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Surface Water Data at Los Alamos National Laboratory, Water Year 2011



Prepared by the Environmental Programs Directorate

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INTRODUCTION

The annual water data report from Los Alamos National Laboratory (LANL) contains flow data from 50 stream gage stations that cover most of LANL's property. Data are collected from LANL's upper boundary approximated by NM 501 to the lower boundary approximated by NM 4. Gage station data are used to support the monitoring of Los Alamos/ Pueblo Canyons under the March 2005 Compliance Order on Consent, the Buckman Direct Diversion Emergency Notification System, monitoring of Sandia Canyon for wetlands stabilization, LANL's Environmental Surveillance Program, activities directed by the Water Canyon/Cañon de Valle investigation report, and post-Las Conchas fire monitoring.

The majority of the stream gage stations are located within ephemeral streams. These streams flow briefly in response to precipitation that occurs in the surrounding area or snowmelt runoff from higher elevations. The remainder of the year the streams are dry with no flow. The remainder of the stream gage stations are located in either intermittent or perennial streams.

Station Identification Numbers

The U.S. Geological Survey (USGS), Water Resources Division, assigns a unique identification number to each stream gage station it establishes. All sites numbered since 1950 are part of the downstream order system. In this report, the station numbers increase from upstream to downstream.

This report adheres to the USGS convention of downstream order system. Because of the proximity of stations in this network, the first five digits of all station numbers are 08313. This five-digit number string is replaced with the letter E in the station number as an abbreviation.

Data Collection and Computation

A complete record at a gage station includes stage and discharge measurements from a stream or channel, directly observed factors that affect the stage/discharge relationship, and weather records. Integrated 5-min records of stage were provided from a data logger or direct readings were collected and verified on-site. Discharge is measured using meters and methods adopted by the USGS. The methods can be found in the U.S. Geological Survey Technique of Water Resources Investigations, Book 3 (Carter and Davidian 1968), Chapter A6, and the U.S. Geological Survey Water Supply Paper 2175 (Rantz 1982).

Rating curves were developed using the stage-discharge relationship curve determined from measured stage and the corresponding discharge. When it is necessary to define the discharge extremes outside of the range for current meter measurements, the curve is extended using logarithmic plotting; velocity area studies; results of indirect measurements of peak discharge, such as slope area or contracted opening measurements, and computations of flow over dams or weirs; or step-backwater techniques.

Daily mean discharge is computed by applying daily mean gage height (stage) to the stage discharge curves or tables. If the stage-discharge relationship is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method. In the shifting-control method, correction factors based on individual discharge measurements and notes by personnel taking the measurements are applied to the gage heights before discharges are determined from the curves or tables.

The shifting-control method is also used if the stage-discharge relationship for a station is temporarily changed by natural vegetation, aggradation and degradation or debris, and sediment accumulation on the

control. At some canyon bottom, northern, and perennial stream gage stations, the stage-discharge relationship is affected by ice in the winter and it is not possible to compute discharge. Temperature data, precipitation data, and discharge records from nearby stations are used to estimate discharge during these periods.

For some gage stations, periods occur when no gage height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This occurs when the data logger stops recording or otherwise fails to operate properly. For such periods, the daily discharge is estimated on the basis of recorded range-in-stage, previous and subsequent records, discharge measurements, weather records, and record comparisons made against other stations in the same or nearby basins.

Meteorological Tower Data

Precipitation data from LANL's meteorological towers located throughout the laboratory's property collect 15-min data using heated tipping buckets. Monthly data is totaled from each meteorological tower to show monthly precipitation amounts. Further documentation and precipitation information data can be found at <http://weather.lanl.gov>.

Accuracy of Records

The following two factors determine the accuracy of stream flow records:

- Stability of the stage-discharge relationship or, if the control is unstable, the frequency of discharge measurements and
- Accuracy of measurements of stage, accuracy of discharge measurements, and interpretations of records.

The number of significant figures used to report daily mean discharges is based solely on the magnitude of the discharge value:

If the value (ft ³ /s) is	Then it is reported as
less than 1 ft ³ /s	nearest hundredth
1–10 ft ³ /s	nearest tenth
10–1000 ft ³ /s	whole number
above 1000 ft ³ /s	three significant figures

Data Presentation

The records published in this report consist of three parts for each gage station:

- Station analysis summary,
- Station manuscript description with photo, and
- Data table for the water year (October 1, 2010, to September 30, 2011).

The station 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 stream flow discharge.

The station manuscript provides data under various headings: station location, drainage area, revised records, period of record, gage, average discharge, record accuracy, and other points pertinent to station operation and regulation. Each continuous record of discharge includes the following categories of descriptions.

Location: The most accurate and available maps, coupled with global positioning system (GPS) technology, provide location information. The location of the gage with respect to the vicinity's cultural and physical features is given as well as a name that refers to place. For a few stations, the U.S. Army Corps of Engineers or the Water Resources Council (River Mileage Measurement, Bulletin 14, Revised October 1968) provided the method used for river mileage measurement. Left and right banks are defined from the perspective of facing downstream.

Drainage Area: The most accurate and available maps provide drainage area measurements. The accuracy of drainage area measurements varies, depending on the type of map available for this purpose.

Revised Records: Because of new information, published records occasionally are found to be incorrect and revisions are printed in later reports. If the record has been revised, the report in which the most recently revised figure was first published is given.

Period of Record: The period of record is the time during which published records exist for a station or its equivalent station. An equivalent station is one that was in operation when the present station was not in operation and was located so that records from it can be reasonably considered equivalent to records from the present station.

Gage: This section describes the type of gage in current use. Under this heading, the datum of the current gage referred to in the National Geodetic Vertical Datum (NGVD) of 1929 (see Abbreviations, Acronyms, and Glossary) is a condensed history of the types, locations, and data of previous gages.

Average Discharge: The average discharge is the average of the discharge of the period of record. Once published, it continues as a moving average. Peak discharges estimated from high-water mark surveys are not included in the average discharge calculations.

Maximum for Period of Record: The record includes the maximum stage and discharge. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, by direct observation of a nonrecording gage or high-water mark surveys. The minimum stage and discharge are included for perennial streams.

If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately.

Maximum for Current Water Year: Maximums given are similar to those for the period of record. The time for occurrence of peaks is expressed in 24-h local standard time. For example, 12:30 A.M. is 0030 and 1:30 P.M. is 1330. The minimums for perennial streams are recorded in a similar manner as the maximums.

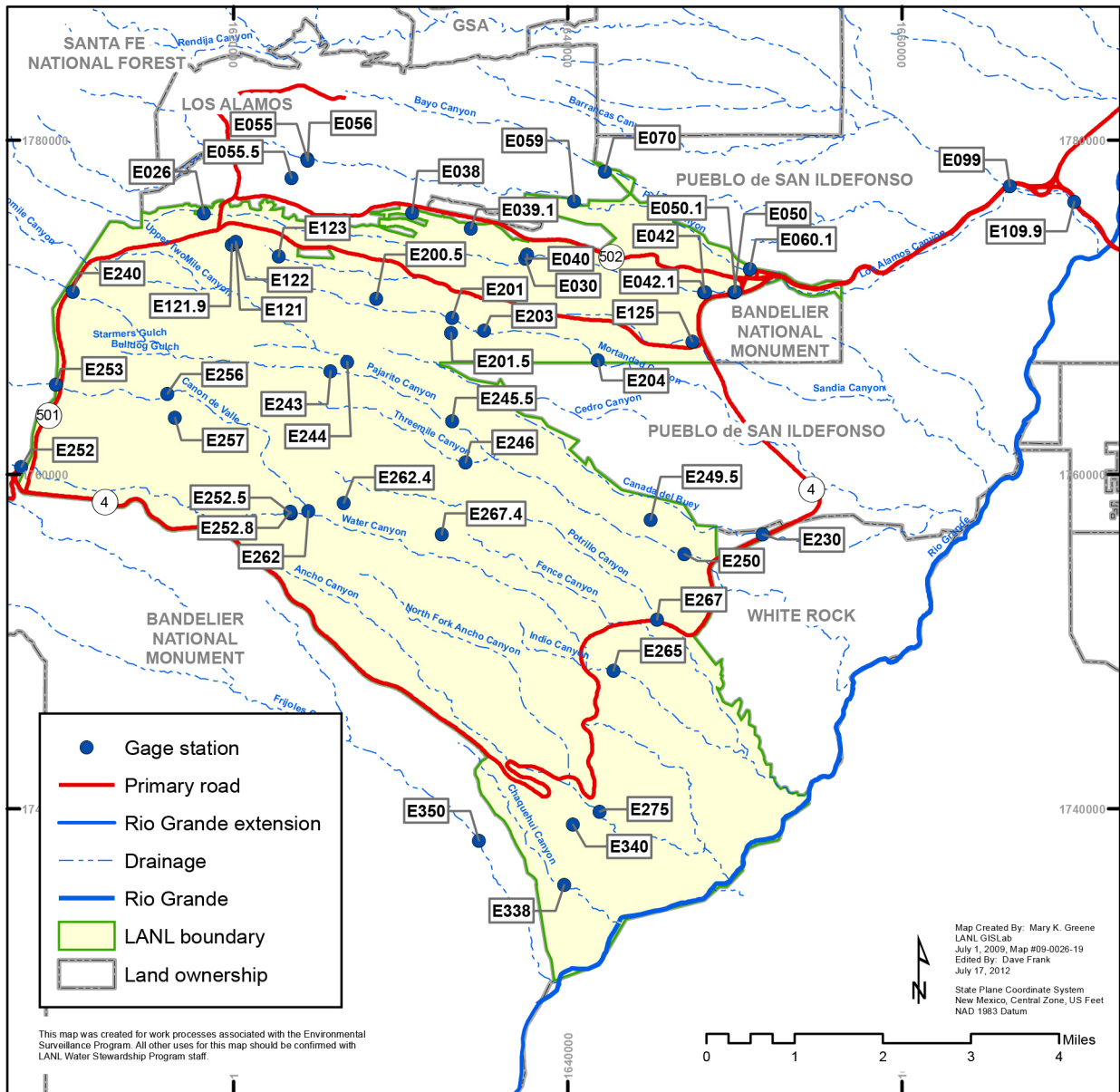
The daily table of discharge records for stream-gage stations gives the mean discharge for each day of the water year. In the monthly summary for the table, the row titled "Total (ft³/s)" contains the sum of the daily figures for each month in cubic feet per second; the row titled "Total (acre-ft)" contains the sum of the daily figures for each month in acre feet; the row titled "Max Daily Mean" contains the maximum average daily flow for the month in cubic feet per second; the row titled "Min Daily Mean" contains the minimum average daily flow for the month in cubic feet per second; the row titled "Instantaneous Max" contains the maximum flow for the month in a 5-min interval; the row titled "Instantaneous Min" contains the minimum flow for the month in a 5-min interval; and the row titled "Missing Days" contains the number of days missing for each month.

Qualifiers

Raw data are qualified using a standard set of numbers to better determine the quality of the data. Qualifiers are noted within the daily mean discharge table with a symbol or letter. Unless otherwise noted, the data are qualified as good continuous records. Some of the data were reliably estimated. Data are reliably estimated during short periods of time using precipitation data to verify no precipitation and/or, when applicable, upstream or downstream stream-gage data. The qualifier "M" denotes data are missing for an unknown or unexplainable reason. The qualifier "I" denotes ice was present. The qualifier "E" denotes an equipment malfunction. This malfunction may be the result of a bad data logger, faulty stage monitoring instrument, or a dead battery. The qualifier "IA" denotes the station was inactive because of an event that damaged the station beyond immediate repair such as a flood or fire or the station was temporarily rendered inactive. The qualifier "PE" denotes the station was not installed and operating before the beginning of the water year. The qualifier "D" denotes the station was decommissioned and no longer operating. The qualifier "T" denotes testing. Field crews were present on-site and testing the equipment.

SUMMARY

Gage Stations at LANL



Summary of Discharges from Stream Monitoring Stations for Water Year 2011

Canyon Sites	Estimated Days with Flow	Total Volume (acre-ft)	Instantaneous Maximum Discharge (ft³/s)
E026 Los Alamos Canyon below Ice Rink	30	10	49
E030 Los Alamos Canyon above DP Canyon	17	23	107
E038 DP Canyon above TA-21	36	26	212
E039.1 DP Canyon below Grade Control Structure	51	46	290
E040 DP Canyon above Los Alamos Canyon	16	20	209
E042 Los Alamos Canyon above SR 4	4	11	125
E042.1 Los Alamos above Low Head Weir	30	76	207
E050 Los Alamos Canyon below Los Alamos Weir	19	77	190
E050.1 Los Alamos Canyon below Low Head Weir	24	73	188
E055 Pueblo Canyon above Acid Canyon	23	31	24
E055.5 South Fork of Acid Canyon	8	1.3	20
E056 Acid Canyon above Pueblo Canyon	26	10	143
E059 Pueblo Canyon above WWTP	3	13	131
E060.1 Pueblo Canyon below Grade Control Structure	84	61	14
E109.9 Los Alamos above Rio Grande	186	72	632
E121 Sandia Canyon Right Fork at Power Plant	314 ^a	693	77
E121.9 Sandia Canyon East of Power Plant	26	1.3	4
E122 Sandia Canyon near Roads and Grounds at TA-3	277 ^a	17	12
E123 Sandia Canyon below Wetlands	12	11	85
E125 Sandia Canyon above SR 4	0	0	0
E200.5 Mortandad Canyon Tributary Batch Plant at Sigma	4	0.18	0.2
E201 Mortandad Canyon above Ten Site Canyon	1	0.02	0.13
E201.5 Ten Site Canyon above Mortandad Canyon	0	0	0
E203 Mortandad Canyon below Sediment Traps	6	0	0.01
E204 Mortandad Canyon at LANL Boundary	0	0	0
E230 Cañada del Buey above SR 4	1 ^a	0.12	2.4
E240 Pajarito Canyon below SR 501	12	3.6	32
E243 Pajarito Canyon above Two Mile Canyon	39 ^a	1.4	0.86
E244 Two Mile Canyon above Pajarito Canyon	181 ^a	28	1.8
E245.5 Pajarito Canyon above Three Mile Canyon	10	89	480
E246 Three Mile Canyon above Pajarito Canyon	0	0	0
E249.5 MDA G-7	1	0.04	0.39
E250 Pajarito Canyon above SR 4	18	15	95
E252 Water Canyon above SR 501	243 ^a	157 ^b	1577 ^c
E252.5 Water Canyon above S Site Canyon	131 ^a	9.5 ^b	3021 ^c

Summary of Discharges from Stream Monitoring Stations for Water Year 2011 (continued)

Canyon Sites	Estimated Days with Flow	Total Volume (acre-ft)	Instantaneous Maximum Discharge (ft ³ /s)
E252.8 S Site Canyon above Water Canyon	1 ^a	0.01 ^b	23 ^c
E253 Cañon del Valle above SR 501	9 ^a	119 ^b	1450 ^c
E256 Cañon del Valle below MDA P	160 ^a	30 ^b	1024 ^c
E257 Cañon del Valle Tributary at TA-16 Burn Grounds	53	2.8	9.9
E262 Cañon del Valle above Water Canyon	6 ^a	0 ^b	1866 ^c
E262.4 Phermex	61	4.1	1.5
E265 Water Canyon below SR 4	4	3.9 ^b	2429 ^c
E267 Potrillo Canyon above SR 4	6	1.2	20
E267.4 TA-36 Minie Site	0 ^a	0	0
E275 Ancho Canyon below SR 4	1	0.18	6.3
E338 Chaquehui at TA-33	0	0	0
E340 Chaquehui Tributary at TA-33	0	0	0
E350 Rio de los Frijoles at Bandelier	307 ^a	524 ^b	4500 ^c

^a Station in operation for portion of water year.^b Station was destroyed by flood on August 21. Peak discharge from this storm event was estimated using high-water mark surveys. Total acre-ft value does not include discharge from August 21 storm event.^c Reliable estimate. Station damaged by flood.**Data Omitted for Water Year 2011**

For existing stations that were omitted from this publication, information was extracted from existing raw or partially reduced data using the following procedure. The raw stage height was evaluated for relative change to the previously recorded stage. The highest relative change was assumed to be the peak for the current water year. Documented missing data or gaps in a station's record were tallied to estimate the days without available data. Discharge cannot be computed from stage data without a rating curve. The gage stations below do not have a rating curve; therefore, they have been omitted from the remainder of this report.

Station	Estimated Days with Flow	Estimated Date of Peak Flow	Gap in Record (days)	Comments
E070 Bayo Canyon at Pueblo Canyon	1	8/21/2011	0	Rating curve in development
E099 Guaje Canyon at SR 502	6	9/4/2011	200	Rating curve in development

Monthly Precipitation Data (in.) from LANL Meteorological Stations for Water Year 2011

Month	TA-6	TA-49	TA-53	TA-54	NCOM ^a	PJMT ^b
October	2.09	1.76	0.86	0.54	1.1	NR ^c
November	0.03	0.01	0.06	0.05	0.01	NR
December	1.18	1.43	1.08	1.01	1.04	NR
January	0.01	NR	0.03	0.00	0.00	0.00
February	0.04	NR	0.04	0.01	0.01	0.00
March	0.17	NR	0.08	0.03	0.11	0.14
April	0.47	NR	0.27	0.23	0.59	0.13
May	0.18	NR	0.07	0.04	0.26	0.04
June	0.00	NR	0.01	0.02	0.01	0.01
July	0.77	NR	1.53	2.53	0.85	NR
August	4.98	NR	2.31	2.66	4.54	3.82
September	3.04	NR	3.44	2.71	0.64	0.99
Total	12.96	3.20	9.78	9.83	9.16	5.13

^a NCOM = North Community.^b PJMT= Pajarito Mountain.^c NR = Not reliable data.**ACKNOWLEDGEMENTS**

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REFERENCES

Carter, R.W., and J. Davidian, 1968. Techniques of Water-Resources Investigations of the United States Geological Survey, General Procedure for Gaging Streams. Book 3, Chapter A6, U.S. Geological Survey.

Kilpatrick, F.A., and V.R Schneider. 1983. Techniques of Water-Resources Investigations of the United States Geological Survey, General Procedure for Gaging Streams. Book 3, Chapter A14, U.S. Geological Survey.

Rantz, S.E., 1982. Measurement and Computation of Stream Flow Volume 1: Measurement of Stage and Discharge. Geological Survey Water-Supply Paper 2175. U.S. Geological Survey.

National Geodetic Vertical Datum of 1929.

North American Datum of 1983.

Previous Los Alamos National Laboratory reports in this series: "Surface Water Data at Los Alamos National Laboratory" for Water Years 1995 to 2001 and 2010 are available in pdf format and Water Years 2002 to 2009 are available in hard copy format through the LANL Research Library. The reports can be accessed at the following: http://lasearch.lanl.gov/oppie/service?url_ver=Z39.88-2004&rft_id=info:lanl-repo/oppie&svc_val_fmt=http://oppie.lanl.gov/openurl/oppie.html&svc_id=info:lanl-repo/svc/oppie/solr-bib-search&svc.oparam2=0&svc.oparam3=25&svc.oparam4=score%20desc&svc.oparam1=surface%20water%20data%20at%20los%20alamos%20national%20laboratory&svc.oparam5=&svc.oparam6=.

E026 LOS ALAMOS CANYON BELOW ICE RINK

Location. Lat 35° 52' 49" long 106° 19' 30", NE ¼, Sec. 17, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 7.07 mi².

Period of Record. February 26, 2001, to September 30, 2011.

Revised Record. Drainage area (2006); Section (2007).

Gage. Data logger with cellular telemetry. Elevation of gage is 7183 ft above NGVD.

Average Discharge. 10 yr, 0.37 ft³/s, 268 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 188 ft³/s, August 9, 2001, gage height 1.5 ft.

Maximum for Current Water Year. Maximum discharge, 49 ft³/s, September 4, 2011, gage height 1.5 ft.



Equipment. The station is equipped with a Sutron 8210 (5-min interval) and a shaft encoder float system with cellular phone. The system is powered by a solar panel battery system housed in a NEMA shelter on top of a 24-in. CMP well. The station is equipped with two ISCO samplers (one 12-count 1-L glass and polyethylene bottle sampler and one 24-count 1-L polyethylene bottle sampler) to collect water-quality samples. The ISCO samplers are housed in a separate 3- × 4-ft metal box. The samplers are triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for measurement above the wading stage. All high-flow measurements will be by slope-area or critical depth computation methods.

Fieldwork. The station was visited a total of 25 times, 10 of which were to service the instrumentation. For water year 2011, two discharge measurements were completed.

Datum Correction. Levels run on November 21, 2001, found the gage to be within limits.

Gage-Height Record. The data logger referenced to the inside staff gage gave a complete and satisfactory record, except for the period from August 24 to 28, 2011, when data logger malfunctioned.

Rating. The channel at the gage is about 20 ft wide and straight for 20 ft upstream where it bends to the left and then runs straight for about 150 ft downstream. The streambed through this reach is primarily gravel with cobbles. The low-flow control is a rock and grave riffle located 15 ft downstream from the gage. The channel is the control for medium and high stages. The buildup and scour of this control leads to shift changes during the water year.

Rating No. 3 was developed based on measurements made during the period of record.

Flow is partially regulated by Los Alamos Reservoir about 1.5 mi upstream of the gage and the draining of this reservoir. The gage of reference at this station is the inside reference point (the RP measure). Fall exists at all low- to medium-flow regimes between staff and well.

Discharge. Discharges were computed from Rating No. 3 using variable shifts.

Daily Mean Discharge (ft³/s) for E026

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
2	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
4	0	0	0	0	0	0	0	0	0	0	0	0.71
5	0	0	0	0	0	0	0	0	0	0	0.02	0
6	0	0	0	0	0	0	0	0	0	0	0.06	0
7	0	0	0	0	0	0	0	0	0	0	0.43	0
8	0	0	0	0	0	0	0	0	0	0	0.43	0
9	0	0	0	0	0	0	0	0	0	0	0.51	0.04
10	0 ^a	0	0	0	0	0	0	0	0	0	0.32	0.02
11	0 ^a	0	0	0	0	0	0	0	0	0	0.06	0
12	0 ^a	0	0	0	0	0	0	0	0	0	0.02	0
13	0	0	0	0	0	0	0	0	0	0	0.08	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0.01
16	0	0	0	0	0	0	0	0	0	0	0.27	0.01
17	0	0	0	0	0	0	0	0	0	0	0.54	0
18	0	0	0	0	0	0	0	0	0	0	0.03	0
19	0	0	0	0	0	0	0	0	0	0	0.04	0
20	0	0	0	0	0	0	0	0	0	0.06	0.01	0
21	0	0	0	0	0	0	0	0	0	0.04	0.05	0
22	0	0	0	0	0	0	0	0	0	0.01	0.69	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0.26	0	0	0	0	0	0	0	E ^b	0
25	0	0	0	0	0	0	0	0	0	0	E	0
26	0	0	0	0	0	0	0	0	0	0	E	0
27	0	0	0	0	0	0	0	0	0	0	E	0
28	0	0	0	0	0	0	0	0	0.02	0.06	E	0
29	0	0	0	0	— ^c	0	0	0	0	0.12	E	0
30	0	0	0	0	—	0	0	0	0	0.13	0	0
31	0	—	0	0	—	0	—	0	—	0.01	0	—

Daily Mean Discharge (ft³/s) for E026 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0.26	0	0	0	0	0	0.02	0.43	3.56	0.79
Total (acre-ft)	0	0	0.52	0	0	0	0	0	0.04	0.85	7.1	1.6
Max Daily Mean	0 ^a	0	0.26	0	0	0	0	0	0.02	0.13	0.69	0.71
Min Daily Mean	0 ^a	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0.01 ^a	0	3.12	0	0	0	0	0	1.24	0.74	31.48	49.04
Instantaneous Min	0 ^a	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	6	0

^a Reliable estimate.

^b E= Equipment malfunction.

^c — = Not applicable.

Daily Mean Discharge (ft³/s) for E026 (continued)

WY2011	Total	5.06	Mean	0.014	Max	0.71	Min	0	Instantaneous Max	49	Acre-ft	10
CY2010	Total	193.06	Mean	0.53	Max	5.5	Min	0	Instantaneous Max	6.3	Acre-ft	383

E030 LOS ALAMOS CANYON ABOVE DP CANYON

Location. Lat 35° 52' 21", long 106° 15' 36", SW ¼, Sec. 13, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 8.57 mi².

Period of Record. July 1994 to September 30, 2011.

Revised Record. Drainage area (2006); Township (2007).

Gage. Data logger with concrete control. Elevation of gage is 6621 ft above NGVD from GPS survey.

Average Discharge. 17 yr, 0.21 ft³/s, 149 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 125 ft³/s, June 22, 2002, gage height 2.9 ft from peak-flow computation.

Maximum for Current Water Year. Maximum discharge, 107 ft³/s, September 4, 2011, gage height 2.8 ft.



Equipment. The station is equipped with a Sutron 8210 (5-min interval) with a shaft encoder float system (5-min interval). The system is powered by a solar panel battery system housed in a NEMA shelter on an 18-in. CMP well on the left bank. The station is equipped with an ISCO pump sampler (12-count 1-L glass or polyethylene bottles) to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for direct discharge measurements above the wading stages.

Fieldwork. The station was visited 25 times to perform inspections; 10 of the visits were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record for the year.

Rating. The streambed is sand and gravel and subject to slight movement during flow events. The channel is straight for 300 ft above the gage and 50 ft below. Vegetation on the bank is sparse grass.

Rating No. 2 was used for the entire water year.

Discharge. Discharge was computed using Rating No. 2.

Daily Mean Discharge (ft³/s) for E030

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0 ^a	0	0	0	0	0	0	0	0	0	0	0.02
2	0 ^a	0	0	0	0	0	0	0	0	0	0	0
3	0 ^a	0	0	0	0	0	0	0	0	0	0	0
4	0 ^a	0	0	0	0	0	0	0	0	0	0	3.55
5	0 ^a	0	0	0	0	0	0	0	0	0	0	0.32
6	0 ^a	0	0	0	0	0	0	0	0	0	0	0
7	0 ^a	0	0	0	0	0	0	0	0	0	0	0.06
8	0 ^a	0	0	0	0	0	0	0	0	0	0	0
9	0 ^a	0	0	0	0	0	0	0	0	0	0	0.01
10	0 ^a	0	0	0	0	0	0	0	0	0	0	0.24
11	0 ^a	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0.76
16	0	0	0	0	0	0	0	0	0	0	0	0.62
17	0	0	0	0	0	0	0	0	0	0	0	0.11
18	0	0	0	0	0	0	0	0	0	0	0	0.02
19	0	0	0	0	0	0	0	0	0	0	0.33	0
20	0	0	0	0	0	0	0	0	0	0	0.01	0
21	0	0	0	0	0	0	0	0	0	0	1.50	0
22	0	0	0	0	0	0	0	0	0	0	3.84	0
23	0	0	0	0	0	0	0	0	0	0	0.03	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0.21	0
28	0	0	0	0	0	0	0	0	0	0	0.06	0
29	0	0	0	0	— ^b	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E030 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	5.94	5.76
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	12	11
Max Daily Mean	0 ^a	0	0	0	0	0	0	0	0	0	3.84	3.55
Min Daily Mean	0 ^a	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0 ^a	0	0	0	0	0	0	0	0	0	95.26	106.87
Instantaneous Min	0 ^a	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

^a Reliable estimate.

^b — = Not applicable.

Daily Mean Discharge (ft³/s) for E030 (continued)

WY2011	Total	11.70	Mean	0.032	Max	3.8	Min	0	Instantaneous Max	107	Acre-ft	23
CY2010	Total	158.52	Mean	0.43	Max	5.0	Min	0	Instantaneous Max	30	Acre-ft	314

E038 DP CANYON ABOVE TA-21

Location. Lat 35° 52' 49", long 106° 16' 58", SW ¼, sec. 14, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 0.22 mi².

Period of Record. April 26, 2000, to September 30, 2011.

Revised Record. Drainage area (2006); Section (2007).

Average Discharge. 11 yr, 0.60 ft³/s, 437 acre-ft/yr.

Gage. Data logger with cellular telemetry. Elevation of gage is 7087 ft above NGVD.

Maximum for Period of Record. Maximum discharge, 295 ft³/s, July 24, 2004, gage height 4.4 ft from rating curve extended above 10 ft³/s on basis of peak-flow computations.

Maximum for Current Water Year. Maximum discharge, 212 ft³/s, August 21, 2011, gage height 3.6 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accububble self-contained bubbler system with cellular telemetry with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler (12-count glass or polyethylene bottles) to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for discharge measurements above the wading stage. All high-flow measurement will be by slope-area or peak-flow computation methods.

The station is also equipped with a tipping bucket rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited a total of 23 times, 9 of which were to service the instrumentation. For water year 2011, one discharge measurement was completed.

Datum Correction. Levels run in July 2005 show the gage to be within limits.

Gage-Height Record. The data logger referenced to the outside gage gave a complete and satisfactory record for the year, except for the periods from January 6 to 18, 2011, because of ice, and the periods from August 29 to September 2, 2011, and September 13 to 16, 2011, because the equipment malfunctioned.

Rating. The channel is about 10 ft wide and straight for about 30 ft upstream and downstream. The streambed through this reach is primarily sand, gravel, and larger boulders. The low-flow control is a rock outcrop downstream from the gage about 5 ft away. The channel is the control for medium and high stages.

Rating No. 3 was developed using past discharge measurements and verified with current measurements.

Discharge. Rating No. 3 was used with "V" diagrams to compute this record.

