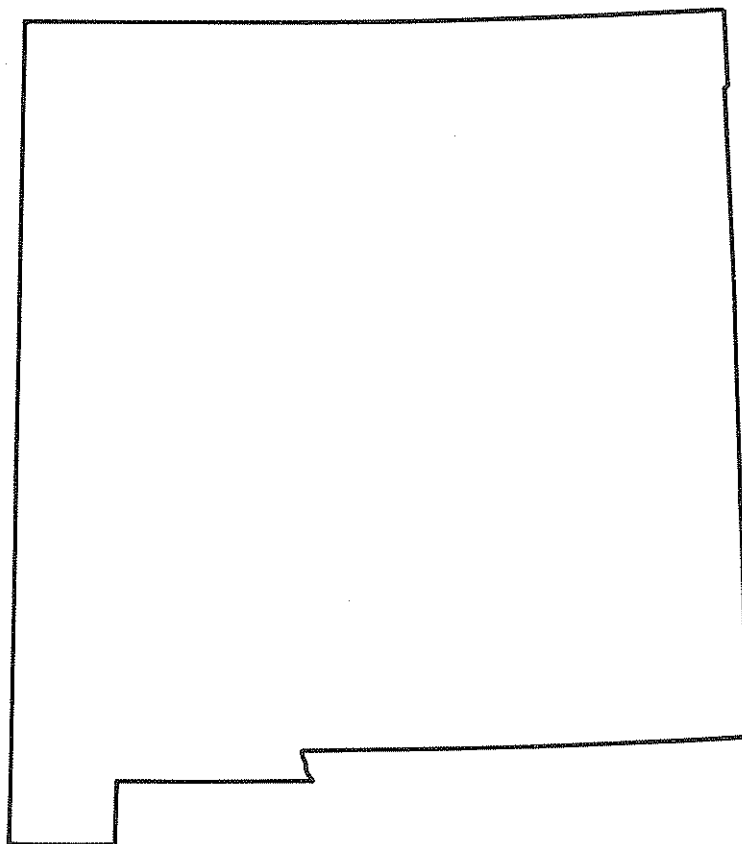


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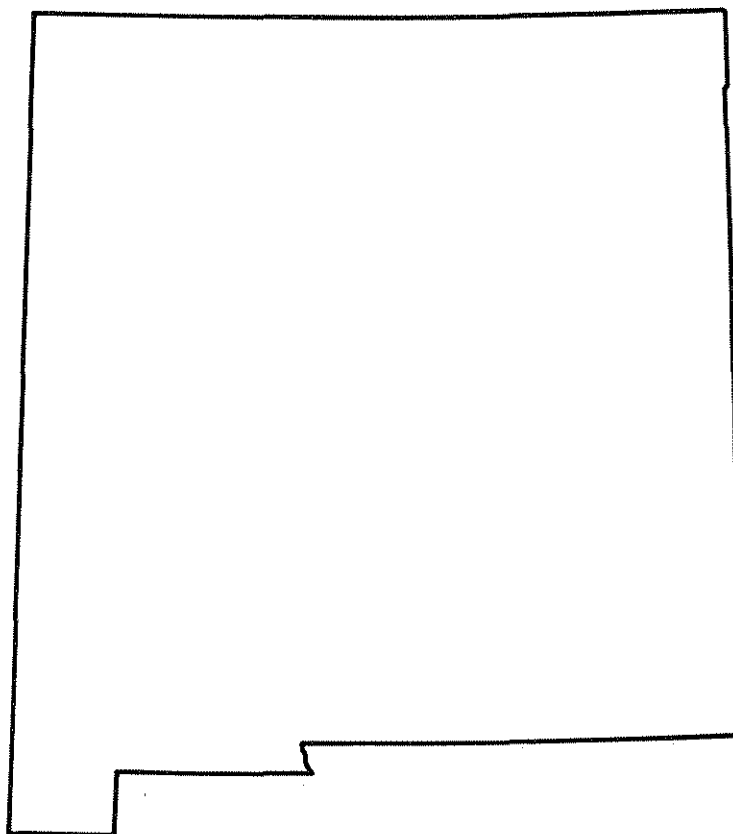
U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NM-89-1
Prepared in cooperation with the State of New Mexico
and with other agencies

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Water Resources Data New Mexico Water Year 1989

by J.P. Borland, R.K. DeWees, R.L. McCracken, R.L. Lepp, D. Ortiz,
and D.A. Shaul



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT NM-89-1
Prepared in cooperation with the State of New Mexico
and with other agencies

DEPARTMENT OF THE INTERIOR
MANUEL LUJAN, JR., Secretary

U.S. GEOLOGICAL SURVEY
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1990

PREFACE

This annual hydrologic data report of New Mexico is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and water quality provide the hydrologic information needed by Federal, State, and local agencies and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for New Mexico are contained in this volume.

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. The authors had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines. The following individuals contributed significantly to the completion of the report:

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This report was prepared in cooperation with the State of New Mexico and other agencies under the supervision of Russell K. Livingston, District Chief, New Mexico, and James F. Blakey, Regional Hydrologist, Central Region.

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD-90/276	2.	3. Recipient's Accession No.
4. Title and Subtitle Water Resources Data -- New Mexico Water Year 1989		5. Report Date April 1990	
7. Author(s) J.P. Borland, R.K. DeWees, R.L. McCracken, R.L. Lepp, D. Ortiz, and D.A. Shaul		6.	
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division Pinetree Office Park 4501 Indian School Rd. NE, Suite 200 Albuquerque, New Mexico 87110		8. Performing Organization Rept. No. USGS-WRD-NM-89-1	
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division Pinetree Office Park 4501 Indian School Rd. NE, Suite 200 Albuquerque, New Mexico 87110		10. Project/Task/Work Unit No.	
15. Supplementary Notes Prepared in cooperation with the State of New Mexico and with other agencies.		11. Contract(C) or Grant(G) No. (C) (G)	
16. Abstract (Limit: 200 words) Water-resources data for the 1989 water year for New Mexico consist of records of discharge and water quality of streams; stage, contents and water quality of lakes and reservoirs; and water levels and water quality in wells and springs. This report contains discharge records for 166 gaging stations; stage and contents for 26 lakes and reservoirs; water quality for 56 gaging stations and 84 wells; and water levels at 104 observation wells. Also included are 108 crest-stage partial-record stations. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. Also, 2 seepage investigations are published this year. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in New Mexico.		13. Type of Report & Period Covered Annual - Oct. 1, 1988 to Sept. 30, 1989	
14.			
17. Document Analysis a. Descriptors *New Mexico, *Hydrologic data, *Surface water, *Water quality, Flow rates, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperatures, Sampling sites, Water levels, Water analyses. b. Identifiers/Open-Ended Terms c. COSATI Field/Group			
18. Availability Statement No restrictions on distributions This report may be purchased from: National Technical Information Service, Springfield, Virginia 22162		19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 426
		20. Security Class (This Page) UNCLASSIFIED	22. Price

CONTENTS

	Page
Preface.....	iii
List of surface-water stations, in downstream order, for which records are published.....	vi
List of ground-water wells, by county, for which records are published.....	ix
Introduction.....	1
Cooperation.....	1
Summary of hydrologic conditions.....	2
Streamflow.....	2
Surface-water quality.....	2
Ground-water levels.....	3
Special networks and programs.....	3
Explanation of the records.....	6
Station identification numbers.....	6
Downstream-order system.....	6
Latitude-longitude system.....	6
Local well numbers.....	7
Records of stage and water discharge.....	7
Data collection and computation.....	7
Data presentation.....	7
Identifying estimated daily discharge.....	9
Accuracy of the records.....	9
Other data available.....	9
Records of surface-water quality.....	9
Classification of records.....	9
Arrangement of records.....	10
On-site measurements and sample collection.....	10
Water temperature.....	10
Sediment.....	10
Laboratory measurements.....	10
Data presentation.....	11
Remark codes.....	11
Records of ground-water levels.....	11
Data collection and computation.....	11
Data presentation.....	12
Records of ground-water quality.....	12
Data collection and computation.....	12
Data presentation.....	13
Access to WATSTORE data.....	13
Parameter codes.....	13
Definition of terms.....	14
Publications on techniques of water-resources investigations.....	20
Hydrologic-data station records.....	25
Discharge at partial-record stations and miscellaneous sites.....	341
Red River seepage investigation.....	353
Rio Grande seepage investigation.....	354
Analyses of samples collected at water-quality partial-record stations.....	356
Analyses of samples collected at miscellaneous sites.....	377
Ground-water levels.....	383
Quality of ground water.....	412
Index.....	423

FIGURES

Figure 1. Areas of 5-year ground-water-level monitoring in New Mexico showing years measured or scheduled for measurement.....	4
2. Ground-water-level trends for last 20 years or period of record.....	5
3. System for numbering wells, springs, and miscellaneous sites.....	6
4. Map of New Mexico showing location of hydrologic units.....	22
5. Map of New Mexico showing location of surface-water gaging stations.....	23
6. Map of New Mexico showing location of water-quality gaging stations.....	24
7. Map of New Mexico showing location of partial-record stations.....	340
8. Map of New Mexico showing location of observation wells.....	382

TABLES

Calendar for water year 1989.....	inside front cover
Factors for converting inch-pound units to International System (SI) units.....	inside back cover

[Letters after station name designate type of data: (c) chemical, (d) discharge, (e) elevation, stage, or contents, (m) microbiological, (s) sediment, (t) water temperature]

LOWER MISSISSIPPI RIVER BASIN

Page

Mississippi River:	
ARKANSAS RIVER BASIN	
Arkansas River:	
Canadian River:	
Chicorica Creek:	
Lake Maloya near Raton (e).....	25
Lake Alice near Raton (e).....	26
Vermejo River at Vermejo Park (d).....	27
Eagle Tail Ditch near Maxwell (d).....	30
Vermejo River near Dawson (d).....	31
Vermejo Ditch near Colfax (d).....	32
Vermejo River near Maxwell (d).....	33
Cimarron River:	
Eagle Nest Lake:	
Moreno Creek at Eagle Nest (d).....	34
Cieneguilla Creek near Eagle Nest (d).....	35
Sixmile Creek near Eagle Nest (d).....	36
Eagle Nest Lake near Eagle Nest (e).....	37
Cimarron River below Eagle Nest Dam (d).....	38
Cimarron River near Cimarron (c,d,s).....	39
Ponil Creek near Cimarron (c,d,s).....	42
Rayado Creek at Sauble Ranch, near Cimarron (c,d,s).....	44
Cimarron River at Springer (d).....	46
Canadian River near Taylor Springs (d).....	47
Mora River at La Cueva (c,d,s).....	48
Mora River near Golondrinas (d).....	50
Coyote Creek near Golondrinas (d).....	51
Mora River near Shoemaker (d).....	52
Canadian River near Sanchez (c,d,m,s).....	53
Conchas River at Variadero (d).....	56
Conchas Lake at Conchas Dam (e).....	58
Conchas Canal below Conchas Dam (d).....	57
Canadian River:	
Ute Creek near Logan (d).....	59
Ute Reservoir near Logan (c,e,m,s).....	60
Canadian River at Logan (d).....	63
Reuelto Creek near Logan (c,d).....	64

WESTERN GULF OF MEXICO BASINS

RIO GRANDE BASIN	
Rio Grande near Lobatos, CO (c,d,s).....	66
Costilla Creek above Costilla Dam (d).....	69
Costilla Reservoir:	
Casias Creek near Costilla (d).....	70
Santistevan Creek near Costilla (d).....	71
Costilla Creek below Costilla Dam (d).....	72
Costilla Creek near Costilla (d).....	73
Costilla Creek at Garcia, CO (d).....	74
Principal diversions from Costilla Creek (d).....	75
Rio Grande near Cerro (d).....	76
Red River near Questa (d).....	77
Cabresto Creek near Questa (d).....	78
Red River below Fish Hatchery, near Questa (d).....	79
Rio Hondo near Valdez (d).....	80
Rio Grande near Arroyo Hondo (d).....	81
Rio Pueblo de Taos near Taos (d).....	82
Rio Lucero near Arroyo Seco (c,d,m).....	83
Rio Grande del Rancho near Talpa (d).....	86
Rio Pueblo de Taos below Los Cordovas (c,d,s).....	87
Rio Grande below Taos Junction Bridge, near Taos (c,d,m,s).....	90
Embudo Creek at Dixon (c,d).....	93
Rio Grande at Embudo (d).....	95
Rio Chama near La Puente (c,d,s).....	96
Willow Creek:	
Azotea Creek:	
Azotea Tunnel at Outlet, near Chama (d).....	98
Willow Creek above Heron Reservoir, near Los Ojos (d).....	99
Heron Reservoir:	
Horse Lake Creek above Heron Reservoir, near Los Ojos (d).....	100
Heron Reservoir near Los Ojos (e).....	101
Willow Creek below Heron Dam (d).....	102
El Vado Reservoir near Tierra Amarilla (e).....	103
Rio Chama below El Vado Dam (d).....	104
Rio Chama above Abiquiu Reservoir (d).....	105
Abiquiu Reservoir near Abiquiu (e).....	106
Rio Chama below Abiquiu Dam (d).....	107
Rio Ojo Caliente at La Madera (d).....	108
Rio Chama near Chamita (c,d,s).....	109

WESTERN GULF OF MEXICO BASINS

	Page
RIO GRANDE BASIN - Continued	
Santa Cruz River at Cundiyo (d).....	112
Rio Grande at Santa Clara (c,s).....	113
Santa Clara Creek near Espanola (d).....	115
Rio Nambé (head of Pojoaque River):	
Nambé Falls Reservoir near Nambé (e).....	116
Rio Nambé below Nambé Falls Dam, near Nambé (d).....	117
Rio Grande at Otowi Bridge, near San Ildefonso (c,d,m,s,t).....	118
Cochiti Lake:	
Santa Fe River:	
McClure Reservoir near Santa Fe (e).....	124
Santa Fe River near Santa Fe (d).....	125
Nichols Reservoir near Santa Fe (e).....	126
Santa Fe River above Cochiti Lake (c,d,s).....	127
Cochiti Lake near Cochiti Pueblo (c,e,m,s).....	129
Rio Grande below Cochiti Dam (d).....	132
Galisteo Reservoir near Cerrillos (e).....	133
Galisteo Creek below Galisteo Dam (d).....	134
Rio Grande at San Felipe (c,d,m,s).....	135
Jemez River:	
Jemez River below East Fork, near Jemez Springs (d).....	138
Rio Guadalupe at Box Canyon, near Jemez (d).....	139
Jemez River near Jemez (c,d,s).....	140
Jemez Canyon Reservoir near Bernalillo (e).....	143
Jemez River below Jemez Canyon Dam (d).....	144
Rio Grande:	
North Floodway Channel:	
Campus Wash at Albuquerque (d).....	145
North Floodway Channel at Albuquerque (d).....	146
North Floodway Channel near Alameda (d).....	147
Rio Grande near Alameda (d).....	148
Rio Grande at Albuquerque (c,d,s,t).....	149
Tramway Floodway Channel at Albuquerque (d).....	154
Tijeras Arroyo at Montessa Park near Albuquerque (d).....	155
Tijeras Arroyo near Albuquerque (d).....	156
South Diversion Channel near Albuquerque (d).....	157
Rio Grande at Isleta (c,m,s).....	158
Rio Grande Conveyance Channel near Bernardo (d).....	160
Rio Grande Floodway near Bernardo (c,d,s,t).....	161
Bernardo Interior Drain near Bernardo (d).....	166
Rio Puerco above Arroyo Chico, near Guadalupe (d,s).....	167
Bluewater Creek (head of Rio San Jose):	
Bluewater Lake near Bluewater (c,e).....	170
Rio San Jose at Grants (d).....	172
Grants Canyon at Grants (d).....	173
Rio San Jose near Grants (c,d,m,s).....	174
Rio Pagueate below Jackpile Mine near Laguna (c,d).....	177
Rio San Jose at Correo (d).....	179
Rio Puerco near Bernardo (d,s).....	180
Socorro Main Canal North at San Acacia (d).....	183
Rio Grande Conveyance Channel at San Acacia (c,d,s).....	184
Rio Grande Floodway at San Acacia (c,d,m,s,t).....	188
Rio Grande Conveyance Channel at San Marcial (c,d,m,s,t).....	194
Rio Grande Floodway at San Marcial (c,d,s,t).....	200
Elephant Butte Reservoir at Elephant Butte (e).....	204
Rio Grande below Elephant Butte Dam (d).....	205
Caballo Reservoir near Arrey (e).....	206
Rio Grande below Caballo Dam (d).....	207
Rio Grande at El Paso, TX (c,m,s).....	208
Rio Grande below Old Fort Quitman, TX (c,m,s).....	210
Pecos River:	
Rio Mora near Terrero (c,d,m,s).....	212
Pecos River near Pecos (d).....	215
Ticolote Creek below Wright Canyon near El Porvenir (d).....	216
Pecos River near Anton Chico (d).....	217
Gallinas Creek near Montezuma (d).....	218
Gallinas River near Colonias (d).....	219
Pecos River above Canon del Uta, near Colonias (d).....	220
Pecos River above Santa Rosa Lake (c,d,m,s).....	221
Santa Rosa Lake:	
Los Esteros Creek above Santa Rosa Lake (d).....	224
Los Esteros Creek Tributary above Santa Rosa Lake (d).....	225
Santa Rosa Lake near Santa Rosa (e).....	226
Pecos River below Santa Rosa Dam (d).....	228
Pecos River at Santa Rosa (c,d).....	229
Pecos River near Puerto de Luna (c,d,m,s).....	231
Lake Sumner near Fort Sumner (e).....	234
Pecos River below Sumner Dam (d).....	236
Fort Sumner Main Canal near Fort Sumner (d).....	237

WESTERN GULF OF MEXICO BASINSRIO GRANDE BASIN - Continued

Pecos River near Acme (c,d,s).....	238
Rio Ruidoso (head of Rio Hondo):	
Rio Ruidoso at Hollywood (c,d,m,s).....	241
Eagle Creek below South Fork, near Alto (d).....	244
Rio Hondo at Diamond A Ranch, near Roswell (d).....	245
Two Rivers Reservoir near Roswell (e).....	246
Rio Hondo below Diamond A Dam, near Roswell (d).....	247
Rio Hondo at Roswell (d).....	248
Pecos River near Hagerman (d).....	249
Pecos River near Lake Arthur (d).....	250
Pecos River near Artesia (c,d,m,s,t).....	251
Rio Penasco at Dayton (d).....	256
Pecos River (Kaiser Channel) near Lakewood (d).....	257
Lake McMillan:	
Fourmile Draw near Lakewood (d).....	258
Lake McMillan near Lakewood (e).....	259
South Seven Rivers near Lakewood (d).....	261
Brantley Lake near Carlsbad (e).....	262
Pecos River below Brantley Dam near Carlsbad (c,d).....	264
Rocky Arroyo at Highway Bridge, near Carlsbad (d).....	266
Pecos River at Damsite 3, near Carlsbad (d).....	267
Lake Avalon:	
Carlsbad Main Canal at Head, near Carlsbad (d).....	268
Lake Avalon near Carlsbad (e).....	269
Pecos River below Avalon Dam (d).....	271
Dark Canyon Draw at Carlsbad (d).....	272
Pecos River below Dark Canyon Draw, at Carlsbad (c,d).....	273
Black River above Malaga (d).....	275
Pecos River near Malaga (c,d).....	276
Pecos River at Pierce Canyon Crossing, near Malaga (c,d).....	278
Pecos River at Red Bluff (c,d,m,s).....	280
Delaware River near Red Bluff (d).....	283
Red Bluff Reservoir near Orla, TX (e).....	284
MIMBRES RIVER BASIN	
Mimbres River at Mimbres (d).....	285
TULAROSA VALLEY BASIN	
Tularosa Creek near Bent (c,d,m,s).....	286
SALT BASIN	
Sacramento River near Sunspot (d).....	289

COLORADO RIVER BASINColorado River:SAN JUAN RIVER BASIN

San Juan River near Carracas, CO (d).....	290
Navajo Reservoir:	
Piedra River near Arboles, CO (d).....	291
Los Pinos River at La Boca, CO (d).....	292
Spring Creek at La Boca, CO (d).....	293
Navajo Reservoir near Archuleta (e).....	294
San Juan River near Archuleta (c,d).....	295
Animas River near Cedar Hill (c,d,m,s).....	297
Animas River at Farmington (c,d,m,s,t).....	300
San Juan River at Farmington (d).....	305
La Plata River at Colorado-New Mexico State Line (d).....	306
La Plata River near Farmington (d).....	307
San Juan River near Fruitland (c).....	308
Shumway Arroyo near Waterflow (d).....	309
Chaco Wash (head of Chaco River):	
Chaco Wash at Chaco Culture National Monument (d).....	310
Chaco River near Waterflow (c,d,s).....	311
San Juan River at Shiprock (c,d,m,s).....	314
San Juan River at Four Corners, CO (c,d).....	317

LITTLE COLORADO RIVER BASINZuni River:

Rio Nutria near Ramah (c,d,s).....	319
Zuni River above Black Rock Reservoir (c,d,s).....	321
Zuni River at New Mexico-Arizona State line (d).....	325

Puerco River:

Foster Canyon near Continental Divide (d).....	326
Sixmile Canyon near Fort Wingate (d).....	327

GILA RIVER BASIN

Gila River near Gila (d).....	328
Mogollon Creek near Cliff (c,d,m,s).....	329
Gila River near Redrock (c,d,m,s).....	332
San Francisco River near Reserve (d).....	337
Tularosa River above Aragon (d).....	338
San Francisco River near Glenwood (d).....	339

GROUND-WATER LEVELS			Page
<u>BERNALILLO COUNTY</u>			
WELL 350256106390801	Local number	10N.03E.32.314.....	383
WELL 350304106383401	Local number	10N.03E.32.421.....	383
<u>CHAVES COUNTY</u>			
WELL 334645104344501	Local number	07S.23E.23.244.....	383
WELL 332615104303601	Local number	10S.24E.21.212.....	384
WELL 332255104360401	Local number	11S.23E.03.342.....	384
WELL 331930104261001	Local number	11S.25E.29.34333.....	384
WELL 332200104270001	Local number	12S.25E.09.422.....	384
WELL 331525104245201	(formerly 331205104245101)	Local number 12S.25E.23.344...	385
WELL 331524104245101	Local number	12S.25E.23.344A.....	385
WELL 331216104241701	Local number	13S.25E.12.311.....	385
WELL 331002104254701	(formerly 331002104272001)	Local number 13S.25E.27.211...	386
WELL 330700104402501	Local number	14S.23E.08.144.....	386
WELL 330640104174501	Local number	14S.26E.12.433B.....	386
WELL 330404104221201	Local number	14S.26E.30.444.....	387
WELL 325845104295501	Local number	15S.24E.25.433.....	387
<u>CIBOLA COUNTY</u>			
WELL 350400107510501	Local number	10N.10W.26.331.....	387
WELL 350925107523001	Local number	11N.10W.27.241.....	388
WELL 351400107524201	Local number	12N.10W.29.434.....	388
WELL 351650107535001	Local number	12N.11W.09.424.....	388
<u>COLFAX COUNTY</u>			
WELL 364500104031501	Local number	29N.27E.16.222.....	388
<u>COSTILLA COUNTY (COLORADO)</u>			
WELL 370009105410001	Local number	01N.74W.33.322.....	389
<u>CURRY COUNTY</u>			
WELL 342358103093601	Local number	02N.36E.15.111.....	389
WELL 342815103270001	Local number	03N.34E.23.433.....	389
WELL 343743103201501	Local number	05N.34E.21.443.....	389
WELL 343615103123801	Local number	05N.35E.35.313.....	390
<u>DONA ANA COUNTY</u>			
WELL 322210106483001	Local number	22S.01E.26.411.....	390
WELL 321620106461501	Local number	23S.02E.31.213.....	390
<u>EDDY COUNTY</u>			
WELL 325510104410001	Local number	16S.23E.15.323.....	391
WELL 325735104360701	Local number	16S.24E.04.23123.....	391
WELL 325712104314501	Local number	16S.25E.06.313.....	391
WELL 325638104274801	Local number	16S.25E.11.111A.....	391
WELL 325445104253501	Local number	16S.26E.19.211.....	392
WELL 324831104435701	Local number	17S.23E.30.13244.....	392
WELL 324620104255001	(formerly 324624104244501)	Local number 18S.26E.06.442A..	392
WELL 324620104255101	Local number	18S.26E.06.442B.....	393
WELL 324325104233001	Local number	18S.26E.28.122.....	393
WELL 323540104233201	Local number	20S.26E.08.1211.....	393
WELL 322637104142301	(formerly 322652104141901)	Local number 21S.26E.36.221...	394
WELL 322640104165801	Local number	21S.27E.32.112.....	394
WELL 322712104074501	(formerly 322710104073901)	Local number 21S.28E.30.141...	394
WELL 322120104151501	Local number	22S.26E.25.3333 (formerly 22S.26E.36.111A).	395
WELL 322231104131001	Local number	22S.27E.22.421.....	395
WELL 321741104204901	(formerly 321721104204801)	Local number 23S.25E.24.213...	395
WELL 321930104113301	Local number	23S.27E.09.211.....	396
WELL 320602104285201	Local number	25S.24E.27.421.....	396
WELL 320257104295201	Local number	26S.24E.09.441.....	396
<u>GRANT COUNTY</u>			
WELL 324600108222501	Local number	18S.15W.11.323.....	396
<u>GUADALUPE COUNTY</u>			
WELL 350414104485101	Local number	10N.20E.28.2214.....	397
<u>HARDING COUNTY</u>			
WELL 355352104054201	Local number	19N.27E.05.334.....	397
WELL 360340104085001	Local number	21N.26E.03.4443.....	397
<u>HIDALGO COUNTY</u>			
WELL 324053108594101	Local number	19S.21W.03.414.....	397
WELL 321848108391401	Local number	23S.18W.12.333.....	398
WELL 321540108514101	Local number	23S.20W.25.422.....	398
WELL 321257108331201	Local number	24S.17W.14.442.....	398
WELL 315645108493501	Local number	27S.19W.20.343.....	398
WELL 315010108570001	Local number	28S.21W.30.222.....	399
WELL 313502108275001	Local number	31S.16W.33.233.....	399
WELL 312938108302301	Local number	32S.16W.30.134.....	399
<u>LEA COUNTY</u>			
WELL 331740103285001	Local number	12S.34E.11.421.....	399
WELL 330400103193401	Local number	14S.36E.32.121.....	400
WELL 325730103213901	(formerly 325703103213201)	Local number 16S.36E.04.322...	400
WELL 325658103200001	Local number	16S.37E.11.111.....	400
WELL 324947103371001	Local number	17S.33E.13.341.....	400
WELL 325132103112501	Local number	17S.38E.07.111A.....	401
WELL 324745103082001	Local number	17S.38E.34.113.....	401
<u>LINCOLN COUNTY</u>			
WELL 333242105340701	Local number	09S.14E.10.132.....	401
WELL 332145105333001	Local number	11S.14E.15.432.....	401
WELL 332157105094101	Local number	11S.18E.15.333.....	402

GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED

GROUND-WATER LEVELS			Page
<u>LUNA COUNTY</u>			
WELL 322930107221001	Local number	21S.05W.08.444.....	402
WELL 321352107493901	Local number	24S.10W.12.431.....	402
WELL 321415107565501	Local number	24S.11W.14.122.....	402
WELL 321015107260501	Local number	25S.06W.02.111.....	403
WELL 320915104294501	Local number	25S.06W.07.211.....	403
WELL 315525107374501	Local number	27S.08W.35.122.....	403
WELL 315905107425001	Local number	27S.09W.01.431.....	403
WELL 314938107371401	Local number	28S.08W.36.411.....	404
<u>MORA COUNTY</u>			
WELL 354840104590301	Local number	18N.18E.01.333.....	404
<u>OTERO COUNTY</u>			
WELL 330324106011201	Local number	14S.10E.31.144.....	404
WELL 320657105061501	Local number	25S.18E.21.233.....	405
WELL 320650105034801	Local number	26S.18E.21.331.....	405
<u>QUAY COUNTY</u>			
WELL 343810103463001	Local number	05N.30E.18.331.....	405
WELL 344350103553001	Local number	06N.28E.24.233.....	405
<u>ROOSEVELT COUNTY</u>			
WELL 341037103254501	Local number	01S.33E.36.23111.....	406
WELL 340740103145501	Local number	02S.35E.23.111.....	406
WELL 335655103032001	Local number	06S.38E.21.233.....	406
<u>SANDOVAL COUNTY</u>			
WELL 352235106282401	Local number	13N.04E.12.112.....	407
<u>SANTA FE COUNTY</u>			
WELL 350525106025001	Local number	10N.08E.13.133.....	407
WELL 350340106005001	Local number	10N.09E.29.130.....	407
WELL 354005105574501	Local number	17N.09E.27.441.....	408
<u>SIERRA COUNTY</u>			
WELL 331002107150001	Local number	13S.04W.21.213.....	408
WELL 325550107184001	Local number	15S.05W.24.312.....	408
WELL 325350107175501	Local number	16S.05W.25.211.....	408
<u>TAOS COUNTY</u>			
WELL 365036105355301	Local number	30N.13E.18.1121.....	409
WELL 365650105370001	Local number	01S.74W.24.244.....	409
WELL 365410105354501	Local number	02S.73W.05.222.....	409
<u>TORRANCE COUNTY</u>			
WELL 343443106024401	Local number	04N.09E.07.334.....	409
WELL 344016106064701	Local number	05N.08E.08.424.....	410
WELL 344234106074901	Local number	06N.08E.32.212.....	410
WELL 344622105575501	Local number	06N.09E.11.211.....	410
WELL 345900106034301	Local number	09N.08E.24.334.....	410
<u>UNION COUNTY</u>			
WELL 360940103083501	Local number	19N.36E.23.244.....	411
WELL 361015103075201	Local number	22N.36E.05.131.....	411
WELL 361910103170501	Local number	24N.36E.17.244.....	411
WELL 364430103595501	Local number	29N.28E.18.341.....	411

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with Federal, State, and local agencies, obtains a large quantity of data pertaining to the water resources of New Mexico each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - New Mexico."

Water resources data for the current year for New Mexico consist of records of discharge and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground water. This report contains discharge records for 166 gaging stations (1 of which measures only low flow); stage and contents for 26 lakes and reservoirs; water quality for 56 gaging stations, 15 partial-record stations, 2 reservoirs, 1 spring, 8 miscellaneous sampling sites, and 84 wells; and water levels at 104 observation wells. Also included are 108 crest-stage partial-record stations. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements. Two seepage investigations were made during the year. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating Federal, State, and local agencies in New Mexico.

Data on stream discharge and stage, and on lake and reservoir contents and stage were first published in a series of U.S. Geological Survey Water-Supply Papers entitled "Surface water supply of the United States." Through September 30, 1960, these Water-Supply Papers were in an annual series, then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperature, and suspended sediment were published from 1941 to 1970 in an annual series of Water-Supply Papers entitled "Quality of surface waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of Water-Supply Papers entitled "Ground-water levels in the United States." Water-Supply Papers generally are available in the libraries of the principal cities of the United States or may be purchased from U.S. Geological Survey, Books and Open-File Reports, Federal Center, Building 810, Box 25425, Denver, Colorado 80225.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports for each State. Water-quality records for water years 1964 through 1974 were similarly released in separate reports. Beginning with the 1975 water year, data for streamflow, water quality, and ground water were combined in reports published annually for each State. These reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report NM-89-1." These Water-Data Reports are for sale by the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151.

COOPERATION

The U.S. Geological Survey and State and local agencies have had joint-funding agreements for the collection of streamflow records since 1930 and for water-quality records since 1940. Organizations that assisted in collecting the data in this report through joint-funding agreements with the Survey are:

New Mexico State Engineer Office, S.E. Reynolds, State Engineer.

New Mexico Interstate Stream Commission, S.E. Reynolds, Secretary.

Pecos River Commission, W.E. Hale, Federal representative and Chairman;
Walter Gerrells, Commissioner for New Mexico;
B.L. Moody, Commissioner for Texas.

New Mexico State Highway and Transportation Department, Dewey Lonsberry, Secretary.

Canadian River Municipal Water Authority, John C. Williams, General Manager.

Costilla Creek Compact Commission, S.E. Reynolds, Commissioner for New Mexico;
J.A. Danielson, Commissioner for Colorado.

Albuquerque Metropolitan Arroyo Flood Control Authority, L.A. Blair,
Executive Engineer.

City of Albuquerque, Louis E. Saavedra, Mayor.

City of Gallup, Edward Munoz, Mayor.

City of Raton, M.A. Baker, Mayor.

City of Ruidoso, Frank Potter, Manager.

Financial assistance for the collection of water resources data published in this report was provided by the Corps of Engineers, U.S. Army, for 28 gaging stations; by the Bureau of Reclamation, U.S. Department of Interior, for 5 gaging stations; by the Bureau of Indian Affairs, U.S. Department of Interior, for 17 gaging stations; and by the Bureau of Land Management, U.S. Department of Interior, for 1 gaging station.

Assistance in the form of services was provided by the Carlsbad Irrigation District.

Some data have been collected by contractors in accordance with U.S. Geological Survey specifications and under Geological Survey quality control. Organizations that provided data are recognized in the station description.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow

Perennial streams in New Mexico generally are in mountainous regions in the north-central, south-central, and southwestern parts of the State. Other perennial streams include the San Juan and Animas Rivers in northwestern New Mexico, which originate in the San Juan Mountains of southwestern Colorado. During natural conditions, several reaches of the Pecos River south of Santa Rosa have perennial flow that is maintained by relatively large spring discharges. Large discharges in perennial streams normally are the result of spring snowmelt in the mountains, which may last several months.

Ephemeral streams are present in the remainder of the State. Some of these streams, such as the Rio Puerco, have deeply incised channels, whereas others, especially those on the eastern plains, are swales without any well-defined channel. Large discharges in ephemeral streams generally are caused by intense, short-duration thunderstorms (normally occurring from mid-June to mid-October); the discharge usually lasts for only a few hours.

Hydrologic conditions during the 1989 water year reflected a general lack of precipitation within the State. The effect of the less-than-normal precipitation on decreased streamflow and reservoir storage became more pronounced with time. However, though conditions were dry, they did not approach record-setting levels.

Streamflow within New Mexico has been near or greater than normal since 1979. At the beginning of the 1989 water year, recorded discharges in the State's streams were greater than normal. Discharges recorded in October on the Pecos (station 08378500) and Animas (station 09364500) Rivers were 236 and 115 percent of normal, respectively. During the subsequent winter period, snowpack, a major contributor to springtime streamflow, was generally near or less than normal. Streamflow at some recording gages decreased slightly in November, but recovered to greater-than-normal levels in December. The general lack of precipitation was not reflected in most of the State's streams until a major decrease in streamflow occurred between April and May. The main exception to this trend was the Gila River (station 09430500) in the southwestern part of the State where streamflow decreased dramatically between February, when discharge was 145 percent of normal, and March, when discharge was only 89 percent of normal. After May, streams in all areas of the State were flowing at rates considerably less than normal. In June the Pecos River near Pecos had only 36 percent of normal flow and the Gila River near Gila had decreased to 61 percent of normal flow. At this point the citizens of New Mexico were bracing for record low streamflows; however, increased rainfall in June and July prevented further decreases in flows. By the end of the water year streamflows had recovered slightly to near normal.

Discharge for water year 1989 at four index streamflow-gaging stations compared with median annual discharge for water years 1951-80 at the same stations is listed below:

Station number	Station name	Median annual discharge for water years 1951-80, in acre-feet	Discharge for water year 1989, in acre-feet	1989 discharge as a percentage of median
08276500	Rio Grande below Taos Junction Bridge	388,700	440,000	113
08378500	Pecos River near Pecos	56,090	50,180	89
08408500	Delaware River near Red Bluff	7,570	2,110	28
09430500	Gila River near Gila	79,950	64,800	81

Reservoir storage of the State's surface waters began the 1989 water year at high levels, but decreased during the year because of less-than-normal precipitation. The recorded storage at three of the State's reservoirs, Elephant Butte, Caballo, and Conchas, reflects this trend. The combined storage of Elephant Butte and Caballo Reservoirs was 84 percent of capacity in October. Storage remained near this level until August when it decreased to 73 percent of capacity. Similarly, storage at Conchas Reservoir was 85 percent of capacity in October; it maintained this level until May, then dropped to 73 percent of normal. Storage remained near the May level until the end of the water year.

The combined storage of 12 major reservoirs in the State decreased by 486,900 acre-feet during water year 1989, totaling 4,272,000 acre-feet by September 30, 1989. The total combined capacity of these reservoirs is 7,574,000 acre-feet.

Surface-Water Quality

Dissolved-solids concentrations in water at selected streamflow-gaging stations were near normal throughout the State during the water year. Median values of specific conductance for water year 1989 at selected daily stations compared with median values of specific conductance for water years 1979-88 at the same stations are listed below:

Station number	Station name	Median specific conductance, in microsiemens per centimeter at 25 °Celsius, for water years 1979-88	Median specific conductance, in microsiemens per centimeter at 25 °Celsius, for water year 1989	1989 median as a percentage of 1979-88 median
08313000	Rio Grande at Otowi Bridge	321	357	111
08330000	Rio Grande at Albuquerque	400	427	107
08358300	Rio Grande CC at San Marcial	953	962	101
08358400	Rio Grande FW at San Marcial	590	620	105
08396500	Pecos River near Artesia	7,460	8,170	110
09364500	Animas River at Farmington	596	567	95

Suspended-sediment loads for water year 1989 at three index stations compared with median suspended-sediment loads for water years 1974-83 at the same stations are listed below:

Station number	Station name	Median suspended-sediment load for water years 1974-83, in tons	Suspended-sediment load for water year 1989, in tons	1989 load as a percentage of 1974-83 median
08313000	Rio Grande at Otowi	1,497,000	1,048,268	70
08330000	Rio Grande at Albuquerque	949,500	168,916	18
08396500	Pecos River near Artesia	333,100	204,762	61

Ground-Water Levels

Ground-water levels are measured periodically in a network of about 6,000 observation wells in order to record changes in ground-water storage. Water levels in about 1,200 wells are measured annually and the remaining 4,800 wells are scheduled to be measured at 5-year intervals, so that wells in different areas are measured each year (fig. 1). The areas of water-level measurements are in eight of the nine major surface-water drainage basins; most are in areas where ground water is used in large quantities for irrigation, municipal, or industrial purposes. Seventeen selected wells in various parts of the State are equipped with continuous water-level recorders.

Hydrographs of water levels in wells (fig. 2) in the four quadrants of the State illustrate the water-level trends for the last 20 years. A decrease in ground-water withdrawals for agriculture and mining operations may be responsible for the general rise in water levels in the well in Cibola County. The wells in Luna, Union, and Chaves Counties are in areas of intensive irrigation. The water level in the recorder well in Luna County (Mimbres Valley) remained about the same as in the previous year, but continued to be higher than the average for the past 20 years. The water level in the well in Union County continued to decline, which is typical of wells on the High Plains of northeastern New Mexico. The water level in the recorder well in Chaves County has yearly fluctuations that are typical of water levels in wells in the Roswell artesian basin. The water levels in the vicinity of this well have also risen since the mid-1970's, probably resulting from both a decrease in withdrawals for irrigation and an increase in recharge to the aquifer.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network includes 57 stations in small drainage basins around the country whose purpose is to provide hydrologic data for basins in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station, streamflow and water quality, may be used to separate effects of the natural from human-induced changes in other basins that have been developed, and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin. Included in this program are stations 08377900 (Rio Mora near Terrero), and 09430600 (Mogollon Creek near Cliff).

National Stream-Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in national or regional water-quality planning and management. The 500 or so stations in NASQAN generally are located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey in consultation with the Water Resources Council. The objectives of NASQAN are: (1) To obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting; (2) to describe the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs; (3) to detect changes or trends with time in the pattern of occurrence of water-quality characteristics; and (4) to provide a nationally consistent data base useful for water-quality assessment and hydrologic research. Included in this network are stations 07221500 (Canadian River near Sanchez), 08251500 (Rio Grande near Lobatos, Colo.), 08313000 (Rio Grande at Otowi Bridge, near San Ildefonso), 08358300 (Rio Grande Conveyance Channel at San Marcial), 08358400 (Rio Grande Floodway at San Marcial), 08364000 (Rio Grande at El Paso, Tex.), 08370500 (Rio Grande below Old Fort Quitman, Tex.), 08382650 (Pecos River above Santa Rosa Reservoir), 08407500 (Pecos River near Red Bluff), 08481500 (Tularosa Creek near Bent), 09364500 (Animas River at Farmington), 09368000 (San Juan River at Shiprock), and 09431500 (Gila River near Redrock).

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States. Included in this program are stations 08313000 (Rio Grande at Otowi Bridge, near San Ildefonso), 08358300 (Rio Grande Conveyance Channel at San Marcial), 08358400 (Rio Grande Floodway at San Marcial), 08377900 (Rio Mora near Terrero), 09368000 (San Juan River at Shiprock), 09430600 (Mogollon Creek near Cliff), and 09431500 (Gila River near Redrock).

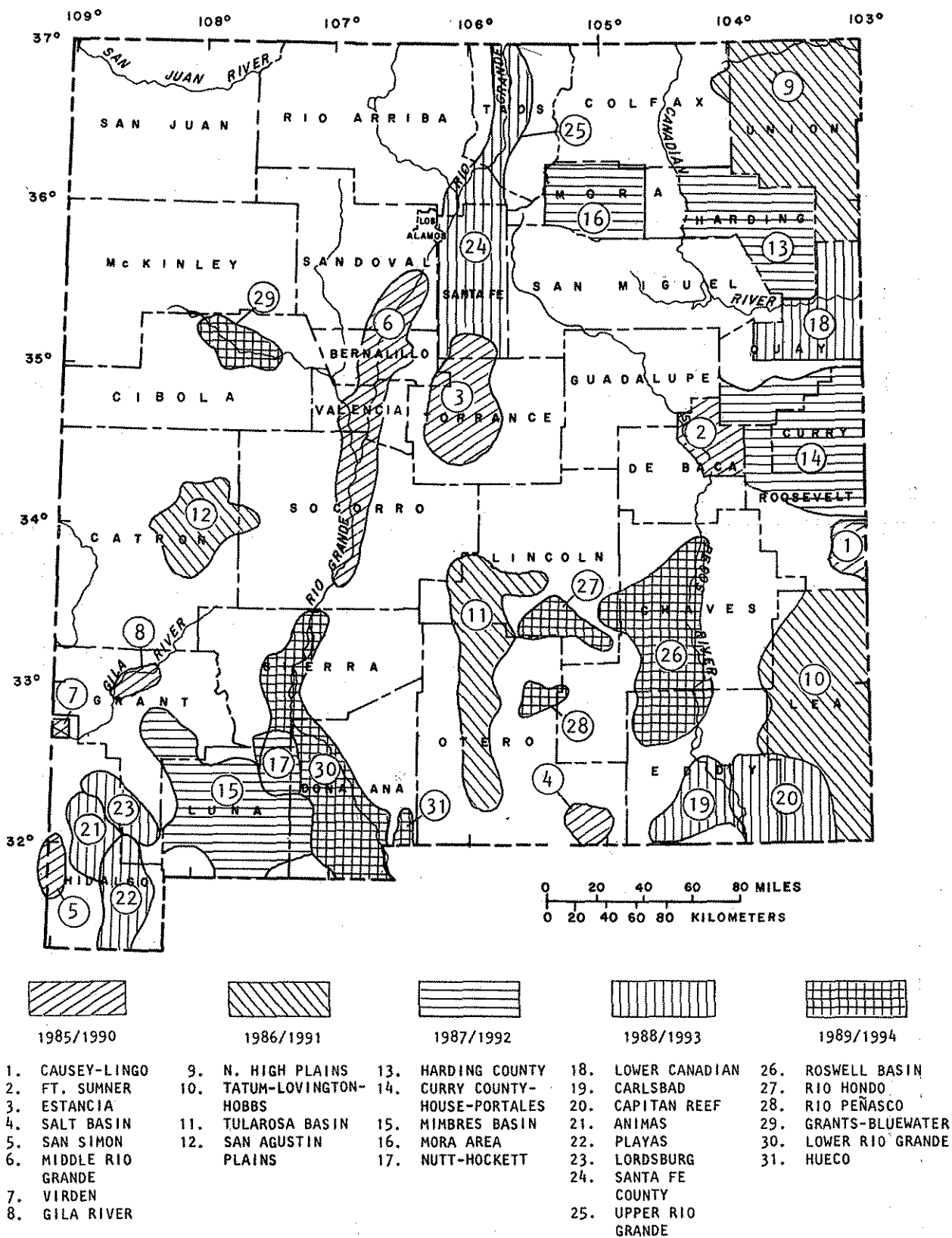


Figure 1.--Areas of 5-year ground-water-level monitoring and years measured or scheduled for measurement.

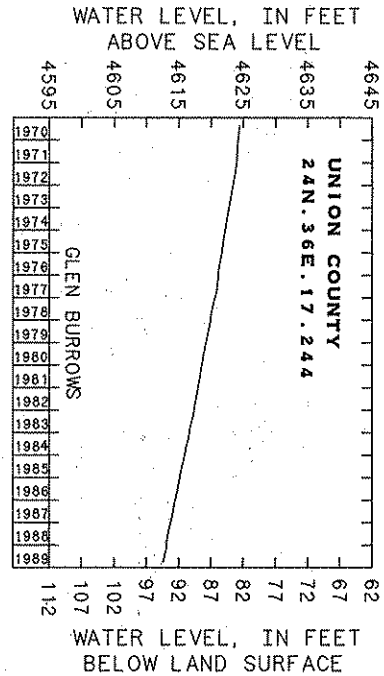
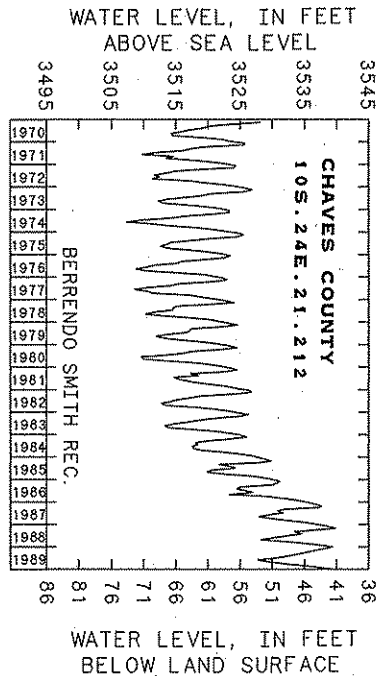
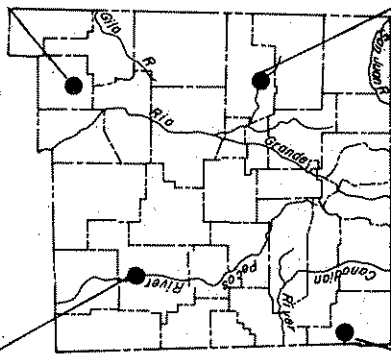
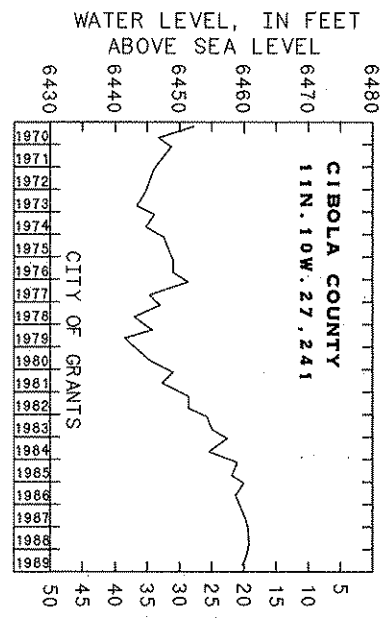
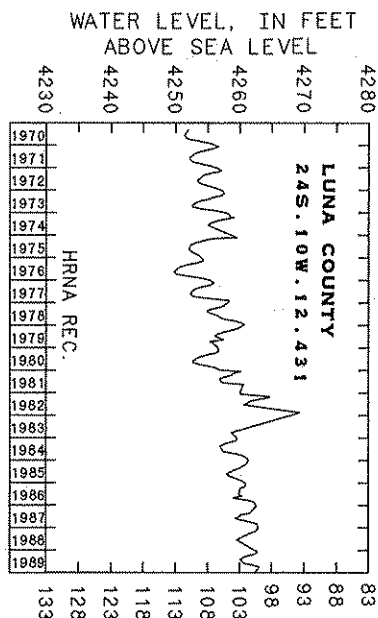


Figure 2.--Ground-water-level trends for the last 20 years or period of record.

Surveillance network stations are surface-water stations selected for water-quality examinations for water-quality control purposes. These stations are usually located at key regulatory streamflow-gaging stations or near the State lines. Data for major inorganic constituents, nutrients, dissolved oxygen, and bacteria are collected at all these stations. Data for trace elements, radiochemicals, and pesticides are collected at some of these stations. Included in this network are stations 07221500, Canadian River near Sanchez; 08276500, Rio Grande below Taos Junction Bridge, near Taos; 08313000, Rio Grande at Otowi Bridge, near San Ildefonso; 08319000, Rio Grande at San Felipe; 08331000, Rio Grande at Isleta; 08354800, Rio Grande Conveyance Channel at San Acacia; 08354900, Rio Grande Floodway at San Acacia; 08358300, Rio Grande Conveyance Channel at San Marcial; 08358400, Rio Grande Floodway at San Marcial; 08383500, Pecos River near Puerto de Luna; 08386000, Pecos River near Acme; 08396500, Pecos River near Artesia; and 09368000, San Juan River at Shiprock.

Tritium network is a network of stations that has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1989 water year, which began October 1, 1988, and ended September 30, 1989. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 5 and 6. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether stream site or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream-order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and for surface-water stations where only miscellaneous measurements are made.

Downstream-Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation on a list of stations in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 08313000, which appears just to the left of the station name, includes the two-digit part number "08" plus the six-digit downstream-order number "313000." The part number designates the major river basin. Records in this report are in Part 07 (Lower Mississippi River Basin), Part 08 (Western Gulf of Mexico Basin), and Part 09 (Colorado River Basin).

Latitude-Longitude System

The identification numbers for wells, springs, and miscellaneous sites are assigned according to the grid system of latitude and longitude. The system provides the geographic location of the well, spring, or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 3 below.

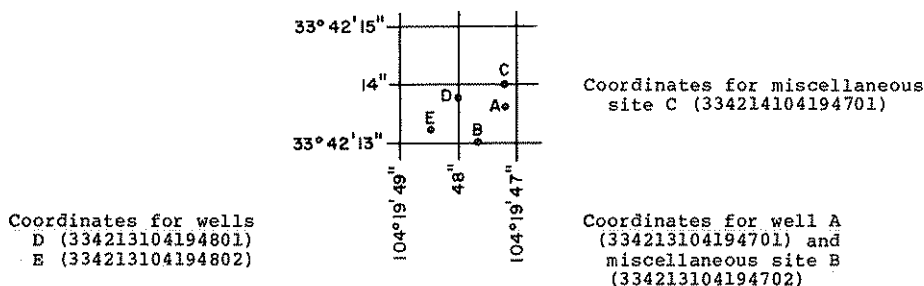


Figure 3.--System for numbering wells, springs, and miscellaneous sites.

Local Well Numbers

To provide an additional means of identification and a cross reference to records in older reports, most wells and springs have been assigned a local identifier based on the system of public land surveys. In areas covered by such surveys, the local identifier consists of a series of numbers and letters separated by periods, giving the township, range, section, and tract within a section, in that order. The letters N or S locate the township north or south of the New Mexico base line. The letters E or W locate the range east or west of the New Mexico principal meridian. A zero in a tract number indicates that the well or spring is centrally positioned or has not been located accurately enough to be placed within a tract or quarter section. Three digits in a tract number will locate a well or spring to the nearest 10-acre tract, and six digits will locate a site to the nearest 0.16-acre tract. This numbering system is illustrated in WDR NM-75-1 and WSP 1855. On the Navajo Reservation, where public land surveys have not been made, the local identifier is based on a different system of letters and numbers. In the example NR032.0156x0736, the first two letters indicate that the well is on the Navajo Reservation. The three-digit number to the left of the decimal indicates one of a series of special quadrangle maps on which the well is located. The two numbers to the right of the decimal separated by the letter x are the coordinates of the well in hundredths of a mile from the northeast corner of the area on the map. The first coordinate indicates the distance west; the second the distance south. The above well is located on map no. 032, 1.56 miles west and 7.36 miles south of the northeast corner.

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by the table title "Crest-stage partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all partial-record stations for which data are given in this report is shown in figure 7.

Data Collection and Computation

The data obtained at a complete-record gaging station consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Continuous records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations, or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using methods adapted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If it is necessary to define extremes of discharge outside the range of the current meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation 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 which correction factors based on individual discharge measurements and notes by the personnel making the measurements are applied to the gage heights before discharges are determined from the curves or tables. This shifting-control method is also used if the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control. At some northern stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes of observations, and comparable records of discharge for other stations in the same or nearby basins for comparable periods of time.

In computing records of lake or reservoir contents, it is necessary to have curves or tables available from surveys. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes in contents are determined.

If the stage-capacity curve changes because of deposition of sediment in a lake or reservoir, periodic resurveys of the reservoir may be necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods 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 happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, prior and subsequent records, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data presentation" (REMARKS paragraph) and "Identifying estimated daily discharge."

Data Presentation

The records published for each gaging station consist of two parts: the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River mileage measurement," Bulletin 14, revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see glossary), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record are identified by date in this paragraph of the station description for water-discharge records. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station, and possibly to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. 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, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or possibly future station manuscript published to document the revision in a "Revised records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District office to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream locations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month may also be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, indefinite stage relations, or any other unusual conditions at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs, the data presented comprise a description of the station and a table showing daily contents or stage. For some reservoirs a monthly summary table of stage and contents is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given, or if daily stage is published.

Data collected at partial-record stations follow the information for continuous record sites. Data for partial-record discharge stations are presented in a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations (miscellaneous sites). Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of measurements of stage, measurements of discharge, and interpretations of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true value; "good" within 10 percent; and "fair" within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values of less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to three significant figures above 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Data Available

Information of a more detailed nature than that published for most of the gaging stations, such as observations of water temperatures, discharge measurements, gage-height records, and rating tables, is on file in the District office. Most gaging-station records are also available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the District office.

Records of Surface-Water Quality

Surface-water quality samples usually are collected at or near gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing- or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records of surface-water quality appear in this report are shown in figure 6.

