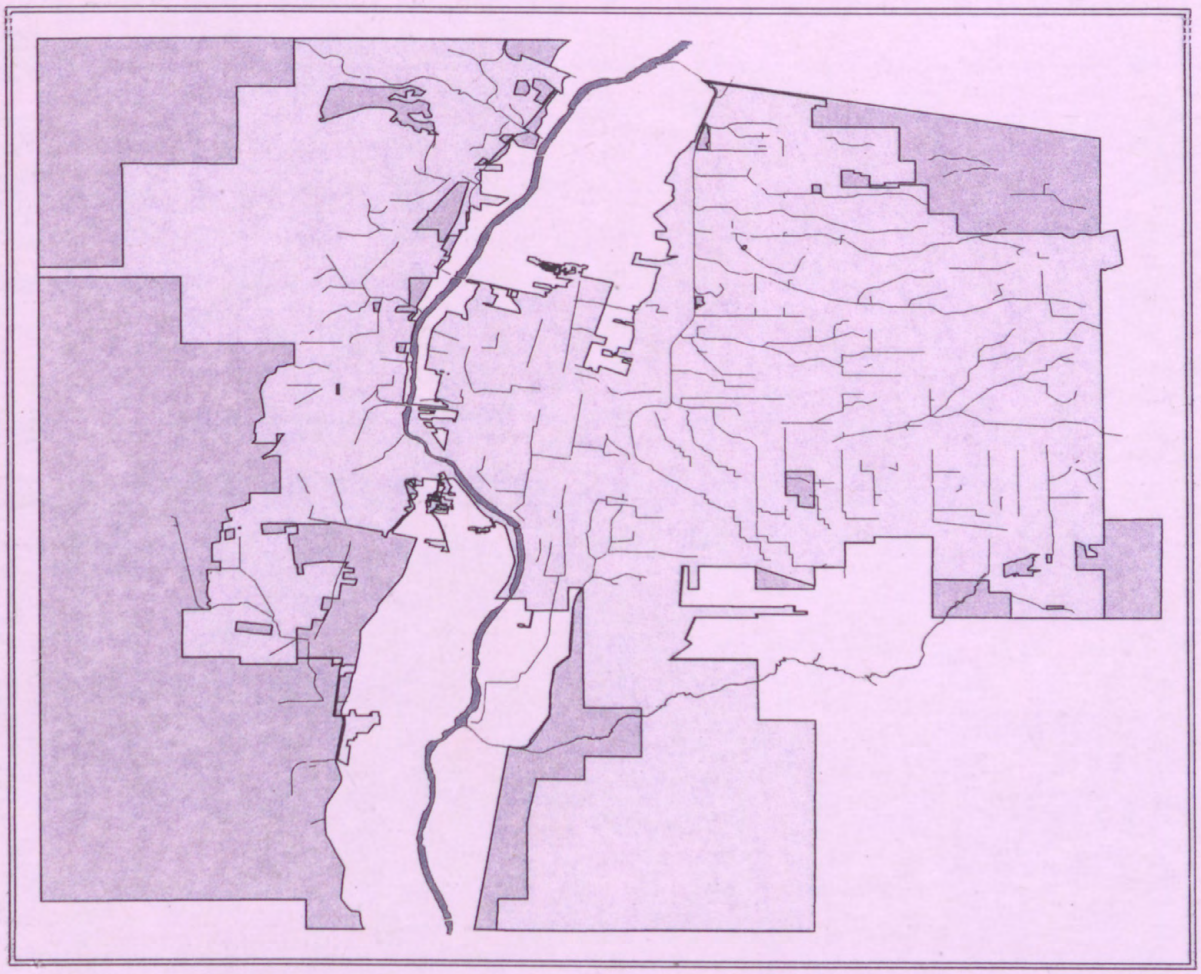
RAINFALL, RUNOFF, AND WATER-QUALITY DATA FOR THE URBAN STORM-WATER PROGRAM IN THE ALBUQUERQUE, NEW MEXICO, METROPOLITAN AREA, WATER YEAR 2002

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Open-File Report 2004-1347



Prepared in cooperation with the
ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY
and the
CITY OF ALBUQUERQUE

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By Todd Kelly, Orlando Romero, and Eric Turner

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Albuquerque, New Mexico
2004

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Multiply	By	To obtain
inch (in.)	2.54	centimeter (cm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
square mile (mi^2)	259.0	hectare (ha)
square mile (mi^2)	2.590	square kilometer (km^2)
foot per foot (ft/ft)		
cubic foot per second (ft^3/s)	0.02832	cubic meter per second m^3/s)

Vertical coordinate information is referenced to the National Geodetic Vertical Datum of 1929 (NGVD 29).

Horizontal coordinate information is referenced to the North American Datum of 1927 (NAD 27).

Temperature in degrees Fahrenheit (°F) can be converted to degrees Celsius (°C) as follows:

$$°C = (°F - 32) / 1.8$$

$$°F = (1.8 \times °C) + 32$$

Concentrations of chemical constituents in water are given either in milligrams per liter (mg/L) or micrograms per liter (µg/L).

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ABSTRACT

Urbanization has dramatically increased precipitation runoff to the system of drainage channels and natural stream channels in the Albuquerque, New Mexico, metropolitan area. Rainfall and runoff data are important for planning and designing future storm-water conveyance channels in newly developing areas. Storm-water quality also is monitored in accordance with the National Pollutant Discharge Elimination System mandated by the U.S. Environmental Protection Agency. The Albuquerque Metropolitan Arroyo Flood Control Authority, the City of Albuquerque, and the U.S. Geological Survey began a cooperative program to collect hydrologic data to help assess the quality and quantity of surface-water resources in the Albuquerque area. This report presents water-quality, streamflow, and rainfall data collected from October 1, 2001, to September 30, 2002 (water year 2002). Also provided is a station analysis for each of the 20 streamflow-gaging sites and 41 rainfall-gaging sites, which includes a description of monitoring equipment, problems associated with data collection during the year, and other information used to compute streamflow discharges or rainfall records. A hydrographic comparison shows the effects that the largest drainage channel in the metropolitan area, the North Floodway Channel, has on total flow in the Rio Grande.

INTRODUCTION

The system of drainage channels and natural stream channels in the Albuquerque, New Mexico, metropolitan area is a source of concern because of potential local flooding and water-quality problems. Rapid urbanization since 1970 has dramatically increased precipitation runoff to these channels, which in many instances return flow to the Rio Grande. As an important element of the City of Albuquerque's water resources management, accurate hydrologic data are needed for designing storm drainage and addressing storm-water-quality regulations established by the U.S. Environmental Protection Agency's National Pollutant Discharge Elimination System (NPDES). The NPDES was initiated to monitor the quality of storm-water runoff that flows into natural bodies of water from metropolitan areas. To meet regulatory requirements, long-term streamflow data can be analyzed in conjunction with water-quality sampling to compute constituent loading over time. Rainfall and runoff data for watersheds of various land uses are important for planning and designing future storm-water conveyance channels in newly developing areas of Albuquerque. In addition, accurate hydrologic data are necessary to calibrate

computer models that aid local engineers and city planners in the estimation of storm-water runoff.

With these needs in mind, the U.S. Geological Survey (USGS), in cooperation with the Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) and the City of Albuquerque, began a program in 1976 to collect hydrologic data to help assess surface-water resources in the Albuquerque area and to determine long-term trends. The information gained will better help AMAFCA and the City to manage and administer water resources. The program is reviewed and revised annually to meet AMAFCA's and the City's needs. Data collected also support digital modeling programs conducted by AMAFCA. Flood-frequency analyses of selected watersheds can be completed when sufficient data are available.

Historically, daily mean discharges at selected streamflow-gaging stations are published in the USGS annual Water-Data Report, but prior to water year 2001 summary report (Kelly and Romero, 2003), no annual data summary report had been devoted exclusively to this study. Two previous reports (Fischer and others, 1984; Metzker and others, 1993) summarized rainfall and runoff data for selected storms during 1976-83 and 1984-88. Daily rainfall totals and intensities as well as annual water-quality sampling results are not included in the annual Water-Data Report but are provided to the cooperators on request. Instantaneous maximum stages for secondary peaks and all gage-height or rainfall values recorded at 5-minute intervals are available from the USGS database.

Purpose and Scope

The purpose of the cooperative program is to obtain rainfall and surface-water (water quality and streamflow) data for an assessment of water resources (quantity and quality), for determination of long-term trends, and for water management and administration purposes. This report presents water-quality, streamflow, and rainfall data collected from October 1, 2001, to September 30, 2002 (water year 2002). This report provides a station analysis for each data-collection site, which includes a description of monitoring equipment, problems associated with data collection during the year, and other information used to compute streamflow discharges or rainfall records. A daily values table showing daily mean discharge for gaging stations or daily total rainfall recorded at rain gages accompanies each station analysis. Detailed site descriptions, drainage-basin areas, and periods of record are also included in the daily values tables.

The locations of the current network of gaging stations, rain gages, and water-quality sampling sites in the Albuquerque area are shown in figure 1. All seven stations designated as water-quality sampling sites in figure 1 also have recording streamflow gages. Detailed information about the sites is listed in table 1.

National Pollutant Discharge Elimination System Water-Quality Monitoring

The water-quality sampling program began in fiscal year 1992 under a separate cooperative agreement between AMAFCA, the City of Albuquerque, and the USGS. Surface-water-quality samples were collected at five gaging stations and two background sites in 1992.

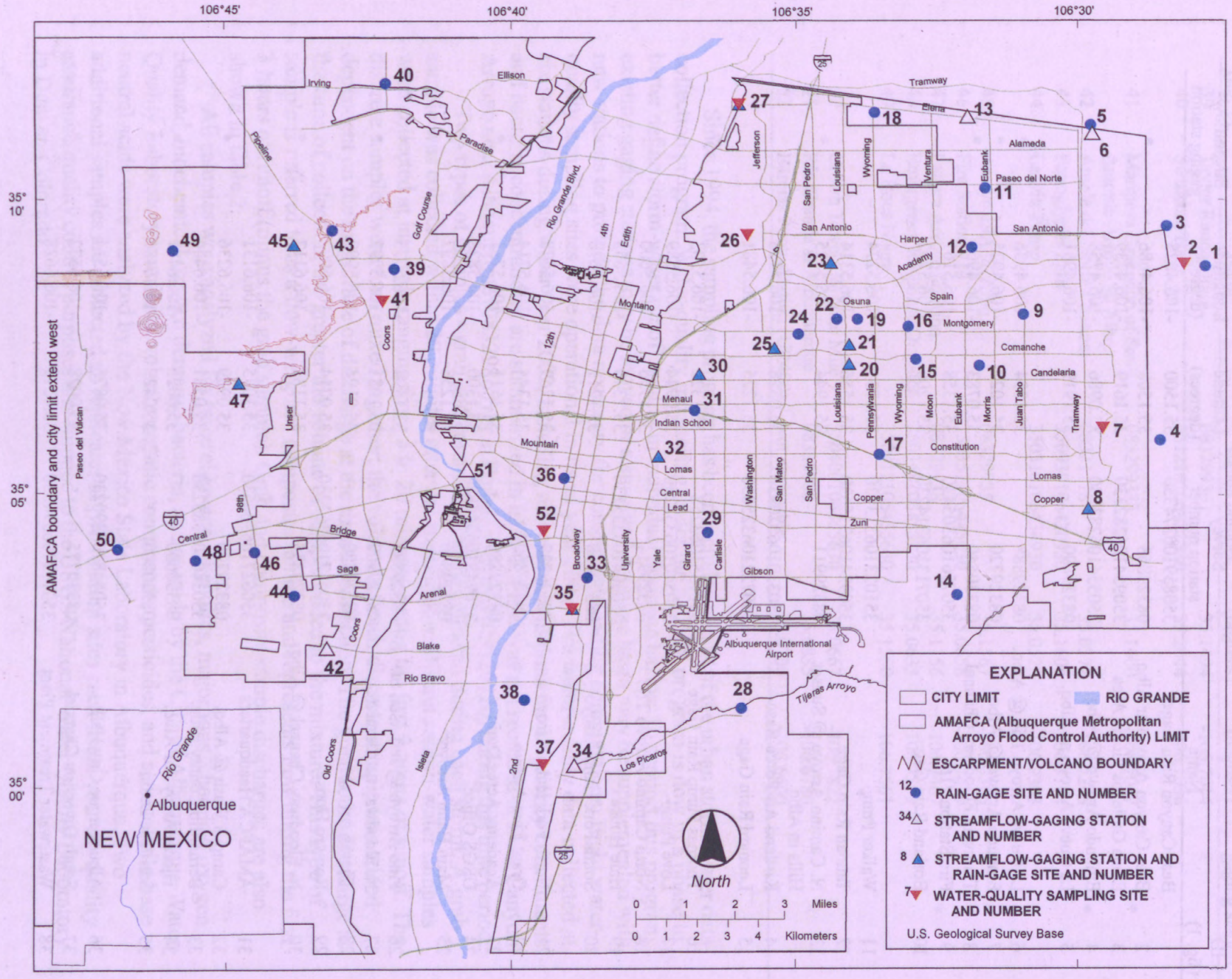

Figure 1. U.S. Geological Survey data-collection sites for 2002 Albuquerque Urban Runoff Program. Location numbers are in table 1.

Table 1. Map locations and station identification numbers

Site ID (fig. 1)	Name	U.S. Geological Survey station number	Latitude (degrees)	Longitude (degrees)	Streamflow-gaging station
1	Bear Canyon Rain Gage	350859106274330	35.1500	-106.4625	
2	Bear Canyon Arroyo nr Albq.	08329868	35.1508	-106.4686	*
3	Elena Gallegos Picnic Area	350954106282330	35.1619	-106.4739	
4	Embudo Arroyo @ Albq.	350554106283230	35.0986	-106.4758	
5	La Cueva Arroyo nr Albq.	08329890	35.1919	-106.4961	
6	La Cueva Arroyo Trib @ Albq.	08329888	35.1894	-106.4956	*
7	Embudo Arroyo @ Albq.	08329720	35.1022	-106.4925	*
8	Tramway Floodway Channel	08330540	35.0783	-106.4969	*
9	Fire Station #16	350756106305430	35.1358	-106.5161	
10	Borland Rain Gage	350713106314230	35.1206	-106.5292	
11	Walker Pump	351023106313930	35.1731	-106.5274	
12	Tanoan Rain Gage	350924106315630	35.1556	-106.5314	
13	N. Camino Arroyo @ Sunset Hills in Albq.	08329911	35.1944	-106.5325	*
14	Kirtland Air Force Base	350310106320930	35.0528	-106.5358	
15	Leonard Rain Gage	350722106325030	35.1225	-106.5481	
16	Thomas Pump Rain Gage	3507551063258	35.1322	-106.5503	
17	Love Pump	350540106333230	35.0944	-106.5589	
18	North Camino Arroyo Trib	08329914	35.1956	-106.5600	
19	Hale House	350804106335230	35.1344	-106.5653	
20	South Fork Hahn Arroyo	08329838	35.1211	-106.5678	*
21	North Fork Hahn Arroyo	08329839	35.1269	-106.5678	*
22	Grant Line Arroyo	08329860	35.1344	-106.5714	
23	Academy Acres Drain	08329880	35.1511	-106.5731	*
24	USGS Office	350748106345830	35.1300	-106.5828	
25	Main Hahn Arroyo	08329840	35.1258	-106.5897	*
26	Pino Arroyo @ Jefferson St.	08329882	35.1594	-106.5975	*
27	N. Floodway nr Alameda	08329900	35.1981	-106.5997	*
28	Tijeras Arroyo	08330580	35.0194	-106.5992	
29	Romero House	350417106363330	35.0714	-106.6092	
30	N. Floodway Channel @ Albq.	08329835	35.1181	-106.6117	*
31	AMAFCA Headquarters	350627106364630	35.1075	-106.6131	
32	Campus Wash @ Albq.	08329700	35.0939	-106.6236	*
33	Bernalillo County Bldg.	350340106385230	35.0581	-106.6444	
34	Tijeras Arroyo nr Albq.	08330600	35.0025	-106.6481	*
35	San Jose Drain	08330200	35.0489	-106.6486	*
36	Albuquerque City Hall	350448106390230	35.0875	-106.6514	
37	South Diversion Channel	08330775	35.0028	-106.6572	*
38	Wastewater Treatment Plant	350119106394630	35.0219	-106.6628	

Table 1. Map locations and station identification numbers--Concluded

Site ID (fig. 1)	Name	U.S. Geological Survey station number	Latitude (degrees)	Longitude (degrees)	Streamflow-gaging station
39	Taylor Ranch Drain	08329936	35.1494	-106.7014	
40	Swinburn Dam	351216106421330	35.2044	-106.7036	
41	Mariposa Diversion of San Antonio Arroyo @ Albq.	083299375	35.1400	-106.7047	*
42	Amole del Norte Channel	08331118	35.0372	-106.7208	*
43	Petroglyphs Park	350939106430930	35.1608	-106.7194	
44	Leavitt Pump	350310106434930	35.0528	-106.7303	
45	Arroyo 19A @ Albq.	08329935	35.1567	-106.7306	*
46	Fire Station #14	350357106443030	35.0658	-106.7419	
47	Ladera Arroyo @ Albq.	08329938	35.1156	-106.7467	*
48	Emergency Response Dispatch	350348106453230	35.0633	-106.7592	
49	La Boca Negra	350912106455630	35.1550	-106.7661	
50	Crown Towers @ Nine Mile	350400106465630	35.0667	-106.7822	
51	Rio Grande at Albuquerque	08330000	35.0835	-106.6780	*
52	Barelas Pump Station (UR400)	Not applicable	35.0700	-106.6600	

Since 1994, the sampling program has been included as part of the urban storm-water data-collection program. Water-quality monitoring under the NPDES program is now in a phase to better define storm-water runoff quality in individual drainage basins. To support this program, existing gaging stations may be moved or a specified drainage basin may be supplemented with new stations to provide the data necessary for constituent-loading computations. Eight water-quality sampling sites were operational in fiscal year 2002. The water-quality data collected at six stations during water year 2002, including mean concentrations for 12 priority constituents and bacteria concentrations, are summarized in table 2. Flow was not recorded at Bear Canyon Arroyo near Albuquerque (08329868) or at Embudo Arroyo (08329720) during this time period.

Two types of samples - grab and composite - were collected during each storm. A grab sample was collected within 20 minutes after the start of flow. Discrete storm-water samples were collected at intervals ranging from 5 to 20 minutes during the first 3 hours of runoff. The discrete samples were then mixed together; the volume of each discrete sample was added dependent on the magnitude of discharge at the time of collection. The greater the discharge at the time of collection, the greater the volume of sample added to the mixture. This type of sample is referred to as a flow-weighted composite sample and represents flow during the first 3 hours of runoff (minus the grab sample). Grab and composite sample discharges are also shown in table 2.

All samples were analyzed for trace elements, phenolics, major ions, chemical oxygen demand, biochemical oxygen demand, bacteria, and cyanide by the City of Albuquerque Water Quality Laboratory; nutrients, volatile organic compounds, pesticides, and semivolatile base neutral acids were analyzed by the New Mexico State Laboratory in Albuquerque. Two additional samples are collected as replicates at two random sites each fiscal year for quality assurance/quality control purposes and shipped to the USGS National Water Quality Laboratory in Denver, Colorado.

Table 2. Albuquerque Storm-Water Sampling Program - NPDES concentrations of 12 priority water-quality constituents plus bacteria for 2001 and 2002

[NPDES, National Pollutant Discharge Elimination System; ft^3/s, cubic feet per second; mg/L, milligrams per liter; µg/L, micrograms per liter; cols/100 ml, colonies per 100 milliliters; --, no data; <, less than]

Sampling site and USGS number (cooperator number)	Date sampled	Grab sample[1] (ft^3/s)	Composite sample[2] (ft^3/s)	Dissolved solids (mg/L)	Suspended solids (mg/L)	Nitrogen, total Kehldahl (mg/L)	Nitrogen, total (mg/L)	Phosphorus, dissolved (mg/L)
North Floodway	04-08-02	666	473	108	268	1.63	2.2	0.28
nr Alameda	07-10-02	394	394	118	620	1.82	2.82	0.27
08329900	08-02-02	334	573	154	780	2	2.1	0.33
(UR9900)	09-10-02	1,740	322	124	680	0.85	1.25	0.22
	09-18-02	127	1,110	132	324	1.94	2.91	0.19
	10-22-02	418	277	130	732	4.76	5.65	0.2
South Diversion	07-26-01	9.4	12	156	308	0.57	1.4	0.106
Channel nr Albq.	09-10-02	8	14.2	154	44	0.62	0.81	0.2
08330775								
(UR200)								
San Jose Drain @	09-10-02	6	24.1	157	124	1.34	1.88	0.256
Woodward Rd. @	09-18-02	4.4	9.9	171	92	1.94	2.91	0.34
Albq. 08330200	10-22-02	2.9	4.1	189	268	5.58	7.18	0.41
(UR500)								
Mariposa	08-14-01	1.64	2.08	98	6	0.829	1.149	0.098
Diversion of San	09-10-02	3.3	25.9	95	92	0.57	0.89	0.19
Antonio Arroyo	10-23-02	6.9	41.7	93	312	2.25	2.89	0.17
@ Albq.								
083299375								
(UR300)								
Pino Arroyo @	06-14-02	3	32	323	320	5.6	5.7	3.92
Jefferson Street @	07-20-02	0.39	2.4	156	400	2.3	3.28	0.3
Albq. 08329882	08-02-02	0.36	0.53	178	140	--	--	--
(UR2020)	09-10-02	0.32	36	90	352	0.84	1.24	0.15
	09-18-02	1.1	0.77	98	188	1.15	1.75	0.17
Barelas Pump	06-14-02	--	--	186	1,980	3.07	3.17	0.3
Station	08-02-02	--	--	212	944	2	2.1	0.33
(UR400)	09-10-02	--	--	161	264	1.97	2.78	0.35
	10-22-02	--	--	184	1,584	5.58	7.18	0.41

Table 2. Albuquerque Storm-Water Sampling Program - NPDES concentrations of 12 priority water-quality constituents plus bacteria for 2001 and 2002--Concluded

Sampling site and USGS number (cooperator number)	Phosphorus, total (mg/L)	Biochem. oxygen demand (mg/L)	Chemical oxygen demand (mg/L)	Cadmium, total (µg/L)	Lead, total (µg/L)	Copper, total (µg/L)	Zinc (µg/L)	Coliform, fecal (cols/100 ml)	Streptococci, fecal (cols/100 ml)
North Floodway	0.7	18	146	<2	31.7	22.2	153	16,000	5,000
nr Alameda	1.08	28	66	<2	58.8	50	306.5	<6,000	5,000
08329900	1.15	30	174	<2	59.2	42.5	294.5	--	5,000
(UR9900)	0.55	--	85	<2	21.7	20.6	119	62,000	88,000
	0.46	21	140	<2	16.5	19.3	132	47,000	270
	0.67	37	170	<2	54	51.1	365.5	9,100	4,400
South Diversion	0.338	12.6	89	--	26	--	127	45,000	16,000
Channel nr Albq.	0.21	--	55	<2	3.85	55	19.2	60,000	100,000
08330775									
(UR200)									
San Jose Drain @	0.396	--	110	<2	32	19.4	123	80,000	54,500
Woodward Rd. @	0.45	8	131	<2	20.2	18.5	137	80,000	153
Albq. 08330200	2.06	45	194	<2	42.4	31.7	209	60,000	5,000
(UR500)									
Mariposa	0.163	9	68	<2	2.13	5.78	53	60,000	16,000
Diversion of San	0.2	--	85	<2	3.46	<5	32.4	2,000	100,000
Antonio Arroyo	0.58	14	58	<2	6.89	12.1	79.4	6,000	4,400
@ Albq.									
083299375									
(UR300)									
Pino Arroyo @	4.24	--	772	4.03	158	158	1,100	--	--
Jefferson Street @	0.59	25	208	<2	31	44.1	314.5	186,000	44,000
Albq. 08329882	--	47	269	<2	13.4	36.3	203	--	2,700
(UR2020)	0.63	--	84	<2	42.8	42.2	193	72,000	54,500
	0.3	14	92	<2	16.5	20.9	166	33,000	124
Barelas Pump	1.61	--	540	5.05	367	174	1,250	--	--
Station	1.15	69	383	3.08	149	97.2	730	--	4,400
(UR400)	0.55	29	181	<2	46	36.4	242.5	80,000	100,000
	2.06	43	252	3.75	140.4	108	890	--	--

[1]Grab sample is collected within the first 20 minutes of stormflow.
[2]See composite sample definition on page 5.

RAINFALL AND RUNOFF DATA COLLECTION

During water year 2002, 20 streamflow-gaging stations and 40 rain gages were operational in the Albuquerque urban-data collection program. Five gaging stations measure runoff from undeveloped drainage basins, and the remaining 15 stations monitor runoff from urbanized watersheds. Seven gaging stations also are water-quality sampling sites. All data are recorded at 5-minute intervals and transferred from the field recorders to the USGS electronic database approximately every month. The period of record for 5-minute-interval data (unit values) collected from the gaging stations is digitally archived in electronic format, stored in the USGS database, and listed in table 3. Data collected prior to the dates listed in table 3 are archived in paper-tape form at the USGS New Mexico District office in Albuquerque and can be converted to electronic format if needed. A similar period-of-record tabulation is available for rain gages and is listed in table 4. In the station analyses for rain-gage sites that are presented later in this report, the period of record refers only to data readily available in electronic format.

Three gaging stations are operated only from approximately March 1 to November 30 when the probability of rainfall is higher. Rainfall data are collected annually using tipping-bucket rain gages. A typical rainfall collection site and tipping-bucket rain gage are shown in figure 2.

ANNUAL DAILY MEAN FLOW HYDROGRAPH OF THE NORTH FLOODWAY CHANNEL AND THE RIO GRANDE AT ALBUQUERQUE GAGING STATIONS

The North Floodway Channel (not shown on map) drains the northeast quadrant of Albuquerque and is the largest of the concrete-lined drainage channels in the metropolitan area. Its confluence with the Rio Grande is located immediately north of the Albuquerque city limits near the small community of Alameda. North Floodway discharges into the Rio Grande are measured at the North Floodway Channel near Alameda gaging station (08329900). A hydrographic comparison showing the effects of North Floodway flows on Rio Grande mean daily discharges measured at the Rio Grande at Albuquerque gaging station (08330000) is shown in figure 3. The Rio Grande gaging station is approximately 10 miles downstream from the confluence with the North Floodway Channel. The snowmelt runoff period from April through June, during which flows typically peak in any given year, was below normal in water year 2002. Average annual flow at the Rio Grande at Albuquerque gaging station was 514 cubic feet per second and at the North Floodway gaging station was 6.3 cubic feet per second, or slightly more than 1 percent of annual riverflow in water year 2002. The hydrograph shows that stormflows from the North Floodway are usually reflected in the Rio Grande and that the effects of North Floodway flows are more pronounced when total river discharge is low. Most North Floodway peaks occur during the summer thunderstorm season (July-October) when flow in the Rio Grande is typically at its lowest level. Therefore, the larger Albuquerque urban stormflows usually are a significant percentage of the mean daily discharge of the Rio Grande. The water year 2002 instantaneous peak discharge at the North Floodway gaging station was 3,470 cubic feet per second on August 4, 2002. The daily mean discharge on that day was 86 cubic feet per second or approximately 13 percent of flow of the Rio Grande at Albuquerque gaging station. The water year 2002 maximum daily mean discharge for the North Floodway was 251 cubic feet per second, which occurred on September 10. On that day, the North Floodway flow was approximately 27 percent of flow of the Rio Grande at Albuquerque.

Table 3. Period of record of digitally archived unit values for urban streamflow-gaging stations

Site number (fig. 1)	Station name	Station number	Period of record[1]
32	Campus Wash @ Albq.	08329700	03/90 - 09/02
7	Embudo Arroyo @ Albq.	08329720	10/98 - 09/02
30	North Floodway Channel @ Albq.	08329835	03/90 - 09/02
20	South Fork Hahn Arroyo @ Albq.	08329838	06/92 - 09/02
21	North Fork Hahn Arroyo @ Albq.	08329839	06/92 - 09/02
25	Hahn Arroyo @ Albq.	08329840	06/92 - 09/02
22	Grant Line Arroyo @ Villa del Oso @ Albq.	08329860	03/84 - 07/98
2	Bear Canyon Arroyo near Albq.	08329868	10/84 - 09/02
23	Academy Acres Drain @ Albq.	08329880	10/99 - 09/02
26	Pino Arroyo @ Jefferson St. @ Albq.	08329882	10/84 - 09/02
6	La Cueva Arroyo Tributary @ Albq.	08329888	05/00 - 09/02
5	La Cueva Trib. near Albq. (@ Tramway Rd.)	08329890	09/90 - 07/95
27	N. Floodway Channel near Alameda	08329900	10/88 - 09/02
13	North Camino Arroyo @ Sunset Hills in Albq.	08329911	08/97 - 09/02
18	North Camino Arroyo Trib. @ Albq.	08329914	10/93 - 09/97
45	Arroyo 19A @ Albq.	08329935	10/91 - 09/02
39	Taylor Ranch Drain @ Albq.	08329936	10/91 - 07/98
41	Mariposa Diversion of San Antonio Arroyo @ Albq.	083299375	*10/94 - 09/02
47	Ladera Arroyo @ Albq.	08329938	10/91 - 09/02
35	San Jose Drain @ Woodward Rd. @ Albq.	08330200	*09/99 - 09/02
8	Tramway Floodway Channel @ Albq.	08330540	10/94 - 09/02
34	Tijeras Arroyo near Albq.	08330600	03/96 - 09/02
37	South Diversion Channel above Tijeras Arroyo	08330775	10/94 - 09/02
42	Amole del Norte Channel @ Albq.	08331118	04/00 - 09/02

[1]Unit values recorded only during water-quality sampling events prior to 1999.

Table 4. Period of record of digitally archived unit values for urban rain-gage sites

Site number (fig. 1)	Station name (fig. 1)	Station number	Period of record[1]
1	Bear Canyon in Albuquerque	350859106274330	10/84 - 09/02
3	Elena Gallegos Picnic Area @ Albq.	350954106282330	10/94 - 09/02
4	Embudo Arroyo @ Albuquerque	350554106283230	06/99 - 09/02
5	La Cueva Arroyo Tributary nr Albuquerque @ Tramway Rd.	08329890	07/77 - 09/02
8	Tramway Floodway Channel @ Albq.	08330540	04/01 - 09/02
9	Fire Station #16 in Albuquerque	350756106305430	10/84 - 09/02
10	Borland Rain Gage in Albuquerque	350713106314230	10/84 - 09/02
12	Tanoan Rain Gage @ Albuquerque	350924106315630	04/91 - 09/02
14	Kirtland Air Force Base @ Eubank Gate @ Albq.	350310106320930	06/01 - 09/02
15	Leonard Rain Gage in Albuquerque	350722106325030	04/84 - 09/02
16	Thomas Pump Station @ Albuquerque	350755106325830	10/94 - 09/02
18	North Camino Arroyo Tributary @ Albuquerque	08329914	06/79 - 09/02
19	Hale Rain Gage in Albuquerque	350804106335230	10/94 - 07/02
20	South Fork Hahn Arroyo @ Albuquerque	08329838	10/78 - 09/02
21	North Fork Hahn Arroyo @ Albuquerque	08329839	06/79 - 09/02
22	Grant Line Arroyo @ Villa del Oso @ Albq.	08329860	06/76 - 09/02
23	Academy Acres Drain @ Albuquerque	08329880	07/76 - 09/02
24	USGS Office at Albq.	350748106345830	08/00 - 09/02
25	Hahn Arroyo @ Albuquerque	08329840	10/78 - 09/02
27	North Floodway Channel nr Alameda	08329900	12/01 - 09/02
28	Tijeras Arroyo @ Montessa Park nr Albq.	08330580	10/95 - 09/02
29	Romero House Rain Gage @ Albq.	350417106363330	03/01 - 09/02
30	North Floodway Channel @ Albuquerque	08329835	07/99 - 09/02
31	AMAFCA Headquarters nr Albuquerque	350627106364630	09/97 - 09/02
32	Campus Wash @ Albuquerque	08329700	10/84 - 09/02
33	Bernalillo County Building nr Albq.	350340106385230	09/97 - 09/02
35	San Jose Drain @ Woodward Rd. @ Albq.	08330200	12/94 - 09/02
36	Albuquerque City Hall @ Albuquerque	350448106390230	10/94 - 09/02
38	Wastewater Treatment Plant @ Albq.	350119106394630	08/00 - 09/02
39	Taylor Ranch Drain @ Albuquerque	08329936	08/78 - 09/02
40	Swinburn Dam Rain Gage @ Paradise Hills	351216106421330	08/00 - 09/02
43	Petroglyphs Park @ Albuquerque	350939106430930	02/95 - 09/02
44	Leavitt Pump Station @ Albuquerque	350310106434930	08/00 - 09/02
45	Arroyo 19A @ Albuquerque	08329935	06/77 - 09/02
46	Fire Station #14 in Albuquerque	350357106443030	10/84 - 09/02
47	Ladera Arroyo @ Albuquerque	08329938	05/87 - 09/02
48	Emergency Response Dispatch @ Albq.	350348106453230	10/00 - 09/02
49	La Boca Negra nr Albuquerque	350912106455630	10/90 - 09/02
50	Crown Towers @ Nine Mile Hill @ Albq.	350400106465630	08/00 - 09/02

[1]Data collected prior to dates listed are archived in paper-tape format.