Daily Mean Discharge (ft³/s) for E038

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0 ^a	0 ^a	0	0	0	0 ^a	0	0	0	0.66	E ^b
2	0.03	0	0	0	0	0	0 ^a	0	0	0.09	0.06	E
3	0.01	0	0	0	0	0	0 ^a	0	0	0	0.22 ^a	0
4	0 ^a	0	0	0	0	0	0 ^a	0	0	0	0.50	0.19
5	0.19	0	0	0	0	0	0	0.03	0	0	0.59	0
6	0 ^a	0	0	I ^c	0	0	0 ^a	0	0	0	0	0.01
7	0	0	0	I	0	0.04	0.03	0	0	0	0	0.61
8	0.02	0	0	I	0	0.15	0	0	0	0	0	0
9	0	0	0 ^a	I	0	0.12	0	0	0	0	0	0.31 ^a
10	0	0	0	I	0	0	0	0	0	0	0	0.22 ^a
11	0	0	0	I	0	0	0	0	0	0	0	0 ^a
12	0	0	0	I	0	0	0	0	0	0	0	0 ^a
13	0 ^a	0	0	I	0	0	0	0	0	0	0.16	E
14	0	0	0	I	0	0	0	0	0	0	0	E
15	0	0	0	I	0	0	0	0	0	0	0.02	E
16	0	0	0	I	0	0	0	0	0	0	0	E
17	0	0	0	I	0	0	0	0	0	0	0	0
18	0 ^a	0	0.06	I	0	0	0	0	0	0	0	0
19	0	0	0.06	0	0	0	0	0	0	0	4.40	0
20	0.13	0	0	0	0	0	0	0	0	0	0	0
21	0.49 ^a	0	0	0	0	0	0	0	0	0	3.45	0
22	0	0 ^a	0	0	0	0	0	0	0	0	0	0
23	0	0	0.01	0	0	0	0	0 ^a	0	0	0	0
24	0	0	0.04	0	0	0 ^a	0	0	0	0	0	0
25	0 ^a	0	0.02	0	0	0 ^a	0.02	0.02	0	0	0	0
26	0	0	0	0	0	0 ^a	0	0	0	0	0	0
27	0	0	0	0	0	0 ^a	0	0	0	0	0	0
28	0	0	0	0	0	0 ^a	0	0	0	0.11	0.07	0
29	0	0 ^a	0	0	— ^d	0 ^a	0	0	0	0	E	0
30	0	0 ^a	0	0	—	0 ^a	0	0	0	0.25	E	0
31	0	—	0	0	—	0 ^a	—	0	—	0.01	E	—

Daily Mean Discharge (ft³/s) for E038 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.87	0	0.19	0	0	0.31	0.06	0.05	0	0.46	10.08	1.34
Total (acre-ft)	1.70	0	0.38	0	0	0.61	0.12	0.1	0	0.91	20	2.70
Max Daily Mean	0.49 ^a	0 ^a	0.06 ^a	0	0	0.15 ^a	0.03 ^a	0.03 ^a	0	0.25	4.40 ^a	0.61 ^a
Min Daily Mean	0 ^a	0 ^a	0 ^a	0	0	0 ^a	0 ^a	0 ^a	0	0	0 ^a	0 ^a
Instantaneous Max	14.20 ^a	0 ^a	1.24 ^a	0	0	7.28 ^a	1.43 ^a	0.50 ^a	0	9.80	212.43 ^a	39.67 ^a
Instantaneous Max	0 ^a	0 ^a	0 ^a	0	0	0 ^a	0 ^a	0 ^a	0	0	0 ^a	0 ^a
Missing Days	0	0	0	13	0	0	0	0	0	0	3	6

^a Reliable estimate.^b E = Equipment malfunction.^c I = Ice present.^d — = Not applicable.Daily Mean Discharge (ft³/s) for E038 (continued)

WY2011	Total	13.36	Mean	0.039	Max	4.40	Min	0	Instantaneous Max	212	Acre-ft	26
CY2010	Total	366.17	Mean	1.00	Max	85	Min	0	Instantaneous Max	209	Acre-ft	726

E039.1 DP CANYON BELOW GRADE CONTROL STRUCTURE

Location. Lat 35° 52' 40", long 106° 16' 17", SE ¼, Sec. 14, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 0.40 mi².

Period of Record. April 4, 2010, to September 30, 2011.

Average Discharge. 1 yr, 0.11 ft³/s, 80 acre-ft/yr.

Gage. Data logger. Elevation of gage is 7045 ft above NGVD.

Maximum for Period of Record. Maximum discharge, 315 ft³/s, August 18, 2010, gage height 3.6 ft.

Maximum for Current Water Year. Maximum discharge, 290 ft³/s, August 21, 2011, gage height 3.4 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) with a shaft encoder float system and a Sutron Accubar bubble sensor. The system is powered by a solar panel battery system housed in a NEMA shelter. A trapezoidal supercritical flume with a 1-ft-wide throat controls flow through the gage reach. No provision has been made for direct discharge measurements above the wading stage. An outside staff gage is available for reference. The station is equipped with two ISCO pump samplers (one 12-count glass or polyethylene bottles and one 24-count polyethylene bottles) to collect water-quality samples. The ISCOs are housed in a 3- × 4-ft steel storage box, separate from the other instrumentation. Samplers are triggered by stage through the data logger. All high-flow measurements will be by slope-area or peak-flow computation methods.

Fieldwork. The station was visited 27 times to perform inspections; 9 of the visits were to service the instrumentation.

Datum Correction. None

Gage-Height Record. The data logger referenced to the outside gage gave a complete and satisfactory record for the year.

Rating. Rating No. 1 is based on precalibrated data for a 1.0 trapezoidal supercritical flume (U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A14, 1983, Use of Flumes in Measuring Discharge) and was used throughout the period.

Discharge. Discharge was computed using Rating No. 1.

Daily Mean Discharge (ft³/s) for E039.1

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0.13	0	0	0	0	0	0	0	0.21	0
2	0	0	0.11	0	0	0	0	0	0	0	0	0
3	0	0	0.10	0	0	0	0	0	0	0	0.20	0
4	0	0	0.10	0	0	0	0	0	0	0	0.54	0.11
5	0.08	0	0.10	0	0	0	0	0	0	0	0.65	0
6	0	0	0.10	0	0	0	0	0	0	0	0	0
7	0	0	0.10	0	0	0	0	0	0	0	0	0.33
8	0	0	0.10	0	0	0	0	0	0	0	0	0
9	0	0	0.10	0	0	0	0	0	0	0	0	0.35
10	0	0	0.10	0	0	0	0	0 ^a	0	0	0	0.51
11	0	0	0.07	0	0	0	0	0	0	0	0	0
12	0	0	0.07	0	0	0	0	0	0	0	0	0
13	0	0	0.07	0	0	0	0	0	0	0	0.06	0
14	0	0	0.07	0	0	0	0	0	0	0	0	0
15	0	0	0.07	0	0	0	0	0	0	0	0	0.71
16	0	0	0.07	0	0	0	0	0	0	0	0	0.06
17	0	0	0.07	0	0	0	0	0	0	0	0	0
18	0	0	0.07	0	0	0	0	0	0	0	0	0
19	0	0	0.53	0	0	0.04	0	0	0	0	7.23	0
20	0.02	0	1.59	0	0	0.07	0	0	0	0	0	0
21	0.62	0	0.94	0	0	0.06	0	0	0	0	5.65	0
22	0	0	0.23	0	0	0.01	0	0	0	0	0	0
23	0	0	0.01	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0.02	0	0	0	0	0	0	0	0	0	0
26	0	0.42	0	0	0	0	0	0	0	0	0	0
27	0	0.06	0	0	0	0	0	0	0	0	0	0
28	0 ^a	0.11	0	0	0	0	0	0	0	0	0	0
29	0	0.14	0	0	— ^b	0	0	0	0	0	0.01	0
30	0	0.14	0	0	—	0	0	0	0	0	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E039.1 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.72	0.89	0.91	0	0	0.18	0	0	0	0	14.58	2.07
Total (acre-ft)	1.40	1.80	9.70	0	0	0.36	0	0	0	0	29	4.1
Max Daily Mean	0.62 ^a	0.42	1.59	0	0	0.07	0	0 ^a	0	0	7.23	0.71
Min Daily Mean	0.00 ^a	0	0	0	0	0	0	0 ^a	0	0	0	0
Instantaneous Max	15.12 ^a	1.46	1.62	0	0	0.07	0	0 ^a	0	0	290.4	12.45
Instantaneous Min	0.00 ^a	0	0	0	0	0	0	0 ^a	0	0	0	0
Missing Days	0 ^a	0	0	0	0	0	0	0 ^a	0	0	0	0

^a Reliable estimate.

^b — = Not applicable.

Daily Mean Discharge (ft³/s) for E039.1 (continued)

WY2011	Total	23.35	Mean	0.064	Max	7.2	Min	0	Instantaneous Max	290	Acre-ft	46
CY2010	Total	42.05	Mean	0.16	Max	8.9	Min	0	Instantaneous Max	315	Acre-ft	83

E040 DP CANYON ABOVE LOS ALAMOS CANYON

Location. Lat 35° 52' 24", long 106° 15' 34", SW ¼, Sec. 13, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 0.60 mi².

Period of Record. May 1999 to September 30, 2011.

Revised Record. Drainage area (2006); Section (2007).

Gage. Data logger and concrete control. Elevation of gage is 6620 ft above NGVD from GPS survey.

Average Discharge. 12 yr, 0.06 ft³/s, 42 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 452 ft³/s, August 8, 2006, gage height 5.7 ft. (from slope-area measurement).

Maximum for Current Water Year. Maximum discharge, 208 ft³/s, August 21, 2011, gage height 4.4 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) with a Milltronics sonic probe. The system is powered by a solar panel battery system. All equipment is housed in a NEMA shelter. The station is equipped with an ISCO pump sampler (12-count 1-L glass or polyethylene bottles) to collect water-quality samples in a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. High flow measurements can be made from the bridge upstream of the gage.

Fieldwork. The station was visited a total of 25 times, 10 of which were to service the instrumentation. One discharge measurement was completed.

Datum Correction. None from levels.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record.

Rating. The channel is about 15 ft wide and bends to the right above the gage and straight for about 100 ft downstream. The streambed through this reach is primarily sand with large boulders. The control at this site is a concrete control with a “V” notch in the middle for low flow. The channel becomes the control for medium to high flows.

Rating No. 3 is good up to 30 ft³/s and fair above that.

Discharge. Discharge was computed using Rating No. 3. Those days estimated at zero flow were based on comparison with nearby gage stations and precipitation records. No flow occurred most of the time.

Daily Mean Discharge (ft³/s) for E040

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	0	0 ^a	0	0	0	0	0	0 ^a	0
2	0 ^a	0	0	0	0 ^a	0	0	0	0	0	0	0 ^a
3	0	0	0	0	0	0	0	0	0	0 ^a	0.18 ^a	0
4	0	0	0	0	0	0	0	0	0	0	0.36	0.01
5	0	0	0	0	0	0	0	0	0 ^a	0	0.43	0.01
6	0	0	0	0	0 ^a	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0.27
8	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	0.15
10	0	0	0	0	0	0	0	0	0	0	0	0.34
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0 ^a
14	0	0	0	0	0	0	0	0	0	0	0	0 ^a
15	0	0	0	0	0	0	0	0	0	0	0	0.36
16	0	0	0 ^a	0	0	0	0	0	0	0 ^a	0 ^a	0.01
17	0	0	0 ^a	0	0	0	0	0	0	0	0	0
18	0	0	0 ^a	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	3.83	0
20	0	0	0	0	0	0	0	0	0	0 ^a	0	0
21	0.24	0	0	0	0	0	0	0	0	0 ^a	4.13	0
22	0	0	0	0	0	0	0	0	0	0 ^a	0.03	0
23	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
25	0	0	0	0	0	0	0	0	0	0 ^a	0	0
26	0	0	0	0	0	0	0	0 ^a	0	0 ^a	0	0
27	0	0	0	0	0	0	0	0	0	0 ^a	0	0 ^a
28	0	0	0	0	0	0	0	0	0	0	0 ^a	0
29	0	0	0 ^a	0	— ^b	0	0	0	0	0 ^a	0 ^a	0 ^a
30	0	0	0 ^a	0	—	0	0	0	0	0	0	0 ^a
31	0	—	0 ^a	0 ^a	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E040 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.24	0	0	0	0	0	0	0	0	0	8.9	1.16
Total (acre-ft)	0.48	0	0	0	0	0	0	0	0	0	18	2.3
Max Daily Mean	0.24 ^a	0	0 ^a	0 ^a	0 ^a	0	0	0 ^a	0 ^a	0 ^a	4.13	0.36
Min Daily Mean	0 ^a	0	0 ^a	0 ^a	0 ^a	0	0	0 ^a	0 ^a	0 ^a	0	0
Instantaneous Max	6.82 ^a	0	0 ^a	0 ^a	0 ^a	0	0	0 ^a	0 ^a	0 ^a	208.57	9.03
Instantaneous Min	0 ^a	0	0 ^a	0 ^a	0 ^a	0	0	0 ^a	0 ^a	0 ^a	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

^a Reliable estimate.

^b — = Not applicable.

Daily Mean Discharge (ft³/s) for E040 (continued)

WY2011	Total	10.30	Mean	0.028	Max	4.10	Min	0	Instantaneous Max	209	Acre-ft	20
CY2010	Total	34.85	Mean	0.095	Max	5.90	Min	0	Instantaneous Max	263	Acre-ft	69

E042 LOS ALAMOS CANYON ABOVE SR 4

Location. Lat 35° 52' 01", long 106° 13' 25", NW ¼, Sec. 20, T. 19 N., R. 7 E., Santa Fe County.

Drainage Area. 10.11 mi².

Period of Record. November 1970 to June 1971; October 1991 to September 30, 2011.

Revised Record. Drainage area (2006); Quarter (2007); Peak discharges for 2006 (2007).

Gage. Data logger with cellular telemetry and concrete control. Elevation of gage is 6300 ft above NGVD from GPS survey.

Remarks. Flow is partially regulated by Los Alamos Reservoir, located about 7.8 mi upstream.

Average Discharge. 20 yr, 0.09 ft³/s, 67 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 240 ft³/s, August 08, 2006, gage height 3.8 ft (from flood marks).

Maximum for Current Water Year. Maximum discharge, 126 ft³/s, September 4, 2011, gage height 3.4 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) with a quadrature encoder driven by float tape in a stilling well and cellular telemetry with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler (12-count 1-L glass or polyethylene bottles) to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. The control is a broad-crested weir that has deteriorated somewhat over the years but is still fairly stable. A footbridge is available to measure high-flow discharges.

The station is also equipped with a tipping bucket rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited 16 times to perform inspections and 2 times to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record for the year.

Rating. The streambed is sand and gravel, and the channel is straight for over 150 ft above and below the broad-crested weir. Fill and scour, mostly fill, result in pooling at the gage during most flow events.

Rating No. 5 was developed from measurements made in previous years.

Discharge. Discharge was computed from Rating No. 5 using “V” diagrams with no shifts on high flows. Those days estimated were based on precipitation and were verified using nearby gage stations.

Flow is partially regulated by Los Alamos Reservoir, located about 7.8 mi upstream.

Daily Mean Discharge (ft³/s) for E042

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
2	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
4	0	0	0	0	0	0	0	0	0	0	0	2.02
5	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
7	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	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
17	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
19	0	0	0	0	0	0	0	0	0	0	0.15	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	1.06	0
22	0	0	0	0	0	0	0	0	0	0	2.28	0
23	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
25	0 ^a	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	— ^b	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E042 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0	3.55
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	0	7.00
Max Daily Mean	0 ^a	0	0	0	0	0	0	0	0	0	2.28	2.02
Min Daily Mean	0 ^a	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0 ^a	0	0	0	0	0	0	0	0	0	124.20	125.50
Instantaneous Min	0 ^a	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

^a Reliable estimate.^b — = Not applicable.Daily Mean Discharge (ft³/s) for E042 (continued)

WY2011	Total	5.55	Mean	0.015	Max	2.30	Min	0	Instantaneous Max	125	Acre-ft	11
CY2010	Total	9.23	Mean	0.025	Max	1.80	Min	0	Instantaneous Max	35	Acre-ft	18

E042.1 LOS ALAMOS ABOVE LOW HEAD WEIR

Location. Lat 35° 52' 2", long 106° 13' 25", NW ¼, Sec. 20, T. 19 N., R. 7 E., Santa Fe County.

Drainage Area. 10.13 mi².

Period of Record. May 4, 2010, to September 30, 2011.

Revised Record. None.

Gage. Elevation of gage is 6395 ft above NGVD.

Average Discharge. 1 yr, 0.14 ft³/s, 39 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 206 ft³/s, September 4, 2011, gage height 2.8 ft.

Maximum for Current Water Year. Maximum discharge, 206 ft³/s at, September 4, 2011, gage height 2.8 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) with a shaft encoder float system and a Sutron Accubar air-purge bubble sensor, housed in a NEMA shelter. The shelter is secured atop a stilling well, a vertical 2-ft-diameter CMP culvert pipe. An outside staff gage is available for reference. A trapezoidal supercritical flume with a 1-ft-wide throat controls flow through the gage reach. No provision has been made for direct discharge measurements above the wading stage.

Two ISCO pump samplers (one 12-count 1-L glass and polyethylene bottles and one 24-count 1-L polyethylene bottles) to collect water-quality samples are triggered by stage through the data logger. The station is powered by a solar panel battery system. The samplers and batteries are in a 3- × 4-ft steel storage box, separate from the other instrumentation. A tipping bucket rain gage with 0.01-in. resolution is mounted about 30 ft from the station. Cellular telemetry with a speech modem provides remote data retrieval.

Fieldwork. The station was visited 25 times; 16 of the visits were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record except for the following periods. From October 12 to 18, 2010; and February 25 to March 8, 2011, and May 5 to 16, 2011, the data logger malfunctioned. Also, from January 10 to 13, 2011, the station was down for system testing.

Rating. Rating No. 1 is based on precalibrated data for the flume used (U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, A14, 1983, Use of Flumes in Measuring Discharge) and was used throughout the period.

Discharge. Discharge was computed directly by Rating No. 1 for the entire water year.

Those days estimated were based on precipitation and nearby gage stations for verification.

Flow is partially regulated by Los Alamos Reservoir, located about 7.8 mi upstream.

Daily Mean Discharge (ft³/s) for E042.1

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	0	0	E ^a	0	0	0	0	0	0.38
2	0	0	0	0	0	E	0	0	0	0	0	0.26
3	0	0	0	0	0	E	0	0	0	0	0	0.06
4	0 ^b	0	0	0	0	E	0	0	0	0	0	6.85
5	0	0	0	0	0	E	0	E	0	0	0	0.06
6	0 ^b	0	0	0	0	E	0	E	0	0	0	0.44
7	0	0	0	0	0	E	0	E	0	0	0	1.68
8	0	0	0	0	0	E	0	E	0	0	0	0.25
9	0	0	0	0	0	0	0	E	0	0	0	0.14
10	0	0	0	T ^c	0	0	0	E	0	0	0	4.10
11	0	0	0	T	0	0	0	E	0	0	0	0.20
12	E	0	0	T	0	0	0	E	0	0	0	0.10
13	E	0	0	T	0	0	0	E	0	0	0	0
14	E	0	0	0	0	0	0	E	0	0	0	0
15	E	0	0	0	0	0	0	E	0 ^b	0	0	2.68
16	E	0	0	0	0	0	0	E	0	0	0	4.68
17	E	0	0	0	0	0	0	0	0	0	0	0.13
18	E	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0 ^b	1.84	0
20	0	0	0	0	0	0	0	0	0	0 ^b	0.01	0
21	0 ^b	0	0	0	0	0	0	0	0	0	4.37	0
22	0	0	0	0	0	0	0	0	0	0	8.15	0
23	0	0	0	0	0	0	0	0	0	0	0.69	0
24	0	0	0	0	0	0	0	0	0	0	0.01	0
25	0 ^b	0	0	0	E	0	0	0	0	0	0.04	0
26	0	0	0	0	E	0	0	0	0	0	0.09	0
27	0	0	0	0	E	0	0	0	0	0	0.41	0
28	0	0	0	0	E	0	0	0	0	0	0.54	0.01
29	0	0	0	0	— ^d	0	0	0	0	0	0.13	0.01
30	0	0	0	0	—	0	0	0	0	0	0.04	0.04
31	0	—	0	0	—	0	—	0	—	0	0.04	—

Daily Mean Discharge (ft³/s) for E042.1 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	16.4	22.08
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	33	44
Max Daily Mean	0 ^b	0	0	0	0	0	0	0	0 ^b	0 ^b	8.15	6.85
Min Daily Mean	0 ^b	0	0	0	0	0	0	0	0 ^b	0 ^b	0	0
Instantaneous Max	0 ^b	0	0	0	0	0	0	0	0 ^b	0 ^b	171.72	206.56
Instantaneous Min	0 ^b	0	0	0	0	0	0	0	0 ^b	0 ^b	0	0
Missing Days	7	0	0	4	4	8	0	12	0	0	0	0

^a E = Equipment malfunction.

^b Reliable estimate.

^c T = Testing or maintenance performed.

^d — = Not applicable.

Daily Mean Discharge (ft³/s) for E042.1 (continued)

WY2011	Total	38.48	Mean	0.13	Max	8.2	Min	0	Instantaneous Max	207	Acre-ft	76
CY2010	Total	30.76	Mean	0.14	Max	5.3	Min	0	Instantaneous Max	99	Acre-ft	61

E050 LOS ALAMOS CANYON BELOW LA WEIR

Location. Lat 35° 52' 71", long 106° 13' 0.03", NE ¼, sec. 20, T. 19N., R. 7E., Los Alamos County.

Drainage Area. 10.42 mi².

Period of Record. May 16, 2001, to September 30, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger. Elevation of gage is 6345 ft above NGVD from GPS survey.

Average Discharge. 10 yr, 0.03 ft³/s, 20 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 252 ft³/s, August 08, 2006, gage height 3.2 ft (from slope area measurement).

Maximum for Current Water Year. Maximum discharge, 190 ft³/s, September 4, 2011, gage height 2.8 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubble sensor and shaft encoder float system. No provision has been made for discharge measurements above the wading stage.

Fieldwork. The station was visited 16 times to perform inspections.

Datum Correction. Levels of May 31, 2001, found the gage within limits; no correction was needed.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record.

Rating. The channel is straight for 100 ft upstream and downstream. The bed is large gravel and well-armored and should not be subject to much movement. The channel is trapezoidal with little or no vegetation. Flow is regulated somewhat by the detention weir just upstream.

Rating No. 2 was developed based on all measurements made during the period of record. The shifts are small and variable. Flows are very flashy and last less than an hour; the daily mean discharges are very small in relation to the instantaneous peak.

Discharge. Discharge was computed from Rating No. 2 with shifts applied by stage diagram.

Daily Mean Discharge (ft³/s) for E050

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	0.05
2	0	0	0	0	0	0	0	0	0	0	0	0.03
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	7.90
5	0	0	0	0	0	0	0	0	0	0	0	2.63
6	0	0	0	0	0	0	0	0	0	0	0	0.02
7	0	0	0	0	0	0	0	0	0	0	0	2.97
8	0	0	0	0 ^a	0	0	0	0	0	0	0	0.25
9	0	0	0	0 ^a	0	0	0	0	0	0	0	0
10	0	0	0	0 ^a	0	0	0	0	0	0	0	6.42
11	0	0	0	0	0	0	0	0	0	0	0	0.04
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	1.82
16	0	0	0	0	0	0	0	0	0	0	0	1.67
17	0	0	0	0	0	0	0	0	0	0	0	0.02
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0.79	0
20	0	0	0	0	0	0	0	0	0	0	0.01	0
21	0	0	0	0	0	0	0	0	0	0	3.84	0
22	0	0	0	0	0	0	0	0	0	0	8.87	0
23	0	0	0	0	0	0	0	0	0	0	1.36	0
24	0	0	0	0	0	0	0	0	0	0	0.01	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0.04	0
29	0	0	0	0	— ^b	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E050 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	14.95	23.81
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	30	47
Max Daily Mean	0	0	0	0 ^a	0	0	0	0	0	0	8.87	7.90
Min Daily Mean	0	0	0	0 ^a	0	0	0	0	0	0	0	0
Instantaneous Max	0	0	0	0 ^a	0	0	0	0	0	0	120.23	189.96
Instantaneous Min	0	0	0	0 ^a	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

^a Reliable estimate.

^b — = Not applicable.

Daily Mean Discharge (ft³/s) for E050 (continued)

WY2011	Total	38.76	Mean	0.11	Max	8.90	Min	0	Instantaneous Max	190	Acre-ft	77
CY2010	Total	103.82	Mean	0.29	Max	5.40	Min	0	Instantaneous Max	78	Acre-ft	206

E050.1 LOS ALAMOS CANYON BELOW LOW HEAD WEIR

Location. Lat 35° 52' 2", long 106° 13' 3", NE ¼, sec. 20, T. 19 N., R. 7 E., Santa Fe County.

Drainage Area. 10.44 mi².

Period of Record. July 22, 2010, to September 30, 2011.

Revised Record. None.

Gage. Data logger. Elevation of gage is 6350 ft above NGVD from GPS survey.

Average Discharge. 1 yr, 0.10 ft³/s, 72 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 188 ft³/s, September 4, 2011, gage height 2.7 ft.

Maximum for Current Water Year. Maximum discharge, 188 ft³/s, September 4, 2011, gage height 2.7 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) with a shaft encoder float system and a Sutron Accubar air-purge bubble sensor, housed in a NEMA shelter. The shelter is secured atop a stilling well, a vertical 2.0-ft-diameter CMP culvert pipe. An outside staff gage is available for reference. A trapezoidal supercritical flume with a 1-ft-wide throat controls flow through the gage reach. No provision has been made for direct discharge measurements above the wading stage.

The station is equipped with two ISCO pump samplers (one 12-count 1-L glass or polyethylene bottles and one 24-count polyethylene bottles) to collect water-quality samples. The ISCOs samplers are housed in a separate shelter, a 3- × 4-ft metal box. The samplers are triggered by stage through the data logger. A line-of-sight radio transceiver provides 5-min stage data from the bubble sensor and encoder.

Fieldwork. The station was visited 39 times to perform inspections; 14 of the visits were to service the instrumentation.

Datum Correction. Levels on May 31, 2001, found the gage to be within limits; no correction was needed.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record.

Rating. Rating No. 1 is based on precalibrated data for the flume used (U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, A14, 1983, Use of Flumes in Measuring Discharge) and was used throughout the period.

Discharge. Discharge was computed by directly applying Rating No. 1 for the entire water year.

Daily Mean Discharge (ft³/s) for E050.1

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0 ^a	0	0	0	0	0	0	0	0	0.01
2	0	0 ^a	0	0	0	0	0	0	0	0	0	0
3	0	0	0 ^a	0	0	0	0	0	0	0	0	0
4	0	0	0 ^a	0	0	0	0	0	0	0	0	8.70
5	0	0 ^a	0	0	0	0	0	0	0	0	0	1.91
6	0	0	0	0	0	0	0	0	0	0	0	0.27
7	0	0	0	0	0	0	0	0	0	0	0	1.91
8	0	0	0	0	0	0	0	0	0	0	0	0.53
9	0	0	0 ^a	0	0	0	0	0	0	0	0	0.17
10	0	0	0	0	0	0	0	0	0	0	0	4.69
11	0	0	0	0	0	0	0	0	0	0	0	0.50
12	0	0 ^a	0	0	0	0	0	0	0	0	0	0.23
13	0	0 ^a	0	0	0	0	0	0	0	0	0	0.07
14	0	0 ^a	0	0	0	0	0	0	0	0	0	0.03
15	0	0	0	0	0	0	0	0	0	0	0	1.30
16	0	0	0	0	0	0	0	0	0	0	0	1.13
17	0	0	0	0	0	0	0	0	0	0	0	0.33
18	0	0	0	0	0	0	0	0	0	0	0	0.14
19	0	0	0	0	0	0	0	0	0	0 ^a	0.42	0.01
20	0	0	0	0	0	0	0	0	0	0	0.22	0
21	0	0	0	0	0	0	0	0	0	0	4.46	0
22	0	0	0 ^a	0	0	0	0	0	0	0	8.25	0
23	0	0	0	0	0	0	0	0	0	0	1.03	0
24	0	0	0	0	0	0	0	0	0	0	0.24	0
25	0	0	0	0	0	0	0	0	0	0	0.01	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0 ^a	0 ^a	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0 ^a	0 ^a	0	— ^b	0	0	0	0	0	0	0
30	0	0	0 ^a	0	—	0	0	0	0	0	0	0
31	0	—	0 ^a	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E050.1 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	14.69	21.89
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	29	43
Max Daily Mean	0	0 ^a	0 ^a	0	0	0	0	0	0	0 ^a	8.25	8.70
Min Daily Mean	0	0 ^a	0 ^a	0	0	0	0	0	0	0 ^a	0	0
Instantaneous Max	0	0 ^a	0 ^a	0	0	0	0	0	0	0 ^a	90.63	187.79
Instantaneous Min	0	0 ^a	0 ^a	0	0	0	0	0	0	0 ^a	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

^a Reliable estimate.^b — = Not applicable.Daily Mean Discharge (ft³/s) for E050.1 (continued)

WY2011	Total	36.58	Mean	0.10	Max	8.7	Min	0	Instantaneous Max	188	Acre-ft	73
CY2010	Total	5.89	Mean	0.035	Max	3.5	Min	0	Instantaneous Max	76	Acre-ft	12

E055 PUEBLO CANYON ABOVE ACID CANYON

Location. Lat. 35° 53' 20", long 106° 18' 14", SE ¼, Sec. 9, T 19 N., R 6 E., Los Alamos County.

Drainage Area. 3.42 mi².

Period of Record. October 1, 2002, to September 30, 2011.

Revised Record. Average discharge (2007, 2008).

Gage. Data logger. Elevation of gage is 6945 ft above NGVD from topographic map.

Average Discharge. 9 yr, 0.09 ft³/s, 65 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 1780 ft³/s, August 8, 2006, gage height 7.5 ft (from critical-depth computation).

Maximum for Current Water Year. Maximum discharge, 24 ft³/s, August 21, 2011, gage height 2.5 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubble sensor. The system is powered by a solar-panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler (12-count 1-L glass or polyethylene bottles) to collect water-quality samples. The ISCO sampler is housed in separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for direct discharge measurements above wading stage.

Fieldwork. The station was visited a total of 25 times, 11 of which were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for the period of May 2 to 23, 2011, when the data logger malfunctioned.

Rating. The channel comes into the gage from a left-to-right bend and bends hard left at about 100 ft below the gage. The bed consists of unstable sand and gravel with some boulders. The left bank downstream from the gage is heavily wooded, and that tends to hold the flow to the right, away from the reach of the gage. The lower end of any stage-discharge relation here will be unstable. The upper end could be stable, but floods and construction have allowed the flow to jump the channel at the bend above the gage. As a result, significant flow ran down the road not in accordance with recorded gage heights. This jump-out occurred at approximately 500 ft³/s. This channel problem was corrected in March 2007.

Rating No. 2 was developed using the current year's measurements and one critical-depth measurement of 850 ft³/s and various low-flow measurements from previous years. The low-water definition is poor and the high end needs to be confirmed. The low end of the rating was verified by a dye study and was used to enhance the rating. Rating No. 2 is good.

Discharge. Discharge was computed using Rating No. 2 and a series of "V" diagrams.