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-Site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made on site when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references appear on the list of publications following this section. Detailed information on collecting, treating, and shipping samples may also be obtained from the Geological Survey District office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples obtained for the National Stream-Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals depends on flow conditions and other factors that must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the District office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have small diurnal temperature changes; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may be collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration are computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day has been computed by the subdivided-day method. For periods when no samples are collected, daily discharges of suspended sediment are estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples are collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Microbiological data on coliform and streptococcal bacteria appear in this report. Methods for the collection and analysis of aquatic biological and aquatic microbiological samples are described by Slack and others (1973). (See reference 5-A4.)

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily, are presented first. Tables of daily values of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge-gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See "Data presentation" under "Records of stage and water discharge"; same comments apply.

DRAINAGE AREA.--See "Data presentation" under "Records of stage and water discharge"; same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor, temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and the current year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to ensure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Records of Ground-Water Levels

Only water-level data from a national network of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in New Mexico are shown in figure 8.

Data Collection and Computation

Measurements of water levels are made in many types of wells, under varying conditions of access and at different temperatures, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used are those that will ensure consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the local well number, an alphanumeric number, derived from the township-range location of the well.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. Water-level measurements in this report are given in feet with reference to either mean sea level (msl) or land-surface datum (lsd). Mean sea level is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum above mean sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic unit number; the distance and direction from a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base, and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. For wells equipped with recorders, only abbreviated tables are published; generally, only water-level lows are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that for many sampling sites they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Data Presentation

The records of ground-water quality are published in a section, "QUALITY OF GROUND WATER" immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by county, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

Access to WATSTORE Data

The National Water-Data Storage and Retrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from each of the Water Resources Division's District offices. (See address given on the back of the title page.)

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
MS 437 National Center
Reston, Virginia 22092

Parameter Codes

The five-digit codes shown in parentheses in the column headings of the tables in this report are parameter codes that uniquely identify a specific constituent. These are standard codes used to identify the data stored in the files of WATSTORE. These codes are identical to those used in the U.S. Environmental Protection Agency (EPA) data system, STORET. The EPA assigns and approves all requests for new codes.

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting English units to International System of Units (SI) on the inside of the back cover.

Acre-foot (AC-FT, 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 or 325,851 gallons or 1,233.49 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause diseases, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C \pm 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warmblooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5°C \pm 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warmblooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, coccal bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C \pm 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square meter (g/m²).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by the flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,445 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

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 that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic feet per second per square mile [(ft³/s)/mi²] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (FT³/S, ft³/s, cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Discharge-weighted average: See Weighted average.

Dissolved refers to that material in a representative water sample which passes through a 0.45 um membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$d = -\sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, 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 drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO₃).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground water observation well.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (ug/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element sorbed per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, ug/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of dry sediment per liter of water-sediment mixture.

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 local mean sea level at any particular place.

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area habitat, usually square meters (m²), acres, or hectares. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel.....	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population in terms of types, numbers, mass, or volume.

Periphyton are the assemblage of microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control the growth of undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton are the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton are the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton are the animal part of the plankton. Zooplankton are capable of extensive movements within the water column, and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg C/(m².time)] for periphyton and macrophytes and [mg C/(m³.time)] for phytoplankton are the units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O/(m².time)] for periphyton and macrophytes and [mg O/(m³.time)] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses, because different digestion procedures are likely to produce different analytical results.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period was uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

Suspended-sediment load is a general term referring to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Total sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total sediment discharge.

Sodium-adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range, in respect to sodium hazard, from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Solution is the homogeneous mixture of solutes and water. The solutes usually comprise a very small fraction of the total weight of the mixture. For this reason, the terms "solution" and "water" are used interchangeably.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection; and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimeted. All areas shown are those for the stage when the planimeted map was made.

Surficial bed material is that part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 um membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 um membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, Hexagenia limbata, is the following:

Kingdom.....Animal
Phylum.....Arthropoda
Class.....Insecta
Order.....Ephemeroptera
Family.....Ephemeridae
Genus.....Hexagenia
Species.....Hexagenia limbata

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature, whether on a chart, tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses, because different digestion procedures are likely to produce different analytical results.

Water year in Geological Survey reports dealing with surface water supply is the 12-month 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."

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and Warren E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F. A. Kilpatrick and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-A16. *Measurement of discharge using tracers*, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.
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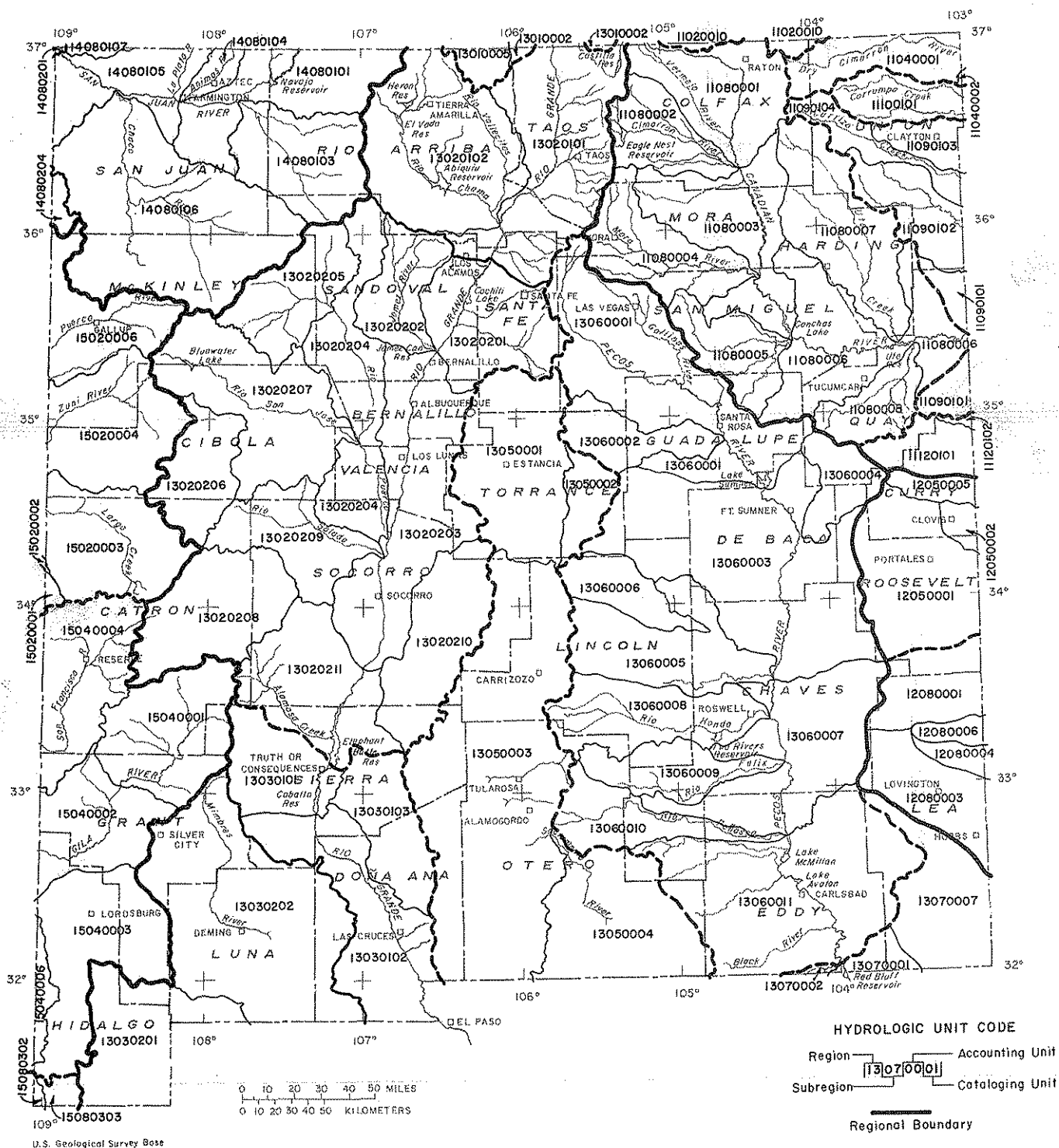


Figure 4.—Location of hydrologic units.

Figure 5.--Location of surface-water gaging stations.

U.S. Geological Survey Base

BASIN AND STATION NUMBER

RIVER BASIN BOUNDARY:

LOWER MISSISSIPPI RIVER BASIN NUMBER: 07

WESTERN GULF OF MEXICO BASIN NUMBER: 08

COLORADO RIVER BASIN NUMBER : 09

Basin no.	Station no.
-----------	-------------

Figure 6.--Location of water-quality gaging stations.

HYDROLOGIC-DATA STATION RECORDS

25

LOWER MISSISSIPPI RIVER BASIN

ARKANSAS RIVER BASIN

07199450 LAKE MALOYA NEAR RATON, NM

LOCATION.--Lat 36°59'02", long 104°22'24", Colfax County, Hydrologic Unit 11080001, in Maxwell Grant, near spillway of dam on Chicorica Creek, 6.5 mi northeast of Raton, and at mile 21.5.

DRAINAGE AREA.--20.8 mi².

PERIOD OF RECORD.--May 1975 to September 1987 (monthend contents only), October 1987 to current year.

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

REMARKS.--Records fair. Reservoir is formed by an earthfill dam, completed in 1907; capacity, 59 acre-ft. Reservoir enlarged in 1916; capacity, 1,130 acre-ft, spillway elevation, 7,479.0 ft. Reservoir enlarged again in 1948; capacity, 3,690 acre-ft, spillway elevation, 7,511.0 ft. Elevation of lowest outlet, 7,439.0 ft. No dead storage. Water is for municipal use of City of Raton. See table below for total monthly diversion, in acre-feet, from Lake Maloya for municipal supply for City of Raton.

COOPERATION.--Diversion and spillage provided by City of Raton.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,970 acre-ft, May 31, 1975, elevation, 7,510.79 ft; maximum elevation observed, 7,512.18 ft, Apr. 30, 1987; minimum observed, 911 acre-ft, Feb. 28, 1979, elevation, 7,479.85 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,700 acre-ft, several days, elevation, 7,511.04 ft; minimum contents, 3,010 acre-ft, Sept. 6-11, elevation, 7,505.10 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3560	3540	3540	3530	3520	e3450	e3690	3620	e3670	e3620	e3360	e3050
2	3560	3540	3540	3530	3510	e3450	e3690	3620	e3670	e3610	e3350	e3040
3	3560	3540	3540	3540	3500	e3450	e3690	3620	e3660	e3600	e3340	e3040
4	3560	3530	3540	3540	e3500	e3450	e3680	3610	e3660	e3590	e3340	e3030
5	3570	3530	3540	3530	3490	e3450	e3680	3610	e3650	e3580	e3330	e3020
6	3570	3530	3540	3540	3480	e3450	e3670	3610	e3640	e3580	e3320	e3010
7	3570	3530	3530	3540	3480	e3440	e3670	3600	e3640	e3570	e3310	3010
8	3570	3530	3530	3530	3480	e3440	e3670	3600	e3630	e3570	e3300	e3010
9	3560	3520	3530	3530	3480	e3440	e3680	3590	e3630	e3560	e3290	e3010
10	3560	3520	3530	3530	3470	e3450	e3680	3580	e3630	e3550	e3280	e3010
11	3560	3520	3530	3530	3470	e3460	e3690	3580	e3630	e3540	e3270	e3010
12	3560	3510	3540	3540	3470	e3470	e3690	3580	e3630	e3520	e3270	3020
13	3560	3510	3540	3530	3470	e3480	e3690	3580	e3620	e3510	e3250	3030
14	3560	3510	3540	3530	3470	e3490	e3690	3580	e3620	e3510	e3240	3030
15	3560	3510	3540	3500	3460	e3500	e3690	3580	e3620	e3510	e3240	3030
16	3560	3510	3540	3530	3460	e3520	e3690	3620	e3610	e3500	e3230	3030
17	3560	3520	3540	3530	3460	e3530	e3680	3660	e3610	e3490	e3200	3030
18	3560	3520	3540	3530	3460	e3560	3680	3680	e3610	e3480	e3180	3020
19	3550	3520	3540	3530	3470	e3590	3670	3690	e3610	e3470	e3170	3030
20	3550	3520	3540	3520	3470	e3620	3670	3700	e3610	e3460	e3170	3040
21	3550	3520	3540	3520	3470	e3640	3670	3700	e3600	e3450	e3160	3050
22	3550	3530	3540	3520	3460	e3660	3670	3700	3600	e3450	e3150	3050
23	3550	3530	3540	3520	3460	e3670	3660	e3700	e3600	e3440	e3140	3040
24	3550	3530	3540	3520	e3460	e3680	3660	e3700	e3600	e3430	e3130	3040
25	3550	3530	3540	3510	e3460	e3680	3650	e3700	e3600	e3420	e3120	3040
26	3540	3530	3540	3510	e3450	e3680	3640	e3690	e3600	e3410	e3110	3040
27	3540	3530	3540	3520	e3450	e3690	3630	e3690	e3610	e3400	e3100	3040
28	3540	3540	3540	3520	e3450	e3700	3630	e3690	e3610	e3400	e3080	3030
29	3540	3530	3530	3520	---	e3700	3630	e3680	e3610	e3380	e3070	3030
30	3540	3540	3530	3520	---	e3700	3620	e3680	3620	e3370	e3060	3030
31	3540	---	3530	3520	---	e3690	---	e3680	---	3370	e3050	---
MAX	3570	3540	3540	3540	3520	3700	3690	3700	3670	3620	3360	3050
MIN	3540	3510	3530	3500	3450	3440	3620	3580	3600	3370	3050	3010
(+)	7509.83	7509.72	7509.70	7509.56	---	---	7510.40	---	---	7508.34	7505.55	7505.27
(++)	-20	0	-10	-10	-70	+240	-70	+60	-60	-250	-320	-20
(+++)	138	136	121	143	131	163	196	209	208	285	211	164
CAL YR 1988	MAX 3830	MIN 3510	(++) 0	(+++)	1873							
WTR YR 1989	MAX 3700	MIN 3010	(++) -530	(+++)	2105							

(+) ELEVATION, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-FEET

(+++)

ARKANSAS RIVER BASIN

07199550 LAKE ALICE NEAR RATON, NM

LOCATION.--Lat 36°57'15", long 104°23'06", Colfax County, Hydrologic Unit 11080001, in Maxwell Grant, near spillway of dam on Chicorica Creek, 4.4 mi northeast of Raton, and at mile 19.2.

DRAINAGE AREA.--29.4 mi².

PERIOD OF RECORD.--May 1975 to current year.

GAGE.--Nonrecording gage. Elevation of gage is National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Reservoir is formed by an earthfill dam, completed in 1892; capacity 100 acre-ft, spillway elevation, 7,078.0 ft. Reservoir rehabilitated in 1941; capacity, 71 acre-ft, spillway elevation, 7,089.6 ft. Elevation of lowest outlet, 7,064.1 ft. No dead storage. Water is for municipal use of City of Raton.

COOPERATION.--Monthend elevations and contents provided by city of Raton.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 73 acre-ft, Apr. 30, May 31, 1983, elevation, 7,090 ft; minimum observed, 0 acre-ft, Aug. and Sept. 1989, lake drained.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 71 acre-ft Oct. and July, elevation, 7,089.60 ft; minimum observed, 0 acre-ft Aug. and Sept., lake drained.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30, 1988.....	7,089.60	71	0
Oct. 31.....	7,089.60	71	0
Nov. 30.....	7,089.60	71	0
Dec. 31.....	7,089.60	71	0
CAL YR 1988	-	-	0
Jan. 31, 1989.....	7,089.60	71	0
Feb. 28.....	7,089.60	71	0
Mar. 31.....	7,099.60	71	0
Apr. 30.....	7,089.60	71	0
May 31.....	7,089.60	71	0
June 30.....	7,089.60	71	0
July 31.....	7,089.60	71	0
Aug. 31.....	Dry	0	-71
Sept. 30.....	Dry	0	-71
WTR YR 1989	-	-	0

ARKANSAS RIVER BASIN

27

07202400 VERMEJO RIVER AT VERMEJO PARK, NM

LOCATION.--Lat 37°57'28", long 105°07'25", Colfax County, Hydrologic Unit 11080001, in Maxwell Grant, on left bank 0.2 mi upstream from Gold Creek, and 12 mi northwest of Vermejo Park.

DRAINAGE AREA.--36.7 mi².

PERIOD OF RECORD.--October 1985 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 8,240 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 460 ft³/s, June 23, 1986, gage height, 4.21 ft, from rating curve extended above 60 ft³/s; minimum recorded, 3.3 ft³/s, many days in August and September 1989.

EXTREMES FOR 1986 WATER YEAR.--Maximum discharge, 460 ft³/s June 23, gage height 4.21 ft; minimum recorded, 5.8 ft³/s, many days.

EXTREMES FOR 1987 WATER YEAR.--Maximum discharge, 203 ft³/s, May 13, gage height, 3.56 ft; minimum recorded, 6.0 ft³/s, Oct. 8.

EXTREMES FOR 1988 WATER YEAR.--Maximum discharge, 361 ft³/s, Aug. 5, gage height, 3.99 ft; minimum recorded, 3.7 ft³/s, Sept. 10, 11.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36 ft³/s, July 13, gage height, 2.62 ft; minimum recorded, 3.3 ft³/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	---	---	---	---	---	---	10	17	13	22	9.9
2	6.2	---	---	---	---	---	---	11	20	16	22	9.4
3	5.9	---	---	---	---	---	---	12	20	16	20	8.7
4	5.9	---	---	---	---	---	---	13	20	13	19	8.9
5	5.9	---	---	---	---	---	---	12	20	17	18	8.8
6	5.9	---	---	---	---	---	---	12	21	18	18	8.8
7	7.1	---	---	---	---	---	---	12	21	16	20	8.7
8	6.5	---	---	---	---	---	---	11	21	30	18	9.4
9	6.9	---	---	---	---	---	---	11	21	32	16	8.7
10	7.5	---	---	---	---	---	---	10	20	24	18	10
11	9.5	---	---	---	---	---	---	10	20	22	16	10
12	7.1	---	---	---	---	---	---	10	20	20	14	8.7
13	6.7	---	---	---	---	---	---	10	17	19	14	8.2
14	6.5	---	---	---	---	---	---	10	18	21	14	8.9
15	6.3	---	---	---	---	---	---	9.9	17	24	14	7.7
16	6.3	---	---	---	---	---	---	9.8	17	24	12	7.4
17	6.7	---	---	---	---	---	---	10	18	26	12	7.1
18	7.0	---	---	---	---	---	---	10	17	23	12	6.9
19	6.9	---	---	---	---	---	---	9.9	18	31	11	6.8
20	6.8	---	---	---	---	---	---	10	17	64	11	6.7
21	6.7	---	---	---	---	---	---	10	16	68	11	6.5
22	6.5	---	---	---	---	---	---	9.9	20	80	10	6.5
23	6.2	---	---	---	---	---	---	9.8	82	67	14	6.5
24	6.3	---	---	---	---	---	8.9	9.8	34	52	17	6.8
25	6.1	---	---	---	---	---	9.0	10	25	43	13	6.6
26	6.0	---	---	---	---	---	8.9	10	21	36	12	6.5
27	6.0	---	---	---	---	---	8.4	10	19	33	12	6.3
28	6.2	---	---	---	---	---	9.3	10	17	30	11	6.2
29	6.3	---	---	---	---	---	9.3	13	16	26	10	6.5
30	6.0	---	---	---	---	---	9.2	13	15	26	11	6.8
31	6.3	---	---	---	---	---	---	15	---	24	11	---
TOTAL	202.4	---	---	---	---	---	---	334.1	645	954	453	234.9
MEAN	6.53	---	---	---	---	---	---	10.8	21.5	30.8	14.6	7.83
MAX	9.5	---	---	---	---	---	---	15	82	80	22	10
MIN	5.9	---	---	---	---	---	---	9.8	15	13	10	6.2
AC-FT	401	---	---	---	---	---	---	663	1280	1890	899	466

ARKANSAS RIVER BASIN

07202400 VERMEJO RIVER AT VERMEJO PARK, NM-- Continued
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	---	---	---	---	---	---	62	45	37	17	12
2	6.3	---	---	---	---	---	---	63	47	35	15	11
3	6.3	---	---	---	---	---	---	51	49	33	15	11
4	6.0	---	---	---	---	---	---	43	49	31	16	11
5	6.0	---	---	---	---	---	---	39	50	30	15	11
6	6.3	---	---	---	---	---	---	39	49	28	14	11
7	6.0	---	---	---	---	---	---	38	63	27	14	11
8	6.0	---	---	---	---	---	---	48	62	27	14	11
9	---	---	---	---	---	---	---	47	126	27	14	9.9
10	---	---	---	---	---	---	---	48	107	25	14	9.8
11	---	---	---	---	---	---	---	52	89	24	15	9.8
12	---	---	---	---	---	---	---	62	80	24	15	9.7
13	---	---	---	---	---	---	---	114	76	23	14	9.4
14	---	---	---	---	---	---	---	145	73	23	13	9.3
15	---	---	---	---	---	---	---	115	70	23	12	9.3
16	---	---	---	---	---	---	---	119	66	23	12	9.1
17	---	---	---	---	---	---	---	132	67	22	11	9.0
18	---	---	---	---	---	---	---	114	68	21	11	9.0
19	---	---	---	---	---	---	---	106	64	19	11	8.8
20	---	---	---	---	---	---	---	97	60	20	11	8.7
21	---	---	---	---	---	---	---	85	57	20	11	9.1
22	---	---	---	---	---	---	---	76	53	20	23	9.0
23	---	---	---	---	---	---	---	75	49	19	18	8.7
24	---	---	---	---	---	---	---	70	47	18	19	8.5
25	---	---	---	---	---	---	---	63	47	18	14	8.7
26	---	---	---	---	---	---	---	60	47	17	13	8.6
27	---	---	---	---	---	---	---	55	43	17	13	8.7
28	---	---	---	---	---	---	---	52	42	17	13	8.9
29	---	---	---	---	---	---	---	58	48	18	12	8.9
30	---	---	---	---	---	---	---	53	45	17	12	8.7
31	---	---	---	---	---	---	---	44	---	15	12	---
TOTAL	---	---	---	---	---	---	---	2207	1831	718	433	288.6
MEAN	---	---	---	---	---	---	---	71.2	61.0	23.2	14.0	9.62
MAX	---	---	---	---	---	---	---	145	126	37	23	12
MIN	---	---	---	---	---	---	---	38	42	15	11	8.5
AC-FT	---	---	---	---	---	---	---	4380	3630	1420	859	572

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	6.7	7.7	16	6.3	5.2
2	---	---	---	---	---	---	---	5.9	7.5	15	2.5	5.0
3	---	---	---	---	---	---	---	6.2	7.6	13	.41	4.8
4	---	---	---	---	---	---	---	6.7	8.7	12	20	4.5
5	---	---	---	---	---	---	---	6.7	11	11	42	4.4
6	---	---	---	---	---	---	---	6.9	9.3	11	18	4.3
7	---	---	---	---	---	---	---	6.4	8.5	15	11	4.1
8	---	---	---	---	---	---	---	5.9	8.4	14	9.3	3.9
9	---	---	---	---	---	---	---	6.0	8.9	13	8.9	3.9
10	---	---	---	---	---	---	---	6.2	9.9	14	7.5	3.9
11	---	---	---	---	---	---	---	6.4	10	13	9.2	4.5
12	---	---	---	---	---	---	---	6.7	9.6	11	7.8	6.4
13	---	---	---	---	---	---	---	7.1	9.3	9.8	6.5	12
14	---	---	---	---	---	---	---	7.4	11	9.5	5.9	8.6
15	---	---	---	---	---	---	---	6.1	7.5	9.3	5.7	6.1
16	---	---	---	---	---	---	---	6.7	7.7	8.8	10	5.3
17	---	---	---	---	---	---	---	5.9	7.8	8.7	10	4.8
18	---	---	---	---	---	---	---	5.9	9.6	8.5	9.4	4.5
19	---	---	---	---	---	---	---	6.1	11	9.2	9.0	4.3
20	---	---	---	---	---	---	---	6.6	9.9	9.1	9.3	4.2
21	---	---	---	---	---	---	---	6.6	8.8	8.8	7.9	4.2
22	---	---	---	---	---	---	---	6.2	8.8	8.6	7.2	4.4
23	---	---	---	---	---	---	---	5.8	8.5	8.9	6.8	4.7
24	---	---	---	---	---	---	---	5.7	8.1	10	6.7	4.3
25	---	---	---	---	---	---	---	5.4	8.1	11	6.6	4.1
26	---	---	---	---	---	---	---	5.4	7.7	12	7.0	3.9
27	---	---	---	---	---	---	---	5.5	7.8	14	6.7	3.9
28	---	---	---	---	---	---	---	5.8	7.7	14	6.9	3.8
29	---	---	---	---	---	---	---	5.7	7.5	17	7.7	3.9
30	---	---	---	---	---	---	---	6.0	7.6	20	8.4	4.0
31	---	---	---	---	---	---	---	8.0	---	7.5	5.5	---
TOTAL	---	---	---	---	---	---	---	233.3	305.4	313.7	284.21	145.9
MEAN	---	---	---	---	---	---	---	7.53	10.2	10.1	9.17	4.86
MAX	---	---	---	---	---	---	---	11	20	16	42	12
MIN	---	---	---	---	---	---	---	5.9	7.5	6.6	.41	3.8
AC-FT	---	---	---	---	---	---	---	463	606	622	564	289

ARKANSAS RIVER BASIN

29

07202400 VERMEJO RIVER NEAR VERMEJO PARK, NM -- Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e4.2	---	---	---	---	---	---	---	7.0	5.3	10	3.5
2	e4.3	---	---	---	---	---	---	---	8.0	5.1	7.4	3.5
3	e4.4	---	---	---	---	---	---	---	7.8	5.0	6.1	3.5
4	e4.5	---	---	---	---	---	---	---	8.1	5.0	5.8	3.6
5	4.8	---	---	---	---	---	---	---	8.3	5.1	6.0	4.6
6	5.2	---	---	---	---	---	---	---	7.2	5.0	6.0	3.7
7	5.5	---	---	---	---	---	---	---	6.9	4.5	5.5	3.5
8	5.2	---	---	---	---	---	---	---	7.8	4.4	5.6	3.5
9	4.9	---	---	---	---	---	---	e9.0	8.8	4.3	5.4	3.5
10	4.7	---	---	---	---	---	---	9.8	7.4	4.3	5.3	3.5
11	4.6	---	---	---	---	---	---	10	6.9	4.7	6.0	3.7
12	4.5	---	---	---	---	---	---	11	9.5	5.6	5.6	7.0
13	4.6	---	---	---	---	---	---	9.0	10	7.1	5.3	5.7
14	4.6	---	---	---	---	---	---	9.1	10	5.1	5.1	4.7
15	4.5	---	---	---	---	---	---	9.2	8.8	4.9	4.8	4.2
16	4.4	---	---	---	---	---	---	9.6	7.7	4.5	4.6	4.0
17	4.3	---	---	---	---	---	---	9.3	7.0	4.1	4.6	3.8
18	4.3	---	---	---	---	---	---	9.0	6.9	4.0	6.4	3.8
19	4.3	---	---	---	---	---	---	8.2	6.8	4.1	5.0	3.9
20	4.3	---	---	---	---	---	---	7.8	6.6	4.9	4.6	5.3
21	4.3	---	---	---	---	---	---	7.7	6.5	6.7	4.6	4.1
22	4.2	---	---	---	---	---	---	7.6	6.9	6.4	4.1	4.0
23	4.1	---	---	---	---	---	---	7.3	6.9	6.6	4.0	4.0
24	4.1	---	---	---	---	---	---	7.2	6.5	6.2	3.9	3.8
25	e4.2	---	---	---	---	---	---	7.1	6.1	7.7	3.9	3.8
26	e4.2	---	---	---	---	---	---	7.3	5.9	11	3.7	3.8
27	e4.2	---	---	---	---	---	---	7.3	5.7	7.6	3.9	3.8
28	e4.3	---	---	---	---	---	---	7.3	5.6	6.3	3.9	3.8
29	e4.4	---	---	---	---	---	---	7.1	5.6	7.2	3.8	3.8
30	e4.3	---	---	---	---	---	---	7.0	5.5	8.2	3.7	3.7
31	e4.1	---	---	---	---	---	---	6.8	---	10	3.6	---
TOTAL	138.5	---	---	---	---	---	---	---	218.7	180.9	158.2	121.1
MEAN	4.47	---	---	---	---	---	---	---	7.29	5.84	5.10	4.04
MAX	5.5	---	---	---	---	---	---	---	10	11	10	7.0
MIN	4.1	---	---	---	---	---	---	---	5.5	4.0	3.6	3.5
AC-FT	275	---	---	---	---	---	---	---	434	359	314	240

e Estimated

ARKANSAS RIVER BASIN

07202500 EAGLE TAIL DITCH NEAR MAXWELL, NM

LOCATION.--Lat 36°38'55", long 104°33'31", Colfax County, Hydrologic Unit 11080001, in Maxwell Grant, on left bank 25 ft upstream from concrete drop structure, 300 ft upstream from Crow Creek, and 7.5 mi north of Maxwell.

PERIOD OF RECORD.--December 1944 to July 1950 (monthly discharge only October 1945 to July 1950), May 1975 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 6,110 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 1975, at site about 200 ft upstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Eagle Tail ditch diverts water from Chicorica Creek for use near Maxwell. No diversions upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years (water years 1946-49, 1976-89), 6.96 ft³/s, 5,040 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 217 ft³/s, Aug. 27, 1946, from rating curve extended above 85 ft³/s; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 130 ft³/s, June 27, gage height, 3.65 ft; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	4.3	3.4	e.62	e1.1	4.6	2.5	.00	4.1	4.1	1.7	4.9
2	3.2	4.2	e3.0	e.76	e.97	4.5	2.6	.00	8.5	3.1	2.1	4.7
3	3.4	4.2	e2.7	e.88	e.83	4.0	2.5	.0	6.2	2.3	2.6	4.7
4	4.4	4.4	e2.3	e.82	e.72	3.4	2.2	.18	8.3	2.0	2.2	4.7
5	7.8	4.2	e2.1	e1.0	e.62	4.5	1.9	.18	7.8	1.9	2.1	22
6	7.0	3.9	e1.8	e1.3	e.55	2.9	1.7	.01	6.2	1.6	22	17
7	6.6	4.3	e1.7	e1.7	e.51	4.6	1.7	.00	3.4	1.4	5.3	6.9
8	7.2	4.2	e1.6	e2.1	e.48	4.4	1.7	.00	2.5	1.3	5.2	6.9
9	5.4	4.0	e2.0	e2.4	e.46	4.3	1.8	.00	22	1.2	4.8	6.4
10	4.5	4.2	e1.7	e2.7	e.60	4.1	1.4	.03	11	1.1	5.0	5.2
11	4.4	4.1	e1.5	e2.0	e.70	7.0	1.1	3.3	5.4	1.1	4.7	6.1
12	4.1	4.2	e1.5	e1.6	e.80	6.5	.90	3.7	3.7	1.1	19	23
13	4.2	4.5	e1.9	e2.2	e.70	5.7	1.5	4.2	3.6	1.2	39	40
14	4.4	4.4	e2.4	e2.9	e.88	5.2	1.6	1.3	9.6	3.2	16	9.3
15	4.1	4.5	e1.9	e2.5	e1.0	4.6	1.4	15	6.9	4.3	6.7	8.0
16	3.7	5.1	e1.5	e2.1	e1.4	4.4	1.3	29	5.6	1.5	7.8	8.1
17	3.9	4.5	e1.7	e2.4	e1.2	4.5	1.0	65	3.3	1.5	49	7.9
18	3.7	4.1	e1.9	e2.7	e1.6	4.6	.75	19	2.5	1.1	8.9	7.8
19	4.0	3.9	e1.9	e2.3	e2.0	4.3	.68	12	1.8	1.0	6.5	7.8
20	3.8	3.7	e1.8	e2.1	e2.5	4.0	.60	7.1	1.6	1.0	5.9	31
21	4.0	3.5	e1.7	e2.4	e3.4	3.5	.55	4.9	1.7	8.0	6.0	63
22	3.8	3.6	e1.6	e3.0	e6.2	3.0	.36	4.3	1.0	11	8.7	17
23	3.8	4.4	e1.3	e2.3	11	3.7	.22	4.0	2.3	6.4	5.7	10
24	3.9	5.7	e1.1	e2.0	9.4	3.5	.13	3.4	19	6.4	5.5	9.6
25	4.2	4.8	e.98	e1.9	8.1	3.4	.02	1.8	34	3.2	5.4	9.3
26	4.3	3.9	e.92	e2.2	6.0	3.4	.00	.85	45	2.2	5.4	8.0
27	4.3	3.2	e.88	e1.5	5.5	3.2	.00	.53	36	2.0	5.2	8.9
28	3.8	3.9	e.80	e1.2	5.5	3.2	.00	.57	11	1.8	5.1	8.9
29	3.8	4.3	e.72	e1.0	---	3.1	.00	1.1	7.9	1.7	5.0	8.6
30	4.3	3.5	e.70	e.92	---	2.8	.00	1.3	5.4	1.6	5.0	8.4
31	4.2	---	e.66	e1.4	---	2.8	---	1.2	---	1.6	5.0	---
TOTAL	138.2	125.7	51.66	56.90	74.72	127.7	32.11	183.95	287.3	82.9	278.5	384.1
MEAN	4.46	4.19	1.67	1.84	2.67	4.12	1.07	5.93	9.58	2.67	8.98	12.8
MAX	7.8	5.7	3.4	3.0	11	7.0	2.6	65	45	11	49	63
MIN	3.2	3.2	.66	.62	.46	2.8	.00	.00	1.0	1.0	1.7	4.7
AC-FT	274	249	102	113	148	253	64	365	570	164	552	762

CAL YR 1988 TOTAL 4067.83 MEAN 11.1 MAX 90 MIN .00 AC-FT 8070
WTR YR 1989 TOTAL 1823.74 MEAN 5.00 MAX 65 MIN .00 AC-FT 3620

e Estimated

07203000 VERMEJO RIVER NEAR DAWSON, NM

LOCATION.--Lat 36°40'50", long 104°47'08", Colfax County, Hydrologic Unit 11080001, in Maxwell Grant, on left bank 1.3 mi north of Dawson, 2.3 mi upstream from Rail Canyon, and at mile 28.2.

DRAINAGE AREA.--301 mi².

PERIOD OF RECORD.--October 1915 to July 1918, April 1919 to May 1921, January 1927 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: 1947, drainage area. WSP 1281: 1932(M), 1934(M), 1936-38(M), 1941-42(P), 1944-46(M).

GAGE.--Water-stage recorder. Elevation of gage is 6,360 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1311 or 1731 for history of changes prior to Sept. 24, 1953.

REMARKS.--Records fair. Diversions for irrigation of small acreage and mountain meadows upstream from station. Several observations of water temperature were made during year.

AVERAGE DISCHARGE.--65 years (water years 1916-17, 1920, 1928-89), 18.4 ft³/s, 13,330 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1926).--Maximum discharge, 12,600 ft³/s, June 17, 1965, gage height, 15.25 ft, from rating curve extended above 400 ft³/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--A major flood occurred Aug. 2, 1921, when discharge probably exceeded 10,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 19	----	ice jam	*3.98	Aug. 6	2200	*151	3.93

Minimum discharge, 1.3 ft³/s, July 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	7.5	14	e10	9.4	15	10	12	9.1	3.5	16	4.1
2	7.9	7.7	17	e13	8.7	14	11	11	12	2.6	12	4.0
3	7.9	7.6	21	e15	7.2	14	11	11	12	2.2	7.9	4.5
4	7.9	7.5	23	e17	e6.5	14	11	10	13	2.1	5.6	4.7
5	8.2	7.4	15	e20	e5.8	e14	11	9.7	15	1.8	8.7	7.9
6	9.4	7.7	13	e16	e5.4	e14	11	9.5	14	1.7	20	7.1
7	11	7.9	9.4	e8.9	e5.4	16	11	9.5	10	1.6	21	5.8
8	11	7.9	e9.4	e8.0	e5.6	12	10	9.4	9.8	1.6	25	4.6
9	11	7.9	e9.5	e7.6	e9.0	13	10	12	16	1.5	9.4	4.2
10	9.4	7.9	9.3	e7.2	e8.0	14	10	20	18	1.4	8.1	4.2
11	8.6	8.2	11	e8.0	7.4	14	11	19	16	1.4	15	4.2
12	8.5	8.5	11	e9.0	7.3	15	13	17	13	1.4	18	9.5
13	8.1	8.7	e12	e10	9.6	15	14	16	16	1.3	20	16
14	8.0	8.6	e10	e15	15	15	13	15	30	13	11	12
15	7.7	9.0	e8.5	e20	19	14	13	15	23	13	8.1	8.7
16	7.7	9.4	e9.1	e15	18	12	13	17	17	17	6.5	7.0
17	7.5	7.9	e9.0	e13	13	12	12	19	14	5.6	5.7	5.7
18	7.3	8.1	e12	e15	11	12	12	18	11	3.3	5.8	5.1
19	7.2	9.1	e14	15	16	12	12	16	10	2.1	7.6	4.9
20	7.1	13	e13	22	12	12	13	14	10	2.1	7.1	11
21	7.4	13	e15	19	16	16	13	13	8.9	13	5.8	7.8
22	7.2	12	e15	13	14	13	12	12	7.9	28	5.1	6.3
23	7.2	12	e14	24	11	13	13	12	8.6	14	4.8	5.2
24	7.2	12	e13	24	17	12	13	11	8.2	15	4.7	4.7
25	6.8	11	e10	9.3	13	12	13	9.0	7.1	11	3.9	4.5
26	7.0	13	e9.1	11	18	12	12	8.5	6.3	9.7	3.8	4.1
27	7.2	13	e8.5	11	29	12	12	9.6	4.9	17	3.4	4.1
28	7.4	13	e7.9	7.3	19	11	12	10	4.4	13	9.7	3.6
29	7.4	14	e8.1	13	---	11	12	9.4	4.4	8.4	10	3.4
30	7.5	19	e7.7	10	---	10	12	8.9	3.9	6.7	5.5	3.3
31	7.5	---	8.4	13	---	10	---	8.1	---	11	4.9	---
TOTAL	249.1	299.5	366.9	419.3	336.3	405	356	391.6	353.5	227.0	300.1	182.2
MEAN	8.04	9.98	11.8	13.5	12.0	13.1	11.9	12.6	11.8	7.32	9.68	6.07
MAX	11	19	23	24	29	16	14	20	30	28	25	16
MIN	6.8	7.4	7.7	7.2	5.4	10	10	8.1	3.9	1.3	3.4	3.3
AC-FT	494	594	728	832	667	803	706	777	701	450	595	361

CAL YR 1988 TOTAL 5959.3 MEAN 16.3 MAX 934 MIN 1.8 AC-FT 11820
WTR YR 1989 TOTAL 3886.5 MEAN 10.6 MAX 30 MIN 1.3 AC-FT 7710

e Estimated

ARKANSAS RIVER BASIN

07203505 VERMEJO DITCH NEAR COLFAX, NM

LOCATION.--Lat 36°34'18", long 104°41'53", Colfax County, Hydrologic Unit 11080001, in Maxwell Grant, on right bank 2.0 mi southeast of Colfax, and 4.9 mi downstream from head.

PERIOD OF RECORD.--December 1980 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,160 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 19, 1985 at site 0.8 mi downstream at same datum.

REMARKS.--Records poor. Vermejo ditch diverts water from Vermejo River for use on the Vermejo Project. Three small diversions from Vermejo ditch upstream from gage. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--8 years, 16.3 ft³/s, 11,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 229 ft³/s, June 8, 1986; no flow several days most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 43 ft³/s, Sept. 20; minimum daily, 1.8 ft³/s, Feb. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	5.6	8.1	e3.5	e4.3	16	9.6	13	8.0	2.6	15	e4.8
2	6.2	5.4	6.1	e3.0	e3.5	14	9.8	13	12	2.4	13	e4.2
3	6.2	5.3	e4.6	e2.6	e2.6	13	9.5	13	9.6	2.1	9.6	e3.9
4	6.7	5.1	e3.7	e5.0	e2.0	12	9.5	10	11	2.0	7.9	e4.5
5	6.9	5.1	e2.9	e12	e1.8	9.8	9.8	7.9	11	1.9	40	e6.2
6	7.6	5.3	e3.0	e15	e2.2	9.5	9.4	6.7	11	2.0	23	e7.7
7	9.1	5.2	e2.5	e7.0	e2.5	11	9.0	5.9	8.6	2.0	20	e6.8
8	9.8	5.1	e2.3	e5.8	e2.9	11	9.0	6.6	9.2	1.9	18	e5.3
9	8.4	4.7	e2.2	e6.0	e3.2	11	9.9	24	26	1.9	16	e4.5
10	8.3	4.9	e2.5	e6.1	e2.6	11	11	23	15	1.9	18	e9.0
11	7.4	5.5	e2.4	e6.2	e2.4	12	10	18	12	2.0	15	e18
12	6.8	5.9	e2.7	e6.4	e2.9	14	11	22	12	2.0	e16	e26
13	6.5	5.9	e3.0	e7.8	e3.5	14	13	14	10	2.0	e18	10
14	6.3	5.7	e3.2	e10	e4.1	13	12	15	20	2.1	e22	9.3
15	6.1	6.1	e3.5	e13	e5.2	13	11	41	18	8.1	e11	7.0
16	6.0	4.6	e2.3	e11	e4.0	12	11	20	14	12	e7.8	5.5
17	5.9	5.3	e2.5	e8.5	e3.2	11	10	18	10	6.6	e6.6	4.6
18	5.6	4.8	e2.8	e9.8	e2.6	11	10	16	8.7	4.6	e6.2	3.7
19	5.6	9.1	e3.0	e11	e4.0	11	11	15	8.0	3.3	e7.5	30
20	5.7	6.3	e2.6	e13	e5.4	11	11	14	7.3	2.8	e7.8	43
21	5.6	6.7	e3.0	e15	e3.4	10	11	13	6.3	2.7	e6.4	11
22	5.6	7.1	e2.3	e11	e2.7	11	10	12	6.3	20	e5.6	7.5
23	5.4	9.7	e2.7	e8.0	e2.3	11	11	10	6.3	12	e5.3	6.9
24	5.4	9.5	e3.1	e14	e4.8	10	11	8.8	6.8	13	e4.8	6.5
25	5.3	10	e3.8	e9.1	14	10	11	7.8	5.8	11	e4.6	6.1
26	5.3	7.1	e2.2	e5.0	16	9.9	11	7.3	5.1	10	e4.2	5.7
27	5.5	5.7	e2.7	e4.0	25	9.9	12	7.6	4.6	13	e3.9	5.6
28	5.5	5.3	e3.2	e5.1	21	9.9	12	7.8	4.0	13	e7.0	5.5
29	5.6	6.2	e3.5	e5.1	---	9.5	13	7.4	3.4	9.2	e9.1	5.4
30	5.8	8.8	e3.7	e4.2	---	9.2	13	7.0	3.0	7.8	e8.0	5.4
31	5.8	---	e4.1	e5.0	---	9.6	---	6.5	---	11	e5.5	---
TOTAL	198.3	187.0	100.2	248.2	154.1	350.3	321.5	411.3	293.0	188.9	362.8	279.6
MEAN	6.40	6.23	3.23	8.01	5.50	11.3	10.7	13.3	9.77	6.09	11.7	9.32
MAX	9.8	10	8.1	15	25	16	13	41	26	20	40	43
MIN	5.3	4.6	2.2	2.6	1.8	9.2	9.0	5.9	3.0	1.9	3.9	3.7
AC-FT	393	371	199	492	306	695	638	816	581	375	720	555

CAL YR 1988 TOTAL 4045.30 MEAN 11.1 MAX 161 MIN .60 AC-FT 8020
WTR YR 1989 TOTAL 3095.2 MEAN 8.48 MAX 43 MIN 1.8 AC-FT 6140

e Estimated

07203525 VERMEJO RIVER NEAR MAXWELL, NM

LOCATION.--Lat 36°29'48", long 104°34'15", Colfax County, Hydrologic Unit 11080001, in Maxwell Grant, on right bank 30 ft upstream from bridge on Interstate Highway 25, 3.6 mi southwest of Maxwell, and 2.0 mi upstream from mouth.

DRAINAGE AREA.--486 mi².

PERIOD OF RECORD.--November 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,880 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor. Diversions for irrigation above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years, 8.51 ft³/s, 6,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft³/s, June 10, 1988, gage height, 9.49 ft, from rating curve extended above 120 ft³/s on basis of step-backwater analysis of channel; minimum discharge, 0.06 ft³/s, Aug. 28, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 272 ft³/s, Aug. 6, gage height, 5.08 ft, minimum discharge, 0.40 ft³/s, Aug. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.3	2.8	e2.1	3.8	3.2	2.2	2.3	4.8	1.5	.74	e1.7
2	2.3	2.3	2.9	e2.6	3.9	3.2	2.2	2.3	3.2	1.5	.71	e2.0
3	2.5	2.3	3.0	e3.5	3.7	3.2	2.2	2.4	5.9	1.4	.66	e1.3
4	3.7	2.2	3.0	e4.0	3.4	3.1	2.2	2.4	5.3	1.2	.64	e1.2
5	3.3	2.3	2.9	e4.2	e2.5	2.9	2.2	2.3	3.9	1.1	1.0	e1.4
6	2.5	2.3	2.9	e4.5	e2.0	3.0	2.2	2.3	3.3	1.1	61	e1.2
7	2.4	2.4	3.0	e4.3	e1.6	3.1	2.2	2.4	3.0	1.1	4.6	e1.1
8	2.5	2.4	3.0	e4.2	e1.4	2.9	2.1	2.3	7.5	1.0	2.4	e1.3
9	2.2	2.5	e2.7	e4.1	e2.0	2.8	2.1	3.4	6.6	.94	1.6	1.3
10	2.1	2.5	e2.9	e4.0	e3.0	2.7	2.2	7.9	9.6	1.0	1.1	1.2
11	2.1	2.5	e2.6	e4.0	e4.0	2.7	2.2	5.7	4.8	1.1	.96	1.1
12	2.0	2.5	e2.8	4.0	e5.0	2.6	2.3	9.6	3.8	1.1	1.1	1.2
13	2.0	2.6	3.1	4.1	e4.0	2.6	2.5	4.4	3.8	1.0	1.2	1.2
14	1.9	2.7	3.2	3.9	e5.0	2.5	2.5	3.4	4.8	1.1	.90	1.0
15	1.8	2.8	3.2	3.8	e5.6	2.5	2.4	5.7	5.4	1.1	.75	.86
16	1.8	3.9	e3.0	3.8	e6.1	2.5	2.3	5.3	4.6	.91	.81	.88
17	1.8	3.9	e2.9	4.0	e5.0	2.4	2.2	4.7	4.0	.84	.72	.86
18	1.8	3.1	e3.2	e3.6	e4.7	2.4	2.2	4.1	3.6	.82	.73	.86
19	1.8	3.5	3.3	e3.4	e4.5	2.4	2.2	3.4	2.8	.77	.74	1.1
20	1.8	3.2	3.3	e3.3	e4.3	2.4	2.3	2.9	2.5	.80	.68	20
21	1.8	3.0	3.5	e3.5	3.6	2.3	2.3	2.7	2.4	1.3	.76	5.9
22	1.9	2.9	e3.2	e3.7	3.9	2.4	2.2	2.6	2.4	.87	.80	2.7
23	1.8	3.0	e2.9	3.7	3.7	2.4	2.2	2.5	2.4	1.3	.76	1.8
24	2.0	3.1	e2.8	3.7	3.6	2.4	2.2	2.3	2.4	1.3	.90	1.5
25	1.9	3.2	e3.2	3.8	3.6	2.3	2.2	2.2	2.7	1.2	.90	1.4
26	2.0	3.0	e3.0	3.7	3.5	2.3	2.1	2.1	2.1	.88	.82	1.3
27	2.1	2.9	e2.9	3.8	3.4	2.2	2.0	2.2	1.7	.81	.81	1.2
28	2.1	2.9	e3.1	e3.6	3.3	2.3	2.0	2.1	1.5	.72	1.1	1.3
29	2.2	2.9	2.9	e3.5	---	2.2	2.1	2.0	1.5	.69	1.1	1.2
30	2.3	2.8	e2.1	e3.7	---	2.2	2.3	2.0	1.6	.74	e3.5	1.2
31	2.3	---	e1.7	3.7	---	2.2	---	2.1	---	.75	e2.5	---
TOTAL	67.0	83.9	91.0	115.8	104.1	80.3	66.5	104.0	113.9	31.94	96.99	62.26
MEAN	2.16	2.80	2.94	3.74	3.72	2.59	2.22	3.35	3.80	1.03	3.13	2.08
MAX	3.7	3.9	3.5	4.5	6.1	3.2	2.5	9.6	9.6	1.5	61	20
MIN	1.8	2.2	1.7	2.1	1.4	2.2	2.0	2.0	1.5	.69	.64	.86
AC-FT	133	166	180	230	206	159	132	206	226	63	192	123

CAL YR 1988 TOTAL 2081.13 MEAN 5.69 MAX 1060 MIN .88 AC-FT 4130

WTR YR 1989 TOTAL 1017.69 MEAN 2.79 MAX 61 MIN .64 AC-FT 2020

e Estimated

ARKANSAS RIVER BASIN

07204000 MORENO CREEK AT EAGLE NEST, NM

LOCATION.--Lat 36°33'14", long 105°16'03", Colfax County, Hydrologic Unit 11080002, in Maxwell Grant, on right bank 175 ft upstream from U.S. Highway 64, 250 ft northwest of intersection of U.S. Highway 64 and State Highway 38, about 1,000 ft upstream from high-water line of Eagle Nest Lake at Eagle Nest.

DRAINAGE AREA.--73.8 mi².

PERIOD OF RECORD.--April 1928 to October 1955 and June 1964 to current year (no winter records except water year 1932). Monthly discharge only for some periods, published in WSP 1311. Records for December 1930 to March 1931, published in WSP 732, are unreliable and should not be used. Published as "near Therma" 1928-34.

REVISED RECORDS.--WSP 1281: 1931(M), 1932, 1935(M), 1939-41(M), 1946-47(M). WSP 1921: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Concrete control since Oct. 3, 1952. Datum of gage is 8,197.39 ft above National Geodetic Vertical Datum of 1929. See WSP 1921 for history of changes prior to Oct. 26, 1955. Oct. 26, 1955 to Nov. 12, 1974, water-stage recorder at site 160 ft downstream at datum 1.41 ft lower.

REMARKS.--Records good. Diversions for irrigation of about 1,200 acres upstream from station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 240 ft³/s, Sept. 1, 1946, gage height, 3.10 ft, site and datum then in use; maximum gage height, 3.55 ft, May 12, 1973; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 13	2315	*22	*2.21				

Minimum discharge determined, 0.10 ft³/s, July 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	---	---	---	---	---	e14	11	2.3	.82	1.3	.52
2	2.1	---	---	---	---	---	e14	11	2.2	.73	1.1	.45
3	2.3	---	---	---	---	---	e13	9.8	2.2	.68	.84	.44
4	2.1	---	---	---	---	---	e14	8.3	2.2	.70	.84	.55
5	2.2	---	---	---	---	---	14	7.9	2.1	.68	.73	.90
6	2.4	---	---	---	---	---	14	7.6	1.9	.59	.67	.59
7	3.2	---	---	---	---	---	14	7.5	1.7	.54	.59	.53
8	3.1	---	---	---	---	---	14	7.5	1.9	.49	.59	.50
9	2.8	---	---	---	---	---	15	7.6	2.7	.45	.57	.48
10	2.7	---	---	---	---	---	14	13	2.5	.48	.66	.47
11	2.6	---	---	---	---	---	14	11	2.0	.50	.93	.44
12	2.5	---	---	---	---	---	13	11	2.6	.50	1.3	.81
13	2.5	---	---	---	---	---	16	9.3	2.8	.54	1.1	.82
14	2.4	---	---	---	---	---	18	8.8	3.0	.48	.86	.72
15	2.3	---	---	---	---	---	14	8.8	3.1	.46	.75	.64
16	2.3	---	---	---	---	---	13	9.0	2.5	.41	.60	.57
17	2.2	---	---	---	---	---	13	9.9	2.0	.33	.71	.52
18	2.2	---	---	---	---	---	13	9.0	1.8	.28	.84	.45
19	2.1	---	---	---	---	---	14	7.4	1.7	.55	.75	.61
20	2.0	---	---	---	---	---	15	6.7	1.6	.64	.64	1.0
21	2.1	---	---	---	---	---	16	6.1	1.6	.57	.58	.75
22	2.1	---	---	---	---	---	17	5.7	1.8	.57	.56	.68
23	2.0	---	---	---	---	---	18	5.5	1.9	.57	.50	.63
24	2.0	---	---	---	---	---	18	4.8	1.7	.60	.48	.58
25	2.0	---	---	---	---	---	17	4.4	1.4	.67	.41	.55
26	e2.0	---	---	---	---	---	16	4.3	1.2	.66	.29	.54
27	e1.9	---	---	---	---	---	14	4.2	1.1	.62	.34	.50
28	e1.9	---	---	---	---	---	14	4.0	.92	.60	.35	.49
29	e1.9	---	---	---	---	---	13	3.6	.94	.63	.33	.44
30	e1.8	---	---	---	---	---	12	3.4	1.0	.84	.37	.40
31	e1.8	---	---	---	---	---	---	3.2	---	1.3	.62	---
TOTAL	69.6	---	---	---	---	---	438	231.3	58.36	18.48	21.20	17.57
MEAN	2.25	---	---	---	---	---	14.6	7.46	1.95	.60	.68	.59
MAX	3.2	---	---	---	---	---	18	13	3.1	1.3	1.3	1.0
MIN	1.8	---	---	---	---	---	12	3.2	.92	.28	.29	.40
AC-FT	138	---	---	---	---	---	869	459	116	37	42	35

e Estimated

07204500 CIENEGUILLA CREEK NEAR EAGLE NEST, NM

LOCATION.--Lat 36°29'07", long 105°15'54", Colfax County, Hydrologic Unit 11080002, in Maxwell Grant, on right bank 0.1 mi downstream from Schoolhouse Draw, 0.4 mi upstream from high-water line of Eagle Nest Lake, 0.5 mi east of U.S. Highway 64, and 4.7 mi south of Eagle Nest.

DRAINAGE AREA.--56 mi².

PERIOD OF RECORD.--April 1928 to September 1955 and June 1964 to current year (no winter records except in water years 1932, 1948 and 1951). Monthly discharge only for some periods, published in WSP 1311 and 1731. Records for December 1930 to March 1931, published in WSP 732, are unreliable and should not be used. Published as "near Therma" 1928-34.

REVISED RECORDS.--WSP 957: 1941. WSP 1281: Drainage area. WSP 1311: 1932(M), 1935(M), 1937(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Concrete control since Sept. 25, 1947. Elevation of gage is 8,200 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 8, 1928, nonrecording gage, and May 8, 1928 to Sept. 1, 1934, water-stage recorder at site 0.2 mi downstream at different datums.