Figure 2. (A) La Cueva rain gage, (B) recorder next to rain gage, and (C) view inside of rain gage.

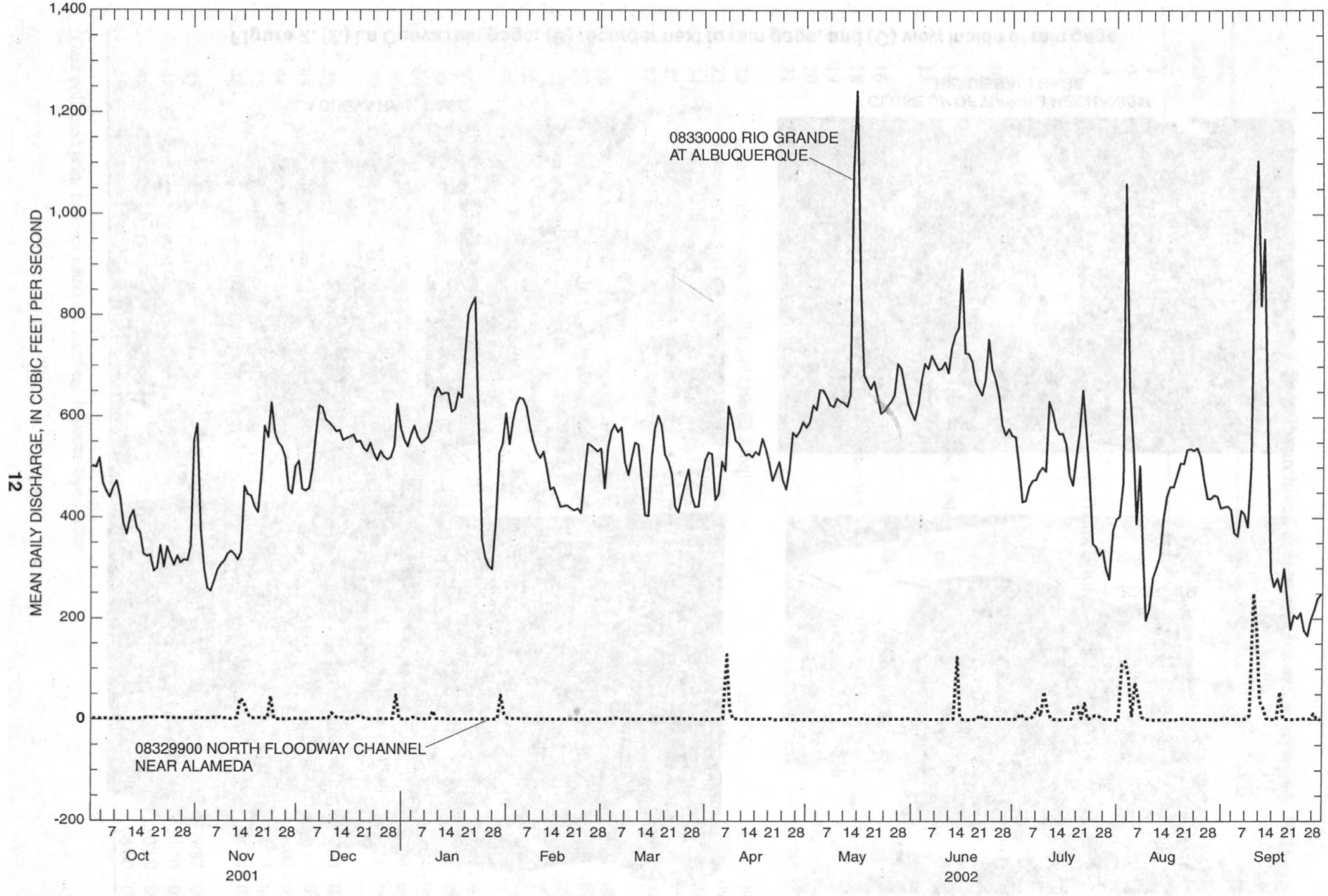

Figure 3. Discharge at the North Floodway Channel near Alameda in comparison to discharge at the Rio Grande at Albuquerque streamflow-gaging stations.

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RUNOFF DATA SUMMARY

FOR WATER YEAR 2002

(arranged by station number)

SURFACE-WATER RUNOFF DATA FOR WATER YEAR 2002

This section presents the daily mean discharge tables for the 20 streamflow-gaging stations operating in water year 2002. Detailed location descriptions, drainage areas, periods of record, and statistical summaries are included in each table. No statistical analysis was computed for the gaging stations not operated continuously during water years 2001 and 2002. A station-specific analysis supplements each daily values table and includes a description of monitoring equipment, problems associated with data collection during the water year, and other information used to compute streamflow discharge. The annual maximum peak stage and annual maximum peak discharge for water year 2002 and for the period of record for all gaging stations are listed in table 5.

Table 5. Maximum flood peak stage and discharge for water year 2002 and for the period of record

[ft, foot; ft^3/s, cubic feet per second; --, no data]

Station number	Station name	Date station was established	Water year 2002			Period of record		
			Date of peak	Maximum stage (ft)	Maximum peak (ft^3s)	Date of peak	Maximum stage (ft)	Maximum peak (ft^3s)
08329700	Campus Wash @ Albq.	Apr-82	06/14/2002	2.88	584	07/14/1990	4.5	1,230
08329720	Embudo Arroyo @ Albq.	Oct-98	07/10/2002	1.08	0.07	08/14/2001	3.24	12
08329835	North Floodway Channel @ Albuquerque	May-82	06/14/2002	6.55	2,510	07/09/1988	12.1	8,180
08329839	North Fork Hahn Arroyo @ Albq.	June-92	08/04/2002	1.4	60	08/01/1993	1.9	219
08329838	South Fork Hahn Arroyo @ Albq.	June-92	08/04/2002	3.75	698	06/16/1999	4.72	1,300
08329840	Hahn Arroyo @ Albq.	June-78	08/04/2002	1.98	404	06/16/1999	5.98	6,230
08329868	Bear Canyon Arroyo near Albq.	Oct-99	--	--	0	--	0	0
08329880	Academy Acres Drain @ Albq.	June-76	08/04/2002	3.04	26	08/03/1978	4.09	88
08329882	Pino Arroyo @ Jefferson Street @ Albq.	May-00	09/10/2002	2.69	311	09/14/2001	3.21	541
08329888	La Cueva Arroyo Tributary @ Albq.	May-99	08/06/2002	1.51	9	08/14/2001	1.56	12
08329900	North Floodway Channel near Alameda	July-68	08/04/2002	5.39	3,470	08/14/1980	10.4	12,300
08329911	North Camino Arroyo @ Sunset Hills in Albq.	Aug-97	09/10/2002	1.24	15	07/23/2001	1.38	39
08329935	Arroyo 19A @ Albq.	June-77	--	--	0	08/02/1999	2.93	234
083299375	Mariposa Diversion of San Antonio Arroyo @ Albq.	June-92	09/10/2002	2.35	34	08/04/1999	4.8	251
08329938	Ladera Arroyo @ Albq.	May-81	--	--	0	08/02/1999	4.12	195
08330200	San Jose Drain @ Woodward Rd.	Oct-93	08/02/2002	4.09	40	08/14/1994	6.57	99
08330540	Tramway Floodway Channel @ Albq.	July-87	08/04/2002	1.96	102	07/09/1988	8.62	3,250
08330600	Tijeras Arroyo near Albq.	Oct-51	08/19/2002	4.94	416	07/09/1988	9.6	2,930
08330775	South Diversion Channel above Tijeras Arroyo near Albq.	June-88	08/03/2002	1.96	49	07/14/1990	6.3	1,960
08331118	Amole del Norte Channel @ Albq.	Apr-00	08/02/2002	3.45	125	08/02/2002	3.45	125

08329700 CAMPUS WASH AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger, recording stage and rainfall at 5-minute intervals, and a pressure transducer are housed in a metal 5- by 5-foot walk-in shelter on the right bank of the concrete-lined channel. The reference gage is an outside staff gage painted on both sidewalls of the channel. High-water measurements can be made from a bridge located 600 feet upstream, but flow velocities are extremely fast, so discharges computed from the theoretical rating are considered more accurate than measurements. A tipping-bucket rain gage is also located at this site. The datalogger was installed on July 22, 1996, and the pressure transducer on September 12, 1996. A crest-stage gage (CSG) was installed on the left bank, directly across from the gage house, on October 8, 1998. The elevation of the lower CSG cap is 1.75 feet. The pipe is mounted on the side slope of the channel at an angle of 26.5 degrees from horizontal.

Gage-Height Record.--The recorder, which is referenced to the outside staff gage, provided a complete and satisfactory record for water year 2002, except for the following time periods. Ice formed over the orifice tubing and affected gage-height readings on November 29 and December 8-9, 13-14, 16, 18-20, 24-26, 28, 2001, and January 3-6, 11-14, 18-19, 22, 24-26, 31, and February 2-3, 5-7, 10, and March 2-4, 2002. These estimates were based on precipitation recorded at this site and base flows before and after each affected day. No comparison gage is located upstream from this gage, and the downstream gage at the North Floodway Channel at Albuquerque (08329835) does not correlate well because most of its flow originates from an ungaged tributary.

Rating.--The control for this station is the concrete-lined channel. The bottom width of the channel is 10 feet. The slope of the sides is 26.5 degrees from horizontal. The depth of the channel at this point is about 20 feet. The point of zero flow (PZF) is 0.00 foot (1.00-foot recorded gage height because of the +1.00-foot datum added to true depths). During water year 2002, 13 visits were made to the gaging station. The peak gage height for the water year was 2.88 feet (3.88 feet on recorder), correlating to a maximum discharge of 584 cubic feet per second.

Rating 1.0 was developed in water year 1982. It was based on a step-backwater analysis of the concrete-lined channel. The rating did not compute any flow below a gage height of 0.15 foot, which corresponded to 3.29 cubic feet per second. This "nuisance flow" was not evaluated prior to October 1, 1996.

Beginning in water year 1997, the low end of rating 1.0 was extended and values of discharge were calculated for all gage heights above 0.00 foot. The resulting rating, 2.0, also differs slightly from rating 1.0 in that a straight line, best-fit rating line was drawn as close as possible to the theoretical computed values. In rating 1.0, the theoretical values were actually used as input points, which do not plot in a straight line on a log-log scale. For a concrete-lined, trapezoidal-shaped channel such as this, the stage versus discharge relation should plot as a straight line.

Discharge.--Discharge was computed from rating curve 2.0 directly. The channel in this reach creates extreme velocities that keep the channel bottom completely clean. The rating curve discharges are considered to be more reliable than any individual measurement.

Remarks.--Records are good, except those that were estimated because of ice or recorder malfunctions, which are rated poor. Prior to water year 1997, all days with discharges determined to be only nuisance flow were labeled days of zero flow (gage heights less than 0.15 foot and less than 3.3 cubic feet per second on rating 1.0). Since October 1, 1996, all low-end flow has been calculated using the new rating 2.0 directly.

08329700 CAMPUS WASH AT ALBUQUERQUE, NM

LOCATION.--Lat 35°05'38", long 106°37'25", in SE¼ sec.16, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on right bank 100 ft west of southwest corner of University of New Mexico North Golf Course, 200 ft downstream from Barelas Stormwater Pumping Station outfall, 600 ft downstream from Tucker Road bridge, and 1,500 ft northeast of intersection of Lomas and University Boulevards, in Albuquerque.

DRAINAGE AREA.--3.80 mi².

PERIOD OF RECORD.--April 1982 to September 1996 (seasonal records). October 1996 to current year.

GAGE.--Water-stage and rainfall recorder and concrete-lined channel. Elevation of gage is 5,143 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for those estimated, which are poor. Recording rain gage at station. Prior to water year 1997, some minor streamflow may exist on days when daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. See tabulation below for monthly precipitation in inches.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.69	0.41	0.37	0.28	1.3	0.55	0.45	0.52	0.28	0.71	0.55	0.56
2	0.64	0.41	0.32	0.42	e0.60	e0.50	0.49	0.52	0.41	0.51	6.8	0.62
3	0.65	0.42	0.35	e0.40	e0.40	e0.40	0.56	0.63	0.70	0.53	7.1	0.58
4	0.68	0.47	0.34	e0.40	0.19	e0.30	0.48	0.49	0.70	0.61	0.54	0.59
5	0.65	0.45	0.35	e0.40	e0.30	0.21	0.50	0.50	0.61	0.51	0.64	0.55
6	0.63	0.45	0.46	e0.40	e0.40	0.61	0.70	0.52	0.68	0.55	0.66	0.59
7	0.61	0.45	0.50	0.42	e0.40	0.26	2.9	0.51	0.70	1.9	0.65	0.62
8	0.79	0.56	e0.40	0.36	0.36	0.33	0.40	0.48	0.81	1.5	0.63	0.52
9	0.70	0.48	e0.40	0.87	0.69	0.29	0.45	0.49	0.94	0.52	0.65	0.85
10	0.78	0.41	0.45	1.6	e0.70	0.24	0.59	0.48	1.2	1.7	0.56	9.7
11	0.59	0.36	0.90	e0.70	0.84	0.26	0.59	0.14	0.86	0.55	0.50	9.2
12	0.48	0.44	0.62	e0.60	0.50	0.29	0.57	0.01	1.0	0.51	0.60	1.2
13	0.30	0.40	e0.60	e0.50	0.67	0.21	0.53	0.39	1.3	0.47	0.66	1.7
14	0.36	3.4	e0.50	e0.40	0.44	0.38	0.25	0.61	17	0.40	0.60	0.56
15	0.49	1.1	0.55	0.31	0.44	0.34	0.54	0.49	0.62	0.49	0.59	0.51
16	0.56	0.80	e0.40	0.54	0.29	0.41	0.54	0.51	0.48	0.61	0.53	0.59
17	0.65	0.50	0.26	0.28	0.29	0.36	0.59	0.51	0.91	0.78	0.43	0.61
18	0.77	0.42	e0.30	e0.30	0.55	0.35	0.52	0.14	0.66	0.68	0.51	4.2
19	0.76	0.45	e0.30	e0.20	0.38	0.36	0.55	0.11	0.51	1.5	0.86	0.59
20	0.64	0.41	e0.30	0.10	0.49	0.38	0.51	0.46	0.69	0.50	0.81	0.55
21	0.55	0.30	0.31	0.63	0.45	0.54	0.50	0.55	0.65	0.57	0.61	0.51
22	0.58	0.29	0.52	e0.40	0.22	0.39	0.48	0.52	0.77	4.1	0.58	0.56
23	0.57	2.9	1.4	0.27	0.14	0.34	0.53	0.49	0.62	0.56	0.56	0.53
24	0.55	0.33	e0.80	e0.30	0.20	0.33	0.53	0.46	0.70	0.67	0.51	0.56
25	0.38	0.26	e0.80	e0.20	0.33	0.36	0.57	0.29	0.74	0.68	0.42	0.58
26	0.40	0.40	e0.90	e0.20	0.57	0.37	0.55	0.28	0.74	1.1	0.52	0.57
27	0.34	0.54	0.94	0.17	0.54	0.38	0.48	0.93	0.54	0.60	0.54	0.58
28	0.35	0.87	e1.0	0.22	0.41	0.42	0.58	0.80	0.60	0.71	0.62	1.2
29	0.40	e0.40	0.98	0.59	---	0.45	0.66	0.73	0.56	0.64	0.43	0.67
30	0.37	0.32	1.4	3.1	---	0.41	0.63	0.73	0.55	0.65	0.45	0.54
31	0.43	---	0.26	e0.60	---	0.45	---	0.86	---	0.59	0.49	---
TOTAL	17.34	19.40	17.98	16.16	13.09	11.47	18.22	15.15	37.53	26.40	30.60	41.19
MEAN	0.559	0.647	0.580	0.521	0.468	0.370	0.607	0.489	1.251	0.852	0.987	1.373
MAX	0.79	3.4	1.4	3.1	1.3	0.61	2.9	0.93	17	4.1	7.1	9.7
MIN	0.30	0.26	0.26	0.10	0.14	0.21	0.25	0.01	0.28	0.40	0.42	0.51
AC-FT	34	38	36	32	26	23	36	30	74	52	61	82
(+)	0.00	0.38	0.17	0.18	0.03	0.00	0.14	0.04	0.57	0.12	0.45	0.83

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2002, BY WATER YEAR (WY)

MEAN	1.287	0.592	0.365	0.341	0.424	0.899	0.806	0.698	1.016	1.550	1.632	1.165
MAX	2.39	0.76	0.58	0.52	0.62	1.97	1.32	1.06	1.65	2.43	2.49	2.44
(WY)	2001	2001	2002	2002	1998	1998	1997	1998	2000	1997	1999	1997
MIN	0.54	0.46	0.096	0.15	0.15	0.26	0.52	0.49	0.55	0.85	0.99	0.60
(WY)	1998	1999	1997	1998	1997	1997	2000	2002	1998	2002	2002	2000

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1997 - 2002	
ANNUAL TOTAL	292.07		264.53			
ANNUAL MEAN	0.800		0.725		0.902	
HIGHEST ANNUAL MEAN					1.09	1997
LOWEST ANNUAL MEAN					0.72	2002
HIGHEST DAILY MEAN	17	Aug 14	17	Jun 14	39	Mar 15 1998
LOWEST DAILY MEAN	0.15	Jan 7	0.00	May 12	0.00	Nov 28 1996
ANNUAL SEVEN-DAY MINIMUM	0.21	Jan 1	0.25	Jan 22	0.05	Jan 6 1997
MAXIMUM PEAK FLOW			584	Jun 14	1230	Jul 14 1990
MAXIMUM PEAK STAGE			2.88	Jun 14	4.50	Jul 14 1990
ANNUAL RUNOFF (AC-FT)	579		525		653	
10 PERCENT EXCEEDS	1.1		0.87		1.2	
50 PERCENT EXCEEDS	0.63		0.53		0.50	
90 PERCENT EXCEEDS	0.30		0.30		0.15	

e Estimated
(+) Total rainfall accumulation in inches.

08329720 EMBUDO ARROYO AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--This station was established on October 2, 1998. An electronic datalogger and pressure transducer are housed in a metal 2.5- by 2.5- by 6-foot shelter anchored to a concrete pad on the left bank of the concrete-lined portion of the channel, approximately 90 feet upstream from the Monte Largo bridge. On September 12, 2001, an automatic water-quality sampler was installed and housed in a separate metal shelter immediately adjacent to the gage shelter. The site is located east of Tramway Boulevard, between Indian School Road and Rover Street, on Albuquerque's far east side. The 30-foot-long orifice line is anchored immediately upstream from the 1-foot-wide, 26-inch-high concrete wall that spans the entire channel. A 12-inch-wide, U-shaped notch cut into the concrete wall acts as the low-flow control. An outside staff gage, with an attached CSG, is mounted approximately 24 inches upstream from the orifice and is the reference gage. The elevation of the CSG lower cap is 1.66 feet above the PZF. High-water measurements are computed by indirect methods. Low-water wading measurement are made in the vicinity of the gage.

Gage-Height Record.--The recorder gave a complete and satisfactory record during water year 2002. The recorder will sense water levels only above a stage of 1.04 feet because the orifice is mounted 0.05 foot above the PZF. This prevents sediment from covering the orifice during flow events. At a stage of 1.05 feet, the computed discharge is 0.04 cubic foot per second.

Rating.--The channel below the gage orifice is trapezoidal shaped and concrete lined. The bottom width is 39 feet. The channel continues straight downstream for 120 feet before gently bending toward the left bank after passing under the Monte Largo bridge. Upstream from the gage orifice, the channel consists of a wide, flat slope for approximately 50 feet and its bottom material is coarse sand. This approach immediately upstream from the gage is a settling area for the stream after it passes over a 10-foot-high, concrete, stair-stepped wall. A 26-inch-high concrete wall separates the concrete-lined portion of the channel downstream and the natural channel upstream. A 1-foot-wide notch cut into the concrete wall is the low-flow control. The concrete wall is 12 inches thick and flat topped, so flows breaching this wall are effectively controlled by this broad-crested weir. For rating development purposes, the 1-foot-wide notch was treated as a 1-foot-long box culvert in theoretical discharge computations. The rating breaks sharply to the right, at gage heights exceeding 3.17 feet, when flows begin to breach the entire concrete wall. Broad-crested weir flow equations were used to compute this portion of the rating. When flow depths exceed 1.5 feet above the wall or gage heights over approximately 4.77 feet, the concrete wall acts as a sharp-crested weir because the turbulence caused by the upstream face of the vertical wall clears the downstream face, effectively converting flows to sharp-crested weir type. The upper section of the rating breaks even further to the right than the middle portion. Flows downstream from the concrete control wall are supercritical, but are subcritical in the approach section.

The extremely flashy nature of this stream makes it difficult to obtain discharge measurements, so the theoretical rating is most reliable until more measurements are made. Only five small flows occurred at this site in water year 2002; however, none were measurable. Nineteen gage inspections were made this year. The peak stage and discharge recorded in water year 2002 were 1.08 feet and 0.07 cubic feet per second, respectively, on July 10.

Discharge.--Discharges were calculated by applying rating 1.0 directly. No stations are available for comparison purposes.

08329720 EMBUDO ARROYO AT ALBUQUERQUE, NM

LOCATION.--Lat 35°06'08", long 106°29'33", in NW¼NE¼ sec.14, T.10 N., R.4 E., Bernalillo County, Hydrologic Unit 13020203, on left bank of concrete-lined channel, approximately 90 ft upstream from Monte Largo bridge over Embudo Arroyo, between Indian School Road to the south and Rover Street to the north in Albuquerque.

DRAINAGE AREA.--3.8 mi².

PERIOD OF RECORD.--October 1998 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete weir control. Elevation of gage is 5,925 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Recording rain gage located in drainage basin, approximately 1 mi upstream. Site used for gathering water-quality data for undeveloped upper drainage basin, which represents undeveloped foothill east of Albuquerque.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2002, BY WATER YEAR (WY)

MEAN	0.003	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.002	0.007	0.000
MAX	0.010	0.002	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.004	0.014	0.001
(WY)	2001	2001	1999	1999	1999	2000	1999	1999	2000	2000	1999	2001
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	2000	1999	1999	1999	1999	1999	1999	1999	1999	2002	2002	1999

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1999 - 2002	
ANNUAL TOTAL	0.40		0.00			
ANNUAL MEAN	0.001		0.000		0.001	
HIGHEST ANNUAL MEAN					0.002	2001
LOWEST ANNUAL MEAN					0.000	2002
HIGHEST DAILY MEAN	0.14	Aug 14	0.00	Oct 1	0.29	Aug 3 1999
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1 1998
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1 1998
MAXIMUM PEAK FLOW			0.07	Jul 10	12	Aug 14 2001
MAXIMUM PEAK STAGE			1.08	Jul 10	3.24	Aug 14 2001
ANNUAL RUNOFF (AC-FT)	0.8		0.00		0.8	
10 PERCENT EXCEEDS	0.00		0.00		0.00	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

08329835 NORTH FLOODWAY CHANNEL AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--A pressure transducer and electronic datalogger with a speech/telephone modem were installed on July 22, 1999, and are housed in a metal 5- by 5-foot walk-in shelter on the right bank of the concrete-lined channel. A tipping-bucket rain gage was installed on the roof of the shelter on July 23, 1999, and is also recorded by the datalogger. Both water-stage and rainfall data are recorded at 5-minute intervals. An outside staff gage is painted on the inclined, channel side slope and is the reference gage. Since July 26, 2001, this site has been a test location for a prototype radar stage sensor developed by the USGS Hydrologic Instrumentation Facility. The radar is housed in a metal shelter mounted to the hand railing of the Candelaria Road bridge and transmits data by radio to the gage house and datalogger.

Gage-Height Record.--The recorder, referenced to the outside staff gage, gave a complete and satisfactory record for water year 2002, except November 2-8, when the recorder lost power; January 1-7, when a leak developed in the pressure transducer lines; and September 17-30, when the datalogger memory failed. All estimated mean daily discharges were based on flows before and after the affected period, flow records at the downstream Alameda gage (08329900), and precipitation records. Instantaneous discharges remained near base flow (2 to 3 cubic feet per second) except on September 18 and 28, so mean daily discharges were not significantly affected. The orifice was covered with ice on December 9, 20, 23, 26, 2001, and January 19, 26, February 6-7, 9-10, and March 3, 2002. All ice-affected days were determined to have mean daily discharges of 0.7 to 2.0 cubic feet per second, based on precipitation records and the flow gage near Alameda. Rainfall records and flow data for the Campus Wash gage (08329700) upstream and the North Floodway near Alameda gage (08329900) downstream can be used to reconstruct missing discharges. This station had previously been closed for winter months, but since water year 2000 has been operated all year.

Rating.--The control for the station is the concrete-lined channel. The bottom width of the channel is 30 feet. The slope of the sidewalls is approximately 27 degrees from horizontal. The depth of the channel at this location is about 30 feet and its top width is 137 feet. The channel slope at this site is much less (0.0009 foot per foot) than the downstream gage near Alameda (approximately 0.0047 foot per foot). Flows are subcritical for all stages at this location, but the Alameda gage has supercritical flows at most gage heights.

During water year 2002, 34 inspections were made at the gaging station. Only extremely low flow measurements are attempted at this location because of the dangers of floating debris during flow events. The theoretical rating on this uniformly shaped, concrete-lined channel is considered more accurate than individual measurements.

Rating 1.0, effective in previous years, was replaced by a new rating, 2.0, in water year 2001. The old rating appeared to have been based on four low-flow discharge measurements. The channel was resurveyed in December 2001, and a step-backwater

analysis was completed for this site using WSPRO software. The analysis assumed a Manning's n-value of 0.016 for channel bottom roughness, prorated to 0.014 over 4 feet of depth. Slight differences between the two ratings are apparent, especially at higher discharges. The old rating did not compute discharges for gage heights under 0.30 foot (11.4 cubic feet per second), whereas the new rating, 2.0, computes a discharge for all stages above the PZF (0.00-foot gage height). Because the base flow at this location is approximately 1.5 to 3.0 cubic feet per second year-round, the new rating computes a significantly larger volume of base flow passing this gage each year and returning to the Rio Grande. All previous years' records containing archived gage height readings (since 1989) will be revised using rating 2.0.

Discharge.--Discharges were computed for water year 2002 using the new rating curve 2.0. The channel in this reach creates velocities that keep the channel bottom fairly clean, and for this reason no shifting should occur. The maximum stage during water year 2002 was 6.55 feet, corresponding to a discharge of 2,510 cubic feet per second on June 14.

08329835 NORTH FLOODWAY CHANNEL AT ALBUQUERQUE, NM

LOCATION.--Lat 35°07'03", long 106°36'42", in SE$^1/_4$ sec.3, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on right bank of concrete-lined drainage channel, 300 ft downstream (north) of bridge on Candelaria Boulevard NE, and 3,000 ft downstream from confluence of Campus Wash and Embudo Arroyo in Albuquerque.

DRAINAGE AREA.--40.0 mi^2.

PERIOD OF RECORD.--May 1982 to September 1999 year (seasonal records), October 1999 to current year.

GAGE.--Water-stage recorder and recording tipping-bucket rain gage with 0.01-inch increments, and concrete-lined channel. Elevation of gage is 5,110 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for those estimated, which are poor. Prior to water year 2001 some minor streamflow may exist on days when daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. See tabulation below for monthly precipitation in inches.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.8	1.7	e1.5	2.1	0.55	0.69	1.1	0.58	0.57	2.0	3.3
2	2.1	e2.0	1.1	e1.5	1.6	0.99	0.74	1.2	0.38	0.33	82	4.0
3	2.5	e2.0	1.2	e1.5	0.96	e1.0	0.84	1.1	0.73	0.96	50	3.8
4	2.3	e2.0	1.7	e2.5	0.93	0.89	1.3	1.2	1.0	0.67	25	2.7
5	2.7	e2.5	2.2	e1.5	0.97	1.2	0.90	0.70	0.76	0.49	2.5	2.8
6	2.2	e2.5	2.1	e1.0	e1.0	1.0	3.3	0.91	0.75	0.40	61	2.3
7	1.6	e2.0	1.7	e1.0	e1.0	1.3	84	1.4	0.52	5.5	21	2.1
8	2.0	e2.5	1.5	1.6	0.96	0.62	3.9	1.2	0.54	11	2.4	3.7
9	4.2	1.7	e1.5	2.0	e0.80	0.71	1.5	1.0	0.49	1.3	1.9	7.0
10	3.5	2.1	1.6	9.3	e0.70	0.64	1.1	1.0	0.83	42	1.7	110
11	2.6	1.0	8.2	2.1	0.65	0.48	1.0	0.94	0.72	14	1.6	80
12	2.0	0.97	8.2	1.6	0.71	0.51	1.0	0.17	0.75	1.1	1.5	14
13	1.8	1.5	3.5	1.2	1.4	0.53	1.1	0.10	0.99	0.62	1.9	8.6
14	1.0	37	3.9	1.5	0.89	0.48	0.71	3.5	102	0.69	2.0	2.2
15	1.9	14	3.0	1.3	0.98	0.62	0.58	1.5	1.4	0.79	2.0	1.6
16	2.3	7.3	1.4	1.5	1.0	0.66	0.90	1.6	0.39	0.98	2.1	1.6
17	2.7	2.4	1.7	1.2	0.44	0.64	0.71	2.9	0.84	3.0	2.2	e2.0
18	2.4	1.8	3.4	0.88	1.1	0.70	0.71	1.1	0.58	1.5	1.8	e25
19	2.4	2.0	2.9	e1.0	1.4	0.79	0.73	0.41	0.32	23	4.3	e2.0
20	2.6	2.3	e2.0	0.99	0.92	0.63	5.1	0.89	0.60	8.2	3.9	e1.5
21	2.3	2.2	1.4	1.6	1.0	0.88	0.93	0.95	2.5	2.5	2.0	e1.5
22	3.0	1.5	1.5	0.97	0.68	0.88	0.95	1.0	0.61	21	1.5	e1.5
23	1.2	38	e1.5	1.3	0.57	0.62	0.97	0.54	0.54	2.7	1.2	e1.5
24	1.5	2.6	1.6	1.8	0.19	0.32	1.6	0.55	0.41	4.8	1.2	e1.5
25	1.9	1.9	1.6	1.2	0.38	0.71	1.4	0.73	0.47	2.7	1.1	e1.5
26	2.3	1.9	e1.5	e1.0	0.80	0.88	1.4	0.18	0.50	3.2	1.5	e1.5
27	2.9	2.1	1.5	0.75	1.0	0.76	1.6	1.2	0.43	2.2	1.6	e2.5
28	1.7	2.2	1.5	0.87	0.98	0.64	1.5	1.2	0.38	2.3	2.4	e5.0
29	2.6	2.0	3.9	1.6	---	1.1	1.5	0.98	0.39	2.2	2.3	e2.0
30	1.7	1.6	15	30	---	1.1	1.2	0.88	0.32	2.1	2.2	e1.5
31	1.7	---	1.3	6.1	---	0.54	---	0.87	---	2.1	2.2	---
TOTAL	69.7	148.37	86.8	83.86	26.11	23.37	123.86	33.00	121.72	164.90	292.0	300.2
MEAN	2.248	4.946	2.800	2.705	0.932	0.754	4.129	1.065	4.057	5.319	9.419	10.01
MAX	4.2	38	15	30	2.1	1.3	84	3.5	102	42	82	110
MIN	1.0	0.97	1.1	0.75	0.19	0.32	0.58	0.10	0.32	0.33	1.1	1.5
AC-FT	138	294	172	166	52	46	246	65	241	327	579	595
(+)	0.00	0.48	0.32	0.34	0.06	0.10	0.34	0.07	0.66	0.52	0.79	1.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

MEAN	10.16	4.541	2.016	2.408	2.378	5.582	3.152	1.752	4.508	6.526	9.655	4.960
MAX	26.2	8.68	3.25	3.88	4.64	10.4	5.27	4.07	6.05	9.51	11.7	10.0
(WY)	2001	2001	2001	2001	2001	2000	2001	2001	2000	2001	2001	2002
MIN	2.00	0.000	0.000	0.63	0.93	0.75	0.058	0.12	3.42	4.74	7.81	0.38
(WY)	2000	2000	2000	2000	2002	2002	2000	2000	2001	2000	2000	2000

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 2000 - 2002	
ANNUAL TOTAL	1908.77		1473.89			
ANNUAL MEAN	5.230		4.038		4.827	
HIGHEST ANNUAL MEAN					7.61	2001
LOWEST ANNUAL MEAN					2.84	2000
HIGHEST DAILY MEAN	183	Aug 14	110	Sep 10	206	Oct 23 2000
LOWEST DAILY MEAN	0.97	Nov 12	0.10	May 13	0.00	Oct 1 1999
ANNUAL SEVEN-DAY MINIMUM	1.5	Jun 11	0.41	Jun 24	0.00	Oct 1 1999
MAXIMUM PEAK FLOW			2510	Jun 14	8180	Jul 9 1988
MAXIMUM PEAK STAGE			6.55	Jun 14	12.10	Jul 9 1988
ANNUAL RUNOFF (AC-FT)	3790		2920		3500	
10 PERCENT EXCEEDS	8.5		3.9		6.7	
50 PERCENT EXCEEDS	2.6		1.5		1.5	
90 PERCENT EXCEEDS	1.6		0.58		0.00	

e Estimated
(+) Total rainfall accumulation in inches.

