
TOTAL	6.96	5.79	5.01	4.09	3.27	3.36	7.78	37.68	22.77	11.54	7.87	6.34
MEAN	.22	.19	.16	.13	.11	.11	.26	1.22	.76	.37	.25	.21
MAX	.25	.23	.18	.14	.13	.12	.61	1.6	1.2	.48	.30	.28
MIN	.17	.17	.14	.12	.11	.10	.12	.61	.49	.30	.22	.19
AC-FT	14	11	9.9	8.1	6.5	6.7	15	75	45	23	16	13

CAL YR 1991 TOTAL 139.52 MEAN .38 MAX 3.4 MIN .03 AC-FT 277
WTR YR 1992 TOTAL 122.46 MEAN .33 MAX 1.6 MIN .10 AC-FT 243

EAST STEWART CREEK BASIN

EAST STEWART CREEK NEAR IONE, NV

SURFACE-WATER QUALITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
FEB 1992												
19...	1300	32	34	7.3	7.2	e1.0	12	13	2.8	0.38	3.1	0.50
APR												
09...	1430	33	33	7.1	7.1	3.0	13	12	2.7	0.37	3.0	0.60
JUN												
11...	1200	30	30	6.4	7.5	8.5	12	12	2.4	0.33	2.9	0.50
JUL												
29...	0945	35	33	6.4	7.3	8.5	14	13	2.7	0.35	3.1	0.50
SEP												
16...	1330	33	34	6.8	7.3	9.0	14	14	2.9	0.38	3.4	0.60

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
FEB 1992											
19...	1.4	0.77	0.09	<0.010	16	<0.010	<0.010	7	3	-119.0	-16.35
APR											
09...	1.6	0.80	0.08	<0.010	15	0.230	0.020	4	<1	-120.0	-16.30
JUN											
11...	1.3	0.56	<0.01	<0.010	16	0.190	<0.010	<3	<1	-119.0	-16.25
JUL											
29...	1.3	0.62	0.07	<0.010	16	0.100	<0.010	4	<1	-122.0	-16.35
SEP											
16...	1.3	0.71	0.06	<0.010	18	0.030	<0.010	4	<1	-118.0	-16.30

e Estimated

EAST STEWART CREEK BASIN

HELLEBORE SPRING NEAR IONE, NV

LOCATION. -- Lat 38°53'24", long 117°21'36", Nye County, Hydrologic Unit 16040107, 250 ft northeast of the East Stewart Creek surface-water equipment, 1.2 mi southeast of the Columbine campground, and 13.3 mi east of Ione on State Route 21.

PERIOD OF RECORD. -- May 1986 to current year.

SURFACE-WATER QUALITY, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	SPECIFIC CONDUCTANCE LAB (US/CM)	PH WATER WHOLE FIELD (STANDARD UNITS)	PH WATER WHOLE LAB (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3	ALKALINITY LAB (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)
JUN 1992 11...	1120	43	44	5.8	7.3	6.0	17	16	3.6	0.51	3.9	0.70

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	BROMIDE DISSOLVED (MG/L AS BR)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL
JUN 1992 11...	1.7	0.94	0.10	<0.010	21	0.500	<0.010	<3	<1	-119.0	-16.25

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