REMARKS.--Records good. Diversions for irrigation of about 1,000 acres upstream from station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 505 ft³/s, June 16, 1965, gage height, 5.61 ft, from rating curve extended above 110 ft³/s; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 8	0545	*34	*3.54				

Minimum discharge determined, 0.15 ft³/s, July 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.0	---	---	---	---	---	e26	11	2.0	.60	6.7	1.4
2	e3.0	---	---	---	---	---	e26	10	2.6	.47	6.5	1.3
3	e3.1	---	---	---	---	---	e27	9.9	2.7	.40	2.8	1.2
4	4.1	---	---	---	---	---	e28	9.0	3.3	.35	2.0	1.8
5	5.1	---	---	---	---	---	e29	8.4	3.6	.33	1.6	2.8
6	5.0	---	---	---	---	---	29	8.1	2.6	.65	1.7	1.8
7	8.4	---	---	---	---	---	30	7.7	1.9	.49	2.0	1.4
8	6.1	---	---	---	---	---	32	7.3	2.2	.37	1.8	1.2
9	5.2	---	---	---	---	---	32	7.8	2.8	.27	1.8	1.3
10	4.6	---	---	---	---	---	29	17	2.6	.21	1.9	1.1
11	4.2	---	---	---	---	---	26	20	2.5	.17	1.6	1.1
12	3.9	---	---	---	---	---	24	10	2.2	.62	1.8	3.3
13	3.7	---	---	---	---	---	25	7.7	4.9	3.4	1.6	4.0
14	3.2	---	---	---	---	---	28	7.1	5.8	2.5	6.1	2.4
15	2.5	---	---	---	---	---	21	7.8	6.4	1.2	2.9	2.0
16	2.4	---	---	---	---	---	18	9.1	3.7	.82	2.0	1.7
17	2.3	---	---	---	---	---	17	11	2.7	.66	1.8	1.6
18	2.4	---	---	---	---	---	17	9.0	2.1	.46	1.8	1.4
19	2.0	---	---	---	---	---	20	7.0	1.8	.62	1.8	2.1
20	2.0	---	---	---	---	---	23	6.0	1.8	2.0	1.9	6.8
21	2.2	---	---	---	---	---	26	5.2	1.6	1.6	1.7	4.9
22	2.2	---	---	---	---	---	25	4.9	2.1	2.0	1.7	3.1
23	2.3	---	---	---	---	---	23	4.1	2.2	1.7	1.5	2.7
24	2.2	---	---	---	---	---	21	3.2	1.9	2.1	1.4	2.5
25	2.1	---	---	---	---	---	18	2.8	1.5	3.3	1.3	2.3
26	2.1	---	---	---	---	---	16	2.9	1.1	2.8	1.2	2.2
27	e2.1	---	---	---	---	---	14	2.7	.95	3.7	1.3	2.2
28	e2.0	---	---	---	---	---	13	2.6	.89	4.6	1.4	2.1
29	e2.0	---	---	---	---	---	13	2.3	.71	2.5	1.5	2.1
30	e2.0	---	---	---	---	---	12	2.2	.66	2.8	1.5	2.1
31	e1.9	---	---	---	---	---	---	2.1	---	7.4	1.6	---
TOTAL	99.3	---	---	---	---	---	688	225.9	73.81	51.09	68.2	67.9
MEAN	3.20	---	---	---	---	---	22.9	7.29	2.46	1.65	2.20	2.26
MAX	8.4	---	---	---	---	---	32	20	6.4	7.4	6.7	6.8
MIN	1.9	---	---	---	---	---	12	2.1	.66	.17	1.2	1.1
AC-FT	197	---	---	---	---	---	1360	448	146	101	135	135

e Estimated

07205000 SIXMILE CREEK NEAR EAGLE NEST, NM

LOCATION.--Lat 36°31'07", long 105°16'29", Colfax County, Hydrologic Unit 11080002, in Maxwell Grant, on left upstream wingwall of concrete control, 250 ft downstream from concrete box culvert on U.S. Highway 64, and 2.6 mi southwest of Eagle Nest.

DRAINAGE AREA.--10.5 mi².

PERIOD OF RECORD.--April 1928 to September 1955 (no winter records in water years 1929-31, 1933-55), July 1958 to current year (no winter records subsequent to water year 1975). Prior to October 1930 monthly discharge only, published in WSP 1311. Records for December 1930 to March 1931, published in WSP 732, are unreliable and should not be used. Published as "near Therma" 1928-34.

REVISED RECORDS.--WSP 1311: 1932-33(M), 1935(M), 1943(M). WSP 1681: 1937(M). WSP 1921: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Concrete control Sept. 11, 1931 to May 1933, and since Sept. 13, 1934. Datum of gage is 8,195.16 ft above National Geodetic Vertical Datum of 1929. Prior to May 18, 1928, nonrecording gage at site 88 ft upstream at datum 0.98 ft higher. May 18, 1928 to Sept. 11, 1938, water-stage recorder at site 88 ft upstream at datum 0.43 ft higher.

REMARKS.--Records good. Diversions for irrigation of about 300 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--18 years (water years 1932, 1959-75), 2.51 ft³/s, 1,820 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (1930-55 and SINCE 1957).--Maximum discharge, 128 ft³/s, Aug. 5, 1969, gage height, 2.86 ft, from rating curve extended above 32 ft³/s; maximum gage height recorded, 3.38 ft, Apr. 2, 1937 (ice jam), site and datum then in use; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 22	0230	*20	*1.39	No other peak greater than base discharge.			

Minimum discharge determined, 0.23 ft³/s, July 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.1	---	---	---	---	---	e6.4	4.7	1.1	.75	3.4	1.6
2	e2.1	---	---	---	---	---	e6.8	4.2	1.1	.68	3.3	1.5
3	2.2	---	---	---	---	---	e7.2	4.0	1.2	.71	2.5	1.5
4	2.2	---	---	---	---	---	e7.6	4.0	1.2	.78	2.2	1.8
5	2.5	---	---	---	---	---	8.1	3.9	1.3	.73	2.3	2.4
6	2.5	---	---	---	---	---	8.5	3.3	1.0	.39	2.3	1.8
7	2.9	---	---	---	---	---	9.3	1.8	.89	.29	2.1	1.7
8	2.7	---	---	---	---	---	11	1.7	1.0	.32	2.3	1.7
9	2.4	---	---	---	---	---	13	1.9	1.2	.33	2.4	1.6
10	2.3	---	---	---	---	---	12	3.2	1.0	.35	2.5	1.6
11	2.2	---	---	---	---	---	10	3.0	.94	.38	4.8	1.5
12	2.2	---	---	---	---	---	9.1	2.9	1.2	.36	4.5	2.4
13	2.2	---	---	---	---	---	12	2.5	1.4	.29	3.6	2.2
14	2.1	---	---	---	---	---	12	2.7	1.7	.28	3.2	2.0
15	2.1	---	---	---	---	---	11	2.8	1.3	.36	2.9	1.8
16	2.1	---	---	---	---	---	12	2.7	1.1	.35	2.7	1.8
17	2.1	---	---	---	---	---	14	3.0	1.1	.32	2.6	1.7
18	2.1	---	---	---	---	---	16	2.5	.93	.30	2.9	1.6
19	2.0	---	---	---	---	---	17	1.9	.86	1.0	2.5	2.0
20	2.0	---	---	---	---	---	18	1.6	.94	.78	2.3	3.0
21	2.0	---	---	---	---	---	19	1.3	.87	.60	2.2	2.2
22	2.0	---	---	---	---	---	19	1.0	.99	.61	2.1	2.0
23	2.0	---	---	---	---	---	16	.90	.92	1.4	1.9	2.0
24	2.0	---	---	---	---	---	12	.76	.83	1.1	1.9	1.9
25	2.0	---	---	---	---	---	11	.69	.76	1.3	1.8	1.8
26	2.0	---	---	---	---	---	9.9	.75	.74	1.4	1.7	1.8
27	2.0	---	---	---	---	---	8.1	.74	.71	1.4	1.7	1.7
28	e2.0	---	---	---	---	---	6.5	.87	.68	1.2	1.7	1.7
29	e1.9	---	---	---	---	---	5.8	.81	.68	1.1	1.6	1.7
30	e1.8	---	---	---	---	---	5.2	1.2	.76	1.4	1.6	1.6
31	e1.5	---	---	---	---	---	---	1.2	---	2.2	1.8	---
TOTAL	66.2	---	---	---	---	---	333.5	68.52	30.40	23.46	77.3	55.6
MEAN	2.14	---	---	---	---	---	11.1	2.21	1.01	.76	2.49	1.85
MAX	2.9	---	---	---	---	---	19	4.7	1.7	2.2	4.8	3.0
MIN	1.5	---	---	---	---	---	5.2	.69	.68	.28	1.6	1.5
AC-FT	131	---	---	---	---	---	661	136	60	47	153	110

e Estimated

ARKANSAS RIVER BASIN

37

07205500 EAGLE NEST LAKE NEAR EAGLE NEST, NM

LOCATION.--Lat 36°31'53", long 105°13'44", Colfax County, Hydrologic Unit 11080002, in Maxwell Grant, at upstream face of Eagle Nest Dam on Cimarron River, 2.5 mi southeast of Eagle Nest, 6.7 mi west of Ute Park, and at mile 48.7.

DRAINAGE AREA.--167 mi².

PERIOD OF RECORD.--December 1927 to December 1944 (monthend contents only, published in WSP 1311), May 1950 to September 1965 (monthend contents only), October 1965 to June 1987, (nonrecording gage read several times a month at random intervals), July 1987 to current year (water-stage recorder). Prior to January 1972 published as Eagle Nest Reservoir.

REVISED RECORDS.--WSP 1281: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 8,056.8 ft above Geodetic Vertical Datum of 1929. Prior to October 1964 gage heights were raised by addition of 8,000 ft and called elevations.

REMARKS.--Lake is formed by concrete dam with spillway cut in natural rock, completed June 30, 1918; storage began in June 1917. Capacity, 79,120 acre-ft between gage heights 35.0 ft, sill of outlet gate, and 137.0 ft, crest of ungated spillway. Dead storage negligible. Records given herein represent usable contents. Water released is used for irrigation. Lake is recreational area. Diversions for irrigation of about 2,500 acres upstream from reservoir.

COOPERATION.--Supplemental gage readings provided by Cimarron River watermaster.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 78,800 acre-ft, May 31, 1942, gage height, 136.9 ft; minimum observed, 635 acre-ft, Dec. 14, 1954, gage height, 61.33 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 73,590 acre-ft, Apr. 22, gage height, 134.66 ft; minimum, 63,930 acre-ft, Sept. 28, 29, gage height, 130.34 ft.

Capacity table (gage height in feet, and contents, in acre-feet)
(Based on data provided by New Mexico State Engineer Office in 1950)

125	53,050	135	74,350
130	63,170	140	86,590

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66660	66910	e66150	66100	e66750	e67900	72180	73430	71220	69740	66640	64960
2	66820	66840	e66100	66260	e66750	e68000	72430	73390	71200	69700	66640	64920
3	66930	66910	e66050	66060	e66780	e68200	72200	73320	71040	69590	66590	64830
4	66970	66750	e66000	66190	e66800	e68300	72470	73210	71080	69480	66520	64760
5	66910	66790	e65900	66230	e66800	e68450	72610	73190	71060	69320	66440	64740
6	66970	66790	e65800	e66400	e66850	e68600	72670	73120	70990	69250	66370	64650
7	67020	66700	65680	e66450	e66900	e68700	72740	73050	70970	69100	66280	64630
8	67000	66610	65610	e66450	e66900	e68800	72900	72980	70910	68960	66230	64490
9	67000	66790	65630	e66480	e66900	e68800	72670	72870	70930	68830	66190	64340
10	66950	66700	65630	e66450	e66900	e68900	72850	72850	70970	68690	66190	64250
11	66950	66770	65630	e66480	e66940	e69000	72850	72830	70950	68580	66210	64130
12	66970	66840	65700	e66490	e66970	e69200	72980	72690	70950	68450	66190	64220
13	67020	66770	65810	e66500	e66970	e69450	73140	72630	70950	68310	66170	64140
14	66950	66820	65740	e66500	e67000	e69650	73280	72540	71020	68160	66120	64090
15	66970	66570	65360	e66500	e67000	e69800	73390	72450	71040	68000	66080	64090
16	67060	66770	65720	e66500	e67000	70440	73360	72430	71040	67800	66060	64000
17	67000	66550	65760	e66530	e67070	70680	73360	72400	71040	67710	66060	64000
18	67020	66480	65880	e66530	e67100	70820	73430	72400	70970	67550	66030	63980
19	67000	66570	65850	e66530	e67100	71080	73450	72380	70860	67440	66010	64070
20	66930	66500	65830	e66500	e67150	71040	73500	72310	70820	67310	65940	64040
21	66930	66550	65970	e66580	e67200	71220	73480	72200	70640	67220	65880	64020
22	66840	66570	65850	e66580	e67250	71350	73590	72140	70550	67110	65850	63980
23	66860	e66520	65940	e66600	e67350	71440	73500	72090	70550	67000	65790	64000
24	66860	e66500	66010	e66650	e67350	71670	73570	71980	70460	66880	65700	64000
25	66840	e66450	66100	e66630	e67450	71730	73540	71820	70350	66820	65610	63980
26	66880	e66400	65920	e66650	e67650	71780	73540	71780	70230	66790	65560	63960
27	66790	e66350	65900	e66650	e67650	71850	73500	71820	70120	66750	65430	63960
28	66910	e66300	66010	e66600	e67750	71940	73480	71760	70010	66700	65380	63930
29	66820	e66250	65920	e66600	---	72020	73500	71640	69900	66640	65300	63930
30	66820	e66170	65970	e66650	---	72090	73340	71470	69880	66640	65120	63960
31	66790	---	66060	e66700	---	72250	---	71380	---	66680	65050	---
MAX	67060	66910	66150	66700	67750	72250	73590	73430	71220	69740	66640	64960
MIN	66660	66170	65360	66060	66750	67900	72180	71380	69880	66640	65050	63930
(+)	131.62	---	131.29	---	---	134.06	134.55	133.67	133.00	131.57	130.84	130.35
(++)	-160	-620	-110	+640	+1050	+4500	+1090	-1960	-1500	-3200	-1630	-1090

CAL YR 1988 MAX 73250 MIN 65360 (++) -4710
WTR YR 1989 MAX 73590 MIN 63930 (++) -2990

(+) GAGE HEIGHT, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET
e Estimated

07206000 CIMARRON RIVER BELOW EAGLE NEST DAM, NM

LOCATION.--Lat 36°31'55", long 105°13'43", Colfax County, Hydrologic Unit 11080002, in Maxwell Grant, on left bank 300 ft downstream from Eagle Nest Dam, 2.5 mi southeast of Eagle Nest, 6.7 mi west of Ute Park, and at mile 48.6.

DRAINAGE AREA.--167 mi².

PERIOD OF RECORD.--May 1950 to current year. Published as Cimarron Creek below Eagle Nest Dam October 1952 to September 1965.

REVISED RECORDS.--WSP 1281: Drainage area.

GAGE.--Water-stage recorder. Parshall flume since May 15, 1951. Elevation of gage is 8,080 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 15, 1951, at datum 0.81 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Eagle Nest Lake (station 07205500) 300 ft upstream. Diversions for irrigation of 2,500 acres upstream from station.

AVERAGE DISCHARGE.--39 years, 14.4 ft³/s, 10,430 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 205 ft³/s, June 14, 1955; maximum gage height, 3.04 ft, April 20, 1983; no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 70 ft³/s, July 14, minimum daily, 0.08 ft³/s, Feb. 3-8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	.33	36	e.12	e.09	e.12	13	40	51	33	34	36
2	7.5	.33	36	e.12	e.09	e.12	13	44	44	31	34	26
3	6.0	.33	36	e.12	e.08	e.12	13	44	15	34	32	29
4	4.0	.32	36	e.11	e.08	e.12	13	44	15	39	28	38
5	4.0	.34	30	e.11	e.08	e.13	13	44	12	43	22	36
6	3.8	.33	.29	e.11	e.08	e.13	13	44	9.4	47	31	30
7	3.6	.33	.25	e.11	e.08	e.13	13	50	8.4	48	31	30
8	3.2	.33	.25	e.11	e.08	e.13	13	56	4.9	48	24	30
9	1.9	.34	.25	e.11	e.09	e.13	13	56	1.4	48	18	30
10	1.8	.33	.25	e.11	e.09	e.15	13	56	1.2	50	18	32
11	1.3	.33	.25	e.11	e.10	e.19	13	56	3.3	55	18	31
12	.81	.33	.25	e.11	e.10	e.22	13	57	5.3	59	18	27
13	.40	.33	.23	e.11	e.11	e.26	13	57	5.3	64	18	19
14	.29	.34	.24	e.11	e.11	e.32	13	57	5.7	70	14	13
15	.25	6.3	.20	e.11	e.11	.38	13	51	5.5	69	11	14
16	.27	6.0	.18	e.11	e.11	.33	23	45	5.6	65	8.4	14
17	.25	5.9	.18	e.12	e.12	.30	29	45	6.0	66	5.3	14
18	.25	5.7	.21	e.12	e.12	.33	31	44	16	67	5.2	11
19	.25	6.0	.19	e.12	e.12	.33	33	44	26	67	8.7	5.1
20	.25	5.7	.18	e.12	e.12	.33	33	44	29	67	14	1.3
21	.28	5.7	.18	e.12	e.12	.33	33	43	29	63	16	1.2
22	.33	25	.21	e.12	e.12	.33	33	33	29	52	22	1.1
23	.33	37	.22	e.12	e.12	.33	29	22	29	60	25	1.0
24	.33	36	.14	e.12	e.12	.33	23	22	31	56	25	.90
25	.33	36	e.12	e.12	e.12	.33	23	22	44	38	25	.81
26	.33	36	.15	e.12	e.12	14	8.3	14	44	24	25	.76
27	.33	36	.10	e.12	e.12	13	9.5	7.1	42	24	25	.76
28	.33	36	e.12	e.12	e.12	13	22	18	39	22	32	.76
29	.33	36	e.12	e.11	---	13	30	51	36	17	39	.59
30	.34	36	e.12	e.11	---	13	30	51	36	29	40	.52
31	.33	---	e.12	e.10	---	13	---	51	---	34	38	---
TOTAL	51.21	359.94	179.00	3.55	2.92	84.92	584.8	1312.1	629.0	1489	704.6	474.80
MEAN	1.65	12.0	5.77	.11	.10	2.74	19.5	42.3	21.0	48.0	22.7	15.8
MAX	7.5	37	36	.12	.12	14	33	57	51	70	40	38
MIN	.25	.32	.10	.10	.08	.12	8.3	7.1	1.2	17	5.2	.52
AC-FT	102	714	355	7.0	5.8	168	1160	2600	1250	2950	1400	942

CAL YR 1988 TOTAL 5224.33 MEAN 14.3 MAX 60 MIN .10 AC-FT 10360
WTR YR 1989 TOTAL 5875.84 MEAN 16.1 MAX 70 MIN .08 AC-FT 11650

e Estimated

07207000 CIMARRON RIVER NEAR CIMARRON, NM

LOCATION.--Lat 36°31'11", long 104°58'42", Colfax County, Hydrologic Unit 11080002, in Maxwell Grant, on right bank 1,200 ft downstream from Turkey Creek Canyon, 3.6 mi west of Cimarron, and at mile 31.6.

DRAINAGE AREA.--294 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1950 to current year. Published as Cimarron Creek near Cimarron, October 1952 to September 1965.

REVISED RECORDS.--WSP 1281: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Nov. 6, 1963. Datum of gage is 6,599.58 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Flow regulated by Eagle Nest Lake (station 07205500). Diversions upstream from station for irrigation of about 3,500 acres, part of which is downstream from station. Philmont ditch (formerly known as Cimarroncito ditch) diverts from left bank 1.5 mi upstream from station, flumes under river 0.9 mi upstream and bypasses station for off-channel storage and irrigation downstream; Cimarron Diversion pipeline 300 ft upstream from station for City of Raton Water Supply started June, 1983. See tabulation below for monthly diversions.

AVERAGE DISCHARGE.--39 years, 21.8 ft³/s, 15,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft³/s, June 17, 1965, gage height, 12.42 ft, from floodmark, from rating curve extended above 800 ft³/s on basis of slope-area measurements at gage heights 4.88 ft and 12.42 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 134 ft³/s, at 1600 hours Aug. 12, gage height, 2.23 ft; minimum daily, 0.94 ft³/s, Feb. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	3.7	37	e10	e1.5	5.4	25	44	54	26	36	33
2	8.9	3.7	36	e11	e1.3	5.9	25	47	54	23	35	30
3	8.9	3.7	35	e12	e1.1	6.7	25	45	34	23	32	24
4	7.8	3.5	38	e15	e1.0	6.1	26	45	27	28	28	36
5	6.9	3.4	38	6.1	e.94	6.8	26	45	25	30	23	41
6	7.0	3.4	21	5.6	e1.0	9.7	25	45	20	36	27	33
7	7.4	3.4	15	3.1	e1.2	8.4	25	47	18	36	33	30
8	7.2	3.3	11	1.5	e1.4	9.1	26	54	17	36	31	28
9	7.0	3.3	13	e1.6	e1.7	9.8	27	56	14	36	22	28
10	6.4	3.2	12	e1.7	e2.4	13	27	62	11	37	22	29
11	6.1	3.2	12	e1.3	e4.0	15	27	65	9.8	40	22	32
12	5.8	3.0	15	e1.9	e3.2	14	27	67	7.0	45	28	34
13	5.3	2.9	14	e2.2	e2.5	15	28	68	6.6	48	25	26
14	5.0	2.8	8.6	e2.7	e2.3	14	26	67	6.9	55	23	17
15	4.5	2.8	7.6	e4.4	e2.3	13	25	63	5.9	55	17	15
16	4.3	5.0	9.8	e3.7	e2.2	13	27	51	2.8	51	14	15
17	4.2	9.4	10	e5.0	e2.4	12	38	50	2.1	50	12	14
18	4.1	10	11	e3.4	e2.8	12	40	47	1.5	52	9.9	14
19	4.0	9.6	8.7	e2.5	e3.8	13	43	44	13	54	9.3	14
20	4.1	16	15	e2.1	e2.9	14	45	43	22	55	12	12
21	4.1	22	14	e2.8	3.1	13	46	48	23	55	14	8.6
22	4.0	14	8.0	e3.5	3.7	14	48	46	25	43	18	7.7
23	4.0	35	e7.2	e2.8	3.9	13	49	35	25	48	23	7.3
24	4.0	33	e10	e2.7	3.9	13	42	34	24	50	23	6.9
25	4.0	34	e12	e2.5	4.3	13	42	35	34	42	23	7.4
26	4.0	34	13	e2.4	5.1	16	38	34	37	24	23	7.1
27	3.9	38	2.2	e2.3	5.7	22	24	22	37	25	23	6.9
28	3.9	48	e3.2	e2.1	5.3	22	34	19	32	24	25	6.4
29	3.7	35	e5.0	e2.0	---	23	45	43	28	21	36	6.2
30	3.7	39	e7.1	e1.9	---	24	44	51	27	25	40	6.0
31	3.7	---	e8.0	e1.7	---	25	---	52	---	36	40	---
TOTAL	166.8	431.3	457.4	123.5	76.94	413.9	995	1474	643.6	1209	749.2	575.5
MEAN	5.38	14.4	14.8	3.98	2.75	13.4	33.2	47.5	21.5	39.0	24.2	19.2
MAX	8.9	48	38	15	5.7	25	49	68	54	55	40	41
MIN	3.7	2.8	2.2	1.3	.94	5.4	24	19	1.5	21	9.3	6.0
AC-FT	331	855	907	245	153	821	1970	2920	1280	2400	1490	1140
(+)	---	---	---	---	---	---	---	250	236	375	---	---
(++)	---	---	---	---	---	---	---	---	---	---	---	---

CAL YR 1988 TOTAL 6134.83 MEAN 16.8 MAX 96 MIN .19 AC-FT 12170 (+) 521 (++) 0
WTR YR 1989 TOTAL 7316.14 MEAN 20.0 MAX 68 MIN .94 AC-FT 14510 (+) 861 (++) 0

(+) DIVERSION, IN ACRE-FEET, BY PHILMONT DITCH, DATA PROVIDED BY CIMARRON RIVER WATERMASTER

(++) DIVERSION, IN ACRE-FEET, RATON DIVERSION, DATA PROVIDED BY CIMARRON RIVER WATERMASTER

e Estimated

07207000 CIMARRON RIVER NEAR CIMARRON, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979, 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT- ANCE LAB (US/CM) (00095)	SPE-CIFIC CON-DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
OCT 26...	1515	3.9	--	419	8.30	8.50	20.0	11.5	8.7	20	180	22
JAN 24...	1315	<2.5	310	--	8.10	--	10.0	3.0	10.6	--	--	--
MAR 29...	1530	25	--	291	8.30	8.20	21.5	13.0	8.5	--	120	3
MAY 10...	1430	60	250	294	8.10	8.40	15.0	17.0	7.8	--	130	0
JUL 18...	1315	53	--	316	8.00	8.80	28.0	19.5	7.6	37	140	0
SEP 13...	1400	26	140	--	8.30	--	8.0	10.5	8.8	--	--	--

[illegible][illegible]

41

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

[illegible]

ARKANSAS RIVER BASIN

07207500 PONIL CREEK NEAR CIMARRON, NM

LOCATION.--Lat 36°34'25", long 104°56'46", Colfax County, Hydrologic Unit 11080002, in Maxwell Grant, on left bank 1.6 mi downstream from confluence of North and South Ponil Creeks, and 4.7 mi northwest of Cimarron.

DRAINAGE AREA.--171 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1915 to June 1919, August 1919 to July 1925, September 1925, September 1927 to July 1929, May 1950 to current year. Prior to May 1950 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 1281: Drainage area. WSP 1731: 1920.

GAGE.--Water-stage recorder. Elevation of gage is 6,630 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 8, 1922, at site 0.1 mi downstream at different datum. May 8, 1922 to Aug. 8, 1929, at site 0.4 mi upstream at different datum.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 250 acres upstream from station. Diversions 1,000 ft downstream from station for irrigation of about 300 acres.

AVERAGE DISCHARGE.--50 years (water years 1916-25, 1928, 1951-89), 11.3 ft³/s, 8,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,630 ft³/s, June 17, 1965, gage height, 11.13 ft, from rating curve extended above 230 ft³/s on basis of slope-area measurements at gage heights 3.56 ft, 5.80 ft, 7.15 ft, and 11.13 ft; no flow many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Discharge for flood of Aug. 8, 1929, which destroyed gage, was estimated as 5,200 ft³/s by New Mexico State Engineer.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 31	2045	*98	*2.39				
No flow July 18, 19, 20.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	3.4	3.9	e3.4	e1.2	10	22	23	4.8	.72	23	1.2
2	3.9	3.3	3.6	e3.9	e1.0	7.4	22	21	6.9	.40	10	1.0
3	3.9	3.1	3.5	e4.5	e.94	6.7	23	18	6.7	.21	5.5	2.2
4	4.7	3.0	3.4	e5.3	e.85	4.5	24	17	7.8	.84	3.0	2.4
5	4.8	3.0	3.1	e5.8	e.77	3.9	23	16	7.1	.69	2.5	3.3
6	5.1	3.1	2.7	e6.9	e.70	3.9	23	14	5.4	.38	2.3	2.4
7	8.4	2.9	2.4	e7.8	e.88	3.8	23	13	4.0	.17	2.8	1.9
8	7.9	3.0	2.3	e9.2	e1.1	4.6	26	13	4.0	.09	3.9	1.6
9	7.2	2.8	2.0	e5.8	e1.3	6.3	30	17	5.8	.07	3.0	1.5
10	6.4	3.0	1.9	e3.1	e1.7	14	28	23	5.5	.07	8.4	1.3
11	5.9	3.1	1.8	e3.1	e1.9	33	28	26	4.3	.08	7.6	1.3
12	5.4	3.1	e2.8	e3.0	e1.4	37	26	23	4.2	.08	13	3.7
13	5.2	2.8	e4.0	e2.8	e1.2	42	25	21	7.9	.08	12	6.5
14	4.9	2.7	e3.2	e2.7	e1.0	46	24	20	9.7	.11	8.0	5.0
15	4.7	2.9	e3.3	e2.7	e1.2	39	21	20	8.5	.17	5.2	3.6
16	4.5	2.9	e1.6	e2.5	e1.3	29	20	20	6.0	.08	3.7	2.8
17	4.4	2.9	e1.3	e2.4	e1.1	24	21	21	4.2	.04	9.3	2.2
18	4.3	3.0	e2.0	e2.2	e1.0	22	25	19	3.3	.01	4.9	1.8
19	4.2	3.8	e2.4	e2.0	e1.3	23	29	15	3.1	.0	4.5	2.1
20	4.1	3.5	e3.0	e1.9	e1.5	25	31	13	2.9	.02	4.4	3.9
21	3.9	3.3	e1.7	e1.8	e1.7	19	34	11	2.3	.04	3.5	3.3
22	3.9	4.3	e1.3	e1.8	e2.0	23	39	9.9	3.0	.75	3.0	2.6
23	3.9	4.1	e1.0	e1.7	e2.2	20	42	9.1	3.5	1.9	2.6	2.6
24	3.9	3.7	e1.5	e1.5	1.1	19	43	7.6	3.0	1.5	2.4	2.4
25	3.9	3.4	e1.0	e1.4	1.7	19	42	6.8	2.1	1.6	2.2	2.1
26	3.8	3.8	e.84	e1.3	2.2	20	39	6.5	1.6	1.0	1.6	1.8
27	3.7	3.4	e1.0	e1.3	32	20	34	6.7	1.2	.73	1.4	1.7
28	3.7	3.9	e1.2	e1.2	21	20	31	6.0	1.0	.47	1.8	1.5
29	3.7	3.9	e1.9	e1.1	---	20	29	5.0	.93	.37	1.9	1.5
30	3.6	3.8	e2.2	e1.8	---	22	26	4.5	.92	.65	1.4	1.4
31	3.7	---	e2.9	e1.5	---	22	---	4.3	---	13	1.3	---
TOTAL	145.8	98.9	70.74	97.4	87.24	609.1	853	450.4	131.65	26.32	160.1	72.6
MEAN	4.70	3.30	2.28	3.14	3.12	19.6	28.4	14.5	4.39	.85	5.16	2.42
MAX	8.4	4.3	4.0	9.2	32	46	43	26	9.7	13	23	6.5
MIN	3.6	2.7	.84	1.1	.70	3.8	20	4.3	.92	.00	1.3	1.0
AC-FT	289	196	140	193	173	1210	1690	893	261	52	318	144

CAL YR 1988 TOTAL 2336.08 MEAN 6.38 MAX 64 MIN .84 AC-FT 4630
WTR YR 1989 TOTAL 2803.25 MEAN 7.68 MAX 46 MIN .00 AC-FT 5560

e Estimated

07207500 PONIL CREEK NEAR CIMARRON, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT 26...	1230	3.7	226	281	8.10	8.30	18.5	8.0	9.3
JAN 24...	1200	1.5	210	--	7.80	--	7.5	0.0	10.8
MAR 29...	1000	22	225	168	7.80	8.10	15.0	7.0	9.6
MAY 10...	0845	24	160	191	8.00	7.80	11.5	10.0	9.3
JUL 18...	1130	0.02	--	361	7.90	8.40	28.0	22.0	7.0
SEP 13...	0915	7.1	96	--	7.10	--	5.0	9.0	9.1

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 26...	120	0	32	9.2	15	0.6	1.1	122	24
JAN 24...	--	--	--	--	--	--	--	--	--
MAR 29...	70	3	19	5.4	7.1	0.4	0.90	67	17
MAY 10...	79	0	22	5.9	8.4	0.4	1.3	79	16
JUL 18...	130	0	34	11	28	1	1.4	154	20
SEP 13...	--	--	--	--	--	--	--	--	--

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 26...	3.8	0.30	9.8	168	10	30	12	0.12	88
JAN 24...	--	--	--	--	--	--	8	0.03	73
MAR 29...	1.8	0.20	8.5	100	<10	65	28	1.7	97
MAY 10...	2.1	0.20	9.4	113	<10	140	98	6.3	83
JUL 18...	9.3	0.40	5.9	202	20	21	54	0.00	40
SEP 13...	--	--	--	--	--	--	108	2.1	97

07208500 RAYADO CREEK AT SAUBLE RANCH, NEAR CIMARRON, NM

LOCATION.--Lat 36°22'20", long 104°58'10", Colfax County, Hydrologic Unit 11080002, in Maxwell Grant, on right bank at Sauble Ranch (Carson-Maxwell Base Camp of Philmont Scout Ranch), 2.5 mi upstream from State Highway 21, 4.0 mi downstream from Bonito Creek, and 9.8 mi southwest of Cimarron.

DRAINAGE AREA.--65 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1909 to February 1910, June to August 1910, May 1911 to May 1913, July 1913 to February 1915, October 1915 to September 1918, March 1919 to September 1920, June 1923 to September 1924, March to May 1927, August 1927 to current year. Monthly discharge only for some periods, published in WSP 1311. Records for April and May 1910, published in WSP 287, are unreliable and should not be used. Published as Rayado River "at," "near," or "above" Abreu's Ranch near Cimarron prior to October 1925 and as Rayado River at Sauble Ranch, near Cimarron, October 1925 to September 1952.

REVISED RECORDS.--WSP 1281: 1914, 1934-35(M), 1937(M), 1941(P), 1942(M), 1944(M), drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Concrete control since Oct. 13, 1976. Elevation of gage is 6,720 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1921 for history of changes prior to Oct. 1, 1954. Oct. 1, 1954 to June 16, 1965, at site 270 ft downstream at datum 2.79 ft lower.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. No diversion upstream from station.

AVERAGE DISCHARGE.--70 years (water years 1912, 1914, 1916-20, 1924, 1928-89), 14.0 ft³/s, 10,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (1909-12, and SINCE 1913).--Maximum discharge, 9,000 ft³/s, June 17, 1965, gage height, 11.5 ft, from floodmarks, from rating curve extended above 70 ft³/s on basis of field estimate of peak flow; minimum, 0.03 ft³/s, Dec. 3, 1950, but may have been less during periods of ice effect.

EXTREMES OUTSIDE PERIOD OF RECORD.--The major flood of June 10, 1913, destroyed the gage (stage and discharge not determined). Another major flood probably occurred Sept. 29 or 30, 1904.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 10	2245	*110	*3.31	No other peak greater than base discharge.			

Minimum discharge, 0.80 ft³/s, Nov. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	4.8	7.7	e4.5	e3.0	9.8	19	12	4.1	2.4	6.5	1.8
2	7.5	4.8	5.7	e4.5	e2.8	9.6	20	11	5.4	2.1	5.0	1.8
3	7.5	4.7	4.6	e4.6	e2.8	9.9	21	10	5.4	2.1	3.6	2.4
4	8.1	4.6	5.2	e4.6	e2.7	8.0	21	9.5	5.9	2.1	3.0	2.3
5	9.0	4.7	6.6	e4.5	e2.6	8.8	19	9.0	5.4	2.2	2.8	3.7
6	8.1	4.9	6.3	e4.5	e2.4	10	19	8.3	4.3	2.2	2.7	2.7
7	12	4.8	4.4	e4.6	e2.3	10	20	7.8	4.0	1.9	3.4	2.1
8	10	4.9	4.3	e4.5	e2.3	13	22	7.2	4.3	1.7	7.2	1.8
9	8.3	5.9	e5.4	e4.4	e2.4	25	23	7.3	5.5	1.7	6.6	1.8
10	7.6	5.5	e5.4	e4.4	e2.5	62	21	14	4.7	1.6	4.5	1.8
11	7.2	5.0	e5.4	e4.3	e2.4	63	20	16	4.2	1.4	5.2	1.8
12	7.0	4.6	e5.4	e3.9	e2.4	38	20	14	4.4	1.8	7.3	3.8
13	6.6	4.5	e5.3	e3.6	e2.3	44	20	10	6.7	6.4	4.9	4.9
14	6.4	4.7	e5.3	e3.5	e2.3	40	20	10	8.0	3.6	4.1	3.3
15	6.3	4.8	4.3	e3.3	e2.4	31	18	9.9	7.6	3.1	3.5	2.6
16	6.1	3.2	4.7	e3.3	e2.5	28	16	9.8	5.2	2.5	3.1	2.3
17	5.8	2.5	4.7	e3.3	e2.6	24	16	10	4.3	2.0	3.2	2.1
18	5.8	3.7	4.6	e3.2	e2.7	24	17	9.5	3.9	1.7	2.9	1.9
19	5.7	4.0	4.4	e3.2	e2.7	26	17	7.7	3.9	1.9	2.6	3.7
20	5.5	3.9	e5.2	e3.2	e2.9	26	18	7.0	3.7	2.2	2.2	15
21	5.4	e4.5	e5.0	e3.3	e3.2	25	19	6.3	3.4	2.6	2.1	6.4
22	5.4	e4.7	e4.8	e3.3	3.7	21	19	5.9	3.6	2.7	2.5	4.2
23	5.2	e4.3	e4.8	e3.3	4.7	20	20	5.4	4.0	3.7	2.0	3.7
24	5.2	e4.5	e4.7	e3.3	6.0	18	20	4.9	3.5	5.4	2.1	3.3
25	5.1	e4.6	e4.6	e3.3	7.4	16	19	4.6	3.1	6.6	2.1	2.9
26	5.1	e4.5	e4.6	e3.3	9.2	17	18	4.7	2.9	4.6	1.8	2.7
27	5.1	e4.5	e4.6	e3.3	11	17	16	4.7	2.6	4.3	2.0	2.6
28	5.1	e4.7	e4.6	e3.3	10	17	16	4.4	2.5	3.7	2.2	2.4
29	5.0	5.7	e4.6	e3.3	---	19	15	4.1	2.6	6.4	1.9	2.3
30	4.8	8.1	e4.7	e3.2	---	21	14	3.9	2.9	5.0	1.7	2.3
31	4.9	---	e4.6	e3.2	---	19	---	3.8	---	6.8	2.2	---
TOTAL	204.3	140.6	156.5	116.0	106.2	720.1	563	252.7	132.0	98.4	106.9	96.4
MEAN	6.59	4.69	5.05	3.74	3.79	23.2	18.8	8.15	4.40	3.17	3.45	3.21
MAX	12	8.1	7.7	4.6	11	63	23	16	8.0	6.8	7.3	15
MIN	4.8	2.5	4.3	3.2	2.3	8.0	14	3.8	2.5	1.4	1.7	1.8
AC-FT	405	279	310	230	211	1430	1120	501	262	195	212	191

CAL YR 1988 TOTAL 2899.3 MEAN 7.92 MAX 26 MIN 1.6 AC-FT 5750

WTR YR 1989 TOTAL 2693.1 MEAN 7.38 MAX 63 MIN 1.4 AC-FT 5340

e Estimated

07208500 RAYADO CREEK AT SAUBLE RANCH, NEAR CIMARRON, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT 26...	0945	5.2	120	157	7.80	8.10	19.0	5.0	10.1
JAN 24...	1030	3.0	120	--	7.70	--	8.0	2.0	10.4
MAR 29...	1230	17	113	103	7.70	7.90	20.0	12.0	8.8
MAY 10...	1130	15	90	103	8.00	7.80	15.0	13.0	8.5
JUL 18...	1000	2.0	--	172	7.00	8.40	24.0	18.5	7.7
SEP 13...	1130	5.0	105	--	7.00	--	7.0	9.0	9.2

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 26...	67	0	17	5.9	6.1	0.3	1.4	72	8.2
JAN 24...	--	--	--	--	--	--	--	--	--
MAR 29...	43	0	11	3.7	4.0	0.3	1.2	45	10
MAY 10...	43	0	11	3.7	4.2	0.3	1.2	46	6.0
JUL 18...	74	0	20	5.9	6.0	0.3	1.5	82	6.0
SEP 13...	--	--	--	--	--	--	--	--	--

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 26...	2.0	0.20	19	103	<10	71	5	0.07	39
JAN 24...	--	--	--	--	--	--	7	0.06	67
MAR 29...	1.0	0.20	17	75	<10	150	15	0.71	87
MAY 10...	0.80	0.30	17	72	<10	80	17	0.71	99
JUL 18...	0.80	0.30	21	111	20	42	9	0.05	92
SEP 13...	--	--	--	--	--	--	24	0.32	53

07211000 CIMARRON RIVER AT SPRINGER, NM

LOCATION.--Lat 36°21'37", long 104°35'53", Colfax County, Hydrologic Unit 11080002, in Maxwell Grant, on left bank in Springer, 400 ft downstream from bridge on State Highway 21, 0.3 mi upstream from Salado Creek, and at mile 8.2.

DRAINAGE AREA.--1,032 mi².

PERIOD OF RECORD.--August 1907 to December 1909, January 1921 to February 1922, October 1924 to January 1926, September 1926 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Cimarron Creek at Springer, October 1952 to September 1965.

REVISED RECORDS.--WSP 827: 1934-36(M). WSP 1281: 1942, 1945-46(M).

GAGE.--Water-stage recorder. Concrete control since Nov. 5, 1954. Elevation of gage is 5,770 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1311 or 1731 for history of changes prior to July 17, 1942.

REMARKS.--Records good. Flow partly regulated by Eagle Nest Lake (station 07205500). Diversions for irrigation of about 23,000 acres upstream from station and a few hundred acres between station and mouth. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--65 years (water years 1921, 1925, 1927-89), 18.6 ft³/s, 13,480 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1930).--Maximum discharge, 29,500 ft³/s, June 18, 1965, gage height, 19.96 ft, from floodmarks, from rating curve extended above 1,800 ft³/s on basis of contracted-opening measurement of peak flow; no flow at times in 1954, 1956-57, 1978, 1983, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, about 22 ft, Sept. 29, 1904 (backwater from debris on railroad bridge). Another major flood occurred June 11, 1913. Maximum discharge of these floods probably extended 10,000 ft³/s, but probably were less than the 1965 flood.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 10	0445	*452	*4.90	No other peak greater than base discharge.			
Minimum discharge, 0.37 ft ³ /s, Jan. 1.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	2.1	3.8	e.90	5.5	10	4.9	2.2	1.1	1.9	5.9	1.1
2	3.6	2.6	2.3	2.3	4.8	9.3	5.1	2.8	2.0	1.6	5.9	1.2
3	3.3	2.6	2.9	3.0	5.0	9.2	8.8	2.7	41	2.1	5.9	1.4
4	2.6	2.2	2.9	3.7	4.5	8.2	4.8	2.4	79	2.0	4.9	2.5
5	3.3	2.1	4.2	3.3	e4.0	e7.0	4.4	2.4	25	2.4	24	9.9
6	4.5	2.4	2.9	e2.8	e3.6	e6.2	4.0	3.8	10	2.3	21	10
7	6.9	2.6	2.3	e2.6	e3.2	6.5	5.0	5.3	6.8	2.1	8.4	7.5
8	6.4	2.6	e2.4	e3.7	e2.8	7.8	4.5	5.0	4.4	1.3	8.6	4.0
9	4.9	2.0	7.4	3.7	e7.0	9.1	4.3	3.8	6.1	1.0	13	11
10	5.4	1.7	8.8	1.7	8.9	15	4.6	3.2	6.0	1.1	13	143
11	3.3	1.6	7.5	e2.4	8.2	52	4.6	4.0	4.2	1.2	8.0	14
12	3.0	1.8	5.0	e3.5	6.4	56	4.8	17	4.5	1.9	7.6	12
13	3.0	2.0	5.9	e5.0	7.0	45	5.6	7.2	4.8	1.9	8.6	8.0
14	3.6	2.0	4.5	e3.5	20	42	5.2	5.4	5.2	2.8	11	4.9
15	1.6	3.3	5.0	e2.1	20	31	5.0	6.5	4.9	2.1	12	3.0
16	1.5	4.2	8.5	e2.4	13	11	5.5	6.7	4.4	1.6	8.6	2.4
17	1.5	5.0	14	2.7	9.9	4.1	5.1	8.3	3.5	2.5	9.3	1.4
18	1.6	5.1	6.3	4.8	9.3	2.2	3.1	6.5	2.8	2.8	7.5	1.1
19	1.9	6.5	5.1	9.7	9.6	2.1	2.0	4.2	2.4	1.6	5.4	2.1
20	2.1	6.3	5.3	9.8	11	2.1	1.8	3.2	2.3	1.5	3.5	48
21	2.1	6.6	8.0	7.9	13	2.3	1.6	2.9	2.1	1.6	3.8	23
22	2.2	6.0	4.4	5.0	12	2.6	3.4	2.4	3.3	1.5	3.7	19
23	2.1	5.3	13	4.5	12	3.0	8.4	2.2	2.7	8.8	2.4	14
24	2.4	4.6	22	4.4	10	2.7	9.6	2.1	2.3	9.3	9.5	4.9
25	2.1	4.7	17	3.5	10	2.4	6.5	1.9	2.8	14	6.4	2.4
26	2.8	4.9	6.6	3.4	9.9	2.2	4.3	1.7	3.5	10	2.4	1.6
27	3.3	5.0	e5.0	3.1	9.9	2.6	2.7	1.6	3.4	4.9	1.5	1.5
28	3.6	4.1	e2.8	4.8	9.8	3.0	2.4	1.7	3.2	3.3	1.5	1.3
29	3.5	2.2	e1.2	4.8	---	3.0	2.0	1.4	2.5	2.2	1.6	1.3
30	2.1	3.9	e1.5	6.4	---	3.6	2.0	1.3	1.9	4.4	1.2	.96
31	2.0	---	e.80	4.9	---	3.3	---	1.1	---	5.1	1.0	---
TOTAL	96.2	108.0	189.30	126.30	250.3	366.5	136.0	122.9	248.1	102.8	227.1	358.46
MEAN	3.10	3.60	6.11	4.07	8.94	11.8	4.53	3.96	8.27	3.32	7.33	11.9
MAX	6.9	6.6	22	9.8	20	56	9.6	17	79	14	24	143
MIN	1.5	1.6	.80	.90	2.8	2.1	1.6	1.1	1.1	1.0	1.0	.96
AC-FT	191	214	375	251	496	727	270	244	492	204	450	711

CAL YR 1988 TOTAL 1442.41 MEAN 3.94 MAX 54 MIN .27 AC-FT 2860
WTR YR 1989 TOTAL 2331.96 MEAN 6.39 MAX 143 MIN .80 AC-FT 4630

e Estimated

07211500 CANADIAN RIVER NEAR TAYLOR SPRINGS, NM

LOCATION.--Lat 36°17'49", long 104°29'36", in NW¼SE¼ sec.21, T.24 N., R.23 E., Colfax County, Hydrologic Unit 11080003, on left bank at head of gorge, 2.0 mi south of Taylor Springs, 2.3 mi downstream from Cimarron River, 2.4 mi upstream from Chico Creek, 7.1 mi southeast of Springer, and at mile 847.9.

DRAINAGE AREA.--2,850 mi².

PERIOD OF RECORD.--January 1940 to September 1958, and annual maximum, water years 1959-63. June 1964 to current year. Water-year estimate for 1940, published in WSP 1311.

REVISED RECORDS.--WSP 1177: Drainage area. WSP 1281: 1941-42(P), 1945-47(M), 1948-50(P).

GAGE.--Water-stage recorder. Elevation of gage is 5,640 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 10, 1964, water-stage recorder at site 1.7 mi downstream at different datum; operated as crest-stage gage at that site and datum during water years 1959-64.

REMARKS.--Records fair. Diversions for irrigation of about 30,000 acres upstream from station. Several observations of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--44 years (water years 1940-58, 1965-89), 79.6 ft³/s, 57,670 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 162,000 ft³/s, June 18, 1965, gage height, 47.4 ft, from floodmarks, from rating curve extended above 7,000 ft³/s on basis of slope-area measurement of peak flow; no flow at times some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood prior to 1965 occurred Sept. 29, 1904, discharge published as 91,100 ft³/s in WSP 842, 847.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 24	1615	*2,610	*4.86				

Minimum discharge, 1.4 ft³/s, July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	9.4	25	e10	19	22	11	9.7	115	12	51	2.8
2	5.6	9.4	21	e13	18	21	11	10	49	8.3	22	2.5
3	5.3	9.4	22	18	7.7	20	12	11	92	6.8	12	2.2
4	5.5	9.0	23	21	e7.1	21	11	10	211	5.7	10	2.1
5	27	8.6	24	24	e6.6	19	10	9.6	69	4.9	134	90
6	18	8.7	17	23	e6.0	18	10	9.1	37	4.3	75	63
7	27	8.9	17	23	e5.5	20	10	11	25	3.8	40	27
8	23	8.5	18	18	e6.0	19	10	11	19	3.2	21	14
9	20	8.6	21	17	e10	21	9.3	11	148	2.4	20	8.8
10	18	8.4	22	e13	e12	23	11	20	181	1.7	19	154
11	15	8.5	18	e12	e16	56	11	31	46	1.6	13	26
12	13	8.7	16	e11	29	57	11	69	28	2.2	278	101
13	14	9.1	e16	e10	30	45	15	45	33	3.7	75	37
14	14	9.2	e18	e12	28	41	15	30	38	93	23	26
15	14	10	e18	e12	33	36	15	24	37	38	18	15
16	13	12	e18	e14	33	22	14	56	24	88	29	9.5
17	14	17	e16	e17	31	16	12	152	18	18	379	7.3
18	13	18	e14	23	29	12	11	53	13	7.5	27	6.0
19	14	21	25	23	26	12	11	30	10	5.6	16	8.6
20	13	20	17	22	30	12	10	22	8.9	5.4	10	287
21	13	27	21	21	31	12	9.6	18	7.6	21	7.5	161
22	12	28	19	22	28	14	9.0	16	7.0	69	15	59
23	12	33	e15	21	27	12	14	14	8.4	15	16	35
24	12	26	e14	23	24	11	14	12	697	47	7.9	19
25	12	24	e13	25	23	11	12	11	386	98	32	12
26	11	24	e11	18	23	9.9	11	9.9	78	31	7.8	9.3
27	9.9	21	e10	11	22	9.7	8.8	9.5	38	18	5.0	8.6
28	9.2	24	e9.1	20	21	11	9.9	9.7	24	10	4.5	9.6
29	9.1	25	e8.1	15	---	11	9.3	7.7	18	7.0	4.2	8.9
30	9.8	21	e7.4	17	---	10	9.2	7.0	14	7.5	3.5	8.9
31	9.6	---	e8.1	17	---	9.7	---	6.4	---	9.6	3.1	---
TOTAL	412.8	475.4	521.7	546	581.9	634.3	337.1	745.6	2479.9	649.2	1378.5	1221.1
MEAN	13.3	15.8	16.8	17.6	20.8	20.5	11.2	24.1	82.7	20.9	44.5	40.7
MAX	27	33	25	25	33	57	15	152	697	98	379	287
MIN	5.3	8.4	7.4	10	5.5	9.7	8.8	6.4	7.0	1.6	3.1	2.1
AC-FT	819	943	1030	1080	1150	1260	669	1480	4920	1290	2730	2420

CAL YR 1988 TOTAL 9335.6 MEAN 25.5 MAX 866 MIN 3.4 AC-FT 18520
WTR YR 1989 TOTAL 9983.5 MEAN 27.4 MAX 697 MIN 1.6 AC-FT 19800

e Estimated

ARKANSAS RIVER BASIN

07215500 MORA RIVER AT LA CUEVA, NM

LOCATION.--Lat 35°56'27", long 105°14'59", Mora County, Hydrologic Unit 11080004, in Mora Grant, on left bank 45 ft upstream from bridge on State Highway 518 at La Cueva, 0.3 mi downstream from La Cueva damsite, and at mile 86.8.

DRAINAGE AREA.--173 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1903 to April 1905 (gage heights and discharge measurements only), May to December 1905, May 1906 to July 1911, April 1931 to current year. Monthly discharge only for some periods, published in WSP 1311. Records for February to April 1905, published in WSP 173, are unreliable and should not be used.