Daily Mean Discharge (ft³/s) for E055

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0 ^a	0	0	0	0	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0
2	0 ^a	0	0	0	0	0 ^a	0 ^a	E ^b	0 ^a	0	0	0
3	0	0	0 ^a	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0
4	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0
5	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0
6	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0.27
7	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0.65
8	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0.38
9	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0.43
10	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	2.40
11	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0.69
12	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0.41
13	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0.60
14	0	0	0	0	0	0 ^a	0 ^a	E	0 ^a	0	0	0.93
15	0	0	0	0	0 ^a	0 ^a	0 ^a	E	0	0	0	1.30
16	0	0	0	0	0 ^a	0 ^a	0 ^a	E	0	0	0	0.97
17	0	0	0	0	0 ^a	0 ^a	0 ^a	E	0	0	0	0.49
18	0	0	0	0	0 ^a	0 ^a	0 ^a	E	0	0	0	0.32
19	0	0	0	0	0 ^a	0 ^a	0 ^a	E	0	0	0.48	0.22
20	0	0	0	0	0 ^a	0 ^a	0 ^a	E	0	0	0	0.14
21	0.13 ^a	0	0	0	0 ^a	0 ^a	0 ^a	E	0	0	2.47	0.07
22	0 ^a	0	0	0	0 ^a	0 ^a	0 ^a	E	0	0	0.96	0
23	0 ^a	0	0	0	0 ^a	0 ^a	0 ^a	E	0	0	0.40	0
24	0 ^a	0	0	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0.24	0
25	0 ^a	0	0	0	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0.28	0
26	0 ^a	0	0	0	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0.18	0
27	0 ^a	0	0	0	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0.05	0
28	0	0	0	0	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0	0
29	0	0	0	0	— ^c	0 ^a	0 ^a	0 ^a	0	0	0	0
30	0	0	0	0	—	0 ^a	0 ^a	0 ^a	0	0	0	0 ^a
31	0	—	0	0	—	0 ^a	—	0 ^a	—	0	0	—

Daily Mean Discharge (ft³/s) for E055 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.13	0	0	0	0	0	0	0	0	0	5.09	10.27
Total (acre-ft)	0.26	0	0	0	0	0	0	0	0	0	10	20
Max Daily Mean	0.13 ^a	0	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0	2.47	2.40 ^a
Min Daily Mean	0 ^a	0	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0 ^a
Instantaneous Max	0.94 ^a	0	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0	24.39	8.65 ^a
Instantaneous Min	0 ^a	0	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0 ^a
Missing Days	0	0	0	0	0	0	0	22	0	0	0	0

^a Reliable estimate.^b E = Equipment malfunction.^c — = Not applicable.Daily Mean Discharge (ft³/s) for E055 (continued)

WY2011	Total	15.49	Mean	0.045	Max	2.5	Min	0	Instantaneous Max	24	Acre-ft	31
CY2010	Total	55.48	Mean	0.15	Max	4.2	Min	0	Instantaneous Max	41	Acre-ft	110

E055.5 SOUTH FORK OF ACID CANYON

Location. Lat 35° 53' 10", long 106° 18' 26", SE ¼, Sec. 9, T 19 N., R 6 E., Los Alamos County.

Drainage Area. 0.08 mi².

Period of Record. August 18, 2004, to September 30, 2011.

Revised Record. Period of record (2009).

Gage. Data logger with cellular telemetry. Elevation of gage is 7100 ft above NGVD from GPS survey.

Average Discharge. 7 yr, 0.03 ft³/s, 22 acre-ft/yr.

Maximum for Period of Record. Maximum discharge 91 ft³/s, August 8, 2006, gage height 6.2 ft.

Maximum for Current Water Year. Maximum discharge 20 ft³/s, August 21, 2011, gage height 5.4 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubble sensor and cellular telemetry with speech modem housed in a NEMA shelter on the left bank. The system is powered by a solar panel battery system. The station is equipped with an ISCO pump sampler (12-count 1-L glass or polyethylene bottles) to collect water-quality samples. The samples are triggered by stage through the data logger. The samplers are housed in a separate shelter, a 3- × 4-ft metal box. An outside staff gage is available for reference. No provision has been made for discharge measurements above the wading stage.

The station is also equipped with a tipping bucket rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited 26 times, 7 of which were to service the instrumentation.

Datum Correction. None. The levels from November 8, 2005, found the gage to be within limits. No corrections were needed.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record.

Rating. The channel is straight for about 75 ft upstream and 100 ft downstream. The channel is trapezoidal with little vegetation. The bed is rock with gravel and should not be subject to very much movement.

Rating No. 1 was developed by one discharge measurement of low flow and one slope-area measurement of peak flow. The rating curve was extended to 6.22, based on a critical-depth computation.

Discharge. Discharge was computed by applying Rating No. 1. A shift was applied with a “V” diagram for the entire year.

Daily Mean Discharge (ft³/s) for E055.5

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0 ^a	0	0 ^a	0	0	0	0	0	0	0	0
2	0	0 ^a	0	0 ^a	0	0	0	0	0	0	0	0
3	0	0	0	0 ^a	0	0	0	0	0	0	0	0
4	0	0	0	0 ^a	0	0	0	0	0	0	0.05	0
5	0	0	0	0 ^a	0	0	0	0	0	0	0.05	0
6	0	0	0	0 ^a	0	0	0	0	0	0	0	0
7	0	0	0	0 ^a	0	0	0	0	0	0	0	0.01
8	0	0	0	0 ^a	0	0	0	0	0	0	0	0
9	0	0	0	0 ^a	0	0	0	0	0	0	0	0
10	0	0	0	0 ^a	0	0	0	0	0	0	0	0
11	0	0	0	0 ^a	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	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
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0.26	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0.28	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0 ^a	0	0	0	0	0	0	0	0	0
25	0	0	0 ^a	0	0	0	0	0	0	0	0 ^a	0
26	0	0	0 ^a	0	0	0	0	0	0	0	0	0
27	0 ^a	0	0 ^a	0	0	0	0	0	0	0	0	0
28	0 ^a	0	0 ^a	0	0	0	0	0	0	0	0	0
29	0 ^a	0	0 ^a	0	— ^b	0	0	0	0	0	0	0
30	0 ^a	0	0 ^a	0	—	0	0	0	0	0	0	0
31	0 ^a	—	0 ^a	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E055.5 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0.64	0.01
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	1.30	0.02
Max Daily Mean	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0	0	0	0	0.28 ^a	0.01
Min Daily Mean	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0	0	0	0	0 ^a	0
Instantaneous Max	0.44 ^a	0 ^a	0 ^a	0 ^a	0	0	0	0	0	0.26	20.44 ^a	2.08
Instantaneous Min	0 ^a	0 ^a	0 ^a	0 ^a	0	0	0	0	0	0	0 ^a	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

^a Reliable estimate.

^b — = Not applicable.

Daily Mean Discharge (ft³/s) for E055.5 (continued)

WY2011	Total	0.65	Mean	0.002	Max	0.28	Min	0	Instantaneous Max	20	Acre-ft	1.30
CY2010	Total	4.61	Mean	0.013	Max	1.70	Min	0	Instantaneous Max	69	Acre-ft	9.10

E056 ACID CANYON ABOVE PUEBLO CANYON

Location. Lat 35° 53' 19", long 106° 18' 14" SE ¼, Sec. 9, T 19 N., R 6 E., Los Alamos County.

Drainage Area. 0.452 mi².

Period of Record. October 1, 2006, to September 30, 2011.

Revised Record. Period of record (2008).

Average Discharge. 5 yr, 0.04 ft³/s, 32 acre-ft/yr

Gage. Data logger. Elevation of gage is 6944 ft above NGVD.

Maximum for Period of Record. Maximum discharge, 263 ft³/s, July 5, 2009, gage height 3.6 ft.

Maximum for Current Water Year. Maximum discharge, 143 ft³/s, August 21, 2011, gage height 2.6 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubble sensor mounted on a 6-in. channel cantilevered over the streambed. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler (12-count 1-L glass or polyethylene bottles) to collect water-quality samples. An ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provisions have been made for measurements above the wading stage.

Fieldwork. The station was visited a total of 25 times, 9 of which were to service the instrumentation. Two discharge measurements were completed.

Datum Correction. None. The levels are from June 6, 2006. The gage is within acceptable limits.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record for the year.

Rating. The channel is about 20 ft wide and straight for about 15 ft upstream and straight for about 40 ft downstream and 20 ft above the confluence of Pueblo Canyon. The streambed through this reach is primarily sand and cobbles. The low-water control is a 90-degree sharp-crested weir. At high flow, the channel becomes the control.

Rating No. 3 is based on four discharge measurements and six indirect measurements made by a concurrent dye study at the site. Shifts were applied to low flow using "V" diagrams.

Discharge. Discharge was computed by applying the gage height to Rating No.3 through a shift adjustment based on "V" diagrams. Estimated daily discharges were based on the precipitation records, field notes, and comparison with gage E055.5.

Daily Mean Discharge (ft³/s) for E056

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
2	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
4	0	0	0	0	0	0	0	0	0	0	0.01	0
5	0	0	0	0	0	0	0	0	0	0	0.08	0
6	0	0	0	0	0	0	0	0	0	0	0	0.01
7	0	0	0	0	0	0	0	0	0	0	0	0.11
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0 ^a	0.08
10	0	0	0	0	0	0	0	0	0	0	0	0.26
11	0	0	0	0	0	0	0	0	0	0	0	0.01
12	0	0	0	0	0	0	0	0	0	0	0	0.01
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0.14
16	0	0	0	0	0	0	0	0	0	0	0	0.02
17	0	0	0	0	0	0	0	0	0	0	0	0.02
18	0	0	0	0	0	0	0	0	0	0	0	0.02
19	0	0	0	0	0	0	0	0	0	0	0.52	0.01
20	0.01	0	0	0	0	0	0	0	0	0	0	0.01
21	0.11	0	0	0	0	0	0	0	0	0	3.48	0
22	0	0	0	0	0	0	0	0	0	0	0.03	0
23	0	0	0	0	0	0	0	0	0	0	0.03	0
24	0	0	0	0	0	0	0	0	0	0	0.02	0
25	0	0	0	0	0	0	0	0	0	0	0.02	0
26	0	0	0	0	0	0	0	0	0	0	0.02	0
27	0	0	0	0	0	0	0	0	0	0	0.02	0
28	0	0	0	0	0	0	0	0	0	0	0.02	0
29	0	0	0	0	— ^b	0	0	0	0	0	0.02	0
30	0	0	0	0	—	0	0	0	0	0	0.01	0
31	0	—	0	0	—	0	—	0	—	0	0.01	—

Daily Mean Discharge (ft³/s) for E056 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.12	0	0	0	0	0	0	0	0	0	4.32	0.71
Total (acre-ft)	0.24	0	0	0	0	0	0	0	0	0	8.60	1.40
Max Daily Mean	0.11	0	0	0	0	0	0	0	0	0	3.48 ^a	0.26
Min Daily Mean	0	0	0	0	0	0	0	0	0	0	0 ^a	0
Instantaneous Max	2.82	0	0	0	0	0	0	0	0	0	143.00 ^a	8.25
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0 ^a	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

^a Reliable estimate.

^b — = Not applicable.

Daily Mean Discharge (ft³/s) for E056 (continued)

WY2011	Total	5.15	Mean	0.014	Max	3.5	Min	0	Instantaneous Max	143	Acre-ft	10
CY2010	Total	21.53	Mean	0.059	Max	14	Min	0	Instantaneous Max	255	Acre-ft	43

E059 PUEBLO CANYON ABOVE WWTP

Location. Lat. 35° 52' 57", long 106° 15' 1", SE ¼, Sec. 13, T 19 N., R 6 E., Los Alamos County.

Drainage Area. 6.73 mi².

Period of Record. August, 12, 2010, to September 30, 2011.

Revised Record. None.

Gage. Elevation of gage is 6560 ft above NGVD.

Average Discharge. 1 yr, 0.08 ft³/s, 58 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 250 ft³/s, August 16, 2010, Gage height, 2.6 ft.

Maximum for Current Water Year. Maximum discharge, 131 ft³/s, August 21, 2011, gage height, 2.4 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) with a shaft encoder float system, housed in a NEMA shelter. The shelter is secured atop a stilling well, a vertical 2-ft-diameter CMP culvert pipe. Two ISCO pump samplers (one 12-count 1-L glass and polyethylene bottles and one 24-count 1-L polyethylene bottles) to collect water-quality samples are triggered by stage through the data logger. The station is powered by a solar panel battery system. The samplers and batteries are in a 3- × 4-ft steel storage box, separate from the other instrumentation. No flow control structure exists in the channel. An outside staff gage is available for reference. No provision has been made for discharge measurements above the wading stage.

Fieldwork. The station was visited 27 times to conduct inspections. Ten of the visits were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record except for the period from February 1 to March 1, 2011, when the equipment malfunctioned.

Rating. Open channel.

Rating No. 1 was developed from a step-backwater survey conducted in September 2010. The control is the channel at all flows. The channel bed is highly mobile sand, and stage shifts will be required to account for frequent reshaping of the channel by discharge.

Discharge. Discharge was computed using Rating No. 1.

Daily Mean Discharge (ft³/s) for E059

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0 ^a	0	0	0	E ^b	E	0	0	0	0	0	0
2	0 ^a	0	0	0	E	0	0	0	0	0	0	0
3	0 ^a	0	0	0	E	0	0	0	0	0	0	0
4	0 ^a	0	0	0	E	0	0	0	0	0	0	0
5	0 ^a	0	0	0	E	0	0	0	0	0	0	0
6	0 ^a	0	0	0	E	0	0	0	0	0	0	0
7	0 ^a	0	0	0	E	0	0	0	0	0	0	0
8	0 ^a	0	0	0	E	0	0	0	0	0	0	0
9	0 ^a	0	0	0	E	0	0	0	0	0	0	0
10	0 ^a	0	0	0	E	0	0	0	0	0	0	0
11	0 ^a	0	0	0	E	0	0	0	0	0	0	0
12	0 ^a	0	0	0	E	0	0	0	0	0	0	0
13	0	0	0	0	E	0	0	0	0	0	0	0
14	0	0	0	0	E	0	0	0	0	0	0	0
15	0	0	0	0	E	0	0	0	0	0	0	0
16	0	0	0	0	E	0	0	0	0	0	0	0
17	0	0	0	0	E	0	0	0	0	0	0	0
18	0	0	0	0	E	0	0	0	0	0	0	0
19	0	0	0	0	E	0	0	0	0	0	1.46	0
20	0	0	0	0	E	0	0	0	0	0	0.41	0
21	0	0	0	0	E	0	0	0	0	0	4.70	0
22	0	0	0	0	E	0	0	0	0	0	0	0
23	0	0	0	0	E	0	0	0	0	0	0	0
24	0	0	0	0	E	0	0	0	0	0	0	0
25	0	0	0	0	E	0	0	0	0	0	0	0
26	0	0	0	0	E	0	0	0	0	0	0	0
27	0	0	0	0	E	0	0	0	0	0	0	0
28	0	0	0	0	E	0	0	0	0	0	0	0
29	0	0	0	0	— ^c	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E059 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	E	0	0	0	0	0	6.61	0
Total (acre-ft)	0	0	0	0	E	0	0	0	0	0	13	0
Max Daily Mean	0 ^a	0	0	0	E	0	0	0	0	0	4.7	0
Min Daily Mean	0 ^a	0	0	0	E	0	0	0	0	0	0	0
Instantaneous Max	0 ^a	0	0	0	E	0	0	0	0	0	131.18	0
Instantaneous Min	0 ^a	0	0	0	E	0	0	0	0	0	0	0
Missing Days	0	0	0	0	28	1	0	0	0	0	0	0

^a Reliable estimate.^b E = Equipment malfunction.^c — = Not applicable.Daily Mean Discharge (ft³/s) for E059 (continued)

WY2011	Total	6.61	Mean	0.02	Max	4.7	Min	0	Instantaneous Max	131	Acre-ft	13
CY2010	Total	25.6	Mean	0.18	Max	19	Min	0	Instantaneous Max	250	Acre-ft	51

E060.1 PUEBLO CANYON BELOW GRADE CONTROL STRUCTURE

Location. Lat 35° 52' 17", long 106° 12' 53", NE ¼, Sec. 20, T. 19 N., R. 7 E., Santa Fe County.

Drainage Area. 8.30 mi².

Period of Record. April 15, 2010, to September 30, 2011.

Gage. Data logger with radio telemetry. Elevation of gage is 6340 ft above NGVD from GPS survey.

Average Discharge. 1 yr. 0.09 ft³/s, 65 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 132 ft³/s, August 16, 2010, gage height, 2.3 ft.

Maximum for Current Water Year. Maximum discharge, 14 ft³/s, January 3, 2011, gage height 0.71 ft.



Equipment. The station is equipped with a Sutron 9210 data logger (5-min interval) with a shaft encoder float system and a Sutron Accubar air-purge bubble sensor, housed in a NEMA shelter. The shelter is secured atop a stilling well, a vertical 2.5-ft-diameter CMP culvert pipe. An outside staff gage is available for reference. A trapezoidal supercritical flume with a 1-ft-wide throat controls flow through the gage reach. No provision has been made for direct discharge measurements above the wading stage.

Two ISCO pump samplers (one 12-count 1-L glass and polyethylene bottles and one 24-count 1-L polyethylene bottles) to collect water-quality samples are triggered by stage through the data logger. The station is powered by a solar panel battery system. The samplers and batteries are in a 3- × 4-ft steel storage box, separate from the other instrumentation. A line-of-sight radio transceiver provides 5-min stage data from the encoder and bubbler.

Fieldwork. The station was visited 40 times to perform inspections. Ten visits were to service the instrumentation. One discharge measurement was taken.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record except for the periods of January 24, 27, 2012; February 4, 5, 6, 7, 2011; and August 8, 2012, when the data logger malfunctioned.

Rating. Rating No. 1 is based on precalibrated data for the flume used (U.S. Geological Survey Techniques of Water-Resources Investigations, Vol. 3, A14, 1983, Use of Flumes in Measuring Discharge) and was used throughout the period.

Discharge. Discharge was computed by directly applying Rating No. 1 for the entire water year.

Daily Mean Discharge (ft³/s) for E060.1

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0 ^a	0 ^a	0.13	0.01	0	0	0	0	0	0
2	0	0 ^a	0.01	0.03 ^a	E ^b	0	0	0	0	0	0	0
3	0	0	0.02	6.11 ^a	E	0	0	0	0	0	0	0
4	0	0	0.38	1.22	E	0	0	0	0	0	0	0
5	0	0	0.01	0 ^a	E	0	0	0	0	0	0	0
6	0	0	0.05	0 ^a	E	0	0	0	0	0	0	0
7	0	0	0.03	0.01 ^a	1.74	0	0	0	0	0	0	0.08
8	0	0	1.51	0.08 ^a	0.16	0	0	0	0	0	E	0
9	0	0	1.73	0.13	0.02	0	0	0	0	0	0	0
10	0	0	0.02	0.31 ^a	0.28	0	0	0	0	0	0	0.15
11	0	0	0.03	0 ^a	0.02	0	0	0	0	0	0	0.11
12	0	0	0.19	0	0.01	0	0	0	0	0	0	0
13	0	0 ^a	1.08	0.04 ^a	0.12	0	0	0	0	0	0	0
14	0	0	1.57	0.04	0.22	0	0	0	0	0	0	0
15	0	0	1.29	0.03	0.03	0	0	0	0	0	0	0
16	0	0	0.02	0.04 ^a	0.63	0	0	0	0	0 ^a	0	0
17	0	0	0.02	0.06	0.01	0	0	0	0	0	0	0
18	0	0	0.02	0.02	0.01	0	0	0	0	0	0	0
19	0	0	0.02	0.01	0	0	0	0	0	0	0	0
20	0	0	0.03	0.02	0	0	0	0	0	0	0	0
21	0	0	0.02	0.91	0	0	0	0	0	0 ^a	0	0
22	0 ^a	0	0.02	1.24	0 ^a	0	0	0	0	0	0	0
23	0	0	0.02 ^a	1.26	0.01	0	0	0	0	0	0 ^a	0
24	0	0	0.01 ^a	E	0.02	0	0	0	0	0	0	0
25	0	0	0 ^a	0.02	0	0	0	0	0	0	0	0
26	0	0	0 ^a	0.01	0	0	0	0	0	0	0	0
27	0	0 ^a	0 ^a	E	0	0	0	0	0	0	0	0
28	0	0	0 ^a	1.95	0	0	0	0	0	0	0	0
29	0	0 ^a	0.03 ^a	2.31	— ^c	0	0	0	0	0	0	0
30	0	0	0.53 ^a	0.37	—	0	0	0	0	0	0	0
31	0	—	1.25 ^a	1.06	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E060.1 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	9.88	17.24	3.37	0.01	0	0	0	0	0	0.35
Total (acre-ft)	0	0	20	34	6.7	0.02	0	0	0	0	0	0.69
Max Daily Mean	0 ^a	0 ^a	1.73	6.11 ^a	1.74 ^a	0.01	0	0	0	0 ^a	0 ^a	0.15
Min Daily Mean	0 ^a	0 ^a	0	0.00 ^a	0.00 ^a	0	0	0	0	0 ^a	0 ^a	0
Instantaneous Max	0 ^a	0 ^a	12.02	14.30 ^a	9.31 ^a	0.25	0	0	0	0 ^a	0 ^a	3.81
Instantaneous Min	0 ^a	0 ^a	0	0 ^a	0 ^a	0	0	0	0	0 ^a	0 ^a	0
Missing Days	0	0	0	2	5	0	0	5	0	0	1	0

^a Reliable estimate.^b E = Equipment malfunction.^c — = Not applicable.Daily Mean Discharge (ft³/s) for E060.1 (continued)

WY2011	Total	30.85	Mean	0.086	Max	6.1	Min	0	Instantaneous Max	14	Acre-ft	61
CY2010	Total	19.15	Mean	0.074	Max	9	Min	0	Instantaneous Max	132	Acre-ft	38

E109.9 LOS ALAMOS ABOVE RIO GRANDE

Location. Lat 35° 52' 55" long 106° 08' 56", NW ¼, Sec. 13, T. 19 N., R. 7 E., Santa Fe County.

Drainage Area. 58.99 mi².

Period of Record. April 12, 2010, to September 30, 2011.

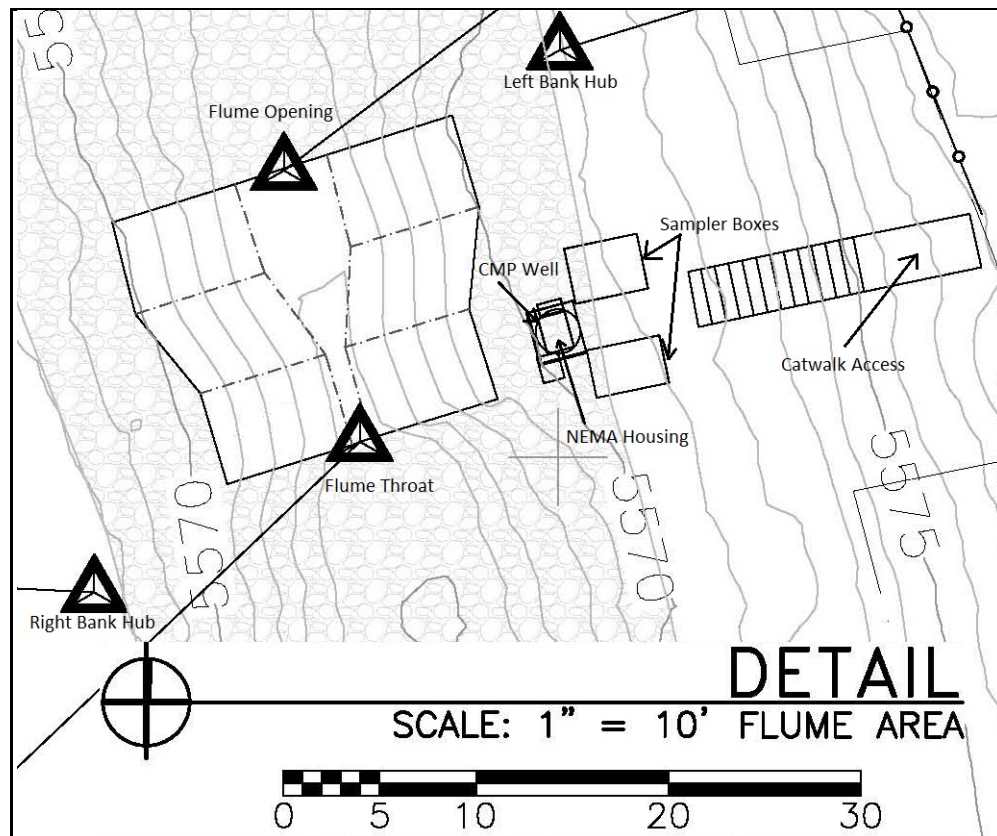
Revised Record. None.

Average discharge. 1 yr, 0.24 ft³/s, 174 acre-ft/yr.

Gage. Data logger and radio telemetry. Elevation of gage is 5570 ft above NGVD.

Maximum for Period of Record. Maximum discharge 632 ft³/s on September 4, 2011, gage height 5.4 ft.

Maximum for Current Water Year. Maximum discharge 632 ft³/s on September 4, 2011, gage height 5.4 ft.



Equipment. The station is equipped with a Sutron 9210 data logger (5-min interval) with a shaft encoder float system and a Sutron Accubar air-purge bubble sensor, housed in a NEMA shelter. The shelter is secured atop a stilling well, a vertical 2.5-ft-diameter CMP culvert pipe. An outside staff gage is available for reference. A trapezoidal supercritical flume with a 1.0-ft-wide throat controls flow through the gage reach. No provision has been made for direct discharge measurements above the wading stage.

Two ISCO pump samplers (one 12-count 1-L glass and polyethylene bottles and one 24-count 1-L polyethylene bottles) to collect water-quality samples are triggered by stage through the data logger. The station is powered by a solar panel battery system. Samplers and batteries are in a 3- × 4-ft steel storage box, separate from the other instrumentation. A tipping bucket rain gage with 0.01-in. resolution is mounted about 30 ft from the station. A line-of-sight radio transceiver provides 5-min stage data from the encoder, bubbler, and probe. A digital camera and satellite transceiver were added on August 22, 2011, to provide 5-min still images of flow through the flume.

Fieldwork. The station was visited 63 times to perform inspections. Fifty-one of the visits were to service the equipment.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for May 11, 2011, and August 21 to 23, 2011; on September 4 and 7, 2011, the data logger malfunctioned. The equipment was damaged during storm events in August and September.

Rating. Rating No. 1 is based on precalibrated data for the flume used (U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, A14, 1983, Use of Flumes in Measuring Discharge) and was used throughout the period.

Discharge. Discharge was computed directly by using Rating No. 1 for the entire water year.

Daily Mean Discharge (ft³/s) for E109.9

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0 ^a	0 ^a	0 ^a	E ^b	0 ^a	0.04	0.04	0	0	0	0.05	7.35
2	0 ^a	0 ^a	0 ^a	0	0	0.04	0.04	0	0	0	0	0
3	0 ^a	0 ^a	0 ^a	0	0	0.04	0.04	0	0	0	1.44	0 ^a
4	0 ^a	0 ^a	0 ^a	0	0 ^a	0.04	0.04	0	0	0	0.24	E
5	0 ^a	0 ^a	0 ^a	0 ^a	0	0.04	0.04 ^a	0	0	0	1.12	5.48
6	0 ^a	0 ^a	0 ^a	0	0	0.04	0.04 ^a	0	0	0	0.03	1.27
7	0 ^a	0 ^a	0 ^a	0	0 ^a	0.04	0.07	0	0	0	0.01	E
8	0	0 ^a	0 ^a	0	0.01 ^a	0.05	0.04	0	0	0 ^a	0	0.13
9	0	0 ^a	0 ^a	0	0 ^a	0.04	0.03 ^a	0	0	0	0	0.02
10	0	0 ^a	0 ^a	0 ^a	0	0.04	0 ^a	0	0	0	0	8.92
11	0	0 ^a	0 ^a	0	0 ^a	0.05	0	E	0	0	0.03	0
12	0	0 ^a	0 ^a	0	0 ^a	0.07	0	0	0	0	0	0
13	0	0 ^a	0 ^a	0	0.02 ^a	0.06	0	0	0	0	0.22	0
14	0 ^a	0 ^a	0 ^a	0	0.04	0.06	0	0	0	0	0.06	0
15	0	0 ^a	0	0	0.04	0.07	0	0	0	0	0	0.08
16	0	0 ^a	0	0	0.04	0.07	0	0	0	0	0	1.38
17	0	0 ^a	0	0	0.04	0.07	0	0	0	0	0.01	0
18	0 ^a	0 ^a	0	0	0.04	0.07	0	0	0	0	0.01	0
19	0 ^a	0 ^a	0	0.01 ^a	0.04	0.07	0	0	0	0.03	0.21	0
20	0 ^a	0 ^a	0	0	0.04	0.07	0	0	0	0.02 ^a	0.41	0
21	0 ^a	0 ^a	0	0	0.04	0.07	0	0	0	0 ^a	E ^a	0
22	0 ^a	0 ^a	0	0	0.04	0.07	0	0	0	0.97	E	0
23	0 ^a	0 ^a	0	0	0.04	0.07	0	0	0	0.01	E	0
24	0 ^a	0 ^a	0.04	0	0.04	0.07	0	0	0	0	0.01	0
25	0 ^a	0 ^a	0.04	0 ^a	0.04	0.07	0	0	0	0	0	0
26	0 ^a	0 ^a	0	0 ^a	0.04	0.07	0	0	0	0	0.8	0
27	0 ^a	0 ^a	0 ^a	0	0.04	0.07	0	0	0	0.26	0.04	0
28	0 ^a	0	0	0	0.04	0.07	0	0	0	1.15	1.57	0
29	0 ^a	0 ^a	0 ^a	0	— ^c	0.07	0	0	0	0.01	0.03	0
30	0 ^a	0 ^a	0.04 ^a	0	—	0.06	0	0	0	0	0.03	0
31	0 ^a	—	0.02 ^a	0	—	0.04	—	0	—	0.13	0.01	—

Daily Mean Discharge (ft³/s) for E109.9 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0.14	0.01	0.63	1.81	0.38	0	0	2.53	6.3	24.63
Total (acre-ft)	0	0	0.28	0.02	1.2	3.6	0.75	0	0	5	12	49
Max Daily Mean	0 ^a	0 ^a	0.04	0.01 ^a	0.04 ^a	0.07	0.07 ^a	0	0	1.15	1.57	8.92
Min Daily Mean	0 ^a	0 ^a	0	0 ^a	0 ^a	0.04	0 ^a	0	0	0	0	0
Instantaneous Max	0 ^a	0 ^a	0.1	0.07 ^a	0.07 ^a	0.07	0.10 ^a	0	0	53.43	610 ^a	632 ^a
Instantaneous Min	0 ^a	0 ^a	0	0 ^a	0 ^a	0.04	0 ^a	0	0	0	0	0
Missing Days	0	0	0	1	0	0	0	1	0	0	3	2

^a Reliable estimate.^b E = Equipment malfunction.^c — = Not applicable.Daily Mean Discharge (ft³/s) for E109.9 (continued)

WY2011	Total	36.43	Mean	0.10	Max	8.9	Min	0	Instantaneous Max	632 ^a	Acre-ft	72
CY2010	Total	67.40	Mean	0.26	Max	25	Min	0	Instantaneous Max	439	Acre-ft	134

E121 SANDIA CANYON RIGHT FORK AT POWER PLANT

Location. Lat 35° 52' 31", long 106° 19' 7", SW ¼, Sec. 16, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 0.08 mi².