08329838 SOUTH FORK HAHN ARROYO AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger is housed in an oversized 40- by 40-inch metal shelter over a 10-foot-long, 24-inch CMC stilling well. The well is mounted to the south bank of the concrete-lined channel. Inside and outside staff gages are available for references. An electric-tape gage was also installed as a reference gage on August 14, 1998. Flow velocities are extremely fast, preventing high-water measurements from the Louisiana Boulevard bridge, about 300 feet downstream from the gage. A tipping-bucket rain gage is mounted to the roof of the shelter and housed in a 12-inch steel pipe enclosure. A CSG is located 15 feet upstream from the stilling well, mounted to the concrete side slope, and is inclined 32.5 degrees from horizontal. The CSG cap lip is at an equivalent gage height of 2.41 feet. High-water marks are recorded in the stilling well by a peak-stage indicator clip.

Gage-Height Record.--The recorder, referenced to the electric tape gage, gave a complete and satisfactory record for water year 2002. A complete annual record has been available since water year 1997; the gage was not operational during the winter months prior to that.

Rating.--The control for this station is the concrete-lined channel. Rating 2.0 was developed from a theoretical step-backwater analysis after the gage was moved to its present location in June 1992. After review of rating 2.0 in 1998, an error was discovered in the computations. A new rating, 2.1, was substituted for June 11, 1992, to July 6, 1993, when the channel bottom was elevated approximately 0.24 foot. Discharge records were revised for that period in 1999. From July 6, 1993, through September 1998, a datum correction of -0.24 foot was used to correct for the channel changes. The effective PZF was changed from 1.00 to 1.24 feet. The station levels of 1998 determined that the PZF was actually 1.22 feet. In addition to elevation of the channel bottom during the channel work of July 6, 1993, curbs were installed along the sides of the channel. However, these curbs were not incorporated into a new rating analysis. In water year 1998, a new rating, 3.0, was developed by theoretical step-backwater analysis, taking into account all channel changes effective since July 6, 1993. Discharge records for water years 1993-97 were revised in 1999. In water year 2001, after further investigation of the theoretical rating analysis, a lower Manning's n-value of 0.016 was determined to be more accurate for the channel bottom roughness than the 0.018 used in the rating 3.0 analysis. The same survey points were used from ratings 2 and 3; only the Manning's n-value was changed in the theoretical computations. The resulting rating, 4.0, has been effective since the channel changes on July 6, 1993, requiring another slight revision to water years 1993-2000. Rating 4.0 computes approximately 10 percent more water than rating 3.0 for equivalent gage heights in the middle flow range.

Small trickle flows, which are present nearly every day, often are not detected at this site because the channel bottom slopes slightly away from the gage. Therefore, the

downstream gage at the Main Hahn Arroyo at Albuquerque (08329840) indicates a larger mean daily discharge than the South Fork Hahn Arroyo gage because the Main Hahn gage detects all flows.

Discharge.--During water year 2002, 25 inspections were completed at this site. The peak gage height and discharge occurred on August 4 and were 3.75 feet and 698 cubic feet per second, respectively. Discharge was computed using rating curve 4.0 directly with zero shifts. Significant flow in the channel is very swift and therefore difficult to measure with conventional current meters. The theoretical rating for his trapezoidal-shaped, concrete-lined channel is considered more accurate than individual measurements. Estimated mean daily discharges for ice-affected days were based on precipitation records, base-flow patterns during the year, and downstream flow records at the Main Hahn Arroyo gage (08329840).

08329838 SOUTH FORK HAHN ARROYO AT ALBUQUERQUE, NM

LOCATION.--Lat 35°07'16", long 106°34'04", in NE$^1/_4$SE$^1/_4$ sec. 1, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on left bank 300 ft above Louisiana Boulevard, 900 ft south of Comanche Road, and 1,700 ft north of Candelaria Road, in Albuquerque.

DRAINAGE AREA.--2.03 mi^2.

PERIOD OF RECORD.--June 1978 to December 1983, June 1992 to September 1996 (seasonal records). October 1996 to current year.

REVISED RECORD.--WDR NM-99-1: 1992-98(M) (mean daily values).

GAGE.--Water-stage recorder and recording tipping-bucket rain gage with 0.01-in. increments, and concrete-lined channel. Elevation of gage is 5,300 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to 1983, at site 300 ft downstream on Louisiana Boulevard bridge, at different datum.

REMARKS.--Records good. Some minor streamflow may exist on days when daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. See tabulation below for monthly precipitation in inches.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.10	0.08	0.03	0.02	0.10	0.03	0.05	0.05	0.00	0.07	0.04	0.00
2	0.09	0.05	0.00	0.03	0.01	0.04	0.02	0.06	0.01	0.06	7.7	0.03
3	0.08	0.06	0.05	0.03	0.06	0.02	0.03	0.05	0.00	0.07	1.3	0.06
4	0.08	0.00	0.05	0.30	0.06	0.19	0.00	0.00	0.00	0.03	9.9	0.03
5	0.08	0.06	0.03	0.04	0.04	0.08	0.02	0.00	0.00	0.08	0.13	0.00
6	0.00	0.10	0.03	0.04	0.00	0.08	0.13	0.04	0.00	0.00	4.4	0.03
7	0.02	0.06	0.02	0.06	0.00	0.10	5.6	0.05	0.00	0.04	8.5	0.16
8	0.14	0.05	0.02	0.07	0.00	0.08	0.12	0.05	0.00	0.23	0.08	0.09
9	0.09	0.05	0.03	0.08	0.00	0.06	0.03	0.05	0.00	0.29	0.03	0.15
10	0.12	0.00	0.04	0.39	0.00	0.03	0.05	0.05	0.00	11	0.00	7.3
11	0.11	0.00	0.45	0.08	0.05	0.06	0.04	0.00	0.00	3.9	0.00	4.6
12	0.10	0.00	0.45	0.05	0.03	0.06	0.06	0.00	0.00	0.04	0.04	1.3
13	0.00	0.00	0.18	0.02	0.03	0.06	0.00	0.05	0.00	0.02	0.05	0.73
14	0.04	0.99	0.03	0.06	0.03	0.04	0.00	0.33	1.9	0.01	0.05	0.00
15	0.12	0.42	0.03	0.07	0.03	0.08	0.04	0.05	0.01	0.04	0.04	0.00
16	0.08	0.41	0.03	0.04	0.02	0.03	0.04	0.06	0.02	0.04	0.04	0.03
17	0.08	0.02	0.04	0.10	0.02	0.07	0.04	0.06	0.06	0.04	0.00	0.03
18	0.07	0.02	0.11	0.07	0.02	0.07	0.08	0.00	0.02	0.06	0.00	1.3
19	0.08	0.07	0.13	0.04	0.02	0.06	0.05	0.09	0.05	4.5	0.22	0.06
20	0.00	0.06	0.02	0.04	0.02	0.06	0.05	0.03	1.2	0.26	0.13	0.03
21	0.00	0.06	0.03	0.16	0.02	0.04	0.00	0.05	0.27	0.03	0.04	0.00
22	0.10	0.07	0.03	0.15	0.04	0.04	0.04	0.03	0.00	0.48	0.04	0.00
23	0.05	0.96	0.04	0.05	0.02	0.04	0.05	0.04	0.01	0.04	0.04	0.05
24	0.08	0.04	0.03	0.23	0.02	0.00	0.06	0.05	0.05	0.79	0.00	0.05
25	0.05	0.02	0.02	0.15	0.02	0.02	0.05	0.03	0.03	0.11	0.00	0.09
26	0.06	0.05	0.02	0.04	0.03	0.04	0.06	0.00	0.05	0.12	0.03	0.03
27	0.00	0.08	0.02	0.03	0.03	0.06	0.00	0.05	0.05	0.01	0.00	0.07
28	0.33	0.18	0.02	0.07	0.05	0.03	0.01	0.05	0.07	0.00	0.02	0.30
29	0.07	0.06	0.36	0.05	---	0.03	0.04	0.05	0.00	0.07	0.03	0.00
30	0.08	0.06	0.84	1.2	---	0.00	0.05	0.04	0.01	0.05	0.02	0.07
31	0.05	---	0.02	0.36	---	0.03	---	0.04	---	0.05	0.04	---
TOTAL	2.35	4.08	3.20	4.12	0.77	1.63	6.81	1.50	3.81	22.53	32.91	16.59
MEAN	0.076	0.136	0.103	0.133	0.028	0.053	0.227	0.048	0.127	0.727	1.062	0.553
MAX	0.33	0.99	0.84	1.2	0.10	0.19	5.6	0.33	1.9	11	9.9	7.3
MIN	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	4.7	8.1	6.3	8.2	1.5	3.2	14	3.0	7.6	45	65	33
(+)	0.02	0.60	0.37	0.30	0.05	0.08	0.61	0.14	0.47	0.88	1.46	2.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2002, BY WATER YEAR (WY)

MEAN	0.411	0.187	0.129	0.129	0.136	0.316	0.281	0.192	0.358	0.794	0.827	0.269
MAX	0.84	0.30	0.38	0.22	0.28	0.68	0.59	0.47	1.23	2.34	1.23	0.55
(WY)	2001	1997	1998	1997	1998	1998	1997	1999	1999	1997	1997	2002
MIN	0.076	0.066	0.023	0.056	0.027	0.053	0.068	0.048	0.079	0.14	0.50	0.064
(WY)	2002	2000	2000	2000	2002	2002	2000	2002	1998	2000	1998	2000

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1997 - 2002	
ANNUAL TOTAL	83.37		100.30			
ANNUAL MEAN	0.228		0.275		0.338	
HIGHEST ANNUAL MEAN					0.57	1997
LOWEST ANNUAL MEAN					0.16	2000
HIGHEST DAILY MEAN	9.3	Sep 14	11	Jul 10	31	Jul 28 1997
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 6	0.00	Dec 8 1996
ANNUAL SEVEN-DAY MINIMUM	0.00	Feb 7	0.00	Jun 3	0.00	Jun 3 2002
MAXIMUM PEAK FLOW			698	Aug 4	1300	Jun 16 1999
MAXIMUM PEAK STAGE			3.75	Aug 4	4.72	Jun 16 1999
ANNUAL RUNOFF (AC-FT)	165		199		245	
10 PERCENT EXCEEDS	0.45		0.24		0.43	
50 PERCENT EXCEEDS	0.07		0.04		0.07	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

(+) Total rainfall accumulation in inches.

08329839 NORTH FORK HAHN ARROYO AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger, recording stage and precipitation at 5-minute intervals, is housed in an oversized metal 40- by 40-inch shelter mounted over a 12-foot-long, 24-inch-diameter CMC stilling well. The well is mounted to the right bank of the concrete-lined channel, 200 feet upstream from the Louisiana Boulevard bridge. Gage heights are referenced to an inside staff gage, and since August 14, 1998, are also referenced to an electric-tape gage. Flow velocities are extremely fast, preventing high-water measurements from the Louisiana Boulevard bridge. A tipping-bucket rain gage is mounted to the roof of the shelter and housed in a 12-inch steel pipe enclosure. A peak stage indicator clip is attached to the float tape, which accurately records the peak gage height between site visits.

Gage-Height Record.--The recorder, referenced to the inside staff and electric-tape gage, gave a complete and satisfactory record for the entire water year, except May 3 to June 5 when the recorder malfunctioned. No flows occurred during this entire period because the peak stage indicator (PSI) clip had not moved higher than a 0.75-foot stage. The point of zero flow for this site is 1.00 feet. No days were affected by ice in water year 2002. A complete annual record has been provided since water year 1997; prior to that, the gage was not operational during the winter months.

Rating.--The control for this station is the concrete-lined channel. Rating 2.0 was developed from a theoretical step-backwater analysis after the gage was moved to its present location in June 1992. After a review of rating 2.0 in water year 1998, an error was discovered in the computations, resulting in a rerun of the step-backwater analysis and new rating 3.0. Water year records for 1992-97 were revised using rating 3.0 and published in the water year 1999 USGS annual Water-Data Report. In water year 2001, after further investigation of the theoretical rating analysis, a lower Manning's n-value of 0.015 was determined to be more accurate for the channel bottom roughness than the 0.018 used in the rating 3.0 analysis. The same survey points were used from ratings 2.0 and 3.0; only the Manning's n-value was changed in the theoretical computations. The resulting rating, 4.0, is retroactive to June 1992, requiring another slight revision to water years 1992-2000. Rating 4.0 computes approximately 10 percent more water than rating 3.0 for equivalent gage heights in the middle flow range.

Discharge.--During water year 2002, 18 inspections were completed at this site. The instantaneous peak gage height and discharge for water year 2002 were 1.40 feet and 60 cubic feet per second, respectively, on August 4. Discharges were computed using rating curve 4.0 directly with zero shifts. The channel bottom remains clear of debris and sediment because of the supercritical flow regime. Flows are extremely fast and difficult to measure with conventional current meters. The theoretical rating for this trapezoidal-shaped, concrete-lined channel is considered more accurate than single measurements. Estimated mean daily discharges are based on precipitation data, base-flow patterns, and downstream flow records at the Main Hahn Arroyo gage (08329840).

08329839 NORTH FORK HAHN ARROYO AT ALBUQUERQUE, NM

LOCATION.--Lat 35°07'37", long 106°34'04", in NE$^1/_4$SE$^1/_4$ sec.1, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on right bank 200 ft above Louisiana Boulevard, 1,150 ft north of Comanche Road, and 1,450 ft south of Montgomery Boulevard, in Albuquerque.

DRAINAGE AREA.--1.51 mi^2.

PERIOD OF RECORD.--May 1979 to December 1983, June 1992 to September 1996 (seasonal records), October 1996 to current year.

REVISED RECORD.--WDR NM-99-1: 1992-98(M) (mean daily values).

GAGE.--Water-stage recorder and recording tipping-bucket rain gage with 0.01-inch increments, and concrete-lined channel. Elevation of gage is 5,290 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to 1983, at site 200 ft downstream on Louisiana Boulevard bridge, at different datum.

REMARKS.--Records good. Some minor streamflow may exist on days when daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. See tabulation below for monthly precipitation in inches.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.1	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.00	1.1
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.36	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.29	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.10	1.72	3.02	2.89
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.003	0.055	0.097	0.096
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.10	0.53	1.1	1.1
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.2	0.00	0.2	3.4	6.0	5.7
(+)	0.02	0.54	0.43	0.31	0.05	0.00	0.57	0.04	0.43	0.84	1.23	2.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2002, BY WATER YEAR (WY)

MEAN	0.042	0.025	0.029	0.039	0.011	0.011	0.029	0.023	0.034	0.059	0.071	0.026
MAX	0.11	0.12	0.16	0.19	0.062	0.047	0.15	0.063	0.079	0.21	0.10	0.096
(WY)	2001	1998	1998	1998	1998	1998	1997	2001	1997	1997	2000	2002
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.000
(WY)	2000	1997	1999	1999	1999	1997	2000	1998	1998	2000	1998	1998

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1997 - 2002	
ANNUAL TOTAL	5.34		7.84			
ANNUAL MEAN	0.015		0.021		0.033	
HIGHEST ANNUAL MEAN					0.060	1997
LOWEST ANNUAL MEAN					0.014	2000
HIGHEST DAILY MEAN	1.5	May 19	1.1	Aug 3	2.3	Oct 4 1996
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1 1996
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Oct 6 1996
MAXIMUM PEAK FLOW			60	Aug 4	439	Aug 14 1980
MAXIMUM PEAK STAGE			1.40	Aug 4	1.94	Aug 14 1980
ANNUAL RUNOFF (AC-FT)	11		16		24	
10 PERCENT EXCEEDS	0.00		0.00		0.00	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

(+) Total rainfall accumulation in inches.

08329840 HAHN ARROYO AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger, recording stage and precipitation at 5-minute intervals, and pressure transducer were installed on September 11, 1996. An automatic pump sampler was installed in the same shelter in November 2001. All recorders are housed in a metal 4- by 4- by 6-foot walk-in building anchored to a concrete pad on the right bank of the concrete-lined channel, and all are solar powered. A roof-mounted, tipping-bucket rain gage has been operational since July 20, 1992. The reference gage is a staff gage painted on the channel sidewall near the orifice line. Water depth may be measured near the orifice sump during low flows. A CSG with a lower cap elevation of 1.10 feet was installed on the right bank on October 8, 1998. The pipe is mounted 34 degrees from horizontal.

Gage-Height Record.--The recorder, referenced to the outside staff gage or referenced to a direct measure-up from the bottom of the channel, gave a complete and satisfactory record except for the following periods. Irregular spikes, or "painted" gage heights, caused by ice buildup over the orifice, occurred on December 5, 20, 2001, and January 1, 3, 7-8, 12-20, 2002. Sand and (or) debris covered the pressure transducer orifice tube, causing erroneous gage height recordings on December 26, 2001, and March 4-5, June 15-19, 21-27, and July 8-10, 2002. With the exception of the July 9-10 period, no precipitation fell during these estimated periods, so most estimated values apply only to base flows and were determined by averaging discharges recorded before and after each missing period. A substantial amount of water drains into the Hahn Arroyo between the two upstream gages (08329838 and 08329839) and this location, so base flows cannot be estimated by simply comparing the sum of the North and South Fork Hahn recorded discharges with the Main Hahn Arroyo. In addition, the South Fork Hahn Arroyo gaging station does not detect all base flows because of the channel geometry at that location. Stormflows from the two upstream gages are combined and can be used as an approximation for this site. Since water year 1997, this station has been operated the entire year.

Rating.--The control for this station is the concrete-lined channel. Rating 2.0 was developed by theoretical step-backwater computations after the gage was moved to its present location on July 20, 1992. After review of rating 2.0 in water year 1998, an error was discovered in the computations, resulting in a rerun of the step-backwater analysis and new rating 3.0. Water year records for 1992-97 were revised using rating 3.0 and published in the water year 1999 USGS annual Water-Data Report. In water year 2001, after further investigation of the theoretical rating analysis, a lower Manning's n-value of 0.015 was determined to be more accurate for the channel bottom roughness than the 0.018 used in the rating 3.0 analysis. The same survey points were used from ratings 2.0 and 3.0; only the Manning's n-value was changed in the theoretical computations. The resulting rating, 4.0, is retroactive to June 1992, requiring another slight revision to water years 1992-2000. Rating 4.0 computes approximately 10 percent more water than rating 3.0 for equivalent gage heights in the middle flow range.

Discharge.--Discharges were computed using the new rating 4.0 directly with zero shifts. The curve is considered more reliable than any measurements. Significant flow in the channel is very swift and, therefore, nearly impossible to measure with conventional current meters. During water year 2002, 29 site visits were made. The instantaneous peak stage and discharge for the water year occurred on August 4, 2002, and were 1.98 feet and 404 cubic feet per second, respectively. Mean daily discharges were estimated for the days mentioned in the "Gage-Height Record" paragraph, when ice or sand and debris covered the orifice.

Remarks.--Prior to rating 4.0, all days with discharges determined to be only nuisance flow (gage heights less than 1.04 feet and discharge less than 2.0 cubic feet per second) were called days of zero flow. Now all flows above zero flow are computed. Nearly every day of the year shows a mean daily discharge greater than zero because of a pulse of water usually in the early morning or late evening.

08329840 HAHN ARROYO AT ALBUQUERQUE, NM

LOCATION.--Lat 35°07'33", long 106°35'23", in $SE^1/_4NE^1/_4$ sec.2, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, 860 ft below San Mateo Boulevard bridge on right bank, 750 ft north of Comanche Road, and 2,050 ft south of Montgomery Boulevard in Albuquerque.

DRAINAGE AREA.--4.23 mi^2.

PERIOD OF RECORD.--June 1978 to September 1996 (seasonal records), October 1996 to current year.

REVISED RECORD.--WDR NM-99-1: 1992-98(M) (mean daily values).

GAGE.--Water-stage and recording tipping-bucket rain gage with 0.01-in. increments and concrete-lined channel. Elevation of gage is 5,190 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to 1992, at site on downstream side of San Mateo Boulevard bridge, at different datum.

REMARKS.--Records good except for those estimated, which are poor. Some minor streamflow may exist on days when daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. Recording rain gage at station. Development within basin is predominantly residential, but there are some commercial areas. See tabulation below for monthly precipitation in inches.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.6	2.3	1.2	e2.0	3.7	2.7	0.75	0.70	0.11	1.1	1.0	1.4
2	1.6	1.7	0.39	1.8	2.7	2.1	0.73	0.80	0.27	1.2	17	0.99
3	1.6	1.5	1.3	e2.0	2.4	1.6	0.93	0.69	0.93	1.4	14	2.0
4	1.7	0.32	1.2	1.9	0.94	e2.5	1.0	0.07	0.92	1.6	12	1.8
5	1.6	2.9	e1.5	2.9	1.5	e2.0	0.67	0.05	0.73	2.7	4.6	1.1
6	0.05	3.1	1.8	2.1	0.50	1.7	1.4	0.90	1.2	1.2	9.8	1.1
7	0.23	2.2	1.1	e2.0	0.43	2.0	23	0.81	1.2	1.9	11	0.97
8	2.8	2.5	1.3	e2.0	0.24	2.2	2.1	0.76	0.28	e2.0	2.2	1.8
9	1.3	2.6	0.60	22	0.34	0.89	1.1	0.96	0.51	e6.0	1.3	2.2
10	2.5	1.1	1.0	14	0.33	1.2	1.4	0.83	1.4	e12	0.74	21
11	2.0	0.00	6.1	14	0.91	1.2	1.0	0.34	1.9	7.9	0.55	17
12	2.3	1.4	6.7	e2.0	0.69	1.5	2.3	0.56	3.2	2.0	0.81	7.2
13	0.28	1.9	1.6	e1.5	1.1	1.8	1.7	1.4	2.0	0.99	1.0	8.4
14	1.0	9.5	3.5	e1.5	1.3	1.2	0.56	2.7	13	0.89	1.1	1.0
15	2.5	6.1	2.8	e2.0	0.94	2.7	1.4	1.2	e2.0	1.4	1.9	0.19
16	2.3	7.5	0.96	e1.5	1.3	0.94	1.5	0.73	e1.0	1.1	1.5	0.73
17	2.2	1.4	0.85	e2.0	0.16	3.2	1.2	0.64	e1.5	0.92	0.24	0.78
18	3.0	0.67	1.7	e1.5	0.23	2.4	1.7	0.03	e1.0	1.2	0.78	7.8
19	1.6	1.5	1.6	e1.5	0.89	2.4	0.77	1.2	e1.5	6.9	3.7	1.0
20	0.49	1.1	e1.5	e1.5	1.1	2.6	0.51	0.88	13	4.3	2.4	0.65
21	0.23	0.90	1.7	3.1	1.4	2.5	0.24	0.92	e3.0	1.8	2.2	0.18
22	1.9	1.2	1.4	3.3	1.9	2.4	0.62	0.70	e0.50	5.7	0.88	0.23
23	1.2	9.7	1.7	2.2	1.6	1.4	0.79	0.62	e1.0	1.6	0.95	0.82
24	1.9	1.2	1.4	3.5	0.65	0.42	0.80	0.74	e1.5	4.1	0.09	1.8
25	1.2	0.56	2.4	2.9	1.1	0.44	0.59	0.34	e1.0	2.9	0.00	2.3
26	1.5	0.54	e2.5	1.5	1.3	0.52	0.61	0.26	e1.0	2.5	0.63	1.2
27	0.29	1.00	2.7	0.71	2.6	0.56	0.16	1.2	e1.5	0.63	0.37	2.0
28	3.3	1.2	1.9	1.3	2.1	0.41	0.29	0.75	1.1	0.48	1.4	3.7
29	2.3	0.93	11	1.3	---	0.94	0.89	0.73	0.41	1.3	1.0	0.22
30	2.5	1.2	0.54	11	---	0.28	0.58	0.71	0.62	1.1	0.75	1.2
31	2.1	---	1.9	4.0	---	0.43	---	0.64	---	1.2	4.0	---
TOTAL	51.07	69.72	67.84	116.51	34.35	49.13	51.29	23.86	59.28	82.01	99.89	92.76
MEAN	1.647	2.324	2.188	3.758	1.227	1.585	1.710	0.770	1.976	2.645	3.222	3.092
MAX	3.3	9.7	11	22	3.7	3.2	23	2.7	13	12	17	21
MIN	0.05	0.00	0.39	0.71	0.16	0.28	0.16	0.03	0.11	0.48	0.00	0.18
AC-FT	101	138	135	231	68	97	102	47	118	163	198	184
(+)	0.01	0.64	0.38	0.50	0.00	0.05	0.51	0.06	0.49	0.69	1.49	2.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2002, BY WATER YEAR (WY)

MEAN	2.296	1.428	1.347	1.668	1.443	2.288	1.929	1.289	2.560	3.148	3.545	1.765
MAX	5.26	2.32	2.59	3.76	3.52	4.02	2.39	2.90	6.94	4.95	5.37	3.09
(WY)	2001	2002	1998	2002	2001	2001	1999	2001	1999	1997	2001	2002
MIN	0.82	0.21	0.082	0.74	0.43	1.00	1.31	0.73	0.68	1.44	2.01	0.63
(WY)	1998	2000	2000	1999	1997	1997	2000	1998	1998	2000	1998	1998

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1997 - 2002	
ANNUAL TOTAL	1137.80		797.71			
ANNUAL MEAN	3.117		2.186		2.065	
HIGHEST ANNUAL MEAN					3.37	2001
LOWEST ANNUAL MEAN					1.24	2000
HIGHEST DAILY MEAN	27	Aug 14	23	Apr 7	170	Jun 16 1999
LOWEST DAILY MEAN	0.00	Nov 11	0.00	Nov 11	0.00	Dec 15 1996
ANNUAL SEVEN-DAY MINIMUM	0.92	Nov 26	0.49	Feb 6	0.00	Nov 23 1999
MAXIMUM PEAK FLOW			404	Aug 4	6120	Jun 16 1999
MAXIMUM PEAK STAGE			1.98	Aug 4	5.98	Jun 16 1999
ANNUAL RUNOFF (AC-FT)	2260		1580		1500	
10 PERCENT EXCEEDS	6.5		3.7		4.4	
50 PERCENT EXCEEDS	2.2		1.3		0.90	
90 PERCENT EXCEEDS	0.94		0.42		0.10	

e Estimated
(+) Total rainfall accumulation in inches.

08329868 BEAR CANYON ARROYO NEAR ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger, recording at 5-minute intervals, and a pressure transducer and self-contained air compressor are housed in a metal, 2.5- by 2.5- by 6-foot shelter anchored to a concrete slab on the right bank of the channel. An outside staff gage is mounted on the right bank for reference. A CSG is mounted to the outside staff support, and its bottom cap lip elevation is 3.90 feet referenced to the gage datum. A concrete control was constructed at the time of gage installation. The PZF is the low point in this concrete control structure and is at an elevation of 3.47 feet. An automatic sampler is housed in a separate metal shelter adjacent to the water-stage recorder enclosure. All instruments are powered by 12-volt batteries charged by solar panels.

Gage-Height Record.--The water-stage recorder, referenced to the PZF or outside staff, gave a complete and satisfactory record for the entire water year.

Datum Correction.--No datum corrections or recorder corrections were required in water year 2002. Occasionally, water is ponded around the orifice with sand embankments so the recorder can be correctly set to the depth of water over the PZF. Flows used to set the recorder to the staff gage reading are very difficult to measure.

Rating.--This natural channel is straight for approximately 50 feet upstream and 100 feet downstream from the gage. The channel bottom is composed of coarse-grained sand and pea-sized gravel that have eroded from nearby granite exposures of the Sandia Mountain foothills. A narrow, V-shaped main channel has incised approximately 6 to 8 feet into the terraced flood-plain sediments. Large boulders are exposed in portions of both banks. The width of the main channel varies from approximately 6 feet immediately upstream from the gage to nearly 20 feet immediately downstream from the control. A mountain spring discharges into the stream nearly year-round, but the flow seeps into the unconsolidated, coarse-grained sediment before reaching the gage site. Rating 1.0 was developed by a theoretical step-backwater analysis using WSPRO software.

Discharge.--During water year 2002, 16 no-flow inspections were made. No water has flowed at this site since gage installation on September 30, 1999. The site remains dry except during substantial precipitation runoff.

Remarks.--Records are good. No flows occurred in water year 2002.

08329868 BEAR CANYON ARROYO NEAR ALBUQUERQUE,NM

LOCATION.--Lat 35°09'02", long 106°28'07", Bernalillo County, Hydrologic Unit 13020203, in Elena Gallegos Grant, on right bank of the arroyo approximately 0.5 mi east of gated and fenced property of High Resort Development. Elena Gallegos open space land. The gage is approximately 0.25 mi south of the dirt access road, which leads to an Albuquerque public water supply reservoir tank.

DRAINAGE AREA.--5.0 mi^2.

PERIOD OF RECORD.--October 1999 to current year.

GAGE.--Water-stage recorder. Rain gage is located approximately $^1/_2$ mi east. Elevation of gage is 6,395 ft above the National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good.