REVISED RECORDS.--WSP 857: 1937. WSP 1281: 1931(M), 1932. WSP 1511: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 7,000 ft above National Geodetic Vertical Datum of 1929, from topographic map. Mar. 10, 1915 to June 4, 1921 water-stage recorder at site 2.8 mi upstream at different datum. July 6, 1921 to Jan. 5, 1929, nonrecording gage or water-stage recorder at site 0.7 mi downstream at datum about 14 ft lower and Jan. 6, 1929 to Apr. 1, 1972, water-stage recorder at site 0.7 mi downstream at datum about 15 ft lower.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. Diversions upstream from station for irrigation of about 7,000 acres, part of which are downstream from station. See tabulation below for monthly and yearly diversion of La Cueva Canal, which bypasses gage on left bank. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--62 years (water years 1907-10, 1932-89), 28.4 ft³/s, 20,580 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1930).--Maximum discharge, 1,530 ft³/s, Sept. 23, 1941, gage height, 7.58 ft, site and datum then in use, from rating curve extended above 400 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 29, 1904, may have exceeded 20,000 ft³/s; another major flood occurred June 11, 1913, but is believed less than that of 1904.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 3	2315	*292	*3.66				

Minimum discharge, 2.5 ft³/s, Jan. 25, 26, 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	17	11	e5.2	e4.4	e20	14	9.3	24	23	18	9.4
2	40	15	11	e5.0	e3.7	e18	14	9.3	25	20	17	13
3	39	12	e13	e4.7	e3.5	e12	16	9.3	43	21	17	18
4	39	12	e15	e4.6	e3.5	e9.0	15	9.2	51	20	16	17
5	40	12	e12	e4.4	e3.5	e7.1	14	9.6	32	20	16	23
6	40	12	10	e4.3	e3.3	e6.5	13	8.0	29	17	16	26
7	39	12	e8.6	e4.2	e3.2	e11	12	5.5	28	15	14	29
8	39	13	e6.7	e4.1	e3.1	e16	9.1	5.6	27	16	13	17
9	37	15	e6.3	e4.1	e3.0	14	10	7.3	30	17	11	14
10	34	16	e6.0	e4.0	e2.8	13	14	28	29	17	10	18
11	34	15	e8.9	e3.8	e4.0	15	15	52	28	18	9.1	19
12	33	17	e10	e3.8	e5.0	15	17	54	31	17	9.7	27
13	31	e15	e12	e3.8	e4.7	15	19	44	32	19	9.4	25
14	29	e12	e10	e3.8	e4.4	16	21	42	37	19	9.9	24
15	26	e9.0	e9.1	e4.2	e4.1	17	16	38	33	20	10	24
16	25	e10	e8.1	e5.0	e4.5	17	17	34	31	17	8.4	23
17	24	e9.0	e7.5	e6.0	e6.0	17	16	33	30	14	8.4	22
18	28	e8.1	e6.7	e7.0	e7.0	18	16	32	35	14	8.6	21
19	30	e7.5	e5.8	e6.0	e7.5	17	16	22	30	15	8.0	23
20	28	e7.1	e5.2	e5.5	e8.4	15	20	18	29	15	7.7	48
21	25	e6.8	e4.6	e3.9	e9.0	16	24	17	27	17	7.4	30
22	24	e6.6	4.0	e3.2	e10	18	22	18	27	17	7.4	25
23	25	e6.5	e4.0	e2.8	e11	17	23	18	28	17	7.3	24
24	25	e6.4	e5.0	e3.0	e13	16	20	18	28	18	6.7	23
25	23	6.4	e5.9	e2.6	e17	15	20	17	26	23	6.8	17
26	22	7.4	e6.6	e2.7	e18	14	18	18	25	21	8.3	10
27	19	16	e7.0	e2.6	e19	16	15	19	24	19	14	8.1
28	19	15	e6.6	e2.5	e20	13	12	23	23	18	17	6.5
29	19	11	e6.0	e3.0	---	14	18	22	22	18	15	7.9
30	20	13	e5.7	e4.1	---	16	9.6	22	23	17	17	8.6
31	21	---	e5.4	e4.2	---	15	---	23	---	19	14	---
TOTAL	918	340.8	243.7	128.1	206.6	458.6	485.7	685.1	887	558	358.1	600.5
MEAN	29.6	11.4	7.86	4.13	7.38	14.8	16.2	22.1	29.6	18.0	11.6	20.0
MAX	41	17	15	7.0	20	20	24	54	51	23	18	48
MIN	19	6.4	4.0	2.5	2.8	6.5	9.1	5.5	22	14	6.7	6.5
AC-FT	1820	676	483	254	410	910	963	1360	1760	1110	710	1190
(+)	71	555	537	646	620	381	475	263	470	991	624	295
CAL YR 1988	TOTAL 12361.7	MEAN 33.8	MAX 153	MIN 1.3	AC-FT 24520	(+) 3452						
WTR YR 1989	TOTAL 5870.2	MEAN 16.1	MAX 54	MIN 2.5	AC-FT 11640	(+) 5928						

(+) DIVERSION, IN ACRE-FEET, BY LA CUEVA CANAL

e Estimated

ARKANSAS RIVER BASIN

49

07215500 MORA RIVER AT LA CUEVA, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)
NOV 01...	1115	17	500	490	8.20	8.10	18.5	7.5	9.5
JAN 19...	0830	6.0	475	--	8.20	--	-4.0	0.5	--
MAR 29...	1100	13	448	510	8.00	8.10	15.0	11.5	10.0
MAY 17...	1130	33	480	471	8.25	8.40	14.0	12.5	8.8
JUL 19...	1045	16	425	512	8.60	8.20	24.0	19.0	7.4
DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV 01...	240	60	72	15	12	0.3	1.1	182	65
JAN 19...	--	--	--	--	--	--	--	--	--
MAR 29...	250	49	75	15	12	0.3	1.9	200	72
MAY 17...	230	51	71	14	9.2	0.3	1.3	184	63
JUL 19...	250	42	79	14	11	0.3	1.7	213	58
DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 01...	5.6	0.40	7.3	288	40	12	10	0.46	63
JAN 19...	--	--	--	--	--	--	9	0.15	71
MAR 29...	5.2	0.40	8.0	309	20	19	43	1.6	41
MAY 17...	3.6	0.30	8.5	281	20	12	116	10	49
JUL 19...	5.1	0.40	11	308	120	44	53	2.3	56

ARKANSAS RIVER BASIN

07216500 MORA RIVER NEAR GOLONDRINAS, NM

LOCATION.--Lat 35°53'27", long 105°09'47", Mora County, Hydrologic Unit 11080004, in Mora Grant, on right bank 0.7 mi upstream from bridge on State Highway 161, 1.2 mi east of Golondrin, 1.9 mi upstream from Coyote Creek, 4.7 mi downstream from Rito Cebolla, and at mile 75.8.

DRAINAGE AREA.--267 mi².

PERIOD OF RECORD.--March 1915 to May 1921, October 1921 to March 1922, May, August, September 1922, July 1923 to July 1924, December 1924 to September 1986, March 1988 to current year. Monthly discharge only 1915-30, published in WSP 1311.

REVISED RECORDS.--WSP 1281: 1951(M). WSP 1311: 1935(M), 1937-38(M), 1940-42(M), 1949(M). WSP 1511: Drainage area. WSP 1731: 1958(M).

GAGE.--Water-stage recorder. Elevation of gage is 6,750 ft above National Geodetic Vertical Datum of 1929, from topographic map. Mar. 10, 1915 to June 4, 1921, water-stage recorder at site 2.8 mi upstream at different datum. July 6, 1921 to Jan. 5, 1929, nonrecording gage or water-stage recorder at site 0.7 mi downstream at datum about 14 ft lower and Jan. 6, 1929 to Apr. 1, 1972, water-stage recorder at site 0.7 mi downstream at datum about 15 ft lower.

REMARKS.--Records good. Diversions for irrigation of about 12,000 acres upstream from station. Off-channel lakes make it possible to divert and store water during non-irrigation season. Several observations of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--70 years (water years 1916-20, 1922, 1924-86, 1989), 33.7 ft³/s, 24,420 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s, Aug. 22, 1952, gage height, 14.4 ft, site and datum then in use, from rating curve extended above 660 ft³/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Sept. 29, 1904, and June 11, 1913, probably exceeded 25,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 400 ft³/s during period March to September and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 20	0515	*436	*2.89	No other peak greater than base discharge.			

Minimum discharge, 0.32 ft³/s, Dec. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	20	12	e3.5	6.6	e12	17	1.2	25	16	19	5.4
2	43	20	14	e4.3	6.7	e9.8	17	1.4	27	16	17	3.8
3	42	19	12	e5.6	5.8	e9.0	18	1.8	28	17	17	9.3
4	40	17	13	e7.3	e5.1	e8.2	15	2.4	123	11	13	20
5	44	14	14	e9.4	e4.8	e7.7	12	2.1	44	12	16	24
6	44	14	12	e14	e4.6	e7.3	9.5	2.7	32	11	8.6	23
7	44	15	12	e13	e4.3	e8.0	8.9	2.8	28	5.2	e5.3	45
8	44	14	14	e11	e4.0	e8.6	6.6	2.6	21	4.6	21	20
9	41	16	17	e9.0	e3.7	10	7.1	5.8	31	3.8	21	16
10	37	18	16	e8.1	e8.1	9.0	8.7	35	30	2.3	7.5	18
11	36	17	17	e16	9.5	9.0	10	52	28	2.5	5.2	18
12	34	19	17	e14	9.3	16	14	86	87	3.4	4.4	33
13	33	19	16	e8.0	9.2	17	16	64	63	5.5	4.3	28
14	29	20	13	e8.9	8.9	17	20	55	73	8.8	4.5	25
15	27	20	8.4	e10	8.1	19	15	47	62	12	5.4	25
16	27	20	11	13	7.8	20	12	41	39	9.7	4.9	25
17	25	20	12	14	8.7	20	11	36	35	5.5	7.9	24
18	26	20	8.8	13	14	22	7.8	35	39	5.1	15	23
19	25	21	5.4	12	11	23	11	24	35	11	6.0	25
20	25	21	4.3	e11	13	20	15	15	34	14	5.1	146
21	24	19	3.6	e10	11	21	16	8.6	30	19	4.2	34
22	24	19	1.9	8.4	13	23	15	14	30	20	5.1	25
23	25	19	1.1	6.6	15	22	11	13	31	21	4.3	23
24	25	15	1.8	7.3	16	22	11	8.4	30	54	4.8	22
25	22	11	2.3	6.5	16	20	8.5	5.2	27	51	4.6	20
26	21	9.7	2.1	6.1	17	19	6.9	2.9	22	39	5.5	11
27	19	11	e1.9	6.5	17	19	5.3	8.4	18	28	9.1	7.9
28	17	14	e1.8	6.8	e14	19	3.9	26	12	24	17	5.3
29	18	14	e1.7	7.0	---	17	3.2	22	14	21	19	6.1
30	21	14	e2.0	7.5	---	18	1.9	23	16	21	19	8.7
31	22	---	e3.0	7.2	---	17	---	23	---	21	19	---
TOTAL	951	509.7	272.1	285.0	272.2	489.6	334.3	667.3	1114	495.4	319.7	719.5
MEAN	30.7	17.0	8.78	9.19	9.72	15.8	11.1	21.5	37.1	16.0	10.3	24.0
MAX	47	21	17	16	17	23	20	86	123	54	21	146
MIN	17	9.7	1.1	3.5	3.7	7.3	1.9	1.2	12	2.3	4.2	3.8
AC-FT	1890	1010	540	565	540	971	663	1320	2210	983	634	1430

WTR YR 1989 TOTAL 6429.8 MEAN 17.6 MAX 146 MIN 1.1 AC-FT 12750

e Estimated

07218000 COYOTE CREEK NEAR GOLONDRINAS, NM

LOCATION.--Lat 35°55'00", long 105°09'49", Mora County, Hydrologic Unit 11080004, in Mora Grant, on left bank 0.5 mi downstream from Coyote Creek damsite, 2.3 mi northeast of Golondrinás, and at mile 2.7.

DRAINAGE AREA.--215 mi².

PERIOD OF RECORD.--April 1928 to September 1930 (monthly discharge only, published in WSP 1311), October 1930 to current year.

REVISED RECORDS.--WSP 1281: 1939-40(M), 1941-42, 1945-47. WSP 1511: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 6,780 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 26, 1938, at site 0.4 mi downstream at different datum (nonrecording gage prior to Apr. 20, 1929). Apr. 26, 1938 to Sept. 25, 1946, at site 139 ft downstream at same datum.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Diversions (including off-channel storage) for irrigation of about 4,000 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--61 years, 12.3 ft³/s, 8,910 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,050 ft³/s, Aug. 17, 1961, gage height, 9.60 ft, from rating curve extended above 250 ft³/s on basis of slope-area measurements at gage heights 5.54 ft, 7.74 ft, and 9.60 ft; maximum gage height, 10.1 ft, Aug. 30, 1936 (site and datum then in use); no flow Aug. 4, 1945, Apr. 10, May 9, 10, 1956, Feb. 20, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 4	2215	*165	*3.11				
Minimum discharge, 1.5 ft ³ /s, July 8-12..							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	9.4	e8.0	e5.6	e6.5	e23	5.9	1.9	2.4	2.8	4.6	4.1
2	8.6	9.5	e7.1	e6.1	e5.7	e22	2.6	1.9	2.7	1.6	3.6	4.1
3	9.6	9.7	7.5	e6.4	e5.0	e17	2.4	2.0	10	1.5	3.2	4.1
4	20	6.3	7.8	e7.0	e4.2	e14	2.0	2.2	32	1.6	1.6	4.1
5	20	4.5	e7.0	e7.6	e3.9	e10	1.9	2.9	5.3	1.6	1.6	5.3
6	14	4.1	e6.0	8.6	e3.7	e9.0	1.9	3.1	3.8	2.0	1.8	5.0
7	15	6.3	e5.7	11	e3.6	e15	1.9	3.7	3.3	1.6	1.8	4.8
8	14	6.9	e6.4	e9.7	e3.8	12	2.0	3.8	3.2	1.5	2.7	4.6
9	14	6.7	e6.0	e8.0	e4.2	17	2.1	4.1	2.7	1.5	3.1	4.2
10	13	5.4	e5.7	e8.6	e4.7	27	2.0	4.1	2.3	1.5	3.7	4.2
11	13	4.7	e6.9	e9.4	e5.2	35	2.0	4.2	2.1	1.5	4.7	4.7
12	13	6.2	e8.0	e8.3	e6.0	34	2.0	5.3	2.7	1.5	4.9	7.1
13	11	5.5	e9.0	e7.6	e5.7	30	2.1	3.6	5.8	1.6	6.1	4.7
14	9.6	5.8	e10	e7.0	e5.4	26	2.1	3.4	7.8	1.6	6.3	4.1
15	9.1	5.9	e8.0	e8.0	e5.0	23	2.1	3.7	6.6	1.6	4.9	3.8
16	8.0	6.2	e6.6	e8.8	e5.7	13	2.0	4.8	7.0	1.5	4.1	3.8
17	9.6	7.3	e6.4	e9.5	e6.9	13	2.1	6.7	5.1	1.5	4.0	3.7
18	11	7.6	e6.0	e11	e7.9	12	2.4	5.3	5.0	1.5	4.8	3.7
19	12	7.7	e5.3	e8.9	e8.7	8.1	2.6	5.7	4.9	1.7	4.2	5.4
20	9.9	7.6	e4.7	e7.7	e9.6	8.8	2.0	4.8	4.9	1.6	4.0	21
21	9.8	7.6	e4.3	e6.7	e11	8.4	2.0	4.4	5.5	1.6	3.9	9.9
22	9.8	7.7	e3.7	e5.7	13	9.0	2.0	3.8	5.7	1.6	4.1	6.7
23	9.8	8.4	e3.5	e4.6	13	8.3	1.9	3.8	5.2	2.1	4.1	6.5
24	10	9.6	e4.2	e5.1	13	7.6	2.0	3.2	4.7	3.5	3.8	6.2
25	10	9.7	e5.0	e4.3	14	7.4	2.2	2.9	4.7	6.0	3.7	6.0
26	10	e9.0	e5.8	e4.8	15	7.1	1.9	2.8	4.7	5.6	3.8	5.7
27	10	e8.0	e6.3	e4.4	18	7.0	1.9	2.5	4.9	4.8	3.7	5.7
28	10	e6.9	e5.9	e3.8	22	7.7	1.9	6.8	5.1	4.4	3.9	5.7
29	9.9	e9.4	e5.6	e4.3	---	8.5	1.9	3.0	4.7	4.3	4.0	5.8
30	8.8	e8.5	e5.2	e4.8	---	9.8	1.9	2.7	4.6	4.1	4.4	6.7
31	11	---	e5.0	e5.8	---	9.1	---	2.4	---	4.1	4.7	---
TOTAL	351.9	218.1	192.6	219.1	230.4	458.8	65.7	115.5	169.4	74.9	119.8	171.4
MEAN	11.4	7.27	6.21	7.07	8.23	14.8	2.19	3.73	5.65	2.42	3.86	5.71
MAX	20	9.7	10	11	22	35	5.9	6.8	32	6.0	6.3	21
MIN	8.0	4.1	3.5	3.8	3.6	7.0	1.9	1.9	2.1	1.5	1.6	3.7
AC-FT	698	433	382	435	457	910	130	229	336	149	238	340

CAL YR 1988 TOTAL 4091.6 MEAN 11.2 MAX 207 MIN 1.9 AC-FT 8120
WTR YR 1989 TOTAL 2387.6 MEAN 6.54 MAX 35 MIN 1.5 AC-FT 4740

e Estimated

ARKANSAS RIVER BASIN

07221000 MORA RIVER NEAR SHOEMAKER, NM

LOCATION.--Lat 35°48'01", long 104°46'58", Mora County, Hydrologic Unit 11080004, in Mora Grant, on left bank 5.5 mi east of Shoemaker, 12.3 mi upstream from Pedros Creek, and at mile 39.4.

DRAINAGE AREA.--1,104 mi², of which 71 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1914 to July 1915, October 1915 to August 1918, May 1919 to July 1924, September to November 1924, March to July 1925, June 1927 to current year. Prior to October 1930 monthly discharge only, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1281: 1931(M), 1933-1934(M), 1937(M), 1938(P), 1939-40(M), 1941-42(P). WSP 1731: 1921, 1928, 1951(M). WDR NM-75-1: 1974. WDR NM-78-1: 1977.

GAGE.--Water-stage recorder. Elevation of gage is 6,140 above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 10, 1934, at site 2,000 ft upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Diversions for irrigation of about 26,000 acres upstream from station. Off-channel lakes make it possible to divert and store water during non-irrigation season. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--71 years (water years 1915-18, 1920-24, 1928-89), 57.6 ft³/s, 41,730 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s, June 3, 1948, gage height, 12.79 ft, from rating curve extended above 2,800 ft³/s on basis of slope-area measurements at gage heights 10.09 ft and 12.79 ft; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Sept. 29, 1904, and June 11, 1913, probably exceeded 30,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 25	0100	*1,420	*4.78	No other peak greater than base discharge.			
Minimum discharge, 3.7 ft ³ /s, July 18, 19.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	39	32	e38	32	12	7.1	7.3	4.6	6.9	20	5.5
2	69	33	33	e39	30	e12	6.6	7.1	4.9	6.3	16	5.5
3	67	28	34	e41	29	e13	6.3	6.8	7.0	6.3	13	5.5
4	71	30	33	e38	e29	e15	6.2	6.4	14	5.8	8.1	5.8
5	78	28	33	e36	e29	e14	6.2	6.4	32	5.9	7.5	5.9
6	83	23	33	e33	e29	e14	5.9	6.3	9.0	5.9	7.0	5.5
7	80	22	34	e32	e29	e13	5.7	6.1	6.7	6.3	6.2	5.5
8	76	21	35	e31	e30	12	5.7	5.8	7.0	6.6	6.3	14
9	74	22	33	e27	e30	11	5.9	5.7	7.3	5.6	5.8	5.8
10	71	23	34	e30	e30	9.0	6.0	12	7.1	6.4	5.9	5.7
11	67	26	36	e56	e30	8.2	6.0	9.0	6.9	5.8	7.0	6.0
12	63	27	37	e40	e30	10	6.4	6.9	7.4	5.4	14	8.6
13	59	28	37	e35	e30	14	6.5	6.4	48	5.4	12	8.3
14	59	28	42	e35	e30	13	7.2	7.1	41	4.9	8.2	10
15	58	26	e39	e34	e31	13	6.4	7.5	39	4.9	7.4	9.7
16	54	28	e40	e33	e32	16	6.2	7.4	27	4.6	7.4	9.1
17	53	28	39	e32	e32	18	6.2	7.2	16	4.2	44	8.6
18	52	29	42	e31	32	17	6.3	7.2	9.9	3.9	43	8.5
19	47	30	46	e32	38	20	6.6	6.5	8.8	4.0	40	10
20	36	30	44	34	39	20	6.5	6.4	8.8	4.1	16	77
21	37	31	38	33	41	21	7.3	6.0	8.5	5.5	9.8	156
22	41	31	41	31	38	15	7.0	5.8	8.8	4.5	7.4	56
23	43	31	41	29	34	12	7.3	5.8	9.6	4.2	7.2	46
24	45	30	40	30	33	12	7.3	5.2	9.3	4.7	6.8	43
25	47	30	42	31	25	8.8	7.0	5.1	9.6	330	6.6	38
26	46	31	38	29	25	7.5	6.8	5.2	8.9	99	6.1	31
27	44	29	40	29	24	7.3	6.6	5.4	9.0	48	6.5	27
28	41	29	41	28	13	6.9	7.4	5.3	8.5	30	7.0	26
29	38	31	35	32	---	6.7	7.2	4.8	7.9	22	6.6	24
30	39	32	35	31	---	6.1	7.5	4.7	7.5	19	6.0	20
31	39	---	e41	30	---	6.5	---	4.4	---	53	5.7	---
TOTAL	1754	854	1168	1040	854	384.0	197.3	199.2	400.0	729.1	370.5	687.5
MEAN	56.6	28.5	37.7	33.5	30.5	12.4	6.58	6.43	13.3	23.5	12.0	22.9
MAX	83	39	46	56	41	21	7.5	12	48	330	44	156
MIN	36	21	32	27	13	6.1	5.7	4.4	4.6	3.9	5.7	5.5
AC-FT	3480	1690	2320	2060	1690	762	391	395	793	1450	735	1360

CAL YR 1988 TOTAL 23041.5 MEAN 63.0 MAX 530 MIN 3.2 AC-FT 45700
WTR YR 1989 TOTAL 8637.6 MEAN 23.7 MAX 330 MIN 3.9 AC-FT 17130

e Estimated

07221500 CANADIAN RIVER NEAR SANCHEZ, NM
(Surveillance network station)

LOCATION.--Lat 35°39'08", long 104°22'39", in SW¼ sec.34, T.17 N., R.24 E., San Miguel County, Hydrologic Unit 11080003, on right bank 1,000 ft downstream from bridge on State Highway 419, 0.9 mi upstream from Lagartija Creek, 3.2 mi northeast of Sanchez, 10 mi downstream from Mora River, 25 mi southwest of Mosquero, and at mile 777.0.

DRAINAGE AREA.--6,015 mi², of which 303 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1912 to December 1914, October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1177: Drainage area. WSP 1281: 1939, 1940(P), 1942, 1946. WSP 1731: 1956-57(M). WDR NM-82: 1965(M), 1979(M). The revised figures of discharge for September 1942, as published in WSP 1281, supersede those published in WSP 1311.

GAGE.--Water-stage recorder. Elevation of gage is 4,500 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 2121 for history of changes prior to November 1966.

REMARKS.--Water-discharge records good. Diversions for irrigation of about 56,000 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--56 years (water years 1913-14, 1936-89), 184 ft³/s, 133,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 145,000 ft³/s, June 18, 1965, gage height, about 36.6 ft, from floodmarks, present site and datum, from rating curve extended above 91,000 ft³/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Sept. 29, or 30, 1904, probably exceeded 100,000 ft³/s, but is believed to have been less than the peak of June 18, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 6	1100	*3,160	*7.57				

Minimum discharge, 1.1 ft³/s, Jan. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	127	55	54	53	49	59	21	13	20	54	459	30
2	116	54	57	56	51	56	20	14	14	35	176	21
3	108	54	61	55	49	47	18	15	13	26	97	17
4	100	50	59	57	44	43	17	14	102	20	92	26
5	101	43	63	59	46	45	17	13	183	15	64	701
6	102	42	64	67	40	52	18	13	152	12	83	762
7	112	42	58	62	41	61	17	14	101	8.2	130	386
8	112	38	60	37	30	57	16	14	82	6.6	96	157
9	113	33	59	e38	28	50	16	12	62	5.4	66	113
10	111	31	60	e39	33	47	16	13	48	5.1	57	75
11	111	29	65	40	42	45	17	18	49	4.1	40	58
12	106	32	61	52	65	42	16	18	130	3.5	62	74
13	100	35	67	40	64	40	17	18	143	3.2	657	92
14	94	41	70	57	66	39	19	22	99	2.4	298	79
15	88	41	72	54	69	61	19	33	69	33	169	82
16	86	46	72	42	72	55	19	56	83	245	260	67
17	82	41	72	48	66	55	19	45	71	44	187	54
18	77	38	73	59	70	51	19	40	74	20	355	43
19	75	44	65	54	64	51	20	64	60	35	272	43
20	74	45	78	56	71	51	20	88	43	29	154	53
21	68	50	79	53	80	47	18	62	33	19	108	33
22	58	57	78	50	81	49	18	47	30	16	73	241
23	54	62	58	52	82	44	17	37	24	38	54	203
24	56	61	47	51	78	43	16	29	21	20	39	134
25	60	59	55	52	72	38	14	23	17	84	30	107
26	62	56	61	54	69	33	13	18	272	253	24	95
27	64	55	47	57	66	29	13	16	158	231	28	78
28	62	61	40	64	59	29	11	137	96	141	28	67
29	61	56	60	55	---	28	9.9	204	128	96	29	56
30	59	52	46	53	---	24	11	69	94	74	36	49
31	54	---	41	47	---	21	---	35	---	118	47	---
TOTAL	2653	1403	1902	1613	1647	1392	501.9	1214	2471	1696.5	4270	3996
MEAN	85.6	46.8	61.4	52.0	58.8	44.9	16.7	39.2	82.4	54.7	138	133
MAX	127	62	79	67	82	61	21	204	272	253	657	762
MIN	54	29	40	37	28	21	9.9	12	13	2.4	24	17
AC-FT	5260	2780	3770	3200	3270	2760	996	2410	4900	3370	8470	7930

CAL YR 1988 TOTAL 35260.0 MEAN 96.3 MAX 500 MIN 7.9 AC-FT 69940
WTR YR 1989 TOTAL 24759.4 MEAN 67.8 MAX 762 MIN 2.4 AC-FT 49110
e Estimated

ARKANSAS RIVER BASIN

07221500 CANADIAN RIVER NEAR SANCHEZ, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)
NOV 21...	1500	54	992	958	8.40	8.20	16.0	6.0	4.1	11.0	45
JAN 18...	1530	79	1130	1220	8.10	8.20	14.5	7.5	3.4	11.4	--
MAR 22...	1200	51	--	1550	8.10	8.20	19.0	15.0	3.9	8.6	--
MAY 17...	1500	E45	2520	2660	8.37	8.20	16.5	19.5	3.2	8.4	26
JUL 19...	1430	47	292	340	8.10	7.90	34.0	32.0	170	6.0	50
SEP 28...	1230	67	700	733	7.90	8.00	34.0	28.0	100	8.3	28

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LITY LAB (MG/L AS CACO3) (90410)
NOV 21...	400	220	83	46	72	2	2.4	200	5	172	175
JAN 18...	520	320	110	59	94	2	2.7	249	0	204	200
MAR 22...	600	420	110	80	120	2	3.3	210	0	172	180
MAY 17...	990	860	180	130	230	3	5.1	128	5	113	133
JUL 19...	130	27	35	10	20	0.8	3.5	124	0	102	102
SEP 28...	290	160	73	25	51	1	3.6	171	0	140	124

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
NOV 21...	330	16	0.40	11	692	667	--	0.020	<0.100	0.050
JAN 18...	470	20	0.40	11	923	887	--	<0.010	<0.100	0.050
MAR 22...	690	26	0.50	6.2	1240	1140	--	<0.010	<0.100	0.020
MAY 17...	1400	51	0.40	3.0	2330	2080	--	<0.010	<0.100	0.040
JUL 19...	56	6.8	0.20	8.1	222	206	0.410	0.020	0.430	0.150
SEP 28...	250	8.3	0.40	9.4	506	497	--	<0.010	0.140	0.050

07221500 CANADIAN RIVER NEAR SANCHEZ, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHOPHOSPHATE (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)
NOV 21...	0.050	0.45	<0.010	<0.010	2.7	<10	<1	82	<0.5	<1
JAN 18...	0.050	0.35	0.020	<0.010	--	--	--	--	--	--
MAR 22...	0.060	0.18	0.010	0.040	--	--	--	--	--	--
MAY 17...	0.030	0.56	0.020	<0.010	5.5	<10	<1	90	<0.5	<1
JUL 19...	0.140	0.75	0.230	0.900	8.4	130	3	85	<0.5	<1
SEP 28...	0.030	0.35	0.030	<0.010	7.0	20	<1	110	<0.5	<1

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)
NOV 21...	<1	<3	3	6	<5	37	6	0.1	<10	2
JAN 18...	--	--	--	--	--	--	--	--	--	--
MAR 22...	--	--	--	--	--	--	--	--	--	--
MAY 17...	<1	<3	1	10	<1	88	24	<0.1	<10	<1
JUL 19...	<1	<3	8	160	2	14	5	<0.1	<10	2
SEP 28...	<1	<3	1	4	<1	28	4	0.1	<10	<1

DATE	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 21...	<1	<1.0	1200	<6	25	31	4.5	98	83	K1
JAN 18...	--	--	--	--	--	119	25	97	K4	K4
MAR 22...	--	--	--	--	--	103	14	83	K7	<5
MAY 17...	1	<1.0	3200	<6	17	279	0.0	88	K170	99
JUL 19...	<1	<1.0	380	<6	13	267	34	97	>600	110
SEP 28...	<1	<1.0	970	<6	5	196	35	100	3600	<5

ARKANSAS RIVER BASIN

07222500 CONCHAS RIVER AT VARIADERO, NM

LOCATION.--Lat 35°24'10", long 104°26'35", in NE¼NE¼ sec.36, T.14 N., R.23 E., San Miguel County, Hydrologic Unit 11080005, on left bank 1.5 mi northeast of Variadero, 14 mi west of Conchas Dam, and at mile 15.0.

DRAINAGE AREA.--523 mi², of which 130 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1936 to current year.

REVISED RECORDS.--WSP 1281: 1937-39, 1941-47.

GAGE.--Water-stage recorder. Elevation of gage is 4,390 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 30, 1942, at site 1.5 mi upstream at different datum. Mar. 30, 1942 to May 18, 1950, at present site at datum 0.5 ft higher.

REMARKS.--Records fair. Diversions for irrigation of about 300 acres upstream from station. Several observations of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--53 years, 13.8 ft³/s, 10,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,000 ft³/s, Sept. 1, 1942, gage height, 19.96 ft, present datum, from rating curve extended above 760 ft³/s on basis of slope-area measurements at gage heights 10.5 ft and 19.96 ft, present datum; no flow many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 9	2100	*2,220	*5.32	July 25	0245	1,980	5.03
No flow many days.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	.00	.11	.59	.53	.58	.37	.36	.00	.00	103	.62
2	.14	.00	.12	.61	.50	.57	.34	.46	.00	.00	18	.48
3	.11	.00	.15	.53	.43	.53	.35	.49	.00	.00	6.2	.18
4	.11	.00	.16	.48	e.30	.52	.43	.43	.00	.00	3.6	.08
5	.13	.00	.17	.41	e.20	.55	.45	.37	.00	.00	2.3	80
6	.16	.00	.20	.36	e.25	.59	.44	.36	.00	.00	1.8	38
7	.26	.00	.22	.34	e.20	.59	.46	.29	.00	.00	7.3	12
8	.21	.00	.40	.27	e.20	.57	.44	.32	.00	.00	4.8	5.0
9	3.0	.02	.42	.27	e.15	.62	.39	.32	252	.00	2.8	3.2
10	2.0	.00	.43	.36	e.14	.58	.40	.40	168	.00	2.1	2.3
11	1.2	.00	.43	.43	e.12	.56	.43	.50	12	.00	41	1.9
12	.69	.00	.53	.42	e.10	.51	.46	.56	4.0	.00	6.5	2.0
13	.44	.00	.63	.37	e.05	.46	.63	.46	21	.00	521	1.7
14	.25	.00	.57	.33	e.00	.41	.65	.42	27	.00	48	1.4
15	.17	.00	.57	.34	e.00	.37	.61	.34	3.6	.00	14	1.2
16	.13	.00	.57	.39	e.00	.39	.56	.26	1.7	.00	6.6	1.1
17	.10	.00	.57	.41	e.06	.38	.49	.25	.80	.00	6.3	.92
18	.08	.00	.61	.47	e.15	.37	.50	.31	.68	.00	48	.77
19	.06	.00	.65	.43	e.20	.39	.48	.31	16	.00	56	.63
20	.04	.06	.56	.42	e.30	.37	.48	.27	25	.00	17	.62
21	.03	.05	.56	.34	e.50	.54	.47	.25	7.5	.00	8.3	.47
22	.03	.06	.51	.34	e.55	.59	.44	.21	2.4	73	4.2	.38
23	.02	.07	.50	.35	.72	.52	.41	.19	1.2	11	3.1	.34
24	.03	.07	.48	.32	.66	.48	.34	.10	1.1	3.2	1.6	.30
25	.02	.07	.52	.35	.63	.49	.33	.00	.82	464	1.4	.27
26	.00	.04	.52	.37	.58	.46	.32	.00	.35	40	.95	.24
27	.00	.05	.50	.48	.63	.42	.28	.00	.14	12	1.6	.24
28	.00	.07	.52	.61	.52	.40	.26	.00	.05	4.8	1.3	.20
29	.00	.08	.57	.62	---	.44	.30	.00	.00	2.8	1.2	.19
30	.02	.08	.57	.57	---	.43	.31	.00	.00	2.7	1.5	.18
31	.02	---	.57	.53	---	.37	---	.00	---	193	2.3	---
TOTAL	9.61	0.72	13.89	13.11	8.67	15.05	12.82	8.23	545.34	806.50	943.75	156.91
MEAN	.31	.024	.45	.42	.31	.49	.43	.27	18.2	26.0	30.4	5.23
MAX	3.0	.08	.65	.62	.72	.62	.65	.56	252	464	521	80
MIN	.00	.00	.11	.27	.00	.37	.26	.00	.00	.00	.95	.08
AC-FT	19	1.4	28	26	17	30	25	16	1080	1600	1870	311

CAL YR 1988 TOTAL 1954.40 MEAN 5.34 MAX 752 MIN .00 AC-FT 3880
WTR YR 1989 TOTAL 2534.60 MEAN 6.94 MAX 521 MIN .00 AC-FT 5030

e Estimated

07223300 CONCHAS CANAL BELOW CONCHAS DAM, NM

LOCATION.--Lat 35°22'51", long 104°10'58", San Miguel County, Hydrologic Unit 11080006, in Pablo Montoya Grant, in Conchas Canal Operations building downstream from Conchas Dam, and 21.5 mi north of Newkirk.

PERIOD OF RECORD.--September 1945 to June 1949, April 1954 to June 1955, September 1961 to October 1982, October 1984 to current year.

REMARKS.--Water is diverted from Conchas Lake for irrigation of about 35,000 acres on Tucumcari Project (1966 conditions).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 751 ft³/s, Aug. 31, 1961; no flow many days each year.

MONTHLY DIVERSION, IN ACRE-FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Month	Mean	Diversion, in acre-feet
October.....	155	9,550
November.....	41.7	2,480
December.....	0	0
January.....	0	0
February.....	0	0
March.....	91.2	5,610
April.....	190	11,320
May.....	175	10,780
June.....	126	7,520
July.....	220	13,550
August.....	123	7,560
September.....	108	6,400
WTR YR 1989.....	103	74,770

ARKANSAS RIVER BASIN

07223500 CONCHAS LAKE AT CONCHAS DAM, NM

LOCATION.--Lat 35°24'10", long 104°11'25", San Miguel County, Hydrologic Unit 11080003, in Pablo Montoya Grant, stilling well within concrete portion of Conchas Dam on Canadian River, 24 mi north of Newkirk, and at mile 746.0.

DRAINAGE AREA.--7,409 mi², of which 433 mi² is probably noncontributing.

PERIOD OF RECORD.--December 1938 to September 1965 (monthend contents only), October 1965 to current year. Prior to October 1965, published as "Conchas Reservoir near Conchas Dam."

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by dam consisting of concrete main section and earthfill wings, completed Sept. 15, 1939; storage began Dec. 29, 1938. Capacity, 330,100 acre-ft between elevations 4,060.0 ft and 4,201.0 ft, crest of 300 ft ungated service spillway. Inactive storage, 70,490 acre-ft, at elevation 4,155.0 ft. Lake usually not drawn below elevation, 4,157.35 ft, sill of irrigation outlet, capacity, 77,790 acre-ft, except for minor sluicing; at times irrigation water is pumped into Conchas Canal. Capacity of 198,800 acre-ft between elevations 4,201.0 ft, crest of 300 ft ungated service spillway, and 4,218.0 ft, crest of 3,000 ft ungated emergency spillway, acts as detention storage in the control of floods. Figures given herein represent total contents. Lake is used for irrigation, flood control, and recreation. Diversions upstream from station for irrigation of about 57,000 acres. Direct diversions through Conchas Dam to Bell Ranch Canal and Conchas Canal (stations 07223000, 07223300) irrigate about 36,000 acres near Tucumcari, and on Bell Ranch. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 479,600 acre-ft, Apr. 24, 1942, elevation, 4,208.41 ft; minimum after initial filling, 78,080 acre-ft, Sept. 18, 1976, elevation, 4,157.44 ft; minimum elevation, 4,155.80 ft, Sept. 24, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 276,920 acre-ft, Oct. 1, elevation, 4,196.75 ft; minimum, 214,330 acre-ft, Aug. 11, elevation, 4,188.72 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on Survey by U.S. Army Corps of Engineers in 1970)

4,180	173,900
4,190	237,100
4,200	320,500

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	276920	267550	263790	264790	266540	268560	261960	246360	230520	228230	216830	224590
2	276750	267300	263790	264790	266210	268640	261550	245800	230230	228010	217180	224440
3	276400	266960	263790	264870	266210	268640	261050	245180	229930	227570	217040	224370
4	276060	266630	263790	265120	266210	268640	260470	244390	229860	226480	216620	224300
5	275880	266460	263790	265120	266210	268640	260060	243770	229780	225890	216130	224370
6	275710	266210	263790	265120	266290	268640	259650	242520	229410	225890	215720	226260
7	275630	265870	263790	265120	266370	268640	259240	241280	229040	225240	215510	227350
8	275450	265700	264120	265120	266370	268640	258660	240590	228970	224520	215230	227570
9	275280	265290	264120	265120	266370	268730	258170	240120	228750	223720	214950	227130
10	275110	265200	264120	265200	266460	268730	257850	239820	229710	223000	214680	226990
11	274940	264870	264200	265120	266540	268730	257360	239510	229560	222280	214330	226840
12	274680	264870	264290	265200	266630	268730	257110	238970	229630	221420	214950	226910
13	274510	264870	264370	265200	266630	268810	256700	238430	229710	220570	217110	226910
14	274250	264620	264370	265200	266710	268640	256210	238050	230150	220000	218520	226990
15	273990	264540	264370	265290	266710	268390	255970	237590	230300	219220	218660	226990
16	273740	264370	264450	265290	266880	268140	255560	237290	230230	218660	218730	227060
17	273400	264370	264540	265370	267130	267720	255070	236980	229860	218020	220000	227130
18	273050	264200	264700	265450	267550	267630	254510	236680	229490	217320	223220	226840
19	272880	264200	264790	265450	267550	267300	254180	236150	229410	216760	223790	226480
20	272630	264120	264790	265620	267800	266960	253780	235850	229040	216480	224080	226180
21	272370	264120	264790	265700	267880	266710	253130	235470	228680	215990	224150	225820
22	271860	264200	264790	265700	267970	266460	252810	235010	228970	215440	223940	225680
23	271350	264120	264790	265700	268140	265960	252170	234640	228900	215230	223860	225680
24	270840	264040	264790	265790	268220	265620	251520	233880	228680	214810	223790	225750
25	270420	263950	264790	265790	268390	265290	250720	233130	229040	216060	223650	225600
26	270080	263950	264790	265870	268390	264700	250000	232760	228680	216130	223500	225460
27	269660	263950	264790	266210	268470	264290	249130	232380	228820	216340	223790	225170
28	269230	263870	264790	266290	268560	263950	248330	232080	228530	216340	223790	224880
29	268810	263870	264790	266370	---	263450	247620	231860	228310	216130	224300	224520
30	268390	263790	264790	266460	---	263040	246910	231270	228160	216340	224590	224150
31	267970	---	264790	266540	---	262710	---	230740	---	216480	224660	---
MAX	276920	267550	264790	266540	268560	268810	261960	246360	230520	228230	224660	227570
MIN	267970	263790	263790	264790	266210	262710	246910	230740	228160	214810	214330	224150
(†	4195.70	4195.20	4195.32	4195.53	4195.77	4195.07	4193.12	4191.01	4190.66	4189.03	4190.18	4190.11
(††)	-9210	-4180	+1000	+1750	+2020	-5850	-15800	-16170	-2580	-11680	+8180	-510

CAL YR 1988 MAX 292230 MIN 263790 (††) -37110
WTR YR 1989 MAX 276920 MIN 214330 (††) -53030

(† ELEVATION, IN FEET, AT END OF MONTH
(††) CHANGE IN CONTENTS, IN ACRE-FEET

07226500 UTE CREEK NEAR LOGAN, NM

LOCATION.--Lat 35°26'18", long 103°31'31", in NW¼SE¼ sec.15, T.14 N., R.32 E., Harding County, Hydrologic Unit 11090007, on right bank 1.9 mi downstream from Alamosa Creek, 4.5 mi upstream from State Road 155, 4.7 mi upstream from high-water line of Ute Reservoir, 8.2 mi northwest of Logan, and at mile 10.0.

DRAINAGE AREA.--2,060 mi², of which 617 mi² is probably noncontributing.

PERIOD OF RECORD.--January 1912 to May 1914 (gage heights and discharge measurements only), January 1942 to current year. Records of discharge for August 1904 to June 1906, April 1909 to December 1911, published in WSP 307, are unreliable and should not be used.

REVISED RECORDS.--WSP 1281: 1942-48, 1950, 1951(P), WDR NM-81: 1965(P), 1967-68(M), 1969(P), 1971(M), 1972, 1975(M), 1977, 1979. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 3,820 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 2121 for history of changes prior to Oct. 1, 1964.

REMARKS.--Records poor. Diversions for irrigation of a few hundred acres upstream from station. One observation of water temperature was made during the year.

AVERAGE DISCHARGE.--47 years, 22.4 ft³/s, 16,230 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft³/s, May 28, 1946, July 12, 1951, gage height, 8.4 ft, site and datum then in use, from rating curve extended above 7,700 ft³/s on basis of slope-area measurements at gage heights 5.2 ft and 7.2 ft; maximum gage height, 9.94 ft, Aug. 11, 1981; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1, 1914, reached a stage of 22.95 ft, site and datum then in use. Another major flood reached a stage of 16.0 ft, 1942 datum, sometime in 1941, from information furnished by U.S. Bureau of Reclamation; discharge, about 70,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 24	2300	*3,120	*4.47				

No flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	e.00	.00	.00	e.00	e.00	6.1	e.00
2	.00	.00	.00	.00	.00	e.00	.00	.00	e.00	e.00	5.4	e.00
3	.00	.00	.00	.00	.00	.00	.00	.00	e.00	e.00	e.00	e.00
4	.00	.00	.00	.00	.00	.00	.00	.00	e.00	e.00	e.00	e.00
5	.89	.00	.00	.00	.00	.00	.00	.00	1.8	e.00	e.00	e.00
6	6.4	.00	.00	.00	.00	.00	.00	.00	e.00	e.00	20	e.00
7	7.4	.00	.00	.00	.00	.00	.00	.00	e.00	e.00	2.0	e.00
8	2.8	.00	.00	.00	.00	.00	.00	.00	1.5	e.00	e.00	e.00
9	3.0	.00	.00	.00	.00	.00	.00	.00	e.00	e.00	e.00	e.00
10	13	.00	.00	.00	.00	.00	.00	.00	e.00	e.00	e.00	e.00
11	2.0	.00	.00	.00	.00	.00	.00	.00	e.00	e.00	e.00	e.00
12	e.00	.00	.00	.00	.00	.00	.00	.00	42	15	e.00	185
13	e.00	.00	.00	.00	.00	.00	.00	.00	10	1.6	19	69
14	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	e.00	1.2	2.0
15	e.00	.00	.00	.00	1.6	.00	.00	23	e.00	e.00	e.00	e.00
16	e.00	.00	.00	.00	2.9	.00	.00	7.0	e.00	e.00	8.0	e.00
17	e.00	.00	.00	.00	4.0	.00	.00	348	e.00	e.00	59	e.00
18	e.00	.00	.00	.00	3.6	.00	.00	26	e.00	e.00	73	e.00
19	.00	.00	.00	.00	3.2	.00	.00	2.0	e.00	e.00	.00	e.00
20	.00	.00	.00	.00	2.5	.00	.00	e.00	3.2	e.00	e.00	74
21	.00	.00	.00	.00	1.9	.00	.00	e.00	.29	e.00	e.00	96
22	.00	.00	.00	.00	1.8	.00	.00	e.00	22	.00	e.00	10
23	.00	.00	.00	.00	2.1	.00	.00	e.00	.01	.00	e.00	e.00
24	.00	.00	.00	.00	e.00	.00	.00	e.00	294	2.5	33	e.00
25	.00	.00	.00	.00	e.00	.00	.00	e.00	344	17	12	e.00
26	.00	.00	.00	.00	e.00	.00	.00	e.00	1.0	1.3	9.5	e.00
27	.00	.00	.00	.00	e.00	.00	.00	e.00	e.00	e.00	16	e.00
28	.00	.00	.00	.00	e.00	.00	.00	e.00	e.00	e.00	e.00	e.00
29	.00	.00	.00	.00	---	.00	.00	e.00	e.00	e.00	e.00	e.00
30	.00	.00	.00	.00	---	.00	.00	e.00	e.00	1.5	39	e.00
31	.00	---	.00	.00	---	.00	---	e.00	---	.97	5.2	---
TOTAL	35.49	0.00	0.00	0.00	23.60	0.00	0.00	406.00	721.80	39.87	308.40	436.00
MEAN	1.14	.00	.00	.00	.84	.00	.00	13.1	24.1	1.29	9.95	14.5
MAX	13	.00	.00	.00	4.0	.00	.00	348	344	17	73	185
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	70	.0	.0	.0	47	.0	.0	805	1430	79	612	865

CAL YR 1988 TOTAL 4465.40 MEAN 12.2 MAX 563 MIN .00 AC-FT 8860
WTR YR 1989 TOTAL 1971.16 MEAN 5.40 MAX 348 MIN .00 AC-FT 3910

e Estimated

ARKANSAS RIVER BASIN

07226800 UTE RESERVOIR NEAR LOGAN, NM

LOCATION.--Lat 35°20'35", long 103°26'37", in NW¼ sec.21, T.13 N., R.33 E., Quay County, Hydrologic Unit 11080006, on face of Ute Dam on Canadian River, 2.5 mi southwest of Logan, 3.5 mi downstream from Ute Creek, and at mile 673.1.

DRAINAGE AREA.--11,140 mi², of which 1,110 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1963 to September 1965 (monthend contents only), October 1965 to current year.

REVISED RECORDS.--WDR NM-78-1: 1977.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Interstate Stream Commission). Prior to Feb. 25, 1974, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by an earthfill dam 132 ft high above streambed, 2,050 ft long; an earthen dike section on north bank of Canadian River 3,640 ft long with a maximum height of 38 ft; a concrete labyrinth spillway section with an equivalent weir length of 3,360 ft is located upstream of an 840-ft-long ogee section between the main embankment and dike. Original construction completed in May 1963, storage began Dec. 13, 1962; modification project to construct labyrinth spillway and increase height of dam and dike completed April 1984. Capacity, 246,620 acre-ft at elevation 3,787.0 ft, crest of labyrinth spillway. Top of dam is at elevation 3,812.0 ft. Maximum design capacity of 440,250 acre-ft at elevation 3,806.0 ft, 19.0 ft above crest of spillway, allows 193,600 acre-ft of capacity for protection of the structure. Dead storage, 10,900 acre-ft at elevation 3,725.0 ft, sill of outlet intake tower; inactive pool of 25,140 acre-ft between elevations 3,725.0 and 3,741.6 ft, maintained for sediment control and fish and wildlife. Figures given herein represent total contents. Reservoir storage is for municipal, and industrial uses, recreational purposes, sediment control, and some incidental flood control. Diversions upstream from station for irrigation of about 90,000 acres.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 250,000 acre-ft, May 20, 21, 1987, elevation, 3,787.40 ft; minimum since reservoir first filled in September 1965, 31,320 acre-ft, June 6, 1984, elevation, 3,739.10 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 241,230 acre-ft, Sept. 16, elevation, 3,786.32 ft; minimum, 216,690 acre-ft, May 14, 15, elevation, 3,783.08 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Geological Survey and New Mexico Interstate Stream Commission, 1983)

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	238320	236190	224100	223130	222680	222310	221210	218090	218170	231100	231780	239090
2	238240	236270	224260	223200	222090	222830	221210	218090	218020	231100	231930	239250
3	238240	236190	224100	223280	221870	221870	221060	217870	218390	231100	231860	239250
4	237860	235890	224100	223500	221720	221940	220830	217870	218470	231020	231780	239330
5	238090	235960	224100	223280	221650	221940	218910	217870	218610	230870	231550	239090
6	238090	235810	224030	223280	221650	222020	218610	217800	218690	230800	231700	238940
7	238010	235810	223800	222830	221650	222170	218840	217950	218390	230720	231930	238850
8	238090	235730	223800	222830	221650	222170	218390	217870	218540	230640	232010	238620
9	238090	235430	223950	222910	221790	222240	217870	217360	218540	230190	231860	238240
10	238010	235350	223730	223060	221790	222310	218170	217210	218540	230110	231780	238240
11	238010	235500	223950	222680	221870	222240	217950	216760	218760	229960	231930	237860
12	238010	235200	223950	222610	221870	222240	217800	217280	220540	230410	231860	239960
13	237940	235200	224180	222830	221940	222240	218020	216990	221790	229960	232160	240520
14	237790	234900	223950	222680	222090	221940	218170	216690	221790	230960	232310	240990
15	237630	233600	223800	222540	221870	222090	218240	216690	221870	230950	232240	241150
16	237860	232770	223800	222540	221870	221870	218170	217580	221870	230870	234140	241230
17	237480	232160	223730	222540	221870	221720	217950	219360	221500	231170	235350	241150
18	237630	231250	223950	222540	222390	221500	217650	219650	221570	230640	236040	240830
19	237560	230410	223880	222540	222310	221570	217950	220090	221430	230800	236190	240910
20	237630	229650	223800	222610	222240	221430	217950	220020	221500	230640	236040	240590
21	237480	229200	223800	222760	222240	221500	217950	220170	220760	230640	236040	240590
22	237480	228360	223650	222540	222240	221650	217870	220020	220910	230720	235890	240590
23	237480	227830	223730	222460	222460	221720	217870	220090	220910	230410	235890	240280
24	237480	227000	223500	222310	222540	221720	217580	219870	224410	231020	235660	240280
25	237480	226390	223570	222310	222610	221650	217580	219430	229500	231930	235810	240200
26	236950	225470	223500	222310	222460	221570	217510	219060	230030	232090	235960	240200
27	236650	224790	223280	222390	222240	221500	217130	219130	230030	232010	236270	240040
28	236570	224490	223200	222460	222240	221570	218390	219130	230110	232010	236800	240120
29	236570	224180	223350	222540	---	221350	218170	218840	230340	231700	237180	240120
30	236270	224100	223200	222610	---	221210	218020	218760	230720	231550	238550	240200
31	236270	---	223130	222910	---	221430	---	218320	---	231700	239250	---
MAX	238320	236270	224260	223500	222680	222830	221210	220170	230720	232090	239250	241230
MIN	236270	224100	223130	222310	221650	221210	217130	216690	218020	229960	231550	237860
(+)	3785.68	3784.08	3783.95	3783.92	3783.83	3783.72	3783.26	3783.30	3784.95	3785.08	3786.07	3786.19
(++)	-2230	-12170	-970	-220	-670	-810	-3410	+300	+12400	+980	+7550	+950

CAL YR 1988 MAX 239500 MIN 220700 (++) -1070

WTR YR 1989 MAX 241230 MIN 216690 (++) +1700

(+ ELEVATION, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-Feet

07226800 UTE RESERVOIR NEAR LOGAN, NM -- Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected in Ute Reservoir impounded by Ute Dam on the Canadian River.

PERIOD OF RECORD.--Water years 1963 to current year.

REMARKS.--Samples for chemical analyses are collected annually at Site B which is located 0.6 mi upstream from Ute Dam. Samples are collected 5 feet from the bottom of the reservoir.

07226560 - UTE RE AT SITE B, 0.6 MILES AB UTE DAM, NM (LAT 35°20'32" LONG 103°27'16")

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SAM- PLING DEPTH (FEET) (00003)	RESER- VOIR DEPTH (FEET) (72025)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
AUG												
17...	0914	1.00	83.0	990	--	8.33	--	--	23.5	6.6	--	--
17...	0915	5.00	83.0	--	--	--	--	--	23.5	6.6	--	--
17...	0916	10.0	83.0	--	--	--	--	--	23.5	6.7	--	--
17...	0917	15.0	83.0	--	--	--	--	--	23.5	6.7	--	--
17...	0918	20.0	83.0	--	--	--	--	--	23.5	6.7	--	--
17...	0919	25.0	83.0	--	--	--	--	--	23.5	6.7	--	--
17...	0920	30.0	83.0	--	--	--	--	--	23.5	6.9	--	--
17...	0921	35.0	83.0	--	--	--	--	--	23.0	6.5	--	--
17...	0922	40.0	83.0	980	--	8.14	--	--	21.0	2.2	--	--
17...	0923	45.0	83.0	--	--	--	--	--	19.5	0.7	--	--
17...	0924	50.0	83.0	--	--	--	--	--	18.5	0.3	--	--
17...	0925	55.0	83.0	--	--	--	--	--	18.0	0.4	--	--
17...	0926	60.0	83.0	--	--	--	--	--	18.0	0.4	--	--
17...	0927	65.0	83.0	--	--	--	--	--	17.5	0.3	--	--
17...	0928	70.0	83.0	--	--	--	--	--	17.0	0.2	--	--
17...	0929	75.0	83.0	--	--	--	--	--	17.0	0.1	--	--
17...	0930	78.0	83.0	980	930	7.70	7.80	25.0	17.0	0.1	20	250

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
------	--	---	---	---	--	--	--	---	---	--	--	--

AUG												
17...	70	52	29	100	3	5.5	216	0	177	180	250	36

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)
------	---	--	---	---	--	---	---	--	--	---	--	--

AUG												
17...	0.50	3.3	585	0.100	0.110	0.050	0.25	0.40	0.010	0.020	4.3	1

DATE	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
------	---	---	--	---	---	--	--	---	---	--	---	--

AUG												
17...	1	160	<1	<1	<1	1	4	2	5	1	<1	<0.10

ARKANSAS RIVER BASIN

07226800 UTE RESERVOIR NEAR LOGAN, NM -- Continued

WATER-QUALITY RECORDS

07226560 - UTE RE AT SITE B, 0.6 MILES AB UTE DAM, NM (LAT 35°20'32" LONG 103°27'16")

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)
AUG 17...	0.2	<1	<1	<10	10	<10	39	500	<1	2	8

DATE	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80155)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
AUG 17...	<5	20	6700	10	450	0.01	30	51	0.0	K8	110

07227000 CANADIAN RIVER AT LOGAN, NM

LOCATION.--Lat 35°21'25", long 103°25'03", in NE¼NE¼ sec.15, T.13 N., R.33 E., Quay County, Hydrologic Unit 11080006, on left bank 1,100 ft upstream from bridge on U.S. Highway 54, 0.7 mi south of Logan, 1.4 mi upstream from Chicago, Rock Island & Pacific Railroad Co. bridge, 2.0 mi downstream from Ute Dam, 4.3 mi upstream from Revuelto Creek, and at mile 672.0.

DRAINAGE AREA.--11,141 mi², of which 1,100 mi² is probably noncontributing.

PERIOD OF RECORD.--June 1904 to November 1905 (gage heights and discharge measurements only), December 1908 to September 1909, February 1910, April to July 1910, August 1910 to September 1911 (gage heights and discharge measurements only), October 1911 to May 1914, January to May 1924, September 1924 to July 1925, January 1927 to April 1934, August 1934 to current year. Monthly discharge only for some periods, published in WSP 1311. Records for December 1909, January 1910, and May to July 1934, published in WSP 267, 287, and 762 are unreliable and should not be used. Published as "South Canadian River" June to September 1904.