Period of Record. October 1, 2006, to September 30, 2011.

Revised Record. Period of record (2008).

Gage. Data logger. Elevation of gage is 7283, ft above NGVD from GPS survey.

Average Discharge. 5 yr, 0.66 ft³/s, 477 acre-ft/yr.

Extremes for Period of Record. Maximum discharge, 191 ft³/s, June 21, 2002, from peak-flow computation, gage height 8.1 ft. Minimum discharge 0 ft³/s, multiple days.

Extremes for Current Water Year. Maximum discharge, 76 ft³/s, August 21, 2011, gage height 7.3 ft. Minimum discharge, 0 ft³/s, multiple days.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubble sensor. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for direct measurements above the wading stage.

Fieldwork. The station was visited three times, and one discharge measurement was completed for the year.

Datum Correction. None.

Gage-Height Record. The data logger reference to the outside staff gage gave a complete and satisfactory record, except for period from October 1 to November 20, 2010, when the gage was rendered inactive.

Rating. The channel is straight for about 30 ft with a steep upstream slope and straight for 50 ft downstream with a sharp slope downstream. The streambed through this reach consists primarily of sand, gravel, and cobbles, more so below the gage. The low-water control is a bedrock riffle below the gage.

Rating No. 4 was developed based on previous measurements verified with the current year's measurements.

Discharge. Discharge was computed by applying Rating No. 4 with variable shifts defined by measurements and applied by "V" diagram. No shifts were applied to high flows.

Daily Mean Discharge (ft³/s) for E121

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	IA ^a	IA	1.35	1.28	1.22	1.10	1.53	1.18	0.79	0.33	0.93	0.64
2	IA	IA	1.38	1.25	1.42	1.25	1.05	1.31	0.99	0.35	0.88	1.15
3	IA	IA	1.10	1.29	1.74	1.27	1.35	0.99	1.09	0.52	0.86	0.77
4	IA	IA	1.19	1.24	1.56	1.57	1.48	1.20	0.89	0.38	1.58	1.42
5	IA	IA	1.04	1.21	1.93	1.33	1.17	1.15	0.96	0.82	1.84	1.15
6	IA	IA	0.90	1.23	1.87	1.45	1.38	1.34	0.77	0.49	1.46	1.27
7	IA	IA	0.83	1.19	1.86	1.31	1.13	1.40	0.81	0.53	1.59	1.57
8	IA	IA	0.77	1.23	1.21	1.57	1.19	1.15	0.76	0.79	0.94	1.05
9	IA	IA	1.03	1.22	1.41	1.37	1.21	1.40	0.93	0.75	0.61	1.56
10	IA	IA	1.18	1.21	1.21	1.39	0.87	1.46	0.88	0.66	1.51	2.02
11	IA	IA	1.12	1.04	1.47	1.53	1.14	1.31	1.01	0.75	1.45	1.13
12	IA	IA	0.75	0.97	1.40	1.11	0.97	1.11	0.82	0.75	0.96	0.90
13	IA	IA	0.80	1.26	1.08	1.17	1.08	1.33	0.60	0.88	1.79	1.26
14	IA	IA	0.90	1.24	1.29	1.21	1.15	1.37	0.76	0.74	0.99	0.96
15	IA	IA	0.81	1.01	1.04	1.19	1.55	1.08	0.68	1.12	1.35	1.89
16	IA	IA	0.97	1.02	1.18	1.24	1.20	1.24	0.48	0.95	0.97	1.12
17	IA	IA	1.18	1.11	1.31	1.25	1.20	1.11	0.52	1.40	1.36	0.94
18	IA	IA	1.18	1.28	1.37	1.21	1.19	1.08	0.80	0.58	1.28	0.81
19	IA	IA	1.24	1.06	1.26	1.37	1.14	1.03	1.12	0.46	2.52	0.79
20	IA	IA	1.15	1.49	1.15	1.20	1.10	0.98	0.93	0.56	1.35	0.68
21	IA	1.01	0.88	1.17	1.38	1.33	1.05	1.38	0.61	0.77	3.81	0.85
22	IA	1.13	0.74	1.43	1.36	1.49	1.32	1.14	0.55	0.84	1.55	0.73
23	IA	0.97	1.07	1.45	1.22	1.30	1.03	0.92	0.62	0.86	1.80	0.87
24	IA	1.37	1.03	1.46	1.28	1.23	1.37	0.98	0.69	0.69	1.11	1.21
25	IA	1.11	0.81	1.2	1.36	1.43	1.13	0.85	1.02	1.12	1.02	0.71
26	IA	1.02	1.05	1.34	1.42	1.12	1.09	1.01	0.73	0.50	1.07	0.84
27	IA	1.05	0.81	1.05	1.39	1.19	1.04	1.01	0.52	0.68	0.63	0.59
28	IA	1.04	0.89	1.35	1.32	1.13	1.12	0.94	0.25	1.21	0.87	0.90
29	IA	1.11	0.90	1.40	— ^b	1.31	1.07	0.95	0.23	1.23	0.98	0.88
30	IA	1.00	1.03	1.40	—	1.11	0.98	1.09	0.44	1.28	1.36	1.20
31	IA	—	1.06	1.14	—	1.31	—	0.95	—	0.79	1.30	—

Daily Mean Discharge (ft³/s) for E121 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	IA	11.77	31.06	37.87	38.9	40.0	35.02	35.36	22.21	23.72	41.82	31.76
Total (acre-ft)	IA	1.07	1.00	1.22	1.39	1.29	1.17	1.14	0.74	0.77	1.35	1.06
Max Daily Mean	IA	1.37	1.38	1.49	1.93	1.57	1.55	1.46	1.12	1.40	3.81	2.02
Min Daily Mean	IA	0.97	0.74	0.97	1.04	1.10	0.87	0.85	0.23	0.33	0.61	0.59
Instantaneous Max	IA	2.83	2.83	2.94	3.06	2.59	4.84	2.71	2.83	8.21	76.75	35.41
Instantaneous Min	IA	0.16	0.04	0.23	0.37	0.34	0.16	0.12	0	0	0	0
Missing Days	31	0	0	0	0	0	0	0	0	0	0	0

^a IA = Inactive.

^b — = Not applicable.

Daily Mean Discharge (ft³/s) for E121 (continued)

WY2011	Total	349.49	Mean	1.11	Max	3.80	Min	0.23	Instantaneous Max	77	Acre-ft	693
CY2010	Total	95.02	Mean	0.51	Max	1.40	Min	0.20	Instantaneous Max	22	Acre-ft	188

E121.9 SANDIA CANYON EAST OF POWER PLANT

Location. Lat. 35° 52' 30", long. 106° 19' 10", SW ¼, Sec. 16, T 19 N., R 6 E., Los Alamos County.

Drainage Area. 0.002 mi².

Period of Record. March 3, 2006, to September 30, 2011.

Gage. Data logger, 9-in. Parshall flume, rain gage with cellular telemetry. Elevation of gage is 7337 ft above NGVD from land survey.

Average Discharge. 5 yr, 0.01 ft³/s, 11 acre-ft/yr.

Maximum for Period of Record. 4 yr. Maximum discharge, 5.2 ft³/s, August 16, 2010, gage height 1.4 ft.

Maximum for Current Water Year. Maximum discharge 4 ft³/s, August 21, 2011, gage height 1.2 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe mounted on a 9-in. Parshall flume and cellular telemetry with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. The staff gage in the 9-in. Parshall flume is the reference gage. No provision has been made for discharge measurements above the wading stage.

The station is also equipped with a tipping bucket rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited nine times to perform inspections. One of the visits was to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record except for period from December 29, 2010, to January 22, 2011, when the gage height was affected by ice, and on August 29, 2011, when the data logger malfunctioned.

Rating. The channel is straight above and below the gage and is confined to the main channel by cutbanks on both sides. The bottom is a 4 ft wide channel prone to some shifting with vegetation on each bank. The low-water control is the 9-in. Parshall flume.

Rating No. 1 was developed based on the computation of the 9-in. Parshall flume. The PZF is 0.00 gage height.

Discharge. Discharge was computed by directly applying Rating No. 1.

Daily Mean Discharge (ft³/s) for E121.9

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0 ^a	0 ^a	1 ^b	0	0	0	0	0	0	0	0
2	0.02 ^a	0	0	1	0	0	0	0	0	0	0	0
3	0.01 ^a	0	0	1	0	0	0	0	0	0	0.01	0
4	0 ^a	0	0	1	0	0	0	0	0	0	0.03	0.02
5	0.01 ^a	0	0	1	0	0	0	0	0	0	0.03	0
6	0 ^a	0	0	1	0	0	0	0	0	0	0	0
7	0	0	0	1	0	0	0	0	0	0	0	0.03
8	0	0	0	1	0	0	0	0	0	0	0	0
9	0	0	0	1	0	0	0	0	0	0	0	0.03
10	0	0	0	1	0	0	0	0	0	0	0	0.03
11	0	0	0	1	0	0	0	0	0	0	0	0
12	0	0	0	1	0	0	0	0	0	0	0	0
13	0 ^a	0	0	1	0	0	0	0	0	0	0.02	0
14	0	0	0	1	0	0	0	0	0	0	0	0.01
15	0	0	0	1	0	0	0	0	0	0	0.01	0.03
16	0	0 ^a	0.01	1	0	0	0	0	0	0	0	0
17	0	0	0.07	1	0	0	0	0	0	0	0	0
18	0 ^a	0	0	1	0	0	0	0	0	0	0	0
19	0	0	0.01	1	0	0	0	0	0	0	0.07	0
20	0.03	0	0	1	0	0	0	0	0	0	0	0
21	0.02 ^a	0	0	1	0	0	0	0	0	0	0.10	0
22	0	0	0	1	0	0	0	0	0	0	0	0
23	0	0	0.01	0.01	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0 ^a	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0.01	0	0
29	0	0 ^a	0.01	0	— ^c	0	0	0	0	0	E ^d	0
30	0	0	1	0	—	0	0	0	0	0.01	0	0
31	0	—	1	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E121.9 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.10	0	0.11	0.01	0	0	0	0	0	0.02	0.26	0.15
Total (acre-ft)	0.20	0	0.22	0.02	0	0	0	0	0	0.04	0.52	0.30
Max Daily Mean	0.03 ^a	0 ^a	0.07 ^a	0.01	0	0	0	0	0	0.01	0.10	0.03
Min Daily Mean	0 ^a	0 ^a	0 ^a	0	0	0	0	0	0	0	0	0
Instantaneous Max	3.37 ^a	0.02 ^a	0.20 ^a	0.02	0.19	0.02	0.17	0.04	0.01	0.47	4.01	2.35
Instantaneous Min	0 ^a	0 ^a	0 ^a	0	0	0	0	0	0	0	0	0
Missing Days	0	0	2	22	0	0	0	0	0	0	1	0

^a Reliable estimate.

^b I = Ice present.

^c — = Not applicable.

^d E = Equipment malfunction.

Daily Mean Discharge (ft³/s) for E121.9 (continued)

WY2011	Total	0.65	Mean	0.002	Max	0.10	Min	0	Instantaneous Max	4.00	Acre-ft	1.30
CY2010	Total	0.86	Mean	0.003	Max	0.09	Min	0	Instantaneous Max	5.20	Acre-ft	1.70

E122 SANDIA CANYON NEAR ROADS AND GROUNDS AT TA-3

Location. Lat 35° 52' 31", long 106° 9' 6", SW ¼, Sec. 16, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 0.08 mi².

Period of Record. October 1, 2006, to September 30, 2011.

Gage. Data logger. Elevation of gage is 7290 ft above NGVD.

Average Discharge. 5 yr, 0.07 ft³/s, 48 acre-ft/yr.

Extremes for Period of Record. Maximum discharge, 88 ft³/s, August 23, 2003, gage height 4.2 ft.
Minimum daily discharge 0 ft³/s, March 17, 2009.

Extremes for Current Water Year. Maximum discharge, 12 ft³/s, August 21, 2011, gage height 2.6 ft.
Minimum daily discharge 0 ft³/s, November 20, 2010.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is also equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for discharge measurements above the wading stage.

Fieldwork. The station was visited three times, One visit was to service the instrumentation. Two discharge measurements were completed.

Datum Correction. None; the levels of July 25, 2005, found the gage to be within limits.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for the following exempt periods. From October 1 to November 20, 2010, the station was rendered inactive. On November 21, 22, 23, and 25, 2010; from December 3 to 24, 2010; on January 1, 2011; and on February 2 and 3, 2011, the gage height was affected by ice.

Rating. The channel is straight for about 20 ft above with a steep downstream slope and straight for 15 ft downstream with a sharp slope 5 ft downstream. The streambed through this reach is primarily bedrock with some cobbles below the gage. The low-water control is a bedrock riffle below the gage.

Rating No. 2 was developed based on the measurements made the previous year and verified with measurements made this year. The shifts are small and mostly negative, caused by small amounts of deposition near the gage or some bank slough during high flows. They have been distributed using variable diagrams with no shifts applied on the peak flows.

Discharge. Discharge was computed from Rating No.2 with shifts applied by "V" diagrams.

Daily Mean Discharge (ft³/s) for E122

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	IA ^a	IA	0	I ^b	0.01	0.02	0.01	0.05	0.02	0.01	0.04	0.04
2	IA	IA	0.01 ^c	0.05	I	0.02	0.02	0.03	0.02	0.01	0.06	0.02
3	IA	IA	I	0.03	I	0.02	0.02	0.01	0.02	0.01	0.07	0.02
4	IA	IA	I	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.25	0.13
5	IA	IA	I	0.02	0.01	0.01	0.01	0.02	0.02	0.01	0.22	0.02
6	IA	IA	I	0.02	0.01	0.01	0.04	0.02	0.02	0.02	0.03	0.02
7	IA	IA	I	0.02	0.01	0.03	0.08	0.02	0.02	0.02	0.03	0.15
8	IA	IA	I	0.02	0.01	0.03	0.02	0.02	0.02	0.02	0.02	0.02
9	IA	IA	I	0.03	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.17
10	IA	IA	I	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.04	0.26
11	IA	IA	I	0.01	0.01	0.02	0.01	0.02	0.02	0.03	0.02	0.02
12	IA	IA	I	0.01	0.01	0.02	0.02	0.02	0.01	0.02	0.02	0.02
13	IA	IA	I	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.15	0.02
14	IA	IA	I	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.07
15	IA	IA	I	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.07	0.26
16	IA	IA	I	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04
17	IA	IA	I	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.04	0.02
18	IA	IA	I	0.01	0.02	0.02	0.03	0.04	0.02	0.02	0.03	0.02
19	IA	IA	I	0.02	0.02	0.02	0.04	0.02	0.02	0.03	0.39	0.02
20	IA	IA	I	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.03	0.02
21	IA	I	I	0.02	0.01	0.02	0.02	0.04	0.02	0.05	0.62	0.02
22	IA	I	I	0.01	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.01
23	IA	I	I	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.02	0.01
24	IA	0	I	0.01	0.01	0.01	0.03	0.02	0.02	0.03	0.02	0.01
25	IA	I	0.01 ^c	0.01	0.02	0.02	0.06	0.02	0.02	0.03	0.04	0.02
26	IA	0	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.03	0.02	0.02
27	IA	0	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.04	0.02	0.02
28	IA	0	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.09	0.02	0.02
29	IA	0	0.02	0.01	— ^d	0.01	0.02	0.02	0.01	0.03	0.02	0.02
30	IA	0	0.01	0.01	—	0.01	0.02	0.02	0.10	0.10	0.02	0.02
31	IA	—	0.01	0.01	—	0.01	—	0.02	—	0.03	0.02	—

Daily Mean Discharge (ft³/s) for E122 (continued)

Total (ft³/s)	IA	0	0.09	0.47	0.38	0.52	0.74	0.70	0.56	0.87	2.45	1.55
Total (acre-ft)	IA	0	0.18	0.93	0.75	1.00	1.50	1.40	1.10	1.70	4.90	3.10
Max Daily Mean	IA	0	0.02 ^c	0.05	0.02	0.03	0.08	0.05	0.02	0.10	0.62	0.26
Min Daily Mean	IA	0	0 ^c	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01
Instantaneous Max	IA	0.05	0.21 ^c	0.18	0.11	0.32	1.78	1.02	0.13	2.94	11.63	5.88
Instantaneous Min	IA	0	0 ^c	0	0	0	0	0	0	0	0	0
Missing Days	31	24	22	1	2	0	0	0	0	0	0	0

^a IA = Inactive.

^b I = Ice present.

^c Reliable estimate.

^d — = Not applicable.

Daily Mean Discharge (ft³/s) for E122 (continued)

WY2011	Total	8.33	Mean	0.029	Max	0.62	Min	0	Instantaneous Max	12	Acre-ft	17
CY2010	Total	7.23	Mean	0.075	Max	0.40	Min	0	Instantaneous Max	9.80	Acre-ft	14

E123 SANDIA CANYON BELOW WETLANDS

Location. Lat 35° 52' 23", long 106° 18' 35", SE ¼, Sec. 16, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 0.29 mi².

Period of Record. August 1, 1999, to September 30, 2011.

Revised Record. Drainage area (2006); Section (2007).

Gage. Data logger with cellular telemetry. Elevation of gage is 7204 ft above NGVD from GPS survey.

Average Discharge. 11 yr, 0.70 ft³/s, 507 acre-ft/yr.

Extremes for Period of Record. Maximum discharge, 88 ft³/s, August 23, 2003, gage height 4.2 ft.
Minimum discharge 0 ft³/s during water year 2011.

Extremes for Current Water Year. Maximum discharge, 85 ft³/s, August 21, 2011, gage height 4.0 ft.
Minimum discharge 0 ft³/s, multiple dates.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubble sensor. The data logger is equipped with cellular speech modem telemetry. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is also equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft steel storage box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for discharge measurements above the wading stage.

An auxiliary 6-in. Parshall flume, located downstream from E123, is used to verify the low-flow record.

Fieldwork. The station was visited 18 times to perform inspections. Four of the visits were to service the instrumentation. Seven discharge measurements were taken.

Datum Correction. None; the levels run June on 27, 2008, were found to be within limits.

Gage-Height Record. The data logger referenced to the inside gage height gave a complete and satisfactory record for the year, except for the periods from December 31, 2010, to January 2, 2011; January 5, 6, and 11, 2011; and February 1 to 4, and 9 to 11, 2011, when the gage sensor was affected by ice. From June 24 and August 21, 2011, the equipment malfunctioned.

Rating. The channel is trapezoidal with a rock outcrop and small depositional bars within pools. The banks have some grass, not very tall or thick. The channel is straight for about 100 ft above and below the gage.

Rating No. 4 was developed based on measurements made in previous years. Shifts are small and mostly negative, caused by small amounts of deposition near the gage or some bank slough during high flows. They have been distributed using variable diagrams with no shifts applied to the peak flows.

Discharge. Discharge was computed from Rating No. 4 with shifts applied by "V" diagrams.

Daily Mean Discharge (ft³/s) for E123

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	I ^a	I	0	0	0	0	0	0	0
2	0.66	0	0	I	I	0	0	0	0	0	0	0
3	0	0	0	0	I	0	0	0	0	0	0	0
4	0	0	0	0	I	0	0	0	0	0	0.17	0.05
5	0.01	0	0	I	0	0	0	0	0	0	0.6	0
6	0	0	0	I	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0.64
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	I	0	0	0	0	0	0	0.13
10	0	0	0	0	I	0	0	0	0	0	0	0.05
11	0	0	0	I	I	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0.41
16	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
18	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	2.57	0
20	0.23	0	0	0	0	0	0	0	0	0	0	0
21	0.17	0	0	0	0	0	0	0	0	0	E ^{b,c}	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	E	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	— ^d	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	I	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E123 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	1.07	0	0	0	0	0	0	0	0	0	3.37	1.28
Total (acre-ft)	2.1	0	0	0	0	0	0	0	0	0	6.7	2.5
Max Daily Mean	0.66	0	0	0	0	0	0	0	0	0	2.57	0.64
Min Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	30.44	0	0	0	0	0	0	0	0	0	85 ^c	35.3
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	1	5	7	0	0	0	1	0	1	0

^a I = Ice present.

^b E = Equipment failure.

^c Reliable estimate.

^d — = Not applicable.

Daily Mean Discharge (ft³/s) for E123 (continued)

WY2011	Total	5.72	Mean	0.016	Max	2.6	Min	0	Instantaneous Max	85	Acre-ft	11
CY2010	Total	15.44	Mean	0.082	Max	3.1	Min	0	Instantaneous Max	85	Acre-ft	31

E125 SANDIA CANYON ABOVE SR 4

Location. Lat 35° 51' 32", long 106° 13' 34", SW ¼, Sec. 20, T. 19 N., R.7 E., Santa Fe County.

Drainage Area. 2.05 mi².

Period of Record. October 1, 1994, to September 30, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger and concrete control. Elevation of gage is 6495 ft above NGVD from GPS survey.

Average Discharge. 17 yr, 0.11 ft³/s, 80 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 59 ft³/s, August 25, 2006, gage height 3.6 ft (from slope-area measurement).

Maximum for Current Water Year. No flow for the year.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a shaft encoder float system. The system is powered by a solar panel battery system. All equipment is housed in a NEMA shelter on an 18-in. CMP well. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. The control is a concrete broad-crested weir. No provision has been made for measurements above the wading stage.

Fieldwork. The station was visited 17 times to perform inspections, 4 of which were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record for the year.

Rating. The channel is straight for 150 ft above and 100 ft below the gage. The bed material is sand with vegetation on the banks, and the bottom is well supported.

Rating No. 2 was developed and applied beginning October 1, 2009, to account for 1 ft of channel aggradation along the reach. The channel slopes smoothly through the reach, replacing the broad-crested concrete weir as the control. The rating was computed using Manning's equation and measured channel characteristics of 2 ft PZF to top of weir walls at 3.20 ft. Greater flow will require the extension of Rating No. 2 with a more detailed channel survey.

Discharge. Discharge was directly computed from Rating No.2

Daily Mean Discharge (ft³/s) for E125

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
2	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
4	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
6	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
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	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
18	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
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	—*	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E125 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0	0
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	0	0
Max Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Min Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

*— = Not applicable.

Daily Mean Discharge (ft³/s) for E125 (continued)

WY2011	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0
CY2010	Total	0.02	Mean	0	Max	0.02	Min	0	Instantaneous Max	3.0	Acre-ft	0.04

E200.5 MORTANDAD CANYON TRIBUTARY BATCH PLANT AT SIGMA

Location. Lat 35° 51' 57", long 106° 17' 24", NE ¼, Sec. 22, T.19 N., R. 6 E., Los Alamos County.

Drainage Area. 7.69 mi².

Period of Record. July 24, 2007, to September 30, 2011.

Gage. Datalogger and 24-in. Parshall flume. Elevation of gage is 7215 ft above NGVD.

Average discharge. 4 yr, 0.27 ft³/s, 195 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 3.2 ft³/s, July 26, 2008, gage height 0.55 ft.

Maximum for Current Water Year. Maximum discharge, 0.20 ft³/s, September 10, 2011, gage height 0.06 ft. No peak discharge above base of 5.0 ft³/s.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe mounted on a 24-in. Parshall flume. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. The staff gage in the 24-in. Parshall flume is the reference gage. No provision has been made for discharge measurements above the wading stage.

Fieldwork. The station was visited nine times to perform inspections. Four of the visits were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record except for the periods from December 14 to 21, 2010; December 26, 2010, to January 12, 2011; and January 28 to February 14, 2011, when the gage height was affected by ice. From May 24 to June 7, 2011, the data logger malfunctioned.

Rating. The site has an upstream catchment pond. The channel is straight for 25 ft below the gage.

Rating No. 1 was developed based on the computation of the 24-in. Parshall flume. The PZF is 0.00 gage height.

Discharge. Discharge was computed by directly applying Rating No 1. Those days estimated at zero flow were based on precipitation and nearby gage stations.

Daily Mean Discharge (ft³/s) for E200.5

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0.00 ^a	0	I ^b	I	0	0	0	E ^c	0	0	0
2	0	0	0	I	I	0	0	0	E	0	0	0
3	0	0	0	I	I	0	0	0	E	0	0	0
4	0 ^a	0	0	I	I	0	0	0	E	0	0	0
5	0	0	0	I	I	0	0	0	E	0	0	0
6	0 ^a	0	0	I	I	0	0	0	E	0	0	0
7	0	0	0	I	I	0	0	0	E	0	0	0
8	0	0	0	I	I	0	0	0	0	0	0	0
9	0	0	0	I	I	0	0	0	0	0	0	0
10	0	0	0	I	I	0	0	0	0	0	0	0.05
11	0	0	0	I	I	0	0	0	0	0	0	0
12	0	0	0	I	I	0	0	0	0	0	0	0
13	0 ^a	0	0	0	I	0	0	0	0	0	0	0
14	0	0	I	0	I	0	0	0	0	0	0	0
15	0	0	I	0	0	0	0	0	0	0	0	0.02
16	0	0	I	0	0.01	0	0	0	0	0	0	0.01
17	0	0	I	0	0	0	0	0	0	0	0	0
18	0	0	I	0	0	0	0	0	0	0	0	0
19	0	0	I	0	0	0	0	0	0	0	0	0
20	0	0	I	0	0	0	0	0	0	0	0	0
21	0 ^a	0	I	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	E	0	0	0	0
24	0	0	0	0	0	0	0	E	0	0	0	0
25	0 ^a	0	0	0	0	0	0	E	0	0	0	0
26	0	0	I	0	0	0	0	E	0	0	0	0
27	0	0	I	I	0	0	0	E	0	0	0	0
28	0	0	I	I	0	0	0	E	0	0	0	0
29	0	0 ^a	I	I	— ^d	0	0	E	0	0	0	0
30	0	0	I	I	—	0	0	E	0	0	0	0
31	0	—	I	I	—	0	—	E	—	0	0	—

Daily Mean Discharge (ft³/s) for E200.5 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0.01	0	0	0	0	0	0	0.08
Total (acre-ft)	0	0	0	0	0.02	0	0	0	0	0	0	0.16
Max Daily Mean	0 ^a	0 ^a	0	0	0.01	0	0	0	0	0	0	0.05
Min Daily Mean	0 ^a	0 ^a	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0.03 ^a	0.03 ^a	0.03	0.03	0.07	0.03	0.03	0.03	0.03	0.03	0.03	0.20
Instantaneous Min	0 ^a	0 ^a	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	14	17	14	0	0	9	7	0	0	0

^a Reliable estimate.^b I = Ice present.^c E = Equipment malfunction.^d — = Not applicable.Daily Mean Discharge (ft³/s) for E200.5 (continued)

WY2011	Total	0.09	Mean	0	Max	0.05	Min	0	Instantaneous Max	0.20	Acre-ft	0.18
CY2010	Total	0.43	Mean	0.001	Max	0.11	Min	0	Instantaneous Max	0.66	Acre-ft	0.85

E201 MORTANDAD CANYON ABOVE TEN SITE CANYON

Location. Lat 35° 51' 46", long 106° 16' 29", SW ¼, Sec. 22, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 0.25 mi².

Period of Record. October 1, 2006, to September 30, 2011.

Revised Record. Period of Record (2008).

Gage. Data logger with steel fabricated nonstandard flume. Elevation of gage is 6864 ft above NGVD.

Average Discharge. 5 yr, 0.03 ft³/s, 20 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 78 ft³/s, August 10, 2008, gage height 2.4 ft.

Maximum for Current Water Year. No flow for the year.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe mounted on a 10-ft flume. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for measurements above the wading stage.

Fieldwork. The station was visited a total of 17 times, 3 of which were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for periods from December 16 to December 22, 2010, and December 29, 2010, to January 12, 2011, and from February 1 to 3, 2011, when the gage height was affected by ice. Also from April 16 to May 4, 2011, when the gage was affected by a data logger malfunction.

Rating. The channel is straight above and below the modified flume. Flow is confined to the cutbanks. The channel bottom is 3 ft wide with some vegetation above and below the flume.

The streambed is sand and gravel and the flume is subject to fill from low-flow events. The control is a fabricated steel flume 10 ft at the throat.

Rating No. 2 was developed based on slope-area computations and discharge measurements.

Discharge. Discharge was computed by directly applying Rating No. 2.

Daily Mean Discharge (ft³/s) for E201

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	I ^a	I	0	0	E ^b	0	0	0	0
2	0	0	0	I	I	0	0	E	0	0	0	0
3	0	0	0	I	I	0	0	E	0	0	0	0
4	0	0	0	I	0	0	0	E	0	0	0	0
5	0	0	0	I	0	0	0	0	0	0	0	0
6	0	0	0	I	0	0	0	0	0	0	0	0
7	0	0	0	I	0	0	0	0	0	0	0	0
8	0	0	0	I	0	0	0	0	0	0	0	0
9	0	0	0	I	0	0	0	0	0	0	0	0
10	0	0	0	I	0	0	0	0	0	0	0	0
11	0	0	0	I	0	0	0	0	0	0	0	0
12	0	0	0	I	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	I	0	0	0	E	0	0	0	0	0
17	0	0	I	0	0	0	E	0	0	0	0	0
18	0	0	I	0	0	0	E	0	0	0	0	0
19	0	0	I	0	0	0	E	0	0	0	0	0
20	0	0	I	0	0	0	E	0	0	0	0	0
21	0	0	I	0	0	0	E	0	0	0	0	0
22	0 ^c	0	I	0	0	0	E	0	0	0	0	0
23	0	0	0	0	0	0	E	0	0	0	0	0
24	0	0	0	0	0	0	E	0	0	0	0	0
25	0	0	0	0	0	0	E	0	0	0	0	0
26	0	0	0	0	0	0	E	0	0	0	0	0
27	0	0	0	0	0	0	E	0	0	0	0	0
28	0	0	0	0	0	0	E	0	0	0	0	0
29	0	0	I	0	— ^d	0	E	0	0	0	0	0
30	0	0	I	0	—	0	E	0	0	0	0	0
31	0	—	I	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E201 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0.01	0	0	0	0	0	0	0
Total (acre-ft)	0	0	0	0	0.02	0	0	0	0	0	0	0
Max Daily Mean	0 ^c	0	0	0	0.01	0	0	0	0	0	0	0
Min Daily Mean	0 ^c	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0 ^c	0.06	0.13	0	0.13	0	0	0	0	0	0	0
Instantaneous Min	0 ^c	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	10	12	0	0	15	4	0	0	0	0

^a I = Ice present.