NO FLOW SINCE GAGE ESTABLISHED ON SEPTEMBER 30, 1999

08329880 ACADEMY ACRES DRAIN AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger, recording stage at 5-minute intervals, is housed in a metal 15- by 15- by 18-inch shelter over a 12-inch-diameter CMC stilling well. The control is a 2-foot-high, 120-degree, V-notch metal weir plate 8 feet downstream from the gage. Inside and outside staff gages are available for reference. The elevation of the inside staff gage is 0.09 foot high, as determined by the levels of October 23, 1997. The PZF is 0.00 foot in reference to the gage datum or 1.00 foot on the recorder. The 1-foot datum is added to avoid negative gage heights when the float falls below the PZF.

A datalogger and tipping-bucket rain gage are housed in a metal 15- by 15- by 18-inch shelter over a 3-inch-diameter galvanized pipe attached to the control fence rails, about 10 feet shoreward of the surface-water gage.

Gage-Height Record.--The recorder referenced to the inside staff gave a complete and satisfactory record during water year 2002. The gage was discontinued during the typically dry winter period, November 30, 2001, to February 28, 2002.

Rating.--The channel is concrete lined and 10 feet wide at the bottom, and both banks are inclined for at least 100 feet upstream from the gage. The 120-degree, V-notch weir plate is the control for flow depths up to 2 feet (3.00-foot gage height on the recorder). When flow depths exceed 2 feet, the V-notch is completely submerged and the entire metal plate becomes a sharp-crested weir bound by concrete sidewalls inclined at 45 degrees. Maximum flow depth is 5 feet (6.0-foot gage height on recorder). Theoretical rating 3.0 was developed in water year 2001 to replace rating 2.0 because the upper end of the old rating (depths over the V-notch weir) was based entirely on one slope-area measurement completed in 1978. The new rating, 3.0, is based on a standard 120-degree, V-notch weir computation below gage heights of 3.00 (2.0-foot flow depth) and sharp-crested weir flow computations above the depth of the V-notch. The stages between 3.00 and 4.00 feet represent a transition zone between these two flow regimes. The plot of stage against computed discharge points does not form a straight line on a log-log plot through this transition zone, as would be expected in weir flows, but plots near the straight line that represents a best fit through all stages above 3 feet. Previous years' peaks will be revised using the new rating 3.0.

The channel tends to gradually accumulate sand during flow events, but this does not affect the rating until the bottom of the V-notch weir, or PZF, is covered. The channel is cleaned at the beginning of the season and after significant flows. The weir control was not affected by sand accumulations this water year.

Discharge.--During water year 2002, 22 site visits were completed. The instantaneous peak stage and discharge for the water year occurred on August 4, 2002, and were 3.04 feet and 26 cubic feet per second, respectively. One flow topped the V-notch weir plate this water year. Discharges were computed directly from rating 3.0 using no shifts because the weir remained clear during all flows. The weir rating is considered more accurate than individual measurements.

08329880 ACADEMY ACRES DRAIN AT ALBUQUERQUE, NM

LOCATION.--Lat 35°09'04", long 106°34'23", in $NE^1/_4SE^1/_4$ sec.25, T.11 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on left bank of concrete-lined channel, 250 ft north of intersection of Esther Avenue and Burlison Drive, and 0.4 mi north of Academy Road in Albuquerque.

DRAINAGE AREA.--0.124 mi^2.

PERIOD OF RECORD.--June 1976 to current year (seasonal records).

GAGE.--Water-stage recorder and recording tipping-bucket rain gage with 0.01-in. increments; control for site is a V-notch weir. Elevation of gage is 5,305 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. The basin is primarily urban residential. Some minor streamflow may exist on days when daily mean discharges have been recorded as zero due to the short duration of peak flows. See tabulation below for monthly precipitation in inches. No flow most of time.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88 ft^3/s, Aug. 3, 1978, gage height, 4.09 ft, from rating curve extended above 24 ft^3/s on basis of slope-area measurement of peak flow and theoretical computations for weir flow; no flow most time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 26 ft^3/s, Aug. 4, gage height, 3.04 ft; no flow most of the time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.26	0.00
3	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.10	0.17	0.00
4	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.29	0.00
5	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.02	0.00
7	0.00	0.00	---	---	---	0.00	0.21	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.52
11	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.05	0.00	0.20
12	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.06
13	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.04
14	0.00	0.09	---	---	---	0.00	0.00	0.00	0.15	0.00	0.00	0.00
15	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.10
19	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.04	0.00	0.00
20	0.00	0.00	---	---	---	0.00	0.00	0.00	0.03	0.09	0.00	0.00
21	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.04	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.03	0.00	0.00
27	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	---	---	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.0	0.13	---	---	---	0.00	0.21	0.00	0.18	0.31	0.74	0.92
MEAN	0.000	0.004	---	---	---	0.000	0.007	0.000	0.006	0.010	0.024	0.031
MAX	0.00	0.09	---	---	---	0.00	0.21	0.00	0.15	0.10	0.29	0.52
MIN	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.3	---	---	---	0.00	0.4	0.00	0.4	0.6	1.5	1.8
(+)	0.00	0.72	0.74	0.70	0.09	0.00	0.61	0.02	0.38	0.79	1.42	2.01

(+) Total rainfall accumulation in inches.

08329882 PINO ARROYO AT JEFFERSON ST. AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--The station was established on May 18, 2000. An electronic datalogger and pressure transducer, recording at 5-minute intervals, are housed in a 2.5- by 2.5- by 6-foot metal shelter anchored to a concrete pad on the right bank of the concrete-lined channel. An outside staff gage is painted on the right and left sidewalls of the channel for reference. A reference point for tape-ups of water depths was also established as a 9/16-inch hex-head lag bolt anchored in the channel bottom about 12 inches from the orifice. This bolt represents the PZF. A CSG is mounted to the side of the channel and is inclined at 24.5 degrees from horizontal. The high point of the lower CSG cap lip is at an elevation of 2.10 feet (1.10-foot true depth with a 1.00-foot datum added to recorded gage heights to avoid negative values). On August 22, 2001, a large static tube was installed around the end of the pressure transducer line to slow down flow velocities passing over the orifice. Prior to this, the recorded gage heights during larger flows were much lower than true depths, reflecting the pressure drawdown occurring around the old orifice tube.

Gage-Height Record.--The stage recorder is referenced to the tape-up PZF, which is the lag bolt anchored in the bottom of the channel, or is referenced to the outside staff gage during periods of significant flows. The recorder will normally read 1.00 foot when the water level is even with the bottom of the channel at PZF; however, the installation of the static tube on August 22, 2001, raised the orifice line 0.03 foot above the PZF. Therefore, only flows over 0.03 foot deep (1.03 feet on recorder) are recorded. The recorder gave a complete and satisfactory record this water year, except during periods of ice effect on November 28-29, December 9-10, 18-21, and 27, 2001, and January 3-4, 18-19, 21, 25, February 1, 6, 8, and March 4, 2002. Flows on these days were estimated by comparing base flows before and after the affected period and by looking at rainfall in the watershed. All estimated daily mean discharges were zero in water year 2002.

Datum Correction.--No gage-height corrections were required in water year 2002. The correct gage-height readings are checked periodically by measuring up from the PZF reference bolt in the channel bottom. This channel nearly always a small trickle flow in it from anthropogenic sources upstream.

Rating.--The steeply sloping channel (0.022 foot per foot) acts as the control. A theoretical rating was developed using WSPRO. Because flows are supercritical in this reach, a step-forward analysis was used. The trapezoidal-shaped channel is straight for at least 300 feet downstream and 1,200 feet upstream from the gage. Sidewalls are approximately 6.5 feet high and slope at 24.5 degrees from horizontal. The channel bottom is about 8 feet wide. This site will be nearly impossible to measure because of its flashy nature and extreme velocities.

During the water year, 33 inspections were made. Rating, 2.0 was developed in water year 2001 and is the same as rating 1.0 except that all flows below recorded gage heights of 1.04 feet (less than 0.90 cubic foot per second) are considered zero flow. This change was required because

flows below 0.04 foot deep could not be detected after the static tube was installed on August 22, 2001.

Discharge.--The extreme flow velocities at this site make the theoretical rating more reliable than the attempt to complete any measurements. Wading measurements would be dangerous, even at shallow depths. Rating 2.0 was used directly for water year 2002 with no shifts applied.

No gage is located upstream for hydrographic comparisons, so only precipitation records within the drainage basin can be used for estimating discharges. Occasionally a high-water mark or a CSG mark indicates the peak stage.

The maximum gage height and discharge for the water year were 2.69 feet and 311 cubic feet per second, respectively, on September 10.

08329882 PINO ARROYO AT JEFFERSON STREET AT ALBUQUERQUE, NM

LOCATION.--Lat 35°09'34", long 106°35'51", Bernalillo County, Hydrologic Unit 13020203, in the Elena Gallegos Grant, on the right bank 1,200 ft downstream from the Jefferson Street culvert over Pino Arroyo; approximately 1,200 ft north of the intersection of Jefferson Street and Osuna Road in northeast Albuquerque.

DRAINAGE AREA.--8.3 mi^2 (but is controlled by detention pond upstream).

PERIOD OF RECORD.--May 2000 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete-lined channel. Elevation of gage is 5,119 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-stage records good except for those estimated, which are fair. Since installation of the large static tube around the orifice on Aug. 22, 2001, only flows over about 0.03 ft deep (1.03 on recorder) will cover the orifice sufficiently to record true water depths. This channel often shows trickle flows not related to rainfall.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.4	0.00
3	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	1.8	3.1	0.00
4	0.00	0.00	0.00	e0.00	0.00	e0.00	0.00	0.00	0.00	0.00	4.8	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.00
6	0.00	0.00	0.00	0.00	e0.00	0.00	0.11	0.00	0.00	0.00	0.34	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	0.07	0.00	0.00
8	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00
9	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23
10	0.00	0.04	e0.00	0.74	0.00	0.00	0.00	0.00	0.00	0.26	0.00	13
11	0.00	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	4.0
12	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
13	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
14	0.00	1.4	0.01	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00
15	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
16	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.3
19	0.00	0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00
20	0.00	0.00	e0.00	0.03	0.00	0.00	0.00	0.00	0.22	0.86	0.39	0.00
21	0.00	0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.09	0.00
23	0.00	0.39	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00
25	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.55	0.00	0.00
27	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00
28	0.00	e0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26
29	0.00	e0.00	0.47	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.90	1.9	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.16	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	2.17	1.97	3.16	0.00	0.00	2.11	0.07	1.41	5.02	11.57	20.20
MEAN	0.000	0.072	0.064	0.102	0.000	0.000	0.070	0.002	0.047	0.162	0.373	0.673
MAX	0.00	1.4	0.90	1.9	0.00	0.00	2.0	0.03	1.0	1.8	4.8	13
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	4.3	3.9	6.3	0.00	0.00	4.2	0.1	2.8	10	23	40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

MEAN	0.859	0.508	0.271	0.453	0.352	0.323	0.401	0.444	0.650	0.660	1.301	0.667
MAX	1.72	0.94	0.48	0.80	0.70	0.65	0.73	0.89	1.18	1.09	1.99	0.93
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2000
MIN	0.000	0.072	0.064	0.10	0.000	0.000	0.070	0.002	0.047	0.16	0.37	0.39
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2001

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 2000 - 2002	
ANNUAL TOTAL	260.87		47.68			
ANNUAL MEAN	0.715		0.131		0.549	
HIGHEST ANNUAL MEAN					0.97	2001
LOWEST ANNUAL MEAN					0.13	2002
HIGHEST DAILY MEAN	16	Aug 14	13	Sep 10	16	Aug 14 2001
LOWEST DAILY MEAN	0.00	Aug 23	0.00	Oct 1	0.00	Aug 23 2001
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 31	0.00	Oct 1	0.00	Aug 31 2001
MAXIMUM PEAK FLOW			311	Sep 10	541	Sep 14 2001
MAXIMUM PEAK STAGE			2.69	Sep 10	3.21	Sep 14 2001
ANNUAL RUNOFF (AC-FT)	517		95		398	
10 PERCENT EXCEEDS	1.4		0.15		1.2	
50 PERCENT EXCEEDS	0.55		0.00		0.16	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated

08329888 LA CUEVA ARROYO TRIBUTARY (UPPER) AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger, recording at 5-minute intervals, and pressure transducer are housed in a metal 2.5- by 2.5- by 5.5-foot shelter anchored to a concrete slab on the left bank of the channel, approximately 100 feet upstream from a concrete box culvert under Tramway Boulevard. An outside staff gage is mounted on the right and left banks for reference. A CSG was installed on May 6, 1999, and its bottom cap lip elevation is 0.36 foot above the PZF. It is mounted on the left-bank staff gage.

Gage-Height Record.--The water-stage recorder, referenced to the PZF or outside staff, gave a complete and satisfactory record for the entire water year. A 1.00-foot datum was added to the recorded gage heights to avoid negative values during dry periods.

Rating.--The trapezoidal-shaped channel is straight for about 100 feet upstream and 100 feet downstream from the gage before it drops sharply into a concrete box culvert that passes under Tramway Boulevard. This channel has a natural, coarse-grained sand bottom and concrete sidewalls. The concrete sidewalls extend from approximately 6 feet upstream from the gage to the box culvert downstream. Upstream from the concrete-lined channel, the side slopes are covered with cobble and boulder riprap. The channel bottom is about 12 feet wide at the gage, slightly narrower upstream, and has sidewalls about 4 feet high with 30-degree slopes. A concrete control structure was installed immediately downstream from the gage on May 6, 1999. The concrete slab is inclined from the right channel sidewall toward the left bank, where the gage is located. The PZF of the gage is located at the juncture of the concrete control with the left sidewall. Prior to installation of this control, only high flows could reach the pressure transducer orifice because the channel bottom had severely scoured. The orifice was mounted approximately 0.08 foot above the PZF so sediment will not interfere with gage-height recordings; therefore, only flow depths greater than 0.08 foot are recorded. Most flows are in a supercritical regime because of the steep channel slope. Rating 1.0, used since the concrete control installation on May 6, 1999, was developed by step-forward analysis using WSPRO software. Water-surface elevations for flows less than 30 cubic feet per second could not be successfully computed because the energy equation for supercritical flow would not balance at the gage cross section. These smaller flows are probably experiencing subcritical regimes. Additional measurements are needed to better define the rating, especially at the lower end. Two very low flow measurements (#1 and #2) were made in water year 1999, but no measurements were completed in water year 2002. The two measurements plot at 0.0 and -46 percent from rating 1.0, respectively. Because both were made during extremely low flow, they are rated "poor" and serve only as a good estimate of discharge. Flow events are extremely flashy, normally lasting less than an hour, so discharge measurements are difficult to obtain. High-water discharge measurements are computed by indirect methods. The PZF is 1.00 foot on rating 1.0. A "dog leg" breaks to the left at a gage height of 1.70 feet on the rating curve. This point represents the level at which the concrete control is completely submerged and both concrete sidewalls begin to constrict flows.

Discharge.--During water year 2002, 17 no-flow inspections were completed. Rating 1.0 was used directly, without any shifts, for the water year. No mean daily discharges were estimated. The maximum instantaneous stage and discharge recorded during the water year were 1.51 feet and 9.0 cubic feet per second, respectively, on August 6. This site will remain dry except during substantial precipitation.

08329888 LA CUEVA ARROYO TRIBUTARY AT ALBUQUERQUE, NM

LOCATION.--Lat 35°11'22", long 106°29'43", Bernalillo County, Hydrologic Unit 13020203, in Elena Gallegos Grant, on the left bank of a concrete-lined arroyo, approximately 100 ft upstream from a box culvert passing under Tramway Bouldvard, in the extreme northeast corner of Albuquerque city limits. This site is located approximately 0.2 mi south of the old gage site La Cueva Arroyo Tributary at Tramway Boulevard (08329890).

DRAINAGE AREA.--0.5103 mi^2.

PERIOD OF RECORD.--May 1999 to current year.

GAGE.--Water-stage recorder. A tipping-bucket rain gage recording in 0.01-inch increments is located approximately 0.25 mi north of gage. Elevation of gage is 6,080 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
7	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.01
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.01	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.12	0.07	0.09
MEAN	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.004	0.002	0.003
MAX	0.01	0.02	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.05	0.06	0.07
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.02	0.04	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.2	0.1	0.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

MEAN	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.003	0.005	0.001
MAX	0.004	0.001	0.000	0.000	0.000	0.001	0.001	0.000	0.002	0.004	0.012	0.003
(WY)	2001	2001	2000	2000	2000	2000	2002	2001	2001	2001	2001	2002
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000
(WY)	2002	2000	2000	2000	2000	2001	2000	2000	2000	2000	2000	2000

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 2000 - 2002		
ANNUAL TOTAL	0.63		0.33				
ANNUAL MEAN	0.002		0.001		0.001		
HIGHEST ANNUAL MEAN					0.002		2001
LOWEST ANNUAL MEAN					0.000		2000
HIGHEST DAILY MEAN	0.14	Aug 14	0.07	Sep 10	0.14	Aug 14	2001
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1	1999
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 8	0.00	Oct 1	1999
MAXIMUM PEAK FLOW			9.0	Aug 6	12	Aug 14	2001
MAXIMUM PEAK STAGE			1.51	Aug 6	1.56	Aug 14	2001
ANNUAL RUNOFF (AC-FT)	1.2		0.7		0.8		
10 PERCENT EXCEEDS	0.00		0.00		0.00		
50 PERCENT EXCEEDS	0.00		0.00		0.00		
90 PERCENT EXCEEDS	0.00		0.00		0.00		

08329900 NORTH FLOODWAY CHANNEL NEAR ALAMEDA, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--This station was established in July 1968. Since August 1998, an electronic datalogger with a satellite transmitter and pressure transducer have been housed in a concrete 6- by 6-foot block shelter. A tipping-bucket rain gage was installed on the roof of the shelter on December 8, 2001, and is also recorded by the datalogger. A painted staff gage on the channel sidewall is the reference gage, which indicates the true vertical depth in the channel. An automatic pump sampler is also housed in the shelter for water-quality sampling.

Gage-Height Record.--The recorder, referenced to the outside staff gage, gave a complete and satisfactory record for water year 2002 except for the following periods. Ice-affected gage heights occurred on December 9, 17, 2001, and on January 19, 24, 26, February 5-6, 11, and March 2-3, 2002. All days were considered base flow because no precipitation fell during these periods. Mean daily discharges were also estimated for the periods March 9-11, 14-22, and May 17-24 due to a pressure transducer failure. AMAFCA maintenance crews were working in the channel and affecting recorded gage heights from March 28 to April 6. All mean daily discharges were estimated for that period also. No precipitation fell during any estimated days so only base flows were expected (0.5 to 2.0 cubic feet per second generally). Estimated mean daily discharges were based on hydrographic comparison with the flow gage approximately 5 miles upstream (North Floodway Channel at Albuquerque, station 08329835), precipitation records, and base flows before and after the estimated time periods.

Datum Correction.--Sand and heavy debris are commonly transported by the North Floodway Channel and it often catches on the pressure transducer orifice pipe or accumulates in the orifice sump during flows. Erroneous gage height recordings result in either case and can cause recordings to drift higher or lower than true flow depths. Ten separate recorder corrections were applied this water year due to debris/sand accumulations around the orifice. All were initially identified during a site inspection, but graphs of recorded gage heights prior to the inspection time aided in determining when the debris started affecting recorded data and when the data corrections were applied.

Rating.--The control for this station is the concrete-lined channel. The bottom width of the channel is 25 feet. The side slopes are approximately 35 degrees from horizontal. The depth of the channel at this point is about 23 feet, and the top width is approximately 117 feet.

During water year 2002, 4 low-flow measurements (numbers 42-45) and 35 site visits and observations were made at the gaging station, ranging from storm flows to base flows. The maximum gage height and discharge for the water year were 5.39 feet and 3,470 cubic feet per second, respectively, on August 4.

Rating 1.0, used during water years 1968-99, was replotted in water year 2000 using only two points. The rating curve of a trapezoidal-shaped, concrete-lined channel with uniform sidewalls, such as the North Floodway Channel, should plot as a straight line. The new plot was labeled rating 2.0. The old rating 1.0 had been plotted with many input points, resulting in an irregular

line plot. The two ratings varied by less than 2 percent, except below 25 cubic feet per second, for which they vary by about 5 percent. In water year 2001, the channel was resurveyed and the step-backwater analysis was recomputed using the software package HECRAS. Low-flow measurements calculated prior to water year 2001 and four measurements (42-45) completed in December 2001 were also plotted on the new step-backwater rating. A new rating, 3.0, was developed and is significantly different from the previous ratings. The new rating 3.0 computes discharges over 100 percent less than the old rating at low flows and about 35 percent less discharge is computed at a 2.00-foot stage (560 cubic feet per second). Rating 3.0 discharge actually equals the old rating discharge at a stage of approximately 8.0 feet (7,400 cubic feet per second). Also, rating 3.0 closely parallels the original design rating developed by the U.S. Army Corps of Engineers for planning purposes. The new rating computes discharges for all gage heights more than 0.01 foot deep (0.7 cubic foot per second), whereas the old rating did not compute low flows less than 14.5 cubic feet per second (less than 0.14-foot stages). Three of the four new measurements completed in December 2001 plotted less than 10 percent different from the new rating. The poorly rated, very low flow measurement 44 plotted a negative 63 percent from the rated discharge. The inherent errors in measuring very shallow water lead to the slight misfit from the new rating line. Supercritical flow regimes occur here at all stages over 1.00 foot. Prior water year records will be revised using the new rating 3.0.

Discharge.--Discharge was computed using rating 3.0 directly. The rating curve discharge is considered to be better than any individual measurements. Wading at this site is very dangerous at anything over 0.2-foot depths because of extreme velocities and floating debris during storm events. Bridge measurements are also not possible. Base-flow measurements are completed about 1,000 feet downstream at the old low-flow gaging station (08329916), where flow is constricted. The low-flow gage was used to record discharges less than 15 cubic feet per second; these discharges were combined with this station's storm flows to complete the daily values table published in the USGS annual Water-Data Reports for water years 1997-99. Discharges for periods of no gage-height record can be estimated on the basis of hydrographic comparison with gaging station North Floodway Channel at Albuquerque (08329835) and precipitation records.

The peak stage and discharge for this water year occurred on August 4, 2002, and were 5.39 feet and 3,470 cubic feet per second, respectively.

08329900 NORTH FLOODWAY CHANNEL NEAR ALAMEDA, NM

LOCATION.--Lat 35°11'53", long 106°35'59", Bernalillo County, Hydrologic Unit 13020203, in Elena Gallegos Grant, on left bank 0.5 mi upstream from Edith Boulevard, 1.1 mi upstream from mouth, and 1.2 mi northeast of Alameda.

DRAINAGE AREA.--87.9 mi^2.

PERIOD OF RECORD.--July 1968 to September 1989 (seasonal records). October 1989 to current year.

GAGE.--Water-stage recorder with satellite telemetry, recording rain gage, and concrete-lined channel. Elevation of gage is 5,015 ft above National Geodetic Vertical Datum of 1929, from U.S. Army Corps of Engineers plan and profile map.

REMARKS.--Water-discharge records good except for those estimated, which are poor. For water years 1997-99, low-flow values of 15 ft^3/s or less were obtained from gaging station 08329914, 1,000 ft downstream. Prior to water year 1997, any discharges below 15 ft^3/s were reported as "zero flow" in the mean daily values tables. Floodway channel intercepts flow of numerous arroyos in northeast Albuquerque and discharges into the Rio Grande at a point 1.6 mi north of Alameda. See tabulation below for monthly precipitation in inches.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.1	1.8	0.86	2.7	0.98	e1.0	0.38	1.7	1.3	0.03	2.0
2	2.0	3.0	1.7	1.3	1.8	e1.0	e1.0	0.52	0.98	1.8	109	2.7
3	1.8	2.7	2.5	1.1	1.8	e1.5	e1.5	0.27	1.4	12	116	2.3
4	1.8	2.4	1.5	4.2	1.9	2.0	e1.5	0.67	1.9	3.6	86	1.2
5	1.9	3.0	2.3	2.5	e1.5	2.6	e1.5	0.50	1.4	2.2	6.2	1.6
6	1.5	3.5	2.1	0.88	e1.5	1.5	e2.0	0.32	1.0	2.8	73	1.2
7	1.3	2.5	2.4	0.92	1.1	1.5	129	0.23	0.97	9.6	41	0.48
8	1.4	4.1	2.7	1.1	1.5	1.3	20	0.62	0.99	23	5.9	2.9
9	2.1	2.6	e2.5	1.1	0.66	e1.5	1.7	0.20	0.93	8.1	1.1	8.7
10	1.4	2.4	2.6	17	0.85	e1.0	2.0	0.34	1.4	56	0.40	251
11	1.8	1.4	13	1.9	e0.80	e1.5	1.2	0.40	1.7	19	0.02	177
12	1.5	2.3	6.4	2.0	0.75	1.7	1.3	0.50	1.5	3.2	0.06	37
13	1.4	2.5	2.1	1.6	1.1	1.1	1.1	0.99	1.7	0.99	0.14	24
14	1.4	41	4.0	1.1	1.1	e1.0	0.84	2.7	124	0.83	1.2	2.6
15	2.0	35	2.7	1.1	0.98	e1.0	1.4	1.5	4.5	0.50	0.21	0.87
16	2.2	15	1.5	1.3	1.00	e1.5	0.83	1.5	0.29	0.63	0.46	1.0
17	3.4	3.5	e2.0	1.5	0.86	e1.5	1.2	e2.0	0.46	2.0	0.40	0.75
18	3.6	2.8	5.5	0.86	0.73	e1.5	0.95	e1.5	0.31	1.3	0.33	55
19	3.0	3.0	6.4	e0.90	1.5	e1.5	1.1	e1.0	0.60	27	2.2	1.7
20	3.6	3.1	5.0	0.68	1.0	e1.5	2.9	e1.0	0.84	26	2.3	0.76
21	4.2	2.7	1.8	0.94	0.97	e2.0	0.12	e1.0	10	3.1	3.1	1.2
22	3.7	2.2	1.2	2.2	0.83	e2.0	0.00	e1.5	0.87	33	1.1	1.0
23	3.2	46	1.3	1.2	0.87	2.2	0.05	e1.0	1.3	0.90	1.1	1.1
24	3.0	1.5	1.3	e1.2	0.80	2.2	0.41	e1.0	1.4	5.0	0.89	1.8
25	2.9	0.98	1.4	1.4	0.67	1.8	0.70	1.4	1.6	8.7	0.81	2.2
26	2.8	0.64	2.0	e1.0	0.67	1.9	0.56	1.4	1.4	8.9	0.80	1.9
27	2.5	0.58	1.2	0.78	0.69	2.4	0.52	1.3	1.7	3.5	0.86	1.8
28	2.6	0.91	2.1	0.66	1.1	e1.5	0.41	1.5	1.7	1.4	0.92	12
29	2.7	1.6	2.0	0.81	---	e1.5	0.34	1.6	1.7	1.9	0.96	1.4
30	2.8	1.9	49	48	---	e1.5	0.39	2.0	1.5	0.64	0.20	0.27
31	2.9	---	1.2	11	---	e1.0	---	2.2	---	0.03	0.45	---
TOTAL	74.2	197.91	135.2	113.09	31.73	48.68	177.52	33.04	171.74	268.92	457.14	599.43
MEAN	2.394	6.597	4.361	3.648	1.133	1.570	5.917	1.066	5.725	8.675	14.75	19.98
MAX	4.2	46	49	48	2.7	2.6	129	2.7	124	56	116	251
MIN	1.3	0.58	1.2	0.66	0.66	0.98	0.00	0.20	0.29	0.03	0.02	0.27
AC-FT	147	393	268	224	63	97	352	66	341	533	907	1190
(+)				0.21	0.04	0.00	0.23	0.00	1.01	1.43	0.82	2.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

MEAN	11.89	8.783	5.134	8.098	4.170	7.787	7.304	9.083	9.100	26.20	35.57	16.43
MAX	38.3	24.5	28.5	39.9	19.7	21.3	42.9	41.2	27.6	75.0	53.4	40.1
(WY)	2001	1995	1994	1995	1993	2000	1997	1994	1996	1991	1994	1991
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.24	14.1	2.15
(WY)	1996	1990	1990	1990	1991	1996	1991	1996	1995	1995	1995	2000

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	2603.09		2308.60			
ANNUAL MEAN	7.132		6.325		12.55	
HIGHEST ANNUAL MEAN					21.6	1994
LOWEST ANNUAL MEAN					6.32	2002
HIGHEST DAILY MEAN	360	Aug 14	251	Sep 10	961	Jul 14 1990
LOWEST DAILY MEAN	0.45	Feb 5	0.00	Apr 22	0.00	Oct 1 1989
ANNUAL SEVEN-DAY MINIMUM	0.78	Apr 10	0.34	Apr 21	0.00	Oct 5 1989
MAXIMUM PEAK FLOW			3470	Aug 4	12300	Aug 14 1980
MAXIMUM PEAK STAGE			5.39	Aug 4	10.40	Aug 14 1980
ANNUAL RUNOFF (AC-FT)	5160		4580		9090	
10 PERCENT EXCEEDS	13		7.1		20	
50 PERCENT EXCEEDS	2.4		1.5		0.42	
90 PERCENT EXCEEDS	1.3		0.54		0.00	

e Estimated
(+) Total rainfall accumulation in inches.

08329911 NORTH CAMINO ARROYO AT SUNSET HILLS IN ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger and pressure transducer, recording at 5-minute intervals, are housed in a metal 2.5- by 2.5- by 5.5-foot shelter on the right bank of the concrete-lined channel. An outside staff gage is painted on the right sidewall of the channel for reference. High-water measurements are determined by indirect methods. A CSG was installed on October 23, 1998, and is 0.42 foot above the bottom of the channel and mounted 32 degrees from horizontal.

Gage-Height Record.--The water-stage recorder is referenced to the channel bottom or to the outside staff during flows. When the orifice sump is filled with water to the level of the channel bottom, or PZF, the recorded gage height is 1.00 foot. The datalogger gave a complete and satisfactory record for water year 2002, except November 29, 2001, when ice had formed in the orifice sump due to precipitation on the previous day. The mean daily discharge was estimated as zero because no precipitation fell on November 29. The station was not operated for the winter period December 3, 2001, to March 4, 2002.

Rating.--The trapezoidal-shaped channel is straight for approximately 0.50 mile upstream from the gage and bends sharply to the right approximately 20 feet below the gage. Because flow regimes are supercritical in this steep channel, the downstream channel geometry is not necessary for computing the theoretical rating. The channel bottom is approximately 21 feet wide at the gage and has side walls about 7 feet high. The channel bottom is sloped toward the right bank (orifice side) at the gage.

Rating 1.0 was developed by a step-forward theoretical analysis during the 1997 water year. Because of extremely high flow velocities, discharge measurements at this site are nearly impossible with current technology. Flows are very flashy, lasting less than an hour, so mean daily discharges are very small relative to instantaneous peak discharges.

Discharge.--Rating 1.0 was used directly, without any shifts, for water year 2002. This site will remain dry unless significant precipitation falls in the watershed. During water year 2002, 11 no-flow inspections were made at this site. The maximum instantaneous gage height and discharge for the water year were 1.24 feet and 15 cubic feet per second, respectively, on September 10.

08329911 NORTH CAMINO ARROYO AT SUNSET HILLS IN ALBUQUERQUE, NM

LOCATION.--Lat 35°11'40", long 106°31'57", Bernalillo County, Hydrologic Unit 13020203, in Elena Gallegos Grant, on right bank of concrete-lined arroyo, 10 ft above Holbrook Avenue Bridge over North Camino Arroyo. This is located approximately 100 ft north of intersection of Holbrook Avenue and Elena Drive and 1.3 mi north of Paseo del Norte on the northern edge of Albuquerque.

DRAINAGE AREA.--2.06 mi^2.