REVISED RECORDS.--WSP 1087: 1935-36. WSP 1117: Drainage area. WSP 1281: 1912, 1932(M), 1934, 1945-47, 1949-50. WSP 1311: 1931(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 3,667.1 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 1, 1987, same site at datum 1 ft higher. See WSP 1311 or 1731 for history of changes prior to Oct. 1, 1934.

REMARKS.--Records poor. Flow regulated by Conchas Lake, 45 mi upstream (station 07223500) and Ute Reservoir, 2 mi upstream (station 07226800). Diversions for irrigation of about 90,000 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--15 years (water years 1909, 1912-13, 1927-38), 392 ft³/s, 284,000 acre-ft/yr, prior to completion of Conchas dam.
24 years (water years 1939-62), 257 ft³/s, 186,200 acre-ft/yr, prior to completion of Ute Dam.
27 years (water years 1963-89), 37.1 ft³/s, 26,880 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1925).--Maximum discharge, 219,000 ft³/s, Sept. 22, 1941, gage height, 29.3 ft, from floodmarks, from rating curve extended above 75,000 ft³/s; no flow at times prior to completion of Ute Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 278,000 ft³/s, Sept. 30, 1904, gage height, about 36.5 ft, site and datum used in 1909, from rating curve extended above 14,000 ft³/s, from Ninth Biennial Report of New Mexico State Engineer.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 921 ft³/s, Nov. 15, gage height, 4.96; minimum daily, 1.8 ft³/s, Dec. 3, 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	15	2.3	2.6	4.5	4.2	4.2	4.5	3.9	5.6	5.0	4.1
2	4.8	14	1.9	2.7	4.3	4.3	4.4	4.7	4.0	5.8	5.0	3.7
3	4.7	13	1.8	3.0	4.2	5.2	4.2	4.7	4.0	5.9	4.7	3.9
4	4.8	12	1.8	2.9	4.3	4.8	4.2	4.6	5.3	6.2	4.6	4.4
5	5.5	11	2.1	4.3	4.3	4.4	4.3	4.6	4.3	6.4	4.6	4.0
6	6.3	12	4.7	4.0	4.3	4.3	4.3	4.6	3.8	6.2	4.6	4.0
7	5.6	12	6.2	3.8	4.3	4.3	4.2	4.6	3.8	6.2	4.5	4.0
8	5.1	12	6.6	3.6	4.3	4.2	4.0	4.6	4.0	6.3	4.4	3.8
9	5.1	20	6.5	3.4	4.3	4.2	3.9	4.3	4.6	6.5	4.2	3.7
10	5.0	12	6.5	3.4	4.2	4.2	3.9	4.4	4.3	6.6	4.1	3.4
11	5.0	22	6.7	3.4	4.2	4.3	3.8	4.1	4.3	6.5	5.0	3.2
12	5.1	5.9	6.7	3.5	4.1	4.3	3.8	4.1	9.0	7.0	4.9	9.4
13	6.2	4.4	6.7	3.5	4.0	4.4	3.9	4.1	34	8.1	7.2	3.9
14	5.2	132	6.0	3.8	4.0	4.5	3.8	4.2	5.3	26	6.8	3.7
15	4.7	487	4.0	3.7	4.0	4.6	3.8	4.3	4.6	10	3.5	3.7
16	4.6	357	4.2	3.9	4.0	4.3	3.8	5.9	4.3	6.3	3.6	3.7
17	4.5	348	4.4	3.9	4.2	4.4	3.9	5.3	4.1	5.8	3.4	3.7
18	4.6	342	4.6	4.0	4.2	4.7	4.1	5.2	4.0	4.3	3.3	3.7
19	4.6	335	4.2	4.1	4.1	4.3	4.1	4.3	4.1	3.8	3.2	3.5
20	4.7	329	5.8	4.1	4.5	4.5	4.1	4.2	4.0	4.1	3.0	3.2
21	5.1	324	2.8	4.2	4.4	4.5	4.3	4.2	4.0	4.9	2.9	3.0
22	9.3	320	2.5	4.0	4.2	4.5	4.3	4.0	4.3	4.9	2.9	2.8
23	5.4	320	11	4.0	4.1	4.4	4.4	3.9	4.4	4.9	2.8	2.5
24	6.8	321	3.6	4.1	4.2	4.3	4.4	3.8	10	4.8	3.2	2.3
25	4.8	321	2.8	4.1	4.3	4.3	4.5	3.7	8.7	5.6	3.9	2.4
26	5.7	319	4.4	4.1	4.4	4.3	4.5	3.8	5.3	5.4	3.8	2.3
27	6.4	318	3.6	4.1	4.4	4.3	4.4	3.9	5.2	4.4	4.4	2.4
28	7.1	217	2.8	4.1	4.2	4.3	4.6	3.9	6.5	4.4	3.9	2.3
29	7.9	4.8	2.4	4.0	---	4.3	4.6	3.7	5.4	4.5	5.0	2.2
30	8.6	2.8	2.5	4.1	---	4.2	4.5	3.8	5.3	4.7	4.3	2.2
31	9.9	---	2.6	4.3	---	4.2	---	3.8	---	5.0	5.5	---
TOTAL	176.9	4962.9	172.5	116.7	118.5	136.0	125.2	133.8	178.8	197.1	132.2	105.1
MEAN	5.71	165	5.56	3.76	4.23	4.39	4.17	4.32	5.96	6.36	4.26	3.50
MAX	9.9	487	42	4.3	4.5	5.2	4.6	5.9	34	26	7.2	9.4
MIN	3.8	2.8	1.8	2.6	4.0	4.2	3.8	3.7	3.8	3.8	2.8	2.2
AC-FT	351	9840	342	231	235	270	248	265	355	391	262	208

CAL YR 1988 TOTAL 6605.7 MEAN 18.0 MAX 487 MIN 1.8 AC-FT 13100
WTR YR 1989 TOTAL 6555.7 MEAN 18.0 MAX 487 MIN 1.8 AC-FT 13000

ARKANSAS RIVER BASIN

07227100 REVUELTO CREEK NEAR LOGAN, NM

LOCATION.--Lat 35°20'29", long 103°23'37", in SW¼NW¼ sec.24, T.13 N., R.33 E., Quay County, Hydrologic Unit 11080008, on right bank 0.3 mi upstream from bridge on State Highway 469, 1.9 mi southeast of Logan, and at mile 2.3.

DRAINAGE AREA.--786 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,660 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 16, 1981, at site 320 ft upstream at datum 0.56 ft higher.

REMARKS.--Water-discharge records poor. Low flows supplemented by surface and ground-water return from irrigation in vicinity of Tucumcari. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years, 44.8 ft³/s, 32,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft³/s, July 9, 1960, gage height, 14.3 ft, site and datum then in use; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD (1941-47).--Maximum discharge determined, about 13,400 ft³/s, Sept. 18, 1946, gage height, 9.04 ft, at site 180 ft downstream at different datum, from unpublished records collected by U.S. Bureau of Reclamation.

A peak of 26,100 ft³/s, date unknown, gage height, 12.9 ft at former site and datum, was measured by slope-area method in May 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 24	2345	4,430	6.62	Aug. 29	2200	5,800	7.45
Aug. 17	0445	*6,640	*7.91				

No flow June 27, 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	23	4.9	5.3	2.3	1.9	14	e5.8	.72	275	58	5.4
2	2.3	23	5.4	4.5	2.3	1.7	19	e7.5	16	145	18	2.3
3	4.5	24	4.6	4.0	e2.0	1.3	23	e10	218	95	16	1.3
4	4.2	23	4.3	3.5	e3.0	2.2	20	e8.0	240	38	19	.65
5	8.1	23	4.3	2.8	e4.0	1.9	18	e5.9	78	14	28	.47
6	10	24	4.5	2.6	e5.0	2.4	17	e5.1	28	7.9	28	.29
7	12	23	4.5	2.4	e8.0	3.0	18	e4.6	13	6.2	102	.18
8	12	23	5.3	3.1	9.2	1.9	15	e4.5	10	4.6	167	.19
9	14	20	5.4	2.6	9.6	1.6	15	e4.5	75	4.3	128	.12
10	13	17	11	3.4	11	1.4	e20	e4.6	36	4.0	67	.14
11	17	14	9.4	4.3	10	1.4	e32	e5.7	28	2.7	275	.05
12	20	13	8.3	2.8	7.7	1.4	e68	e10	95	5.7	330	115
13	28	13	7.3	2.2	5.2	1.2	e99	e8.0	162	89	374	525
14	27	12	5.8	3.3	3.9	.95	e105	e6.4	58	48	32	172
15	36	11	5.1	5.0	3.4	.89	e60	e4.6	43	322	12	118
16	43	10	4.0	4.2	2.7	.74	e33	e210	20	269	75	76
17	53	9.4	4.4	4.5	4.0	.51	e18	e50	9.0	197	1310	45
18	42	8.7	5.2	5.1	5.1	.48	e6.8	e98	3.9	32	754	33
19	15	11	4.3	3.7	4.2	.90	e6.1	84	2.6	e20	342	24
20	16	14	3.3	3.2	3.5	1.6	e6.1	28	1.8	e12	115	15
21	20	10	3.2	3.2	4.6	10	e6.2	16	.77	9.2	45	41
22	20	7.8	2.9	2.9	5.0	26	e6.6	9.9	4.1	9.4	25	45
23	14	8.9	2.3	2.7	4.0	16	e6.6	8.2	11	9.2	5.2	53
24	14	9.7	3.0	2.5	2.7	22	e6.0	5.0	268	21	4.8	45
25	14	6.7	3.3	3.1	2.3	9.3	e5.9	3.1	290	442	10	40
26	23	5.6	3.6	3.7	2.0	8.9	e5.5	2.6	.48	275	30	34
27	24	5.5	2.9	4.2	2.0	8.5	e5.0	2.0	.09	50	549	30
28	24	4.6	e2.6	5.3	1.8	16	e4.7	1.9	12	43	110	27
29	26	4.9	3.1	e3.0	---	17	e4.8	1.1	90	15	739	23
30	27	4.1	e2.6	3.9	---	12	e4.9	1.0	254	7.1	488	19
31	25	---	e4.1	3.5	---	9.9	---	1.0	---	6.2	22	---
TOTAL	610.8	406.9	144.9	110.5	130.5	184.97	669.2	617.0	2068.46	2478.5	6278.0	1491.09
MEAN	19.7	13.6	4.67	3.56	4.66	5.97	22.3	19.9	68.9	80.0	203	49.7
MAX	53	24	11	5.3	11	26	105	210	290	442	1310	525
MIN	2.3	4.1	2.3	2.2	1.8	.48	4.7	1.0	.09	2.7	4.8	.05
AC-FT	1210	807	287	219	259	367	1330	1220	4100	4920	12450	2960

CAL YR 1988 TOTAL 30579.49 MEAN 83.6 MAX 6780 MIN .29 AC-FT 60650
WTR YR 1989 TOTAL 15190.82 MEAN 41.6 MAX 1310 MIN .05 AC-FT 30130

e Estimated

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

[illegible]

WESTERN GULF OF MEXICO BASINS

RIO GRANDE BASIN

08251500 RIO GRANDE NEAR LOBATOS, CO
(National stream-quality accounting network station)

LOCATION.--Lat 37°04'42", long 105°45'22", in sec.22, T.33 N., R.11 E., Conejos County, Hydrologic Unit 13010002, on right bank at highway bridge, 6 mi north of Colorado-New Mexico State line, 7 mi downstream from Culebra Creek, 10 mi east of Lobatos, and 14 mi east of Antonito.

DRAINAGE AREA.--7,700 mi², approximately, including 2,940 mi² in closed basin in northern part of San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1899 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "at Cenicero" 1899-1901, and as "near Cenicero" 1902-04.

REVISED RECORDS.--WSP 210: Drainage area. WSP 1312: 1919 (monthly runoff). WRD CO-78-1: 1976.

GAGE.--Water-stage recorder. Datum of gage is 7,427.63 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 8, 1910, nonrecording gages at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--31 years (water years 1900-30), 846 ft³/s, 612,900 acre-ft/yr, includes period of extensive development for irrigation.
59 years (water years 1931-1989), 453 ft³/s, 328,200 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,200 ft³/s, June 8, 1905, gage height, 9.1 ft, from rating curve extended above 8,000 ft³/s; no flow at times in 1950-51, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1828, that of June 8, 1905.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,870 ft³/s at 1345 Apr. 11, gage height, 3.35 ft; minimum daily, 31 ft³/s, Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	136	e350	e310	e290	e485	986	511	485	95	70	36
2	39	165	e350	e315	e295	e515	964	457	355	107	50	36
3	38	198	e340	e340	e295	e525	979	447	274	92	47	34
4	38	285	e340	e350	e295	e490	979	450	220	97	49	34
5	39	305	e330	e350	e280	e535	968	496	229	84	59	40
6	38	325	e320	e350	e250	e540	1000	511	279	73	62	42
7	38	340	e360	e345	e270	e560	1060	475	285	59	59	37
8	45	339	e330	e345	e300	556	1180	462	251	55	58	41
9	59	342	e320	e345	e295	587	1370	477	268	55	60	49
10	66	341	e320	e335	e290	664	1590	564	310	55	55	45
11	77	359	e330	e310	e290	744	1780	664	319	53	55	43
12	76	370	e340	e305	e295	848	1740	601	306	55	60	44
13	80	386	e340	e305	e295	925	1730	532	314	53	64	46
14	82	388	e330	e310	e300	1030	1560	440	310	51	58	43
15	76	400	e350	e310	e300	1060	1290	380	269	48	55	46
16	75	413	e340	e300	e305	1070	1040	333	227	49	53	51
17	76	432	e330	e295	e305	1020	992	279	196	53	48	49
18	83	422	e320	e295	e310	948	990	289	158	57	55	43
19	90	e405	e350	e295	e305	909	886	386	136	50	50	31
20	97	e405	e320	e295	e305	928	888	360	137	53	47	32
21	101	e365	e330	e300	e305	962	863	316	136	49	44	36
22	99	e360	e340	e300	e310	895	873	281	148	44	42	36
23	85	351	e350	e300	e310	833	833	246	150	53	41	49
24	87	377	e310	e295	e310	838	783	294	143	54	40	83
25	100	e370	e330	e285	e335	865	727	360	126	50	39	56
26	107	e360	e320	e280	e410	913	689	310	118	51	39	45
27	112	e350	e280	e285	e475	945	744	266	106	64	43	40
28	118	e340	e260	e290	e465	964	630	325	104	94	43	38
29	115	e350	e260	e285	---	943	532	413	95	88	40	40
30	118	e340	e270	e285	---	951	505	462	92	80	39	46
31	122	---	e280	e290	---	964	---	524	---	156	38	---
TOTAL	2418	10319	10040	9600	8790	25012	31151	12911	6546	2077	1562	1291
MEAN	78.0	344	324	310	314	807	1038	416	218	67.0	50.4	43.0
MAX	122	432	360	350	475	1070	1780	664	485	156	70	83
MIN	38	136	260	280	250	485	505	246	92	44	38	31
AC-FT	4800	20470	19910	19040	17430	49610	61790	25610	12980	4120	3100	2560

CAL YR 1988 TOTAL 93143 MEAN 254 MAX 822 MIN 29 AC-FT 184700
WTR YR 1989 TOTAL 121717 MEAN 333 MAX 1780 MIN 31 AC-FT 241400

e Estimated

RIO GRANDE BASIN

67

08251500 RIO GRANDE NEAR LOBATOS, CO -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

REMARKS.--Replaces station 08249200 Rio Grande above Culebra Creek, near Lobatos, Colo., which was discontinued July 1969. This station operated by the Colorado District.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 19...	1000	85	535	8.6	11.0	13	8.9	130	67	47
DEC 08...	1030	E330	390	8.3	0.5	4.0	11.0	76	35	390
FEB 24...	1000	E387	212	8.1	0.0	5.0	10.3	66	--	48
APR 21...	1000	886	174	8.1	13.0	22	7.8	49	77	140
JUN 22...	1100	145	518	8.6	15.0	2.8	8.4	140	58	140
AUG 29...	1045	43	520	8.8	19.0	7.2	8.1	100	K13	39

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 19...	39	8.7	67	5.8	184	7	211	77	16	0.8
DEC 08...	23	4.6	47	7.7	132	0	161	44	13	0.4
FEB 24...	20	3.8	19	3.1	80	0	98	25	4.8	0.3
APR 21...	15	2.9	13	2.4	60	0	73	17	3.6	0.2
JUN 22...	43	8.8	51	6.3	139	3	164	100	13	0.6
AUG 29...	30	7.0	68	6.5	175	10	194	50	16	0.8

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)
OCT 19...	26	355	349	<0.10	0.01	0.01	0.4	0.11	0.04
DEC 08...	30	248	246	0.16	<0.01	--	<0.2	0.09	0.07
FEB 24...	29	158	154	0.16	0.02	0.03	0.3	0.08	0.04
APR 21...	23	117	113	<0.10	0.01	0.01	0.5	0.11	0.06
JUN 22...	28	340	338	<0.10	<0.01	--	0.6	0.09	0.05
AUG 29...	26	309	312	<0.10	0.01	0.01	0.6	0.11	0.06

RIO GRANDE BASIN

08251500 RIO GRANDE NEAR LOBATOS, CO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
OCT 19...	20	3	41	<0.5	1	<1	<3	2	50	<5
FEB 24...	10	2	23	<0.5	<1	<1	<3	1	42	<5
JUN 22...	<10	3	44	<0.5	<1	1	<3	1	35	<1
AUG 29...	20	3	48	<0.5	<1	2	<3	4	25	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 19...	13	21	<0.1	<10	2	<1	<1.0	350	<6	--
FEB 24...	6	17	<0.1	<10	<1	<1	<1.0	160	<6	11
JUN 22...	10	10	<0.1	<10	<1	<1	<1.0	380	<6	16
AUG 29...	8	20	0.1	<10	1	<1	<1.0	270	9	7

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 19...	1000	85	58	13
DEC 08...	1030	330	10	8.9
FEB 24...	1000	387	28	29
APR 21...	1000	886	110	263
JUN 22...	1100	145	12	4.7
AUG 29...	1045	43	25	2.9

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK)	TEMPER- ATURE WATER (DEG C)	PH (STAND- ARD UNITS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, DIS- SUS- PENDED (MG/L)
OCT 19...	1001	55.0	11.5	8.6	554	9.1	62
19...	1002	65.0	11.0	8.5	544	9.1	49
19...	1003	75.0	11.0	8.5	539	9.0	27
19...	1004	85.0	11.0	8.6	533	8.8	40
19...	1005	95.0	11.0	8.6	533	8.8	37
19...	1006	105	11.0	8.6	532	8.8	39
19...	1007	115	11.0	8.6	533	8.8	38
19...	1008	125	11.0	8.6	535	8.8	41
19...	1009	135	11.0	8.6	533	8.8	41
19...	1010	145	12.0	8.7	527	9.4	47
APR 21...	1001	30.0	14.0	8.2	189	7.9	106
21...	1002	45.0	13.5	8.1	180	7.8	81
21...	1003	60.0	13.5	8.1	175	7.8	114
21...	1004	75.0	13.0	8.1	174	7.7	93
21...	1005	90.0	13.0	8.1	172	7.6	94
21...	1006	105	13.0	8.1	171	7.7	107
21...	1007	120	13.0	8.1	172	7.7	134
21...	1008	135	13.0	8.1	170	7.7	106
21...	1009	150	13.0	8.1	170	7.8	92
21...	1010	165	13.5	8.1	171	7.8	76
21...	1011	180	14.0	8.2	172	7.9	73

08252500 COSTILLA CREEK ABOVE COSTILLA DAM, NM

LOCATION.--Lat 36°53'52", long 105°15'16", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on left bank 1,900 ft upstream from normal high-water line of Costilla Reservoir, 2.1 mi northeast of Costilla Dam, 16 mi southeast of Costilla, and at mile 36.9.

DRAINAGE AREA.--25.1 mi².

PERIOD OF RECORD.--April 1937 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1312 and 1732. Prior to October 1951, published as "above reservoir, near Costilla."

REVISED RECORDS.--WSP 878: 1937. WSP 1923: 1937-50, drainage area.

GAGE.--Water-stage recorder. Concrete control since Sept. 17, 1965. Elevation of gage is 9,430 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1923 for history of changes prior to Sept. 17, 1965.

REMARKS.--Records good. Natural flow may be augmented by transbasin diversions or irrigation returns from about 1,300 acres irrigated from Casias Creek (station 08253000). Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,870 ft³/s, July 22, 1954, gage height, about 4.8 ft, from floodmarks, site and datum then in use, on basis of slope-area measurement of peak flow; minimum not determined. The flood in 1954 destroyed the gaging station and is highest since about 1909, from information by local range rider.

A portion of this flow may have originated in Casias Creek basin (see REMARKS).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 21	2045	*25	*2.39				

Minimum recorded, 2.9 ft³/s, July 8-10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	12	8.1	3.5	7.5	3.2
2	---	---	---	---	---	---	---	11	10	3.3	5.8	3.2
3	---	---	---	---	---	---	---	11	9.2	3.4	4.4	3.2
4	---	---	---	---	---	---	---	11	9.5	3.4	4.1	3.6
5	---	---	---	---	---	---	---	10	9.9	3.7	4.2	5.2
6	---	---	---	---	---	---	---	11	7.5	3.7	4.5	3.7
7	---	---	---	---	---	---	---	11	6.8	3.3	4.2	3.3
8	---	---	---	---	---	---	---	12	9.4	3.2	4.8	3.4
9	---	---	---	---	---	---	---	15	10	3.1	4.2	3.4
10	---	---	---	---	---	---	---	18	7.8	3.3	5.5	3.1
11	---	---	---	---	---	---	---	18	6.7	3.8	9.6	3.2
12	---	---	---	---	---	---	---	18	11	5.2	8.4	7.1
13	---	---	---	---	---	---	---	15	13	5.2	5.7	5.4
14	---	---	---	---	---	---	---	14	14	4.3	5.0	4.5
15	---	---	---	---	---	---	---	13	9.0	4.2	4.4	3.8
16	---	---	---	---	---	---	---	13	6.7	4.0	4.1	3.5
17	---	---	---	---	---	---	---	14	5.7	3.7	4.0	3.3
18	---	---	---	---	---	---	---	13	5.2	3.3	7.7	3.3
19	---	---	---	---	---	---	---	9.9	5.2	3.4	5.1	3.4
20	---	---	---	---	---	---	---	9.0	5.1	3.7	4.3	5.7
21	---	---	---	---	---	---	---	9.1	4.7	4.1	4.0	3.9
22	---	---	---	---	---	---	---	21	8.9	5.5	4.1	3.9
23	---	---	---	---	---	---	---	21	8.5	5.3	3.6	3.6
24	---	---	---	---	---	---	---	20	8.9	4.7	4.9	3.4
25	---	---	---	---	---	---	---	20	8.8	4.1	5.2	3.1
26	---	---	---	---	---	---	---	19	8.6	3.8	6.6	3.3
27	---	---	---	---	---	---	---	18	8.5	3.9	5.9	3.3
28	---	---	---	---	---	---	---	16	8.8	4.0	5.4	3.3
29	---	---	---	---	---	---	---	14	8.7	4.0	7.7	3.3
30	---	---	---	---	---	---	---	14	8.7	3.9	6.8	3.3
31	---	---	---	---	---	---	---	8.2	---	7.0	3.4	---
TOTAL	---	---	---	---	---	---	---	354.6	213.7	138.0	146.9	112.7
MEAN	---	---	---	---	---	---	---	11.4	7.12	4.45	4.74	3.76
MAX	---	---	---	---	---	---	---	18	14	7.7	9.6	7.1
MIN	---	---	---	---	---	---	---	8.2	3.8	3.1	3.3	3.1
AC-FT	---	---	---	---	---	---	---	703	424	274	291	224

RIO GRANDE BASIN

08253000 CASIAS CREEK NEAR COSTILLA, NM

LOCATION.--Lat 36°53'48", long 105°15'35", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on left bank 200 ft downstream from road crossing, 900 ft upstream from normal high-water line of Costilla Reservoir, 1.8 mi northeast of Costilla Dam, and 16 mi southeast of Costilla.

DRAINAGE AREA.--16.6 mi².

PERIOD OF RECORD.--April 1937 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1312 and 1732. Records for Nov. 1-7, 1947 and Nov. 1-16, 1948, published in WSP 1118 and 1148, are unreliable and should not be used.

REVISED RECORDS.--WSP 1282: 1948-51. WSP 1923: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 9,400 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 18, 1940, water-stage recorder and wooden control 100 ft downstream at datum 1.56 ft lower.

REMARKS.--Records good. Diversion 3.5 mi upstream for irrigation of about 1,300 acres, part of which is in Costilla Creek basin. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 181 ft³/s, July 20, 1971, gage height, 2.07 ft, from rating curve extended above 85 ft³/s; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 8	2000	*26	*0.85				

Minimum recorded, 2.7 ft³/s, Sept. 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	13	19	9.4	7.5	3.7
2	---	---	---	---	---	---	---	12	20	7.8	6.5	3.7
3	---	---	---	---	---	---	---	12	19	7.4	5.8	3.8
4	---	---	---	---	---	---	---	11	19	7.2	5.6	4.3
5	---	---	---	---	---	---	---	11	19	7.2	5.7	4.8
6	---	---	---	---	---	---	---	11	17	6.9	5.6	3.8
7	---	---	---	---	---	---	---	12	16	6.6	5.3	3.5
8	---	---	---	---	---	---	---	12	18	6.3	5.6	3.8
9	---	---	---	---	---	---	---	15	17	6.2	5.2	3.5
10	---	---	---	---	---	---	---	17	15	6.3	5.5	3.4
11	---	---	---	---	---	---	---	18	13	7.2	8.6	3.6
12	---	---	---	---	---	---	---	18	17	7.8	6.7	6.1
13	---	---	---	---	---	---	---	17	17	7.0	5.8	4.7
14	---	---	---	---	---	---	---	17	19	6.8	5.3	4.0
15	---	---	---	---	---	---	---	16	16	6.6	5.1	3.6
16	---	---	---	---	---	---	---	15	15	6.6	4.7	3.5
17	---	---	---	---	---	---	---	16	14	6.1	5.1	3.4
18	---	---	---	---	---	---	---	15	14	5.6	6.7	3.4
19	---	---	---	---	---	---	---	13	14	6.0	4.9	3.6
20	---	---	---	---	---	---	---	13	14	5.8	4.7	4.8
21	---	---	---	---	---	---	---	14	14	6.3	4.5	3.6
22	---	---	---	---	---	---	---	14	14	5.9	4.2	3.4
23	---	---	---	---	---	---	---	16	15	13	6.7	4.1
24	---	---	---	---	---	---	---	16	16	13	6.7	4.1
25	---	---	---	---	---	---	---	16	17	12	7.1	4.0
26	---	---	---	---	---	---	---	16	17	12	6.9	3.9
27	---	---	---	---	---	---	---	16	17	12	6.7	4.0
28	---	---	---	---	---	---	---	15	18	11	7.1	4.0
29	---	---	---	---	---	---	---	15	19	11	8.0	3.9
30	---	---	---	---	---	---	---	14	20	10	7.5	3.9
31	---	---	---	---	---	---	---	19	---	7.3	3.7	---
TOTAL	---	---	---	---	---	---	---	470	454	213.0	160.2	110.7
MEAN	---	---	---	---	---	---	---	15.2	15.1	6.87	5.17	3.69
MAX	---	---	---	---	---	---	---	20	20	9.4	8.6	6.1
MIN	---	---	---	---	---	---	---	11	10	5.6	3.7	2.8
AC-FT	---	---	---	---	---	---	---	932	901	422	318	220

08253500 SANTISTEVAN CREEK NEAR COSTILLA, NM

LOCATION.--Lat 36°53'03", long 105°16'50", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on left bank 200 ft upstream from road crossing, 1,300 ft upstream from normal high-water line of Costilla Reservoir, 0.6 mi north of Costilla Dam, and 16 mi southeast of Costilla.

DRAINAGE AREA.--2.15 mi².

PERIOD OF RECORD.--April 1937 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1312 and 1732.

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder and Parshall flume. Elevation of gage is 9,490 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 27, 1940, water-stage recorder and wooden control at datum 0.99 ft lower.

REMARKS.--Records good. No diversions upstream from station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18 ft³/s, Aug. 11, 1941, July 12, 1957; maximum gage height, 1.73 ft, Aug. 11, 1941; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6.0 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 11	1815	*4.9	*0.67				

Minimum recorded, 0.83 ft³/s, several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	2.0	2.6	1.5	1.5	.92
2	---	---	---	---	---	---	---	2.2	2.7	1.5	1.4	.93
3	---	---	---	---	---	---	---	2.2	2.7	1.4	1.3	.94
4	---	---	---	---	---	---	---	2.2	2.7	1.5	1.3	1.1
5	---	---	---	---	---	---	---	2.2	2.7	1.5	1.4	1.1
6	---	---	---	---	---	---	---	2.3	2.5	1.4	1.4	.92
7	---	---	---	---	---	---	---	2.3	2.5	1.4	1.3	.91
8	---	---	---	---	---	---	---	2.4	2.7	1.4	1.3	.95
9	---	---	---	---	---	---	---	2.7	2.7	1.3	1.3	.87
10	---	---	---	---	---	---	---	2.9	2.6	1.3	1.4	.86
11	---	---	---	---	---	---	---	3.0	2.5	1.5	1.7	.89
12	---	---	---	---	---	---	---	3.0	2.6	1.6	1.4	1.3
13	---	---	---	---	---	---	---	2.9	2.5	1.4	1.3	1.1
14	---	---	---	---	---	---	---	2.9	2.5	1.4	1.2	.98
15	---	---	---	---	---	---	---	2.9	2.3	1.4	1.2	.92
16	---	---	---	---	---	---	---	2.9	2.2	1.3	1.2	.90
17	---	---	---	---	---	---	---	2.9	2.1	1.3	1.2	.87
18	---	---	---	---	---	---	---	2.9	2.0	1.2	1.5	.89
19	---	---	---	---	---	---	---	2.7	2.0	1.2	1.2	.91
20	---	---	---	---	---	---	---	2.7	1.9	1.3	1.1	1.0
21	---	---	---	---	---	---	---	2.7	1.9	1.4	1.1	.86
22	---	---	---	---	---	---	1.9	2.7	1.9	1.4	1.0	.88
23	---	---	---	---	---	---	1.9	2.7	1.8	1.6	1.0	.88
24	---	---	---	---	---	---	1.9	2.7	1.7	1.6	.99	.86
25	---	---	---	---	---	---	1.9	2.7	1.7	1.5	.98	.86
26	---	---	---	---	---	---	1.9	2.6	1.7	1.5	.95	.85
27	---	---	---	---	---	---	1.9	2.5	1.7	1.4	.98	.84
28	---	---	---	---	---	---	1.9	2.6	1.7	1.4	1.0	.84
29	---	---	---	---	---	---	1.9	2.6	1.6	1.5	.98	.83
30	---	---	---	---	---	---	2.0	2.6	1.6	1.5	1.0	.83
31	---	---	---	---	---	---	---	2.6	---	1.5	.95	---
TOTAL	---	---	---	---	---	---	---	81.2	66.3	44.1	37.53	27.79
MEAN	---	---	---	---	---	---	---	2.62	2.21	1.42	1.21	.93
MAX	---	---	---	---	---	---	---	3.0	2.7	1.6	1.7	1.3
MIN	---	---	---	---	---	---	---	2.0	1.6	1.2	.95	.83
AC-FT	---	---	---	---	---	---	---	161	132	87	74	55

08254000 COSTILLA CREEK BELOW COSTILLA DAM, NM

LOCATION.--Lat 36°52'26", long 105°16'47", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on right bank 550 ft downstream from Costilla Dam, 16 mi southeast of Costilla, and at mile 34.7.

DRAINAGE AREA.--54.6 mi².

PERIOD OF RECORD.--April 1937 to current year (no winter records 1937-44, 1947-49, 1988-89). Monthly discharge only for some periods, published in WSP 1312. Prior to October 1951, published as "below reservoir near Costilla."

REVISED RECORDS.--WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 9,290 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 19, 1988, at site 430 ft upstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Costilla Reservoir (station 08253900). Diversions for irrigation of about 1,300 acres upstream from reservoir. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--41 years (water years 1945-47, 1950-87), 18.6 ft³/s, 13,480 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 301 ft³/s, June 19, 1979, gage height, 3.04 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 134 ft³/s, July 10; minimum daily, 0.05 ft³/s, many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e.05	60	.84	109	20	83	e8.0
2	---	---	---	---	---	e.05	60	.14	60	35	80	e8.0
3	---	---	---	---	---	e.05	60	.14	34	83	79	e8.0
4	---	---	---	---	---	e.05	41	.14	46	85	77	e9.0
5	---	---	---	---	---	e.05	20	.14	84	86	74	e11
6	---	---	---	---	---	e.05	11	.14	92	87	71	e8.5
7	---	---	---	---	---	e.05	6.8	.15	93	38	69	e7.5
8	---	---	---	---	---	e.05	6.8	.14	93	16	65	e8.1
9	---	---	---	---	---	e.05	6.8	.16	54	41	61	e7.5
10	---	---	---	---	---	e.05	6.9	.14	32	134	57	e7.5
11	---	---	---	---	---	e.05	4.0	.15	50	132	52	e7.5
12	---	---	---	---	---	e.05	1.2	.14	88	130	51	e14
13	---	---	---	---	---	e5.0	.71	.14	89	126	46	e11
14	---	---	---	---	---	e11	.84	11	80	43	43	e9.5
15	---	---	---	---	---	11	1.1	29	82	.94	38	e8.5
16	---	---	---	---	---	8.5	1.3	40	45	.40	34	e8.0
17	---	---	---	---	---	29	.79	51	24	.46	27	e7.5
18	---	---	---	---	---	43	1.5	51	41	.30	21	e7.5
19	---	---	---	---	---	43	.80	35	82	.48	18	e8.0
20	---	---	---	---	---	45	.68	25	82	.36	33	e12
21	---	---	---	---	---	57	.77	35	e36	.27	11	e8.5
22	---	---	---	---	---	61	.73	53	16	.20	17	e8.0
23	---	---	---	---	---	62	.84	54	68	2.9	e3.0	e7.5
24	---	---	---	---	---	61	1.1	54	37	5.5	e.20	e7.0
25	---	---	---	---	---	62	1.0	55	28	11	e.20	e7.0
26	---	---	---	---	---	62	1.6	31	60	31	e.20	e7.0
27	---	---	---	---	---	61	.86	20	62	95	e.20	e7.0
28	---	---	---	---	---	61	.53	42	62	94	e.20	e7.0
29	---	---	---	---	---	62	.61	103	62	89	e10	e7.0
30	---	---	---	---	---	61	.87	110	28	87	e30	e7.0
31	---	---	---	---	---	60	---	111	---	85	e8.0	---
TOTAL	---	---	---	---	---	866.10	301.13	912.56	1819	1559.81	1159.00	249.6
MEAN	---	---	---	---	---	27.9	10.0	29.4	60.6	50.3	37.4	8.32
MAX	---	---	---	---	---	62	60	111	109	134	83	14
MIN	---	---	---	---	---	.05	.53	.14	16	.20	.20	7.0
AC-FT	---	---	---	---	---	1720	597	1810	3610	3090	2300	495

e Estimated

08255500 COSTILLA CREEK NEAR COSTILLA, NM

LOCATION.--Lat 36°58'01", long 105°30'23", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on right bank 70 ft downstream from bridge on State Highway 196, 0.5 mi upstream from diversion dam, 1.6 mi southeast of Costilla, and at mile 15.9.

DRAINAGE AREA.--195 mi².

PERIOD OF RECORD.--March 1936 to current year (no winter records 1936-41, 1943). Monthly discharge for March 1943 and water year estimate for 1943, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1937-39(M).

GAGE.--Water-stage recorder. Concrete control since Oct. 13, 1952. Elevation of gage is 7,900 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to June 18, 1944, at site 200 ft downstream at different datum. June 18, 1944, to Sept. 30, 1964, at site 0.4 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Costilla Reservoir (station 08253900) 19 mi upstream. Diversions for irrigation of about 2,000 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years (water years 1942-89), 44.4 ft³/s, 32,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,150 ft³/s, May 11, 1942, gage height, 5.37 ft, site and datum then in use; minimum, 0.34 ft³/s, Mar. 15, 1969, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--A major flood occurred in 1886, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 135 ft³/s, July 12, gage height, 2.87 ft; maximum gage height, 2.91 ft, June 2, 8; minimum daily, 5.0 ft³/s, Nov. 27-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	e12	e6.0	e8.0	e8.0	23	108	54	116	27	99	12
2	21	e13	e7.0	e8.0	e8.5	24	109	53	105	26	96	20
3	20	14	e6.5	e8.5	e8.5	24	111	48	61	68	88	18
4	20	14	e7.0	e8.5	e8.5	23	102	47	59	78	85	17
5	21	e11	e5.5	e9.0	e8.0	e18	67	45	86	80	85	28
6	25	e10	e5.5	e8.5	e8.5	e20	67	43	94	82	81	23
7	37	e10	e5.5	e8.0	e7.0	e28	63	44	94	57	77	19
8	33	14	e8.0	e7.5	e7.0	38	69	48	101	21	74	18
9	27	16	e7.0	e7.5	e7.5	42	72	48	98	19	71	18
10	23	16	e7.0	e8.0	e8.0	49	65	62	56	91	67	17
11	20	17	e7.0	e8.0	e8.5	67	66	65	50	118	66	15
12	20	12	e7.0	e8.5	e8.0	68	58	65	86	126	66	26
13	21	e10	e8.0	e7.0	e7.5	81	58	59	92	125	61	33
14	20	e11	e9.0	e7.0	e8.0	77	65	56	92	93	56	26
15	20	e11	e12	e7.0	e8.5	67	59	73	83	24	51	22
16	19	e10	e9.0	e7.0	e8.5	58	59	77	74	21	45	19
17	19	e10	e9.0	e7.5	e8.5	65	62	94	48	e16	40	18
18	17	e10	e9.0	e7.5	e8.5	85	70	94	45	e15	46	17
19	15	e10	e9.0	e7.5	e9.0	94	75	84	87	e15	33	19
20	16	e10	e10	e7.5	e9.5	96	77	65	94	e15	40	28
21	17	e9.0	e9.0	e7.5	e9.0	91	84	63	82	e16	33	24
22	17	e9.0	e10	e7.5	e9.5	100	90	81	28	e16	21	20
23	17	e10	e10	e7.5	e10	100	89	80	65	e16	29	19
24	17	e11	10	e8.0	e11	101	87	79	66	18	15	19
25	17	e13	e11	e8.5	e13	105	82	78	35	23	11	18
26	17	e7.0	e10	e8.0	e15	110	76	71	55	35	9.4	17
27	16	e5.0	e7.0	e8.0	24	108	71	51	62	69	9.0	17
28	16	e5.0	e7.0	e8.5	22	106	68	52	61	94	9.1	17
29	14	e5.0	e8.0	e8.0	---	112	62	99	62	96	8.8	15
30	13	e5.0	e7.5	e8.0	---	114	58	113	54	98	43	9.9
31	e10	---	e8.0	e8.0	---	103	---	115	---	100	24	---
TOTAL	607	320.0	251.5	243.5	277.5	2197	2249	2106	2191	1708	1539.3	588.9
MEAN	19.6	10.7	8.11	7.85	9.91	70.9	75.0	67.9	73.0	55.1	49.7	19.6
MAX	37	17	12	9.0	24	114	111	115	116	126	99	33
MIN	10	5.0	5.5	7.0	7.0	18	58	43	28	15	8.8	9.9
AC-FT	1200	635	499	483	550	4360	4460	4180	4350	3390	3050	1170

CAL YR 1988 TOTAL 12466.0 MEAN 34.1 MAX 138 MIN 4.0 AC-FT 24730
WTR YR 1989 TOTAL 14278.7 MEAN 39.1 MAX 126 MIN 5.0 AC-FT 28320

e Estimated

08261000 COSTILLA CREEK AT GARCIA, CO

LOCATION.--Lat 36°59'21", long 105°31'54", Taos County, Hydrologic Unit 13020101, in Sangre de Cristo Grant, on left bank 0.4 mi downstream from old State Highway 3, 0.5 mi upstream from New Mexico-Colorado State line, 0.9 mi south of Garcia, and at mile 13.3.

DRAINAGE AREA.--200 mi², approximately.

PERIOD OF RECORD.--June 1944 to current year (no winter records).

GAGE.--Water-stage recorder. Concrete control since Oct. 9, 1956. Elevation of gage is 7,760 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Apr. 20, 1950, at site 0.4 mi downstream at different datum.

REMARKS.--Records good. Flow partly regulated by Costilla Reservoir (station 08253900) 22 mi upstream. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 500 ft³/s, June 1, 1983, gage height, 4.91 ft; no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--A major flood occurred in 1886, from information by local residents. Flood of May 11, 1942, probably reached a discharge of 1,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 100 ft³/s, July 14, gage height, 3.57 ft; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	e1.5	.64	3.6	e.00	2.2
2	---	---	---	---	---	---	---	e1.5	8.1	1.3	e.00	.00
3	---	---	---	---	---	---	---	e1.5	11	.16	e.00	.00
4	---	---	---	---	---	---	---	e1.5	12	.29	e2.0	.00
5	---	---	---	---	---	---	---	e1.5	13	1.0	3.2	.00
6	---	---	---	---	---	---	---	1.6	8.1	.93	3.2	.00
7	---	---	---	---	---	---	---	1.8	5.5	.70	3.1	.04
8	---	---	---	---	---	---	---	1.8	5.2	.77	3.1	.00
9	---	---	---	---	---	---	---	1.8	15	2.3	3.1	.00
10	---	---	---	---	---	---	---	6.5	9.6	2.3	3.1	.00
11	---	---	---	---	---	---	---	.0	7.8	.35	3.1	.00
12	---	---	---	---	---	---	---	2.7	4.3	.35	3.1	.00
13	---	---	---	---	---	---	---	5.8	3.3	.35	3.1	.00
14	---	---	---	---	---	---	---	6.9	7.1	17	3.1	.00
15	---	---	---	---	---	---	---	4.4	6.4	11	3.1	.00
16	---	---	---	---	---	---	---	2.0	6.6	.46	3.0	.00
17	---	---	---	---	---	---	---	3.0	4.2	1.0	2.9	.00
18	---	---	---	---	---	---	---	2.8	.22	.94	2.9	.00
19	---	---	---	---	---	---	---	1.2	1.1	1.6	2.9	.00
20	---	---	---	---	---	---	---	.21	e.00	e.00	19	.00
21	---	---	---	---	---	---	---	.13	1.7	e.00	28	.00
22	---	---	---	---	---	---	---	.01	1.8	e.00	e.00	.00
23	---	---	---	---	---	---	---	.00	2.3	e.00	e.00	.00
24	---	---	---	---	---	---	---	.56	21	e.00	e.00	.00
25	---	---	---	---	---	---	---	1.3	13	e.00	e.00	.00
26	---	---	---	---	---	---	---	.86	.08	e.00	e.00	.00
27	---	---	---	---	---	---	---	.14	.08	e.00	e.00	.04
28	---	---	---	---	---	---	---	1.4	1.6	e.00	e.00	.09
29	---	---	---	---	---	---	---	2.0	3.8	e.00	e.00	2.5
30	---	---	---	---	---	---	---	1.7	1.2	e.00	1.4	3.9
31	---	---	---	---	---	---	---	.38	---	e.00	2.5	---
TOTAL	---	---	---	---	---	---	---	58.49	175.72	46.40	98.90	8.77
MEAN	---	---	---	---	---	---	---	1.89	5.86	1.50	3.19	.29
MAX	---	---	---	---	---	---	---	6.9	21	17	28	3.9
MIN	---	---	---	---	---	---	---	.00	.00	.00	.00	.00
AC-FT	---	---	---	---	---	---	---	116	349	92	196	17

e Estimated

PRINCIPAL DIVERSIONS FROM COSTILLA CREEK, NEW MEXICO-COLORADO

Records of discharge are collected at 4 gaging stations on 2 diversions from Costilla Creek. Water diverted is used for irrigation in the Sangre de Cristo Grant in New Mexico and Colorado downstream from the gaging station on Costilla Creek near Costilla, NM (station 08255500). Records collected during irrigation season only. Several observations of water temperature were made at each site during the year.

08256000 ACEQUIA MADRE AT COSTILLA, NM.--Lat 36°58'03", long 105°30'57", Taos County, Hydrologic Unit 13020101, on right bank 135 ft downstream from new diversion dam, and 1.2 mi southeast of the intersection of State Highways 522 and 196 at Costilla. PERIOD OF RECORD, May 1944 to current year. GAGE, water-stage recorder and Parshall flume. Elevation of gage is 7,870 ft above National Geodetic Vertical Datum of 1929, from topographic map. Acequia diverts from right bank of Costilla Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 50 ft³/s, June 25, 1944, July 31, 1945; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 17 ft³/s, June 12, Aug. 8-10; minimum daily, 4.3 ft³/s, Sept. 30.

08258000 CERRO CANAL AT COSTILLA, NM.--Lat 36°57'56", long 105°31'07", Taos County, Hydrologic Unit 13020101, on right bank 1,350 ft downstream from new diversion dam, and 1.2 mi southeast of the intersection of State Highways 522 and 196 at Costilla. PERIOD OF RECORD, April 1944 to current year. GAGE, water-stage recorder and Parshall flume. Elevation of gage is 7,870 ft above National Geodetic Vertical Datum of 1929, from topographic map. Canal diverts from left bank of Costilla Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 164 ft³/s, June 9, 1985; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 114 ft³/s, July 12; minimum daily, 1.1 ft³/s, Sept. 1.

08258600 CERRO CANAL BELOW ASSOCIATION DITCH AT COSTILLA, NM.--Lat 36°57'41", long 105°32'05", Taos County, Hydrologic Unit 13020101, on left bank 220 ft downstream from Association ditch, and 1.2 mi south of the intersection of State Highways 522 and 196 at Costilla. PERIOD OF RECORD, May 1972 to current year. GAGE, water-stage recorder and Parshall flume. Elevation of gage is 7,820 ft above National Geodetic Vertical Datum of 1929, from topographic map.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 85 ft³/s, July 8, 1987; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 48 ft³/s, July 12; minimum daily, 0.28 ft³/s, July 23.

08259600 CERRO CANAL AT STATE LINE NEAR JAROSO, CO.--Lat 36°59'41", long 105°34'36", Taos County, Hydrologic Unit 13020101, on right bank 780 ft downstream from head of N. Mex. branch Cerro Canal, and 2.7 mi east of Jaroso. PERIOD OF RECORD, April 1973 to current year. GAGE, water-stage recorder and Parshall flume. Elevation of gage is 7,680 ft above National Geodetic Vertical Datum of 1929, from topographic map. Flow measured is delivered to Colorado.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 72 ft³/s, July 10, 1986; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 43 ft³/s, July 12; no flow many days.

MONTHLY DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

	08256000 Acequia Madre	08258000 Cerro Canal at Costilla	08258600 Cerro Canal below Association ditch	08259600 Cerro Canal at State line nr Jaroso
October	-	-	-	-
November	-	-	-	-
December	-	-	-	-
January	-	-	-	-
February	-	-	-	-
March	-	-	-	-
April	-	-	-	-
May	-	-	-	-
June	668	3,270	1,340	1,110
July	522	2,650	1,100	880
August	679	2,180	843	713
September	597	461	232	161

08263500 RIO GRANDE NEAR CERRO, NM

LOCATION.--Lat 36°44'24", long 105°40'59", in NW¼NE¼ sec.20, T.29 N., R.12 E., Taos County, Hydrologic Unit 13020101, on left bank 4 mi southwest of Cerro, 5.5 mi northwest of Questa, 7.4 mi upstream from Red River, and at mile 1,693.1.

DRAINAGE AREA.--8,440 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--May 1948 to current year.

REVISED RECORDS.--WDR NM-80-1: 1978(M).

GAGE.--Water-stage recorder. Elevation of gage is 7,110 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 7,000 acres in New Mexico. Several observations of water temperature were made during year.

AVERAGE DISCHARGE.--41 years, 461 ft³/s, 334,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,740 ft³/s, June 22, 1949, gage height, 15.78 ft; minimum, about 40 ft³/s, Sept. 10, 11, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 11	1900	*1,920	*8.44	No other peak greater than base discharge.			
Minimum discharge, 71 ft ³ /s, Sept. 22.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e95	165	e400	359	377	552	1160	546	624	144	191	77
2	e94	183	e425	369	382	577	1140	553	530	145	137	75
3	e93	218	e455	433	385	604	1150	496	408	154	98	74
4	e92	271	e475	405	387	614	1160	495	322	145	87	73
5	e76	376	e475	412	387	581	1140	510	268	e144	85	75
6	e80	396	e470	414	e340	626	1120	590	281	e138	95	77
7	e80	411	e470	415	e310	630	1160	570	339	e130	102	82
8	e80	420	e465	413	e330	653	1270	529	340	e123	101	78
9	e80	417	e390	412	389	678	1430	508	309	e117	97	76
10	94	422	e405	412	385	756	1620	547	334	e110	102	81
11	106	426	e390	404	378	796	1830	703	386	e112	97	88
12	118	437	e400	381	381	906	1870	725	388	e114	101	85
13	119	447	e425	379	386	996	1850	669	378	e116	110	81
14	120	465	e430	377	387	1050	1750	584	392	e114	110	86
15	124	463	e440	384	388	1130	1520	480	387	e112	105	87
16	118	485	e425	388	391	1150	1210	420	332	e108	e103	87
17	116	496	e450	381	394	1110	1080	353	278	e104	e98	92
18	115	503	e440	373	397	1080	1070	301	249	e95	e102	95
19	123	488	e450	374	397	1000	1000	324	209	e100	e106	89
20	127	448	e430	378	398	1030	963	426	186	92	e103	88
21	138	434	417	382	399	1040	934	381	184	92	e100	77
22	141	368	397	384	399	1050	942	344	184	91	e98	73
23	144	386	361	386	401	997	923	306	199	88	e95	81
24	125	e415	397	388	403	992	873	267	197	89	e93	79
25	123	e460	411	385	406	1020	819	329	191	102	e91	136
26	135	e480	452	372	429	1050	755	418	174	93	e90	115
27	146	e485	391	368	495	1100	766	348	166	88	e88	94
28	150	e420	419	375	559	1140	757	301	153	92	e86	87
29	157	e380	425	377	---	1130	637	404	150	136	e85	84
30	156	e390	403	371	---	1120	563	485	146	141	88	82
31	157	---	359	371	---	1140	---	555	---	130	78	---
TOTAL	3622	12155	13142	12022	11060	28298	34462	14467	8684	3559	3122	2554
MEAN	117	405	424	388	395	913	1149	467	289	115	101	85.1
MAX	157	503	475	433	559	1150	1870	725	624	154	191	136
MIN	76	165	359	359	310	552	563	267	146	88	78	73
AC-FT	7180	24110	26070	23850	21940	56130	68360	28700	17220	7060	6190	5070

CAL YR 1988 TOTAL 114450 MEAN 313 MAX 899 MIN 76 AC-FT 227000
WTR YR 1989 TOTAL 147147 MEAN 403 MAX 1870 MIN 73 AC-FT 291900

e Estimated

08265000 RED RIVER NEAR QUESTA, NM

LOCATION.--Lat 36°42'12", long 105°34'04", in NE¼SE¼ sec.32, T.29 N., R.13 E. (projected), Taos County, Hydrologic Unit 13020101, in Carson National Forest, on left bank 1.3 mi upstream from Cabresto Creek, 1.5 mi east of Questa, and at mile 9.0.

DRAINAGE AREA.--113 mi².

PERIOD OF RECORD.--April to October 1910 and January to September 1911 (gage heights and discharge measurements only), October 1912 to March 1924, May 1924 to September 1925, January to March 1926, September 1926 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "Rio Colorado above Questa" 1910-11, 1926-30, and as "Rio Colorado near Questa" 1912-25, 1930-48.

REVISED RECORDS.--WSP 808: 1935. WSP 1392: 1913, 1932, 1941, 1947-48. WSP 1712: Drainage area.

GAGE.--Water-stage recorder. Wood or concrete control since Mar. 20, 1936. Datum of gage is 7,451.92 ft above National Geodetic Vertical Datum of 1929. See WSP 1923 for history of changes prior to Oct. 4, 1938.

REMARKS.--Records good except for estimated daily discharges, which are fair. Diversions for irrigation of a few hundred acres upstream from station. Figures of discharge do not include flow in South ditch, which diverts from left bank 1,500 ft upstream and bypasses gage for irrigation and stock water downstream.

Since January 1966 surface and ground-water diversions by Molybdenum Corp. of America (Molycorp) refinery 5.5 mi upstream bypass gage in tailings pipelines on left bank and discharge into settling pond 3 mi downstream. Effluent from this pond enters Red River as surface water and is included in discharge at Red River below Fish Hatchery, near Questa (station 08266820). See tabulation below provided by Molycorp of bypass flow through pipeline. Several observations of water temperature were made during year.

AVERAGE DISCHARGE.--52 years (water years 1913-25, 1927-65), 55.9 ft³/s, 40,500 acre-ft/yr, prior to extensive upstream diversions by Molycorp.
24 years (water years 1966-89), 40.0 ft³/s, 28,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1929).--Maximum discharge, 886 ft³/s, May 25, 1942, from rating curve extended above 450 ft³/s; maximum gage height, 5.80 ft, June 8, 1979; minimum discharge, 0.60 ft³/s, Jan. 21, 1981, result of freezeup.

The maximum discharge of May 25, 1942, may have been equaled or exceeded by the peak of June 15, 1921.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 160 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 11	0745	*164	*3.61	No other peak greater than base discharge.			