^b E = Equipment malfunction.

^c Reliable estimate.

^d — = Not applicable.

Daily Mean Discharge (ft³/s) for E201 (continued)

WY2011	Total	0.01	Mean	0	Max	0.01	Min	0	Instantaneous Max	0.13	Acre-ft	0.02
CY2010	Total	0.15	Mean	0	Max	0.15	Min	0	Instantaneous Max	4.9	Acre-ft	0.30

E201.5 TEN SITE CANYON ABOVE MORTANDAD CANYON

Location. Lat 35° 51' 38", long 106° 16' 30", SE ¼, Sec. 23, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 0.32 mi².

Period of Record. October 2000 to September 30, 2011.

Revised record. Drainage area (2006).

Gage. Data logger with 90° sharp-crested weir. Elevation of gage is 6858 ft above NGVD from GPS survey.

Average Discharge. 10 yr, 0.01 ft³/s, 9.4 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 303 ft³/s, August 25, 2006, gage height 4.6 ft (from slope-area measurement of peak flow).

Maximum for Current Water Year. Maximum discharge, 0.003 ft³/s, February 14, 2011, gage height 1.4 ft. No peak discharge above base of 10 ft³/s.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubble sensor. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is also equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provisions have been made for measurements above the wading stage.

Fieldwork. The station was visited 17 times, 1 of which was to service the instrumentation.

Datum Correction. On May 24, 2007, the gage was set to correct the datum. The gage was destroyed by flood on August 25, 2006. The bubbler outlet was reset to a gage datum of 1.33 ft.

Gage-Height Record. The data logger reference to the outside staff gage gave a complete and satisfactory record, except on February 13, 2011, when the gage height was affected by ice.

Rating. The channel is about 8 ft wide and straight for about 60 ft upstream and straight for about 30 ft downstream. The streambed through this reach is primarily sand with gravel.

Rating No. 2 is based on a theoretical computation for the 90-degree sharp-crested weir and one critical-depth computation.

Discharge. Discharge was computed by directly applying Rating No. 2.

Daily Mean Discharge (ft³/s) for E201.5

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
2	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
4	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
6	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
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	1 ^a	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	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
18	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
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	— ^b	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	0	—	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E201.5 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0	0
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	0	0
Max Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Min Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	1	0	0	0	0	0	0	0

^a | = Ice present.^b — = Not applicable.Daily Mean Discharge (ft³/s) for E201.5 (continued)

WY2011	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0
CY2010	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0.01	Acre-ft	0

E203 MORTANDAD CANYON BELOW SEDIMENT TRAPS

Location. Lat 35° 51' 39", long 106° 16' 6", SE ¼, Sec. 23, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 1.17 mi².

Period of Record. October 1, 1996, to August 25, 2006 (destroyed by flood) and September 2006 to September 30, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger and 6-in. Parshall flume, rain gage with cellular telemetry. Elevation of gage is 6817 ft above NGVD from land survey.

Average Discharge. 15 yr, 0.02 ft³/s, 12 acre ft/yr.

Maximum for Period of Record. Maximum discharge, 220 ft³/s, August 25, 2006 (from critical-depth computation), gage height unknown.

Maximum for Current Water Year. Maximum discharge, 0.01 ft³/s, May 8, 2011, gage height 0.02 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe mounted on a 6-in. Parshall flume and cellular telemetry with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. The staff gage in the 6-in. Parshall flume is the reference gage. No provision has been made for discharge measurements above the wading stage.

The station is also equipped with a rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. This station was visited nine times to perform inspections.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for the periods from December 16 to December 21, 2010, and December 29, 2010, to January 5, 2011, because of ice, and from January 6 to March 29, 2011, and May 23 to June 6, 2011, because the equipment malfunctioned.

Rating. The approach and escape sections are spread out because the channel is somewhat undefined.

Rating No. 1 was developed based on the computation of the 6-in. Parshall flume. The PZF flow is 0.00 gage height.

Discharge. Discharge was computed by directly applying Rating No. 1.

Daily Mean Discharge (ft³/s) for E203

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	I ^a	E ^b	E	0	0	E	0	0	0
2	0	0	0	I	E	E	0	0	E	0	0	0
3	0	0	0	E	E	E	0	0	E	0	0	0
4	0.00 ^c	0	0	E	E	E	0	0	E	0	0	0
5	0	0	0	E	E	E	0	0	E	0	0	0
6	0.00 ^c	0	0	E	E	E	0	0	E	0	0	0
7	0	0	0	E	E	E	0	0	0	0	0	0
8	0	0	0	E	E	E	0	0	0	0	0	0
9	0	0	0	E	E	E	0	0	0	0	0	0
10	0	0	0	E	E	E	0	0	0	0	0	0
11	0	0	0	E	E	E	0	0	0	0	0	0
12	0	0	0	E	E	E	0	0	0	0	0	0
13	0.00 ^c	0	0	E	E	E	0	0	0	0	0	0
14	0	0	0	E	E	E	0	0	0	0	0	M ^d
15	0	0	0	E	E	E	0	0	0	0	0	0
16	0	0	I	E	E	E	0	0	0	0	0	0
17	0	0	I	E	E	E	0	0	0	0	0	0
18	0	0	I	E	E	E	0	0	0	0	0	0
19	0	0	I	E	E	E	0	0	0	0	0	0
20	0	0	I	E	E	E	0	0	0	0	0	0
21	0.00 ^c	0	I	E	E	E	0	0	0	0	0	0
22	0	0	0	E	E	E	0	0	0	0	0	0
23	0	0	0	E	E	E	0	M	0	0	0	0
24	0	0	0	E	E	E	0	E	0	0	0	0
25	0.00 ^c	0	0	E	E	E	0	E	0	0	0	0
26	0	0	0	E	E	E	0	E	0	0	0	0
27	0	0	0	E	E	E	0	E	0	0	0	0
28	0	0	0	E	E	E	0	E	0	0	0	0
29	0	0	I	E	— ^e	E	0	E	0	0	0	0
30	0	0	I	E	—	0	0	E	0	0	0	0
31	0	—	I	E	—	0	—	E	—	0	0	—

Daily Mean Discharge (ft³/s) for E203 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	E	E	0	0	0	0	0	0	0
Total (acre-ft)	0	0	0	E	E	0	0	0	0	0	0	0
Max Daily Mean	0.00 ^c	0	0	E	E	0	0	0	0	0	0	0
Min Daily Mean	0.00 ^c	0	0	E	E	0	0	0	0	0	0	0
Instantaneous Max	0.01 ^c	0.01	0.01	E	E	0.01	0.01	0.01	0.01	0.01	0.01	0
Instantaneous Min	0.00 ^c	0	0	E	E	0	0	0	0	0	0	0
Missing Days	0	0	9	31	28	29	0	9	6	0	0	1

^a I = Ice present.^b E = Equipment malfunction.^c Reliable estimate.^d M = Missing data.^e — = Not applicable.Daily Mean Discharge (ft³/s) for E203 (continued)

WY2011	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0.01	Acre-ft	0
CY2010	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0.02	Acre-ft	0

E204 MORTANDAD CANYON AT LANL BOUNDARY

Location. Lat 35° 51' 21", long 106° 14' 43", NW ¼, Sec. 30, T. 19 N., R. 7 E., Santa Fe County.

Drainage Area. 1.61 mi².

Period of Record. October 1, 1993, to September 30, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger with cellular telemetry and concrete control. Elevation of gage is 6651 ft above NGVD from survey.

Average Discharge. 18 yr, zero.

Maximum for Period of Record. No flow for the period.

Maximum for Current Water Year. No flow for the year.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and shaft encoder float system with cellular phone and speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter on top of a 24-in. CMP well. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. Samplers are triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for measurements above the wading stage. All high-flow measurements will be by slope-area or critical-depth computation methods.

Fieldwork. The station was visited 17 times to perform inspections. Two of the visits were to service the instrumentation.

Datum Correction. Levels run on May 24, 2007, showed the gage to be reading within allowable limits.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record.

Rating. The channel is straight above and below the gage for 100 ft. The channel is not well defined and resembles a low grass-covered swale. Flow is infrequent. The control is a broad-crested weir with a “V” notch 5 ft downstream from the gage.

No rating has been developed; the PZF is well defined for the concrete broad-crested weir.

Discharge. All recorded values were below PZF. No flow occurs most of the time. Days with rain did not produce enough flow to pass over the control.

Daily Mean Discharge (ft³/s) for E204

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
2	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
4	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
6	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
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	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
18	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
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	—*	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E204 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0	0
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	0	0
Max Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Min Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

*— = Not applicable.

Daily Mean Discharge (ft³/s) for E204 (continued)

WY2011	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0
CY2010	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0

E230 CAÑADA DEL BUEY ABOVE SR 4

Location. Lat 35° 49' 38", long 106° 12' 43", Sec. 33, T. 19 N., R. 7 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 2.15 mi².

Period of Record. October 1993 to April 29, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger with cellular telemetry and concrete control. Elevation of gage is 6395 ft above NGVD from GPS survey.

Average Discharge. 18 yr, 0.01 ft³/s, 5.8 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 210 ft³/s, June 17, 1999, gage height 3.3 ft.

Maximum for Current Water Year. Maximum discharge, 72 ft³/s, August 15, 2010, gage height 1.9 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a shaft encoder float system with cellular phone and speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter on top of a 24-in. CMP well. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-in. metal box. The sampler is triggered by stage through the data logger. A second auxiliary shelter will accommodate two additional ISCO samplers. No provision has been made for discharge measurements above the wading stage.

Fieldwork. The station was visited 10 times to perform inspections. Three of the visits were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger reference to the outside staff gage gave a complete and satisfactory record. April 29, 2011, marks the end of the record, when the gage station was decommissioned.

Rating. The channel has a fairly sharp right bend 50 ft above the gage where two channels converge. The channel is straight for 100 ft below the gage where it enters a rectangular double box culvert under NM 4. The control is a tapered (low end on the left) broad-crested weir.

Rating No. 1 is based on discharge measurements that were made in previous years.

Discharge. Discharge is computed by directly applying the gage height to Rating No. 1.

Daily Mean Discharge (ft³/s) for E230

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	0	0	0	0	D ^a	D	D	D	D
2	0	0	0	0	0	0	0	D	D	D	D	D
3	0	0	0	0	0	0	0	D	D	D	D	D
4	0	0	0	0	0	0	0	D	D	D	D	D
5	0	0	0	0	0	0	0	D	D	D	D	D
6	0	0	0	0	0	0	0	D	D	D	D	D
7	0	0	0	0	0	0	0	D	D	D	D	D
8	0	0	0	0	0	0	0	D	D	D	D	D
9	0	0	0	0	0	0	0	D	D	D	D	D
10	0	0	0	0	0	0	0	D	D	D	D	D
11	0	0	0	0	0	0	0	D	D	D	D	D
12	0	0	0	0	0	0	0	D	D	D	D	D
13	0	0	0	0	0	0	0	D	D	D	D	D
14	0	0	0	0	0	0	0	D	D	D	D	D
15	0	0	0	0	0	0	0	D	D	D	D	D
16	0	0	0	0	0	0	0	D	D	D	D	D
17	0	0	0	0	0	0	0	D	D	D	D	D
18	0	0	0	0	0	0	0	D	D	D	D	D
19	0	0	0	0	0	0	0	D	D	D	D	D
20	0	0	0	0	0	0	0	D	D	D	D	D
21	0.06	0	0	0	0	0	0	D	D	D	D	D
22	0	0	0	0	0	0	0	D	D	D	D	D
23	0	0	0	0	0	0	0	D	D	D	D	D
24	0	0	0	0	0	0	0	D	D	D	D	D
25	0	0	0	0	0	0	0	D	D	D	D	D
26	0	0	0	0	0	0	0	D	D	D	D	D
27	0	0	0	0	0	0	0	D	D	D	D	D
28	0	0	0	0	0	0	0	D	D	D	D	D
29	0	0	0	0	— ^b	0	D	D	D	D	D	D
30	0	0	0	0	—	0	D	D	D	D	D	D
31	0	—	0	0	—	0	—	D	—	D	D	—

Daily Mean Discharge (ft³/s) for E230 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.06	0	0	0	0	0	0	D	D	D	D	D
Total (acre-ft)	0.12	0	0	0	0	0	0	D	D	D	D	D
Max Daily Mean	0.06	0	0	0	0	0	0	D	D	D	D	D
Min Daily Mean	0	0	0	0	0	0	0	D	D	D	D	D
Instantaneous Max	2.41	0	0	0	0	0	0	D	D	D	D	D
Instantaneous Min	0	0	0	0	0	0	0	D	D	D	D	D
Missing Days	0	0	0	0	0	0	2	3	30	31	31	30

^a D = Decommissioned.^b — = Not applicable.Daily Mean Discharge (ft³/s) for E230 (continued)

WY2011	Total	0.06	Mean	0.00	Max	0.06	Min	0	Instantaneous Max	2.4	Acre-ft	0.12
CY2010	Total	1.44	Mean	0.004	Max	1.2	Min	0	Instantaneous Max	72	Acre-ft	2.9

E240 PAJARITO CANYON BELOW SR 501

Location. Lat 35° 52' 02", long 106° 21' 05", NW ¼, Sec. 19, T. 19 N., R. 6 E., Los Alamos County.

Drainage Area. 1.90 mi².

Period of Record. October 1993 to June 28, 2000 (destroyed by flood); April 2001 to September 30, 2011.

Revised Record. WDR 1997: Gage height "Extremes for Period of Record." Drainage area (2006). Levels date published as 2004, correction December 2001 (2008).

Gage. Data logger with cellular telemetry. Elevation of gage is 7719 ft above NGVD from GPS survey. Formerly published as "Pajarito Canyon above Highway 501 near Los Alamos, NM" at different datum.

Average Discharge. 17 yr, 0.19 ft³/s, 135 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 1020 ft³/s, June 28, 2000, from peak-flow computation; gage height not determined.

Maximum for Current Water Year. Maximum discharge, 155 ft³/s, August 21, 2011, estimated from high water mark survey.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and shaft encoder float system with cellular phone and speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter on top of a 24-in. CMP well. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for discharge measurements above the wading stage.

The station is also equipped with a rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited 20 times to perform inspections. Nine visits were to service the instrumentation. One discharge measurement was completed.

Datum Correction. The levels run December 11, 2001 show the gage to be within limits.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record except for the periods of May 16 and 17, 2011; May 25 through June 1, 2011; June 20 to July 11, 2011; and July 21 to July 27, 2011, when the gage was affected because the data logger malfunctioned.

Rating. The gage is about 300 ft below the outlet of two round culverts through the NM 501 road bed. The channel bed is sand and gravel and subject to movement. The grass and brush are fairly thick in overbank areas. The banks are not high (about 1 to 2 ft in most places). Two gabions were installed in the fall of 2001, which act as low-water controls. One is 2 ft below the gage across the entire width of the channel with a 6-in. "V" notch for low water. Another gabion is 50 ft above the gage.

Rating No. 4 was developed based on the six measurements and slope area from previous years.

Discharge. Discharge was computed by applying the gage height to Rating No. 3 using variable shift diagrams.

Daily Mean Discharge (ft³/s) for E240

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0 ^a	0	0	0	0	0	0	E ^b	E	0	0
2	0.01	0	0	0	0	0	0	0	0	E	0	0
3	0	0	0	0	0	0	0	0	0	E	0.22	0
4	0	0	0	0	0	0	0	0	0	E	0.02	0.40
5	0	0	0	0	0	0	0	0	0	E	0.06	0
6	0	0	0	0	0	0	0	0	0	E	0	0
7	0	0	0	0	0	0	0	0	0	E	0	0
8	0	0	0	0	0	0	0	0	0	E	0	0
9	0	0	0	0	0	0	0	0	0	E	0	0.25
10	0	0	0	0	0	0	0	0	0	E	0	0.09
11	0	0	0	0	0	0	0	0	0	E	0	0.07
12	0	0	0	0	0	0	0	0	0	0	0	0.03
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0.41
16	0	0	0	0	0	0	0	E	0	0	0	0
17	0	0	0	0	0	0	0	E	0	0	0	0
18	0 ^a	0	0	0	0	0	0	0	0	0	0	0
19	0 ^a	0	0	0	0	0	0	0	0	0	0	0
20	0.01	0	0	0	0	0	0	0	E	0.04	0	0
21	0 ^a	0	0	0	0	0	0	0	E	E	0.45	0
22	0	0	0	0	0	0	0	0	E	E	0	0
23	0	0	0	0	0	0	0	0	E	E	0	0
24	0	0	0	0	0	0	0	0	E	E	0	0
25	0	0	0	0	0	0	0	E	E	E	0	0
26	0	0	0	0	0	0	0	E	E	E	0	0
27	0	0	0	0	0	0	0	E	E	E	0	0
28	0	0	0	0	0	0	0	E	E	0.02	0	0
29	0	0	0	0	— ^c	0	0	E	E	0	0	0
30	0	0	0	0	—	0	0	E	E	0	0	0
31	0	—	0	0	—	0	—	E	—	0	0	—

Daily Mean Discharge (ft³/s) for E240 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.02	0	0	0	0	0	0	0	0	0.06	0.75	1.25
Total (acre-ft)	0.04	0	0	0	0	0	0	0	0	0.12	1.5	2.5
Max Daily Mean	0.01	0 ^a	0	0	0	0	0	0	0	0.04	0.45	0.41
Min Daily Mean	0	0 ^a	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0.57	0 ^a	0	0	0	0	0	0	0	0.25	155	11.20
Instantaneous Min	0	0 ^a	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	9	12	18	0	0

Daily Mean Discharge (ft³/s) for E240 (continued)

WY2011	Total	2.08	Mean	0.006	Max	0.45	Min	0	Instantaneous Max	155 ^a	Acre-ft	4.1
CY2010	Total	39.30	Mean	0.12	Max	3.20	Min	0	Instantaneous Max	4.40	Acre-ft	78

^a Reliable estimate.^b E = Equipment malfunction.^c — = Not applicable.

E243 PAJARITO CANYON ABOVE TWO MILE CANYON

Location. Lat 35° 51' 14", long 106° 17' 48", Sec. 27, T. 19 N., R. 6 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 4.24 mi².

Period of Record. February 2002 to August 11, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger with cellular telemetry. Elevation of gage 6941 ft above NGVD from GPS survey.

Average Discharge. 9 yr, 0.38 ft³/s, 276 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 746 ft³/s, August 21, 2011, estimated from high water mark survey.

Maximum for Current Water Year. Maximum discharge, 746 ft³/s, August 21, 2011, estimated from high water mark survey.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubble sensor with cellular telemetry and speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. No provision has been made for direct measurements above the wading stage. During an August 21, 2011, severe storm event, the bubbler line was destroyed along with the shelter, the data logger, and associated ISCO intake suction lines. The gage was deemed unusable and the data logged were irretrievable.

Fieldwork. The station was visited a total of 16 times, 4 of which were to service the instrumentation. One discharge measurement was completed.

Datum Correction. None. The levels run on April 7, 2006, found the gage to be within limits, and no corrections were necessary.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record except during the periods of November 13, 15, 2010; November 18 to December 10, 2010; January 13 to March 7, 2011; and March 23 to 25, 2011, when the gage height was affected by ice. Also, periods are December 11 to 18, 2011, and January 7 to 12, 2011; and July 12 to 14, 2011, when the data logger malfunctioned. Finally, during and after August 21, 2011, the severe storm marked the end of record because the gage became unusable.

Rating. The channel is straight for 150 ft above and below the gage. It is trapezoidal with the bed fairly well armored with large gravel and some cobbles. The banks are fairly well vegetated with grasses and should remain stable at all flows.

Rating No. 4 was continued in use.

Discharge. Discharge was computed by applying the gage height to Rating No. 4, with shifts at low flow applied by "V" diagrams. The PZF shows some estimated zero flow in winter from icing over the orifice; during this time the stream was frozen dry.

Daily Mean Discharge (ft³/s) for E243

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	I ^a	0 ^b	I	I	0.01	0	0	0	0	IA ^c
2	0	0	I	0 ^b	I	I	0.01	0	0	0	0	IA
3	0	0	I	0 ^b	I	I	0.01	0	0	0	0	IA
4	0	0	I	0 ^b	I	I	0.01	0	0	0	0	IA
5	0	0	I	0 ^b	I	I	0.01	0	0	0	0	IA
6	0	0	I	0 ^b	I	I	0	0	0	0	0	IA
7	0	0	I	E ^d	I	I	0	0	0	0	0	IA
8	0	0	I	E	I	0.03	0	0	0	0	0	IA
9	0	0	I	E	I	0.02	0	0	0	0	0	IA
10	0	0	I	E	I	0.01	0	0	0	0	0	IA
11	0	0	E	E	I	0.02	0	0	0	0 ^b	IA	IA
12	0	0	E	E	I	0.02	0	0	0	E	IA	IA
13	0	I	E	I	I	0.01	0	0	0	E	IA	IA
14	0	0	E	I	I	0.02	0	0	0	E	IA	IA
15	0	I	E	I	I	0.01	0	0	0	0	IA	IA
16	0	0	E	I	I	0.02	0	0	0	0	IA	IA
17	0	0	E	I	I	0.02	0	0	0	0	IA	IA
18	0	I	E	I	I	0.02	0	0	0	0	IA	IA
19	0	I	0.01 ^b	I	I	0.02	0	0	0	0	IA	IA
20	0	I	0.01 ^b	I	I	0.02	0	0	0	0	IA	IA
21	0	I	0.01 ^b	I	I	0.02	0	0	0	0	IA ^b	IA
22	0	I	0.02 ^b	I	I	0.02	0	0	0	0	IA	IA
23	0	I	0.03 ^b	I	I	I	0	0	0	0	IA	IA
24	0	I	0.03 ^b	I	I	I	0	0	0	0	IA	IA
25	0	I	0.03 ^b	I	I	I	0	0	0	0	IA	IA
26	0	I	0.04 ^b	I	I	0.02	0	0	0	0	IA	IA
27	0	I	0.03 ^b	I	I	0.02	0	0	0	0	IA	IA
28	0	I	0.01 ^b	I	I	0.02	0	0	0	0	IA	IA
29	0	I	0 ^b	I	— ^e	0.01	0	0	0	0	IA	IA
30	0	I	0 ^b	I	—	0.01	0	0	0	0	IA	IA
31	0	—	0 ^b	I	—	0.01	—	0	—	0	IA	—

Daily Mean Discharge (ft³/s) for E243 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0.04	0.25	0	I	0.39	0.04	0	0	0	0	IA
Total (acre-ft)	0	0.08	0.50	0	I	0.77	0.08	0	0	0	0	IA
Max Daily Mean	0	0.02	0.04 ^b	0 ^b	I	0.03	0.01	0	0	0 ^b	0	IA
Min Daily Mean	0	0	0 ^b	0 ^b	I	0.01	0	0	0	0 ^b	0	IA
Instantaneous Max	0.02	0.04	0.28 ^b	0 ^b	I	0.86	0.03	0.01	0.03	0.04 ^b	0.04	IA
Instantaneous Min	0	0	0 ^b	0 ^b	I	0	0	0	0	0 ^b	0	IA
Missing Days	0	12	17	25	10	0	0	0	0	3	21	30

Daily Mean Discharge (ft³/s) for E243 (continued)

WY2011	Total	0.72	Mean	0.003	Max	0.04	Min	0	Instantaneous Max	746 ^b	Acre-ft	1.40
CY2010	Total	265.38	Mean	0.81	Max	8.10	Min	0	Instantaneous Max	12	Acre-ft	526

^a I = Ice present.^b Reliable estimate.^c IA = Inactive.^d E = Equipment malfunction.^e — = Not applicable.

E244 TWO MILE CANYON ABOVE PAJARITO CANYON

Location. Lat 35° 51' 15", long 106° 17' 46", Sec. 27, T. 19 N., R. 6 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 3.15 mi².

Period of Record. October 1, 2002, to July 13, 2011.

Revised Record. Drainage area (2006). Period of record (2008).

Gage. Data logger with cellular telemetry. Elevation of gage is 6940 ft above NGVD from GPS survey.

Average Discharge. 9 yr, 0.35 ft³/s, 256 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 628 ft³/s, August 25, 2006, gage height 6.0 ft (from flood marks).

Maximum for Current Water Year. Maximum discharge, 206 ft³/s, August 21, estimated from high water mark survey.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe with cellular phone and speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. Wading measurements can be made in the vicinity of the gage. No provision has been made for measurements above the wading stage. During the August 21, 2011, severe storm event, the probe and staff plate were destroyed along with the shelter, the data logger, and associated ISCO intake suction lines. The gage was deemed unusable and data logged were irretrievable.

Fieldwork. The station was visited 16 times to perform inspections, four of which were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record except for the periods of November 18 and 19, 2010; December 16, 17, 18, 29, 30, 2010; and February 2, 3, 4, 5, 8, 9, 2011, when the gage height was affected by ice. From December 31, 2010, to January 13, 2011, the data logger malfunctioned. From July 14 to September 30, 2011, the gage station was damaged during the August 21, 2011, storm event.

Rating. The channel at the gage is straight for about 150 ft above gage and 50 ft below the gage. Channel expands quite a bit below the gage. Bed material is coarse sand and gravel. Banks are grassy with some small trees and outcrops affecting roughness at higher flows.

Rating No. 2 was developed from previous measurements and one slope-area measurement.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 2. Some periods have large shifts on the lower end because of dry conditions varying the PZF.

Daily Mean Discharge (ft³/s) for E244

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0 ^a	0	0.08	E ^b	0.10 ^a	0.08 ^a	0.08	0.08 ^a	0	0 ^a	IA ^c	IA
2	0.07 ^a	0	0.07	E	I ^d	0.09	0.08	0.08	0	0 ^a	IA	IA
3	0.04	0	0.08	E	I	0.09	0.08	0.08	0	0 ^a	IA	IA
4	0.03	0	0.09	E	I	0.09	0.09	0.08	0	0 ^a	IA	IA
5	0.01	0	0.09	E	I	0.08	0.08	0.08	0	0 ^a	IA	IA
6	0.02	0	0.10	E	0.10	0.07	0.08 ^a	0.08	0	0 ^a	IA	IA
7	0.04	0.01	0.09	E	0.09	0.07 ^a	0.08	0.08	0	0 ^a	IA	IA
8	0	0.01	0.09	E	I	0.08	0.07	0.08	0	0	IA	IA
9	0	0.01	0.09	E	I	0.08	0.08 ^a	0.07	0	0	IA	IA
10	0.01	0	0.10	E	0.08	0.08	0.08	0.07	0	0	IA	IA
11	0.01	0.01	0.10	E	0.08	0.08 ^a	0.08	0.08	0	0 ^a	IA	IA
12	0.01	0	0.11	E	0.08	0.08 ^a	0.08	0.09	0	0 ^a	IA	IA
13	0	0.01	0.10	E	0.08	0.07	0.08	0.09	0	0 ^a	IA	IA
14	0.01	0.01	0.10	0.09	0.08	0.08	0.08	0.09	0	IA	IA	IA
15	0 ^a	0.01	0.11	0.10	0.08	0.09	0.08	0.08	0	IA	IA	IA
16	0 ^a	0.02	I	0.09	0.08	0.08	0.08	0.08	0	IA	IA	IA
17	0 ^a	0.01	I	0.09	0.08	0.08	0.08	0.08	0	IA	IA	IA
18	0 ^a	I	I	0.09	0.08	0.09	0.08	0.04	0	IA	IA	IA
19	0 ^a	I	0.12	0.09	0.08	0.09	0.08	0	0	IA	IA	IA
20	0 ^a	0.10	0.10	0.08	0.09	0.09	0.08	0	0	IA	IA	IA
21	0.06	0.09	0.10	0.08	0.09	0.09	0.08	0	0	IA	IA ^a	IA
22	0.01	0.10	0.10	0.09	0.09	0.09	0.08	0	0	IA	IA	IA
23	0.02	0.11	0.09	0.09	0.08	0.09	0.08 ^a	0	0	IA	IA	IA
24	0.01	0.11	0.09	0.09	0.08	0.09	0.08 ^a	0	0	IA	IA	IA
25	0.02	0.10	0.10	0.09	0.09	0.09	0.08	0	0	IA	IA	IA
26	0.01	0.10	0.09	0.09	0.08	0.09	0.07	0	0	IA	IA	IA
27	0	0.11	0.09	0.09	0.08	0.08	0.09	0	0	IA	IA	IA
28	0	0.11	0.09	0.09	0.08	0.08	0.09	0	0	IA	IA	IA
29	0	0.11	I	0.10	— ^e	0.09	0.09	0	0	IA	IA	IA
30	0	0.09	I	0.10	—	0.09	0.07 ^a	0	0 ^a	IA	IA	IA
31	0	—	E	0.10	—	0.08	—	0	—	IA	IA	—

Daily Mean Discharge (ft³/s) for E244 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.38	1.23	2.39	1.64	1.87	2.62	2.43	1.41	0	0	IA	IA
Total (acre-ft)	0.75	2.40	4.70	3.30	3.70	5.20	4.80	2.80	0	0	IA	IA
Max Daily Mean	0.07	0.11	0.12	0.10	0.10 ^a	0.09 ^a	0.09 ^a	0.09 ^a	0 ^a	0 ^a	IA	IA
Min Daily Mean	0	0	0.07	0.08	0.08 ^a	0.07 ^a	0.07 ^a	0 ^a	0 ^a	0 ^a	IA	IA
Instantaneous Max	1.82	0.19	0.14	0.12	0.12 ^a	0.11 ^a	0.12 ^a	0.11	0 ^a	0 ^a	206	IA
Instantaneous Min	0	0	0.05	0.05	0.05 ^a	0.06 ^a	0.06 ^a	0 ^a	0 ^a	0 ^a	IA	IA
Missing Days	0	2	6	13	6	0	0	0	0	18	31	30

Daily Mean Discharge (ft³/s) for E244 (continued)

WY2011	Total	13.97	Mean	0.054	Max	0.12	Min	0	Instantaneous Max	206 ^a	Acre-ft	28
CY2010	Total	14.42	Mean	0.048	Max	1.50	Min	0	Instantaneous Max	43	Acre-ft	29

^a Reliable estimate.