PERIOD OF RECORD.--August 1997 to current year (seasonal records).

GAGE.--Water-stage recorder. Elevation of gage is 5,645 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39 ft^3/s, at 1955 hours, July 23, 2001, gage height, 1.38 ft, from step-forward analysis of concrete-lined stream channel; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period of seasonal operation, 15 ft^3/s, Sept. 10, gage height, 1.24 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.08	0.00
3	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00	0.06	0.08	0.00
4	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.02	0.06	0.00
5	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.45	0.00
7	0.00	0.00	---	---	---	0.00	0.19	0.00	0.00	0.12	0.03	0.00
8	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.45	0.00	0.00
9	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.03
10	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.09	0.00	0.43
11	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.08	0.00	0.30
12	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.08
13	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.14	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.05	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.12	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.13
19	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.02	0.00	0.00
20	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.42	0.05	0.00
21	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.02	0.00	0.00
23	0.00	0.02	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	---	---	---	0.00	0.00	0.00	0.17	0.00	0.00	0.00
25	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.03	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.03
29	0.00	e0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	---	---	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.36	---	---	---	---	0.19	0.00	0.17	1.28	0.75	1.00
MEAN	0.000	0.012	---	---	---	---	0.006	0.000	0.006	0.041	0.024	0.033
MAX	0.00	0.14	---	---	---	---	0.19	0.00	0.17	0.45	0.45	0.43
MIN	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.7	---	---	---	---	0.4	0.00	0.3	2.5	1.5	2.0

e Estimated

08329935 ARROYO 19A AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger, recording at 5-minute intervals, is housed in a metal 15- by 15- by 18-inch shelter over a 12-inch-diameter CMC stilling well attached to a 1-foot Parshall flume. An outside staff gage is mounted to the flume for reference. The intake pipe to the well is mounted 0.03 foot above the floor of the flume. Because the PZF is 1.00 foot, only flows above 1.03 feet (0.035 cubic foot per second) are recorded. A tipping-bucket rain gage is housed in a metal 15- by 15- by 18-inch shelter over a 3-inch-diameter galvanized pipe located approximately 40 feet south of the flume.

Gage-Height Record.--The water-stage recorder supplied a complete and satisfactory record for water year 2002. The station was not operated during the winter period December 1, 2001, to March 6, 2002.

Rating.--The control for the site is a 1-foot-wide Parshall flume, which is 1.2 feet tall and has a capacity of 5.3 cubic feet per second. In water year 1999, flows exceeded the capacity of the Parshall flume for the first time since the 1986 installation. The flume was submerged on two occasions: August 2 and August 5, 1999. Results of each slope-area indirect measurement are:

August 2, 1999, flood: gage height = 2.93 feet, Q = 235 cubic feet per second

August 5, 1999, flood: gage height = 2.63 feet, Q = 100 cubic feet per second

Rating 1.0, used prior to water year 1999, did not extend beyond the flow capacity of the flume (5.28 cubic feet per second). Rating 2.0 was developed in 1999 and computes discharges up to 270 cubic feet per second. A breakpoint in the rating occurs at the gage height where the flume is filled to capacity (2.2 feet) and multiple offsets are used to plot the lower and upper portions of the stage-discharge relation.

More high-water flows are needed to confirm the portion of rating 2.0 greater than the flume capacity. During water year 2002, 13 no-flow visits were made to this site.

Discharge.--No flows occurred in water year 2002. Flows at this site are rare and require a significant amount of rainfall in the upper watershed.

08329935 ARROYO 19A AT ALBUQUERQUE, NM

LOCATION.--Lat 35°09'24", long 106°43'50", in $NE^1/_4NE^1/_4$ sec.28, T.11 N., R.2 E., Bernalillo County, Hydrologic Unit 13020203, on right bank 900 ft upstream from culvert under 81st Street, 1,200 ft south of city water tank, and 0.6 mi south of intersection of 81st Street and Atrisco Drive at Albuquerque.

DRAINAGE AREA.--1.50 mi^2.

PERIOD OF RECORD.--June 1977 to current year (seasonal records).

GAGE.--Water-stage recorder and recording tipping-bucket rain gage with 0.01-in. increments; the control at the site is a Parshall flume. Elevation of gage is 5,341 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 19, 1986, at site 450 ft downstream at different datum.

REMARKS.--Records good. Recording rain gage at station. The basin drains undeveloped semidesert terrain above the escarpment west of Albuquerque. See tabulation below for monthly precipitation in inches. No flow most of time.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 234 ft^3/s, Aug. 2, 1999, gage height, 2.93 ft, on basis of two slope-area measurements of peak flow needed to extend rating beyond flume capacity. No flow most of the time.

EXTREMES FOR CURRENT YEAR.--No flow this year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	---	---	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	---	---	---	---	0.000	0.000	0.000	0.000	0.000	0.000
MAX	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
MIN	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
(+)	0.00	0.40	0.40	0.24	0.00	0.00	0.32	0.00	0.32	0.25	0.27	1.97

CAL YR 2001 TOTAL 0.00 MEAN 0.000 MAX 0.00 MIN 0.00 AC-FT 0.00
WTR YR 2002 TOTAL 0.00 MEAN 0.000 MAX 0.00 MIN 0.00 AC-FT 0.00

(+) Total rainfall accumulation in inches.

083299375 MARIPOSA DIVERSION OF SAN ANTONIO ARROYO AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--This station was established during the summer of 1993 exclusively for water-quality sampling. As desired by the cooperators, AMAFCA and the City of Albuquerque Hydrology Department, only gage heights during sampling were recorded. No data for this site have been published in USGS annual Water-Data Reports. Complete water year discharge records were not calculated until water year 2000. On October 26, 1999, an electronic datalogger and pressure transducer became the primary stage recorder. The instruments are housed in a metal 2.5- by 2.5- by 6-foot shelter anchored to a concrete pad on the left bank, approximately 15 feet upstream from a 15-foot-diameter corrugated metal culvert. The culvert acts as the gage control. An outside staff with attached crest-stage gage is mounted approximately 10 feet upstream from the culvert. The pressure transducer orifice is mounted to the concrete pad immediately upstream from the culvert. The PZF is a chiseled square on the concrete pad of the culvert entrance. Its given elevation is 1.00 foot.

Gage-Height Record.--The recorder referenced to the outside staff gave a complete and satisfactory record during the entire water year. The sensor orifice is mounted in a depression upstream from the culvert lip, so all flow depths above the PZF are recorded. No flows occur without a significant precipitation event in the watershed.

Datum Correction.--No datum corrections were required in water year 2002. The gage is periodically checked for accuracy by pooling water around the orifice pipe and measuring from the PZF.

Rating.--Low flows are measured with a standard current-velocity meter, and higher flows are calculated indirectly using culvert-flow computational methods. Rating 3.0 was in effect prior to water year 2001 and had a PZF of 0.00 foot. To avoid negative gage-height readings during periods of no flow, the recorders are set with a built-in 1.00-foot datum or an effective PZF of 1.00 foot. Rating 4.0, which incorporates this 1.00-foot datum, was developed and started in water year 2001. The new rating is the same as rating 3.0 in all other aspects.

Discharge.-- Rating 4.0 was applied directly throughout the water year. Rating shifts will only occur if debris accumulates in the culvert barrel immediately downstream from the gage sensor. Estimated discharges are based exclusively on precipitation records for the watershed because no upstream or downstream gages are available for comparison purposes. The peak stage and discharge for this water year occurred on September 10, 2002, and were 2.35 feet and 34 cubic feet per second, respectively. Fourteen gage inspections and 2 water-quality samples were completed this water year.

Remarks.--This gage is slated to be moved in water year 2003 to a location approximately 2 miles downstream. The new site will incorporate discharges from the Ladera watershed.

083299375 MARIPOSA DIVERSION OF SAN ANTONIO ARROYO AT ALBUQUERQUE

LOCATION.--Lat 35°08'24", long 106°42'17", in $SE^1/_4NE^1/_4$ of sec.35, T.11 N., R.2 E., Bernalillo County, Hydrologic Unit 13020203, 1,500 ft upstream from the San Antonio underpass at Coors Boulevard on Albuquerque's west side, and 1.1 mi north of Interstate 25 and Coors Boulevard intersection.

DRAINAGE AREA.--30.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Summer 1993 to October 1999, recorded flow events only during water-quality sampling. October 1999 to current year (continuous record).

GAGE.--Water-stage recorder and crest-stage gage referenced to outside staff gage. Elevation of gage is 5,100 ft above the National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. No flows will occur until significant precipitation falls in the watershed.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.8	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.3	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.8
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.4
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	11.08	12.67
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.357	0.422
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	8.8	6.8
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	22	25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

MEAN	0.190	0.083	0.004	0.009	0.001	0.087	0.008	0.003	0.100	0.091	0.195	0.141
MAX	0.55	0.25	0.011	0.027	0.002	0.23	0.016	0.008	0.30	0.14	0.36	0.42
(WY)	2001	2001	2001	2001	2001	2000	2001	2001	2000	2000	2002	2002
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.060	0.000
(WY)	2002	2000	2002	2000	2000	2002	2002	2000	2001	2002	2001	2000

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 2000 - 2002
ANNUAL TOTAL	8.55	23.78	
ANNUAL MEAN	0.023	0.065	0.076
HIGHEST ANNUAL MEAN			0.092 2001
LOWEST ANNUAL MEAN			0.065 2002
HIGHEST DAILY MEAN	1.5 Jul 26	8.8 Aug 3	8.8 Aug 3 2002
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1999
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1999
MAXIMUM PEAK FLOW		34 Sep 10	251 Aug 2 1999
MAXIMUM PEAK STAGE		2.35 Sep 10	4.80 Aug 2 1999
ANNUAL RUNOFF (AC-FT)	17	47	55
10 PERCENT EXCEEDS	0.00	0.00	0.00
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

08329938 LADERA ARROYO AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger, recording at 5-minute intervals, is housed in a metal shelter over an 18-inch-diameter corrugated metal stilling well. Inside and outside staff gages are available as references. An electric-tape gage was installed as an additional inside reference gage on September 12, 2000. A peak-stage indicator clip was attached to the float tape on April 23, 1998. A tipping-bucket rain gage is housed in a metal 15- by 15- by 18-inch shelter attached to a 3-inch-diameter galvanized pipe and is located approximately 75 feet south of the water-stage recorder.

Gage-Height Record.--The water-stage recorder referenced on the inside staff and electric-tape gage gave a complete and satisfactory record for the entire water year. This station was not operated during the winter period from November 30, 2001, to March 6, 2002.

Rating.--The channel is straight for approximately 40 feet upstream and 300 feet downstream from the gage. The channel bottom is plane-bedded, loose sand and is approximately 15-20 feet wide with no vegetation. Light to moderate vegetation grows on both banks, mostly small weeds and shrubs. An occasional desert willow shrub grows on the right overbank area. Both banks are generally less than 2 feet high and contain most flows. Rating 5.0 was developed in water year 1999 and was based on the four measurements completed during that year. When water year 2002 began, the channel bottom, or PZF, was approximately 2.00 feet on the outside staff. Because the PZF for rating 5.0 is 2.20 feet, a +0.20-foot shift to the rating was needed, as was needed at the close of water year 2001. Because no flows occurred in water year 2002, the same +0.20-foot shift was continued throughout this water year.

Discharge.--During water year 2002, 12 site visits were made and no discharge measurements were completed. No flows occurred this water year. Rating 5.0 was applied directly the entire water year. Because of its flashy nature, with flows lasting less than an hour, measurements are difficult. Generally, only PZF's are available for defining shifts.

This channel does not flow unless substantial thunderstorms occur in the watershed.

08329938 LADERA ARROYO AT ALBUQUERQUE, NM

LOCATION.--Lat 35°06'56", long 106°44'48", in Town of Atrisco Land Grant, Bernalillo County, Hydrologic Unit 13020203, on left bank, 0.25 mi northwest of City of Albuquerque water storage tank, on dirt road extension of 98th Street, and 2.3 mi west of North Coors Boulevard in Albuquerque.

DRAINAGE AREA.--0.34 mi^2.

PERIOD OF RECORD.--May 1981 to current year (seasonal records).

GAGE.--Water-stage recorder and recording tipping-bucket rain gage with 0.01-in. increments. Elevation of gage is 5,312 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 5, 1986, at site 0.2 mi downstream at different datum.

REMARKS.--Records fair. Recording rain gage at station. The basin is undeveloped semidesert terrain, part of which is above the escarpment west of Albuquerque. See tabulation below for monthly precipitation in inches.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 195 ft^3/s, Aug. 2, 1999, gage height, 4.12 ft, from slope-area indirect measurement; no flow most of time.

EXTREMES FOR CURRENT YEAR.--No flow this water year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	---	---	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	---	---	---	---	0.000	0.000	0.000	0.000	0.000	0.000
MAX	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
MIN	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00

08330200 SAN JOSE DRAIN AT WOODWARD ROAD AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger and pressure transducer, recording at 5-minute intervals, have been used to collect gage-height and rainfall data since September 23, 1999. Prior to this date, gage heights were recorded only during water-quality sampling. An automatic pump sampler is also located in the gage house. Electricity is provided to the shelter. The instruments are housed in a brick 4- by 4- by 8-foot walk-in building located approximately 1/4 mile west of the intersection of Woodward Road and South Broadway in Albuquerque. The shelter is immediately adjacent to the north shoulder of Woodward Road and directly over a 10-foot-diameter metal culvert. The channel is concrete lined upstream from the culvert. Downstream, the natural channel is normally choked with weed growth. City maintenance crews clear the channel at least once each year. The reference gage is an outside staff painted on the concrete channel side slope near the recorder orifice pipe. The staff is referenced to a tape-up point (RM1), which is a hex-head bolt anchored in the channel bottom approximately 1 foot streamward of the staff gage. Low- to medium-stage discharge measurements can be made by wading near the gage or wading downstream from the culvert.

Gage-Height Record.--The recorder gave a complete and satisfactory record for the water year except when ice covered the orifice, leading to erroneous data on February 25-27, 2002, and from April 9 to May 7 when the orifice tubing was plugged with mud. With the exception of April 9, all daily mean discharges were estimated as zero.

Datum Correction.--No other recorder corrections were needed this water year.

Rating.--Rating 3.0 was developed for water year 2000 because rating 2.0 used theoretical discharge computations as input points for the rating curve, giving it an irregular shape. The new rating is basically the same as rating 2.0 with the exception of a smooth, "best-fit" line through these input points. Because of a very flat channel slope (approximately 0.0003 foot per foot), sediment and debris commonly accumulate in the culvert and channel, resulting in large negative shifts to the stage versus discharge rating. Occasionally, large sediment deposits in the culvert result in ponded water at the gage orifice; however, no flow may exist downstream. The control is the 10-foot-diameter culvert pipe for most flows, but the mud layer in the culvert or vegetative cover in the natural lined part of the channel downstream may act as the control during extremely low flows and times of sediment accumulation in the culvert. The orifice is mounted approximately 0.50 foot above the bottom of the channel to prevent sediment accumulations from covering the sensor and affecting the gage-height record. Because of this, discharge computations show a constant -0.50-foot shift, or correction to the rating, below recorded gage heights of 0.50 foot. This technique eliminates computing a discharge when water levels are below the orifice.

Discharge.--Because only one measurement was completed at this site in water year 2002, the shift values to rating 3.0 were based on the -0.28-foot shift defined by the measurement of November 23, 2001. By late October 2001, a large amount of sediment had accumulated in the culvert pipe

under Woodward Road and heavy vegetation existed upstream and downstream from the culvert, so a shift correction to rating 3.0 was evident. The channel conditions remained approximately the same throughout the rest of the water year so the shift was held constant until more measurements are completed or the channel is cleaned out by City maintenance crews. Hydrographic trends can also be used to confirm shift values when discharge measurements are not available. Peak flows display a slower recession pattern after reaching the water level of the channel obstruction. The shift values will also coincide with the approximate maximum gage height resulting from daily trickle flows ponding in the area behind the mud "dam" in the channel, then slowly seeping into the sediment layers, resulting in a diurnal-type hydrograph. In reality, these tiny trickle flows would not register on the datalogger in a clean channel. Field inspections were also valuable in determining ponded water depths upstream from the sediment bars, even though no flows were detected downstream. The peak gage height and discharge for water year 2002 were 4.09 feet and 40 cubic feet per second, respectively.

08330200 SAN JOSE DRAIN AT WOODWARD ROAD AT ALBUQUERQUE, NM

LOCATION.--Lat 35°02'56", long 106°38'55", in the NE $^1/_4$ of the SW $^1/_4$ of section 32, T.10E., R.3 E., Bernalillo County, Hydrologic Unit 13020203, approximately $^1/_4$ mi west of the intersection of Woodward Road and South Broadway on Albuquerque's south side. The gage is located on the right bank of San Jose Drain and the shoulder of Woodward Road where a corrugated metal culvert passes under Woodward.

DRAINAGE AREA.--1.95 mi^2.

PERIOD OF RECORD.--October 1993 to September 23, 1999. Only data during water-quality sampling events were recorded and never published in the USGS annual Water-Data Report. September 23, 1999 to present, full year of data is recorded, along with rainfall.

GAGE.--Water-stage recorder, and since July 1998, a tipping-bucket rain gage on the roof of the gage house is operational. The channel is concrete lined above Woodward Road and natural below. Elevation of gage is 4,946 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor due to heavy mud and weed accumulation at gage and downstream. Mud accumulates and vegetation grows in the channel and will affect the stage-discharge relation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.72	0.04
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.02	0.00	6.8	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.10	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.01	e0.00	0.01	0.00	0.23	0.00
6	0.00	0.00	0.00	0.00	0.00	0.30	0.66	e0.00	0.03	0.00	0.04	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	4.2	e0.00	0.06	0.00	0.00	0.00
8	0.00	0.00	0.00	0.08	0.00	0.00	2.3	0.00	0.0	0.03	0.00	0.0
9	0.00	0.00	0.00	0.00	0.00	0.00	e0.50	0.00	0.01	0.00	0.00	0.17
10	0.00	0.00	0.00	2.2	0.00	0.00	e0.00	0.00	0.02	0.03	0.00	5.4
11	0.00	0.00	0.17	0.00	0.00	0.00	e0.00	0.00	0.01	0.01	0.00	8.1
12	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.03	0.68
13	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.01	0.48
14	0.00	1.3	0.00	0.00	0.00	0.27	e0.00	0.29	0.93	0.00	0.02	0.05
15	0.00	1.8	0.00	0.00	0.44	0.00	e0.00	0.22	1.1	0.00	0.00	0.00
16	0.00	0.34	0.00	0.00	0.00	0.00	e0.00	0.15	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.08	0.00	0.29	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.25	0.05	1.8	0.00	1.3
19	0.00	0.11	0.00	0.00	0.00	0.00	e0.00	0.14	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.22	0.0	0.00	0.03	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.15	0.01	0.00	0.09	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.01	0.00	0.10	0.00	0.00
23	0.00	2.1	0.00	0.00	0.00	0.00	e0.00	0.00	0.02	0.00	0.00	0.00
24	0.44	0.00	0.00	0.00	0.00	0.00	e0.00	0.01	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	e0.00	0.14	e0.00	0.02	0.03	0.00	0.00	0.00
26	0.00	0.00	0.07	0.00	e0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	e0.00	0.00	e0.00	0.0	0.13	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.33
29	0.00	0.00	0.00	0.00	---	0.00	e0.00	0.07	0.00	0.00	0.02	0.00
30	0.00	0.00	0.98	3.5	---	0.00	e0.00	0.00	0.00	0.00	0.02	0.00
31	0.00	---	0.00	0.12	---	0.00	---	0.00	---	0.00	0.00	---
MEAN	0.014	0.19	0.039	0.19	0.016	0.023	0.26	0.052	0.081	0.073	0.26	0.55
MAX	0.44	2.1	0.98	3.5	0.44	0.30	4.2	0.29	1.1	1.8	6.8	8.1
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.9	11	2.4	12	0.9	1.4	15	3.2	4.8	4.5	16	33
(+)	0.05	0.58	0.26	0.38	0.07	0.00	0.31	0.06	0.05	0.42	1.17	1.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2002, BY WATER YEAR (WY)

MEAN	0.38	0.23	0.071	0.079	0.14	0.026	0.074	0.23	0.33	0.40	1.07	0.88
MAX	1.16	0.73	0.18	0.20	0.47	0.086	0.26	0.99	1.79	0.86	2.10	2.07
(WY)	2001	1995	1995	1995	1995	1994	2002	1996	1996	1996	1996	1995
MIN	0.014	0.000	0.000	0.000	0.011	0.000	0.000	0.000	0.006	0.073	0.22	0.013
(WY)	2002	2000	2000	2000	2000	1996	2000	2000	1995	2002	2000	2000

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1994 - 2002	
ANNUAL MEAN	0.20		0.15		0.38	
HIGHEST ANNUAL MEAN					0.66	1996
LOWEST ANNUAL MEAN					0.15	2002
HIGHEST DAILY MEAN	17	Aug 14	8.1	Sep 11	28	Aug 15 1994
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 2 1993
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Oct 8 1993
MAXIMUM PEAK FLOW			40	Aug 2	99	Aug 14 1994
MAXIMUM PEAK STAGE			4.09	Aug 2	6.57	Aug 14 1994
ANNUAL RUNOFF (AC-FT)	143		105		276	
10 PERCENT EXCEEDS	0.17		0.14		1.0	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated
(+) Total rainfall accumulation in inches.

08330540 TRAMWAY FLOODWAY CHANNEL AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger and pressure transducer, recording at 5-minute intervals, are housed in a metal, 5- by 5-foot walk-in shelter on the right bank of the concrete-lined channel. An outside staff gage is painted on the channel side slope and is the reference gage. A crest-stage gage, inclined 35 degrees from horizontal, was mounted to the right bank on October 22, 1998. Rainfall data from a tipping-bucket rain gage mounted to the gage house roof have been recorded by the datalogger since May 1, 2001. Prior to March 19, 1998, the pressure transducer orifice was mounted 0.12 foot above the channel bottom. On March 19, the orifice was lowered into a sump that is below the channel bottom so all gage heights above the channel bottom elevation, or PZF, are recorded. The recorded gage height is 1.00 foot when the water level in the sump is equal to the PZF.

Gage-Height Record.--The water-stage recorder, referenced to the outside staff gage, provided a complete and satisfactory record for the entire water year, except for periods of ice affecting gage heights on December 13-14, 16, 19, 2001; January 11-12, 24, 31, 2002; and July 10-11, 2002, when data for 2 partial days were erased because of a recorder failure. Estimations of mean daily discharges were determined by base flow values available before and after the missing time period and precipitation records. No other gage is located on this channel that could provide a hydrographic comparison for this site. Precipitation fell only on December 13, January 11, 31, and July 10 of the incomplete record period so estimated discharges reflect slight increases for these days. The station was operational for the entire water year. Prior to water year 2002, the gage was not operational during the winter months.

Rating.--The control for the gage is the concrete-lined channel. The depth of the channel at the gage is approximately 10 feet, and the bottom width is 10 feet. The side walls are inclined 35 degrees from horizontal. Rating 2.0 was effective from October 1, 1996, until March 19, 1998, when the orifice was lowered. Rating 2.0 is essentially identical to rating 1.0; the old rating, however, computed discharges for gage heights below the level of the orifice (0.12 foot). Because recording gage heights less than the orifice elevation is impossible, all discharges below the 0.12-foot gage height (less than 3.4 cubic feet per second) were computed as zero for rating 2.0. Rating 3.0 was developed for the period after March 19, 1998, when all gage heights greater than the PZF are recorded. Rating 3.0 is identical to rating 1.0 except that the PZF for rating 3.0 is 1.00 foot instead of 0.00 foot. All three ratings were developed by step-forward theoretical analysis because flow regimes here are supercritical.

Discharge.--Estimations of missing record are based on only rainfall data and historic base flows. No upstream or downstream gage is available for hydrographic comparison. Small daily flows, probably from sprinkler system runoff, usually occur in the evening and early morning hours. During water year 2002, 16 site inspections were made. Small trickle flows were observed on four of these visits and the recorder was tracking them to correct water levels. The

instantaneous peak stage and discharge for water year 2002 were 1.96 feet and 102 cubic feet per second, respectively, recorded on August 4, 2002.

Discharges were computed using rating curve 3.0 directly with no shifts. Flows probably cause enough turbulence in the orifice sump to wash out any debris that might affect gage heights. The channel slope in this reach creates extremely high velocities that make streamflow measurements nearly impossible. Because of the stability of the channel, the theoretical rating curve is considered better than individual measurements.

08330540 TRAMWAY FLOODWAY CHANNEL AT ALBUQUERQUE, NM

LOCATION.--Lat 35°04'42", long 106°29'49", Bernalillo County, Hydrologic Unit 13020203, on right bank 300 ft downstream from Copper Boulevard Bridge, near corner of Tramway and Copper Boulevards NE in Albuquerque.

DRAINAGE AREA.--1.60 mi^2.

PERIOD OF RECORD.--July 1987 to November 2000 (seasonal record), March 2001 to current year.

GAGE.--Water-stage recorder, crest-stage gage, and concrete-lined channel. Recording rain gage at this site since May 2001. Elevation of gage is 5,740 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for those estimated, which are poor. Prior to water year 1998, some minor streamflow may have existed on days where daily mean discharges have been recorded as zero due to the sensitivity limits of the streamflow monitoring equipment. Since 1998, all flows above zero are recorded. See tabulation below for monthly precipitation in inches.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.15	0.44	0.00	0.13	1.5	0.00	0.24	0.10	0.04	0.17	0.03	0.06
2	0.15	0.68	0.00	0.03	0.10	0.00	0.21	0.08	0.03	0.12	0.86	0.06
3	0.19	0.61	0.00	0.00	0.19	0.00	0.07	0.09	0.02	0.15	1.2	0.27
4	0.19	0.62	0.00	0.48	0.15	0.00	0.11	0.10	0.02	0.14	2.4	0.08
5	0.16	0.81	0.00	0.25	0.03	0.00	0.27	0.09	0.04	0.13	0.27	0.14
6	0.07	0.47	0.00	0.00	0.00	0.00	0.70	0.09	0.07	0.15	1.5	0.04
7	0.11	0.63	0.00	0.00	0.00	0.03	5.4	0.13	0.10	0.27	0.42	0.77
8	0.27	0.15	0.00	0.00	0.00	0.02	0.56	0.13	0.26	0.77	0.24	0.55
9	0.36	0.16	0.00	0.03	0.00	0.00	0.29	0.10	0.13	0.51	0.14	0.82
10	0.37	0.03	0.00	1.3	0.00	0.02	0.42	0.13	0.15	e1.5	0.07	3.9
11	0.08	0.06	0.45	e2.5	0.00	0.00	0.28	0.12	0.12	e0.20	0.08	2.1
12	0.19	0.18	1.0	e0.50	0.00	0.00	0.20	0.09	0.15	0.11	0.09	0.74
13	0.04	0.04	e1.0	0.08	0.00	0.00	0.21	0.15	0.15	0.11	0.04	0.59
14	0.06	3.1	e0.20	0.12	0.00	0.00	0.39	0.24	1.3	0.11	0.05	0.03
15	0.10	0.89	0.08	0.07	0.01	0.02	0.29	0.17	0.14	0.13	0.04	0.04
16	0.08	0.80	e0.00	0.04	0.02	0.00	0.21	0.14	0.07	0.04	0.03	0.06
17	0.17	0.00	0.00	0.01	0.00	0.01	0.14	0.14	0.16	0.64	0.04	0.10
18	0.10	0.00	0.07	0.00	0.43	0.00	0.07	0.12	0.06	0.13	0.09	1.5
19	0.12	0.00	e0.00	0.00	0.07	0.06	0.10	0.23	0.08	0.73	0.11	0.31
20	0.08	0.00	0.00	0.01	0.00	0.08	0.12	0.19	0.07	1.3	0.25	0.08
21	0.11	0.00	0.00	0.24	0.00	0.05	0.10	0.17	0.03	0.34	0.08	0.07
22	0.17	0.00	0.00	0.00	0.00	0.09	0.10	0.16	0.14	0.27	0.06	0.03
23	0.10	1.5	0.00	0.10	0.05	0.13	0.08	0.19	0.10	0.15	0.02	0.04
24	0.14	0.00	0.00	e0.10	0.05	0.08	0.07	0.17	0.15	0.39	0.06	0.05
25	0.18	0.04	0.00	0.03	0.00	0.05	0.10	0.19	0.14	0.14	0.10	0.06
26	0.55	0.00	0.00	0.07	0.00	0.16	0.13	0.14	0.08	0.11	0.12	0.06
27	0.52	0.00	0.00	0.17	0.00	0.19	0.13	0.14	0.13	0.07	0.08	0.12
28	0.53	0.00	0.00	0.02	0.01	0.11	0.12	0.17	0.08	0.05	0.03	0.75
29	0.71	0.19	0.76	0.00	---	0.43	0.09	0.18	0.10	0.04	0.10	0.05
30	0.62	0.00	1.5	1.3	---	0.16	0.16	0.11	0.11	0.05	0.12	0.06
31	0.68	---	0.16	e1.5	---	0.22	---	0.09	---	0.13	0.07	---
TOTAL	7.35	11.40	5.22	9.08	2.61	1.91	11.36	4.34	4.22	9.15	8.79	13.53
MEAN	0.237	0.380	0.168	0.293	0.093	0.062	0.379	0.140	0.141	0.295	0.284	0.451
MAX	0.71	3.1	1.5	2.5	1.5	0.43	5.4	0.24	1.3	1.5	2.4	3.9
MIN	0.04	0.00	0.00	0.00	0.00	0.00	0.07	0.08	0.02	0.04	0.02	0.03
AC-FT	15	23	10	18	5.2	3.8	23	8.6	8.4	18	17	27
(+)	0.07	2.77	1.52	1.14	0.40	0.08	0.70	0.03	0.44	1.28	1.40	1.96

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

MEAN	0.253	0.090	0.128	0.293	0.093	0.318	0.118	0.126	0.120	0.364	0.505	0.235
MAX	1.03	0.38	0.17	0.29	0.093	1.17	0.38	0.38	0.41	0.95	1.44	0.93
(WY)	1990	2002	2002	2002	2002	1990	2002	1998	2001	1998	2001	1991
MIN	0.000	0.000	0.000	0.29	0.093	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1991	1990	1990	2002	2002	1991	1991	1995	1990	1994	1994	1990

SUMMARY STATISTICS	FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	88.96			
ANNUAL MEAN	0.244		0.238	
HIGHEST ANNUAL MEAN			0.59	2001
LOWEST ANNUAL MEAN			0.000	1995
HIGHEST DAILY MEAN	5.4	Apr 7	32	Oct 4 1989
LOWEST DAILY MEAN	0.00	Nov 17	0.00	Oct 1 1989
ANNUAL SEVEN-DAY MINIMUM	0.00	Nov 30	0.00	Oct 5 1989
MAXIMUM PEAK FLOW	102	Aug 4	3190	Jul 9 1988
MAXIMUM PEAK STAGE	1.96	Aug 4	8.62	Jul 9 1988
ANNUAL RUNOFF (AC-FT)	176		172	
10 PERCENT EXCEEDS	0.63		0.48	
50 PERCENT EXCEEDS	0.10		0.00	
90 PERCENT EXCEEDS	0.00		0.00	

e Estimated
(+) Total rainfall accumulation in inches.

08330600 TIJERAS ARROYO NEAR ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger, recording at 5-minute intervals, is housed in a metal, 34- by 34-inch shelter over a 24-inch-diameter, 10-foot-long, corrugated metal stilling well. The stilling well is recessed into the left streambank and is accessed by a 4- by 8-foot expanded metal walkway. The walkway also serves as a support for the well and is anchored into the bank with steel angle-iron braces. Outside and inside staff gages are available as references to the gage datum. An electric-tape gage was installed as an additional reference gage on July 9, 1998. A peak stage indicator clip was attached to the float tape on March 17, 1998.