Minimum discharge, 5.4 ft³/s, Jan. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	29	e15	e12	e14	27	55	73	112	42	42	21
2	42	28	e14	e13	e15	25	54	69	109	40	40	21
3	43	28	e15	e15	e15	23	55	69	104	38	37	22
4	41	28	e16	e19	e14	21	56	69	99	36	33	23
5	39	26	e17	e20	e11	19	55	69	95	35	32	28
6	43	26	e17	19	e8.1	18	58	70	90	34	32	26
7	50	27	e16	14	e7.6	22	65	75	87	32	31	23
8	48	27	e16	e9.0	e8.4	24	72	86	89	31	30	23
9	44	29	e15	e9.0	e8.8	28	80	96	96	30	28	23
10	43	28	e15	e8.6	e10	33	78	132	88	30	33	23
11	42	27	e13	e8.0	e12	38	77	152	81	30	34	23
12	41	25	e15	e8.4	e13	40	74	144	77	33	34	33
13	40	25	e18	e9.5	e13	45	72	133	76	33	31	32
14	40	25	e19	e10	e14	49	68	122	75	30	29	27
15	39	26	e19	e11	e15	46	67	112	72	29	29	25
16	38	24	e17	e12	e16	46	70	104	71	28	29	25
17	36	22	e19	e13	17	48	79	101	70	28	30	23
18	33	24	e20	e14	17	50	87	94	69	27	42	21
19	32	24	e19	e15	17	53	93	90	67	27	38	21
20	34	19	e18	e16	17	53	101	91	65	29	34	28
21	34	19	e18	e17	17	46	111	95	63	28	33	24
22	32	19	e18	e19	16	47	117	98	65	27	30	22
23	32	23	e16	21	19	44	121	103	62	30	28	21
24	32	27	e14	20	19	45	120	110	58	33	27	21
25	31	27	e15	20	21	47	114	111	55	36	27	20
26	29	26	e17	18	23	49	109	108	53	34	26	19
27	29	e13	e14	19	25	49	105	106	50	35	26	17
28	29	e13	e12	19	26	49	99	114	47	34	26	17
29	29	e13	e12	e12	---	52	90	124	46	34	28	16
30	29	15	e11	e13	---	53	82	126	45	35	26	18
31	29	---	e11	e14	---	52	---	120	---	37	23	---
TOTAL	1146	712	491	447.5	428.9	1241	2484	3166	2236	1005	968	686
MEAN	37.0	23.7	15.8	14.4	15.3	40.0	82.8	102	74.5	32.4	31.2	22.9
MAX	50	29	20	21	26	53	121	152	112	42	42	33
MIN	29	13	11	8.0	7.6	18	54	69	45	27	23	16
AC-FT	2270	1410	974	888	851	2460	4930	6280	4440	1990	1920	1360
(†)	101	1	1	1	61	101	141	161	219	216	236	258
CAL YR 1988	TOTAL 13332.7	MEAN 36.4	MAX 138	MIN 8.2	AC-FT 26450	(†) 646						
WTR YR 1989	TOTAL 15011.4	MEAN 41.1	MAX 152	MIN 7.6	AC-FT 29780	(†) 1497						

(†) BYPASS FLOW, IN ACRE-FEET, THROUGH TAILINGS PIPELINES, PROVIDED BY MOLYCORP INC.

e Estimated

08266000 CABRESTO CREEK NEAR QUESTA, NM

LOCATION.--Lat 36°43'50", long 105°33'12", in SE&SE& sec.21, T.29 N., R.13 E., Taos County, Hydrologic Unit 13020101, in Carson National Forest, on right bank 900 ft downstream from Llano ditch heading, 2.6 mi downstream from Lake Fork, 3 mi northeast of Questa, and at mile 3.5.

DRAINAGE AREA.--36.7 mi².

PERIOD OF RECORD.--September 1943 to current year.

REVISED RECORDS.--WSP 1712: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 7,845 ft above National Geodetic Vertical Datum of 1929, from river-profile map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Llano ditch (station 08265500), the only diversion upstream from station, diverts from right bank 900 ft upstream from gage for irrigation of about 800 acres downstream. See tabulation below for monthly diversion of Llano ditch (records of daily discharge available in District files). Flow regulated by Cabresto Reservoir (capacity, 732 acre-feet, after reconstruction in 1928) on Lake Fork 1 mi upstream from mouth. Present capacity of Cabresto Reservoir is 1,100 acre-feet after further rehabilitation between 1959 and 1961. Several observations of water temperature were made during year.

AVERAGE DISCHARGE.--46 years, 10.4 ft³/s, 7,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 204 ft³/s, June 2, 1983, gage height, 4.82 ft; minimum, 0.44 ft³/s, Dec. 2, 1950, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of May 25, 1942, may have exceeded the maximum of record.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32 ft³/s, Apr. 19, gage height, 1.97 ft; minimum, 3.0 ft³/s, Jan. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	7.2	e5.6	4.7	6.1	7.1	18	14	10	10	11	6.3
2	12	7.3	e5.6	5.2	5.9	7.1	18	12	11	10	10	6.2
3	12	7.2	e6.0	6.1	5.8	6.9	17	12	11	10	10	6.3
4	12	5.9	e6.2	7.3	5.9	6.7	15	11	10	10	9.4	6.6
5	13	5.8	e6.2	7.3	5.3	6.2	14	10	10	11	9.1	7.1
6	13	e6.0	e6.2	7.2	5.6	5.9	13	10	10	12	8.9	6.6
7	14	e6.4	e6.0	e5.6	5.9	7.1	19	11	10	11	8.6	6.4
8	14	e6.4	e5.8	e5.0	5.8	7.8	23	11	11	11	8.4	6.5
9	14	e6.6	e5.6	e5.0	5.9	9.3	25	11	11	11	8.3	6.5
10	14	e6.8	e5.6	e6.0	6.2	12	25	12	11	11	8.3	6.3
11	14	e6.6	e5.4	e6.6	6.1	13	24	13	11	11	8.7	6.3
12	14	e6.4	e5.8	e6.6	5.9	14	24	13	10	10	9.6	7.3
13	14	e6.2	e6.4	e6.0	5.8	15	23	12	11	10	8.7	7.4
14	14	e6.2	e6.8	e5.2	5.8	16	22	12	11	10	8.2	6.9
15	13	e6.2	e6.8	e5.4	5.7	14	22	11	11	9.7	8.0	6.6
16	14	e6.0	e7.0	e5.6	5.6	14	23	11	10	9.4	7.8	6.4
17	14	6.3	e7.2	e5.6	5.7	14	25	11	11	9.1	7.7	6.3
18	14	8.0	e7.4	e5.6	5.8	15	27	11	11	8.8	9.8	6.2
19	13	7.9	e7.2	e5.6	5.7	15	28	10	11	8.7	8.6	6.4
20	13	5.6	e7.0	e5.6	5.7	16	27	10	11	8.7	8.0	6.8
21	12	5.4	e6.5	e5.6	5.6	14	22	10	11	8.7	7.8	6.4
22	12	5.8	5.7	e5.8	5.2	15	22	11	11	9.0	7.6	6.3
23	12	6.6	6.1	e5.8	5.8	15	21	11	11	11	7.4	6.3
24	12	e7.2	6.2	e5.8	6.0	15	20	11	10	12	7.2	6.3
25	11	e7.6	6.6	e5.8	6.2	16	18	11	10	12	7.0	6.2
26	11	e7.6	5.8	5.8	6.4	16	17	11	10	11	6.9	6.2
27	11	e7.0	4.4	5.9	7.0	16	16	11	10	11	6.8	6.3
28	11	e6.0	3.9	5.8	6.9	16	16	11	10	11	6.8	6.3
29	9.8	e5.6	3.9	5.8	---	17	15	11	10	11	6.7	6.3
30	7.5	e5.6	3.8	6.0	---	17	15	11	10	11	6.6	6.2
31	7.1	---	4.1	6.0	---	17	---	11	---	12	6.5	---
TOTAL	383.4	195.4	182.8	181.3	165.3	396.1	614	348	316	322.1	254.4	194.2
MEAN	12.4	6.51	5.90	5.85	5.90	12.8	20.5	11.2	10.5	10.4	8.21	6.47
MAX	14	8.0	7.4	7.3	7.0	17	28	14	11	12	11	7.4
MIN	7.1	5.4	3.8	4.7	5.2	5.9	13	10	10	8.7	6.5	6.2
AC-FT	760	388	363	360	328	786	1220	690	627	639	505	385
(†)	56	0	0	0	0	0	338	870	309	94	2.4	0

CAL YR 1988 TOTAL 3482.1 MEAN 9.51 MAX 27 MIN 3.8 AC-FT 6910
WTR YR 1989 TOTAL 3553.0 MEAN 9.73 MAX 28 MIN 3.8 AC-FT 7050

(†) DIVERSION, IN ACRE-FEET, BY LLANO DITCH
e Estimated

08266820 RED RIVER BELOW FISH HATCHERY, NEAR QUESTA, NM

LOCATION.--Lat 36°40'54", long 105°39'21", in NW¼NW¼ sec.10, T.28 N., R.12 E., Taos County, Hydrologic Unit 13020101, on right bank 0.3 mi downstream from State Fish Hatchery, 3.5 mi upstream from mouth, and 3.7 mi southwest of Questa.

DRAINAGE AREA.--185 mi².

PERIOD OF RECORD.--August 1969 to July 1978 (discharge measurements only), August 1978 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,070 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Aug. 16, 1979, at site about 250 ft upstream at datum 5.55 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 3,000 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--11 years (water years 1979-89), 86.7 ft³/s, 62,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 755 ft³/s, June 8, 1979, gage height, 5.30 ft, site and datum then in use; minimum, 21 ft³/s, Dec. 14, 1986, from construction work on hatchery ponds.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 165 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 12	0145	*175	*2.94	No other peak greater than base discharge.			
Minimum discharge, 28 ft ³ /s, Dec. 27.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	57	45	43	e48	e54	81	100	140	70	76	53
2	89	56	49	45	e49	e55	81	92	138	66	77	52
3	88	56	51	47	e49	e53	81	87	135	63	70	51
4	86	56	51	50	e48	e50	79	85	130	60	66	51
5	67	54	50	54	e42	e49	78	87	122	58	62	60
6	69	53	49	52	e40	e51	80	87	116	57	60	60
7	76	54	54	46	e41	52	85	89	111	55	57	58
8	76	54	53	38	e41	53	97	97	113	54	57	58
9	70	55	47	41	e42	58	109	106	126	53	56	58
10	68	55	48	47	e43	66	111	138	124	53	60	57
11	67	55	50	51	e45	75	107	169	117	54	65	56
12	63	53	51	50	e46	79	105	170	113	59	64	67
13	63	51	54	46	e49	80	105	155	110	61	61	67
14	64	52	54	e45	e48	86	108	141	108	60	60	62
15	63	54	53	e42	e44	84	102	136	103	59	57	59
16	63	52	50	e43	e45	81	103	130	98	56	55	58
17	63	48	52	e44	e46	80	109	126	96	58	52	57
18	61	51	52	e45	e46	81	120	124	93	57	70	56
19	58	51	54	e46	e48	84	129	118	92	56	72	57
20	60	45	51	e48	e45	88	141	113	92	59	67	66
21	61	44	48	e49	e43	80	142	114	88	58	63	61
22	61	44	48	e50	e44	82	147	117	91	57	58	59
23	61	49	48	e50	e45	79	146	121	89	60	56	58
24	60	54	47	e50	e46	77	145	128	84	64	54	58
25	60	56	55	e50	e47	78	142	133	80	72	53	57
26	59	57	51	50	e49	81	138	139	79	69	53	55
27	57	46	37	51	e51	81	134	135	76	68	53	53
28	57	41	37	e50	e54	79	127	141	74	65	51	51
29	57	47	40	e45	---	80	119	151	73	63	49	49
30	57	43	39	e46	---	78	107	153	73	65	50	48
31	57	---	41	e47	---	77	---	148	---	67	52	---
TOTAL	2052	1543	1509	1461	1284	2231	3358	3830	3084	1876	1856	1712
MEAN	66.2	51.4	48.7	47.1	45.9	72.0	112	124	103	60.5	59.9	57.1
MAX	91	57	55	54	54	88	147	170	140	72	77	67
MIN	57	41	37	38	40	49	78	85	73	53	49	48
AC-FT	4070	3060	2990	2900	2550	4430	6660	7600	6120	3720	3680	3400

CAL YR 1988 TOTAL 22443 MEAN 61.3 MAX 149 MIN 37 AC-FT 44520
WTR YR 1989 TOTAL 25796 MEAN 70.7 MAX 170 MIN 37 AC-FT 51170

e Estimated

08267500 RIO HONDO NEAR VALDEZ, NM

LOCATION.--Lat 36°32'30", long 105°33'21", Taos County, Hydrologic Unit 13020101, in Carson National Forest, on right bank 500 ft upstream from first diversion, 1.6 mi east of Valdez, 3.8 mi downstream from South Fork, and at mile 9.2.

DRAINAGE AREA.--36.2 mi².

PERIOD OF RECORD.--August 1934 to current year.

REVISED RECORDS.--WSP 1342: 1935. WSP 1712: Drainage area. WSP 1732: 1942(M).

GAGE.--Water-stage recorder. Concrete control since Oct. 28, 1938. Elevation of gage is 7,650 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 28, 1938, at datum 1.92 ft lower.

REMARKS.--Records fair. No diversions upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--55 years, 34.9 ft³/s, 25,280 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 541 ft³/s, May 13, 1941; maximum gage height, 4.81 ft, Jan. 5, 1970 (ice jam); minimum discharge, about 1 ft³/s, Jan. 27, 1942, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 31	----	ice jam	*4.33	May 10	2330	*130	2.61
Apr. 23	2115	91	2.38				

Minimum discharge, 5.6 ft³/s, Feb. 5, but may have been less during estimated days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	22	17	e11	e11	e20	37	57	85	32	31	16
2	32	22	17	e12	e12	e20	37	55	83	31	29	16
3	31	22	17	e12	e13	e20	37	55	82	30	26	16
4	31	21	16	e13	e12	e19	38	55	77	29	24	17
5	34	21	e16	e13	7.1	e18	38	56	71	28	23	20
6	33	20	e15	e12	e8.0	e19	39	58	67	27	23	17
7	35	20	16	e9.8	e9.4	e20	43	64	64	25	22	17
8	36	20	e15	e9.0	e10	e22	50	73	63	24	22	18
9	34	22	e13	e9.6	e11	26	56	82	61	24	23	17
10	33	20	e12	e11	e12	34	54	117	56	24	24	16
11	32	20	e13	e12	e13	42	50	125	54	24	24	16
12	31	19	e14	e13	e14	43	47	117	53	23	24	22
13	30	19	15	e9.8	e14	50	44	103	51	22	23	20
14	29	19	15	e9.4	e14	52	41	93	50	24	22	17
15	29	19	15	e9.6	e15	50	41	85	49	23	22	17
16	28	18	15	e10	e15	47	44	80	48	22	22	16
17	27	20	14	e10	e15	45	50	77	46	21	21	16
18	27	19	15	e11	e17	46	57	72	45	21	29	16
19	26	19	15	e12	e18	47	63	71	44	21	25	16
20	25	e19	15	e12	e18	47	69	74	42	21	22	19
21	25	e17	e14	e11	e17	43	78	78	42	21	21	17
22	25	e18	e15	e11	e16	41	85	80	42	22	21	16
23	24	e19	e16	e11	e17	39	89	81	40	23	20	16
24	24	e20	e14	e12	e17	39	88	84	39	26	19	16
25	24	e21	e12	e12	e18	41	86	84	38	28	18	16
26	24	e17	14	e12	e19	43	83	81	36	30	18	16
27	24	e16	e11	e12	e19	41	81	81	35	28	18	16
28	23	e16	e10	e10	e19	39	75	87	34	26	18	16
29	23	e17	e9.8	e9.8	---	40	68	95	34	23	17	16
30	23	e17	e10	e9.8	---	39	61	94	33	23	17	16
31	22	---	e11	e10	---	37	---	89	---	26	17	---
TOTAL	877	579	436.8	341.8	400.5	1129	1729	2503	1564	772	685	506
MEAN	28.3	19.3	14.1	11.0	14.3	36.4	57.6	80.7	52.1	24.9	22.1	16.9
MAX	36	22	17	13	19	52	89	125	85	32	31	22
MIN	22	16	9.8	9.0	7.1	18	37	55	33	21	17	16
AC-FT	1740	1150	866	678	794	2240	3430	4960	3100	1530	1360	1000

CAL YR 1988 TOTAL 9968.1 MEAN 27.2 MAX 89 MIN 9.5 AC-FT 19770
WTR YR 1989 TOTAL 11523.1 MEAN 31.6 MAX 125 MIN 7.1 AC-FT 22860

e Estimated

08268700 RIO GRANDE NEAR ARROYO HONDO, NM

LOCATION.--Lat 36°32'04", long 105°42'34", in NW¼ sec.31, T.27 N., R.12 E., Taos County, Hydrologic Unit 13020101, on right bank 350 ft downstream from Arroyo Hondo, 400 ft downstream from bridge on county road, 2.2 mi west of Arroyo Hondo, 11.6 mi northwest of Taos, and at mile 1,677.4.

DRAINAGE AREA.--8,760 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--February 1963 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,470 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 15,000 acres in New Mexico. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years, 688 ft³/s, 498,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,550 ft³/s, May 19, 1987, gage height, 8.52 ft; minimum, 136 ft³/s, Aug. 2, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 12	0130	*2,280	*4.25	No other peak greater than base discharge.			

Minimum discharge, 196 ft³/s, Sept. 3, 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	255	299	463	416	501	644	1360	727	862	288	285	205
2	245	315	509	429	502	669	1350	725	815	277	343	203
3	235	340	546	443	511	698	1350	665	677	286	244	199
4	230	360	547	464	514	703	1360	650	591	283	227	199
5	240	466	541	482	513	661	1350	662	512	272	219	209
6	236	488	541	480	499	712	1320	739	490	267	221	210
7	264	504	538	476	434	724	1370	754	536	249	227	211
8	258	514	538	445	494	761	1500	717	555	235	230	214
9	248	515	451	446	516	791	1680	708	538	222	227	207
10	249	519	473	467	496	884	1900	794	543	218	230	208
11	264	520	449	472	494	946	2120	981	583	219	235	217
12	269	524	459	456	492	1050	2220	1050	594	223	233	229
13	275	534	506	433	503	1180	2180	960	577	228	231	225
14	273	546	497	437	503	1240	2080	869	583	226	234	218
15	272	555	518	454	504	1350	1830	758	581	223	232	221
16	271	568	488	457	505	1360	1480	678	530	217	225	215
17	265	581	500	448	513	1310	1300	615	476	213	223	216
18	262	599	492	450	523	1280	1290	554	437	209	242	223
19	263	589	495	451	526	1200	1250	533	405	216	235	222
20	269	544	465	458	531	1220	1200	635	369	222	234	233
21	275	547	474	461	538	1220	1190	627	357	217	226	212
22	278	477	476	465	527	1250	1200	587	358	219	221	202
23	286	456	403	474	542	1170	1180	560	367	220	213	206
24	271	511	458	476	553	1160	1130	520	365	225	210	208
25	262	561	453	491	562	1190	1070	555	355	243	210	242
26	266	579	498	490	585	1240	1010	641	337	235	206	253
27	279	575	424	491	622	1290	981	608	325	228	206	224
28	281	508	448	500	633	1350	1000	559	309	223	207	211
29	291	444	450	492	---	1350	864	633	299	251	209	205
30	293	468	436	484	---	1320	760	743	296	278	209	202
31	292	---	411	496	---	1350	---	798	---	282	206	---
TOTAL	8217	15006	14947	14384	14636	33273	41875	21605	14622	7414	7100	6449
MEAN	265	500	482	464	523	1073	1396	697	487	239	229	215
MAX	293	599	547	500	633	1360	2220	1050	862	288	343	253
MIN	230	299	403	416	434	644	760	520	296	209	206	199
AC-FT	16300	29760	29650	28530	29030	66000	83060	42850	29000	14710	14080	12790

CAL YR 1988 TOTAL 159903 MEAN 437 MAX 969 MIN 201 AC-FT 317200
WTR YR 1989 TOTAL 199528 MEAN 547 MAX 2220 MIN 199 AC-FT 395800

08269000 RIO PUEBLO DE TAOS NEAR TAOS, NM

LOCATION.--Lat 36°26'22", long 105°30'11", in SW¼SE¼ sec.36, T.26 N., R.13 E., Taos County, Hydrologic Unit 13020101, in Taos Pueblo Grant, on right bank 2.3 mi east of Taos Pueblo, 4.5 mi northeast of Taos, 5.8 mi upstream from Rio Lucero, and at mile 15.1.

DRAINAGE AREA.--66.6 mi².

PERIOD OF RECORD.--January 1911 to December 1916, January 1940 to December 1951, annual maximum, water years 1952-62, October 1962 (monthly discharge only), November 1962 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1911-12, 1914. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Nov. 20, 1962. Elevation of gage is 7,380 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1923 for history of changes prior to Nov. 20, 1962.

REMARKS.--Records good. No diversions upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--44 years (water years 1911-16, 1941-51, 1963-89), 29.7 ft³/s, 21,520 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,050 ft³/s, May 26, 1979, gage height, 3.42 ft, from rating curve extended above 370 ft³/s; maximum gage height, 3.90 ft, from floodmark, May 14, 1941, site and datum then in use; minimum discharge, about 0.9 ft³/s, Jan. 9, 1964, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 60 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 22	2330	*163	*1.75	May 10	0630	114	1.55

Minimum discharge, 3.9 ft³/s, Jan. 7, Feb. 14, but may have been less during periods of ice effect.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.2	11	e7.4	8.5	13	56	59	38	12	13	6.4
2	11	8.1	10	e8.4	8.3	13	57	54	36	11	14	6.2
3	11	7.9	9.4	e8.8	8.2	13	60	52	35	11	10	6.2
4	11	7.8	9.4	e9.4	8.1	11	64	52	33	10	9.2	7.8
5	14	7.6	9.5	e10	6.2	11	63	52	31	11	8.7	9.9
6	13	7.7	9.6	9.6	8.6	10	64	54	29	10	8.8	7.5
7	16	7.8	9.4	7.8	8.6	11	72	57	28	9.6	9.1	7.0
8	14	7.7	9.1	e7.8	8.8	17	91	63	28	9.2	8.8	7.0
9	13	9.5	e7.8	e8.4	9.0	29	109	70	29	9.0	9.2	6.9
10	12	9.1	e8.4	e8.4	9.0	44	98	107	26	9.0	9.2	6.6
11	12	8.7	e9.0	e8.0	9.0	53	85	105	24	9.4	8.6	6.5
12	11	8.5	11	e7.4	9.0	49	77	93	24	9.7	9.8	9.8
13	11	8.3	9.0	e6.6	8.8	60	70	81	25	9.3	8.8	10
14	11	8.3	8.8	e6.4	8.3	61	64	72	25	9.1	9.5	8.0
15	11	8.5	8.9	e6.6	8.5	48	62	62	23	10	9.0	7.4
16	11	8.3	9.8	e6.6	8.5	42	69	57	20	9.1	8.2	7.1
17	10	8.2	9.2	e6.8	8.7	44	83	53	19	8.9	8.7	6.9
18	10	9.1	8.8	e6.8	8.1	48	101	48	18	8.2	9.7	6.7
19	9.9	9.1	9.0	e7.0	8.5	54	114	45	18	8.0	8.6	7.0
20	9.8	7.6	8.7	e7.0	8.2	57	131	44	18	8.2	7.8	11
21	9.8	7.2	9.4	e7.0	8.4	47	147	45	17	8.6	7.8	8.1
22	9.7	8.6	8.8	e7.2	9.2	42	156	45	18	9.7	7.8	7.4
23	9.4	9.1	10	e7.2	9.0	41	152	45	17	9.9	7.4	7.3
24	9.1	9.7	11	e7.4	9.5	43	140	46	16	11	7.0	7.2
25	8.6	9.8	9.1	e7.6	10	46	125	45	15	12	7.0	7.0
26	8.6	9.3	8.6	7.8	11	51	112	43	14	11	6.7	6.9
27	8.6	8.8	e8.0	7.9	14	50	102	41	14	10	6.7	7.0
28	8.4	11	e7.4	8.1	13	50	88	41	13	9.8	6.8	6.7
29	8.2	9.8	e7.0	7.7	---	56	77	43	13	9.0	6.8	6.7
30	8.2	10	e7.0	7.7	---	61	66	43	12	9.0	6.6	6.6
31	8.2	---	e6.8	8.2	---	57	---	41	---	10	6.8	---
TOTAL	329.5	259.3	278.9	239.0	253.0	1232	2755	1758	676	301.7	266.1	222.8
MEAN	10.6	8.64	9.00	7.71	9.04	39.7	91.8	56.7	22.5	9.73	8.58	7.43
MAX	16	11	11	10	14	61	156	107	38	12	14	11
MIN	8.2	7.2	6.8	6.4	6.2	10	56	41	12	8.0	6.6	6.2
AC-FT	654	514	553	474	502	2440	5460	3490	1340	598	528	442

CAL YR 1988 TOTAL 5696.8 MEAN 15.6 MAX 59 MIN 6.8 AC-FT 11300
WTR YR 1989 TOTAL 8571.3 MEAN 23.5 MAX 156 MIN 6.2 AC-FT 17000

e Estimated

08271000 RIO LUCERO NEAR ARROYO SECO, NM

LOCATION.--Lat 36°30'30", long 105°31'49", Taos County, Hydrologic Unit 13020101, in Tract C Taos Pueblo Grant, on right bank 200 ft upstream from diversion dam for Tenorio and Indian ditches, 2.2 mi east of Arroyo Seco, 7.4 mi northeast of Taos, and at mile 8.1.

DRAINAGE AREA.--16.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April to December 1910 (discharge measurements and occasional gage heights), January 1911 to September 1915, March to December 1916 (fragmentary), October 1933 to December 1951, annual maximum, water years 1952-62, October 1962 (monthly discharge only), November 1962 to current year. Monthly discharge only for some periods, published in WSP 1312. Fragmentary records for October 1915 to February 1916, published in WSP 438, are unreliable and should not be used. Published as "near Taos" 1910-16.

REVISED RECORDS.--WSP 1512: 1912, 1916, 1949. WSP 1732: Drainage area. WDR NM-75-1: 1973. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Concrete control since Nov. 21, 1962. Datum of gage is 8,051.44 ft above National Geodetic Vertical Datum of 1929. See WSP 1923 for history of changes prior to Nov. 21, 1962.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. No diversion upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--50 years (water years 1911-15, 1934-51, 1963-89), 21.9 ft³/s, 15,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 310 ft³/s, June 8, 1979, gage height, 2.33 ft; maximum gage height, 3.12 ft, May 13, 1941, datum then in use; minimum discharge, about 1.4 ft³/s, Nov. 2, 1951, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 10	1700	*82	*1.62	No other peak greater than base discharge.			
Minimum daily discharge, 6.0 ft ³ /s, Feb. 7.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	13	13	e7.6	e7.0	e8.4	23	27	47	16	15	9.9
2	19	12	12	e7.8	e7.2	e8.0	22	25	45	16	15	9.8
3	18	12	9.6	e8.2	e7.3	e7.8	22	26	43	16	14	9.8
4	19	12	9.4	e8.6	e7.4	e7.8	22	26	40	16	13	11
5	20	12	9.5	e9.0	e6.8	e7.6	22	27	38	16	13	12
6	19	12	10	e8.2	e6.4	e7.4	24	30	36	15	13	10
7	20	12	11	e7.2	e6.0	e7.5	27	34	35	15	13	10
8	19	12	9.9	e7.0	e6.6	8.1	32	40	35	15	13	11
9	19	12	9.4	e7.2	e7.2	11	34	50	35	15	13	10
10	19	12	9.6	e7.4	e7.4	24	32	78	31	14	12	9.9
11	18	12	9.3	e7.4	e7.3	36	28	79	30	14	13	9.7
12	18	11	9.1	e7.2	e7.2	35	26	69	30	14	13	13
13	18	12	9.2	e7.0	e7.0	37	24	62	29	14	12	12
14	17	11	8.9	e6.8	e6.8	35	22	56	28	15	12	11
15	17	9.8	8.9	e6.8	e7.0	28	23	49	27	14	12	11
16	17	9.4	8.7	e7.0	e7.2	25	25	44	26	14	12	10
17	16	11	8.6	e7.2	e7.2	25	28	41	25	14	12	10
18	16	11	8.5	e7.4	e7.4	26	32	38	25	13	14	10
19	16	11	8.5	e7.4	e7.0	28	35	38	25	13	12	11
20	15	10	8.4	e7.5	e7.4	27	39	41	24	13	12	12
21	15	10	8.4	e7.6	e7.0	23	43	40	23	13	12	11
22	15	10	8.0	e7.6	e7.4	21	46	41	23	13	11	10
23	15	11	8.5	e7.7	e7.4	21	46	44	21	13	11	10
24	14	11	8.3	e7.7	e7.6	22	46	47	20	14	11	10
25	14	9.9	8.4	e7.8	e7.8	25	43	47	19	14	11	10
26	14	9.7	7.8	e7.6	e8.0	26	42	45	19	14	11	10
27	14	10	e7.8	e7.6	e8.6	25	40	44	18	14	11	9.9
28	13	11	e7.6	e7.4	e8.8	23	36	47	18	13	11	9.8
29	13	10	e7.4	e7.2	---	25	33	52	17	13	10	9.7
30	13	11	e7.2	e7.0	---	25	29	52	17	13	10	9.7
31	13	---	e7.4	e6.8	---	23	---	49	---	13	10	---
TOTAL	512	332.8	278.3	231.9	203.4	658.6	946	1388	849	439	377	313.2
MEAN	16.5	11.1	8.98	7.48	7.26	21.2	31.5	44.8	28.3	14.2	12.2	10.4
MAX	20	13	13	9.0	8.8	37	46	79	47	16	15	13
MIN	13	9.4	7.2	6.8	6.0	7.4	22	25	17	13	10	9.7
AC-FT	1020	660	552	460	403	1310	1880	2750	1680	871	748	621

CAL YR 1988 TOTAL 6609.2 MEAN 18.1 MAX 62 MIN 4.5 AC-FT 13110
WTR YR 1989 TOTAL 6529.2 MEAN 17.9 MAX 79 MIN 6.0 AC-FT 12950

e Estimated

RIO GRANDE BASIN

08271000 RIO LUCERO NEAR ARROYO SECO, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV 29...	1120	10	100	118	7.50	7.80	-1.5	2.5	9.0	57	6	20
JAN 19...	1400	7.6	110	121	7.40	8.00	4.0	0.5	12.8	57	6	20
MAR 29...	1545	25	74	71	7.50	8.10	13.0	5.5	11.2	32	2	11
APR 12...	1115	25	69	74	7.50	8.00	8.0	5.5	9.9	34	4	12
MAY 02...	1130	25	82	86	7.50	8.00	16.5	8.0	9.6	40	3	14
JUL 18...	1400	13	120	124	8.30	8.00	33.0	14.0	7.8	59	4	21
AUG 29...	1315	11	118	121	8.20	8.10	23.0	10.0	8.6	57	4	20

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)
NOV 29...	1.6	1.6	0.1	0.60	64	0	52	51	7.8	0.30	0.10	6.5
JAN 19...	1.6	1.7	0.1	0.70	60	0	49	51	8.4	0.50	0.10	6.7
MAR 29...	1.0	1.6	0.1	0.70	34	0	28	30	5.7	0.30	0.10	8.4
APR 12...	1.1	1.6	0.1	0.60	38	0	31	31	6.4	0.30	0.10	8.2
MAY 02...	1.3	1.5	0.1	0.60	45	0	37	37	6.0	0.30	0.10	7.1
JUL 18...	1.6	1.5	0.1	0.50	62	1	53	55	7.0	3.6	0.10	6.3
AUG 29...	1.6	1.5	0.1	0.60	63	0	52	53	7.0	0.30	0.10	6.4

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
NOV 29...	69	<1	<1	<10	<1	1	<1	<1	4	2	12
JAN 19...	70	<1	<1	<10	<1	<1	3	1	4	<1	8
MAR 29...	47	--	--	<10	--	--	--	--	--	--	22
APR 12...	49	<1	<1	<10	<1	<1	3	2	5	1	72
MAY 02...	53	<1	<1	<10	<1	<1	1	1	5	3	40
JUL 18...	75	<1	<1	<10	<1	<1	2	<1	2	1	8
AUG 29...	69	<1	<1	<10	<1	<1	<1	<1	4	2	8

08271000 RIO LUCERO NEAR ARROYO SECO, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 29...	<5	<5	<0.10	<0.1	<1	<1	<10	10	3	0.08	74
JAN 19...	<5	<5	<0.10	0.1	<1	<1	10	8	9	0.19	48
MAR 29...	--	--	--	--	--	--	--	--	--	--	--
APR 12...	6	<5	<0.10	<0.1	<1	<1	10	6	--	--	--
MAY 02...	2	<5	0.10	0.1	<1	<1	30	13	--	--	--
JUL 18...	1	1	<0.10	<0.1	<1	<1	<10	6	--	--	--
AUG 29...	2	<1	<0.10	0.1	<1	<1	<10	6	--	--	--

08275500 RIO GRANDE DEL RANCHO NEAR TALPA, NM

LOCATION.--Lat 36°17'52", long 105°34'55", Taos County, Hydrologic Unit 13020101, in Carson National Forest, Rancho del Rio Grande Grant, on right bank 1.4 mi downstream from Rito de la Olla (locally known as Pot Creek), 3.2 mi south of Talpa, 4.3 mi upstream from Rio Chiquito, and at mile 6.9.

DRAINAGE AREA.--83 mi², approximately.

PERIOD OF RECORD.--October 1952 to September 1982, October 1983 to September 1985 (annual maximum only), October 1985 to current year. Prior to October 1955, published as "Rio Grande del Rancho near Taos" and October 1955 to September 1960 as "Rio Grande de Ranchos near Talpa."

GAGE.--Water-stage recorder. Elevation of gage is 7,240 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 11, 1952, nonrecording gage at site 1,035 ft downstream at lower datum. Nov. 11, 1952 to Nov. 5, 1968, water-stage recorder at site 1,000 ft downstream at lower datum. Nov. 6, 1968, to Aug. 28, 1980, water-stage recorder at present site on left bank at same datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Minor diversions for irrigation upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years (water years 1953-1982, 1986-89) 20.1 ft³/s, 14,560 acre-feet/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 497 ft³/s May 21, 1973, gage height 3.87 ft; maximum gage height, 4.01 ft Sept. 10, 1964, site and datum then in use; minimum discharge, 0.2 ft³/s Jan. 5, 1955, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 75 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 25	0745	*75	*1.78	No other peak greater than base discharge.			
Minimum discharge, 2.3 ft ³ /s, Dec. 16.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	7.3	6.1	e5.1	6.3	13	23	53	25	7.6	6.3	4.5
2	9.2	7.3	6.3	e5.3	6.6	14	23	49	23	7.3	5.8	4.0
3	9.4	7.0	6.1	e5.5	6.7	14	24	47	23	6.6	5.2	3.8
4	8.6	6.8	5.7	e5.9	7.0	14	25	47	22	6.5	4.8	4.2
5	9.8	6.7	5.4	e6.1	7.4	14	25	47	20	6.5	4.6	4.9
6	9.8	6.6	5.6	e6.2	7.4	14	26	46	19	6.2	4.6	4.7
7	9.4	6.3	6.0	e5.9	7.7	15	28	47	18	5.9	4.8	4.4
8	9.1	6.4	6.0	e4.3	7.7	15	31	50	17	5.7	4.6	4.2
9	8.7	6.7	5.1	e4.4	7.9	16	34	53	17	5.4	4.4	4.2
10	8.5	6.4	5.9	e4.7	8.4	17	34	64	16	5.5	4.4	4.2
11	8.2	6.3	6.2	e5.4	8.4	18	33	67	15	5.8	4.5	4.1
12	7.9	6.2	6.3	e6.0	8.7	19	33	68	15	5.7	5.2	5.5
13	7.8	5.7	6.6	e5.5	8.8	21	33	64	15	5.9	4.8	6.3
14	7.6	5.7	6.1	e4.3	9.1	22	31	60	14	5.5	4.7	5.7
15	7.4	5.7	5.6	e4.3	9.5	20	31	54	14	5.0	5.2	5.3
16	7.4	5.1	4.4	e4.4	9.5	19	32	49	13	4.8	4.9	5.0
17	7.1	4.4	5.0	e4.6	9.8	20	34	45	12	4.7	4.5	4.8
18	7.0	5.3	5.3	e4.7	9.9	22	36	42	12	4.3	4.9	4.6
19	6.9	5.5	5.8	e5.0	10	23	39	38	12	4.0	4.8	5.2
20	6.6	5.2	5.4	e5.6	10	24	43	36	11	4.0	4.4	7.0
21	6.5	5.0	4.7	e5.6	11	20	54	36	11	4.3	4.2	6.6
22	6.5	5.2	5.5	e5.5	11	20	62	36	11	4.6	4.2	5.9
23	6.2	5.7	5.9	e5.3	11	20	69	37	10	4.8	4.0	5.8
24	7.0	5.9	6.3	5.1	11	20	72	36	9.8	5.8	3.7	5.8
25	8.7	6.0	6.5	5.1	12	21	72	36	9.5	6.7	3.5	5.6
26	8.2	6.0	e5.7	5.5	12	23	72	34	9.1	6.2	3.4	5.5
27	8.1	5.5	e5.3	5.5	13	22	69	32	8.8	6.7	3.4	5.3
28	8.1	4.7	e4.7	5.7	13	22	65	30	8.6	6.1	3.5	5.4
29	7.8	5.6	e4.4	5.7	---	23	61	29	8.3	5.8	3.4	5.6
30	7.7	5.5	e4.5	5.8	---	24	56	28	8.1	5.7	3.8	5.5
31	7.7	---	e4.8	6.2	---	23	---	26	---	6.6	5.0	---
TOTAL	248.5	177.7	173.2	164.2	260.8	592	1270	1386	427.2	176.2	139.5	153.6
MEAN	8.02	5.92	5.59	5.30	9.31	19.1	42.3	44.7	14.2	5.68	4.50	5.12
MAX	9.8	7.3	6.6	6.2	13	24	72	68	25	7.6	6.3	7.0
MIN	6.2	4.4	4.4	4.3	6.3	13	23	26	8.1	4.0	3.4	3.8
AC-FT	493	352	344	326	517	1170	2520	2750	847	349	277	305

CAL YR 1988 TOTAL 4406.7 MEAN 12.0 MAX 51 MIN 4.4 AC-FT 8740
WTR YR 1989 TOTAL 5168.9 MEAN 14.2 MAX 72 MIN 3.4 AC-FT 10250

e Estimated

08276300 RIO PUEBLO DE TAOS BELOW LOS CORDOVAS, NM

LOCATION.--Lat 36°22'39", long 105°40'05", Taos County, Hydrologic Unit 13020101, in Gijosa Grant, on left bank 1.9 mi southwest of Los Cordovas, 2.5 mi downstream from Rio Grande del Rancho, and at mile 5.1.

DRAINAGE AREA.--380 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1957 to current year.

REVISED RECORDS.--WSP 1732: 1957(M). WSP 1923: 1957(P), 1958. WDR NM-81-1: 1979(P).

GAGE.--Water-stage recorder. Elevation of gage is 6,650 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 4, 1984, at site 700 ft downstream at same datum.

REMARKS.--Water-discharge records fair. Diversions for irrigation of about 12,000 acres upstream from station, of which about 1,700 acres are irrigated by water from Rio Hondo. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--32 years, 61.0 ft³/s, 44,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,380 ft³/s, Aug. 24, 1957, gage height, 5.80 ft; maximum gage height, 6.00 ft (site then in use), July 30, 1982, from rating curve extended above 900 ft³/s; minimum, 1.9 ft³/s, July 31, Aug. 1, 1972.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 230 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 28	1600	*333	*6.89	No other peak greater than base discharge.			
Minimum discharge, 4.4 ft ³ /s, Aug. 29.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	31	34	e24	32	54	109	69	28	6.6	12	9.7
2	30	30	35	e23	35	55	105	64	28	6.3	12	9.2
3	32	29	34	e25	32	61	104	58	28	6.7	9.4	9.4
4	31	29	32	27	32	53	107	60	28	6.3	9.2	9.8
5	38	29	31	29	e32	52	107	59	23	6.3	9.3	12
6	36	29	32	29	e26	48	104	54	22	6.2	8.6	11
7	40	29	31	e28	e16	54	106	53	20	5.9	8.8	11
8	38	29	32	e24	e19	57	117	58	17	5.8	8.9	11
9	34	33	30	e23	e26	63	124	63	19	5.7	8.6	11
10	33	33	34	e20	e34	80	121	102	19	5.4	9.0	11
11	33	31	33	e25	36	99	107	122	17	6.0	11	11
12	32	31	31	e31	36	96	100	116	16	6.0	12	26
13	32	31	33	e20	35	109	100	97	16	6.3	11	15
14	31	32	32	e18	35	118	87	88	16	5.9	9.4	15
15	31	34	30	e20	35	106	75	81	19	6.1	11	13
16	31	32	29	e24	34	98	76	73	15	5.6	9.8	13
17	31	30	30	e26	35	100	84	67	11	5.6	9.1	11
18	30	31	30	e27	38	103	89	59	8.8	6.5	11	11
19	30	33	30	e29	41	111	99	49	8.5	6.9	11	11
20	31	32	30	e30	46	119	115	46	8.1	6.7	9.8	14
21	31	31	29	e31	43	107	133	45	7.6	7.0	10	13
22	30	30	33	e32	42	104	134	44	6.7	7.0	11	13
23	28	33	29	30	51	103	148	40	7.0	7.3	10	13
24	28	34	e33	30	54	101	145	38	6.9	8.6	9.8	13
25	29	36	34	30	59	105	139	38	5.9	11	9.3	12
26	28	37	33	29	62	109	126	33	6.0	14	9.1	13
27	30	32	e32	30	60	107	113	31	6.1	18	9.1	13
28	30	33	e28	29	56	103	102	31	6.5	19	9.9	12
29	30	32	e25	e29	---	107	89	32	6.5	8.9	8.7	12
30	30	31	e24	e29	---	115	77	33	6.4	8.1	9.1	13
31	30	---	e21	e31	---	111	---	30	---	7.8	9.9	---
TOTAL	977	947	954	832	1082	2808	3242	1833	433.0	239.5	306.8	372.1
MEAN	31.5	31.6	30.8	26.8	38.6	90.6	108	59.1	14.4	7.73	9.90	12.4
MAX	40	37	35	32	62	119	148	122	28	19	12	26
MIN	28	29	21	18	16	48	75	30	5.9	5.4	8.6	9.2
AC-FT	1940	1880	1890	1650	2150	5570	6430	3640	859	475	609	738

CAL YR 1988 TOTAL 12236 MEAN 33.4 MAX 83 MIN 11 AC-FT 24270
WTR YR 1989 TOTAL 14026.4 MEAN 38.4 MAX 148 MIN 5.4 AC-FT 27820

e Estimated

RIO GRANDE BASIN

08276300 RIO PUEBLO DE TAOS BELOW LOS CORDOVAS, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD 1986 to current year.--Water years 1981, 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)
NOV 15...	1040	35	440	477	8.40	8.30	2.5	8.0	9.7	21
JAN 19...	1115	27	490	--	8.10	--	3.0	0.5	12.2	31
MAR 08...	1345	60	410	437	8.40	8.40	19.5	12.5	9.8	13
MAY 02...	1500	59	332	357	8.20	8.00	26.0	17.0	8.1	<10
JUL 17...	1530	6.5	600	606	8.30	8.40	32.5	26.0	8.8	26
AUG 28...	1515	10	520	--	8.40	--	26.5	22.0	9.5	19
DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV 15...	210	32	63	14	19	0.6	1.5	216	9	192
JAN 19...	--	--	--	--	--	--	--	--	--	--
MAR 08...	190	18	57	12	15	0.5	1.3	193	7	170
MAY 02...	160	30	48	9.8	12	0.4	1.3	151	5	132
JUL 17...	240	28	68	17	36	1	2.8	236	10	209
AUG 28...	--	--	--	--	--	--	--	--	--	--
DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 DIS- TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 15...	183	56	8.1	0.50	14	288	0.400	0.450	0.040	0.46
JAN 19...	--	--	--	--	--	--	0.800	0.850	0.280	1.1
MAR 08...	174	50	7.7	0.40	12	261	0.200	0.220	0.090	0.21
MAY 02...	130	37	5.3	0.30	12	205	0.100	0.140	0.100	0.80
JUL 17...	212	88	13	0.70	20	380	0.900	0.970	0.540	0.86
AUG 28...	--	--	--	--	--	--	0.400	0.340	0.280	0.92

08276300 RIO PUEBLO DE TAOS BELOW LOS CORDOVAS, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	SEDI- MENT, CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 15...	0.90	0.080	0.060	2.5	50	13	25	2.3	88
JAN 19...	2.2	0.420	0.280	3.7	--	--	137	10	47
MAR 08...	0.50	0.120	0.100	2.8	30	13	114	19	37
MAY 02...	1.0	0.090	0.060	3.8	30	23	35	5.6	87
JUL 17...	2.3	0.950	0.870	3.6	90	13	18	0.32	92
AUG 28...	1.6	0.330	0.270	3.1	--	--	35	0.98	54

RIO GRANDE BASIN

08276500 RIO GRANDE BELOW TAOS JUNCTION BRIDGE, NEAR TAOS, NM
(Surveillance network station)

LOCATION.--Lat 36°19'12", long 105°45'14", in NW¼NE¼ sec.15, T.24 N., R.11 E., Taos County, Hydrologic Unit 13020101, on left bank 1.7 mi downstream from bridge on State Highway 567, 2.0 mi downstream from Rio Pueblo de Taos, 11.8 mi southwest of Taos, and at mile 1,657.7.

DRAINAGE AREA.--9,730 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1925 to current year. Prior to October 1930 monthly discharge only, published in WSP 1312. Published as "at Taos Junction Bridge, near Taos" prior to 1934.

REVISED RECORDS.--WSP 788: 1934(M). WSP 828: Drainage area. WSP 1392: 1931-1932, 1935, 1937, 1945, 1950.

GAGE.--Water-stage recorder. Datum of gage is 6,050.3 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 14, 1934, at bridge 1.7 mi upstream at different datum.

REMARKS.--Water-discharge records good. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 30,000 acres in New Mexico.

AVERAGE DISCHARGE.--64 years, 761 ft³/s, 551,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,730 ft³/s, June 7, 1948, gage height, 9.18 ft, and June 22, 1949, gage height, 9.23 ft; minimum, 155 ft³/s, Sept. 21, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1888, about 14,000 ft³/s June 19, 1903, from records for Rio Grande at Embudo and estimated inflow. Other floods exceeding 10,000 ft³/s occurred June 9, 1905, May 28, 1920, and June 16, 1921, from comparison of records for stations near Lobatos and at Embudo.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 12	0430	*2,440	*5.84	No other peak greater than base discharge.			
Minimum discharge, 220 ft ³ /s, Aug. 27, Sept. 2-4.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	291	341	516	457	538	720	1490	904	911	311	291	225
2	286	350	556	474	544	738	1500	894	904	302	381	224
3	281	365	593	490	548	780	1480	842	742	301	276	220
4	280	389	608	512	556	769	1500	815	649	307	248	221
5	294	469	595	540	558	747	1500	822	548	289	237	230
6	290	521	599	542	529	756	1460	858	507	290	233	231
7	312	540	600	532	486	797	1510	898	542	277	241	230
8	310	549	596	484	537	831	1620	861	575	262	245	234
9	297	558	515	483	563	871	1820	853	568	247	240	229
10	295	563	508	510	550	954	2040	966	560	240	243	226
11	309	561	511	522	546	1040	2260	1160	599	240	251	233
12	315	563	513	511	543	1110	2390	1290	617	244	252	289
13	320	572	565	470	546	1260	2340	1180	600	249	251	258
14	319	584	558	479	550	1350	2240	1080	592	244	249	243
15	317	593	575	492	550	1450	1970	949	603	245	263	244
16	321	604	551	492	550	1460	1630	847	562	236	247	241
17	315	617	549	489	557	1440	1430	778	493	231	236	238
18	314	639	562	489	571	1400	1410	692	441	228	259	242
19	311	644	561	491	581	1350	1430	630	413	227	260	246
20	317	598	538	498	591	1360	1370	704	379	242	253	255
21	320	588	531	501	592	1350	1400	724	362	237	248	252
22	331	530	542	507	582	1380	1430	679	360	237	241	230
23	335	507	471	510	606	1300	1430	650	363	236	233	227
24	333	549	508	515	626	1280	1400	599	363	241	228	232
25	316	613	512	531	637	1310	1340	605	357	266	226	240
26	312	631	562	530	658	1360	1270	684	344	262	225	287
27	322	643	482	525	691	1410	1230	684	333	254	224	258
28	325	549	491	534	701	1460	1260	615	324	255	226	238
29	332	517	493	530	---	1470	1120	648	318	255	226	229
30	340	493	490	520	---	1460	970	801	319	290	228	226
31	336	---	469	531	---	1490	---	846	---	296	225	---
TOTAL	9696	16240	16720	15691	16087	36453	47240	25558	15248	8041	7686	7178
MEAN	313	541	539	506	575	1176	1575	824	508	259	248	239
MAX	340	644	608	542	701	1490	2390	1290	911	311	381	289
MIN	280	341	469	457	486	720	970	599	318	227	224	220
AC-FT	19230	32210	33160	31120	31910	72300	93700	50690	30240	15950	15250	14240
CAL YR 1988	TOTAL 173814	MEAN 475	MAX 1040	MIN 227	AC-FT 344800							
WTR YR 1989	TOTAL 221838	MEAN 608	MAX 2390	MIN 220	AC-FT 440000							

08276500 RIO GRANDE BELOW TAOS JUNCTION BRIDGE, NEAR TAOS, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	PH (STAND-ARD) (00400)	PH LAB (STAND-ARD) (00403)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)
NOV 15...	1345	590	287	312	8.40	8.10	2.5	8.0	15	9.8	17
MAR 08...	1600	835	232	251	8.00	8.10	20.0	7.5	12	10.0	14
APR 27...	1415	1220	204	211	8.20	8.00	15.0	14.0	17	9.2	30
SEP 27...	1415	250	550	535	8.60	8.50	28.0	19.0	--	9.8	22

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD CO3 (00452)	ALKA-LINITY TOT IT MG/L AS CACO3 (39086)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)
NOV 15...	93	0	27	6.1	27	1	4.8	128	0	105	104
MAR 08...	83	0	25	5.1	17	0.8	2.8	105	0	86	85
APR 27...	73	4	22	4.5	14	0.7	2.4	86	0	70	70
SEP 27...	110	0	30	7.4	72	3	7.7	166	11	154	158

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)
NOV 15...	36	9.4	0.50	25	199	0.200	0.200	0.020	0.48	0.70	0.070
MAR 08...	34	5.1	0.40	24	165	0.200	0.210	0.020	0.28	0.50	0.080
APR 27...	26	4.1	0.40	22	138	0.100	0.110	0.050	0.45	0.60	0.060
SEP 27...	73	26	1.0	25	338	0.200	0.180	<0.010	--	0.90	0.090

DATE	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
NOV 15...	0.030	3.4	<0.010	2	2	40	<1	<1	3	2
MAR 08...	0.030	2.7	<0.010	--	--	30	--	--	--	--
APR 27...	0.040	5.0	<0.010	--	--	30	--	--	--	--
SEP 27...	0.020	4.8	<0.010	3	3	90	<1	<1	2	2

RIO GRANDE BASIN

08276500 RIO GRANDE BELOW TAOS JUNCTION BRIDGE, NEAR TAOS, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
NOV 15...	7	2	41	<5	<5	0.40	<0.1	7	<1	<1
MAR 08...	--	--	35	--	--	--	--	6	--	--
APR 27...	--	--	38	--	--	--	--	3	--	--
SEP 27...	4	2	20	3	<1	<0.10	<0.1	12	<1	<1
DATE	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)
NOV 15...	20	4	<2.0	20	93	3	<10	6	10	10
MAR 08...	--	--	--	--	--	--	--	--	--	--
APR 27...	--	--	--	--	--	--	--	--	--	--
SEP 27...	30	6	--	--	--	--	--	--	--	--
DATE	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 15...	6300	10	270	<0.01	70	46	73	79	K6	K12
MAR 08...	--	--	--	--	--	53	119	71	--	K87
APR 27...	--	--	--	--	--	74	244	73	K7	K12
SEP 27...	--	--	--	--	--	62	42	89	K6	260

08279000 EMBUDO CREEK AT DIXON, NM

LOCATION.--Lat 36°12'39", long 105°54'47", in NE¼SE¼ sec.19, T.23 N., R.10 E., Rio Arriba County, Hydrologic Unit 13020101, on right bank 750 ft upstream from State Highway 68, 0.5 mi upstream from mouth, 0.5 mi east of Embudo Post Office, and 1.7 mi northwest of Dixon.

DRAINAGE AREA.--305 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to February 1926, October 1926 to September 1955, annual maximum, water years 1956-62, September 1962 to current year. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for July 6-25, 1932, published in WSP 733, and maximum discharges for water years 1931-33, 1935, 1937-38, 1941, are unreliable and should not be used.

REVISED RECORDS.--WSP 1512: 1931-32, 1941, 1947(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 5,858.60 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 30, 1938, at site about 1 mi upstream at different datum. Nov. 30, 1938 to Aug. 1, 1941, at site about 0.9 mi upstream at datum about 59.9 ft higher. Aug. 2, 1941 to Sept. 1, 1971, at site 750 ft downstream at datum 9.10 ft lower. April 1956 to Sept. 21, 1962, crest-stage gage.

REMARKS.--Water-discharge records good. Diversions upstream from station for irrigation of about 6,600 acres, a small part of which are downstream from gage.