^b E = Equipment malfunction.

^c IA.= Inactive.

^d I = Ice present.

^e — = Not applicable.

E245.5 PAJARITO CANYON ABOVE THREE MILE CANYON

Location. Lat 35° 50' 45.3", long 106° 16' 29", Sec. 16, T. 19 N., R. 6 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 7.81 mi².

Period of Record. October 1, 2002, to September 30, 2011.

Revised Record. Drainage area (2008).

Gage. Data logger and cellular telemetry and rain gage. Elevation of gage is 6796 ft from LIDAR DEM.

Average Discharge. 9 yr 0.16 ft³/s, 112 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 479 ft³/s, August 21, 2011, gage height 3.8 ft.

Maximum for Current Water Year. Maximum discharge, 479 ft³/s, August 21, 2011, gage height 3.8 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and Milltronics sonic probe and cellular telemetry with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for direct discharge measurements above the wading stage.

The station is also equipped with a tipping bucket rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited 10 times.

Datum Correction. Levels run May 12, 2008, show the gage to be within limits.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for periods from November 29 to December 1, 2010, when the equipment malfunctioned, and from December 15, 2010, to February 15, 2011, when the gage height was affected by ice.

Rating. The channel is straight for 80 ft above and below the gage. The banks have some vegetations, and the streambed is sand and gravel.

Rating No. 4 was developed from previous measurements and one critical depth computation.

Discharge. Discharge was computed by directly applying Rating No. 4.

Daily Mean Discharge (ft³/s) for E245.5

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0 ^a	E ^b	I ^c	I	0	0	0	0	0	0	0.03
2	0	0	0	I	I	0	0	0	0	0	0	0
3	0	0	0	I	I	0	0	0	0	0	0	0
4	0 ^a	0	0	I	I	0	0	0	0	0	0	0.01
5	0	0	0	I	I	0	0	0	0	0	0.17	0
6	0 ^a	0	0	I	I	0	0	0	0	0	0	0
7	0	0	0	I	I	0	0	0	0	0	0	0.79
8	0	0	0	I	I	0	0	0	0	0	0	0
9	0	0	0	I	I	0	0	0	0	0	0	0.32
10	0	0	0	I	I	0	0	0	0	0	0	0.59
11	0	0	0	I	I	0	0	0	0	0	0	0
12	0	0	0	I	I	0	0	0	0	0	0	0
13	0 ^a	0	0	I	I	0	0	0	0	0	0	0
14	0	0	0	I	I	0	0	0	0	0	0	0
15	0	0	I	I	I	0	0	0	0	0	0	0.06
16	0	0	I	I	0	0	0	0	0	0	0	0
17	0	0	I	I	0	0	0	0	0	0	0	0
18	0	0	I	I	0	0	0	0	0	0	0	0
19	0	0	I	I	0	0	0	0	0	0	0.02	0
20	0	0	I	I	0	0	0	0	0	0	0	0
21	0 ^a	0	I	I	0	0	0	0	0	0	43.11	0
22	0	0	I	I	0	0	0	0	0	0	0.02	0
23	0	0	I	I	0	0	0	0	0	0	0	0
24	0	0	I	I	0	0	0	0	0	0	0	0
25	0 ^a	0	I	I	0	0	0	0	0	0	0	0
26	0	0	I	I	0	0	0	0	0	0	0	0
27	0	0	I	0	0	0	0	0	0	0	0	0
28	0	0	I	0	0	0	0	0	0	0	0	0
29	0	E	I	0	— ^d	0	0	0	0	0	0	0
30	0	E	I	0	—	0	0	0	0	0	0	0
31	0	—	I	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E245.5 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	43.21	1.80
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	86	3.6
Max Daily Mean	0 ^a	0 ^a	0	0	0	0	0	0	0	0	43.11	0.79
Min Daily Mean	0 ^a	0 ^a	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0 ^a	0 ^a	0	0	0	0	0	0	0	0	479.66	28.75
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	2	18	26	15	0	0	0	0	0	0	0

^a Reliable estimate.^b E = Equipment malfunction.^c I = Ice present.^d — = Not applicable.Daily Mean Discharge (ft³/s) for E245.5 (continued)

WY2011	Total	45.01	Mean	0.15	Max	43	Min	0	Instantaneous Max	480	Acre-ft	89
CY2010	Total	2.12	Mean	0.007	Max	0.83	Min	0	Instantaneous Max	36	Acre-ft	4.20

E246 THREE MILE CANYON ABOVE PAJARITO CANYON

Location. Lat 35° 50' 20", long 106° 16' 17", Sec. 35, T. 19 N., R. 6 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 1.62 mi².

Period of Record. October 1998 to September 30, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger and 9-in. Parshall flume with cellular telemetry. Elevation of gage is 6755 ft above NGVD.

Average Discharge. 13 yr, 0.03 ft³/s, 24 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 536 ft³/s, August 25, 2006, gage height 3.5 ft from critical-depth computation of peak flow.

Maximum for Current Water Year. No flow for the year.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe mounted on a 9-in. Parshall flume and cellular telemetry with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter on the right bank. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. The staff gage in the 90-in. Parshall flume is the reference gage. No provision has been made for direct discharge measurements above the wading stage.

Fieldwork. The station was visited a total of 17 times to perform inspections, four of which were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except during the period from October 25 to 27, 2010, when the data logger malfunctioned. Also, from December 16 to 20, 2010; December 30, 2010 to January 10, 2011; and February 1 to 7, 2011, the gage height was affected by ice.

Rating. The channel is straight above and below the gage. It is confined to the main channel by cutbanks on both sides. The bottom is 10 ft wide, the channel is prone to some shifting with vegetation on each bank. The low-water control is the 9-in. Parshall flume.

Rating No. 1 was developed based on the computation of the 9-in. Parshall flume and was extended on the basis of two critical-depth computations. The PZF flow is 0.00 gage height.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 1.

Daily Mean Discharge (ft³/s) for E246

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	1 ^a	1	0	0	0	0	0	0	0
2	0	0	0	1	1	0	0	0	0	0	0	0
3	0	0	0	1	1	0	0	0	0	0	0	0
4	0	0	0	1	1	0	0	0	0	0	0	0
5	0	0	0	1	1	0	0	0	0	0	0	0
6	0	0	0	1	1	0	0	0	0	0	0	0
7	0	0	0	1	1	0	0	0	0	0	0	0
8	0	0	0	1	0	0	0	0	0	0	0	0
9	0	0	0	1	0	0	0	0	0	0	0	0
10	0	0	0	1	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	1	0	0	0	0	0	0	0	0	0
17	0	0	1	0	0	0	0	0	0	0	0	0
18	0	0	1	0	0	0	0	0 ^b	0	0	0	0
19	0	0	1	0	0	0	0	0	0	0	0	0
20	0	0	1	0	0	0	0	0	0	0	0	0
21	0 ^b	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	E ^c	0	0	0	0	0	0	0	0	0	0	0
26	E	0	0	0	0	0	0	0	0	0	0	0
27	E	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	— ^d	0	0	0	0	0	0	0
30	0	0	1	0	—	0	0	0	0	0	0	0
31	0	—	1	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E246 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0	0
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	0	0
Max Daily Mean	0 ^b	0	0	0	0	0	0	0	0 ^b	0	0	0
Min Daily Mean	0 ^b	0	0	0	0	0	0	0	0 ^b	0	0	0
Instantaneous Max	0.02 ^b	0.02	0.05	0.05	0.01	0.02	0.03	0.03 ^b	0.03	0.02	0.02	0.01
Instantaneous Min	0 ^b	0	0	0	0	0	0	0 ^b	0	0	0	0
Missing Days	3	0	7	10	7	4	0	0	0	0	0	0

Daily Mean Discharge (ft³/s) for E246 (continued)

WY2011	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0.09 ^b	Acre-ft	0
CY2010	Total	5.21	Mean	0.017	Max	0.17	Min	0	Instantaneous Max	0.37	Acre-ft	10

^a I = Ice present.

^b Reliable estimate.

^c E = Equipment malfunction.

^d — = Not applicable.

E249.5 MDA G-7

Location. Lat 35° 49' 47", long 106° 14' 05", Sec. 31, T. 19 N., R. 7 E., Ramon Vigil Grant, Los Alamos County on left bank.

Drainage Area. 0.01 mi².

Period of Record. October 1, 2005, to December 1, 2010.

Gage. Data logger and 9-in. Parshall flume, rain gage with cellular telemetry. Elevation of gage is 6633 ft above NGVD.

Average Discharge. 6 yr, 0.005 ft³/s, 3.6 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 5.7 ft³/s, August 7, 2006, gage height 1.5 ft.

Maximum for Current Water Year. Maximum discharge, 0.39 ft³/s, October 21, 2010, gage height 0.26 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe mounted on a 9-in. Parshall flume with cellular phone and speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. Station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. The staff gage in the 9-in. Parshall flume is the reference gage. No provision has been made for discharge measurements above the wading stage.

The station is also equipped with a rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited nine times, three of which were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record. The gage was decommissioned December 1, 2010, marking end of the record.

Rating. The channel is straight above and below the gage. It is confined to the main channel by cutbanks on both sides. The bottom of the channel is 4 ft wide, and both banks should be very stable. The low-water control is the 9-in. Parshall flume.

Rating No. 1 was developed based on the computation of the 9-in. Parshall flume. The PZF is 0.00 gage height.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 1.

Daily Mean Discharge (ft³/s) for E249.5

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	D ^a	D	D	D	D	D	D	D	D	D
2	0	0	D	D	D	D	D	D	D	D	D	D
3	0	0	D	D	D	D	D	D	D	D	D	D
4	0 ^b	0	D	D	D	D	D	D	D	D	D	D
5	0	0	D	D	D	D	D	D	D	D	D	D
6	0 ^b	0	D	D	D	D	D	D	D	D	D	D
7	0	0	D	D	D	D	D	D	D	D	D	D
8	0	0	D	D	D	D	D	D	D	D	D	D
9	0	0	D	D	D	D	D	D	D	D	D	D
10	0	0	D	D	D	D	D	D	D	D	D	D
11	0	0	D	D	D	D	D	D	D	D	D	D
12	0	0	D	D	D	D	D	D	D	D	D	D
13	0 ^b	0	D	D	D	D	D	D	D	D	D	D
14	0	0	D	D	D	D	D	D	D	D	D	D
15	0	0	D	D	D	D	D	D	D	D	D	D
16	0	0 ^b	D	D	D	D	D	D	D	D	D	D
17	0	0	D	D	D	D	D	D	D	D	D	D
18	0	0	D	D	D	D	D	D	D	D	D	D
19	0	0	D	D	D	D	D	D	D	D	D	D
20	0	0	D	D	D	D	D	D	D	D	D	D
21	0.02 ^b	0	D	D	D	D	D	D	D	D	D	D
22	0	0	D	D	D	D	D	D	D	D	D	D
23	0	0	D	D	D	D	D	D	D	D	D	D
24	0	0	D	D	D	D	D	D	D	D	D	D
25	0 ^b	0	D	D	D	D	D	D	D	D	D	D
26	0	0	D	D	D	D	D	D	D	D	D	D
27	0	0	D	D	D	D	D	D	D	D	D	D
28	0	0	D	D	D	D	D	D	D	D	D	D
29	0	0 ^b	D	D	— ^c	D	D	D	D	D	D	D
30	0	0	D	D	—	D	D	D	D	D	D	D
31	0	—	D	D	—	D	—	D	—	D	D	—

Daily Mean Discharge (ft³/s) for E249.5 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.02	0	D	D	D	D	D	D	D	D	D	D
Total (acre-ft)	0.04	0	D	D	D	D	D	D	D	D	D	D
Max Daily Mean	0.02 ^b	0 ^b	D	D	D	D	D	D	D	D	D	D
Min Daily Mean	0 ^b	0 ^b	D	D	D	D	D	D	D	D	D	D
Instantaneous Max	0.39 ^b	0.01 ^b	D	D	D	D	D	D	D	D	D	D
Instantaneous Min	0 ^b	0 ^b	D	D	D	D	D	D	D	D	D	D
Missing Days	0	0	D	D	D	D	D	D	D	D	D	D

^a Decommissioned.^b Reliable estimate.^c — = Not applicable.Daily Mean Discharge (ft³/s) for E249.5 (continued)

WY2011	Total	0.02	Mean	0	Max	0.02	Min	0	Instantaneous Max	0.39	Acre-ft	0.04
CY2010	Total	1.70	Mean	0.005	Max	0.21	Min	0	Instantaneous Max	5.0	Acre-ft	3.40

E250 PAJARITO CANYON ABOVE SR 4

Location. Lat 35° 49' 26", long 106° 13' 40", Sec. 5, T. 18 N., R. 7 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 10.6 mi².

Period of Record. November 1993 to August 25, 2006 (destroyed by flood); September 2006 to September 30, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger with cellular telemetry and concrete control. Elevation of gage is 6528 ft above NGVD from GPS survey.

Average Discharge. 17 yr, 0.07 ft³/s, 51 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 206 ft³/s, August 25 2006, gage height 4.6 ft (from peak-flow computations).

Maximum for Current Water Year. Maximum discharge, 95 ft³/s, August 21, 2011, gage height 4.1 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) with a shaft encoder float system (5-min interval) and cellular phone with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter on an 18-in. CMP well. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for direct discharge measurements above the wading stage.

Fieldwork. The station was visited 17 times to perform inspections. Four visits were to service the instrumentation.

Datum Correction. None. The most recent levels run on November 17, 2004, found the gage to be within acceptable limits.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for the period from June 21 to July 26, 2011, when the data logger malfunctioned.

Rating. The channel is straight for 50 ft above and 100 ft below the gage. The streambed material is gravel. The control is concrete with a 90-degree weir plate.

Rating No. 1 was developed from a 90-degree weir plate formula and broad-crested weir computation above the notch. Rating No. 1 continued to be used and is considered good.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 1.

Daily Mean Discharge (ft³/s) for E250

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	0	0	0	0	0	0	E ^a	0	0
2	0	0	0	0	0	0	0	0	0	E	0	0
3	0	0	0	0	0	0	0	0	0	E	0	0
4	0	0	0	0	0	0	0	0	0	E	0	0
5	0	0	0	0	0	0	0	0	0	E	0	0
6	0	0	0	0	0	0	0	0	0	E	0	0
7	0	0	0	0	0	0	0	0	0	E	0	0.08
8	0	0	0	0	0	0	0	0	0	E	0	0.04
9	0	0	0	0	0	0	0	0	0	E	0	0
10	0	0	0	0	0	0	0	0	0	E	0	1.04
11	0	0	0	0	0	0	0	0	0	E	0	0.04
12	0	0	0	0	0	0	0	0	0	E	0	0
13	0	0	0	0	0	0	0	0	0	E	0	0.05
14	0	0	0	0	0	0	0	0	0	E	0	0.03
15	0	0	0	0	0	0	0	0	0	E	0	0.01
16	0	0	0	0	0	0	0	0	0	E	0	0.04
17	0	0	0	0	0	0	0	0	0	E	0	0.01
18	0	0	0	0	0	0	0	0	0	E	0	0
19	0	0	0	0	0	0	0	0	0	E	0	0
20	0	0	0	0	0	0	0	0	0	E	0	0
21	0	0	0	0	0	0	0	0	E	E	5.09	0
22	0	0	0	0	0	0	0	0	E	E	0.91	0
23	0	0	0	0	0	0	0	0	E	E	0.01	0
24	0	0	0	0	0	0	0	0	E	E	0	0
25	0	0	0	0	0	0	0	0	E	E	0	0
26	0	0	0	0	0	0	0	0	E	E	0	0
27	0	0	0	0	0	0	0	0	E	0	0.01	0
28	0	0	0	0	0	0	0	0	E	0	0	0
29	0	0	0	0	— ^b	0	0	0	E	0	0	0
30	0	0	0	0	—	0	0	0	E	0.11	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E250 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0.11	6.03	1.30
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0.022	0.19	0.043
Max Daily Mean	0	0	0	0	0	0	0	0	0	0.11	5.09	1.04
Min Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0	0	0	0	0	0	0	0	0	3.13	94.82	3.69
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	10	26	0	0

^a E = Equipment malfunction.^b — = Not applicable.Daily Mean Discharge (ft³/s) for E250 (continued)

WY2011	Total	7.44	Mean	0.023	Max	5.10	Min	0	Instantaneous Max	95	Acre-ft	15
CY2010	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0

E252 WATER CANYON ABOVE SR 501

Location. Lat 35° 50' 18", long 106° 21' 42", Sec. 36, T. 19 N., R. 5 E., Los Alamos County in Santa Fe National Forest.

Drainage Area. 3.25 mi².

Period of Record. October 1994 to June 2000 (destroyed by flood); April 2001 to September 2011.

Revised Record. Drainage area (2006).

Gage. Data logger with cellular telemetry. Elevation of gage is 7553 ft above NGVD from GPS survey.

Average Discharge. 16 yr, 0.15 ft³/s, 106 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 840 ft³/s, June 28, 2000, from peak-flow computation, gage height 7.9 ft.

Maximum for Current Water Year. Maximum discharge, 1577 ft³/s, August 21, 2011, estimated with high water mark surver.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval), with a shaft encoder float system (5-min interval) and cellular phone with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter on a 24-in CMP well. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft steel storage box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. There is no low water control. No provision has been made for direct discharge measurements above the wading stage.

Fieldwork. The station was visited seven times to perform inspections and service the instrumentation.

Datum Correction. None. Levels were run when gage was established April 16, 2001. The new gage is at the same datum as the old and is about 20 ft upstream.

Gage-Height Record. The data logger referenced to the inside staff gage and reference point gave a complete and satisfactory record for the year except for the period from February 23 to May 19, 2011, when the gage station was temporarily decommissioned. Discharge from the August 21, 2011, storm event is estimated because the gage height reading was affected by flood debris.

Rating. The channel at the gage is 30 ft wide and straight for about 40 ft upstream, then bends to the left; downstream the gage is straight for 100 ft. The streambed through this reach is primarily sand, gravel, and cobbles. The low-flow control is a rock riffle 5 ft below the gage. The channel has been scoured and filled significantly by high flows resulting from the Cerro Grande and Las Conchas fires.

Rating No. 3 should be considered good except for the extreme lower end (less than $0.5 \text{ ft}^3/\text{s}$), which will continue to change back and forth in response to high flows. Steep slopes in the gage reach and throughout the region cause considerable movement of material as either scours or fills.

Discharge. Discharge was computed by directly applying inside the gage height to Rating No. 3.

Daily Mean Discharge (ft³/s) for E252

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0.03	0.02	0.02	0.01	IA ^a	IA	IA	0.03	0.02	0.02	0.03
2	0.01	0.03	0.02	0.02	0.01	IA	IA	IA	0.03	0.02	0.02	0.01
3	0	0.03	0.02	0.02	0.01	IA	IA	IA	0.03	0.02	2.14	0
4	0	0.03	0.02	0.02	0.01	IA	IA	IA	0.03	0.02	0.03	22.79
5	0.01	0.03	0.02	0.02	0.01	IA	IA	IA	0.03	0.02	0.29	0
6	0.01	0.03	0.02	0.01	0.01	IA	IA	IA	0.03	0.02	0.02	0
7	0.01	0.02	0.02	0.01	0.01	IA	IA	IA	0.03	0.02	0.02	0
8	0.01	0.02	0.02	0	0	IA	IA	IA	0.03	0.01	0.02	0.01
9	0.02	0.02	0.02	0	0	IA	IA	IA	0.03	0.01	0.02	5.27
10	0.02	0.02	0.02	0.01	0	IA	IA	IA	0.03	0.01	0.02	0
11	0.02	0.02	0.02	0.01	0	IA	IA	IA	0.03	0.01	0.02	0
12	0.02	0.02	0.02	0.01	0	IA	IA	IA	0.03	0.01	0.02	0
13	0.02	0.02	0.02	0.02	0	IA	IA	IA	0.03	0.02	0.02	0
14	0.02	0.02	0.02	0.02	0	IA	IA	IA	0.03	0.02	0.02	0
15	0.02	0.02	0.02	0.02	0.01	IA	IA	IA	0.03	0.02	0.02	0.12
16	0.02	0.02	0.02	0.02	0.01	IA	IA	IA	0.03	0.02	0.02	0
17	0.02	0.02	0.02	0.02	0.01	IA	IA	IA	0.03	0.02	0.02	0
18	0.02	0.02	0.02	0.02	0.01	IA	IA	IA	0.02	0.02	0.01	0
19	0.02	0.02	0.02	0.02	0.01	IA	IA	IA	0.02	0.02	0.01	0
20	0.02	0.02	0.02	0.02	0.01	IA	IA	0.03	0.02	0.02	0.01	0
21	0.02	0.02	0.02	0.02	0.01	IA	IA	0.03	0.02	0.02	43.25 ^b	0
22	0.02	0.02	0.02	0.02	0.01	IA	IA	0.03	0.02	0.02	0.07	0
23	0.02	0.02	0.02	0.02	IA	IA	IA	0.03	0.02	0.02	0.06	0
24	0.03	0.02	0.02	0.02	IA	IA	IA	0.03	0.02	0.02	0.06	0
25	0.03	0.02	0.02	0.02	IA	IA	IA	0.03	0.02	0.03	0.06	0
26	0.03	0.02	0.02	0.02	IA	IA	IA	0.03	0.03	0.02	0.05	0
27	0.03	0.02	0.02	0.02	IA	IA	IA	0.03	0.03	0.02	0.04	0
28	0.03	0.02	0.02	0.02	IA	IA	IA	0.03	0.02	0.02	0.04	0
29	0.03	0.02	0.02	0.02	— ^c	IA	IA	0.03	0.02	0.03	0.04	0
30	0.03	0.02	0.02	0.02	—	IA	IA	0.03	0.02	0.03	0.04	0
31	0.03	—	0.02	0.02	—	IA	—	0.03	—	0.03	0.03	—

Daily Mean Discharge (ft³/s) for E252 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.6	0.66	0.62	0.53	0.15	IA	IA	0.36	0.79	0.62	46.23	28.47
Total (acre-ft)	1.2	1.3	1.2	1.1	0.3	IA	IA	0.71	1.6	1.2	92	56
Max Daily Mean	0.03	0.03	0.02	0.02	0.01	IA	IA	0.03	0.03	0.03	43.25	22.79
Min Daily Mean	0	0.02	0.02	0	0	IA	IA	0.03	0.02	0.01	0.01	0
Instantaneous Max	0.03	0.03	0.02	0.02	0.01	IA	IA	0.03	0.03	0.03	1577 ^b	416.57
Instantaneous Min	0	0.02	0.01	0	0	IA	IA	0.03	0.02	0.01	0	0
Missing Days	0	0	0	0	6	31	30	19	0	0	0	0

Daily Mean Discharge (ft³/s) for E252 (continued)

WY2011	Total	79.03	Mean	0.28	Max	43	Min	0	Instantaneous Max	1577 ^b	Acre-ft	157
CY2010	Total	40.88	Mean	0.13	Max	4.2	Min	0	Instantaneous Max	6.1	Acre-ft	81

^a IA = Inactive.

^b Reliable estimate.

^c — = Not applicable.

E252.5 WATER CANYON ABOVE S SITE CANYON

Location. Lat 35° 49' 50", long -106° 18' 26", Sec. 33, T. 19 N., R. 6 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 5.64 mi².

Period of Record. October 1, 2008, to August 19, 2011.

Revised Record. Period of record (2011).

Gage. Data logger and 90° sharp-crested weir. Elevation of gage is 6980 ft above NGVD from GPS survey.

Average Discharge. 3 yr, 0.70 ft³/s, 505 acre-ft/yr.

Maximum for Period of Record. Maximum discharge of 3021 ft³/s, August 21, 2011, estimated with high water mark survey.

Maximum for Current Water Year. Maximum discharge of 3021 ft³/s, August 21, 2011, estimated with high water mark survey.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubble sensor. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for discharge measurements above the wading stage. During the August 21, 2011, severe storm event, the bubbler line was destroyed along with the shelter, data logger, and associated ISCO intake suction lines. The gage was deemed unusable, and data logged were irretrievable.

Fieldwork. The station was visited 17 times, 7 of which were to service the instrumentation. Three discharge measurements were completed.

Datum Correction. None. The level run on February 27, 2006, shows the gage to be within allowable limits.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for periods of November 12, 18, 19, 30, 2010, and January 7 to 15, 2011, when the gage height was affected by ice. On December 14, 15, 18, 19, and 20, 2010; from December 23, 2010, to January 6, 2011; from June 29 to July 12; and from August 10 and 11, 2011, the equipment malfunctioned. From August 19 to September 30, 2011, the station was damaged by high flow events.

Rating. The channel is straight 50 ft above and 30 ft below the gage, then forks to the right. The streambed consists of rock and cobble. The banks are stable with vegetation.

Rating No. 2 was developed using the current year measurements and one critical-depth computation.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 1.

Daily Mean Discharge (ft³/s) for E252.5

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0.07	0	E ^a	0.05	0	0.01	0.01	0	E	0	IA ^b
2	0.02	0.07	0	E	0.04	0.01	0.01	0.01	0	E	0	IA
3	0	0.06	0	E	0.02	0.01	0.02	0.01	0	E	0.13	IA
4	0	0.06	0	E	0.01	0.01	0.01	0	0	E	0	IA
5	0	0.06	0.01	E	0.01	0	0.01	0	0	E	0	IA
6	0	0.06	0.01	E	0.03	0.01	0.01	0	0	E	0	IA
7	0	0.06	0	I ^c	0.02	0.02	0.02	0	0	E	0	IA
8	0	0.06	0	I	0.01	0.02	0.03	0	0	E	0	IA
9	0	0.05	0	I	0	0.01	0.02	0	0	E	0	IA
10	0	0.06	0.03	I	0	0.01	0.02	0	0	E	E	IA
11	0	0.05	0.06	I	0	0.02	0.01	0	0	E	E	IA
12	0	I	0.05	I	0.01	0.01	0.02	0	0	E	0	IA
13	0	0.05	0.05	I	0.02	0.01	0.01	0	0	0	0	IA
14	0	0.04	E	I	0.01	0.01	0.01	0	0	0	0	IA
15	0.01	0.04	E	I	0	0.01	0.01	0	0	0	0	IA
16	0.01	0.11	0.06	0.06	0	0.02	0.01	0	0	0	0	IA
17	0.02	0.05	0.07	0.06	0	0.04	0.01	0	0	0	0	IA
18	0.02	I	E	0.06	0	0.04	0.01	0	0	0	0	IA
19	0.02	I	E	0.05	0.01	0.04	0.01	0	0	0	IA	IA
20	0.03	0.04	E	0.04	0.01	0.03	0	0	0	0	IA	IA
21	0.16	0.04	0.06	0.04	0	0.03	0	0	0	0	IA ^d	IA
22	0.09	0.06	0.07	0.04	0	0.03	0	0	0	0	IA	IA
23	0.07	0.03	E	0.05	0	0.03	0	0	0	0	IA	IA
24	0.06	0.04	E	0.04	0	0.03	0	0	0	0	IA	IA
25	0.06	0	E	0.05	0	0.03	0	0	0	0	IA	IA
26	0.07	0	E	0.05	0	0.02	0.01	0	0	0	IA	IA
27	0.07	0	E	0.04	0	0.02	0	0	0	0	IA	IA
28	0.07	0	E	0.04	0	0.02	0.01	0	0	0	IA	IA
29	0.07	0.01	E	0.05	— ^e	0.02	0	0	E	0	IA	IA
30	0.07	I	E	0.06	—	0.02	0	0	E	0	IA	IA
31	0.07	—	E	0.06	—	0.01	—	0	—	0	IA	—

Daily Mean Discharge (ft³/s) for E252.5 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.99	1.16	0.48	0.80	0.26	0.60	0.32	0.03	0	0	0.13	IA
Total (acre-ft)	2.0	2.30	0.95	0.60	0.52	1.20	0.63	0.06	0	0	0.26	IA
Max Daily Mean	0.16	0.11	0.07	0.06	0.05	0.04	0.03	0.01	0	0	0.13	IA
Min Daily Mean	0	0	0	0.04	0	0	0	0	0	0	0	IA
Instantaneous Max	0.33	0.50	0.09	0.07	0.06	0.05	0.04	0.02	0	0	3021 ^d	IA
Instantaneous Min	0	0	0	0.02	0	0	0	0	0	0	0	IA
Missing Days	0	4	14	15	0	0	0	0	2	12	15	30

Daily Mean Discharge (ft³/s) for E252.5 (continued)

WY2011	Total	4.77	Mean	0.017	Max	0.16	Min	0	Instantaneous Max	3021 ^d	Acre-ft	9.50
CY2010	Total	27.44	Mean	0.096	Max	0.58	Min	0	Instantaneous Max	2.30	Acre-ft	54

^a E = Equipment malfunction.^b IA = Inactive.^c I = Ice present.^d Reliable estimate.^e — = Not applicable.

E252.8 S SITE CANYON ABOVE WATER CANYON

Location. Lat 35° 49' 51", long 106° 18' 27", Sec. 33, T. 19 N., R. 6 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 0.76 mi².

Period of Record. April 1999 to August 21, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger and 90° sharp-crested weir. Elevation of gage is 6840 ft above NGVD from GPS survey.

Average Discharge. 12 yr, 0.022 ft³/s, 15.9 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 162 ft³/s, August 20, 2004, gage height 4.0 ft.

Maximum for Current Water Year. Maximum discharge, 23 ft³/s, August 21, 2010, estimated with high water mark survey.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe. The system is powered by a solar panel battery system housed in a NEMA shelter on the left bank. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for discharge measurements above the wading stage. During the August 21, 2011, severe storm event, the sonic probe was destroyed along with the shelter, data logger, and associated ISCO intake suction lines. The gage was deemed unusable, and data logged were irretrievable.

Fieldwork. The station was visited 16 times, 7 of which were to service the instrumentation. One discharge measurement was completed.

Datum Correction. The datum was adjusted to account for a 1-ft deviation from water year 2009 datum.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for the following exempt periods. From December 16 to 21, 2010, and February 1, 8, and 9, 2011, the gage height was affected by ice. From December 22, 2010, to January 14, 2011; June 14 to July 12, 2011, and July 18 to August 11, 2011, the data logger malfunctioned. The August 21, 2011, severe storm marks the end of the record.

Rating. The control is a 90-degree weir with a 2-ft-deep notch. The canyon is very steep directly above the station but flattens out enough to allow the weir to be effective.

Rating No. 1 was developed using the weir formula and one critical-depth computation. Rating No. 1 is considered fair. Large shifts were applied to the low end (PZF) because of filling in the pool. These are most likely to change over time when fill conditions occur.