Gage-Height Record.--The water-stage recorder, which is referenced to the inside staff and electric-tape gages, gave a complete and satisfactory record for water year 2002, except for July 11, August 5, and August 6, 2002, when silt was deposited in the well. This sediment commonly accumulates during the recession of a hydrograph and may suspend the recorder float above the channel bottom elevation. The final few hours of each hydrograph were estimated by graphical methods with little loss in accuracy, and the estimated gage heights were re-entered into the database to compute a mean daily discharge. No flows occur at this site without substantial rainfall or snowmelt runoff in the upper drainage basin. This station recorded gage heights continuously during the entire water year. Prior to water year 1999, it was not operated during the winter months.

Rating.--The channel is straight for at least 1,000 feet upstream and downstream from the gage. Steep cut banks on both sides of the channel are approximately 4 feet high and partially covered with vegetation. The channel bottom is approximately 30 feet wide and is composed of very loose sand that is prone to extreme shifting. The channel bottom elevation, or PZF, may change many times throughout the year and is critical in the determination of shift values because most flows cannot be measured. A hydrograph generally indicates the PZF because ponded water remains in the stilling well long after flows cease. Field recordings of channel bottom elevations also confirm that the channel alternates between aggrading and scouring conditions.

Measurement conditions at this site are poor. Generally, low flows are shallow and characterized by high velocities and uneven measuring sections. Peak flows are flashy and stages change so quickly that mean gage heights for measurements are difficult to determine. High-water measurements are made by indirect methods. Even poorly rated measurements are often used to define a shift because measurements are extremely difficult to obtain at this site.

Rating 4.0 was developed in water year 1997 and began on October 1, 1996. The upper end of the rating is based on a theoretical step-backwater analysis and is verified by a slope-area indirect measurement (22) on July 9, 1996. Rating 4.0 was used through water year 2000. Measurements 56 and 57, completed in water year 2001, plot left of rating curve 4.0 as do all measurements from water year 2000, so a new rating, 5.0, was developed in water year 2001. Because of the extremely variable sand channel, most flows scour or aggrade the bed slightly, making development of a standard rating curve difficult. All five measurements completed in water year

2002 plot slightly left of rating curve 5.0, varying from -0.07- to -0.10-foot shifts. A single average shift of -0.08 foot is used to represent all five measurements since all plot within 8.6 percent of this average curve.

Discharge.--During water year 2002, 25 no-flow site visits and 5 measurements (58-62) were completed. The instantaneous peak stage and discharge for the water year were 4.94 feet and 416 cubic feet per second, respectively, on August 19, 2002.

08330600 TIJERAS ARROYO NEAR ALBUQUERQUE, NM

LOCATION.--Lat 35°00'10", long 106°38'53", in $SW^1/_4SW^1/_4$ sec.17, T.9 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on left bank 800 ft upstream from bridge on Broadway Boulevard SE, 0.2 mi downstream from bridge on Interstate Highway 25, and 3.0 mi south of Albuquerque.

DRAINAGE AREA.--128 mi^2.

PERIOD OF RECORD.--October 1951 to September 1968 (annual maximum only), August 1974 to September 1998 (seasonal records), October 1998 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,999 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 10, 1988, at site 1,700 ft downstream at different datum.

REMARKS.--Records good except for those estimated, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.1	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e9.1	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e8.0	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.9	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.6	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.2	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17	0.00	1.5
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e3.7	0.00	1.9
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.28	0.00	0.00
23	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.02	24.78	50.74	3.90
MEAN	0.000	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.799	1.637	0.130
MAX	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.02	17	15	1.9
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.9	0.00	0.00	0.00	0.00	0.00	0.00	0.04	49	101	7.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2002, BY WATER YEAR (WY)

MEAN	0.624	0.056	0.000	0.000	0.000	0.009	0.018	0.008	0.117	0.309	1.646	0.074
MAX	2.20	0.21	0.000	0.000	0.000	0.029	0.065	0.032	0.37	0.80	4.35	0.13
(WY)	2001	2001	1999	1999	1999	2000	1999	2001	2000	2002	1999	2002
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.040	0.28	0.026
(WY)	2000	1999	1999	1999	1999	2001	2000	1999	2002	2000	2000	2000

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1999 - 2002	
ANNUAL TOTAL	20.97		79.90			
ANNUAL MEAN	0.057		0.219		0.242	
HIGHEST ANNUAL MEAN					0.43	1999
LOWEST ANNUAL MEAN					0.063	2000
HIGHEST DAILY MEAN	5.3	Aug 14	17	Jul 10	47	Aug 3 1999
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1 1998
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1 1998
MAXIMUM PEAK FLOW			416	Aug 19	a2930	Jul 9 1988
MAXIMUM PEAK STAGE			4.94	Aug 19	b9.60	Jul 9 1988
ANNUAL RUNOFF (AC-FT)	42		158		175	
10 PERCENT EXCEEDS	0.00		0.00		0.00	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated
a From rating curve extended above 10 ft^3/s, on basis of step-backwater analysis, and slope-area measurement.
b From floodmarks.

08330775 SOUTH DIVERSION CHANNEL ABOVE TIJERAS ARROYO NEAR ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger and pressure transducer, recording at 5-minute intervals, are housed in a concrete block, walk-in shelter on the left bank where the earthen channel upstream becomes entirely concrete lined. The gage is located approximately 0.3 mile downstream from the Murray Road bridge, which is 0.2 mile west of South Broadway Boulevard. An outside staff gage is the reference gage. On April 30, 1999, the lower staff gage was moved to the right bank and a CSG was mounted to the staff support. The lower CSG cap lip elevation is 1.69 feet.

Gage-Height Record.--The recorder gave a complete and satisfactory record for water year 2002, except when sand partially covered the orifice line, affecting the gage-height record on January 11, 31, and September 12, 2002. A graphical trace of the gage heights identified exactly when the data were affected. The estimated mean daily discharges for January 11 and September 12 were based on observed gage heights for the first part of the hydrograph, then the erroneous portion of the hydrograph was graphed. These values were entered into the database, and estimated mean daily discharges were computed. For January 31, two different datum corrections were applied to closely approximate the true gage-height trace; however, the day was considered an "estimated" day because of less confidence in the final hydrograph. Prior to May 3, 1999, only gage heights above 0.11 foot were recorded because the orifice line was mounted on top of the concrete channel bottom. On May 3, 1999, the orifice was mounted upstream from the concrete channel apron and lowered below the PZF. A 1.00-foot datum was added to recorded gage heights to prevent negative readings during dry periods.

Rating.--The control for this station is the upstream lip of the concrete-lined trapezoidal channel. The concrete-lined portion of the channel starts at the orifice mount. Upstream from the gage, the channel is an earthen bottom, trapezoidal shape. The bottom width of the channel is 16 feet. The slope of the sides is approximately 35 degrees. The depth of the channel is approximately 18 feet. New ratings 5.0 and 5.1 were developed in water year 2002. They are basically the same as rating 4.0, except the multiple input points used in rating 4.0, which caused an irregularly shaped line, were eliminated in ratings 5.0 and 5.1. The new ratings straightened out the rating line and more closely approximated measurements completed during flow events. Rating 5.1 is the same as 5.0 but with a +1.00 foot datum added to all gage heights to prevent negative readings during dry periods. No shifts were applied to rating 5.1 this water year because of the stable nature of the channel at the gage and control.

Discharge.--Discharges were computed using rating 5.1 directly, with no shifts, for the entire water year. The channel bottom normally remains clear; therefore, shifts are rarely required at this site.

During the water year, 21 site inspections were completed. The maximum instantaneous stage and discharge during water year 2002 occurred on August 3, 2002, and were 1.96 feet and 49 cubic feet per second, respectively.

Mean daily discharges were estimated for those periods described in the "Gage-Height Record" paragraph above.

08330775 SOUTH DIVERSION CHANNEL ABOVE TIJERAS ARROYO NEAR ALBUQUERQUE, NM

LOCATION.--Lat 35°00'10", long 106°39'26", Bernalillo County, Hydrologic Unit 13020203, on right bank 600 ft upstream from confluence with Tijeras Arroyo, and 2.5 mi south of Albuquerque.

DRAINAGE AREA.--11.0 mi^2.

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

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 4,930 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for those estimated, which are fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.03	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.9	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	1.4	0.00	0.00	0.00	0.15	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.6
11	0.00	0.00	0.00	e1.2	0.00	0.00	0.00	0.00	0.00	0.01	0.00	13
12	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.02	0.00	e3.7
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
15	0.00	2.2	0.00	0.00	0.00	0.00	0.00	0.00	5.0	0.00	0.00	0.20
16	0.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00
17	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.2
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.65	0.30
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.09	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.00
23	0.00	1.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.00
24	0.00	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
25	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.09	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.58	e3.5	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	5.32	0.67	4.89	0.42	0.00	2.18	0.00	5.26	1.35	12.25	21.66
MEAN	0.000	0.177	0.022	0.158	0.015	0.000	0.073	0.000	0.175	0.044	0.395	0.722
MAX	0.00	2.2	0.58	3.5	0.42	0.00	1.4	0.00	5.0	0.61	9.9	13
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	11	1.3	9.7	0.8	0.00	4.3	0.00	10	2.7	24	43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2002, BY WATER YEAR (WY)

MEAN	0.987	0.805	0.062	0.067	0.077	0.217	0.129	0.253	0.495	0.768	1.559	0.891
MAX	2.88	4.50	0.39	0.18	0.21	0.69	0.57	1.83	3.14	2.09	4.65	2.79
(WY)	1995	1995	1995	1995	1998	2000	1997	1994	1996	1997	1994	1997
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.044	0.32	0.000
(WY)	2002	1996	1994	1994	1996	1996	1994	1995	1995	2002	1995	1998

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1994 - 2002	
ANNUAL TOTAL	86.62		54.00			
ANNUAL MEAN	0.237		0.148		0.529	
HIGHEST ANNUAL MEAN					0.94	1995
LOWEST ANNUAL MEAN					0.15	2002
HIGHEST DAILY MEAN	17	Aug 14	13	Sep 11	133	Aug 15 1994
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1 1993
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Oct 9 1993
MAXIMUM PEAK FLOW			49	Aug 3	1960	Jul 14 1990
MAXIMUM PEAK STAGE			1.96	Aug 3	6.30	Jul 14 1990
ANNUAL RUNOFF (AC-FT)	172		107		383	
10 PERCENT EXCEEDS	0.37		0.02		0.11	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

e Estimated

08331118 AMOLE DEL NORTE CHANNEL AT ALBUQUERQUE, NEW MEXICO

STATION ANALYSIS

WATER YEAR 2002

Equipment.--An electronic datalogger and pressure transducer, recording at 5-minute intervals, are housed in a metal, 2.5- by 2.5- by 6-foot shelter on the right bank of the concrete-lined channel, approximately 100 feet south of the Blake Road bridge. The site is approximately 0.5 mile west of Coors Boulevard on Albuquerque's southwest side. The 30-foot orifice line is housed in a 3/4-inch-diameter galvanized pipe anchored to the side wall of the channel. A concrete, broad-crested weir 980 feet downstream from the gage is the control. The top of the control wall is 1.0 foot higher than the elevation of the channel bottom at the gage because the channel slope is a very flat 0.0007 foot per foot. Because of this gentle slope, sediment accumulates in the channel bottom at the gage. An outside staff gage is painted on the channel side slope for reference. The PZF is referenced to a hex-head lag bolt anchored in the channel bottom outlined by a chiseled square. The PZF elevation is 1.00 foot. A CSG is mounted on the right channel sidewall and is inclined 26.5 degrees from horizontal. The elevation of the CSG cap is 2.15 feet referenced to the PZF. Low-water wading measurements are made in the vicinity of the gage.

Gage-Height Record.--The water-stage recorder, referenced to the PZF bolt in the bottom of the channel or the outside staff gage, gave a complete and satisfactory record during water year 2002. No other gage exists on this particular channel, so no hydrographic comparisons are possible.

The recorder senses only water levels greater than 0.30 foot deep (1.30-foot recorded gage height) because the orifice pipe was mounted 0.30 foot above the channel bottom to prevent siltation problems. At a gage height of 1.31 feet, the computed discharge is 0.17 cubic foot per second.

Rating.--The channel is concrete lined and trapezoid shaped at the gage, but the gage pool is controlled by a 40-foot-wide concrete weir 980 feet downstream. A 1-foot-wide notch is cut into the weir wall and is the low-flow control. The channel is straight for at least 1,000 feet upstream and 980 feet downstream from the gage. A theoretical rating was developed using a step-backwater analysis and WSPRO software. This site was measured for the first time in water year 2001, which better defined the low end of the rating. Measurements are difficult to obtain because of the flashy nature of this channel. All four measurements plot significantly left of theoretical rating 1.0, so a new rating, 2.0, was developed in water year 2001. The new rating breaks to the right at a gage height of approximately 2.12 feet or the level at which broad-crested weir flow begins. The new rating curve gradually blends into the old theoretical rating by a stage of 9.38 feet. One measurement, number 5, was completed in water year 2002. Because the channel is concrete lined and the control weir was clear at the time of the measurements, no shifts were applied. The measurement variation from the rating curve is due to inherent errors in the measuring process. The weir control is subject to debris accumulations, which affect the low-flow rating if the 1-foot notch in the control wall is obstructed. One shift was applied this year for the period August 2-23, when the weir notch had been clogged with debris. No

measurements were available during this time, so the actual negative shift value was based on three measurements (6-8) completed on October 22, 2002, when a debris jam was affecting flow at the gage. The three measurements define a single shift curve to rating 2.0 with a minimum base shift value of -.10 foot. An assumption was made that the effective shift value is approximately the same whenever the low-flow weir notch is fully obstucted. City maintenance crews are notified when channel cleanout is required.

Discharge.--During water year 2002, 17 site inspections and 1 measurement were completed. The instantaneous peak stage and discharge for water year 2002 were 3.35 feet and 125 cubic feet per second, respectively, on August 2, 2002. No flows occur at this site unless significant precipitation falls in the watershed. No other gages are in this watershed for comparison purposes, so precipitation records are the only data available for estimating discharges at this site.

08331118 AMOLE DEL NORTE CHANNEL AT ALBUQUERQUE, NM

LOCATION.--Lat 35°02'14", long 106°43'15", Bernalillo County, Hydrologic Unit 13020203, in Atrisco Grant, on right bank of concrete-lined channel 100 ft south of Blake Road and 2,500 ft west of intersection of Blake Road and Coors Boulevard in southwest Albuquerque.

DRAINAGE AREA.--6.302 mi^2.

PERIOD OF RECORD.--April 2000 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 4,997 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.1	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.8	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.8	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.6	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.0
11	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.6
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00
15	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.29	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.21
19	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.2	0.00	0.00
23	0.00	1.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.01
29	0.00	0.00	0.11	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.24	0.21	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.36	2.58	0.58	0.77	0.40	0.00	0.19	0.04	0.63	3.08	23.17	15.83
MEAN	0.012	0.086	0.019	0.025	0.014	0.000	0.006	0.001	0.021	0.099	0.747	0.528
MAX	0.29	1.7	0.24	0.56	0.28	0.00	0.19	0.04	0.63	2.2	9.8	9.0
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.7	5.1	1.2	1.5	0.8	0.00	0.4	0.08	1.2	6.1	46	31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

MEAN	0.385	0.294	0.024	0.127	0.009	0.065	0.055	0.175	0.123	0.377	0.338	0.201
MAX	0.76	0.50	0.028	0.23	0.014	0.13	0.10	0.38	0.35	0.83	0.75	0.53
(WY)	2001	2001	2001	2001	2002	2001	2001	2000	2000	2000	2002	2002
MIN	0.012	0.086	0.019	0.025	0.004	0.000	0.006	0.001	0.001	0.099	0.13	0.000
(WY)	2002	2002	2002	2002	2001	2002	2002	2002	2001	2002	2000	2000

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 2000 - 2002	
ANNUAL TOTAL	35.06		47.63			
ANNUAL MEAN	0.096		0.130		0.162	
HIGHEST ANNUAL MEAN					0.19	2001
LOWEST ANNUAL MEAN					0.13	2002
HIGHEST DAILY MEAN	4.0	Mar 7	9.8	Aug 3	9.8	Aug 3 2002
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Apr 20 2000
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Apr 20 2000
MAXIMUM PEAK FLOW			125	Aug 2	125	Aug 2 2002
MAXIMUM PEAK STAGE			3.45	Aug 2	3.45	Aug 2 2002
ANNUAL RUNOFF (AC-FT)	70		94		118	
10 PERCENT EXCEEDS	0.04		0.00		0.01	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

RAINFALL DATA SUMMARY

FOR WATER YEAR 2002

(arranged alphabetically)

PRECIPITATION FOR WATER YEAR 2002

The following section presents daily precipitation totals for the 41 rain gages in the Urban Runoff Program. A station analysis, which lists detailed location descriptions, equipment, and period of data record, is also included for each rain-gage location. In addition, the station analysis describes data problems and how data estimates were made.

Precipitation Totals

Averaged over the 41 rain gages in the metropolitan area, approximately 6.7 inches of rain fell over Albuquerque during water year 2002. However, the variation in both spatial and temporal distribution of rainfall in the Albuquerque area is large. For example, the rain gage at North Camino Arroyo Tributary (site ID 18 in table 1) in the far northeast heights measured more than 18 inches of rain for water year 2002, whereas the rain gage at Fire Station #14 (site ID 46 in table 1), located approximately 14 miles southwest of the rain gage at North Camino Arroyo, measured less than 2 inches of rain for water year 2002.

The variation in spatial distribution of annual precipitation over the USGS rain-gage network is illustrated in figure 4, which shows water year 2002 precipitation totals for 37 of the USGS rain gages. The rain gages at Walker Pump Station (site ID 11), Love Pump Station (site ID 17), Hale House (site ID 19), and the North Floodway Channel near Alameda (site ID 27) are not included in the figure because they did not have a complete data record for water year 2002; details are provided in the station analysis.

In general, a disproportionate amount of total annual precipitation in Albuquerque falls in July through September due to the onset of the southwestern monsoon, during which moisture-laden air is drawn into Mexico and the southwestern United States from the Gulf of California and the Gulf of Mexico (Adams and Comrie, 1997). The combined precipitation for July through September is also shown in figure 4.

The station locations shown in figure 4 are listed, from left to right, in order of increasing longitude and show a slight increasing total precipitation trend in an eastward direction or toward the Sandia Mountains. This precipitation trend, although modest, is not surprising because the increasing elevation forces an increase in convection and consequently creates more uplift of water vapor to the condensation level.

Comparison to Historical Data

Because of the large variation in precipitation distribution across the metropolitan area, using an annual average of the entire rain-gage network to determine if water year 2002 was a "wet" or "dry" year is difficult. Instead, it is more meaningful to compare annual precipitation data, sampled both spatially and temporally, with historical precipitation data sampled over the same spatial and temporal scales. Figures 5-8 show total monthly precipitation, for both water year 2002 and for each water year in the historical USGS precipitation record, at seven rain gages in the USGS network. Data point symbols in these figures are centered over their corresponding values. Also, because some selected stations have a data record that exceeds 15 years whereas others have as few as 5 years of historical data, the number of historical data points for each gage varies accordingly.

others have as few as 5 years of historical data, the number of historical data points for each gage varies accordingly.

These gages were selected to give a geographic representation of the 41 rain gages in the metropolitan area: Bear Canyon Arroyo (site ID 1) in the Sandia Mountains foothills, Leonard (site ID 15) in east-central Albuquerque, North Camino Arroyo Tributary(site ID 18) in the far northeast heights, Tijeras Arroyo (site ID 28) on the southern edge of Albuquerque, City Hall (site ID 36) in central Albuquerque, Taylor Ranch Drain (site ID 39) in the northwest, and Fire Station 14 (site ID 46) in southwestern Albuquerque.

Generally, monthly totals for water year 2002 at these seven selected rain gages were below corresponding historical averages. September 2002 was a notable exception, during which six of the seven selected rain gages recorded above-average precipitation. The North Camino Arroyo rain gage actually recorded the peak monthly precipitation in its entire period of record, with more than 5.8 inches of rain in September 2002.

Lastly, figure 9 compares total annual precipitation for water year 2002 to average historical total annual precipitation at each of the selected seven rain gages. With the exception of North Camino Arroyo, the rain gages averaged about 60 percent less than normal precipitation for water year 2002; North Camino recorded about 25 percent above average precipitation for the water year.

REFERENCES CITED

Adams, D.K., and Comrie, A.C., 1997, The North American monsoon, *in* Bulletin of the American Meteorological Society, v. 78, p. 2197-2213.

Figure 4. Precipitation totals for water year 2002 in comparison to totals for July through September 2002 at 37 U.S. Geological Survey rain gages. The gages are listed by name and site ID number from table 1.

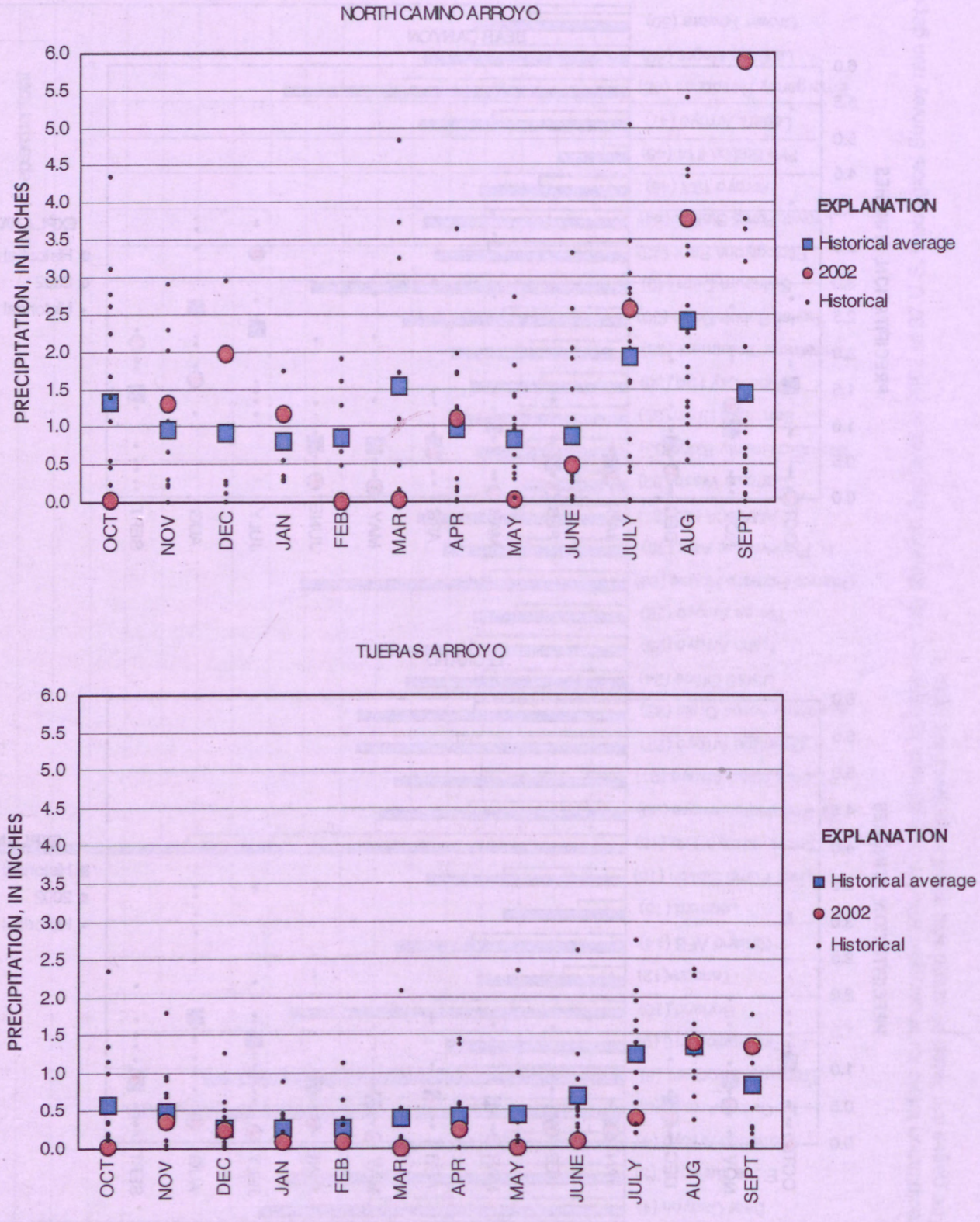

Figure 6. Monthly precipitation at selected U.S. Geological Survey rain-gage sites. Location of gages in figure 1.

08329880 ACADEMY ACRES DRAIN RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°09'04"N., 106°34'23"W. Rain gage is located in northeast Albuquerque at the surface-water stream-gage location on Burlison Drive, approximately 0.5 mile north of intersection with Academy Road, approximately 1 mile east of San Mateo Boulevard.

Equipment.--Onset Corporation HOBO Event data recorder and 8.2-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. The rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1985 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 17, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.45	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.59	0.0
4	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.19	0.21	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.08	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.55	0.0	0.0	0.01	0.0	0.0
8	0.0	0.02	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.01	0.0	0.01
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
10	0.0	0.0	0.0	0.26	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.96
11	0.0	0.0	0.28	0.01	0.0	0.0	0.0	0.0	0.0	0.11	0.0	0.44
12	0.0	0.0	0.04	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10
13	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13
14	0.0	0.46	0.0	0.0	0.0	0.0	0.0	0.0	0.30	0.0	0.0	0.0
15	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.24
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.03	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.13	0.06	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
23	0.0	0.13	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.10	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07
29	0.0	0.0	0.16	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.22	0.20	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.18	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.0	0.72	0.74	0.70	0.09	0.0	0.61	0.02	0.38	0.79	1.42	2.01
MAX	0.00	0.46	0.28	0.26	0.08	0.00	0.55	0.02	0.30	0.19	0.59	0.96
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 9.43 MAX 1.31 MIN 0.00
WTR YR 2002 TOTAL 7.48 MAX 0.96 MIN 0.00

350448106390230 ALBUQUERQUE CITY HALL RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°05'15"N., 106°39'05"W. The rain gage is located in northwest Albuquerque on the roof of Albuquerque City Hall, just west of City Plaza.

Equipment.--Onset Corporation HOBO Event data recorder and 8.0-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year, except for February 11 to March 26 and April 30 to May 8. During these periods the data recorder malfunctioned. Estimated daily totals for these days are the averages of daily totals from the Campus Wash and Bernalillo County Building rain gages.

Period of Record.--October 1994 to present.

Remarks.--Record is good for the entire water year, except for estimates, which are poor. The new HOBO recorder was installed on September 9, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	e0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	e0.02	0.0	0.0	0.64	0.0
3	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	e0.0	0.0	0.0	0.20	0.0
4	0.0	0.0	0.01	0.0	0.0	e0.0	0.0	e0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	e0.0	0.0	0.02	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	e0.0	0.03	e0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	e0.0	0.10	e0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	e0.0	0.0	0.0	0.0	0.02
9	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.06
10	0.0	0.0	0.0	0.24	0.0	e0.0	0.0	0.0	0.0	0.04	0.0	0.47
11	0.0	0.0	0.0	0.01	e0.0	e0.0	0.0	0.0	0.0	0.02	0.0	0.51
12	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.03
13	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.09
14	0.0	0.33	0.0	0.0	e0.0	e0.0	0.0	0.06	0.24	0.0	0.0	0.00
15	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.03	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	e0.04	e0.0	0.0	0.0	0.0	0.04	0.0	0.16
19	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.00
20	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.0	0.04	0.00
21	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.0	0.02	0.00
22	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.00
23	0.0	0.26	0.0	0.01	e0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.02	0.0	0.00
25	0.0	0.04	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.02	0.0	0.00
26	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.00
27	0.0	0.01	0.0	0.0	e0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
29	0.0	0.0	0.07	0.0	---	0.0	e0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.09	0.20	---	0.0	e0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.10	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.0	0.67	0.17	0.56	0.04	0.0	0.13	0.10	0.24	0.16	0.90	1.40
MAX	0.00	0.33	0.09	0.24	0.04	0.00	0.10	0.06	0.24	0.04	0.64	0.51
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 5.90 MAX 0.67 MIN 0.00
WTR YR 2002 TOTAL 4.37 MAX 0.64 MIN 0.00

e Estimated

350627106364630 AMAFCA HEADQUARTERS RAIN GAGE NEAR ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°06'27"N., 106°36'47"W. The AMAFCA headquarters are located in northeast Albuquerque, west of Carlisle Boulevard on Menaul Boulevard behind the Summer Suites Hotel. The rain gage is in the maintenance yard.

Equipment.--Onset Corporation HOBO Event data recorder and 6.3-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--September 1997 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 9, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.41	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.40	0.0
4	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.26	0.0	0.0	0.01	0.0	0.0
8	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.02
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.08
10	0.01	0.0	0.0	0.15	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.55
11	0.0	0.0	0.15	0.01	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.52
12	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.08
13	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02
14	0.0	0.33	0.0	0.0	0.0	0.0	0.0	0.05	0.72	0.0	0.0	0.00
15	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.00
16	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.24
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.03	0.05	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.00
23	0.0	0.23	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.09
29	0.0	0.0	0.10	0.0	---	0.04	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.12	0.21	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.14	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.01	0.71	0.42	0.54	0.03	0.04	0.31	0.06	0.80	0.42	0.89	1.60
MAX	0.01	0.33	0.15	0.21	0.02	0.04	0.26	0.05	0.72	0.13	0.41	0.55
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 6.75 MAX 0.71 MIN 0.00
WTR YR 2002 TOTAL 5.83 MAX 0.72 MIN 0.00

08329935 ARROYO 19A RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°09'24"N., 106°43'50"W. The rain gage is located west of Albuquerque on Volcano Hill, west of Unser Boulevard and west of Petroglyphs National Park.

Equipment.--Onset Corporation HOBO Event data recorder and 8.2-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1986 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 12, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.28	0.0	0.0	0.0	0.0	0.02
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.06
10	0.0	0.0	0.0	0.13	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.95
11	0.0	0.0	0.22	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.51
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10
14	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.20	0.0	0.0	0.00
15	0.0	0.13	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.00
16	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
23	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07
29	0.0	0.0	0.11	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.07	0.03	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.03	---	---	---	0.0	---	0.0	0.0	---
TOTAL	0.0	0.40	0.40	0.24	0.0	0.0	0.32	0.0	0.32	0.25	0.27	1.97
MAX	0.00	0.14	0.22	0.13	0.00	0.00	0.28	0.00	0.20	0.10	0.19	0.95
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 4.95 MAX 0.63 MIN 0.00
WTR YR 2002 TOTAL 4.17 MAX 0.95 MIN 0.00

350859106274330 BEAR CANYON RAIN GAGE IN ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°08'00"N., 106°27'45"W. The rain gage is located on Albuquerque Academy property in the Sandia Mountains foothills, east of the intersection of Tramway Boulevard and Academy Road.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year, except for April 29 through May 5. During this period the recorder malfunctioned. Estimates for these periods are based on daily totals from the Elena Gallegos rain gage and are considered to be good because no other rain gages located in the area recorded precipitation.

Period of Record.--October 1994 to present.

Remarks.--Record is good for the entire water year except for estimates, which are good. The new HOBO recorder was installed on September 16, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.10	0.0	0.0	e0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.50	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.00	e0.0	0.0	0.06	0.14	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.01	0.02	0.0	0.0
5	0.0	0.0	0.0	0.05	0.0	0.0	0.0	e0.0	0.0	0.06	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.15	0.0	0.0	0.01	0.18	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.46	0.0	0.0	0.04	0.46	0.02
8	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.02
9	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.46	0.0	0.82
11	0.0	0.0	0.10	0.07	0.0	0.0	0.0	0.0	0.0	0.16	0.0	0.34
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14
13	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
14	0.0	0.41	0.08	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0
15	0.0	0.43	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20	0.0	0.0
16	0.0	0.24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.47
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.66	0.24	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	1.54	0.08	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.00
23	0.0	0.13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.00
28	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.17
29	0.0	0.0	0.02	0.0	---	0.05	e0.0	0.0	0.0	0.0	0.02	0.00
30	0.0	0.0	0.10	0.0	---	0.0	e0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.08	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.0	1.28	0.35	0.27	0.10	0.05	0.61	0.13	0.23	3.39	1.62	2.14
MAX	0.00	0.43	0.10	0.08	0.10	0.05	0.46	0.12	0.10	1.54	0.50	0.82
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 12.32 MAX 1.17 MIN 0.00
WTR YR 2002 TOTAL 10.17 MAX 1.54 MIN 0.00

e Estimated

350340106385230 BERNALILLO COUNTY BUILDING RAIN GAGE NEAR ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°03'29"N., 106°38'40"W. The rain gage is located in southeast Albuquerque on the roof of a Bernalillo County office building, south of the intersection of Gibson and Broadway Boulevards.