AVERAGE DISCHARGE.--58 years (water years 1924-25, 1927-55, 1963-89), 81.2 ft³/s, 58,830 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1941).--Maximum discharge, 4,200 ft³/s, Aug. 29, 1977, gage height, 7.10 ft, from rating curve extended above 1,600 ft³/s; maximum gage height, 7.6 ft, Aug. 4, 1967; minimum discharge, 0.06 ft³/s, June 26, 27, 1950.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 24	1730	*2,910	*5.94	No other peak greater than base discharge.			
Minimum discharge, 4.1 ft ³ /s, July 23.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	45	45	e33	38	71	145	125	45	6.4	43	11
2	70	46	45	36	39	65	141	100	43	6.1	37	10
3	66	46	46	35	37	65	147	85	41	6.2	e26	10
4	63	44	43	38	35	55	156	78	45	6.8	e19	17
5	76	43	39	43	32	55	152	76	40	6.7	e14	25
6	86	43	39	38	22	49	152	73	33	7.0	e13	30
7	82	44	43	36	e20	66	157	77	30	6.3	e13	37
8	80	48	38	e32	e26	82	182	76	30	5.9	e15	45
9	77	56	32	e30	e32	107	209	83	36	6.0	e14	45
10	71	48	38	33	41	139	209	126	37	5.9	e13	31
11	67	48	35	36	40	163	187	172	32	6.0	e12	21
12	64	51	36	35	39	162	175	193	25	6.2	e15	18
13	61	49	41	e31	35	186	177	172	30	6.0	e16	20
14	60	48	41	e31	35	184	163	152	32	6.1	e15	21
15	58	50	42	e32	36	159	148	139	32	6.0	e14	19
16	58	46	33	e32	34	146	134	131	24	5.8	e13	18
17	55	42	39	e33	36	146	149	126	23	5.6	e12	17
18	53	48	38	33	38	151	168	117	22	5.4	e14	16
19	55	43	41	33	42	162	184	100	19	5.7	e13	16
20	54	42	38	33	41	175	207	88	16	6.1	e12	33
21	50	40	31	33	38	159	233	75	12	5.9	e11	38
22	52	41	37	34	38	152	271	74	9.9	6.1	e13	30
23	49	48	32	33	45	145	281	69	9.4	8.5	e12	27
24	48	52	28	34	51	141	255	64	9.8	115	e11	26
25	47	53	44	35	63	144	236	61	9.5	57	e11	24
26	49	48	40	33	82	150	208	60	7.5	50	e10	22
27	52	35	27	33	84	148	192	59	7.0	49	e11	20
28	50	37	e26	36	71	138	175	57	6.9	37	e10	18
29	47	42	28	32	---	141	155	54	7.6	31	e10	16
30	46	37	e31	36	---	149	137	50	7.0	30	10	15
31	45	---	e32	37	---	143	---	46	---	51	10	---
TOTAL	1866	1363	1148	1059	1170	3998	5485	2958	721.6	562.7	462	696
MEAN	60.2	45.4	37.0	34.2	41.8	129	183	95.4	24.1	18.2	14.9	23.2
MAX	86	56	46	43	84	186	281	193	45	115	43	45
MIN	45	35	26	30	20	49	134	46	6.9	5.4	10	10
AC-FT	3700	2700	2280	2100	2320	7930	10880	5870	1430	1120	916	1380

CAL YR 1988 TOTAL 24846 MEAN 67.9 MAX 283 MIN 20 AC-FT 49280
WTR YR 1989 TOTAL 21489.3 MEAN 58.9 MAX 281 MIN 5.4 AC-FT 42620

e Estimated

08279000 EMBUDO CREEK AT DIXON, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE,	SPE-CIFIC	SPE-CIFIC	PH (STAND- ARD UNITS)	PH	TEMPER-	TEMPER-	OXYGEN,	HARD-	HARD-	CALCIUM DIS- SOLVED (MG/L AS CA)
		INST. CUBIC FEET PER SECOND (00061)	CON- DUCT- ANCE (US/CM) (00095)	CON- DUCT- ANCE (US/CM) (90095)		LAB (STAND- ARD UNITS)	ATURE AIR (DEG C) (00020)	ATURE WATER (DEG C) (00010)	DIS- SOLVED (MG/L) (00300)	NESS TOTAL (MG/L AS CACO3) (00900)	NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	
NOV 14...	1340	50	338	339	8.10	8.30	17.0	11.0	8.8	170	13	55
JAN 20...	0845	32	298	--	8.00	--	-3.0	0.5	--	--	--	--
MAR 07...	1530	55	297	320	8.20	8.20	17.0	11.0	9.9	150	8	49
APR 27...	1105	197	178	188	8.00	7.90	18.0	9.5	10.4	88	6	29
JUL 17...	1315	5.7	424	409	8.10	7.90	30.0	26.0	8.1	190	26	65
AUG 29...	1645	9.8	440	--	8.20	--	28.0	24.0	7.0	--	--	--

[illegible]

08279500 RIO GRANDE AT EMBUDO, NM

LOCATION.--Lat 36°12'20", long 105°57'49", in SW¼SW¼ sec.23, T.23 N., R.9 E., Rio Arriba County, Hydrologic Unit 13020101, on right bank 0.2 mi downstream from bridge at Embudo, 2.8 mi downstream from Embudo Creek, and at mile 1,643.1.

DRAINAGE AREA.--10,400 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--January 1889 to current year. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for Oct. 4 to Nov. 30, 1896, published in WSP 358, are unreliable and should not be used.

REVISED RECORDS.--WSP 358: 1900-1902. WSP 828: Drainage area. WSP 878: 1915-16. WSP 1512: 1892-99, 1904, 1916, 1931-32, 1939, 1944-45, 1950. WSP 1712: 1903(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 5,789.14 ft above National Geodetic Vertical Datum of 1929. Jan. 1 to Feb. 28, 1889, nonrecording gage 1.2 mi upstream at different datum. March 1889 to December 1903, nonrecording gage 1,300 ft upstream at different datum. September 1912 to June 1914, water-stage recorder on downstream end of bridge pier at site 200 ft upstream at present datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 40,000 acres in New Mexico. Several observations of water temperature were made during the year. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--41 years (water years 1890-1930), 1,238 ft³/s, 896,900 acre-ft/yr.
59 years (water years 1931-89), 828 ft³/s, 599,900 acre-ft/yr, subsequent to upstream development.

EXTREMES FOR PERIOD OF RECORD (1889-1903 AND SINCE 1911).--Maximum discharge, 16,200 ft³/s, June 19, 1903, gage height, about 15.9 ft; minimum daily, 130 ft³/s, June 30, 1902. A flood of about 14,000 ft³/s occurred between May 20 and June 10, 1905, from a comparison of records for Lobatos and Otowi Bridge. Another major flood occurred Sept. 29 or 30, 1904.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 12	0715	*2,540	*6.23	No other peak greater than base discharge.			

Minimum discharge, 221 ft³/s, Sept. 1, 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	384	389	551	488	564	785	1600	916	861	317	355	229
2	377	398	571	503	573	797	1600	874	874	309	401	228
3	366	413	602	520	577	839	1590	824	739	302	320	226
4	359	434	625	534	581	821	1610	781	663	318	279	248
5	390	489	616	562	586	808	1610	780	585	300	260	248
6	385	552	617	562	554	779	1560	805	518	302	245	245
7	395	568	618	556	530	844	1600	859	527	288	247	240
8	400	580	613	505	515	887	1730	828	569	274	258	241
9	391	599	564	511	591	970	1970	825	578	258	254	235
10	375	594	513	550	584	1080	2200	947	564	250	255	229
11	381	592	558	540	578	1220	2370	1180	578	251	261	233
12	383	597	534	537	574	1280	2500	1360	602	254	264	318
13	385	599	567	509	570	1440	2480	1240	598	259	267	279
14	383	609	586	534	578	1540	2400	1120	588	259	261	265
15	379	625	593	536	577	1580	2130	1000	602	258	272	260
16	382	627	577	523	574	1600	1790	902	573	250	268	252
17	372	632	565	521	579	1580	1550	840	509	245	254	249
18	366	658	591	520	594	1540	1520	762	460	240	266	255
19	365	663	586	519	612	1510	1560	682	434	239	273	268
20	370	630	572	526	617	1510	1510	716	398	257	269	303
21	370	607	545	526	619	1490	1560	748	374	256	265	295
22	380	567	564	532	645	1520	1620	705	371	275	256	266
23	379	558	520	533	625	1440	1640	677	376	274	247	258
24	379	565	516	538	659	1400	1570	630	383	287	239	261
25	361	632	543	555	684	1420	1480	619	377	451	234	261
26	360	664	587	555	728	1470	1370	689	365	320	230	307
27	374	650	512	549	769	1520	1270	716	349	307	228	278
28	379	580	503	556	752	1560	1300	648	342	289	231	252
29	382	572	510	552	---	1590	1160	650	331	296	229	245
30	391	520	520	541	---	1580	995	775	326	321	233	240
31	388	---	496	551	---	1590	---	803	---	397	232	---
TOTAL	11731	17163	17435	16544	16989	39990	50845	25901	15414	9003	8153	7714
MEAN	378	572	562	534	607	1290	1695	836	514	290	263	257
MAX	400	664	625	562	769	1600	2500	1360	874	451	401	318
MIN	359	389	496	488	515	779	995	619	326	239	228	226
AC-FT	23270	34040	34580	32820	33700	79320	100900	51370	30570	17860	16170	15300

CAL YR 1988 TOTAL 198692 MEAN 543 MAX 1050 MIN 280 AC-FT 394100
WTR YR 1989 TOTAL 236882 MEAN 649 MAX 2500 MIN 226 AC-FT 469900

08284100 RIO CHAMA NEAR LA PUENTE, NM

LOCATION.--Lat 36°39'45", long 106°37'57", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, on right bank 0.7 mi downstream from Rito de Tierra Amarilla, 3.1 southwest of La Puente, 6.7 mi upstream from flow line of El Vado Reservoir, and at mile 91.4.

DRAINAGE AREA.--480 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Concrete control since Nov. 9, 1965. Elevation of gage is 7,083 ft above National Geodetic Vertical Datum of 1929, from river profile map.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 10,300 acres upstream from station (1962 determination). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--34 years, 350 ft³/s, 253,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft³/s, May 28, 1979, gage height, 6.35 ft, from rating curve extended above 5,400 ft³/s; maximum gage height, 6.46 ft, May 14, 1984; minimum, 4.0 ft³/s, Sept. 19, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of about 9,000 ft³/s occurred Apr. 16, 1937, based on flow of Rio Chama at Los Ojos (Park View) with allowance for tributary inflow. A peak on May 21 or 22, 1926, may have exceeded 10,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 20	2345	*2,700	*4.80	No other peak greater than base discharge.			
Minimum discharge, 18 ft ³ /s, July 19, 20 and Sept. 29.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	53	e64	e62	e72	e164	694	709	289	38	82	20
2	63	53	e66	e64	e76	e160	618	771	262	35	129	20
3	62	53	e70	e64	e76	e186	674	825	252	32	101	20
4	61	53	e68	e66	e100	e176	696	957	227	28	65	23
5	65	53	e66	e76	e106	e164	745	992	207	25	49	25
6	77	48	e63	e72	e90	149	891	988	185	27	39	28
7	99	51	e68	e66	e82	123	1110	1040	169	25	34	27
8	95	54	e70	e62	e72	110	1490	1100	164	23	32	25
9	87	61	e70	e60	e56	123	1720	1100	182	22	39	25
10	79	66	e80	e60	e58	154	1780	1320	174	20	42	24
11	70	71	e78	e66	e60	187	1580	1200	156	21	38	22
12	66	65	e78	e72	e62	226	1510	1020	144	23	38	23
13	64	61	e82	e64	e64	278	1210	858	141	24	36	25
14	62	76	e90	e60	e66	318	1130	762	129	24	35	27
15	62	80	e80	e58	e66	282	1320	643	133	23	43	26
16	60	67	e76	e58	e66	283	1580	518	127	22	41	25
17	60	61	e76	e58	e66	334	1810	546	116	21	34	24
18	60	80	e80	e58	e82	360	2020	537	108	20	48	22
19	59	69	e88	e62	e86	436	2090	468	101	19	62	23
20	58	57	e92	e66	e100	518	2170	464	90	20	50	27
21	57	56	e94	e68	e96	377	2240	477	85	21	43	35
22	56	55	e82	e70	e78	359	2220	472	77	22	44	30
23	55	61	e82	e70	e82	418	2060	457	67	29	35	26
24	55	70	e86	e72	e90	473	1990	417	66	43	31	25
25	55	77	e98	e72	e92	558	1870	413	61	44	29	23
26	53	65	e92	e68	e100	627	1670	380	59	58	25	22
27	50	e60	e86	e66	e140	506	1360	350	52	64	23	20
28	51	e52	e76	e64	e170	539	1080	355	44	59	23	19
29	51	e56	e70	e66	---	674	886	358	41	52	20	19
30	52	e60	e64	e70	---	678	757	363	40	54	20	19
31	54	---	e62	e70	---	597	---	321	---	56	20	---
TOTAL	1962	1844	2397	2030	2354	10537	42971	21181	3948	994	1350	719
MEAN	63.3	61.5	77.3	65.5	84.1	340	1432	683	132	32.1	43.5	24.0
MAX	99	80	98	76	170	678	2240	1320	289	64	129	35
MIN	50	48	62	58	56	110	618	321	40	19	20	19
AC-FT	3890	3660	4750	4030	4670	20900	85230	42010	7830	1970	2680	1430

CAL YR 1988 TOTAL 102495 MEAN 280 MAX 1800 MIN 48 AC-FT 203300
WTR YR 1989 TOTAL 92287 MEAN 253 MAX 2240 MIN 19 AC-FT 183100

e Estimated

RIO GRANDE BASIN

97

08284100 RIO CHAMA NEAR LA PUENTE, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974, 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)
NOV 18...	0830	75	148	166	7.00	8.10	8.0	1.0	12.6	46
JAN 20...	1045	63	148	--	7.60	--	4.0	0.5	--	<10
MAY 11...	1200	1160	--	53	7.40	7.70	16.0	10.0	9.0	25
SEP 07...	1000	27	199	--	6.30	--	24.0	13.5	8.2	<10

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV 18...	69	2	21	4.1	5.6	0.3	1.5	79	0	65
JAN 20...	--	--	--	--	--	--	--	--	--	--
MAY 11...	22	0	6.9	1.1	2.3	0.2	1.0	24	0	20
SEP 07...	--	--	--	--	--	--	--	--	--	--

DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
NOV 18...	67	16	1.4	0.10	20	110	<0.100	<0.100	0.040
JAN 20...	--	--	--	--	--	--	<0.100	<0.100	0.030
MAY 11...	22	2.0	0.60	0.10	14	41	<0.100	<0.100	0.050
SEP 07...	--	--	--	--	--	--	<0.100	<0.100	0.050

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTH, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 18...	0.36	0.030	0.020	1.9	<10	51	4	0.81	81
JAN 20...	--	0.030	0.020	1.6	--	--	17	2.9	83
MAY 11...	0.35	0.060	0.030	5.5	<10	140	39	122	89
SEP 07...	0.35	0.060	0.060	3.0	--	--	10	0.73	97

RIO GRANDE BASIN

08284160 AZOTEA TUNNEL AT OUTLET, NEAR CHAMA, NM

LOCATION.--Lat 36°51'12", long 106°40'18", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, on left bank at south portal, 0.2 mi upstream from Azotea Creek, and 6.2 mi southwest of Chama.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 7,519.87 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Records represent regulated diversions from Rio Blanco, Little Navajo River, and Navajo River in San Juan River Basin.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

AVERAGE DISCHARGE.--19 years, 130 ft³/s, 94,180 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,170 ft³/s, May 17, 1978, gage height, 7.85 ft; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 569 ft³/s, May 10, no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	.00	.00	.00	.00	.00	.27	127	362	34	312	.80
2	1.3	.00	.00	.00	.00	.00	.26	135	360	29	325	.14
3	.89	.00	.00	.00	.00	.00	53	143	325	22	131	.14
4	.56	.00	.00	.00	.00	.00	107	163	268	21	85	.14
5	.44	.00	.00	.00	.00	.00	106	214	259	20	59	1.4
6	.69	.00	.00	.00	.00	.00	136	289	282	17	45	2.3
7	1.2	.00	.00	.00	.00	.00	170	367	259	14	30	2.1
8	1.9	.00	.00	.00	.00	.00	223	444	270	7.6	23	1.2
9	1.7	.00	.00	.00	.00	.00	242	529	223	7.1	22	.14
10	1.2	.00	.00	.00	.00	.00	223	569	202	6.1	17	.08
11	.84	.00	.00	.00	.00	.00	203	511	198	13	28	.08
12	.56	.00	.00	.00	.00	.00	192	431	220	21	26	.08
13	.56	.00	.00	.00	.00	.00	159	353	203	12	16	.51
14	.44	.00	.00	.00	.00	.00	154	297	178	8.6	28	1.3
15	.44	.00	.00	.00	.00	.00	205	204	181	6.6	14	.54
16	.44	.00	.00	.00	.00	.00	163	163	207	5.0	9.6	.14
17	.33	.00	.00	.00	.00	.00	209	141	231	3.5	14	.11
18	.33	.00	.00	.00	.00	.00	261	144	213	1.5	36	.08
19	.33	.00	.00	.00	.00	.00	269	218	208	1.0	25	.55
20	.33	.00	.00	.00	.00	.00	294	312	186	1.0	15	.99
21	.33	.00	.00	.00	.00	.00	315	391	163	4.0	12	.84
22	.33	.00	.00	.00	.00	.00	311	417	122	5.0	9.1	.84
23	.33	.00	.00	.00	.00	.00	298	430	93	13	7.1	.84
24	.33	.00	.00	.00	.00	.00	290	472	90	80	5.0	.99
25	.33	.00	.00	.00	.00	.00	253	448	74	73	3.5	1.1
26	.14	.00	.00	.00	.00	.00	236	389	65	174	2.5	1.2
27	.00	.00	.00	.00	.00	.00	206	378	56	130	1.5	.44
28	.00	.00	.00	.00	.00	.00	210	425	53	133	1.5	.56
29	.00	.00	.00	.00	---	.00	239	487	53	116	1.5	.56
30	.00	.00	.00	.00	---	.00	194	485	43	69	1.0	.56
31	.00	---	.00	.00	---	.00	---	402	---	48	2.0	---
TOTAL	17.97	0.00	0.00	0.00	0.00	0.00	5921.53	10478	5647	1096.0	1307.3	20.75
MEAN	.58	.00	.00	.00	.00	.00	197	338	188	35.4	42.2	.69
MAX	1.9	.00	.00	.00	.00	.00	315	569	362	174	325	2.3
MIN	.00	.00	.00	.00	.00	.00	.26	127	43	1.0	1.0	.08
AC-FT	36	.0	.0	.0	.0	.0	11750	20780	11200	2170	2590	41

CAL YR 1988 TOTAL 32046.07 MEAN 87.6 MAX 724 MIN .00 AC-FT 63560
WTR YR 1989 TOTAL 24488.55 MEAN 67.1 MAX 569 MIN .00 AC-FT 48570

RIO GRANDE BASIN

99

08284200 WILLOW CREEK ABOVE HERON RESERVOIR, NEAR LOS OJOS, NM

LOCATION.--Lat 36°44'33", long 106°37'34", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, on right bank 200 ft downstream from bridge, 0.2 mi downstream from Iron Spring Creek, 3.3 mi west of Los Ojos, and at mile 9.7.

DRAINAGE AREA.--112 mi².

PERIOD OF RECORD.--October and November 1962 (monthly discharge only), December 1962 to current year. Published as "near Park View" prior to 1976.

GAGE.--Water-stage recorder. Concrete control since June 6, 1963. Datum of gage is 7,196.29 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Apr. 1, 1971, at site 900 ft downstream at lower datum.

REMARKS.--Records represent inflow to Heron Reservoir and since Nov. 17, 1970, include San Juan River water imported through Azotea tunnel (station 08284160).

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

AVERAGE DISCHARGE.--8 years (water years 1963-70), 10.5 ft³/s, 7,610 acre-ft/yr, prior to completion of Azotea tunnel.
19 years (water years 1971-89), 144 ft³/s, 104,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,610 ft³/s, Mar. 12, 1985, gage height, 6.65 ft; no flow at times most years prior to 1971.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 543 ft³/s, May 10, minimum daily, 0.06 ft³/s, Jan. 15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	.20	.15	.11	.13	3.0	18	150	365	33	262	.23
2	.96	.21	.19	.10	.13	3.5	15	151	350	27	381	.64
3	.78	.21	.20	.10	.15	3.2	64	158	317	21	159	.27
4	.40	.16	.20	.11	.19	2.7	134	176	269	18	97	.21
5	.38	.12	.20	.13	.21	3.1	134	226	252	17	68	.36
6	.36	.12	.19	.16	.23	3.8	165	290	288	17	50	.27
7	.30	.11	.21	.18	.24	5.4	191	353	254	13	33	1.1
8	.26	.11	.22	.16	.26	11	253	420	260	8.4	25	1.7
9	.63	.16	.18	.15	.27	35	281	514	231	5.2	24	1.4
10	.67	.15	.16	.12	.32	95	261	543	204	5.4	19	.48
11	.49	.26	.15	.13	.40	120	229	509	200	8.4	25	.31
12	.38	.49	.12	.13	.49	163	222	425	219	18	23	.25
13	.32	.52	.13	.11	.49	218	184	358	214	13	20	.24
14	.29	.36	.18	.09	.42	177	169	294	185	8.1	28	.42
15	.26	.49	.20	.06	.45	108	188	233	183	5.7	18	.88
16	.22	.40	.18	.06	.56	132	210	188	205	4.3	12	.77
17	.22	.36	.19	.07	.52	159	226	162	231	3.4	15	.38
18	.21	.34	.19	.07	.63	129	281	155	214	2.1	26	.26
19	.20	.27	.21	.07	.80	117	290	226	210	.98	41	.19
20	.19	.26	.21	.07	.80	94	306	302	184	.37	17	.18
21	.18	.22	.20	.10	.76	41	323	384	169	.27	13	.37
22	.18	.21	.23	.11	.76	34	315	398	123	1.9	10	.86
23	.15	.21	.24	.12	.76	40	306	416	95	5.7	7.2	.44
24	.13	.21	.26	.11	.96	36	327	457	89	62	4.9	.40
25	.11	.29	.27	.11	1.2	36	286	443	75	77	3.5	.34
26	.12	.27	.27	.11	1.6	35	269	384	66	182	2.1	.36
27	.12	.22	.21	.11	2.1	19	237	371	60	149	1.3	.49
28	.12	.19	.19	.12	2.5	22	222	407	52	170	1.1	.40
29	.15	.20	.11	.12	---	24	273	476	43	143	.47	.30
30	.20	.16	.10	.12	---	22	229	490	45	83	.71	.23
31	.21	---	.11	.12	---	15	---	411	---	57	.34	---
TOTAL	10.69	7.48	5.85	3.43	18.33	1906.7	6608	10470	5652	1160.22	1387.62	14.73
MEAN	.34	.25	.19	.11	.65	61.5	220	338	188	37.4	44.8	.49
MAX	1.5	.52	.27	.18	2.5	218	327	543	365	182	381	1.7
MIN	.11	.11	.10	.06	.13	2.7	15	150	43	.27	.34	.18
AC-FT	21	15	12	6.8	36	3780	13110	20770	11210	2300	2750	29

CAL YR 1988 TOTAL 34665.88 MEAN 94.7 MAX 700 MIN .10 AC-FT 68760
WTR YR 1989 TOTAL 27245.05 MEAN 74.6 MAX 543 MIN .06 AC-FT 54040

08284300 HORSE LAKE CREEK ABOVE HERON RESERVOIR, NEAR LOS OJOS, NM

LOCATION.--Lat 36°42'24", long 106°44'42", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, on right bank 3.7 mi northwest of Heron Dam, 7.8 mi downstream from Horse Lake, and 9.9 mi west of Los Ojos.

DRAINAGE AREA.--45 mi², approximately.

PERIOD OF RECORD.--October and November 1962 (monthly discharge only), December 1962 to current year. No winter records subsequent to 1973. Published as "near Park View" prior to 1976.

GAGE.--Water-stage recorder. Concrete control since June 10, 1963. Datum of gage is 7,188.85 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to July 1, 1971, at site 1,100 ft upstream at higher datums.

REMARKS.--Diversions upstream from station for irrigation of meadows and for off-channel stock tanks.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

AVERAGE DISCHARGE.--11 years (water years 1963-73), 1.10 ft³/s, 797 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,960 ft³/s, July 30, 1968, gage height, 4.9 ft, site and datum then in use, from rating curve extended above 37 ft³/s on basis of slope-area measurements at gage heights 3.20 ft and 4.9 ft; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 6.5 ft³/s, Aug. 1, no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.06	---	---	---	---	.36	.02	.00	.00	6.5	.00
2	.05	.06	---	---	---	---	.36	.02	.00	.00	2.5	.00
3	.06	.06	---	---	---	---	.24	.01	.00	.00	.61	.00
4	.06	.06	---	---	---	---	.24	.00	.00	.00	.06	.00
5	.06	.06	---	---	---	---	.20	.00	.00	.00	.02	.00
6	.07	.06	---	---	---	---	.18	.00	.00	.00	.01	.00
7	.09	.06	---	---	---	---	.16	.00	.00	.00	.01	.00
8	.08	.06	---	---	---	---	.12	.00	.00	.00	.01	.00
9	.08	.14	---	---	---	---	.10	.00	.00	.00	.02	.00
10	.08	.12	---	---	---	---	.09	.00	.00	.00	.01	.00
11	.07	.22	---	---	---	---	.09	.00	.00	.00	.02	.00
12	.07	.42	---	---	---	---	.09	.00	.00	.00	.94	.00
13	.07	.24	---	---	---	---	.12	.00	.00	.00	.45	.00
14	.07	.20	---	---	---	---	.14	.00	.00	.00	.04	.00
15	.07	.22	---	---	---	---	.11	.00	.00	.00	.02	.00
16	.07	.22	---	---	---	---	.08	.00	.00	.00	.02	.00
17	.06	.22	---	---	---	---	.06	.00	.00	.00	.01	.00
18	.06	.22	---	---	---	---	.06	.00	.00	.00	3.0	.00
19	.06	.20	---	---	---	---	.05	.00	.00	.00	.61	.00
20	.06	.16	---	---	---	---	.04	.00	.00	.00	.06	.00
21	.06	.12	---	---	---	---	.04	.00	.00	.00	.06	.00
22	.06	.12	---	---	---	---	.04	.00	.00	.00	.05	.00
23	.06	.12	---	---	---	---	.48	.03	.00	.00	.02	.00
24	.06	.14	---	---	---	---	.84	.02	.00	.00	.02	.00
25	.05	.22	---	---	---	---	.72	.02	.00	.00	.01	.00
26	.06	.20	---	---	---	.68	.02	.00	.00	.00	.00	.00
27	.06	.16	---	---	---	.64	.02	.00	.00	.00	.01	.00
28	.06	.14	---	---	---	.57	.02	.00	.00	.02	.01	.00
29	.06	.14	---	---	---	.48	.02	.00	.00	.02	.00	.00
30	.06	.14	---	---	---	.45	.02	.00	.00	.00	.00	.00
31	.06	---	---	---	---	.39	---	.00	---	.00	.01	---
TOTAL	1.99	4.56	---	---	---	---	3.14	0.05	0.00	0.04	15.11	0.00
MEAN	.064	.15	---	---	---	---	.10	.002	.00	.001	.49	.00
MAX	.09	.42	---	---	---	---	.36	.02	.00	.02	6.5	.00
MIN	.05	.06	---	---	---	---	.02	.00	.00	.00	.00	.00
AC-FT	3.9	9.0	---	---	---	---	6.2	.1	.0	.08	30	.0

08284510 HERON RESERVOIR NEAR LOS OJOS, NM

LOCATION.--Lat 36°39'56", long 106°42'13", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, at Heron Dam on Willow Creek, 0.2 mi upstream from Rio Chama, 5.1 mi northeast of El Vado Dam, and 8.7 mi southwest of Los Ojos.

DRAINAGE AREA.--193 mi².

PERIOD OF RECORD.--October 1970 to current year. Published as "near Park View" prior to 1976.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Mar. 24, 1971, nonrecording gage.

REMARKS.--Reservoir is formed by earthfill dam; storage began Oct. 21, 1970. Total capacity 401,300 acre-ft at elevation 7,186.1 ft, low point on crest of uncontrolled spillway, including 1,340 acre-ft of dead storage at elevation 7,003.0 ft, invert of gate sill of outlet tunnel. Reservoir is used for storage of transmountain water from San Juan River basin and for recreation. Figures given herein represent total storage.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 401,800 acre-ft, July 28, 1982, elevation, 7,186.19 ft; no storage prior to Oct. 21, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 398,700 acre-ft, Aug. 5-8, 11, 12, elevation 7,185.67 ft; minimum, 365,300 acre-ft, Apr. 3, elevation, 7,179.84 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Bureau of Reclamation in 1971)

7,170	312,600
7,180	366,200
7,190	424,700

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	394800	392800	376300	369300	366800	367200	365400	369500	388200	396400	397600	391100
2	394800	392700	375700	369100	366800	367400	365400	369600	388700	396400	398300	390300
3	394900	392300	375100	369100	366800	367500	365300	369800	389200	396200	398500	389600
4	394800	391800	374400	369000	366900	367500	365400	370100	389600	396200	398600	388700
5	394600	391400	373700	369000	367100	367400	365600	370400	390100	396300	398700	387900
6	394500	390900	373000	368900	367200	367400	365800	371000	390500	396300	398700	387100
7	394500	390400	372500	368800	367200	367400	366100	371500	391000	396200	398700	386300
8	394500	390000	372400	368600	367200	367400	366300	372300	391500	396100	398700	385500
9	394500	389700	372400	368500	367200	367600	366800	373300	391900	396000	398600	384500
10	394400	389300	372200	368300	367200	367800	366800	374500	392300	395800	398600	383600
11	394300	389000	372100	368200	367200	368000	367100	375400	392700	395900	398700	382700
12	394300	388600	371900	368100	367200	368300	367400	376200	393100	395800	398700	381800
13	394200	388200	371800	368000	367200	368800	367500	376900	393500	395700	398600	380900
14	394200	387700	371600	367900	367200	369100	367400	377400	393800	395700	398600	380000
15	394000	387100	371600	367700	367200	369300	367600	377700	394100	395500	398500	379200
16	394000	386400	371300	367600	367200	369300	367900	378000	394500	395500	398400	378400
17	394000	386000	371300	367500	367200	369000	368000	378300	394900	395400	398400	377600
18	393900	385100	371100	367400	367200	368800	368300	378600	395400	395300	398400	376900
19	393800	384400	371000	367400	367400	368400	368800	379000	395600	395200	398000	376500
20	393800	383700	370900	367200	367500	368000	369100	379500	395900	395000	397400	376200
21	393700	383000	370800	367200	367500	367600	369600	380100	396000	394900	397100	375900
22	393600	382300	370600	367100	367400	367300	369800	380800	396200	394900	396800	375700
23	393600	381800	370500	367000	367400	367200	370100	381800	396300	394800	396400	375400
24	393500	381200	370300	367100	367400	367000	370300	382300	396300	395200	396000	375300
25	393300	380600	370200	367000	367400	366800	370300	383000	396300	395300	395500	375000
26	393300	379900	370100	366900	367400	366700	370200	383700	396300	395600	395000	374900
27	393200	379100	369900	367100	367400	366400	369900	384400	396300	395900	394600	374500
28	393100	378500	369700	367100	367200	366200	369600	385200	396400	396200	394200	374500
29	393000	377900	369600	367000	---	366100	369300	386000	396400	396600	393500	374400
30	393000	377000	369500	366900	---	365800	369000	386900	396400	396700	392700	374300
31	392900	---	369400	366800	---	365600	---	387500	---	396900	391900	---
MAX	394900	392800	376300	369300	367500	369300	370300	387500	396400	396900	398700	391100
MIN	392900	377000	369400	366800	366800	365600	365300	369500	388200	394800	391900	374300
(+)	7184.67	7181.90	7180.56	7180.10	7180.18	7179.88	7180.50	7183.74	7185.27	7185.34	7184.49	7181.43
(++)	-1900	-15900	-7600	-26200	+400	-1600	+3400	+18500	+8900	+500	-5000	-17600

CAL YR 1988 MAX 396100 MIN 345900 (++) -23600
WTR YR 1989 MAX 398700 MIN 365300 (++) -20500

(+) ELEVATION, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-Feet

RIO GRANDE BASIN

08284520 WILLOW CREEK BELOW HERON DAM, NM

LOCATION.--Lat 36°39'56", long 106°42'13", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, in outlet conduits of Heron Dam, 0.2 mi upstream from Rio Chama, 5.1 mi northeast of El Vado Dam, and 8.7 mi southwest of Los Ojos.

DRAINAGE AREA.--193 mi².

PERIOD OF RECORD.--January 1971 to current year.

GAGE.--Totalizing flowmeters in each of two outlet conduits in Heron Dam.

REMARKS.--Flow regulated by Heron Reservoir (station 08284510). Outlet conduits are 14-in. and 120-in. in diameter.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

AVERAGE DISCHARGE.--18 years, 119 ft³/s, 86,220 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,780 ft³/s, Dec. 18, 19, 1982; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 417 ft³/s, Sept. 11; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	325	42	.00	26	58	.00	.00	.00	.00	396
2	.00	95	325	42	.00	25	58	.00	.00	.00	.00	400
3	.00	174	325	42	.00	25	58	.00	.00	.00	.00	400
4	.00	174	325	42	.00	25	57	.00	.00	.00	.00	400
5	.00	174	325	42	.00	25	56	.00	.00	.00	.00	408
6	.00	174	325	42	.00	25	57	.00	.00	.00	.00	414
7	.00	174	184	42	.00	25	57	.00	.00	.00	.00	414
8	.00	174	42	42	.00	26	58	.00	.00	.00	.00	414
9	.00	165	42	42	.00	26	58	.00	.00	.00	.00	414
10	.00	170	42	42	.00	26	58	.00	.00	.00	.00	414
11	.00	185	42	42	.00	26	58	.00	.00	.00	.00	417
12	.00	185	42	43	.00	26	58	.00	.00	.00	.00	412
13	.00	185	42	42	.00	26	58	.00	.00	.00	.00	414
14	.00	196	42	42	.00	26	59	.00	.00	.00	.00	413
15	.00	262	42	42	.00	26	59	.00	.00	.00	.00	414
16	.00	324	42	42	.00	185	59	.00	.00	.00	.00	414
17	.00	325	42	42	.00	306	58	.00	.00	.00	104	414
18	.00	325	42	42	.00	306	58	.00	.00	.00	205	413
19	.00	325	42	42	.00	306	58	.00	.00	.00	205	227
20	.00	325	42	37	.00	306	58	.00	.00	.00	205	103
21	.00	325	42	34	.00	307	105	.00	.00	.00	205	104
22	.00	325	42	34	.00	199	148	.00	.00	.00	205	104
23	.00	325	42	34	14	115	148	.00	.00	.00	204	104
24	.00	325	42	34	26	113	148	.00	.00	.00	206	104
25	5.0	325	42	34	25	113	202	.00	.00	.00	206	104
26	.00	325	42	34	25	113	245	.00	.00	.00	205	104
27	.00	325	42	34	26	113	245	.00	.00	13	205	45
28	.00	325	42	34	26	113	325	.00	.00	.00	205	.00
29	.00	325	42	34	---	113	402	.00	.00	.00	312	.00
30	.00	325	42	33	---	114	268	.00	.00	.00	390	.00
31	.00	---	42	13	---	85	---	.00	---	.00	391	---
TOTAL	5.00	7361.00	3142	1188	142.00	3291	3394	0.00	0.00	13.00	3453.00	8384.00
MEAN	.16	245	101	38.3	5.07	106	113	.00	.00	.42	111	279
MAX	5.0	325	325	43	26	307	402	.00	.00	13	391	417
MIN	.00	.00	42	13	.00	25	56	.00	.00	.00	.00	.00
AC-FT	9.9	14600	6230	2360	282	6530	6730	.0	.0	26	6850	16630

CAL YR 1988 TOTAL 43529.70 MEAN 119 MAX 1190 MIN .00 AC-FT 86340
WTR YR 1989 TOTAL 30373.00 MEAN 83.2 MAX 417 MIN .00 AC-FT 60240

08285000 EL VADO RESERVOIR NEAR TIERRA AMARILLA, NM

LOCATION.--Lat 36°35'39", long 106°44'00", Rio Arriba County, Hydrologic Unit 13020102, Tierra Amarilla Grant, at outlet tower of dam on Rio Chama, at village of El Vado, 12.4 mi southwest of Tierra Amarilla, and at mile 77.7.

DRAINAGE AREA.--873 mi², of which about 100 mi² probably is noncontributing.

PERIOD OF RECORD.--January 1935 to September 1965 (monthend contents only), October 1965 to current year. Prior to October 1967, contents at about 0730 hours.

GAGE.--Water-stage recorder. Prior to October 1967, nonrecording gage only below gage height 6,879.3 ft. Datum of gage is 8.21 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rockfill dam, steel faced. Storage began in January 1935. Capacity 186,250 acre-ft between gage heights 6,759.0 ft and 6,902.0 ft, top of spillway gate. Dead storage, 1,480 acre-ft below 6,775.0 ft, sill of outlet works. Figures given herein represent total contents. Reservoir is used to impound water for irrigation by Middle Rio Grande Conservancy District and, since December 1972, for storage of contract water from San Juan-Chama Project. Rehabilitation of outlet works, completed in December 1966, increased valve-controlled release from about 1,750 ft³/s to about 6,000 ft³/s.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 204,900 acre-ft, of which 7,400 acre-ft was uncontrolled storage, June 4, 5, 1948, gage height, 6,904.2 ft; no storage at times prior to December 1966.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 176,070 acre-ft, May 26, elevation, 6,898.80 ft minimum, 107,310 acre-ft, Sept. 10, elevation, 6,873.35 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by U.S. Bureau of Reclamation in 1984)

6,865	89,870	6,895	164,400
6,875	111,000	6,900	179,000
6,885	135,900		

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151660	149630	161620	164720	165390	165690	174190	167090	173790	154810	123040	108770
2	151580	149660	162190	164720	165360	165780	173850	167060	174000	152930	122840	108650
3	151460	149890	162730	164720	165300	165880	173500	167000	174100	151180	122640	108540
4	151410	150030	163240	164780	165330	165840	173320	167150	174220	149720	122370	108500
5	151380	150200	163750	164870	165390	165780	173160	167770	174350	148350	122100	108410
6	151380	150400	164300	164960	165390	165720	173100	168560	174350	146880	121730	108430
7	151380	150630	164600	164930	165300	165690	173190	169420	174250	145480	121450	108560
8	151410	150890	164630	164930	165270	165750	174070	170410	174000	144200	120670	108680
9	151410	151200	164600	164930	165300	165970	175190	171460	173800	143090	119740	107890
10	151410	151490	164570	164930	165270	166150	175720	172790	173690	142130	118840	107310
11	151320	151890	164570	164930	165240	166090	175100	173940	173410	141220	117820	107510
12	151260	152120	164570	164960	165240	165910	174660	174530	173100	140190	116220	107800
13	151230	152440	164600	164990	165210	165780	173470	174530	172670	139430	115050	108020
14	151150	152760	164630	165020	165210	165750	172200	174630	172110	138430	114390	108320
15	151060	153250	164630	165020	165150	165630	171610	174850	171550	136770	113850	108630
16	150970	153720	164600	165060	165120	165940	171300	174810	170900	135220	113310	109040
17	150920	154300	164630	165020	165120	166910	171270	175100	169510	134270	112850	109400
18	150800	154850	164660	165090	165090	167920	171330	175470	168230	133350	112720	109790
19	150690	155380	164720	165090	165150	169110	171740	175630	167550	132490	112570	110020
20	150600	155870	164720	165090	165180	170310	171360	175220	166820	131550	112340	109920
21	150540	156430	164720	165090	165150	171240	171150	175060	166090	130560	112110	109860
22	150430	156900	164750	165090	165120	171980	170960	175380	165240	129610	112060	109760
23	150340	157460	164750	165060	165120	172630	170590	175660	164330	128660	112010	109670
24	150260	157990	164720	165090	165100	172980	170100	175820	163480	128170	111990	109610
25	150200	158610	164720	165120	165300	173130	169640	175940	162550	127690	111920	109510
26	150120	159110	164810	165150	165510	173380	169050	176070	161590	127350	110770	108830
27	150000	159590	164750	165240	165630	173440	168290	175310	160630	126900	109830	108230
28	149940	160100	164720	165300	165660	173630	167610	174130	159380	126510	109420	107980
29	149830	160570	164720	165390	---	174220	167670	173470	158020	124950	109150	107730
30	149720	161080	164720	165420	---	174720	167610	173500	156690	123690	109020	107460
31	149690	---	164720	165420	---	174530	---	173540	---	123270	108900	---
MAX	151660	161080	164810	165420	165660	174720	175720	176070	174350	154810	123040	110020
MIN	149690	149630	161620	164720	165090	165630	167610	167000	156690	123270	108900	107310
(+)	6890.01	6893.91	6895.12	6895.35	6895.43	6898.31	6896.07	6897.99	6892.43	6880.10	6874.06	6873.42
(++)	-2000	+11390	+3640	+700	+270	+8870	-6920	+5930	-16850	-33470	-14320	-1440

CAL YR 1988 MAX 179820 MIN 117340 (++) +42400
WTR YR 1989 MAX 176070 MIN 107310 (++) -44230

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-Feet

08285500 RIO CHAMA BELOW EL VADO DAM, NM

LOCATION.--Lat 36°34'48", long 106°43'24", Rio Arriba County, Hydrologic Unit 13020102, in Tierra Amarilla Grant, on left bank 1.5 mi downstream from El Vado Dam, 2.8 mi upstream from Rio Nutrias, 13 mi southwest of Tierra Amarilla, and at mile 76.2.

DRAINAGE AREA.--877 mi², of which about 100 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1913 to November 1915, April to November 1916, March, April 1920, September 1920 to August 1924, October 1935 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "Chama River" prior to 1935, as "near Tierra Amarilla" 1913-14, 1935-47, as "near El Vado" 1915-16, and as "at El Vado" 1920-24.

REVISED RECORDS.--WSP 1312: 1914, 1949. WSP 1392: 1949.

GAGE.--Water-stage recorder. Datum of gage is 6,696.12 ft above National Geodetic Vertical Datum of 1929. Prior to October 1935, at site 1.5 mi upstream at different datum. October 1935 to September 1938 at site 1.1 mi upstream at datum 30.34 ft higher.

REMARKS.--Records good. Flow regulated by El Vado Reservoir (station 08285000) since 1935. Flow affected by release of transmountain water from Heron Reservoir (station 08284510) since May 1971. Diversions for irrigation of about 10,600 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years (water years 1914-15, 1921-23), 448 ft³/s, 324,600 acre-ft/yr, prior to completion of El Vado Dam.
35 years (water years 1936-70), 373 ft³/s, 270,200 acre-ft/yr, prior to release of transmountain water.
19 years (water years 1971-89), 473 ft³/s, 342,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,000 ft³/s, May 22, 1920, gage height, 12 ft, site and datum then in use, from rating curve extended above 3,500 ft³/s; no flow Mar. 25, 26, 31, 1955.
Maximum discharge since construction of El Vado Dam in 1935, 6,610 ft³/s, May 7, 1985, gage height, 7.08 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 4 or 5, 1911, was greater than floods in September 1904 and May 1920, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,130 ft³/s, Apr. 22-24; minimum daily, 81 ft³/s, Oct. 8-15 and 19-21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	83	88	93	90	153	904	964	138	920	307	445
2	86	84	90	97	94	156	880	772	140	1010	263	445
3	89	87	91	100	94	165	880	811	152	896	209	448
4	89	90	91	104	96	179	854	812	137	785	204	431
5	86	91	90	104	96	180	890	656	140	784	203	450
6	86	91	91	104	96	177	960	527	148	782	200	396
7	86	91	91	104	91	177	1000	530	186	757	199	340
8	81	91	91	104	91	177	1000	525	253	721	398	339
9	81	91	91	104	91	177	1010	524	248	599	510	791
10	81	91	91	104	94	243	1370	528	253	520	510	656
11	81	88	91	104	94	419	1800	533	266	517	557	308
12	81	88	91	104	96	521	1650	630	266	518	829	265
13	81	88	91	104	99	524	1790	810	329	514	656	259
14	81	88	91	104	99	483	1710	673	410	512	350	260
15	81	88	91	104	99	473	1540	524	410	907	329	236
16	83	88	91	104	101	401	1640	519	406	799	326	215
17	83	88	91	104	101	241	1650	430	815	510	335	217
18	82	88	91	104	101	232	1770	367	710	511	343	193
19	81	88	91	104	101	232	1650	380	424	510	339	163
20	81	86	91	104	101	232	2110	671	419	526	339	164
21	81	86	91	104	102	232	2100	540	412	528	335	164
22	82	86	91	104	104	235	2130	310	459	527	271	163
23	84	86	91	106	104	244	2130	316	491	522	236	163
24	87	86	91	105	106	428	2130	319	503	421	238	163
25	88	86	91	104	111	601	2020	330	504	309	243	163
26	88	86	91	102	108	604	1930	317	506	310	755	433
27	88	86	91	96	128	604	1930	766	506	304	707	384
28	89	86	91	88	153	560	1640	957	635	304	432	150
29	83	86	91	90	---	497	1190	638	717	887	436	149
30	83	86	91	93	---	497	1020	316	712	715	439	151
31	83	---	91	87	---	766	---	260	---	306	444	---
TOTAL	2602	2628	2816	3137	2841	10810	45278	17255	11695	18731	11942	9104
MEAN	83.9	87.6	90.8	101	101	349	1509	557	390	604	385	303
MAX	89	91	91	106	153	766	2130	964	815	1010	829	791
MIN	81	83	88	87	90	153	854	260	137	304	199	149
AC-FT	5160	5210	5590	6220	5640	21440	89810	34230	23200	37150	23690	18060

CAL YR 1988 TOTAL 113455 MEAN 310 MAX 1790 MIN 74 AC-FT 225000
WTR YR 1989 TOTAL 138839 MEAN 380 MAX 2130 MIN 81 AC-FT 275400

08286500 RIO CHAMA ABOVE ABIQUIU RESERVOIR, NM

LOCATION.--Lat 36°19'06", long 106°35'50", Rio Arriba County, Hydrologic Unit 13020102, on left bank 40 ft downstream from site of former bridge, 7.7 mi downstream from Rio Gallina, 9 mi northwest of Youngsville, 15.6 mi upstream from Abiquiu Dam, 30.3 mi downstream from El Vado Dam, and at mile 47.4.

DRAINAGE AREA.--1,600 mi², of which about 100 mi² is probably noncontributing.

PERIOD OF RECORD.--August 1961 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,280 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by El Vado Reservoir (08285000). Since May 1971 flow affected by release of transmountain water from Heron Reservoir (station 08284510). Diversions for irrigation of about 15,000 acres upstream from station. Several observations of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--9 years (water years 1962-70), 358 ft³/s, 259,400 acre-ft/yr, prior to release of transmountain water.

19 years (water years 1971-89), 502 ft³/s, 363,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,680 ft³/s, May 8, 1985, gage height, 7.67 ft; maximum gage height, 8.70 ft, May 20, 1973; minimum, 7.5 ft³/s, Oct. 17, 18, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Major floods probably occurred on Sept. 29, 1904, Oct. 4 or 5, 1911, and May 22, 1920.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,290 ft³/s, Apr. 20-24, gage height, 5.67 ft; minimum daily, 95 ft³/s, Oct. 31 to Nov. 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	95	e100	e100	e110	158	920	985	185	867	513	433
2	105	95	e100	e100	e110	171	886	800	149	1030	565	440
3	104	95	e100	e105	e110	171	886	791	148	993	239	441
4	103	101	e100	e105	e110	185	857	802	154	763	209	435
5	103	102	e101	e110	e110	185	870	745	139	763	200	415
6	102	103	e101	e110	e110	183	916	515	138	757	196	442
7	102	104	e101	e110	e110	186	995	514	147	760	196	331
8	102	105	e101	e110	e110	201	999	509	225	693	249	320
9	103	116	e101	e110	e110	202	1010	503	255	654	506	535
10	100	109	e102	e110	e110	201	1200	505	253	494	510	874
11	100	109	e100	e110	e110	354	1880	511	261	494	522	338
12	100	111	e102	e110	e110	516	1720	514	268	494	730	265
13	100	108	e101	e110	e115	568	1870	785	268	490	865	257
14	100	107	e101	e110	e120	532	1870	769	394	490	352	257
15	100	112	e102	e110	117	499	1580	507	402	675	328	257
16	99	108	e102	e110	e120	503	1710	506	397	975	319	209
17	98	106	e101	e110	e120	269	1720	481	597	498	316	206
18	98	103	e100	e110	e120	235	1800	337	941	490	346	205
19	98	105	e102	e110	e120	232	1710	336	438	490	345	164
20	98	105	e102	e110	e120	234	2260	468	459	499	331	157
21	98	103	e103	e110	e120	245	2200	694	438	510	334	155
22	98	103	e104	e115	e120	233	2270	289	457	511	311	155
23	98	104	e103	e120	e120	242	2270	278	507	507	235	155
24	98	106	e104	e120	e120	281	2250	278	534	531	229	155
25	99	111	e103	e120	e120	580	2180	293	530	407	229	154
26	98	107	e102	e115	e120	589	2030	278	532	337	464	214
27	99	104	e101	e110	e140	598	2030	472	532	333	877	574
28	98	e104	e101	e110	e170	591	1840	940	580	293	433	167
29	100	e100	e101	e105	---	504	1330	883	748	586	424	146
30	96	e100	e100	e110	---	502	1020	297	755	1020	425	144
31	95	---	e100	e110	---	617	---	310	---	318	430	---
TOTAL	3097	3141	3142	3415	3302	10767	47079	16895	11831	18722	12228	9000
MEAN	99.9	105	101	110	118	347	1569	545	394	604	394	300
MAX	105	116	104	120	170	617	2270	985	941	1030	877	874
MIN	95	95	100	100	110	158	857	278	138	293	196	144
AC-FT	6140	6230	6230	6770	6550	21360	93380	33510	23470	37140	24250	17850
CAL YR 1988	TOTAL 122568	MEAN 335	MAX 1980	MIN 95	AC-FT 243100							
WTR YR 1989	TOTAL 142619	MEAN 391	MAX 2270	MIN 95	AC-FT 282900							

e Estimated

08286900 ABIQUIU RESERVOIR NEAR ABIQUIU, NM

LOCATION.--Lat 36°14'24", long 106°25'44", Rio Arriba County, Hydrologic Unit 13020102, in Piedra Lumbre Grant, in operations building at Abiquiu Dam on Rio Chama, 6.6 mi northwest of Abiquiu, and at mile 32.1.

DRAINAGE AREA.--2,146 mi², of which about 100 mi² is probably noncontributing.

PERIOD OF RECORD.--February 1963 to September 1965 (monthend contents only), October 1965 to current year. October 1969 to December 1975, contents at 0800 hours.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam, completed Feb. 5, 1963. Capacity, 1,201,000 acre-ft between elevations 6,060 ft, invert of outlet tunnel, and 6,350 ft, crest of spillway, based on capacity table effective Jan. 1, 1980. No dead storage. Reservoir is used for flood control and, since March 1976, for recreation. A desilting pool of about 2,000 acre-ft was maintained from May 1968 to 1974, when it was increased to 4,000 acre-ft and continued until December 1975. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 382,720 acre-ft, June 11, 1985, elevation, 6,256.22 ft; no storage at times prior to May 1968 and Jan. 11 to Mar. 25, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 198,830 acre-ft, Mar. 13, elevation, 6,221.69 ft; minimum, 154,140 acre-ft, Sept. 5, 6, elevation, 6,210.55 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Army Corps of Engineers in 1984)

6,200	116,838	6,240	282,538
6,220	191,312	6,250	337,187
6,230	234,826	6,260	395,757

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186190	185140	183310	186190	189670	194790	186400	192180	180530	177250	168080	156480
2	186070	185140	183430	186270	189790	195080	186360	189670	180490	177290	168740	155680
3	185990	185180	183550	186360	189910	195370	186320	188070	180410	177410	168240	155010
4	185950	185100	183760	186520	190080	195540	186110	185990	180370	177370	167770	154520
5	186030	184930	183840	186520	190200	195870	185990	184730	180250	177330	167620	154140
6	186030	184930	183960	186840	190370	196120	185700	183640	180250	177210	167500	154140
7	186030	185050	184040	186930	190450	196410	185500	182750	180170	176930	167190	154250
8	186070	185010	184160	186970	190530	196750	185180	182220	180410	176290	166460	154290
9	186030	184850	184240	187010	190570	196750	184850	182060	180410	175540	166070	154590
10	186030	184450	184360	187050	190740	197460	184610	182220	180370	174070	165610	155720
11	185950	183920	184450	187250	190860	197710	185790	182220	180290	172850	165410	155640
12	185870	183270	184530	187330	190980	198170	186800	182180	180290	171750	165610	155420
13	185870	182620	184650	187420	191110	198830	187660	182220	180170	170810	166150	155040
14	185830	182020	184730	187420	191150	197830	188560	182220	180050	169950	166030	155040
15	185790	181900	184810	187460	191310	197080	188930	181580	179890	169330	165570	155040
16	185790	181980	184850	187460	191440	196410	189500	180730	179650	169290	164530	155010
17	185790	182060	184970	187700	191560	195790	190040	180050	179650	168630	163100	155010
18	185870	182140	185180	187820	191680	195250	190610	179650	180450	167850	162220	154890
19	185830	182300	185340	187990	191850	194870	191150	179130	180250	167040	161500	154400
20	185750	182340	185380	188150	192050	194960	192050	178690	179890	166340	160770	154370
21	185660	182420	185420	188270	192300	195410	193090	178890	179450	165450	160310	15437
22	185620	182540	185500	188440	192340	194960	194040	178530	178810	164640	160120	154440
23	185540	182620	185540	188600	192430	193790	195000	178650	178450	163950	159700	154550
24	185460	182660	185580	188760	192760	192550	196080	178770	178330	163950	159240	154740
25	185380	182910	185660	188930	193170	191970	196580	178690	178170	164370	158750	154850
26	185500	182910	185870	189050	193880	191480	196830	178610	178050	164760	158670	155120
27	185420	182990	185870	189220	194290	190570	196870	178890	177930	164990	159620	155870
28	185380	183030	185950	189340	194580	189540	196750	180210	178010	165030	159210	156250
29	185300	183110	186030	189420	---	188400	195660	181210	177930	165340	158290	156440
30	185220	183190	186070	189460	---	187210	193960	181130	177530	166880	157720	156590
31	185180	---	186110	189580	---	186440	---	180730	---	167080	157160	---
MAX	186190	185180	186110	189580	194580	198830	196870	192180	180530	177410	168740	156590
MIN	185180	181900	183310	186190	189670	186440	184610	178530	177530	163950	157160	154140
(+)	6218.50	6218.01	6218.73	6219.58	6220.79	6218.81	6220.64	6217.40	6216.60	6213.94	6211.35	6211.20
(++)	-1010	-1990	+2920	+3470	+5000	-8140	+7520	-13230	-3200	-10450	-9920	-570

CAL YR 1988 MAX 194460 MIN 177370 (++) + 8900
WTR YR 1989 MAX 198830 MIN 154140 (++) -29600

(+) ELEVATION, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-FEET

08287000 RIO CHAMA BELOW ABIQUIU DAM, NM

LOCATION.--Lat 36°14'12", long 106°24'59", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.8, T.23 N., R.5 E., Rio Arriba County, Hydrologic Unit 13020102, on right bank 0.8 mi downstream from Abiquiu Dam, 5.9 mi northwest of Abiquiu, and at mile 31.3.

DRAINAGE AREA.--2,147 mi², of which about 100 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1961 to current year (monthly discharge only, October 1961).

GAGE.--Water-stage recorder. Concrete control since Jan. 25, 1966. Elevation of gage is 6,040 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 25, 1966, at datum 1.60 ft lower.

REMARKS.--Records good. Flow controlled by El Vado Reservoir (station 08285000) 46.4 mi upstream and Abiquiu Reservoir (station 08286900) 0.8 mi upstream since February 1963. Since May 1971 flow affected by release of transmountain water from Heron Reservoir (station 08284510) 54.5 mi upstream. Diversions for irrigation of about 17,600 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--9 years (water years 1962-70), 384 ft³/s, 278,200 acre-ft/yr, prior to release of transmountain water.