Discharge. Discharge was computed by applying the gage height to Rating No. 1 with "V" diagrams adjusting the PZF. Those periods estimated at zero flow were based on precipitation and adjoining stations E2525 and E262.

Daily Mean Discharge (ft³/s) for E252.8

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	E ^a	I ^b	0	0	0	0	E	E	IA ^c
2	0	0	0	E	0	0	0	0	0	E	E	IA
3	0	0	0	E	0	0	0	0	0	E	E	IA
4	0	0	0	E	0	0	0	0	0	E	E	IA
5	0	0	0	E	0	0	0	0	0	E	E	IA
6	0	0	0	E	0	0	0	0	0	E	E	IA
7	0	0	0	E	0	0	0	0	0	E	E	IA
8	0	0	0	E	I	0	0	0	0	E	E	IA
9	0	0	0	E	I	0	0	0	0	E	E	IA
10	0	0	0	E	0	0	0	0	0	E	E	IA
11	0	0	0	E	0	0	0	0	0	E	E	IA
12	0	0	0	E	0	0	0	0	0	E	0	IA
13	0	0	0	E	0	0	0	0	0	0	0	IA
14	0	0	0	E	0	0	0	0	E	0	0 ^d	IA
15	0	0	0	0	0	0	0	0	E	0	0	IA
16	0	0	I	0 ^d	0	0	0	0 ^d	E	0	0	IA
17	0	0	I	0	0	0	0	0	E	0	0 ^d	IA
18	0	0	I	0	0	0	0	0	E	E	0	IA
19	0	0	I	0	0	0	0	0	E	E	0	IA
20	0	0	I	0 ^d	0	0	0	0	E	E	0	IA
21	0	0	I	0	0	0	0	0	E	E	IA ^d	IA
22	0	0	E	0	0	0	0	0	E	E	IA	IA
23	0	0	E	0 ^d	0	0	0	0	E	E	IA ^d	IA
24	0	0	E	0	0	0	0	0	E	E	IA	IA
25	0	0	E	0	0	0	0	0	E	E	IA	IA
26	0	0	E	0	0	0	0	0	E	E	IA	IA
27	0	0	E	0	0	0	0	0	E	E	IA	IA
28	0	0	E	0	0	0	0	0	E	E	IA	IA
29	0	0	E	0	— ^e	0	0	0	E	E	IA	IA
30	0	0	E	0	—	0	0	0	E	E	IA	IA
31	0	—	E	0	—	0 ^d	—	0	—	E	IA	—

Daily Mean Discharge (ft³/s) for E252.8 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0	IA
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	0	IA
Max Daily Mean	0	0	0	0 ^d	0	0 ^d	0	0 ^d	0	0	0 ^d	IA
Min Daily Mean	0	0	0	0 ^d	0	0 ^d	0	0 ^d	0	0	0 ^d	IA
Instantaneous Max	0	0	0	0 ^d	0	0 ^d	0	0 ^d	0	0	23 ^d	IA
Instantaneous Min	0	0	0	0 ^d	0	0 ^d	0	0 ^d	0	0	0 ^d	IA
Missing Days	0	0	16	14	3	0	0	0	17	26	22	30

Daily Mean Discharge (ft³/s) for E252.8 (continued)

WY2011	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	23 ^d	Acre-ft	0
CY2010	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0

^a E = Equipment malfunction.^b I = Ice present.^c IA = Inactive.^d Reliable estimate.^e — = Not applicable.

E253 CAÑON DE VALLE ABOVE SR 501

Location. Lat 35° 51' 6", long 106° 21' 17", NE ¼, Sec. 25, T. 19 N., R. 5 E., Los Alamos County in Santa Fe National Forest.

Drainage Area. 2.27 mi².

Period of Record. October 1994 to June 2000 (gage destroyed by flood); January 31, 2001, to September 30, 2011.

Revised Record. Period of record (2011).

Gage. Data logger and 120-degree weir plate, rain gage with cellular telemetry. Elevation of gage is 7701 ft above NGVD from GPS survey.

Average Discharge. 10 yr, 0.04 ft³/s, 29 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 1450 ft³/s, August 21, 2011, gage height 10 ft.

Maximum for Current Water Year. Maximum discharge, 1450 ft³/s, August 21, 2011, gage height 10 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) with a shaft encoder float system (5-min interval) and cellular phone with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter on a 24-in. CMP well, 16 ft long attached to a 60-ft metal walkway. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft steel storage box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for direct discharge measurements above the wading stage.

The station is also equipped with a rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited 18 times to perform inspections. Eight of the visits were to service the instrumentation.

Datum Correction. None. The levels were run on April 16, 2001, when the gage was reestablished.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record for the year except for the periods of April 11 to June 21, 2011, and July 15 to 19, 2011, when the data logger malfunctioned.

Rating. The channel at the gage is about 8 ft wide and straight for about 50 ft upstream, then bends to the left and straight for 100 ft downstream and bends to the right. The streambed through this reach is primarily gravel with cobbles. The low-flow control is a 120-degree sharp-crested weir. The channel becomes the control at high flow.

Rating No. 3 was produced by revising the medium- to high-flow range (above 2.5 ft, or 12 cfs) of Rating No. 2. The revision was based on a slope-area computation for the August 21, 2011, peak flow, replacing the theoretical values of Rating No. 2.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 2 with one variable shift applied. Those days estimated at zero flow were based on precipitation and nearby stations.

Daily Mean Discharge (ft³/s) for E253

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	0	0	0	0	E ^a	E	0	0	0
2	0	0	0	0	0	0	0	E	E	0	0	0
3	0	0	0	0	0	0	0	E	E	0	16.64 ^b	0
4	0 ^b	0	0	0	0	0	0	E	E	0	0	2.53
5	0	0	0	0	0	0	0	E	E	0	0.05	0
6	0 ^b	0	0	0	0	0	0	E	E	0	0	0
7	0	0	0	0	0	0	0	E	E	0	0	0
8	0	0	0	0	0	0	0	E	E	0	0	0
9	0	0	0	0	0	0	0	E	E	0	0	1.77
10	0	0	0	0	0	0	0	E	E	0	0	0.13
11	0	0	0	0	0	0	E	E	E	0	0	0
12	0	0	0	0	0	0	E	E	E	0	0	0
13	0 ^b	0	0	0	0	0	E	E	E	0	0	0
14	0	0	0	0	0	0	E	E	E	0	0	0
15	0	0	0	0	0	0	E	E	E	E	0	0
16	0	0	0	0	0	0	E	E	E	E	0	0
17	0	0	0	0	0	0	E	E	E	E	0	0
18	0	0	0	0	0	0	E	E	E	E	0	0
19	0	0	0	0	0	0	E	E	E	0	0	0
20	0	0	0	0	0	0	E	E	E	0.14	0	0
21	0 ^b	0	0	0	0	0	E	E	E	0	38.28 ^b	0
22	0	0	0	0	0	0	E	E	0	0	0	0
23	0	0	0	0	0	0	E	E	0	0	0	0
24	0	0	0	0	0	0	E	E	0	0	0	0
25	0	0	0	0	0	0	E	E	0	0	0	0
26	0	0	0	0	0	0	E	E	0	0	0	0
27	0	0	0	0	0	0	E	E	0	0.41	0	0
28	0	0	0	0	0	0	E	E	0	0.14	0	0
29	0	0	0	0	— ^c	0	E	E	0	0	0	0
30	0	0	0	0	—	0	E	E	0	0	0	0
31	0	—	0	0	—	0	—	E	—	0	0	—

Daily Mean Discharge (ft³/s) for E253 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	E	0	0.69	55.05	4.43
Total (acre-ft)	0	0	0	0	0	0	0	E	0	1.40	109	8.80
Max Daily Mean	0 ^b	0	0	0	0	0	0	E	0	0.41	38.28 ^b	2.53
Min Daily Mean	0 ^b	0	0	0	0	0	0	E	0	0	0.00 ^b	0
Instantaneous Max	0 ^b	0	0	0	0	0	0	E	0	13.79	1450 ^b	71.33
Instantaneous Min	0 ^b	0	0	0	0	0	0	E	0	0	0.00 ^b	0
Missing Days	0	0	0	0	0	0	20	31	21	4	0	0

Daily Mean Discharge (ft³/s) for E253 (continued)

WY2011	Total	60.17	Mean	0.21	Max	38	Min	0	Instantaneous Max	1450 ^b	Acre-ft	119
CY2010	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0

^a E = Equipment malfunction.^b Reliable estimate.^c — = Not applicable.

E256 CAÑON DE VALLE BELOW MDA P

Location. Lat 35° 51' 01", long 106° 19' 57", Sec. 29, T.19 N., R. 6 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 3.13 mi².

Period of Record. January 24, 2002, to August 21, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger and 24-in. Parshall flume. Elevation of gage is 7329 ft above NGVD from GPS survey.

Average Discharge. 9 yr, 0.45 ft³/s, 328 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 1024 ft³/s, August 21, 2011, estimated with high water mark survey.

Maximum for Current Water Year. Maximum discharge, 1024 ft³/s, August 21, 2011, estimated with high water mark survey.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubble sensor within a 24-in. Parshall flume. The system is powered by a solar panel battery system housed in a NEMA shelter on the left bank. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. An outside staff gage is available for reference. No provision has been made for discharge measurements above the wading stage. During the August 21, 2011, severe storm event, the bubbler line was destroyed along with the shelter, the data logger, and associated ISCO intake suction lines. The gage was deemed unusable.

Fieldwork. The station was visited 18 times to perform inspections, 4 of which were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the inside staff gage gave a complete and satisfactory record, except for the periods of November 18, 19, 22, 23, 2010; November 25 to December 3, 2010; December 5 to 14, 2010; and December 28, 2010, to January 4, 2011, when the equipment malfunctioned; and January 5 to February 20, 2011, when the gage height was affected by ice. August 21, 2011 marks the end of the record.

Rating. The channel is straight for 50 ft upstream and 20 ft downstream from the gage. The streambed consists of sand with gravel and is subject to fill behind flume from flow events and gage silting problems. The banks are covered with vegetation.

Rating No. 1 is based on the 24-in. Parshall flume. The rating curve was extrapolated to accommodate the peak stage of 3.75 ft.

Discharge. Discharge was computed by applying the gage height to Rating No. 1 using variable shift diagrams.

Daily Mean Discharge (ft³/s) for E256

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.03	0.03	I ^a	E ^b	I	I	0.03	0.03	0	0	0	IA ^c
2	0.03	0.02	I	E	I	I	0.03	0.03	0	0	0	IA
3	0.02	0.02	I	E	I	0.03	0.03	0.03	0	0	4.10 ^d	IA
4	0.02	0.02	0.03	E	I	0.03	0.03	0.03	0	0	1.1	IA
5	0.02	0.02	I	I	I	I	0.03	0.02	0	0	2.81 ^d	IA
6	0.02	0.02	I	I	I	I	0.03	0.02	0	0	1.7	IA
7	0.02	0.02	I	I	I	I	0.03	0.02	0	0	0.92	IA
8	0.02	0.02	I	I	I	0.03	0.03	0.02	0	0	0	IA
9	0.02	0.02	I	I	I	I	0.03	0.02	0	0	0	IA
10	0.02	0.03	I	I	I	I	0.03	0.02	0	0	0	IA
11	0.02	0.02	I	I	I	0.03	0.03	0.02	0	0	0	IA
12	0.02	0.02	I	I	I	0.03	0.03	0.02	0	0	0	IA
13	0.02	0.02	I	I	I	0.03	0.03	0.02	0	0	0.01	IA
14	0.02	0.02	I	I	I	0.03	0.03	0.02	0	0	0	IA
15	0.02	0.02	0.03	I	I	0.03	0.03	0.02	0	0	0	IA
16	0.02	0.02	0.03	I	I	0.03	0.03	0.01	0	0	0	IA
17	0.02	0.03	0.06	I	I	0.03	0.03	0.01	0	0	0	IA
18	0.02	I	0.03	I	I	0.03	0.03	0.02	0	0	0	IA
19	0.02	I	0.05	I	I	0.03	0.03	0.02	0	0	0.11	IA
20	0.03	0.03	0.03	I	I	0.03	0.03	0.02	0	0	0.03	IA
21	0.03	0.03	0.03	I	0.03 ^d	0.03	0.03	0.01	0	0	IA ^d	IA
22	0.03	I	0.03	I	0.04	0.03	0.03	0.01	0	0	IA	IA
23	0.03	I	0.03 ^d	I	0.04	0.03	0.03	0.01	0	0	IA	IA
24	0.03	0.03	0.03 ^d	I	0.03	0.03	0.03	0.01	0	0	IA	IA
25	0.03	I	0.03 ^d	I	0.05	0.03	0.03	0.01	0	0	IA	IA
26	0.03	I	0.03 ^d	I	0.03	0.03	0.03	0.01	0	0	IA	IA
27	0.03	I	0.03 ^d	I	0.04	0.03	0.03	0	0	0	IA	IA
28	0.03	I	E	I	I	0.03	0.03	0	0	0.02	IA	IA
29	0.03	I	E	I	— ^e	0.03	0.03	0	0	0	IA	IA
30	0.03	I	E	I	—	0.03	0.03	0	0	0	IA	IA
31	0.03	—	E	I	—	0.03	—	0	—	0	IA	—

Daily Mean Discharge (ft³/s) for E256 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.76	0.52	0.48	I	0.26	0.72	0.90	0.48	0	0.02	10.77	IA
Total (acre-ft)	1.50	1.00	0.95	I	0.52	1.40	1.80	0.95	0	0.04	21	IA
Max Daily Mean	0.03	0.03	0.06 ^d	I	0.04 ^d	0.03	0.03	0.02	0	0	0 ^d	IA
Min Daily Mean	0.02	0.02	0.03 ^d	I	0.03 ^d	0.03	0.03	0	0	0	0 ^d	IA
Instantaneous Max	0.11	0.08	0.61 ^d	I	0.26 ^d	0.08	0.03	0.03	0	0.20	1024 ^d	IA
Instantaneous Min	0.02	0.02	0.02 ^d	I	0 ^d	0.03	0.02	0	0	0	0 ^d	IA
Missing Days	0	10	17	31	21	7	0	0	0	0	11	30

Daily Mean Discharge (ft³/s) for E256 (continued)

WY2011	Total	14.91	Mean	0.063	Max	4.10	Min	0	Instantaneous Max	1024 ^d	Acre-ft	30
CY2010	Total	12.50	Mean	0.042	Max	0.13	Min	0	Instantaneous Max	1.40	Acre-ft	25

^a I = Ice present.^b E = Equipment malfunction.^c IA = Inactive.^d Reliable estimate.^e — = Not applicable.

E257 CAÑON DE VALLE TRIBUTARY AT TA-16 BURN GROUNDS

Location. Lat 35° 50' 47", long 106° 19' 50", Sec. 29, T. 19 N., R. 6 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 0.040 mi².

Period of Record. October 1, 2002, to September 30, 2011.

Revised Record. None.

Gage. Data logger and 12-in. Parshall flume, rain gage with cellular telemetry. Elevation of gage is 7359 ft above NGVD.

Average Discharge. 9 yr, 0.05 ft³/s, 36 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 10 ft³/s, August 21, 2011, gage height 1.8 ft.

Maximum for Current Water Year. Maximum discharge, 10 ft³/s, August 21, 2011, gage height 1.8 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval), a Milltronics sonic probe mounted on a 12-in. Parshall flume, and cellular phone with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. The staff gage in the 12-in. Parshall flume is the reference gage. No provision has been made for discharge measurements above the wading stage.

The station is also equipped with a tipping bucket rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited three times, one of which was to service the instrumentation. One discharge measurement was taken.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for the periods of November 29 to December 2, 2010, when the equipment malfunctioned; December 16 to 22, 2010; December 29, 2010, to January 17, 2011; and February 1 to 6, 2011, when the gage height was affected by ice.

Rating. The channel is straight above and below the gage. It is confined to the main channel by cutbanks on both sides. The bottom is 10 ft wide; the channel is prone to some shifting with vegetation on each bank. The low-water control is the 12-in. Parshall flume.

Rating No. 1 was developed based on the computation of the 12-in. Parshall flume. The PZF is 0.00 gage height.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 1.

Daily Mean Discharge (ft³/s) for E257

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0.01	E ^a	I ^b	I	0	0	0	0	0	0	0
2	0	0.01	E	I	I	0	0	0	0	0	0	0
3	0	0.01	0	I	I	0	0	0	0	0	0	0
4	0 ^c	0.01	0	I	I	0	0	0	0	0	0	0
5	0	0.01	0	I	I	0	0	0	0	0	0	0
6	0 ^c	0.01	0	I	I	0	0	0	0	0	0	0
7	0	0.01	0	I	0.01	0	0	0	0	0	0	0
8	0	0.01	0	I	0	0	0	0	0	0	0	0
9	0	0.01	0	I	0	0	0	0	0	0	0	0
10	0	0.01	0	I	0	0	0	0	0	0	0	0.01
11	0	0.01	0	I	0	0	0	0	0	0	0	0.01
12	0	0.01	0	I	0	0	0	0	0	0	0	0
13	0 ^c	0.01	0	I	0	0	0	0	0	E	0	0
14	0	0.01	0	I	0	0	0	0	0	E	0	0.01
15	0	0.01	0	I	0	0	0	0	0	0	0	0.08
16	0	0.01	I	I	0	0	0	0	0	0	0	0.05
17	0	0	I	I	0	0	0	0	0	0	0	0.04
18	0.01	0.01	I	0	0	0	0	0	0	0	0	0.03
19	0	0.01	I	0	0	0	0	0	0	0	0	0.03
20	0.01	0	I	0	0	0	0	0	0	0	0	0.04
21	0.02 ^c	0.01	I	0	0	0	0	0	0	0	0.48	0.04
22	0.01	0 ^c	I	0	0	0	0	0	0	0	0.03	0.04
23	0.01	0.01	0	0	0	0	0	0	0	0	0	0.04
24	0.01	0	0	0	0	0	0	0	0	0	0	0.04
25	0.01 ^c	0	0	0	0	0	E	0	0	0	0	0.04
26	0.01	0.01	0	0	0	0	0	0	0	0	0	0.02
27	0.01	0.01	0	0	0	0	0	0	0	0	0	0
28	0.01	0.01	0	0	0	0	0	0	0	0	0	0
29	0.01	E	I	0	— ^d	0	0	0	0	0	0	0
30	0.01	E	I	0	—	0	0	0	0	0	0	0
31	0	—	I	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E257 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.15	0.23	0	0	0.01	0	0	0	0	0	0.51	0.52
Total (acre-ft)	0.30	0.46	0	0	0.02	0	0	0	0	0	1.00	1.00
Max Daily Mean	0.02 ^c	0.01 ^c	0	0	0.01	0	0	0	0	0	0.48	0.08
Min Daily Mean	0 ^c	0 ^c	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0.37	0.07 ^c	0.06	0.05	0.06	0.04	0.03	0.03	0	0	9.95	0.43
Instantaneous Min	0 ^c	0 ^c	0	0	0	0	0	0	0	0	0	0
Missing Days	0	2	12	17	6	1	1	0	0	2	0	0

^a E = Equipment malfunction.^b I = Ice present.^c Reliable estimate.^d — = Not applicable.Daily Mean Discharge (ft³/s) for E257 (continued)

WY2011	Total	1.42	Mean	0.004	Max	0.48	Min	0	Instantaneous Max	9.95	Acre-ft	2.80
CY2010	Total	1.63	Mean	0.005	Max	0.08	Min	0	Instantaneous Max	2.0	Acre-ft	3.20

E262 CAÑON DE VALLE ABOVE WATER CANYON

Location. Lat 35° 49' 51", long 106° 18' 14", Sec. 33, T. 19 N., R. 6 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 4.32 mi².

Period of Record. October 1, 1998, to August 21, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger and 90° weir plate. Elevation of gage is 6840 ft above NGVD.

Average Discharge. 13 yr, 0.04 ft³/s, 30 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 1866 ft³/s, August 21, 2011, estimated with high water mark survey.

Maximum for Current Water Year. Maximum discharge, 1866 ft³/s, August 21, 2011, estimated with high water mark survey.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe mounted on a cantilevered 6-in. channel spanning over stream. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for discharge measurements above the wading stage. During the August 21, 2011, severe storm event, the probe and mount were destroyed along with the shelter, the data logger, and associated ISCO intake suction lines. The gage was deemed unusable.

Fieldwork. The station was visited a total of 15 times, 7 of which were to service the instrumentation. One discharge measurement was completed.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for the following exempt periods. From December 8 to 20, 2010; December 24, 2010, to January 6, 2011; and August 3 to 11, 2011, the data logger malfunctioned. On January 31 and February 3 and March 4, 5, 7, and 8, 2011, the gage height was affected by ice. The August 21, 2011, storm marks the end of the record.

Rating. The channel is about 10 ft wide and straight for about 50 ft upstream and straight for about 30 ft downstream. The streambed through this reach is primarily rock with gravel, sand, and cobbles.

Rating No. 1 is based on a theoretical computation for a 90° sharp-crested weir up to a gage height of 2.95 ft. A broad-crested weir computation is used above that stage.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 1.

Daily Mean Discharge (ft³/s) for E262

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0	0	E ^a	I ^b	0	0	0	0	0	0	IA ^c
2	0	0	0	E	I	0	0	0	0	0	0	IA
3	0	0	0	E	I	0	0	0	0	0	E	IA
4	0	0	0	E	0	I	0	0	0	0	E	IA
5	0	0	0	E	0	I	0	0	0	0	E	IA
6	0	0	0	E	0	0	0	0	0	0	E	IA
7	0	0	0	0	0	I	0	0	0	0	E	IA
8	0	0	E	0 ^d	0	I	0	0	0	0	E	IA
9	0	0	E	0	0 ^d	0	0	0	0	0	E	IA
10	0	0	E	0	0 ^d	0	0	0	0	0	E	IA
11	0	0	E	0	0	0	0	0	0	0	E	IA
12	0	0	E	0	0 ^d	0	0	0	0	0	0	IA
13	0	0	E	0	0	0	0	0	0	0	0	IA
14	0	0	E	0	0	0	0	0	0	0	0	IA
15	0	0	E	0	0	0	0	0	0	0	0	IA
16	0	0	E	0	0	0	0	0 ^d	0	0	0	IA
17	0	0	E	0	0	0	0	0	0	0	0	IA
18	0	0	E	0	0	0	0	0	0	0	0	IA
19	0	0	E	0	0	0	0	0	0	0	0	IA
20	0	0	E	0 ^d	0	0	0	0	0	0	0	IA
21	0	0	0	0	0	0	0	0	0	0	IA ^d	IA
22	0	0	0	0	0	0	0	0	0	0	IA	IA
23	0	0	0	0	0	0	0	0	0	0	IA	IA
24	0	0	E	0	0	0	0	0	0	0	IA	IA
25	0	0	E	0	0 ^d	0	0	0	0	0	IA	IA
26	0	0	E	0	0	0	0	0	0	0	IA	IA
27	0	0	E	0	0	0	0	0	0	0	IA	IA
28	0	0	E	0	0	0	0	0	0	0	IA	IA
29	0	0	E	0	— ^e	0	0	0	0	E	IA	IA
30	0	0	E	0 ^d	—	0	0	0	0	E	IA	IA
31	0	—	E	I	—	0	—	0	—	E	IA	—

Daily Mean Discharge (ft³/s) for E262 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0	IA
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	0	IA
Max Daily Mean	0	0	0	0 ^d	0 ^d	0	0	0 ^d	0	0	0	IA
Min Daily Mean	0	0	0	0 ^d	0 ^d	0	0	0 ^d	0	0	0	IA
Instantaneous Max	0	0	0	0.01 ^d	0 ^d	0.01 ^d	0	0 ^d	0	0	1866 ^d	IA
Instantaneous Min	0	0	0	0 ^d	0 ^d	0	0	0 ^d	0	0	0	IA
Missing Days	0	0	21	7	3	4	0	0	0	0	20	30

Daily Mean Discharge (ft³/s) for E262 (continued)

WY2011	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	1866 ^d	Acre-ft	0
CY2010	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0

^a E = Equipment malfunction.^b I = Ice present.^c IA = Inactive.^d Reliable estimate.^e — = Not applicable.

E262.4 PHERMEX

Location. Lat 35° 49' 57", long 106° 17' 47", Sec. 34, T. 19 N., R. 6 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 0.008 mi².

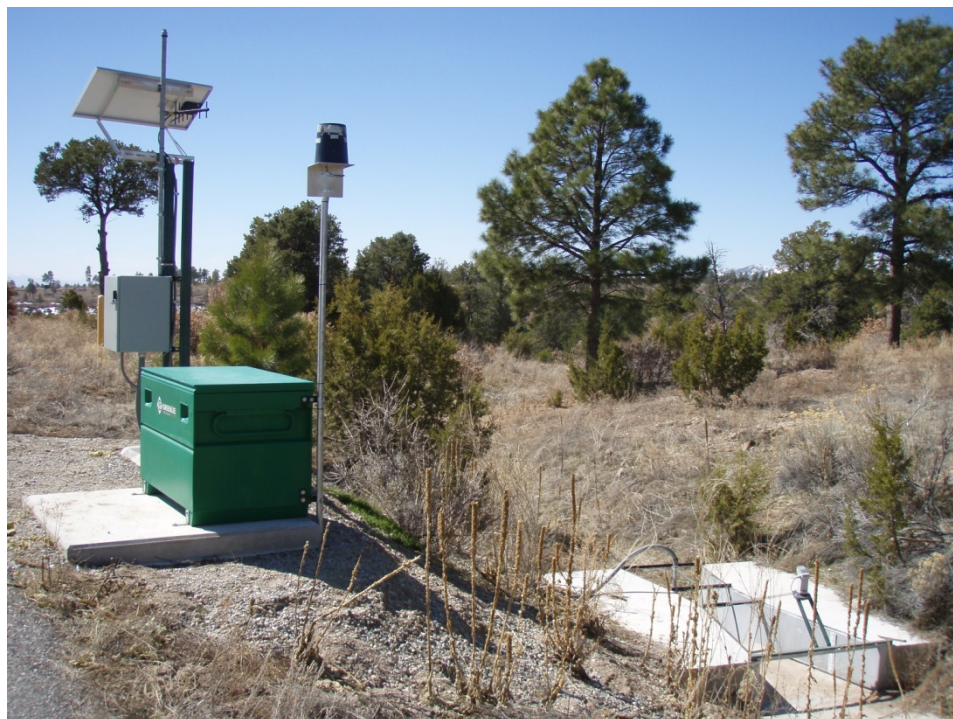
Period of Record. October 1, 2008. to September 30, 2011.

Gage. Data logger and 24-in. Parshall flume, rain gage with cellular telemetry. Elevation of gage is 6998 ft above NGVD.

Average Discharge. 3 yr, 0.15 ft³/s, 110 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 1.5 ft³/s, August 18, 2011, gage height 0.34 ft. No peak discharges above base of 1.0 ft³/s.

Maximum for Current Water Year. Maximum discharge, 1.5 ft³/s, August 18, 2011, gage height 0.34 ft. No peak discharges above base of 1.0 ft³/s.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe mounted on a 24-in. Parshall flume. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. The staff gage in the 24-in. Parshall flume is the reference gage. No provision has been made for discharge measurements above the wading stage.

The station is also equipped with a tipping bucket rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited seven times; two visits were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record, except for the period from December 16, 2010, to February 16, 2011, because of snow and ice.

Rating. The channel is straight above and below the gage. The streambed consists mostly of sand, and the flume is subject to silting after storm events.

Rating No. 1 was developed based on the computation of the 24-in. Parshall flume. The PZF is 0.00 gage height.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 1.

Daily Mean Discharge (ft³/s) for E262.4

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.01 ^a	0 ^a	0	1 ^b	1	0	0	0	0	0	0	0.07
2	0.01 ^a	0	0	1	1	0	0	0	0	0	0.01	0.05
3	0.01 ^a	0	0	1	1	0	0	0.01	0	0	0.07	0.02
4	0 ^a	0	0	1	1	0	0	0	0	0	0.05	0.04
5	0 ^a	0	0	1	1	0	0	0	0	0	0.06	0.05
6	0 ^a	0	0	1	1	0	0	0	0	0	0.04	0.05
7	0 ^a	0	0	1	1	0.02	0.02	0	0	0	0.01	0.05
8	0 ^a	0	0	1	1	0.05	0.03	0	0	0	0	0.02
9	0 ^a	0	0	1	1	0.03	0	0	0	0	0	0.02
10	0	0	0	1	1	0.01	0	0	0	0	0.02	0.07
11	0	0	0	1	1	0	0	0	0	0	0.02	0.04
12	0	0	0	1	1	0	0	0	0	0	0	0.03
13	0 ^a	0	0	1	1	0	0	0	0	0	0.04	0.01
14	0	0	0	1	1	0	0	0	0	0	0.03	0.03
15	0	0	0	1	1	0	0	0	0	0	0.03	0.07
16	0	0 ^a	1	1	1	0	0	0	0	0	0.03	0.06
17	0	0	1	1	0.01	0	0	0	0	0	0.03	0.03
18	0	0	1	1	0.01	0	0	0	0	0	0.08	0.02
19	0	0	1	1	0	0	0	0	0	0	0.05	0
20	0.01 ^a	0	1	1	0	0	0	0	0	0	0.05	0
21	0.02 ^a	0	1	1	0	0	0	0	0	0.01	0.08	0
22	0 ^a	0 ^a	1	1	0	0	0	0	0	0.01	0.04	0
23	0 ^a	0	1	1	0	0	0	0	0	0	0	0
24	0 ^a	0	1	1	0	0	0	0	0	0	0	0
25	0	0	1	1	0	0	0.01	0	0	0.03	0	0
26	0	0	1	1	0	0	0	0	0	0.02	0	0
27	0	0	1	1	0	0	0	0	0	0	0.01	0
28	0	0	1	1	0	0	0	0	0	0	0.05	0
29	0	0	1	1	— ^c	0	0	0	0	0.02	0.04	0
30	0	0	1	1	—	0	0	0	0	0.05	0.01	0
31	0	—	1	1	—	0	—	0	—	0.04	0	—

Daily Mean Discharge (ft³/s) for E262.4 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0.06	0	0	I	0.02	0.11	0.06	0.01	0	0.19	0.88	0.75
Total (acre-ft)	0.12	0	0	I	0.04	0.22	0.12	0.02	0	0.38	1.70	1.50
Max Daily Mean	0.02 ^a	0 ^a	0	I	0.01	0.05	0.03	0.01	0	0.05	0.08	0.07
Min Daily Mean	0 ^a	0 ^a	0	I	0	0	0	0	0	0	0	0
Instantaneous Max	0.23 ^a	0.10 ^a	0.10	I	0.10	0.17	0.17	0.10	0.03	0.36	1.50	1.18
Instantaneous Min	0 ^a	0 ^a	0	I	0	0	0	0	0	0	0	0
Missing Days	0	0	16	31	16	0	0	0	0	0	0	0

^a Reliable estimate.^b I = Ice present.^c — = Not applicable.Daily Mean Discharge (ft³/s) for E262.4 (continued)

WY2011	Total	2.08	Mean	0.007	Max	0.08	Min	0	Instantaneous Max	1.5	Acre-ft	4.1
CY2010	Total	1.17	Mean	0.004	Max	0.08	Min	0	Instantaneous Max	1.3	Acre-ft	2.3

E265 WATER CANYON BELOW SR 4

Location. Lat 35° 48' 18", long 106° 14' 31" Sec. 7, T. 18 N., R. 7 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 13.11 mi².