Equipment.--Onset Corporation HOBO Event data recorder and 6.3-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1994 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 9, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.47	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16	0.0
4	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.01	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.21	0.0	0.0	0.0	0.0	0.02
8	0.01	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.08	0.0	0.02
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09
10	0.01	0.0	0.0	0.25	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.47
11	0.0	0.0	0.11	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.53
12	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
13	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02
14	0.0	0.11	0.0	0.0	0.0	0.0	0.0	0.03	0.07	0.0	0.0	0.00
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.00
18	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.15	0.0	0.19
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.01	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
22	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.00
23	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.00
25	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11
29	0.0	0.0	0.09	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.07	0.21	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.06	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.02	0.13	0.29	0.57	0.04	0.0	0.26	0.05	0.07	0.48	0.79	1.51
MAX	0.01	0.11	0.11	0.25	0.04	0.00	0.21	0.03	0.07	0.15	0.47	0.53
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 6.51 MAX 0.73 MIN 0.00
WTR YR 2002 TOTAL 4.21 MAX 0.53 MIN 0.00

350713106314230 BORLAND RAIN GAGE IN ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°07'14"N., 106°31'45"W. The rain gage is located on private property in northeast Albuquerque near the intersection of Candelaria Road and Eubank Boulevard.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1994 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 3, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.78	0.0
3	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.01	0.11	0.02
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.61	0.00
5	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
6	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.40	0.00
7	0.0	0.0	0.0	0.0	0.0	0.0	0.69	0.0	0.0	0.01	0.73	0.03
8	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.02
9	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.10
10	0.01	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.67	0.0	0.85
11	0.0	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.0	0.43	0.0	0.48
12	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14
13	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.15
14	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.11	0.22	0.0	0.0	0.00
15	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.32
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.22	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20	0.04	0.05	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
22	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.00
23	0.0	0.21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12
29	0.0	0.0	0.07	0.0	---	0.01	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.18	0.03	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.0	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.04	0.65	0.45	0.13	0.21	0.01	0.79	0.14	0.42	1.62	2.68	2.23
MAX	0.01	0.30	0.18	0.06	0.10	0.01	0.69	0.11	0.22	0.67	0.78	0.85
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 6.75 MAX 0.45 MIN 0.00
WTR YR 2002 TOTAL 9.37 MAX 0.85 MIN 0.00

08329700 CAMPUS WASH RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°05'38"N., 106°37'25"W. The rain gage is located in northeast Albuquerque at the surface-water gage, just west of the UNM South Golf Course.

Equipment.--7.9-inch-diameter tipping bucket connected to a surface-water data recorder. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1988 to present.

Remarks.--Record is good for the entire water year.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.27	0.00
3	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00
4	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.0	0.0	0.0	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
7	0.0	0.0	0.0	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00
8	0.0	0.04	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
9	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
10	0.0	0.0	0.0	0.08	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.36
11	0.0	0.0	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.10
12	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
13	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
14	0.0	0.14	0.0	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.00
15	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.0	0.0	0.0	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.16
19	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
20	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.03	0.00
21	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
22	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00
23	0.0	0.20	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
27	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
29	0.0	0.0	0.09	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.0	0.0	0.03	0.10	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.0	---	0.0	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.0	0.38	0.17	0.18	0.03	0.00	0.14	0.04	0.57	0.12	0.45	0.83
MAX	0.00	0.20	0.09	0.10	0.03	0.00	0.11	0.03	0.55	0.07	0.27	0.36
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 4.60 MAX 0.52 MIN 0.00
WTR YR 2002 TOTAL 2.91 MAX 0.55 MIN 0.00

350400106465630 CROWN TOWERS AT NINE MILE HILL RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°04'00"N., 106°46'56"W. The rain gage is located in far southwest Albuquerque, and is in the maintenance yard of a group of communications towers. The yard is just southeast of the intersection of Interstate 40 and Paseo del Vulcan Road.

Equipment.--Onset Corporation HOBO Event data recorder and 6.5-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the water year.

Period of Record.--August 2000 to present.

Remarks.--Record is good for the water year. The new HOBO recorder was installed on August 19, 2002

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.18	0.00
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.24	0.01
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.03
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
6	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.01	0.00
7	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.01	0.0	0.0	0.13	0.04
8	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02
9	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
10	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.96
11	0.0	0.0	0.16	0.15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.51
12	0.0	0.0	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02
13	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01
14	0.0	0.28	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.00
15	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.00	0.14
19	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.02	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.04	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.05	0.00	0.00
23	0.0	0.22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.00	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.00	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.00	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.00	0.07
29	0.0	0.0	0.08	0.0	---	0.0	0.0	0.0	0.0	0.0	0.00	0.01
30	0.0	0.0	0.04	0.02	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31	0.0	---	0.0	0.02	---	0.0	---	0.0	---	0.0	0.00	---
TOTAL	0.0	0.59	0.30	0.23	0.03	0.0	0.14	0.06	0.21	0.23	0.65	1.90
MAX	0.00	0.28	0.16	0.15	0.01	0.00	0.10	0.05	0.10	0.10	0.24	0.96
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 6.08 MAX 0.76 MIN 0.00
WTR YR 2002 TOTAL 4.34 MAX 0.96 MIN 0.00

350954106282330 ELENA GALLEGOS PICNIC AREA RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°09'42"N., 106°28'25"W. The rain gage is located in the Sandia Mountains foothills on the roof of the Elena Gallegos visitor center, approximately one mile northeast of the intersection of Tramway Boulevard and Academy Road.

Equipment.--Onset Corporation HOBO Event data recorder and 8.0-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1994 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 17, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.34	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.15	0.17	0.04
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.14	0.01	0.0	0.0	0.0	0.0	0.09	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.16	0.0	0.0	0.02	0.45	0.0
7	0.01	0.0	0.0	0.0	0.0	0.0	0.54	0.0	0.0	0.06	0.19	0.0
8	0.02	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.25	0.0	0.01
9	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.25	0.0	0.90
11	0.0	0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.0	0.30	0.0	0.36
12	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12
13	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07
14	0.0	0.51	0.01	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0
15	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.0
16	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.40
19	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.07	0.0	0.48	0.08	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.06	0.75	0.08	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.0	0.01	0.00
22	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.00
23	0.0	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.07	0.01	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.12
29	0.0	0.0	0.11	0.0	---	0.02	0.0	0.0	0.0	0.0	0.03	0.00
30	0.0	0.0	0.27	0.0	---	0.01	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.43	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.07	1.02	0.61	0.64	0.02	0.04	0.70	0.09	0.23	2.49	1.35	2.13
MAX	0.03	0.51	0.27	0.43	0.01	0.02	0.54	0.07	0.08	0.75	0.45	0.90
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 11.01 MAX 0.92 MIN 0.00
WTR YR 2002 TOTAL 9.39 MAX 0.90 MIN 0.00

350554106283230 EMBUDO CANYON RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°05'55"N., 106°28'32"W. The rain gage is located in the Sandia Mountains foothills in Embudo Canyon. The city maintains a water storage tank approximately 0.5 mile east of the eastern terminus of Indian School Road, and the rain gage is located in the storage tank yard.

Equipment.--Onset Corporation HOBO Event data recorder and 6.3-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--June 1999 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 16, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.26	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.02	0.0
5	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.01	0.27	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.79	0.0	0.0	0.01	0.23	0.18
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08
10	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.40	0.0	0.35
11	0.0	0.0	0.08	0.03	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.16
12	0.0	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12
13	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05
14	0.0	0.81	0.06	0.0	0.0	0.0	0.0	0.06	0.09	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.30
19	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.02	0.0	0.07	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.22	0.05	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.07	0.0	0.00
23	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16
29	0.0	0.0	0.04	0.0	---	0.02	0.0	0.0	0.0	0.0	0.02	0.00
30	0.0	0.0	0.34	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.04	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.01	1.11	0.62	0.14	0.27	0.03	0.91	0.08	0.10	1.12	0.68	1.53
MAX	0.01	0.81	0.34	0.04	0.26	0.02	0.79	0.06	0.09	0.40	0.27	0.35
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 11.33 MAX 0.87 MIN 0.00
WTR YR 2002 TOTAL 6.60 MAX 0.81 MIN 0.00

350348106453230 EMERGENCY DISPATCH BUILDING RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°03'48"N., 106°45'32"W. The rain gage is located in southwest Albuquerque in the Emergency Response Dispatch Building. The building is located near the intersection of Central Avenue and 98th Street.

Equipment.--Wescor DPX data recorder and 6.5-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 2000 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on August 19, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.28	0.00
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.30	0.00
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.34	0.05
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.52	0.01	0.00
5	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.01	0.00
6	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.08	0.05	0.00
7	0.0	0.0	0.0	0.0	0.0	0.01	0.12	0.0	0.0	0.02	0.0	0.04
8	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.83	0.0	0.01	0.0	0.02
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.0	0.07
10	0.0	0.0	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.32	0.0	1.11
11	0.0	0.0	0.25	0.13	0.0	0.0	0.0	0.0	0.0	1.01	0.0	0.50
12	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02
13	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01
14	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.00
15	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.00	0.20
19	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.01	0.09	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.04	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.00	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.06	0.00	0.00
23	0.0	0.33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.21	0.00	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.02
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	0.0	0.00	0.13
29	0.0	0.0	0.09	0.0	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30	0.0	0.0	0.05	0.02	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31	0.0	---	0.0	0.12	---	0.0	---	0.0	---	0.0	0.00	---
TOTAL	0.0	0.68	0.44	0.35	0.05	0.05	0.17	0.90	0.30	3.41	1.12	2.17
MAX	0.00	0.33	0.25	0.13	0.04	0.04	0.12	0.83	0.19	1.52	0.34	1.11
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 6.82 MAX 0.76 MIN 0.00
WTR YR 2002 TOTAL 9.64 MAX 1.52 MIN 0.00

350357106443030 FIRE STATION #14 RAIN GAGE IN ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°03'57"N., 106°44'31"W. The rain gage is located in southwest Albuquerque, approximately 0.25 mile southwest of the intersection of Central Avenue and 98th Street.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1994 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 12, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0
10	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0
11	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08
12	0.0	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.01
13	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
14	0.0	0.21	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0	0.0	0.00
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.08	0.0	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.0	0.18
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.05	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.03	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.00
23	0.0	0.16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.04	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.12
29	0.0	0.0	0.09	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.02	0.04	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.01	---	0.0	0.10	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.09	0.41	0.27	0.17	0.06	0.0	0.15	0.06	0.07	0.09	0.14	0.47
MAX	0.08	0.21	0.09	0.10	0.06	0.00	0.10	0.06	0.04	0.04	0.05	0.18
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 5.47 MAX 0.58 MIN 0.00
WTR YR 2002 TOTAL 1.98 MAX 0.21 MIN 0.00

350756106305430 FIRE STATION #16 RAIN GAGE IN ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°08'09"N., 106°30'58"W. The rain gage is located in northeast Albuquerque, approximately 0.5 mile north of the intersection of Montgomery and Juan Tabo Boulevards.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--June 1983 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 17, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.13	0.0
3	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.01
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0
5	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0
7	0.03	0.0	0.0	0.0	0.0	0.0	0.78	0.0	0.0	0.0	0.12	0.0
8	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05
9	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.07
10	0.04	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.78
11	0.0	0.0	0.13	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0
12	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.21
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.22
14	0.0	0.35	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0
15	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.29
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.14	0.02	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
22	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
23	0.0	0.17	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10
29	0.0	0.0	0.13	0.0	---	0.02	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.16	0.04	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.0	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.10	0.73	0.49	0.17	0.29	0.02	0.83	0.09	0.02	0.20	0.34	1.73
MAX	0.04	0.35	0.16	0.07	0.18	0.02	0.78	0.05	0.02	0.14	0.13	0.78
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 7.30 MAX 0.35 MIN 0.00
WTR YR 2002 TOTAL 5.01 MAX 0.78 MIN 0.00

08329860 GRANT LINE ARROYO AT VILLA DEL OSO RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°08'04"N., 106°34'17"W. The rain gage is located in northeast Albuquerque at a discontinued surface-water gage behind the Villa del Oso Apartments, approximately 0.25 mile northwest of the intersection of Montgomery and Louisiana Boulevards.

Equipment.--Onset Corporation HOBO Event data recorder and 8.2-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1984 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 18, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.89	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0
4	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.06	0.11	0.0
5	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.06	0.05	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.51	0.0	0.0	0.01	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.05	0.0	0.01
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.06
10	0.01	0.0	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.12	0.0	1.05
11	0.0	0.0	0.16	0.03	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.45
12	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.17
13	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.17
14	0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.01	0.25	0.0	0.0	0.0
15	0.0	0.17	0.0	0.0	0.0	0.0	0.0	0.0	0.25	0.0	0.0	0.0
16	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.25
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.02	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.27	0.06	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.27	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	0.0	0.00
23	0.0	0.14	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.01
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
29	0.0	0.0	0.10	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.12	0.09	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.14	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.01	0.55	0.42	0.43	0.10	0.0	0.57	0.02	0.70	1.36	1.13	2.23
MAX	0.01	0.18	0.16	0.14	0.10	0.00	0.51	0.01	0.25	0.27	0.89	1.05
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 8.27 MAX 0.71 MIN 0.00
WTR YR 2002 TOTAL 7.52 MAX 1.05 MIN 0.00

08329840 HAHN ARROYO RAIN GAGE IN ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°07'33"N., 106°35'23"W. The rain gage is located in northeast Albuquerque at the surface-water gage, east of Monroe Street between Comanche Road and Montgomery Boulevard.

Equipment.--8.2-inch-diameter tipping bucket connected to a surface-water data recorder. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--March 1984 to present.

Remarks.--Record is good for the entire water year.

Precipitation, total, inches, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.00
3	0.0	0.0	0.0	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.23	0.00
4	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
6	0.0	0.0	0.0	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.07	0.00
7	0.0	0.0	0.0	0.00	0.00	0.00	0.44	0.00	0.00	0.01	0.00	0.00
8	0.0	0.01	0.0	0.00	0.00	0.00	0.01	0.00	0.00	0.03	0.00	0.02
9	0.0	0.0	0.0	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
10	0.01	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.96
11	0.0	0.0	0.15	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.43
12	0.0	0.0	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
13	0.0	0.0	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
14	0.0	0.34	0.0	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00
15	0.0	0.06	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.0	0.04	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
19	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.01
20	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.20	0.14	0.06	0.00
21	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.0	0.0	0.0	0.01	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00
23	0.0	0.19	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
25	0.0	0.0	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
26	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.07	0.00	0.00
27	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
28	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
29	0.0	0.0	0.04	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.0	0.0	0.15	0.13	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.0	---	0.01	0.21	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.01	0.64	0.38	0.48	0.00	0.01	0.51	0.04	0.49	0.67	1.47	2.19
MAX	0.01	0.34	0.15	0.21	0.00	0.01	0.44	0.03	0.29	0.21	1.11	0.96
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 8.33 MAX 0.89 MIN 0.00
WTR YR 2002 TOTAL 6.89 MAX 1.11 MIN 0.00

08329839 NORTH FORK HAHN ARROYO RAIN GAGE IN ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°07'37"N., 106°34'04"W. The rain gage is located in northeast Albuquerque at the surface-water gage, north of Comanche Road on Louisiana Boulevard.

Equipment.--7.9-inch-diameter tipping bucket connected to a surface-water data recorder. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year except for May 2 to June 5. During this period the data recorder failed. Estimated daily totals for these days are the averages of daily totals from the Grantline Arroyyo, Hale, Leonard, South Fork Hahn Arroyo, Thomas Pump, and USGS Office rain gages.

Period of Record.--October 1984 to present.

Remarks.--Record is good for the entire water year except May 2 to June 5, which is poor.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	e0.0	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	e0.0	0.00	0.61	0.00
3	0.00	0.00	0.0	0.00	0.00	0.00	0.00	e0.0	e0.0	0.02	0.40	0.00
4	0.00	0.00	0.00	0.02	0.00	0.00	0.00	e0.0	e0.0	0.00	0.09	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	e0.0	0.02	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.05	e0.0	0.00	0.00	0.09	0.00
7	0.00	0.00	0.03	0.00	0.00	0.00	0.51	e0.0	0.00	0.02	0.00	0.02
8	0.00	0.00	0.00	0.00	0.00	0.00	0.01	e0.0	0.00	0.01	0.00	0.01
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.02	0.00	0.04
10	0.02	0.00	0.00	0.11	0.00	0.00	0.00	e0.0	0.00	0.24	0.00	0.89
11	0.00	0.00	0.13	0.01	0.00	0.00	0.00	e0.0	0.00	0.04	0.00	0.37
12	0.00	0.00	0.02	0.00	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.15
13	0.00	0.00	0.03	0.00	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.20
14	0.00	0.27	0.00	0.00	0.00	0.00	0.00	e0.03	0.26	0.00	0.00	0.00
15	0.00	0.06	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.00
16	0.00	0.05	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.26
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.06	0.00	e0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	0.17	0.16	0.04	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.00
22	0.00	0.00	0.01	0.00	0.00	0.00	0.00	e0.0	0.00	0.15	0.00	0.00
23	0.0	0.16	0.00	0.01	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.08	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.01	0.00	0.02	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0	0.00	0.00	0.00	0.07
29	0.00	0.00	0.10	0.00	---	0.00	0.00	e0.0	0.00	0.00	0.00	0.00
30	0.00	0.00	0.11	0.06	---	0.00	0.00	e0.0	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.10	---	0.00	---	e0.0	---	0.00	0.00	---
TOTAL	0.02	0.54	0.43	0.31	0.05	0.00	0.57	0.04	0.43	0.84	1.23	2.01
MAX	0.02	0.27	0.13	0.11	0.05	0.00	0.51	0.03	0.26	0.24	0.61	0.89
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 7.16 MAX 0.57 MIN 0.00
WTR YR 2002 TOTAL 6.47 MAX 0.89 MIN 0.00

e Estimated

08329838 SOUTH FORK HAHN ARROYO RAIN GAGE IN ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°07'16"N., 106°34'04"W. The rain gage is located in northeast Albuquerque at the surface-water gage, between Comanche and Candelaria Roads on Louisiana Boulevard.

Equipment.--7.9-inch-diameter tipping bucket connected to a surface-water data recorder. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1984 to present.

Remarks.--Record is good for the entire water year.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00
3	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.42	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00
5	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.19	0.00
7	0.00	0.00	0.00	0.03	0.00	0.00	0.55	0.00	0.00	0.02	0.00	0.02
8	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.02
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.08
10	0.02	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.89
11	0.00	0.00	0.13	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.40
12	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
13	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
14	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.09	0.26	0.00	0.00	0.00
15	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.06	0.03	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00
23	0.0	0.19	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.07
29	0.00	0.00	0.10	0.00	---	0.00	0.00	0.00	0.00	0.01	0.00	0.00
30	0.00	0.00	0.10	0.05	---	0.00	0.00	0.00	0.00	0.00	0.06	0.00
31	0.00	---	0.00	0.13	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.02	0.60	0.37	0.30	0.05	0.00	0.61	0.10	0.47	0.88	1.41	2.07
MAX	0.02	0.29	0.13	0.13	0.05	0.00	0.55	0.09	0.26	0.31	0.64	0.89
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 7.20 MAX 0.68 MIN 0.00
WTR YR 2002 TOTAL 6.88 MAX 0.89 MIN 0.00

350804106335230 HALE RAIN GAGE IN ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°08'04"N., 106°33'55"W. The rain gage is located in northeast Albuquerque at a private residence, approximately 0.25 mile northeast of the intersection of Louisiana and Montgomery Boulevards.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in September 1999.

Record.--The rain gage gave a complete and satisfactory record for the water year.

Period of Record.--October 1984 to July 2002.

Remarks.--Record is good for the water year. This station was discontinued on July 29, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.0	---	---
2	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	---	---
3	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.07	---	---
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	---	---
5	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.05	---	---
6	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0	0.0	---	---
7	0.0	0.0	0.0	0.0	0.0	0.0	0.48	0.0	0.0	0.02	---	---
8	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	---	---
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	---	---
10	0.01	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.13	---	---
11	0.0	0.0	0.16	0.08	0.0	0.0	0.0	0.0	0.0	0.05	---	---
12	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---
13	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---
14	0.0	0.18	0.01	0.0	0.0	0.0	0.0	0.02	0.19	0.0	---	---
15	0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---
16	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	---	---
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.31	---	---
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	---	---
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.18	---	---
23	0.0	0.17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	---	---
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	---	---
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	---	---
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	---	---
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---
29	0.0	0.0	0.11	0.0	---	0.0	0.0	0.0	0.0	0.0	---	---
30	0.0	0.0	0.12	0.05	---	0.0	0.0	0.0	0.0	---	---	---
31	0.0	---	0.0	0.10	---	0.0	---	0.0	---	---	---	---
TOTAL	0.01	0.60	0.46	0.34	0.11	0.0	0.54	0.06	0.34	1.05	---	---
MAX	0.01	0.18	0.16	0.10	0.07	0.00	0.48	0.03	0.19	0.31	---	---
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	---	---

CAL YR 2001 TOTAL 7.01 MAX 0.52 MIN 0.00
WTR YR 2002 TOTAL 3.51 MAX 0.48 MIN 0.00

350310106320930 KIRTLAND AIR FORCE BASE RAIN GAGE AT EUBANK GATE, ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°03'10"N., 106°32'09"W. The rain gage is located in southeast Albuquerque on Kirtland Air Force Base, near the southern terminus of Eubank Boulevard.

Equipment.--Wescor DPX data recorder and 6.5-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the period of record.

Period of Record.--June 2001 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on August 19, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.01	0.0	0.00
2	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.16	0.00
3	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.13	0.02
4	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.02	0.0	0.08	0.00
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.00
6	0.0	0.0	0.0	0.01	0.0	0.0	0.11	0.0	0.0	0.0	0.37	0.00
7	0.0	0.0	0.0	0.0	0.0	0.0	0.46	0.0	0.0	0.04	0.02	0.05
8	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.65	0.0	0.01
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13
10	0.01	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.24	0.0	0.39
11	0.0	0.0	0.04	0.01	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.28
12	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09
13	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20
14	0.0	0.33	0.01	0.0	0.0	0.0	0.0	0.04	0.17	0.0	0.0	0.00
15	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	0.0	0.00
18	0.0	0.0	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.10	0.0	0.27
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17	0.14	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.04	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.10	0.00	0.00
23	0.0	0.21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.00	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.02
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.12
29	0.0	0.0	0.12	0.0	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30	0.0	0.0	0.09	0.05	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31	0.0	---	0.01	0.0	---	0.0	---	0.0	---	0.0	0.00	---
TOTAL	0.03	0.66	0.32	0.10	0.13	0.0	0.57	0.04	0.31	1.67	1.02	1.59
MAX	0.02	0.33	0.12	0.05	0.06	0.00	0.46	0.04	0.17	0.65	0.37	0.39
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 5.38 MAX 1.61 MIN 0.00
WTR YR 2002 TOTAL 6.44 MAX 0.65 MIN 0.00

350912106455630 LA BOCA NEGRA RAIN GAGE NEAR ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°09'18"N., 106°45'58"W. The rain gage is located in far northwest Albuquerque, approximately 0.25 mile north of the West Mesa volcanoes.

Equipment.--Onset Corporation HOBO Event data recorder and 8.2-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1990 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 12, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.03	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.39	0.08
10	0.0	0.0	0.0	0.13	0.0	0.0	0.0	0.0	0.0	0.05	0.0	1.68
11	0.0	0.0	0.19	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.80
12	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10
14	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.11	0.0	0.0	0.00
15	0.0	0.12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.21
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.0	0.60	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
23	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01
28	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.12
29	0.0	0.0	0.08	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.08	0.07	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.03	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.01	0.39	0.36	0.33	0.01	0.0	0.07	0.0	0.20	0.18	1.02	3.16
MAX	0.01	0.14	0.19	0.13	0.01	0.00	0.04	0.00	0.11	0.09	0.60	1.68
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 4.18 MAX 0.41 MIN 0.00
WTR YR 2002 TOTAL 5.73 MAX 1.68 MIN 0.00

08329890 LA CUEVA ARROYO TRIBUTARY RAIN GAGE NEAR ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°11'31"N., 106°29'46"W. The rain gage is located in northeast Albuquerque, approximately 0.25 mile north of the surface-water gage and just north of the intersection of Tramway Road and Tramway Boulevard.

Equipment.--Onset Corporation HOBO Event data recorder and 8.2-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the water year.

Period of Record.--July 1981 to present.

Remarks.--Record is good for the entire water year except estimates, which are poor. The new HOBO recorder was installed on September 17, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.01	0.17	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.62	0.0
3	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.14	0.37	0.04
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.0	0.0	0.0	0.97	0.0
7	0.27	0.0	0.0	0.0	0.0	0.0	0.92	0.0	0.0	0.10	0.0	0.01
8	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.04	0.0	0.0
9	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16
10	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.33	0.0	2.00
11	0.0	0.0	0.22	0.01	0.0	0.0	0.0	0.0	0.0	0.79	0.0	0.71
12	0.0	0.0	0.07	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.26
13	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05
14	0.0	0.50	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.0
16	0.0	0.16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.64
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.26	0.0	0.00
20	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.10	1.01	0.13	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.01	0.0	0.00
22	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
23	0.0	0.21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.05	0.38	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.00
28	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0	0.17
29	0.0	0.0	0.08	0.0	---	0.16	0.0	0.0	0.0	0.0	0.01	0.00
30	0.0	0.0	0.47	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.21	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.34	1.06	0.92	0.41	0.17	0.23	1.06	0.10	0.26	3.17	2.10	4.04
MAX	0.27	0.50	0.47	0.21	0.17	0.16	0.92	0.10	0.10	1.01	0.97	2.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 15.52 MAX 1.12 MIN 0.00
WTR YR 2002 TOTAL 13.86 MAX 2.00 MIN 0.00

08329938 LADERA ARROYO RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°06'56"N., 106°44'48"W. The rain gage is located in far northwest Albuquerque in Petroglyphs National Park.

Equipment.--Onset Corporation HOBO Event data recorder and 8.2-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--May 1987 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 12, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.34	0.01
4	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.03	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.02	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.13	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.08
10	0.0	0.0	0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.06	0.0	1.46
11	0.0	0.0	0.21	0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.71
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
14	0.0	0.30	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.00
15	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.29
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	0.08	0.14	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
23	0.0	0.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11
29	0.0	0.0	0.10	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.07	0.01	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.04	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.0	0.78	0.38	0.54	0.0	0.0	0.17	0.0	0.22	0.17	0.81	2.79
MAX	0.00	0.42	0.21	0.30	0.00	0.00	0.13	0.00	0.19	0.08	0.34	1.46
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 7.36 MAX 0.54 MIN 0.00
WTR YR 2002 TOTAL 5.86 MAX 1.46 MIN 0.00

350310106434930 LEAVITT PUMP STATION RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°03'10"N., 106°43'49"W. The rain gage is located in southwest Albuquerque, in the maintenance yard of the Leavitt Pump Station. The pump station is located near the southern end of 86th Street.

Equipment.--Onset Corporation HOBO Event data recorder and 6.5-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in August 2000.

Record.--The rain gage gave a complete and satisfactory record for the water year.

Period of Record.--August 2000 to present.

Remarks.--Record is good for the water year except estimates, which are poor. The new HOBO recorder was installed on August 19, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.20	0.00
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.52	0.00
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.38	0.04
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.02	0.00
6	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.01	0.00
7	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.0	0.0	0.01	0.0	0.02
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.09
10	0.0	0.0	0.0	0.19	0.0	0.0	0.0	0.0	0.0	0.08	0.0	0.90
11	0.0	0.0	0.19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.51
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05
13	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
14	0.0	0.33	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.00
15	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.18
19	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.03	0.01	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.07	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16	0.00	0.00
23	0.0	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.00	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.00	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.05	0.00	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.25	0.0	0.00	0.12
29	0.0	0.0	0.09	0.0	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30	0.0	0.0	0.04	0.09	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31	0.0	---	0.01	0.09	---	0.0	---	0.0	---	0.0	0.00	---
TOTAL	0.0	0.63	0.34	0.37	0.06	0.0	0.15	0.11	0.27	0.56	1.28	1.95
MAX	0.00	0.33	0.19	0.19	0.05	0.00	0.12	0.10	0.25	0.16	0.52	0.90
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 6.52 MAX 0.49 MIN 0.00
WTR YR 2002 TOTAL 5.72 MAX 0.90 MIN 0.00

350722106325030 LEONARD RAIN GAGE IN ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°07'21"N., 106°33'55"W. The rain gage is located in northeast Albuquerque at a private residence, approximately 0.25 mile northeast of the intersection of Louisiana and Montgomery Boulevards.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the water year.

Period of Record.--April 1984 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 18, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.29	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.53	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0
10	0.01	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11	0.0	0.0	0.11	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.47
12	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
13	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11
14	0.0	0.22	0.0	0.0	0.0	0.0	0.0	0.07	0.26	0.0	0.0	0.0
15	0.0	0.05	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0
16	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.25
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
23	0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
29	0.0	0.0	0.01	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.16	0.04	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.0	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.01	0.52	0.34	0.15	0.18	0.0	0.53	0.07	0.26	0.13	0.29	0.90
MAX	0.01	0.22	0.16	0.06	0.09	0.00	0.53	0.07	0.26	0.10	0.29	0.47
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 5.35 MAX 0.49 MIN 0.00
WTR YR 2002 TOTAL 3.38 MAX 0.53 MIN 0.00

350540106333230 LOVE PUMP STATION RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°05'40"N., 106°33'32"W. The rain gage is located in northeast Albuquerque near the intersection of Pennsylvania Street and Constitution Avenue.

Equipment.--Onset Corporation HOBO Event data recorder and 6.5-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in September 2002.

Record.--The rain gage gave a complete and satisfactory record for the period of record.

Period of Record.--September 2002 to present. This is the first year of record for this gage.

Remarks.--Record is good for the period of record.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	0.00
5	---	---	---	---	---	---	---	---	---	---	---	0.00
6	---	---	---	---	---	---	---	---	---	---	---	0.00
7	---	---	---	---	---	---	---	---	---	---	---	0.04
8	---	---	---	---	---	---	---	---	---	---	---	0.02
9	---	---	---	---	---	---	---	---	---	---	---	0.07
10	---	---	---	---	---	---	---	---	---	---	---	0.60
11	---	---	---	---	---	---	---	---	---	---	---	0.42
12	---	---	---	---	---	---	---	---	---	---	---	0.10
13	---	---	---	---	---	---	---	---	---	---	---	0.04
14	---	---	---	---	---	---	---	---	---	---	---	0.00
15	---	---	---	---	---	---	---	---	---	---	---	0.00
16	---	---	---	---	---	---	---	---	---	---	---	0.00
17	---	---	---	---	---	---	---	---	---	---	---	0.00
18	---	---	---	---	---	---	---	---	---	---	---	0.32
19	---	---	---	---	---	---	---	---	---	---	---	0.00
20	---	---	---	---	---	---	---	---	---	---	---	0.00
21	---	---	---	---	---	---	---	---	---	---	---	0.00
22	---	---	---	---	---	---	---	---	---	---	---	0.00
23	---	---	---	---	---	---	---	---	---	---	---	0.00
24	---	---	---	---	---	---	---	---	---	---	---	0.00
25	---	---	---	---	---	---	---	---	---	---	---	0.00
26	---	---	---	---	---	---	---	---	---	---	---	0.00
27	---	---	---	---	---	---	---	---	---	---	---	0.00
28	---	---	---	---	---	---	---	---	---	---	---	0.09
29	---	---	---	---	---	---	---	---	---	---	---	0.00
30	---	---	---	---	---	---	---	---	---	---	---	0.00
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	1.70

WTR YR 2002 TOTAL 1.70

08329914 NORTH CAMINO ARROYO TRIBUTARY AT WYOMING BOULEVARD RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°11'44"N., 106°33'36"W. The rain gage is located in northeast Albuquerque on Wyoming Boulevard, approximately 2 miles north of Paseo del Norte.