Period of Record. October 1993 to September 30, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger with cellular telemetry, rain gage and stabilized natural rock control. Elevation of gage is 6309 ft above NGVD from GPS survey.

Average Discharge. 18 yr, 0.03ft³/s, 22 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 2429 ft³/s, August 21, 2011, estimated from high water mark survey.

Maximum for Current Water Year. Maximum discharge, 2429 ft³/s, August 21, 2011, estimated from high water mark survey.



Equipment. The station is equipped with a Sutron 8210 (5-min interval) with a shaft encoder float system (5-min interval) and cellular phone with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter on a 24-in. CMP well. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-in. metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for measurements above the wading stage. During the August 21, 2011, severe storm event, the data logger was destroyed along with shelter and associated ISCO intake suction lines. The gage was deemed unusable and the data logged were irretrievable.

The station is also equipped with a tipping bucket rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited a total of 23 times, 2 of which were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave complete and satisfactory records except after the August 21, 2011, storm event. The station was rebuilt and began running on September 29, 2011.

Rating. The channel is straight for 100 ft above and below the gage. The banks are low and have very little vegetation. The streambed is mostly rock with lenses of sand.

Rating No. 4 was used for the entire water year.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 4.

Daily Mean Discharge (ft³/s) for E265

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	IA ^a
2	0	0	0	0	0	0	0	0	0	0	0	IA
3	0	0	0	0	0	0	0	0	0	0	1.86	IA
4	0	0	0	0	0	0	0	0	0	0	0.02	IA
5	0	0	0	0	0	0	0	0	0	0	0.02	IA
6	0	0	0	0	0	0	0	0	0	0	0.03	IA
7	0	0	0	0	0	0	0	0	0	0	0	IA
8	0	0	0	0	0	0	0	0	0	0	0	IA
9	0	0	0	0	0	0	0	0	0	0	0	IA
10	0	0	0	0	0	0	0	0	0	0	0	IA
11	0	0	0	0	0	0	0	0	0	0	0	IA
12	0	0	0	0	0	0	0	0	0	0	0	IA
13	0	0	0	0	0	0	0	0	0	0	0	IA
14	0	0	0	0	0	0	0	0	0	0	0	IA
15	0	0	0	0	0	0	0	0	0	0	0	IA
16	0	0	0	0	0	0	0	0	0	0	0	IA
17	0	0	0	0	0	0	0	0	0	0	0	IA
18	0	0	0	0	0	0	0	0	0	0	0	IA
19	0	0	0	0	0	0	0	0	0	0	0	IA
20	0	0	0	0	0	0	0	0	0	0	0	IA
21	0	0	0	0	0	0	0	0	0	0	IA ^b	IA
22	0	0	0	0	0	0	0	0	0	0	IA	IA
23	0	0	0	0	0	0	0	0	0	0	IA	IA
24	0	0	0	0	0	0	0	0	0	0	IA	IA
25	0	0	0	0	0	0	0	0	0	0	IA	IA
26	0	0	0	0	0	0	0	0	0	0	IA	IA
27	0	0	0	0	0	0	0	0	0	0	IA	IA
28	0	0	0	0	0	0	0	0	0	0	IA	IA
29	0	0	0	0	— ^c	0	0	0	0	0	IA	IA
30	0	0	0	0	—	0	0	0	0	0	IA	0
31	0	—	0	0	—	0	—	0	—	0	IA	—

Daily Mean Discharge (ft³/s) for E265 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	1.97	0
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	3.90	0
Max Daily Mean	0	0	0	0	0	0	0	0	0	0	1.86	0
Min Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0	0	0	0	0	0	0	0	0	0	2429 ^b	0
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	11	29

Daily Mean Discharge (ft³/s) for E265 (continued)

WY2011	Total	1.97	Mean	0.006	Max	1.90	Min	0	Instantaneous Max	2429 ^b	Acre-ft	3.90
CY2010	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0

^a IA = Inactive.

^b Reliable estimate.

^c — = Not applicable.

E267 POTRILLO CANYON ABOVE SR 4

Location. Lat 35° 48' 48", long 106° 14' 00", Sec. 6, T. 18 N., R. 7 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 2.26 mi².

Period of Record. October 1, 1995, to September 30, 2011.

Revised Record. LA-13551-PR (1998): Station number; drainage area (2006).

Gage. Data logger with cellular telemetry and concrete control. Elevation of gage is 6454 ft above NGVD from GPS survey.

Average Discharge. 16 yr, 0.001 ft³/s, 0.94 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 20 ft³/s, September 7, 2011, gage height 2.0 ft.

Maximum for Current Water Year. Maximum discharge, 20 ft³/s, September 7, 2011, gage height 2.0 ft.



Equipment. The station is equipped with a Sutron 8210 (5-min interval) with a shaft encoder float system (5-min interval) and cellular phone with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter on an 18-in. CMP well. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- \times 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for direct discharge measurements above the wading stage.

Fieldwork. The station was visited 17 times to perform inspections and 6 times to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record for the year.

Rating. The channel is fairly straight for 300 ft above the gage and 150 ft below. The streambed is mostly sand. The brush is fairly thick along the stream bank. The control is a concrete broad-crested weir.

Rating No. 1 is considered good.

The original shape and definition of the rating was derived by computation using weir geometry with slope area used to define peak discharge and slope of the upper end.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 1.

Daily Mean Discharge (ft³/s) for E267

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
2	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
4	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
6	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0.29
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0 ^a	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0.02
17	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0.01	0
19	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	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
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0.08	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	— ^b	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0.22	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E267 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0.22	0.09	0.31
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0.44	0.18	0.61
Max Daily Mean	0	0	0	0	0	0	0	0 ^a	0	0.22	0.08	0.29
Min Daily Mean	0	0	0	0	0	0	0	0 ^a	0	0	0	0
Instantaneous Max	0	0	0	0	0	0	0	0 ^a	0	9.05	3.64	20.41
Instantaneous Min	0	0	0	0	0	0	0	0 ^a	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

^a Reliable estimate.^b — = Not applicable.Daily Mean Discharge (ft³/s) for E267 (continued)

WY2011	Total	0.62	Mean	0.002	Max	0.29	Min	0	Instantaneous Max	20	Acre-ft	1.20
CY2010	Total	0.01	Mean	0	Max	0.01	Min	0	Instantaneous Max	0.63	Acre-ft	0.02

E267.4 TA-36 MINIE SITE

Location. Lat 35° 49' 38", long 106° 16' 36", Sec. 35, T. 19 N., R. 6 E., Ramon Vigil Grant, Santa Fe National Forest.

Drainage Area. 0.061 mi².

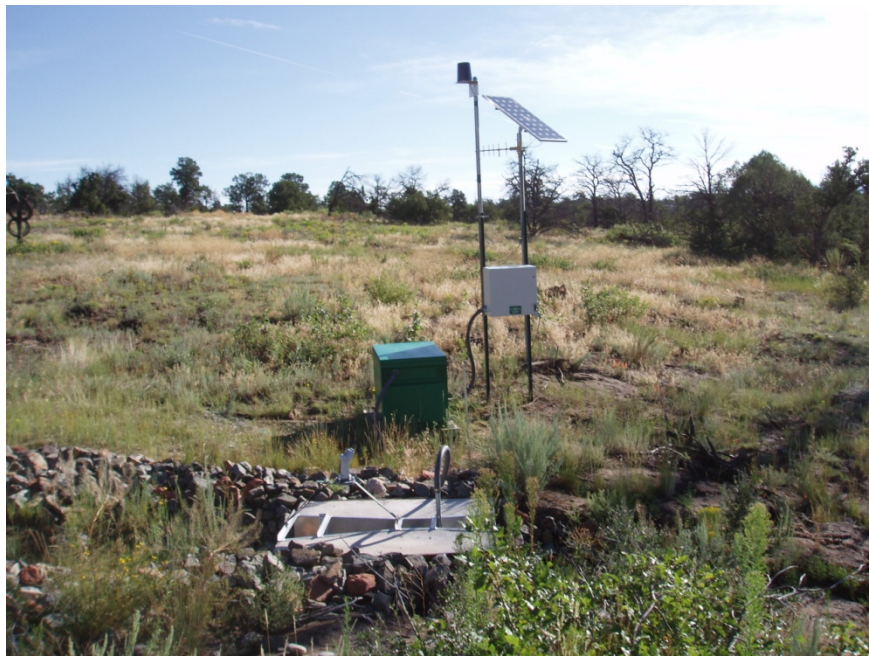
Period of Record. October 1, 2006, to September 30, 2011.

Gage. Data logger and 9-in. Parshall flume, rain gage with cellular telemetry. Elevation of gage is 6858 ft above NGVD.

Average Discharge. 5 yr, 0.03 ft³/s, 22 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 0.28 ft³/s, March 20, 2010, gage height 0.21 ft.

Maximum for Current Water Year. No flow for the year.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe mounted on a 9-in. Parshall flume and cellular phone with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. The staff gage in the 9-in. Parshall flume is the reference gage. No provision has been made for discharge measurements above the wading stage.

The station is also equipped with a tipping bucket rain gage, Rain Collection II. All equipment is powered with a solar panel battery charging system.

Fieldwork. The station was visited once to perform inspections and once to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record except from December 16 to 19, 2010, and December 29, 2010, to February 16, 2011, when the gage height was affected by ice. From April 24, 2011, to the end of the record, the data logger malfunctioned.

Rating. The channel is straight above and below the gage for 100 ft. The channel near the gage is lined with angular rock. The streambed is mostly sand.

Rating No. 1 was developed based on the computation of the 9-in. Parshall flume. The PZF is 0.00 gage height.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 1. Those days estimated at zero flow were based on precipitation and nearby gage stations for verification.

Daily Mean Discharge (ft³/s) for E267.4

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0	0 ^a	0	1 ^b	1	0	0	E ^c	E	E	E	E
2	0	0	0	1	1	0	0	E	E	E	E	E
3	0	0	E	1	1	0	0	E	E	E	E	E
4	0	0	0	1	1	0	0	E	E	E	E	E
5	0	0	0	1	1	0	0	E	E	E	E	E
6	0 ^a	0	0	1	1	0	0	E	E	E	E	E
7	0	0	0	1	1	0	0	E	E	E	E	E
8	0	0	0	1	1	0	0	E	E	E	E	E
9	0	0	0	1	1	0	0	E	E	E	E	E
10	0	0	0	1	1	0	0	E	E	E	E	E
11	0	0	0	1	1	0	0	E	E	E	E	E
12	0	0	0	1	1	0	0	E	E	E	E	E
13	0 ^a	0	0	1	1	0	0	E	E	E	E	E
14	0	0	0	1	1	0	0	E	E	E	E	E
15	0	0	0	1	1	0	0	E	E	E	E	E
16	0	0 ^a	1	1	1	0	0	E	E	E	E	E
17	0	0	1	1	0	0	0	E	E	E	E	E
18	0 ^a	0	1	1	0	0	0	E	E	E	E	E
19	0	0	1	1	0	0	0	E	E	E	E	E
20	0	0	0	1	0	0	0	E	E	E	E	E
21	0 ^a	0	0	1	0	0	0	E	E	E	E	E
22	0	0	0	1	0	0	0	E	E	E	E	E
23	0	0	0	1	0	0	0	E	E	E	E	E
24	0	0	0	1	0	0	E	E	E	E	E	E
25	0 ^a	0	0	1	0	0	E	E	E	E	E	E
26	0 ^a	0	0	1	0	0	E	E	E	E	E	E
27	0	0	0	1	0	0	E	E	E	E	E	E
28	0	0	0	1	0	E	E	E	E	E	E	E
29	0	0	1	1	— ^d	0	E	E	E	E	E	E
30	0	0	1	1	—	0	E	E	E	E	E	E
31	0	—	1	1	—	0	—	E	—	E	E	—

Daily Mean Discharge (ft³/s) for E267.4 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	I	0	0	0	E	E	E	E	E
Total (acre-ft)	0	0	0	I	0	0	0	E	E	E	E	E
Max Daily Mean	0 ^a	0 ^a	0	I	0	0	0	E	E	E	E	E
Min Daily Mean	0 ^a	0 ^a	0	I	0	0	0	E	E	E	E	E
Instantaneous Max	0 ^a	0 ^a	0	I	0	0	0	E	E	E	E	E
Instantaneous Min	0 ^a	0 ^a	0	I	0	0	0	E	E	E	E	E
Missing Days	0	0	8	31	16	1	7	31	30	31	31	30

^a Reliable estimate.^b I = Ice present.^c E = Equipment malfunction.^d — = Not applicable.Daily Mean Discharge (ft³/s) for E267.4 (continued)

WY2011	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0
CY2010	Total	0.03	Mean	0	Max	0.03	Min	0	Instantaneous Max	0.28	Acre-ft	0.06

E275 ANCHO CANYON BELOW SR 4

Location. Lat 35° 46' 54", long 106° 14' 42", Sec. 19, T. 18 N., R. 7 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 4.75 mi².

Period of Record. December 1993 to September 30, 2011.

Revised Record. Drainage area (2006)

Gage. Data logger with cellular telemetry and concrete stabilized natural control. Elevation of gage is 6190 ft above NGVD from GPS survey.

Average Discharge. 18 yr, 0.012 ft³/s, 8.7 acre-ft/yr.

Maximum for Period of Record. Maximum discharge, 536 ft³/s, August 4, 2008, estimated from high water mark survey.

Maximum for Current Water Year. Maximum discharge, 6.3 ft³/s, August 27, 2011, gage height 1.4 ft.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) with a shaft encoder float system (5-min interval) and cellular telemetry with speech modem. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with an ISCO pump sampler to collect water-quality samples. The ISCO sampler is housed in a separate shelter, a 3- × 4-ft metal box. The sampler is triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for measurements above the wading stage.

Fieldwork. The station was visited 18 times to perform inspections; 1 visit was to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside gage gave a complete and satisfactory record for the year.

Rating. The streambed is a series of outcrops and sand pockets with moderate sand movement during flow events. The high-water channel is straight for 200 ft upstream. Flow below the gage becomes supercritical as the fall increases radically below the station. A channel a quarter-mile upstream has very low banks and may spread out to large widths. It contracts markedly from there to the gage. The control is a natural rock outcrop stabilized by concrete.

Rating No. 1 was developed from the PZF and previous measurement and slope area.

Discharge. Discharge was computed by directly applying the gage height to Rating No. 1.

Daily Mean Discharge (ft³/s) for E275

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
2	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
4	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
6	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
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	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
18	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
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0.09	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	—*	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E275 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0.09	0
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	0.18	0
Max Daily Mean	0	0	0	0	0	0	0	0	0	0	0.09	0
Min Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0	0	0	0	0	0	0	0	0	0	6.25	0
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

*— = Not applicable.

Daily Mean Discharge (ft³/s) for E275 (continued)

WY2011	Total	0.09	Mean	0	Max	0.09	Min	0	Instantaneous Max	6.3	Acre-ft	0.18
CY2010	Total	0.10	Mean	0	Max	0.06	Min	0	Instantaneous Max	2.4	Acre-ft	0.20

E338 CHAQUEHUI AT TA-33

Location. Lat 35° 46' 11", long 106° 15' 7", Sec. 19, T. 18 N., R. 7 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 12.18 mi².

Period of Record. October 1, 1999, to January 8, 2001; October 4, 2001, to September 30, 2011.

Revised Record. None.

Gage. Data logger. Elevation of gage is 6265 ft above NGVD.

Average Discharge. Not available.

Maximum for Period of Record. October 5, 2005. Gage height 1.4 ft.

Maximum for Current Water Year. No flow for the year.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Milltronics sonic probe. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with two ISCO samplers (one 12-count 1-L glass and polyethylene bottle sampler and one 24-count 1-L polyethylene bottle sampler) to collect water-quality samples. The ISCO samplers are housed in a separate 3- × 4-ft metal box. The samplers are triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for measurements above the wading stage. All high-flow measurements will be by slope-area or critical-depth computation methods.

Fieldwork. The station was visited 17 times to perform inspections. Four of the visits were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the inside staff gage gave a complete and satisfactory record.

Rating. The channel makes a 30-degree turn approximately 25 ft upgrade from the staff plate and then runs straight downgrade for 80 ft. The channel is confined by steep cutbanks on both sides that should remain stable with flows confined within the channel. The channel bottom is approximately 4 ft wide and made up of fine sand and pumice cobble. The control is the open channel.

No rating curve is available for this station.

Discharge. No flow.

Daily Mean Discharge (ft³/s) for E338

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
2	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
4	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
6	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
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	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
18	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
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	—*	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E338 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0	0
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	0	0
Max Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Min Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

*— = Not applicable.

Daily Mean Discharge (ft³/s) for E338 (continued)

WY2011	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0
CY2010	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0

E340 CHAQUEHUI TRIBUTARY AT TA-33

Location. Lat 35° 46' 46", long 106° 15' 1", Sec. 19, T. 18 N., R. 7 E., Ramon Vigil Grant, Los Alamos County.

Drainage Area. 1.33 mi².

Period of Record. February 7, 2001, to October 14, 2003, and May 14, 2004, to September 30, 2011.

Revised Record. None.

Gage. Cellular telemetry and data logger. Elevation of gage is 6435 ft above NGVD.

Average Discharge. Not available. No rating curve.

Maximum for Period of Record. August 19, 2006. Gage height 1.1 ft.

Maximum for Current Water Year. No flow for the year.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) and a Sutron Accubar bubbler sensor. The data logger is equipped with cellular speech modem telemetry. The system is powered by a solar panel battery system housed in a NEMA shelter. The station is equipped with two ISCO samplers (one 12-count 1-L glass and polyethylene bottle sampler and one 24-count 1-L polyethylene bottle sampler) to collect water-quality samples. The ISCO samplers are housed in a separate 3- × 4-ft metal box. The samplers are triggered by stage through the data logger. An outside staff gage is available for reference. No provision has been made for measurements above the wading stage. All high-flow measurements will be by slope-area or critical-depth computation methods.

Fieldwork. The station was visited 21 times to perform inspections. Three of the visits were to service the instrumentation.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the inside staff gage gave a complete and satisfactory record, except for the periods of November 29 to 30, 2010, April 25 to May 2, 2011, and May 23 to June 1, 2011, because the equipment malfunctioned.

Rating. The channel zigzags downgrade while dropping off low bedrock shelves into sandy bottoms both above and below the gage station. The channel maintains approximately a 3-ft width while being contained by soil banks that may erode with heavy flows but remain stable with low flows. The control is a bedrock open channel and is very stable at the staff plate.

No rating curve is available for this station.

Discharge. No flow.

Daily Mean Discharge (ft³/s) for E340

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
2	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
4	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
6	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
8	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	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
18	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
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	—*	0	0	0	0	0	0	0
30	0	0	0	0	—	0	0	0	0	0	0	0
31	0	—	0	0	—	0	—	0	—	0	0	—

Daily Mean Discharge (ft³/s) for E340 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	0	0	0	0	0	0	0	0	0	0	0	0
Total (acre-ft)	0	0	0	0	0	0	0	0	0	0	0	0
Max Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Min Daily Mean	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Max	0	0	0	0	0	0	0	0	0	0	0	0
Instantaneous Min	0	0	0	0	0	0	0	0	0	0	0	0
Missing Days	0	0	0	0	0	0	0	0	0	0	0	0

Daily Mean Discharge (ft³/s) for E340 (continued)

WY2011	Total	0	Mean	0	Max	0	Min	0	Instantaneous Max	0	Acre-ft	0
CY2010	Total	—	Mean	—	Max	—	Min	0	Instantaneous Max	—	Acre-ft	—

*— = Not applicable.

E350 RITO DE LOS FRIJOLES AT BANDELIER

Location. Lat 35° 46' 37", long 106° 16' 09", Sec. 23, T. 18 N., R. 6 E., Ramon Vigil Grant, Sandoval County, in Bandelier National Monument.

Drainage Area. 18.35 mi².

Period of Record. July 1963 to September 1969; July 1977 to September 1982; May 1993 to September 1996; and October 1998 to August 8, 2011.

Revised Record. Drainage area (2006).

Gage. Data logger and concrete control. Elevation of gage is 6046 ft above NGVD from GPS survey.

Average Discharge. 12 yr, 1.3 ft³/s, 934 acre-ft/yr.

Extremes for Period of Record. Maximum discharge according to the U.S. Army Corps estimate 4500 ft³/s, on August 21, 2011. Minimum discharge, 0 ft³/s, multiple dates during water year 2011.

Extremes for Current Water Year. Maximum discharge according to the U.S. Army Corps estimate 4500 ft³/s, August 21, 2011. Minimum discharge, 0 ft³/s, multiple dates.



Equipment. The station is equipped with a Sutron 8210 data logger (5-min interval) with a shaft encoder float system (5-min interval) housed in a 3- × 4-ft metal shelter over a 24-ft CMP stilling well on the right bank. An outside staff gage is available for reference. Wading measurements are made 30 to 40 ft upstream from the gage. High-flow measurements can be made from the bridge 200 ft upstream of the gage. During the August 21, 2011, severe storm event, the shelter was destroyed along with the data logger. The gage was deemed unusable and data logged were irretrievable.

Fieldwork. The station was visited a total of six times to perform inspections. Two visits were to service the instrumentation. One discharge measurement was completed.

Datum Correction. None.

Gage-Height Record. The data logger referenced to the outside staff gage gave a complete and satisfactory record for the year except for the period from August 8 to September 30, 2011, because of flood damage from the August 21, 2011, storm event.

Rating. The channel is about 10 ft wide and straight for about 150 ft upstream and downstream of the gage. The low-water control is a concrete tapered notch with a low point on the right bank. The channel bed through this reach is composed of gravel and cobbles and should be stable. The vegetation is grasses and is fairly sparse.

Rating No. 5 was developed based on the measurements and the slope conveyance measurement. The shifts were distributed based on time. Rating No. 5 is considered good.

Discharge. Discharge was computed by applying the gage height to Rating No. 5 through a shift based on time.

Daily Mean Discharge (ft³/s) for E350

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	0.62	0.86	0.78	0.60	0.87	0.92	0.81	0.68	0.38	0.10	1.06	IA ^a
2	0.67	0.86	1.14	0.68	1.51	0.93	0.81	0.82	0.37	0.17	1.07	IA
3	1.33	0.86	1.07	0.65	6.15	0.94	0.79	0.82	0.36	0.23	3.09	IA
4	1.11	0.86	1.06	0.71	3.32	0.93	0.80	0.74	0.34	0.24	1.23	IA
5	0.95	0.89	1.06	0.95	1.91	0.93	0.81	0.66	0.33	0.22	3.78	IA
6	0.89	0.88	1.02	1.28	1.23	0.93	0.79	0.63	0.33	0.22	1.22	IA
7	0.82	0.86	1.00	1.37	1.04	0.95	0.89	0.59	0.32	0.23	1.11	IA
8	0.78	0.86	0.99	1.38	1.07	0.99	0.85	0.56	0.32	0.25	IA	IA
9	0.77	0.86	0.99	1.15	1.04	0.93	0.79	0.55	0.32	0.27	IA	IA
10	0.76	0.90	1.00	1.07	0.99	0.93	0.78	0.55	0.32	0.27	IA	IA
11	0.77	0.93	1.00	1.37	0.99	0.93	0.79	0.59	0.32	0.28	IA	IA
12	0.76	0.93	0.98	1.06	0.98	0.93	0.77	0.60	0.31	0.31	IA	IA
13	0.76	0.93	0.99	1.04	1.00	0.92	0.74	0.56	0.16	0.30	IA	IA
14	0.77	0.98	0.99	1.05	1.05	0.93	0.70	0.54	0.09	0.31	IA	IA
15	0.75	1.00	0.99	1.01	1.05	0.93	0.72	0.53	0.08	0.31	IA	IA
16	0.72	0.99	1.04	1.00	1.07	0.92	0.70	0.51	0.07	0.28	IA	IA
17	0.73	0.97	0.96	1.03	1.12	0.90	0.69	0.50	0.03	0.28	IA	IA
18	0.78	0.93	1.13	1.07	1.07	0.88	0.65	0.51	0.03	0.28	IA	IA
19	0.78	0.95	1.11	1.05	1.12	0.87	0.63	0.58	0.02	0.28	IA	IA
20	0.81	0.98	1.11	1.01	1.12	0.86	0.64	0.61	0.02	0.83	IA	IA
21	1.15	0.93	1.06	0.98	1.01	0.84	0.61	0.56	0.06	0.59	IA	IA
22	0.96	0.93	1.11	0.97	1.00	0.85	0.60	0.52	0.05	2.21	IA	IA
23	0.90	0.96	1.13	0.94	0.98	0.88	0.62	0.49	0.01	1.52	IA	IA
24	0.86	1.00	1.08	0.93	0.98	0.88	0.66	0.48	0	0.89	IA	IA
25	0.85	0.98	1.06	0.94	0.97	0.85	0.68	0.47	0	9.50	IA	IA
26	0.86	0.68	1.06	0.94	0.99	0.85	0.69	0.45	0	1.26 ^b	IA	IA
27	0.89	0.82	1.06	0.93	0.95	0.84	0.70	0.42	0	1.08	IA	IA
28	0.89	1.04	1.06	0.96	0.92	0.66	0.68	0.40	0	1.07	IA	IA
29	0.90	1.04	1.05	0.97	— ^c	0.51	0.64	0.38	0	1.09	IA	IA
30	0.90	0.80	1.10	0.96	—	0.79	0.60	0.37	0.01	1.18	IA	IA
31	0.86	—	0.55	0.97	—	0.80	—	0.38	—	1.13	IA	—

Daily Mean Discharge (ft³/s) for E350 (continued)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total (ft³/s)	26.26	27.38	31.92	30.98	37.32	27.20	21.63	17.05	4.65	27.24	12.6	IA
Total (acre-ft)	52	54	63	61	74	54	43	34	9.20	54	25	IA
Max Daily Mean	1.33	1.04	1.14	1.38	6.15	0.99	0.89	0.82	0.38	9.50	3.78	IA
Min Daily Mean	0.62	0.68	0.55	0.60	0.87	0.51	0.60	0.37	0	0.10	1.06	IA
Instantaneous Max	1.70	1.32	1.26	4.82	14.4	1.44	1.00	0.86	0.40	330	4500 ^b	IA
Instantaneous Min	0.47	0.54	0.47	0.43	0.62	0.47	0.54	0.37	0	0	0.93	IA
Missing Days	0	0	0	0	0	0	0	0	0	0	24	30

^a IA = Inactive.^b Reliable estimate.^c — = Not applicable.Daily Mean Discharge (ft³/s) for E350 (continued)

WY2011	Total	264.23	Mean	0.85	Max	9.50	Min	0	Instantaneous Max	4500 ^b	Acre-ft	524
CY2010	Total	619.98	Mean	1.71	Max	35	Min	0.33	Instantaneous Max	46	Acre-ft	1230

ABBREVIATIONS, ACRONYMS, AND GLOSSARY

Acre-foot (acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233.49 cubic meters.

CMP is corrugated metal pipe.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross-section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal used to regulate the flow or stage of the stream or to prevent the intrusion of saltwater.

Cubic feet per second (ft³/s, cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second; it is equivalent to 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meters per second.

Calendar year (cy) refers to the period from January 1 to December 31.

Discharge is the volume of water (or more broadly, the volume of fluid, including suspended sediment) that passes a given point within a given period of time.

Drainage area (DA) of a stream at a specified location is that area measured in a horizontal plane and enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of DA given herein include all closed basins, or noncontributing areas, within the area, unless otherwise noted.

Gage height (GH) is the water-surface elevation referred to in some arbitrary gage data. GH is often used interchangeably with the more general term “stage,” although GH is more appropriate when used with a reading on a gage.

Gage station is a particular site on a stream, canal, lake, or reservoir in which systematic observations of hydrologic data are obtained.

GPS is an abbreviation for global positioning system.

HWM is an abbreviation for high-water mark.

Instantaneous discharge (Inst) is the discharge at a particular instant of time.

ISCO is a reference to Teledyne ISCO, Inc., automated sampler manufacture.

LANL is the acronym for Los Alamos National Laboratory.

LiDAR DEM is an abbreviation for Light Detection and Ranging Digital Elevation Model.

Mean discharge (Mean) is the arithmetic mean of individual daily mean discharges during a specific period.

NCOM is the northern community meteorological tower located in Los Alamos.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada. It was formerly called Sea Level Datum of 1929, or “mean sea level,” in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific coasts, it does not necessarily represent the local mean sea level at any particular place.

NEMA is the abbreviation for National Electrical Manufacturers Association.

North American Datum of 1983 (NAD 83) is the official horizontal datum for use in the North and Central American geodetic networks. Based on the Geodetic Reference System 1980 ellipsoid, it was developed using satellite and remote sensing imagery and is the default datum used at LANL and most GPS units today.

NPDES is the abbreviation for National Pollution Discharge Elimination System.

PJMT is Pajarito Mountain meteorological tower located in Los Alamos County.

Point of Zero Flow (PZF) is the gage height at which no flow occurs.

Reference Point (RP) is a permanent gage height reference used to calibrate stage measurements.

SR means “State Road” and is the old name for NM 4, NM 501 and NM 502. It appears in gage station names.

Stage see **Gage Height**.

Stage-discharge relationship is the relation between the water-surface elevation, termed “gage height,” and the volume of water flowing in a channel per unit of time.

Stream flow is the discharge that occurs in a natural channel.

SWSC is an abbreviation for sanitary wastewater systems consolidation.

TA is the abbreviation for technical area.

USGS is the abbreviation for U.S. Geological Survey.

Water year (WY) in reports dealing with surface water supply is the 12-mo period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1980, is called the “1980 water year.”

Water data report (WDR) is the USGS report that provides the methodology used for data collection.

Waste Water Treatment Plant (WWTP) is the acronym used for the Los Alamos County Wastewater Treatment Plant located in TA-74 in Pueblo Canyon.