Equipment.--Onset Corporation HOBO Event data recorder and 8.1-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in October 2000.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--October 1988 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 17, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.07	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.29	0.67	0.0
4	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.82	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.76	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	1.04	0.0	0.0	0.06	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	0.0	0.01
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12
10	0.0	0.0	0.0	0.44	0.0	0.0	0.0	0.0	0.0	0.43	0.0	2.72
11	0.0	0.0	1.04	0.02	0.0	0.0	0.0	0.0	0.0	0.46	0.0	1.50
12	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.77
13	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.01
14	0.0	0.87	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15	0.0	0.15	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0
16	0.0	0.11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.68
19	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.01	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.93	0.47	0.00
21	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.16	0.0	0.0	0.00
22	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.0	0.00
23	0.0	0.17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.27	0.0	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.00
28	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08
29	0.0	0.0	0.44	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.46	0.40	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.25	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.03	1.31	1.97	1.17	0.01	0.03	1.09	0.02	0.48	2.56	3.79	5.89
MAX	0.03	0.87	1.04	0.44	0.01	0.03	1.04	0.01	0.27	0.93	1.07	2.72
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 22.56 MAX 2.16 MIN 0.00
WTR YR 2002 TOTAL 18.35 MAX 2.72 MIN 0.00

08329835 NORTH FLOODWAY CHANNEL RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°07'05"N., 106°36'42"W. The rain gage is located in northeast Albuquerque at the surface-water gage, just north of the intersection of the North Floodway Channel and Candelaria Road.

Equipment.--8.0-inch-diameter tipping bucket connected to a surface-water data recorder. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the water year except from September 17 to September 30. During these days the data recorder failed. Daily total estimates during these days are averages of daily totals from the AMAFCA Headquarters and Main Hahn Arroyo rain gages.

Period of Record.--July 1999 to present.

Remarks.--Record is good for the water year except from September 17 to September 30, which is poor.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.01	0.01	0.02	0.00	0.00	0.00	0.02	0.00	0.00
2	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00
3	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.01	0.21	0.02
4	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
6	0.0	0.0	0.0	0.0	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
7	0.0	0.0	0.0	0.01	0.00	0.00	0.25	0.00	0.00	0.00	0.01	0.00
8	0.0	0.0	0.0	0.0	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.02
9	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
10	0.0	0.0	0.0	0.10	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.56
11	0.0	0.0	0.10	0.0	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.43
12	0.0	0.0	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
13	0.0	0.0	0.01	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
14	0.0	0.25	0.0	0.0	0.00	0.00	0.00	0.06	0.56	0.00	0.00	0.01
15	0.0	0.03	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.0	0.02	0.01	0.0	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
17	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0
18	0.0	0.0	0.0	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	e0.26
19	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	e0.0
20	0.0	0.0	0.0	0.00	0.01	0.00	0.02	0.00	0.10	0.09	0.04	e0.0
21	0.0	0.0	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	e0.0
22	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	e0.0
23	0.0	0.15	0.0	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	e0.0
24	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0
25	0.0	0.03	0.0	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	e0.0
26	0.0	0.0	0.0	0.00	0.00	0.00	0.02	0.01	0.00	0.12	0.00	e0.0
27	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.0
28	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	e0.08
29	0.0	0.0	0.08	0.00	---	0.05	0.00	0.00	0.00	0.01	0.00	e0.0
30	0.0	0.0	0.08	0.14	---	0.00	0.00	0.00	0.00	0.00	0.00	e0.0
31	0.0	---	0.0	0.06	---	0.00	---	0.00	---	0.00	0.01	---
TOTAL	0.0	0.48	0.32	0.34	0.06	0.10	0.34	0.07	0.66	0.52	0.79	1.47
MAX	0.00	0.25	0.10	0.14	0.03	0.05	0.25	0.06	0.56	0.12	0.50	0.56
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 6.79 MAX 0.65 MIN 0.00
WTR YR 2002 TOTAL 5.15 MAX 0.56 MIN 0.00

e Estimated

08329900 NORTH FLOODWAY CHANNEL RAIN GAGE NEAR ALAMEDA, ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°11'53"N., 106°35'59"W. The rain gage is located in northeast Albuquerque at the surface-water gage, just east of the northern terminus of Edith Boulevard.

Equipment.--8.0-inch-diameter tipping bucket connected to a surface-water data recorder. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the period of record.

Period of Record.--December 2001 to present. This is the first year of record for this gage.

Remarks.--Record is good for the period of record.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	0.00	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	---	---	---	0.00	0.01	0.0	0.0	0.0	0.0	0.0	0.46	0.0
3	---	---	---	0.00	0.00	0.0	0.0	0.0	0.0	0.48	0.21	0.0
4	---	---	---	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0
5	---	---	---	0.00	0.00	0.0	0.0	0.0	0.0	0.01	0.02	0.0
6	---	---	---	0.00	0.00	0.0	0.01	0.0	0.0	0.0	0.04	0.0
7	---	---	---	0.00	0.00	0.0	0.22	0.0	0.0	0.02	0.00	0.02
8	---	---	---	0.00	0.00	0.0	0.0	0.0	0.0	0.03	0.00	0.01
9	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.08
10	---	---	0.00	0.06	0.00	0.0	0.0	0.0	0.0	0.22	0.00	1.51
11	---	---	0.19	0.01	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.47
12	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.18
13	---	---	0.01	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0
14	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.01	0.0	0.00	0.0
15	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0
16	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0
17	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0
18	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.18
19	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	0.0
20	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.07	0.09	0.0
21	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.01	0.0	0.0	0.0
22	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.57	0.0	0.0
23	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.02	0.0	0.0
24	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.01	0.01	0.0	0.0
25	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.98	0.0	0.0	0.0
26	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
28	---	---	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.02
29	---	---	0.10	0.00	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30	---	---	0.08	0.14	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0
31	---	---	0.00	0.00	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	---	---	0.38	0.21	0.04	0.0	0.23	0.0	1.01	1.43	0.82	2.47

WTR YR 2002 TOTAL 6.59

350417106363330 ORLANDO ROMERO RAIN GAGE IN ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°04'17"N., 106°36'33"W. The rain gage is located in southeast Albuquerque at a private residence, approximately 0.25 mile from the intersection of Carlisle Boulevard and Burton Street.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2001.

Record.--The rain gage gave a complete and satisfactory record for the entire water year except for December 3 to January 2. During this period the data recorder failed. Daily total estimates for this period are averages of daily totals from the Bernalillo County Building, Campus Wash, Kirtland Air Force Base, and Tijeras Arroyo rain gages.

Period of Record.--March 2001 to present.

Remarks.--Record is good for the entire period of record except December 3 to January 2, which is poor. The new HOBO recorder was installed on August 20, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.02	e0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.0	0.00
2	0.0	0.0	0.34	e0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.53	0.00
3	0.0	0.0	e0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.18	0.00
4	0.0	0.0	e0.0	0.25	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.00
5	0.00	0.0	e0.0	0.03	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.00
6	0.0	0.0	e0.0	0.03	0.09	0.0	0.10	0.0	0.0	0.0	0.01	0.00
7	0.0	0.0	e0.0	0.02	0.01	0.0	0.18	0.00	0.0	0.10	0.02	0.14
8	0.01	0.0	e0.0	0.01	0.02	0.0	0.01	0.0	0.0	0.13	0.0	0.02
9	0.0	0.0	e0.0	0.01	0.13	0.0	0.0	0.0	0.02	0.0	0.0	0.09
10	0.02	0.13	e0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.60
11	0.0	0.01	e0.05	0.33	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.50
12	0.0	0.04	e0.03	0.05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07
13	0.0	0.0	e0.01	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16
14	0.38	0.0	e0.0	0.02	0.0	0.0	0.0	0.09	0.97	0.0	0.0	0.00
15	0.10	0.0	e0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.07	0.0	e0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00
17	0.14	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.00
18	0.12	0.0	e0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.06	0.0	0.29
19	0.05	0.0	e0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.07	0.02	0.00
20	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.00
21	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
22	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.46	0.00	0.00
23	0.20	0.0	e0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
24	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.00	0.00
25	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.00	0.00
27	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.00	0.00
28	0.0	0.11	e0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.00	0.15
29	0.0	0.14	e0.10	0.0	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30	0.0	0.0	e0.06	0.09	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31	0.0	---	e0.0	0.01	---	0.0	---	0.0	---	0.0	0.00	---
TOTAL	1.09	0.43	0.61	1.21	0.57	0.0	0.29	0.09	1.01	1.00	0.83	2.02
MAX	0.38	0.14	0.34	0.33	0.18	0.00	0.18	0.09	0.97	0.46	0.53	0.60
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 8.40 MAX 0.75 MIN 0.00
WTR YR 2002 TOTAL 9.15 MAX 0.97 MIN 0.00

e Estimated

350939106430930 PETROGLYPHS PARK RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°09'39"N., 106°43'10"W. The rain gage is located in far northwest Albuquerque at the Petroglyphs National Park Visitor Center.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year, except for March 7 to March 12 and July 10 to July 12. During March 7 to March 12, the tipping bucket was knocked over. Estimates for this period are considered good because rain gages located nearby did not record precipitation. From July 10 to July 12 the data recorder failed. Daily total estimates during these periods are averages of daily totals from the Arroyo 19A and Taylor Ranch Drain rain gages.

Period of Record.--January 1995 to present.

Remarks.--Record is good for the entire water year except for March 7 to March 12 and July 10 to July 12. Estimates from March 7 to March 12 are good, and estimates from July 10 to July 12 are poor. The new HOBO recorder was installed on September 12, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.68	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.37	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.05	0.0
7	0.0	0.0	0.0	0.0	0.0	e0.0	0.22	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.0	0.02
9	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.0	0.0	0.04	0.06
10	0.0	0.0	0.0	0.18	0.0	e0.0	0.0	0.0	0.0	e0.06	0.0	0.88
11	0.0	0.0	0.17	0.04	0.0	e0.0	0.0	0.0	0.0	e0.0	0.0	0.53
12	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.00	e0.0	0.0	0.09
13	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.36
14	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.00	0.11	0.0	0.0	0.00
15	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.07	0.14	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.00
23	0.0	0.15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.15	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
29	0.0	0.0	0.05	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.12	0.03	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.0	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.0	0.39	0.34	0.25	0.00	0.0	0.27	0.00	0.20	0.49	1.28	2.17
MAX	0.00	0.15	0.17	0.18	0.00	0.00	0.22	0.00	0.11	0.15	0.68	0.88
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 5.01 MAX 0.46 MIN 0.00
WTR YR 2002 TOTAL 5.39 MAX 0.88 MIN 0.00

e Estimated

08330200 SAN JOSE DRAIN RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°02'56"N., 106° 38'55"W. The rain gage is located in southwest Albuquerque at the surface-water gage, just west of the intersection of Broadway Boulevard and Woodward Street.

Equipment.--8.0-inch-diameter tipping bucket connected to a surface-water data recorder. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--June 1998 to present.

Remarks.--Record is good for the entire water year.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00
3	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00
4	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00
6	0.0	0.0	0.0	0.0	0.00	0.00	0.04	0.00	0.00	0.00	0.02	0.00
7	0.0	0.0	0.0	0.0	0.00	0.00	0.27	0.00	0.00	0.00	0.00	0.03
8	0.04	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03
9	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.10
10	0.01	0.0	0.0	0.05	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.42
11	0.0	0.0	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46
12	0.0	0.0	0.02	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
13	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
14	0.0	0.28	0.0	0.0	0.00	0.00	0.00	0.03	0.05	0.00	0.00	0.00
15	0.0	0.09	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.0	0.03	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
18	0.0	0.0	0.0	0.0	0.06	0.00	0.00	0.00	0.00	0.09	0.00	0.20
19	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
20	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.00
21	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
23	0.0	0.18	0.0	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00
25	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.03	0.00	0.02	0.00	0.00
27	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
29	0.0	0.0	0.11	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.0	0.0	0.07	0.25	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.0	---	0.0	0.06	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.05	0.58	0.26	0.38	0.07	0.00	0.31	0.06	0.05	0.42	1.17	1.41
MAX	0.04	0.28	0.11	0.25	0.06	0.00	0.27	0.03	0.05	0.16	0.51	0.46
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 5.70 MAX 0.50 MIN 0.00
WTR YR 2002 TOTAL 4.76 MAX 0.51 MIN 0.00

351216106421330 SWINBURN DAM RAIN GAGE AT PARADISE HILLS, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°12'16"N., 106°42'13"W. The rain gage is located in far northwest Albuquerque just south of the Swinburn detention dam.

Equipment.--Onset Corporation HOBO Event data recorder and 6.5-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in August 2000.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--August 2000 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on August 20, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.00
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.68	0.00
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.15	0.04	0.00
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
5	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.04	0.0	0.00
6	0.0	0.0	0.0	0.0	0.0	0.0	0.18	0.0	0.0	0.0	0.17	0.00
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.01
8	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07
10	0.0	0.0	0.0	0.15	0.0	0.0	0.0	0.0	0.0	0.14	0.0	2.00
11	0.0	0.0	0.21	0.10	0.0	0.0	0.0	0.0	0.0	0.01	0.0	3.16
12	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14
13	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01
14	0.0	0.14	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.00
15	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.15
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.00
20	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.05	0.00	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.06	0.00	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.00	0.00
23	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.09	0.00	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
27	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.01
28	0.09	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.08	0.0	0.00	0.09
29	0.0	0.0	0.12	0.0	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30	0.0	0.0	0.09	0.05	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31	0.0	---	0.0	0.02	---	0.0	---	0.0	---	0.0	0.00	---
TOTAL	0.13	0.29	0.43	0.34	0.02	0.03	0.22	0.0	0.21	0.59	0.90	5.66
MAX	0.09	0.14	0.21	0.15	0.01	0.03	0.18	0.00	0.10	0.15	0.68	3.16
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 5.40 MAX 0.31 MIN 0.00
WTR YR 2002 TOTAL 8.82 MAX 3.16 MIN 0.00

350924106315630 TANOAN RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°09'20"N., 106°31'53"W. The rain gage is located in northeast Albuquerque at a private office, north of Academy Road between Eubank Boulevard and Ventura Street.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year, except for June 11 to July 25. During this period, the office staff accidentally disconnected the data recorder from the tipping bucket. Daily total estimates from June 15 to July 9 are averages of daily totals from the Fire Station #16 and Walker Pump rain gages. Estimates from other days are averages of daily totals from the Fire Station #16, Thomas Pump, and Walker Pump rain gages.

Period of Record.--April 1991 to present.

Remarks.--Record is good for the entire water year except for estimates, which are poor. The new HOBO recorder was installed on September 17, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	e0.0	0.04	0.0
3	0.0	0.0	0.0	0.0	0.20	0.0	0.0	0.0	0.0	e0.03	0.0	0.0
4	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.01	e0.0	0.0	0.0
5	0.0	0.0	0.0	0.08	0.0	0.0	0.0	0.0	0.0	e0.02	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0	e0.0	0.07	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.65	0.0	0.0	e0.01	0.05	0.0
8	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.03	0.0	0.0
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.05
10	0.01	0.0	0.0	0.08	0.0	0.0	0.0	0.0	0.0	e0.11	0.0	0.0
11	0.0	0.0	0.17	0.0	0.0	0.0	0.0	0.0	e0.0	e0.14	0.0	0.0
12	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.16
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.07
14	0.0	0.27	0.02	0.0	0.0	0.0	0.0	0.01	e0.03	e0.0	0.0	0.0
15	0.0	0.11	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0
16	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.30
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	e0.0	e0.05	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.01	e0.24	0.0	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.0	0.01	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.07	0.0	0.00
23	0.0	0.10	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.23	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	e0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.07
29	0.0	0.0	0.12	0.0	---	0.01	0.0	0.0	e0.0	0.0	0.0	0.00
30	0.0	0.0	0.14	0.04	---	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.0	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.01	0.56	0.49	0.20	0.32	0.01	0.71	0.04	0.05	0.93	0.17	0.65
MAX	0.01	0.27	0.17	0.08	0.20	0.01	0.65	0.02	0.03	0.24	0.07	0.30
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 7.55 MAX 0.93 MIN 0.00
WTR YR 2002 TOTAL 4.14 MAX 0.65 MIN 0.00

e Estimated

08329936 TAYLOR RANCH DRAIN RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°08'58"N., 106°42'05"W. The rain gage is located in northwest Albuquerque on Calle Nuestra Street, near the intersection of Golf Course Road and Montano Road.

Equipment.--Onset Corporation HOBO Event data recorder and 8.2-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--June 1984 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on September 12, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.29	0.0	0.0	0.0	0.00	0.0
8	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.12	0.08
10	0.0	0.0	0.0	0.60	0.0	0.0	0.0	0.0	0.0	0.06	0.0	1.68
11	0.0	0.0	0.28	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.78
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07
13	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.10
14	0.0	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.23	0.0	0.0	0.00
15	0.0	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.26
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	0.0	0.09	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
23	0.0	0.23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
29	0.0	0.0	0.13	0.0	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
30	0.0	0.0	0.12	0.12	---	0.0	0.0	0.0	0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.08	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.0	0.60	0.59	0.81	0.02	0.02	0.31	0.0	0.46	0.21	0.21	3.07
MAX	0.00	0.23	0.28	0.60	0.02	0.02	0.29	0.00	0.23	0.10	0.12	1.68
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 8.24 MAX 1.16 MIN 0.00
WTR YR 2002 TOTAL 6.30 MAX 1.68 MIN 0.00

350755106325830 THOMAS PUMP STATION RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°07'56"N., 106°33'01"W. The rain gage is located in northeast Albuquerque, approximately 0.25 mile northeast of the intersection of Montgomery and Wyoming Boulevards.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year, except for June 7 to June 9 and June 15 to July 9. Although the data recorder failed during both periods, estimates for June 7 to June 9 are considered good because rain gages located nearby did not record precipitation. Daily total estimates during these periods are averages of daily totals from the Hale and Leonard rain gages.

Period of Record.--October 1994 to present.

Remarks.--Record is good for the entire water year except for estimates. The new HOBO recorder was installed on September 18, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.09	0.0	0.0	0.0	0.0	e0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	e0.0	0.40	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.04	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.54	0.0
5	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	e0.02	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	e0.0	0.12	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.62	0.0	e0.0	e0.01	0.0	0.0
8	0.0	0.01	0.0	0.0	0.0	0.0	0.01	0.0	e0.0	e0.03	0.0	0.06
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	e0.02	0.0	0.06
10	0.0	0.0	0.0	0.11	0.0	0.0	0.0	0.0	0.01	0.22	0.0	0.66
11	0.0	0.0	0.12	0.01	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0
12	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10
13	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.14
14	0.0	0.29	0.0	0.0	0.0	0.0	0.0	0.03	0.10	0.0	0.0	0.0
15	0.0	0.05	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.0
16	0.0	0.04	0.0	0.04	0.0	0.0	0.0	0.00	e0.0	0.0	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.0
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.22
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.06	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.06	0.20	0.02	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.22	0.0	0.00
23	0.0	0.16	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.14	0.0	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.06
29	0.0	0.0	0.02	0.0	---	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
30	0.0	0.0	0.20	0.04	---	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
31	0.00	---	0.0	0.08	---	0.0	---	0.0	---	0.0	---	---
TOTAL	0.00	0.55	0.37	0.31	0.12	0.0	0.66	0.03	0.17	0.94	1.14	1.30
MAX	0.00	0.29	0.20	0.11	0.09	0.00	0.62	0.03	0.10	0.22	0.54	0.66
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 7.83 MAX 0.55 MIN 0.00
WTR YR 2002 TOTAL 5.59 MAX 0.66 MIN 0.00

e Estimated

08330580 TIJERAS ARROYO AT MONTESSA PARK RAIN GAGE NEAR ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°01'11"N., 106°35'58"W. The rain gage is located in far southeast Albuquerque at a discontinued surface-water gage, approximately 2 miles east of Bobby Foster Road and the I-25 overpass.

Equipment.--Onset Corporation HOBO Event data recorder and 7.9-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year, except for June 20 to July 14. During this period the data recorder failed. Daily total estimates during this period are averages of daily totals from the Bernalillo County Building, Kirtland Air Force Base, Orlando Romero, San Jose Drain, and Wastewater Treatment Plant rain gages.

Period of Record.--October 1994 to present.

Remarks.--Record is good for the entire water year except for estimates, which are poor. The new HOBO recorder was installed on September 11, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	e0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	e0.0	0.24	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.01
4	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.25	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.08	0.0	0.0	e0.0	0.09	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	0.17	0.0	0.0	e0.03	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.09	0.0	0.01
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.09
10	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.17	0.0	0.44
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.41
12	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.00	e0.0	0.0	0.06
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.00
14	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.01	0.03	e0.0	0.0	0.00
15	0.0	0.16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0.00
16	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.01	0.0	0.23
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.78	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.03	0.00
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.06	0.06	0.0	0.00
23	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
24	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.01	0.0	0.00
25	0.0	0.04	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.03	0.0	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.01
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	e0.0	0.0	0.0	0.09
29	0.0	0.0	0.12	0.0	---	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
30	0.0	0.0	0.06	0.06	---	0.0	0.0	0.0	e0.0	0.0	0.0	0.00
31	0.0	---	0.0	0.0	---	0.0	---	0.0	---	0.0	0.0	---
TOTAL	0.02	0.36	0.24	0.08	0.08	0.0	0.25	0.01	0.09	0.40	1.39	1.35
MAX	0.02	0.16	0.12	0.06	0.05	0.00	0.17	0.01	0.06	0.17	0.78	0.44
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 5.63 MAX 0.83 MIN 0.00
WTR YR 2002 TOTAL 4.27 MAX 0.78 MIN 0.00

e Estimated

08330540 TRAMWAY FLOODWAY CHANNEL RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°04'42"N., 106°29'49"W. The rain gage is located in northeast Albuquerque at a surface-water gage, approximately 200 feet south of the intersection of Tramway Boulevard and Copper Street.

Equipment.--8.0-inch-diameter tipping bucket connected to a surface-water data recorder. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire period of record except for July 10. On this day, the recorder malfunctioned and for unknown reasons did not record data for a 24-hour period. The daily value estimate for July 10 is based on field observations before and after the time period in question and therefore is considered to be a good estimate.

Period of Record.--May 2001 to present.

Remarks.--Record is good for the entire water year.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.0	0.0	0.0	0.0	0.07	0.00	0.00	0.00	0.00	0.00	0.12	0.00
3	0.0	0.0	0.0	0.0	0.05	0.00	0.00	0.00	0.00	0.04	0.14	0.00
4	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.01	0.00	0.75	0.00
5	0.0	0.0	0.0	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.0	0.0	0.0	0.0	0.00	0.00	0.08	0.02	0.00	0.00	0.35	0.00
7	0.0	0.0	0.0	0.0	0.00	0.00	0.62	0.00	0.00	0.03	0.01	0.17
8	0.03	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.02
9	0.04	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
10	0.0	0.0	0.0	0.10	0.00	0.00	0.00	0.00	0.00	e0.44	0.00	0.65
11	0.0	0.0	0.25	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
12	0.0	0.0	0.16	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
13	0.0	0.0	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
14	0.0	1.77	0.0	0.00	0.00	0.00	0.00	0.01	0.40	0.00	0.00	0.00
15	0.0	0.27	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.0	0.05	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00
18	0.0	0.0	0.0	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.34
19	0.0	0.0	0.0	0.00	0.03	0.00	0.00	0.00	0.00	0.10	0.00	0.00
20	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.03	0.00
21	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
22	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00
23	0.0	0.68	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
25	0.0	0.0	0.0	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
26	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
28	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
29	0.0	0.0	0.47	0.00	---	0.07	0.00	0.00	0.00	0.00	0.00	0.00
30	0.0	0.0	0.47	0.09	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.0	---	0.0	0.40	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.07	2.77	1.52	1.14	0.40	0.08	0.70	0.03	0.44	1.28	1.40	1.96

CAL YR 2001 TOTAL 20.73
WTR YR 2002 TOTAL 11.79

e Estimated

350748106345830 USGS OFFICE RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°07'48"N., 106°34'58"W. The rain gage is located in northeast Albuquerque on the roof of the IRS Building. This building houses the USGS and is just southeast of the intersection of San Mateo and Montgomery Boulevards.

Equipment.--Onset Corporation HOBO Event data recorder and 6.5-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in April 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--August 2000 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on August 16, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.00
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.88	0.00
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.31	0.00
4	0.0	0.0	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.00
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07	0.0	0.00
6	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.06	0.00
7	0.0	0.0	0.0	0.0	0.0	0.01	0.37	0.0	0.0	0.01	0.0	0.00
8	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.05	0.0	0.03
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06
10	0.02	0.0	0.0	0.18	0.0	0.0	0.0	0.0	0.0	0.10	0.0	0.74
11	0.0	0.0	0.13	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.33
12	0.0	0.0	0.02	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.13
13	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.22
14	0.0	0.26	0.0	0.0	0.0	0.0	0.0	0.0	0.14	0.0	0.0	0.00
15	0.0	0.06	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.00
16	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.24
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.00	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.10	0.13	0.05	0.00
21	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.01	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.24	0.00	0.00
23	0.0	0.17	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.00	0.00
25	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.00	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.10	0.00	0.01
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.00	0.00
28	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.08
29	0.0	0.0	0.11	0.0	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30	0.0	0.0	0.10	0.11	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
31	0.0	---	0.0	0.10	---	0.0	---	0.0	---	0.0	0.00	---
TOTAL	0.02	0.53	0.39	0.43	0.03	0.03	0.45	0.03	0.24	0.83	1.33	1.84
MAX	0.02	0.26	0.13	0.18	0.02	0.01	0.37	0.01	0.14	0.24	0.88	0.74
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 6.82 MAX 0.65 MIN 0.00
WTR YR 2002 TOTAL 6.15 MAX 0.88 MIN 0.00

351023106313930 WALKER PUMP STATION RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°10'23"N., 106°31'39"W. The rain gage is located in far northeast Albuquerque near the intersection of Paseo del Norte and Eubank Boulevard.

Equipment.--Onset Corporation HOBO Event data recorder and 6.5-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the period of record.

Period of Record.--May 2002 to present. This is the first year of record for this gage.

Remarks.--Record is good for period of record. A Wescor data recorder was initially installed at the site, but was replaced with the HOBO recorder on August 15, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
2	---	---	---	---	---	---	---	0.00	0.00	0.00	0.29	0.00
3	---	---	---	---	---	---	---	0.00	0.00	0.06	0.17	0.00
4	---	---	---	---	---	---	---	0.01	0.00	0.00	0.35	0.00
5	---	---	---	---	---	---	---	0.01	0.00	0.03	0.00	0.00
6	---	---	---	---	---	---	---	0.00	0.00	0.00	0.39	0.00
7	---	---	---	---	---	---	---	0.00	0.00	0.02	0.13	0.03
8	---	---	---	---	---	---	---	0.00	0.00	0.06	0.01	0.01
9	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.06
10	---	---	---	---	---	---	---	0.00	0.00	0.10	0.00	0.68
11	---	---	---	---	---	---	---	0.00	0.00	0.47	0.00	0.45
12	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.17
13	---	---	---	---	---	---	---	0.00	0.00	0.00	0.0	0.03
14	---	---	---	---	---	---	---	0.00	0.00	0.00	0.0	0.00
15	---	---	---	---	---	---	---	0.00	0.00	0.00	0.0	0.00
16	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
17	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
18	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.27
19	---	---	---	---	---	---	---	0.00	0.00	0.05	0.00	0.00
20	---	---	---	---	---	---	---	0.00	0.04	0.53	0.14	0.00
21	---	---	---	---	---	---	---	0.00	0.01	0.00	0.00	0.00
22	---	---	---	---	---	---	---	0.00	0.00	0.01	0.00	0.00
23	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
24	---	---	---	---	---	---	---	0.00	0.01	0.55	0.00	0.00
25	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
26	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
27	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
28	---	---	---	---	---	---	---	0.0	0.00	0.00	0.00	0.06
29	---	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
30	---	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00	0.00
31	---	---	---	---	---	---	---	0.00	---	0.00	0.00	---
TOTAL	---	---	---	---	---	---	0.00	0.02	0.06	1.88	1.48	1.76

WTR YR 2002 TOTAL 5.20

350119106394630 WASTEWATER TREATMENT PLANT RAIN GAGE AT ALBUQUERQUE, NEW MEXICO
STATION ANALYSIS
WATER YEAR 2002

Location.--35°01'19"N., 106°39'46"W. The rain gage is located in southwest Albuquerque on the roof of the Water Quality Lab at the wastewater treatment facility. The facility is located south of the intersection of Rio Bravo Boulevard and 2nd Street.

Equipment.--Onset Corporation HOBO Event data recorder and 6.5-inch-diameter tipping bucket. The bucket tips one time per 0.01 inch of rain, and the recorder stores data at 5-minute intervals. Rain gage is calibrated approximately every 2 years and was last calibrated in March 2003.

Record.--The rain gage gave a complete and satisfactory record for the entire water year.

Period of Record.--August 2000 to present.

Remarks.--Record is good for the entire water year. The new HOBO recorder was installed on August 20, 2002.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.00
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.41	0.00
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.10	0.01
4	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
5	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16	0.00
6	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.02	0.04	0.00
7	0.0	0.0	0.0	0.0	0.0	0.0	0.20	0.0	0.0	0.0	0.0	0.01
8	0.04	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.05	0.0	0.03
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.11
10	0.01	0.0	0.0	0.19	0.0	0.0	0.0	0.0	0.0	0.31	0.0	0.38
11	0.0	0.0	0.08	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.40
12	0.0	0.0	0.02	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.07
13	0.0	0.0	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01
14	0.0	0.35	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.00
15	0.0	0.07	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
16	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
18	0.0	0.0	0.0	0.0	0.10	0.0	0.0	0.0	0.0	0.10	0.0	0.19
19	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.01	0.0	0.01	0.0	0.00
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.05	0.01
21	0.0	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	0.09	0.00	0.00
23	0.0	0.19	0.0	0.02	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.05	0.00	0.00
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.01	0.00	0.00
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.00
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.07
29	0.0	0.0	0.11	0.0	---	0.0	0.0	0.0	0.0	0.0	0.00	0.00
30	0.0	0.0	0.05	0.18	---	0.0	0.0	0.0	0.01	0.0	0.00	0.00
31	0.0	---	0.01	0.12	---	0.0	---	0.0	---	0.0	0.00	---
TOTAL	0.05	0.64	0.31	0.54	0.12	0.0	0.26	0.06	0.20	0.66	0.76	1.29
MAX	0.04	0.35	0.11	0.19	0.10	0.00	0.20	0.04	0.19	0.31	0.41	0.40
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

CAL YR 2001 TOTAL 6.32 MAX 0.48 MIN 0.00
WTR YR 2002 TOTAL 4.89 MAX 0.41 MIN 0.00

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BOOK RATE

Todd Kelly, Orlando Romero, and Eric Turner—Rainfall, runoff, and water-quality data for the urban storm-water program in the Albuquerque, New Mexico, metropolitan area, water year 2002—U.S. Geological Survey Open-File Report 2004-1347