19 years (water years 1971-89), 525 ft³/s, 380,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,990 ft³/s, July 1, 1965, gage height, 6.69 ft, datum then in use; maximum gage height, 7.29 ft, Jan. 14, 1967 (backwater from ice); minimum discharge, about 0.5 ft³/s, Mar. 17, 1966, Jan. 28, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,220 ft³/s, Apr. 25, gage height, 5.16 ft; minimum daily, 28 ft³/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	92	56	61	53	58	1010	1950	193	907	137	746
2	133	91	57	61	54	54	1030	1970	138	910	283	810
3	124	92	55	62	55	52	1040	1970	155	847	574	754
4	110	91	62	59	52	55	1070	1910	160	791	404	697
5	109	93	61	57	50	56	1070	1560	158	772	258	586
6	107	92	62	57	51	54	1140	1110	145	780	257	410
7	107	95	62	56	52	54	1230	991	135	870	283	300
8	107	159	61	55	55	56	1250	767	172	980	541	283
9	107	190	62	54	55	56	1270	511	271	978	725	280
10	107	308	62	51	52	147	1360	496	296	1060	706	298
11	107	411	62	51	52	310	1380	479	297	1120	600	347
12	107	417	61	52	52	314	1340	512	227	1020	532	373
13	103	417	62	52	53	514	1300	656	359	940	578	328
14	95	414	62	52	52	805	1370	776	441	913	492	258
15	97	189	65	53	47	883	1440	854	515	892	604	203
16	96	53	68	53	51	890	1470	914	566	891	862	182
17	99	54	65	54	52	697	1500	786	564	860	940	182
18	89	55	62	54	54	535	1550	613	566	851	826	294
19	83	55	60	53	53	537	1560	590	582	832	674	358
20	95	55	57	54	54	357	1630	584	603	825	670	175
21	106	55	57	53	52	94	1760	621	635	848	543	85
22	107	55	59	53	53	501	1830	439	677	893	399	49
23	105	55	59	53	53	920	1790	252	624	831	399	50
24	96	52	59	53	55	951	1820	189	569	499	467	50
25	94	50	58	54	56	983	1930	234	546	235	475	48
26	90	54	58	52	58	981	1960	222	521	159	396	47
27	94	53	59	52	54	1100	1950	222	499	210	394	56
28	93	53	59	52	58	1180	1950	270	508	287	643	72
29	94	53	59	52	---	1190	1950	308	747	332	849	46
30	93	54	58	52	---	1220	1950	355	910	337	721	28
31	93	---	61	52	---	1090	---	391	---	239	668	---
TOTAL	3180	3957	1870	1679	1488	16694	44900	23502	12779	22909	16900	8395
MEAN	103	132	60.3	54.2	53.1	539	1497	758	426	739	545	280
MAX	133	417	68	62	58	1220	1960	1970	910	1120	940	810
MIN	83	50	55	51	47	52	1010	189	135	159	137	28
AC-FT	6310	7850	3710	3330	2950	33110	89060	46620	25350	45440	33520	16650

CAL YR 1988 TOTAL 125443 MEAN 343 MAX 1190 MIN 44 AC-FT 248800
WTR YR 1989 TOTAL 158253 MEAN 434 MAX 1970 MIN 28 AC-FT 313900

08289000 RIO OJO CALIENTE AT LA MADERA, NM

LOCATION.--Lat 36°20'59", long 106°02'37", in NW¼NE¼ sec.1, T.24 N., R.8 E., Rio Arriba County, Hydrologic Unit 13020102, on left bank 400 ft upstream from bridge on State Highway 554, 2.4 mi south of La Madera, 2.6 mi downstream from confluence of Rio Vallecitos and Rio Tusas, 3.1 mi north of Ojo Caliente, and at mile 19.9.

DRAINAGE AREA.--419 mi².

PERIOD OF RECORD.--April 1932 to current year.

REVISED RECORDS.--WSP 1712: 1959.

GAGE.--Water-stage recorder. Datum of gage is 6,358.84 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 23, 1934, at site about 2.6 mi upstream at different datum. Apr. 23, 1934 to Apr. 21, 1936, at datum 12.58 ft lower and Apr. 22, 1936 to Oct. 26, 1956, at datum 13.84 ft lower, both at site 1,400 ft downstream.

REMARKS.--Records good. Diversions upstream from station for irrigation of about 3,500 acres (1962 determination). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--57 years, 69.5 ft³/s, 50,350 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,140 ft³/s, Apr. 21, 1958, gage height, 6.42 ft, from rating curve extended above 1,300 ft³/s; maximum gage height, 7.25 ft, from floodmarks, June 19, 1966; minimum discharge, 0.2 ft³/s, Aug. 17, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Apr. 21, 1958, may have been exceeded by a flood in May 1920, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 10	0015	*735	*5.36	Apr. 19	0100	617	5.11

Minimum discharge, 4.1 ft³/s, July 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	18	20	19	21	30	241	96	12	5.2	7.1	6.6
2	19	18	20	19	22	30	232	86	12	4.9	7.4	6.2
3	19	18	20	19	21	32	269	81	12	5.5	7.5	6.2
4	19	18	19	20	21	28	287	82	11	4.8	6.7	6.6
5	22	18	19	20	20	25	295	79	9.7	5.9	6.7	6.4
6	20	18	19	20	19	26	343	73	9.3	5.6	6.8	6.1
7	25	18	20	19	20	31	413	67	9.0	5.5	6.8	6.3
8	27	18	20	18	22	36	529	66	8.8	5.2	6.8	6.0
9	26	19	17	19	22	47	614	64	8.6	5.0	10	5.6
10	25	21	18	20	23	69	581	107	9.1	5.6	7.6	6.0
11	23	21	20	20	24	94	442	109	9.5	5.5	8.7	5.7
12	21	22	19	20	24	112	417	85	9.3	5.6	8.5	6.2
13	21	20	20	19	23	150	321	69	8.6	5.1	6.6	6.3
14	21	21	20	19	23	163	313	61	8.6	5.0	7.1	6.6
15	20	24	21	19	23	123	361	58	8.9	5.2	6.2	6.3
16	20	22	18	19	22	114	408	50	8.8	5.3	6.1	6.1
17	19	19	20	19	23	125	446	47	8.0	5.1	6.6	6.0
18	20	20	19	19	23	126	476	44	7.5	5.0	6.9	6.2
19	20	23	21	19	24	152	461	36	7.1	4.8	6.7	14
20	19	18	20	20	24	180	434	32	7.0	4.7	6.9	11
21	19	18	18	20	23	125	409	29	6.6	4.7	6.9	6.0
22	19	19	19	20	22	124	395	24	6.3	5.1	7.2	6.4
23	19	20	19	20	23	134	327	18	6.2	5.3	7.3	6.5
24	19	22	19	20	25	142	295	16	6.2	23	6.5	6.5
25	18	23	21	20	26	167	256	15	6.2	7.3	6.1	6.3
26	18	21	21	20	29	189	224	12	6.0	7.0	6.3	6.4
27	18	17	17	20	31	163	177	13	6.2	6.7	6.6	6.5
28	18	18	17	20	29	153	148	13	6.6	6.7	6.5	6.5
29	18	20	18	20	---	204	125	13	5.7	6.7	6.4	6.5
30	18	20	18	21	---	232	113	13	5.2	7.2	6.2	6.5
31	18	---	18	21	---	211	---	12	---	7.2	6.5	---
TOTAL	627	592	595	608	652	3537	10352	1570	246.0	191.4	216.2	200.5
MEAN	20.2	19.7	19.2	19.6	23.3	114	345	50.6	8.20	6.17	6.97	6.68
MAX	27	24	21	21	31	232	614	109	12	23	10	14
MIN	18	17	17	18	19	25	113	12	5.2	4.7	6.1	5.6
AC-FT	1240	1170	1180	1210	1290	7020	20530	3110	488	380	429	398

CAL YR 1988 TOTAL 17066.8 MEAN 46.6 MAX 359 MIN 6.2 AC-FT 33850
WTR YR 1989 TOTAL 19387.1 MEAN 53.1 MAX 614 MIN 4.7 AC-FT 38450

08290000 RIO CHAMA NEAR CHAMITA, NM

LOCATION.--Lat 36°04'26", long 106°06'40", in NE¼NE¼ sec.8, T.21 N., R.8 E., Rio Arriba County, Hydrologic Unit 13020102, in San Juan Pueblo Grant, at downstream end of pier nearest left bank of bridge on U.S. Highway 285, 0.5 mi west of Chamita, 2.5 mi northwest of San Juan Pueblo, and at mile 2.8.

DRAINAGE AREA.--3,144 mi², of which about 100 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1912 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as Chama River near Chamita prior to 1928, and Chama River at Chamita 1929-30.

REVISED RECORDS.--WSP 1512: 1913-15, 1934, 1936. WSP 1632: 1929(M). WSP 1732: 1931(M). WSP 1923: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Jan. 1, 1964. Datum of gage is 5.653.61 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 4, 1933, at railroad bridge 2.3 mi downstream at different datums. Oct. 4, 1933 to Mar. 1, 1942, at site 50 ft downstream at datum 0.22 ft higher. Mar. 2, 1942 to Dec. 31, 1963, at site 200 ft downstream, present datum.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Diversions upstream from station for irrigation of about 27,600 acres. Chamita ditch (station 08289500), on left bank, and Hernandez ditch (station 08289800), on right bank, bypass gage for irrigation of several hundred acres downstream from station. Flow regulated by El Vado Reservoir (station 08285000) 74.9 mi upstream since January 1935 and Abiquiu Reservoir (station 08286900), 29.3 mi upstream since February 1963. Since May 1971 flow affected by release of transmountain water from Heron Reservoir (station 08284510) 83.0 mi upstream. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers telemeter at station.

AVERAGE DISCHARGE.--58 years (water years 1913-70), 541 ft³/s, 392,000 acre-ft/yr, prior to release of transmountain water.
19 years (water years 1971-89), 581 ft³/s, 420,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s, May 22, 1920, from rating curve extended above 2,300 ft³/s; maximum gage height, 10.45 ft, Aug. 22, 1961; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--The floods of Sept. 29, 1904, and Oct. 4 or 5, 1911, probably exceeded 15,000 ft³/s. Another major flood occurred in 1884, from newspaper accounts.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,140 ft³/s, Apr. 18, gage height, 6.20 ft; minimum daily, 35 ft³/s, June 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	81	83	e100	95	e110	1350	2100	202	942	166	730
2	76	84	84	e120	101	e105	1340	2070	88	917	128	843
3	78	87	82	e120	95	e105	1360	2060	73	899	422	883
4	79	86	82	e130	94	e110	1400	2030	64	750	437	702
5	127	81	86	e145	87	e110	1330	1760	62	762	166	636
6	128	83	86	103	e86	e100	1410	1160	46	748	150	554
7	112	81	85	103	e82	e100	1660	1020	35	714	150	344
8	114	92	85	e100	e88	e105	1930	878	41	1030	292	331
9	110	180	88	e95	e92	e105	2160	567	94	987	578	274
10	105	207	89	e110	102	e215	2320	560	176	891	636	300
11	102	480	98	e120	105	e400	2320	546	176	992	551	311
12	94	546	93	e130	116	e480	2290	523	173	958	479	385
13	90	585	90	e115	101	e680	2100	590	171	823	513	380
14	84	584	88	e105	98	e1000	2110	752	279	812	544	292
15	83	559	85	e100	95	e1020	2280	792	374	784	727	200
16	80	101	98	e100	90	e1010	2330	873	443	777	768	163
17	77	71	88	e100	97	e1020	2450	850	442	774	898	153
18	75	66	86	e100	98	e750	2360	598	441	721	886	168
19	72	72	85	e100	101	e700	2160	574	443	716	666	410
20	70	70	81	e100	98	e560	2170	569	487	737	648	438
21	90	72	81	e100	91	541	2240	579	485	725	616	127
22	95	77	90	e100	92	553	2320	507	560	803	378	67
23	99	81	e90	e100	94	980	2240	177	557	847	362	48
24	93	84	e90	e100	94	1070	2200	149	480	671	393	44
25	86	83	e94	101	97	1140	2190	123	454	379	507	44
26	77	79	88	100	102	1230	2280	152	444	162	392	43
27	73	79	78	88	107	1260	2240	148	407	123	381	41
28	77	81	e84	100	103	1400	2200	155	387	215	452	42
29	77	81	e90	96	---	1500	2160	216	489	343	868	52
30	78	81	e100	97	---	1540	2140	218	903	259	788	37
31	81	---	e100	101	---	1470	---	371	---	252	704	---
TOTAL	2760	4994	2727	3279	2701	21469	61040	23667	9476	21513	15646	9042
MEAN	89.0	166	88.0	106	96.5	693	2035	763	316	694	505	301
MAX	128	585	100	145	116	1540	2450	2100	903	1030	898	883
MIN	70	66	78	88	82	100	1330	123	35	123	128	37
AC-FT	5470	9910	5410	6500	5360	42580	121100	46940	18800	42670	31030	17930

CAL YR 1988 TOTAL 138933 MEAN 380 MAX 1780 MIN 54 AC-FT 275600
WTR YR 1989 TOTAL 178314 MEAN 489 MAX 2450 MIN 35 AC-FT 353700

e Estimated

08290000 RIO CHAMA NEAR CHAMITA, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948 to current year.

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
NOV 03...	1100	100	--	536	8.30	8.30	21.0	12.0	10.4	210	64
MAY 26...	1000	158	418	420	7.50	7.90	20.0	6.0	10.8	160	48
JUN 27...	1130	384	--	--	--	--	27.0	16.0	--	--	--
SEP 26...	1230	44	436	519	7.70	8.20	24.0	17.5	8.4	190	42

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 03...	61	14	39	1	3.3	195	0	160	146	110	12
MAY 26...	48	10	22	0.8	2.2	143	0	117	113	93	5.1
JUN 27...	--	--	--	--	--	--	--	--	--	--	--
SEP 26...	57	12	36	1	3.1	177	0	145	150	100	11

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
NOV 03...	0.30	18	345	4	3	70	<1	<1	2	<1	3
MAY 26...	0.20	14	262	--	--	30	--	--	--	--	--
JUN 27...	--	--	--	--	--	--	--	--	--	--	--
SEP 26...	0.30	16	325	--	--	70	--	--	--	--	--

[illegible]

08290000 RIO CHAMA NEAR CHAMITA, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)
NOV 03...	21	97	120	96	<0.1	<0.010	<0.1	<0.010	<0.010	<0.010	<0.01
MAY 26...	19	99	K61	240	--	--	--	--	--	--	--
JUN 27...	--	--	--	--	--	--	--	--	--	--	--
SEP 26...	52	28	83	34	--	--	--	--	--	--	--

DATE	DI- ELDRIN, TOTAL (UG/L) (39380)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THION, TOTAL (UG/L) (39600)
NOV 03...	<0.010	<0.010	<0.010	<0.01	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01

DATE	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOTAL TRI- THION (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PER- THANE TOTAL (UG/L) (39034)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	MIREX, TOTAL (UG/L) (39755)
NOV 03...	<0.01	<0.01	<1	<0.01	--	--	--	<0.1	<0.10	<0.01
JUN 27...	--	--	--	--	<0.01	<0.01	<0.01	--	--	--

08291000 SANTA CRUZ RIVER AT CUNDIYO, NM

LOCATION.--Lat 35°57'53", long 105°54'14", in SE¼NW¼ sec.17, T.20 N., R.10 E., Santa Fe County, Hydrologic Unit 13020101, on left bank 135 ft downstream from bridge on State Highway 503, 200 ft downstream from confluence of Rio Medio and Rio Frijoles, 0.6 mi northwest of Cundiyo, 1.8 mi upstream from Santa Cruz Dam, and at mile 11.9.

DRAINAGE AREA.--86 mi², approximately.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only from some periods, published in WSP 1312. Prior to October 1953, published as Rio Santa Cruz at Cundiyo.

REVISED RECORDS.--WSP 1392: 1931(M), 1932-33, 1934-39(M), 1942, 1943(M).

GAGE.--Water-stage recorder. Concrete control since Jan. 3, 1954. Elevation of gage is 6,460 ft above National Geodetic Vertical Datum of 1929, from topographic map. Sept. 1, 1930 to Aug. 12, 1932, water-stage recorder at site about 1 mi downstream at different datum. Aug. 13, 1932 to Oct. 29, 1934, water-stage recorder at site 35 ft upstream at datum 0.42 ft higher. Oct. 30, 1934 to Jan. 2, 1954, water-stage recorder at present site at datum 0.64 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 1,000 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--59 years, 30.9 ft³/s, 22,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,420 ft³/s, Sept. 24, 1931, gage height, 7.80 ft, site and datum then in use, from rating curve extended above 170 ft³/s; minimum, 0.19 ft³/s, Mar. 13, 1954, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 13	2215	101	2.45	July 24	1545	750	4.06
July 21	1700	121	2.52	Sept. 12	1045	479	3.51
July 22	1700	*836	*4.23				

Minimum discharge, 3.7 ft³/s, Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	21	20	e14	e17	14	46	47	32	13	21	6.6
2	45	21	22	15	e18	14	46	45	30	12	21	7.7
3	42	21	22	e14	e19	13	48	44	27	11	14	11
4	40	20	20	e15	e17	13	48	43	30	11	12	11
5	43	19	19	e15	e16	12	47	43	28	12	10	15
6	42	e19	19	e15	e15	12	47	42	29	10	9.1	14
7	47	e20	19	e15	e15	13	49	43	27	9.4	10	11
8	45	e21	17	e16	e16	17	55	45	28	9.9	11	9.3
9	40	e18	21	e16	e17	42	60	48	32	8.7	11	8.5
10	37	e18	19	e15	e18	74	59	59	28	7.3	13	8.6
11	37	e19	19	e15	e19	83	55	60	23	10	13	8.3
12	35	e19	20	e15	e18	82	52	58	21	13	12	22
13	34	e18	18	e14	e16	90	52	58	21	10	11	9.4
14	34	e18	17	e14	S16	84	48	55	22	10	11	8.7
15	32	e20	16	e14	15	70	45	54	21	8.9	16	7.9
16	31	e16	16	e14	15	63	47	51	19	8.5	12	7.5
17	30	16	16	e14	14	59	51	47	19	7.5	11	6.9
18	29	21	15	e15	13	59	53	46	19	9.0	14	6.6
19	29	16	15	e15	13	61	59	44	18	8.6	12	9.2
20	29	19	14	e16	13	62	65	43	17	8.4	11	21
21	28	18	14	e16	12	58	70	42	17	15	11	12
22	28	19	15	e16	12	53	77	41	18	50	11	10
23	27	22	15	e16	11	55	77	42	15	8.5	9.6	9.4
24	27	23	15	e17	10	54	76	40	13	43	9.0	8.6
25	26	22	15	e18	11	54	73	38	13	42	7.8	8.0
26	26	19	15	e18	11	51	69	37	14	27	6.2	7.4
27	25	14	14	e18	13	49	66	38	14	21	6.3	7.4
28	25	18	14	e17	14	47	60	38	13	17	7.7	7.0
29	25	20	14	e17	---	47	57	34	13	16	7.0	5.9
30	23	19	14	e17	---	47	52	35	13	21	7.9	5.9
31	21	---	14	e17	---	46	---	34	---	26	8.3	---
TOTAL	1028	574	523	483	414	1498	1709	1394	634	484.7	346.9	291.8
MEAN	33.2	19.1	16.9	15.6	14.8	48.3	57.0	45.0	21.1	15.6	11.2	9.73
MAX	47	23	22	18	19	90	77	60	32	50	21	22
MIN	21	14	14	14	10	12	45	34	13	7.3	6.2	5.9
AC-FT	2040	1140	1040	958	821	2970	3390	2760	1260	961	688	579

CAL YR 1988 TOTAL 11419.0 MEAN 31.2 MAX 256 MIN 6.1 AC-FT 22650
WTR YR 1989 TOTAL 9380.4 MEAN 25.7 MAX 90 MIN 5.9 AC-FT 18610

e Estimated

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE,	SPE-CIFIC	SPE-CIFIC	PH (STAND-ARD UNITS)	PH (STAND-ARD UNITS)	TEMPER- ATURE (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3
		CUBIC FEET PER SECOND (00061)	CON- DUCT- ANCE (US/CM) (00095)	CON- DUCT- ANCE (US/CM) (90095)							
NOV 03...	1330	E552	--	432	8.60	8.30	21.0	16.0	8.4	160	16
MAY 26...	1100	E870	460	395	8.70	7.90	20.0	8.0	12.4	130	17
JUN 27...	1230	E720	--	--	--	--	--	--	--	--	--
SEP 26...	1400	E330	437	405	8.60	8.10	24.0	17.5	8.0	140	8

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 03...	47	9.5	34	1	3.3	68	55	148	141	61	10
MAY 26...	38	7.4	21	0.8	2.5	73	34	116	109	55	5.8
JUN 27...	--	--	--	--	--	--	--	--	--	--	--
SEP 26...	44	8.4	29	1	3.2	137	14	136	137	58	9.0

DATE	FLUORIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHROMIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
NOV 03...	0.60	21	271	3	2	60	1	2	2	<1	2
MAY 26...	0.40	18	214	--	--	40	--	--	--	--	--
JUN 27...	--	--	--	--	--	--	--	--	--	--	--
SEP 26...	0.60	22	256	--	--	50	--	--	--	--	--

[illegible]

RIO GRANDE BASIN

08291600 RIO GRANDE AT SANTA CLARA, NM

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)
NOV 03...	0.0	95	56	34	<0.1	<0.010	<0.1	<0.010	<0.010	<0.010	<0.01
MAY 26...	0.0	98	73	220	--	--	--	--	--	--	--
JUN 27...	--	--	--	--	--	--	--	--	--	--	--
SEP 26...	0.0	82	130	K72	--	--	--	--	--	--	--

DATE	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THION, TOTAL (UG/L) (39600)
NOV 03...	<0.010	<0.010	<0.010	<0.01	<0.010	<0.010	<0.010	<0.01	<0.01	<0.01

DATE	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOTAL TRI- THION (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PER- THANE TOTAL (UG/L) (39034)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	MIREX, TOTAL (UG/L) (39755)
NOV 03...	<0.01	<0.01	<1	<0.01	--	--	--	<0.1	<0.10	<0.01
JUN 27...	--	--	--	--	<0.01	<0.01	<0.01	--	--	--

08292000 SANTA CLARA CREEK NEAR ESPANOLA, NM

LOCATION.--Lat 35°58'40", long 106°10'20", in SW¼SW¼ sec.11, T.20 N., R.7 E., Rio Arriba County, Hydrologic Unit 13020101, in Santa Clara Indian Reservation, on right bank 5.5 mi upstream from mouth, and 5.5 mi southwest of Espanola.

DRAINAGE AREA.--34.5 mi².

PERIOD OF RECORD.--February 1936 to September 1941, August 1949 to October 1950, October 1950 to September 1961
Annual Maximum only, April 1984 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 6,120 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor. Several observations of water temperature were made during year. Two small diversions upstream from station for irrigation.

AVERAGE DISCHARGE.--11 years (1937-1941, 1950, 1985-1989) 4.63 ft³/s, 3,350 ac-ft/year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 970 ft³/s, Sept. 22, 1941, from rating curve extended above 35 ft³/s on basis of slope-area determination, gage height, 5.65 ft; no flow Aug. 8-13, 1984 possibly from extreme diversion.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 19	2015	26	2.37	July 22	1830	*100	*3.05

Minimum discharge, 0.11 ft³/s, June 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	2.5	2.8	e3.6	e1.7	e3.1	e3.5	3.4	2.6	2.0	5.2	2.6
2	3.1	2.5	3.3	e3.6	e1.7	e2.9	e3.5	3.3	2.7	1.9	5.4	2.4
3	3.1	2.6	3.5	4.4	e1.7	e2.8	e3.5	3.3	2.7	1.9	e4.0	2.2
4	3.0	2.6	3.5	4.8	e1.7	e2.7	3.4	3.2	2.6	1.3	e3.5	2.2
5	3.1	2.5	3.1	5.1	e1.6	e2.5	3.4	3.2	2.6	1.7	e3.5	2.0
6	3.2	2.6	3.1	4.9	e1.6	e3.0	3.3	2.8	1.8	1.9	e3.5	1.8
7	3.4	2.6	3.1	4.6	e1.7	e3.6	3.3	2.5	2.6	1.9	e3.5	1.7
8	3.5	2.7	3.1	e4.5	e1.7	e4.4	2.5	3.0	2.6	1.8	e3.5	1.3
9	3.3	3.1	2.8	e4.3	e1.9	e5.4	2.1	2.1	2.6	1.8	e3.5	1.5
10	3.2	3.0	3.4	e3.9	e2.8	e6.7	3.3	3.6	2.7	1.8	3.4	2.2
11	3.2	3.0	3.2	e3.7	e4.0	e8.0	3.4	5.3	2.5	1.6	3.1	2.3
12	3.3	3.0	3.0	e3.6	e3.8	e9.4	3.3	4.4	2.4	2.3	3.4	2.2
13	3.4	3.0	3.2	e3.5	e3.6	e10	3.4	3.7	1.8	2.3	3.4	2.0
14	3.4	3.1	3.2	e3.4	e3.6	e8.9	3.7	3.5	2.5	2.5	2.9	2.0
15	3.4	3.2	3.3	e3.3	e3.6	e7.7	3.6	3.3	2.6	2.5	2.2	2.0
16	3.4	3.0	3.8	e3.1	e3.6	e6.6	3.5	2.3	2.4	2.4	2.5	2.1
17	3.4	3.0	3.7	e3.0	e3.6	e5.8	3.4	2.8	2.3	2.0	2.6	2.1
18	3.5	3.1	4.1	e3.0	e3.5	e5.2	3.1	3.1	2.6	1.8	2.6	2.3
19	3.5	3.2	4.1	e2.9	e3.5	e4.5	3.1	3.0	2.2	3.1	2.5	2.6
20	3.5	2.6	4.0	e2.7	e3.5	e4.5	3.2	3.0	1.6	2.0	2.5	3.5
21	3.5	2.6	3.8	e2.7	e3.5	e4.5	3.5	2.9	1.7	1.9	2.7	3.1
22	3.5	2.7	3.5	2.7	e3.6	e4.5	3.3	2.9	2.2	7.1	2.6	2.9
23	3.6	3.1	3.8	2.7	e3.6	e4.5	3.3	2.4	2.1	5.6	2.5	3.0
24	3.7	3.3	3.7	2.7	e3.6	e4.5	3.0	2.4	2.0	5.2	2.6	3.0
25	3.2	3.5	3.6	2.5	e3.6	e4.5	2.4	2.6	2.0	5.0	3.0	3.1
26	2.3	3.5	3.7	2.4	e3.7	e4.5	3.1	2.6	1.8	4.9	2.5	3.1
27	2.3	2.8	4.3	2.4	e3.7	e4.0	3.3	2.6	1.3	4.6	2.5	3.7
28	2.3	2.4	4.8	2.2	e3.7	e4.0	3.4	2.6	1.9	4.4	2.4	4.2
29	2.5	3.1	e4.6	e1.9	---	e4.0	3.4	2.5	1.9	4.4	2.1	3.7
30	2.5	2.6	e4.0	e1.8	---	e3.5	3.4	1.7	2.3	4.4	1.8	3.2
31	2.5	---	e3.3	e1.7	---	e3.5	---	2.3	---	5.0	2.2	---
TOTAL	98.0	86.5	110.4	101.6	83.4	153.7	97.6	92.3	67.6	93.0	93.6	76.0
MEAN	3.16	2.88	3.56	3.28	2.98	4.96	3.25	2.98	2.25	3.00	3.02	2.53
MAX	3.7	3.5	4.8	5.1	4.0	10	3.7	5.3	2.7	7.1	5.4	4.2
MIN	2.3	2.4	2.8	1.7	1.6	2.5	2.1	1.7	1.3	1.3	1.8	1.3
AC-FT	194	172	219	202	165	305	194	183	134	184	186	151

CAL YR 1988 TOTAL 1499.7 MEAN 4.10 MAX 11 MIN 2.2 AC-FT 2970
WTR YR 1989 TOTAL 1153.7 MEAN 3.16 MAX 10 MIN 1.3 AC-FT 2290

e Estimated

08294200 NAMBE FALLS RESERVOIR NEAR NAMBE, NM

LOCATION.--Lat 35°50'46", long 105°54'17", in NE¼SW¼, sec.29, T.19 N., R.10 E., Santa Fe County, Hydrologic Unit 13020101, on Nambe Indian Reservation, 300 ft upstream from Nambe Falls, 2.6 mi upstream from Rio En Medio, 4.4 mi southeast of Nambe Pueblo, and 5.4 mi southeast of Nambe.

DRAINAGE AREA.--34.1 mi².

PERIOD OF RECORD.--February 1976 to current year.

REVISED RECORDS.--WDR NM-77-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to July 22, 1976, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by a concrete arch and earthfill dam; storage began Feb. 23, 1976. Total capacity, 2,020 acre-ft at elevation 6,826.6 ft, crest of ogee weir spillway, including 237 acre-ft of storage in a permanent pool between elevation 6,760.9 ft, invert of outlet conduits, and 6,780.0 ft. Dead storage 121 acre-ft below elevation 6,760.9 ft. Outlet conduits are one 6-in. and two 12-in. diameter pipes. Reservoir is used for storage of irrigation water and for recreation. Figures given herein represent total storage.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,060 acre-ft June 9, 1979, elevation, 6,827.24 ft; no storage prior to Feb. 23, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,020 acre-ft, many days, elevation, 6,826.56 ft; minimum, 884 acre-ft, July 23, elevation 6,801.42 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Bureau of Reclamation in 1976)

6,801	870	6,820	1,660
6,810	1,201	6,825	1,930
6,815	1,420	6,830	2,230

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2020	2020	1970	1960	1980	1950	2020	2020	1620	1190	1030	1070
2	2020	2020	1970	1970	1970	1950	2020	2020	1600	1190	1040	1070
3	2020	2020	1970	1970	1960	1960	2020	2020	1570	1190	1050	1080
4	2020	2020	1970	1970	1960	1960	2020	2020	1550	1190	1050	1080
5	2020	2020	1970	1980	1950	1970	2020	1990	1530	1190	1040	1100
6	2020	2020	1970	1980	1950	1970	2020	1940	1500	1190	1040	1110
7	2020	2020	1970	1970	1940	1980	2020	1890	1470	1190	1040	1110
8	2020	2020	1970	1960	1940	1980	2020	1840	1440	1190	1040	1120
9	2020	2020	1970	1960	1930	1980	2020	1800	1430	1190	1050	1120
10	2020	2020	1960	1960	1920	1990	2020	1800	1430	1190	1050	1120
11	2020	2020	1960	1950	1920	2000	2020	1830	1420	1190	1060	1120
12	2020	2020	1960	1940	1910	2010	2020	1850	1420	1190	1070	1110
13	2020	2020	1970	1940	1910	2020	2020	1860	1420	1190	1080	1090
14	2020	2020	1970	1930	1900	2020	2020	1870	1420	1190	1090	1080
15	2020	2010	1980	1930	1900	2020	2020	1880	1410	1190	1090	1070
16	2020	1990	1980	1920	1900	2020	2020	1880	1410	1190	1100	1050
17	2020	1980	1980	1920	1910	2020	2020	1890	1400	1190	1110	1030
18	2020	1970	1980	1930	1910	2020	2020	1890	1400	1160	1110	1020
19	2020	1970	1980	1930	1910	2020	2020	1880	1390	1090	1100	1000
20	2020	1970	1970	1940	1910	2020	2020	1860	1350	1030	1090	1000
21	2020	1960	1970	1940	1910	2020	2020	1850	1280	966	1080	1010
22	2020	1960	1960	1950	1920	2020	2020	1830	1210	907	1070	1010
23	2020	1960	1960	1950	1920	2020	2020	1800	1170	884	1060	1010
24	2020	1970	1960	1960	1920	2020	2020	1790	1180	909	1040	1020
25	2020	1970	1950	1960	1920	2020	2020	1760	1180	934	1060	1020
26	2020	1970	1950	1970	1930	2020	2020	1740	1180	960	1030	1020
27	2020	1970	1950	1970	1940	2020	2020	1720	1180	978	1040	1030
28	2020	1970	1950	1970	1940	2020	2020	1700	1180	988	1040	1030
29	2020	1970	1950	1980	---	2020	2020	1680	1190	996	1050	1030
30	2020	1970	1950	1980	---	2020	2020	1670	1190	1010	1050	1040
31	2020	---	1960	1980	---	2020	---	1640	---	1020	1060	---
MAX	2020	2020	1980	1980	1980	2020	2020	2020	1620	1190	1110	1120
MIN	2020	1960	1950	1920	1900	1950	2020	1640	1170	884	1030	1000
(+)	6826.55	6825.61	6825.49	6825.86	6825.17	6826.56	6826.56	6819.62	6809.71	6805.26	6806.40	6805.83
(++)	0	-50	-10	+20	-40	+80	0	-380	-450	-170	+40	-20

CAL YR 1988 MAX 2030 MIN 1870 (++) +100

WTR YR 1989 MAX 2020 MIN 884 (++) -980

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-Feet

08294210 RIO NAMBE BELOW NAMBE FALLS DAM, NEAR NAMBE, NM

LOCATION.--Lat 35°50'46", long 105°54'17", in NE¼SW¼ sec.29, T.19 N., R.10 E., Santa Fe County, Hydrologic Unit 13020101, on Nambé Indian Reservation, in outlet conduits of Nambé Falls Dam, 300 ft upstream from Nambé Falls, 2.6 mi upstream from Rio En Medio, 4.4 mi southeast of Nambé Pueblo, and 5.4 mi southeast of Nambé.

DRAINAGE AREA.--34.1 mi².

PERIOD OF RECORD.--January 1979 to current year.

GAGE.--Totalizing flowmeters in each of three outlet conduits in Nambé Falls Dam.

REMARKS.--Flow regulated by Nambé Falls Reservoir (station 08294200). Outlet conduits are one 6-in. and two 12-in. diameter pipes. During periods of spill at Nambé Falls Dam, record computed at site 1,100 ft downstream, site of discontinued station 08294300, Rio Nambé at Nambé Falls.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 312 ft³/s June 9, 1979, gage height, 1.96 ft at site 1,100 ft downstream (maximum release and spill computed at Nambé Falls Dam, 250 ft³/s, June 9, 1979); minimum daily discharge, 0.13 ft³/s May 3, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 40 ft³/s, May 6-9, June 21, 22; minimum daily, 0.40 ft³/s, Aug. 8-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	11	4.6	3.5	5.8	4.1	19	21	24	4.0	.50	.60
2	30	11	4.6	3.5	5.8	4.1	18	21	24	4.0	.50	.60
3	29	11	4.6	3.9	5.8	4.1	19	19	24	4.0	.50	.60
4	25	11	4.7	4.1	5.8	4.1	19	18	24	4.0	2.8	.60
5	32	11	5.1	4.1	5.8	4.1	17	24	24	4.0	4.0	.60
6	28	11	5.5	5.2	5.8	4.1	17	40	24	4.0	4.0	.60
7	26	11	5.5	6.1	5.8	4.1	4.0	40	24	4.0	2.0	.60
8	26	10	5.5	6.1	5.8	5.6	4.0	40	24	4.0	.40	.60
9	25	11	5.5	5.6	5.8	6.8	4.0	40	16	4.0	.40	.60
10	20	10	5.5	5.2	5.8	6.8	4.0	22	9.0	4.0	.40	.60
11	21	11	5.5	5.2	5.8	6.8	4.0	8.0	9.0	4.0	.40	5.6
12	21	11	4.7	5.2	5.8	6.8	4.0	11	9.0	3.0	.40	10
13	21	11	4.1	5.2	5.8	6.8	4.0	13	9.0	3.0	.40	10
14	19	13	4.1	5.2	4.9	6.8	20	13	9.0	3.0	.40	10
15	19	17	4.1	5.2	4.1	9.1	19	13	9.0	3.0	.40	10
16	17	15	4.1	5.2	4.1	19	22	13	9.0	3.0	.40	10
17	17	15	5.4	3.7	4.1	18	21	13	9.0	3.0	.40	10
18	16	12	6.1	2.1	4.1	19	23	13	9.0	23	5.3	10
19	16	9.3	6.1	2.1	4.1	19	25	20	9.0	33	9.5	10
20	16	9.3	6.1	2.1	4.1	22	25	24	27	33	9.5	5.5
21	15	9.3	6.2	2.1	4.1	21	27	24	40	33	9.5	1.0
22	14	6.8	6.2	2.1	4.1	19	29	24	40	33	9.5	1.0
23	14	4.6	6.2	2.7	4.1	18	29	24	21	21	9.5	1.0
24	13	4.6	6.1	3.1	4.1	16	29	24	4.0	3.0	9.5	1.0
25	12	4.6	6.2	3.1	4.1	17	28	24	4.0	3.0	4.6	1.0
26	13	4.6	6.2	3.1	4.1	17	27	24	4.0	3.0	.60	1.0
27	12	4.6	4.7	3.1	4.1	17	25	24	3.5	2.0	.60	1.0
28	12	4.6	3.5	3.1	4.1	17	21	24	3.0	.50	.60	1.0
29	17	4.6	3.5	3.1	---	17	22	24	3.0	.50	.60	.80
30	11	4.6	3.5	3.1	---	17	21	24	3.0	.50	.60	.60
31	17	---	3.5	4.5	---	17	---	24	---	.50	.60	---
TOTAL	605	284.5	157.2	121.6	137.7	374.2	550.0	690.0	450.5	251.00	88.80	106.50
MEAN	19.5	9.48	5.07	3.92	4.92	12.1	18.3	22.3	15.0	8.10	2.86	3.55
MAX	32	17	6.2	6.1	5.8	22	29	40	40	33	9.5	10
MIN	11	4.6	3.5	2.1	4.1	4.1	4.0	8.0	3.0	.50	.40	.60
AC-FT	1200	564	312	241	273	742	1090	1370	894	498	176	211

CAL YR 1988 TOTAL 5791.51 MEAN 15.8 MAX 67 MIN .56 AC-FT 11490
WTR YR 1989 TOTAL 3817.00 MEAN 10.5 MAX 40 MIN .40 AC-FT 7570

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM
(National stream-quality accounting network, surveillance network, and radiochemical network station)

LOCATION.--Lat 35°52'29", long 106°08'30", in SW¼SW¼ sec.18, T.19 N., R.8 E., Santa Fe County, Hydrologic Unit 13020101, on San Ildefonso Pueblo Grant, near right bank on downstream end of pier of former railway bridge, 400 ft downstream from bridge on State Highway 502, 1.8 mi southwest of San Ildefonso Pueblo, 2.5 mi downstream from Pojoaque River, 6.8 mi west of Pojoaque, and at mile 1,614.2.

DRAINAGE AREA.--14,300 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1895 to December 1905, June 1909 to current year. Monthly discharge only for some periods, published in WSP 1312. In early reports this record was published as "at Water Tank," as "at Rio Grande," and as "near Buckman."

REVISED RECORDS.--WSP 828: Drainage area. WSP 1512: 1895-99, 1904-6, 1911-12, 1914, 1931(M), 1935. WSP 1712: 1904(M).

GAGE.--Water-stage recorder. Datum of gage is 5,488.48 ft above National Geodetic Vertical Datum of 1929. See WSP 1312, 1732, or 1923 for history of changes prior to June 1, 1910.

REMARKS.--Water-discharge records good. Considerable regulation by Heron Reservoir (station 08284510), El Vado Reservoir (station 08285000), and Abiquiu Reservoir (station 08286900) on Rio Chama, which can contribute a major portion of the total flow. Flow affected by release of transmountain water from Heron Reservoir since May 1971. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and 75,000 acres in New Mexico. Gage height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,400 ft³/s, May 23, 1920; maximum gage height, 14.5 ft, Sept. 29, 1904, present site and datum; minimum daily discharge, 60 ft³/s, July 4, 5, 1902.

EXTREMES OUTSIDE PERIOD OF RECORD.--The 1920 flood is greatest since at least 1884 and probably since 1741; information from W. H. Yeo's file on floods.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 12	1200	*4,210	*5.99				

Minimum discharge, 276 ft³/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	549	523	713	e680	775	989	2900	2870	1160	1140	707	838
2	503	519	724	704	792	997	2920	2780	1090	1110	637	945
3	483	551	764	725	790	1040	2910	2730	935	1110	861	989
4	487	583	789	749	786	1040	2940	2670	829	977	989	1080
5	546	596	793	792	798	1030	2940	2490	717	985	e560	1120
6	611	696	785	794	708	971	2960	1920	607	940	e510	885
7	578	720	801	770	636	1030	3190	1820	547	920	e500	658
8	575	707	792	685	660	1080	3370	1730	580	1100	e490	605
9	563	823	779	648	844	1180	3640	1550	706	1120	904	565
10	553	832	691	722	847	1300	3860	1590	774	1110	1100	553
11	540	1020	729	760	819	1610	3980	1790	800	1290	1050	549
12	530	1050	708	782	813	1800	4070	1960	811	1270	911	667
13	530	1060	720	676	783	1980	4010	2000	783	1080	855	753
14	533	1060	773	647	783	2460	3960	2080	863	1070	992	615
15	513	1100	780	695	778	2620	3810	1980	994	1040	944	490
16	500	819	767	711	772	2670	3570	1920	1080	1030	952	425
17	505	774	755	717	775	2640	3340	1850	1010	1020	1090	376
18	489	799	770	720	791	2330	3290	1570	933	921	1120	375
19	493	824	795	717	823	2320	3410	1410	888	962	965	669
20	493	794	790	722	832	2350	3360	1330	869	958	930	854
21	513	756	735	723	829	2050	3450	1400	849	1030	920	540
22	523	809	761	735	819	1890	3570	1360	895	1200	692	416
23	523	752	762	727	815	2530	3540	1010	904	1590	590	343
24	521	720	669	743	856	2570	3460	889	832	1620	579	334
25	498	779	e660	762	881	2660	3360	790	838	e1140	691	333
26	484	836	e630	762	924	2730	3390	873	805	e823	578	336
27	487	813	e610	761	980	2790	3270	932	719	515	542	334
28	502	786	e590	765	971	2960	3260	884	696	506	528	321
29	525	758	e640	761	---	3030	3180	918	708	733	950	316
30	513	689	e660	745	---	3090	2990	996	1100	630	942	298
31	507	---	e680	749	---	3060	---	1160	---	769	925	---
TOTAL	16170	23548	22615	22649	22680	62797	101900	51252	25322	31709	25004	17582
MEAN	522	785	730	731	810	2026	3397	1653	844	1023	807	586
MAX	611	1100	801	794	980	3090	4070	2870	1160	1620	1120	1120
MIN	483	519	590	647	636	971	2900	790	547	506	490	298
AC-FT	32070	46710	44860	44920	44990	124600	202100	101700	50230	62890	49600	34870

CAL YR 1988 TOTAL 369831 MEAN 1010 MAX 2570 MIN 410 AC-FT 733600
WTR YR 1989 TOTAL 423228 MEAN 1160 MAX 4070 MIN 298 AC-FT 839500

e Estimated

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1946 to current year.

WATER TEMPERATURE: October 1948 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1947 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,310 microsiemens, Aug. 5, 1963; minimum daily, 88 microsiemens, May 12, 1984.

WATER TEMPERATURE: Maximum, 31.0°C, Aug. 4, 5, 1954; minimum, 0.0°C on many days during winter periods each year.

SEDIMENT CONCENTRATION: Maximum daily mean, 43,500 mg/L, Aug. 21, 1955; minimum daily mean, 11 mg/L, July 27, 1963 and Feb. 7, 1974.

SEDIMENT LOAD: Maximum daily, 366,000 tons, Aug. 23, 1961; minimum daily, 3 tons, July 27, 1963.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 499 microsiemens, Sept. 30, minimum daily, 223 microsiemens, Feb. 2.

WATER TEMPERATURE: Maximum daily, 35.0°C, Aug. 30; minimum daily, 0.0°C, Dec. 3, 4, 28, Jan. 15.

SEDIMENT CONCENTRATION: Maximum daily mean, 6,670 mg/L, Sept. 20; minimum daily mean, 42 mg/L, Oct. 30.

SEDIMENT LOAD: Maximum daily, 25,700 tons, Apr. 10; minimum daily, 58 tons, Oct. 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)
NOV 01...	1130	531	462	426	8.50	8.10	16.0	10.0	12	9.9
JAN 17...	1200	712	335	352	7.90	8.10	3.0	3.0	8.3	11.4
APR 04...	1300	2760	322	366	8.50	8.10	26.0	18.0	31	16.8
JUL 06...	1300	975	372	402	7.70	8.10	28.0	22.0	25	7.8
SEP 01...	1130	835	425	377	8.20	8.10	20.0	18.5	43	8.3

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV 01...	160	14	47	9.4	30	1	3.3	129	26	150
JAN 17...	120	0	36	7.1	27	1	3.1	146	0	120
APR 04...	140	46	43	8.6	19	0.7	2.5	93	5	84
JUL 06...	150	42	46	9.4	24	0.9	2.8	132	0	108
SEP 01...	150	46	47	8.6	22	0.8	2.6	144	0	118

DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
NOV 01...	143	63	9.0	0.50	20	278	269	<0.010	<0.100	<0.010
JAN 17...	122	38	7.8	0.70	27	225	221	<0.010	0.240	0.040
APR 04...	97	79	4.3	0.30	17	237	233	<0.010	<0.100	0.040
JUL 06...	112	86	5.7	0.30	18	266	260	<0.010	<0.100	0.040
SEP 01...	107	73	5.1	0.40	18	240	242	<0.010	<0.100	0.090

RIO GRANDE BASIN

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHODIS- SOLVED (MG/L AS P) (00671)	CYANIDE TOTAL (MG/L AS CN) (00720)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 01...	0.200	--	0.020	<0.010	<0.010	32	62	60	8	10
JAN 17...	0.020	--	0.060	0.030	--	K28	K12	40	13	--
APR 04...	0.020	0.26	0.070	0.020	<0.010	K19	K55	30	25	11
JUL 06...	0.010	0.26	<0.010	0.010	<0.010	K41	K2	40	11	8
SEP 01...	0.080	0.31	0.080	0.010	<0.010	200	240	30	23	4
DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 01...	1130	20	2	76	<0.5	<1	1	<3	4	<5
APR 04...	1300	30	2	61	<0.5	3	<1	<3	33	9
JUL 06...	1300	10	2	72	<0.5	<1	<1	<3	3	1
SEP 01...	1130	30	2	85	<0.5	<1	<1	<3	3	<1
DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)
NOV 01...	22	<0.1	<4	3	<1	1.0	380	<6	8	2.0
APR 04...	19	<0.1	<10	12	<1	<1.0	360	<6	21	--
JUL 06...	19	<0.1	<3	<1	<1	<1.0	390	<6	12	--
SEP 01...	19	0.6	<10	2	<1	<1.0	400	<6	13	--
DATE	NITRO- GEN, NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CR) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS MN) (01053)
NOV 01...	2.0	140	4	<10	4	<50	10	2200	30	120
DATE	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS Y-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS Y-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
NOV 01...	<0.01	10	7.9	1.0	4.7	2.3	3.6	2.2	0.24	4.9
APR 04...	--	--	2.9	2.4	4.6	3.3	3.7	2.6	<0.02	1.1

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV							
01...	1130	531	462	10.0	46	66	91
JAN							
17...	1200	712	335	3.0	113	217	33
MAR							
13...	1500	2080	304	12.0	1900	10700	32
APR							
04...	1300	2760	322	18.0	120	894	75
13...	0625	4080	267	9.0	1940	21400	13
JUL							
06...	1300	975	372	23.0	93	245	93
18...	0610	916	381	18.0	3840	9500	2
AUG							
14...	0620	1080	361	20.0	3090	9010	64
SEP							
01...	1130	835	425	18.5	863	1950	15

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM -- Continued

WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	264	407	383	400	322	304	290	333	340	380	369	354
2	369	408	386	389	223	302	288	340	278	379	390	359
3	372	407	388	382	304	303	289	346	275	378	370	414
4	372	426	389	368	309	303	284	347	289	389	372	418
5	354	458	396	373	297	300	281	352	296	394	385	348
6	335	480	396	350	271	308	279	345	308	399	383	360
7	344	460	399	347	284	294	299	337	311	378	376	359
8	371	417	378	346	287	296	289	332	343	376	378	380
9	365	392	378	340	296	292	280	320	339	373	370	371
10	359	388	392	351	297	278	271	317	331	374	359	375
11	366	393	383	333	299	276	266	319	333	381	350	378
12	369	390	388	327	311	295	263	298	324	382	358	380
13	371	384	395	322	314	---	---	296	335	380	357	362
14	376	384	377	336	313	313	257	290	337	380	---	349
15	378	375	378	332	332	312	269	288	357	380	363	369
16	387	353	391	339	318	304	278	340	347	378	356	378
17	384	362	389	324	327	296	287	313	363	374	342	377
18	386	354	380	328	315	277	300	320	386	---	347	381
19	400	381	373	320	321	274	306	324	397	377	361	368
20	396	366	367	321	318	277	305	337	395	371	361	358
21	394	365	362	324	317	237	303	341	---	376	357	354
22	396	364	373	320	323	239	305	346	---	364	359	363
23	393	384	378	305	325	294	300	348	---	---	367	372
24	395	386	---	301	317	296	312	334	---	377	368	379
25	400	385	384	308	316	300	309	342	382	373	368	379
26	401	387	349	297	312	306	312	351	388	373	368	373
27	399	382	341	296	307	301	314	336	391	396	368	376
28	396	383	382	323	305	305	317	346	389	403	369	391
29	401	386	384	315	---	337	325	322	375	389	360	466
30	400	389	395	316	---	301	333	308	380	382	356	499
31	401	---	387	324	---	299	---	307	---	384	344	---
MEAN	377	393	381	334	306	294	293	328	346	381	364	380
WTR YR 1989	MEAN 349	MAX 499	MIN 223									

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

[illegible]

08313000 RIO GRANDE AT OTOWI BRIDGE, NEAR SAN ILDEFONSO, NM -- Continued
WATER-QUALITY RECORDS
SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	129	191	52	73	222	427	201	369	135	282	381	1020
2	46	62	62	87	260	508	177	336	186	398	354	953
3	322	420	129	192	194	400	178	348	192	410	377	1060
4	303	398	174	274	231	492	164	332	181	384	322	904
5	318	469	208	335	252	540	252	539	138	297	252	701
6	2990	4930	370	695	248	526	206	442	139	266	210	551
7	682	1060	310	603	216	467	155	322	191	328	291	809
8	411	638	327	624	218	466	143	264	157	280	335	977
9	371	564	563	1250	220	463	194	339	201	458	481	1530
10	355	530	609	1370	201	375	119	232	280	640	722	2530
11	333	486	1040	2860	299	589	181	371	201	444	1580	6870
12	265	379	896	2540	379	724	195	412	164	360	1760	8550
13	245	351	623	1780	239	465	207	378	124	262	1710	9140
14	266	383	305	873	258	538	211	369	168	355	2460	16300
15	215	298	859	2550	269	567	161	302	169	355	2160	15300
16	214	289	581	1280	250	518	225	432	144	300	1780	12800
17	283	386	445	930	157	320	313	606	156	326	1550	11000
18	390	515	421	908	183	380	243	472	604	1290	1410	8870
19	291	387	115	256	202	434	198	383	307	682	1430	8960
20	259	345	98	210	189	403	155	302	280	629	1090	6920
21	332	460	103	210	123	244	116	226	266	595	978	5410
22	193	273	221	483	253	520	98	194	212	469	856	4370
23	184	260	125	254	176	362	103	202	257	566	1330	9090
24	258	363	120	233	122	220	117	235	261	603	1250	8670
25	237	319	126	265	164	292	170	350	299	711	1770	12700
26	224	293	107	242	185	315	140	288	332	828	1450	10700
27	168	221	86	189	147	242	119	245	415	1100	1690	12700
28	111	150	85	180	184	293	198	409	406	1060	1760	14100
29	46	65	249	510	225	389	161	331	---	---	1520	12400
30	42	58	207	385	219	390	178	358	---	---	1390	11600
31	47	64	---	---	189	347	198	400	---	---	1650	13600
TOTAL	---	15607	---	22641	---	13216	---	10788	---	14678	---	231085
DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	1510	11800	998	7730	149	467	215	662	1480	2830	646	1460
2	1230	9700	853	6400	65	191	187	560	1280	2200	235	600
3	1270	9980	720	5310	176	444	139	417	1450	3370	1010	2700
4	1590	12600	600	4330	187	419	117	309	1240	3310	1660	4840
5	1430	11400	736	4950	158	306	137	364	621	939	2730	8260
6	1340	10700	752	3900	142	233	161	409	272	375	2450	5850
7	1720	14800	670	3290	76	112	174	432	1100	1490	808	1440
8	1920	17500	670	3130	82	128	236	701	361	478	478	781
9	2340	23000	974	4080	90	172	220	665	1220	2980	387	590
10	2470	25700	921	3950	59	123	129	387	1350	4010	264	394
11	2330	25000	691	3340	49	106	225	784	1290	3660	319	473
12	1740	19100	502	2660	63	138	287	984	752	1850	617	1110
13	1460	15800	487	2630	148	313	293	854	700	1620	1060	2160
14	1760	18800	453	2540	185	431	139	402	1160	3110	482	800
15	2030	20900	364	1950	167	448	167	469	4140	10600	250	331
16	1810	17400	383	1990	184	537	149	414	2390	6140	188	216
17	1950	17600	387	1930	83	226	252	694	1390	4090	105	107
18	1870	16600	342	1450	60	151	650	1620	1040	3140	168	170
19	1250	11500	325	1240	76	182	1080	2810	913	2380	1330	2400
20	1150	10400	203	729	67	157	808	2090	613	1540	6670	15400
21	1440	13400	218	824	81	186	764	2120	643	1600	2010	2930
22	1310	12600	251	922	116	280	1570	5090	474	886	328	368
23	1380	13200	159	434	115	281	3830	16400	310	494	305	282
24	1450	13500	111	266	147	330	5130	22400	251	392	258	233
25	1330	12100	137	292	111	251	4620	14200	296	552	198	178
26	1320	12100	144	339	70	152	2730	6070	238	371	174	158
27	1230	10900	196	493	66	128	1200	1670	194	284	218	197
28	1100	9680	134	320	105	197	886	1210	214	305	162	140
29	1040	8930	129	320	155	296	2050	4060	663	1700	134	114
30	980	7910	172	463	322	956	1070	1820	579	1470	161	130
31	---	---	222	695	---	---	1460	3030	2940	7340	---	---
TOTAL	---	434600	---	72897	---	8341	---	94097	---	75506	---	54812
TOTAL LOAD FOR YEAR:		1048268	TONS.									

08315500 MCCLURE RESERVOIR NEAR SANTA FE, NM

LOCATION.--Lat 35°41'18", long 105°50'06", in NE¼SW¼, sec.24, T.17 N., R.10 E., Santa Fe County, Hydrologic Unit 13020201, in Santa Fe National Forest, at McClure Dam on Santa Fe River, 2.1 mi upstream from Nichols Reservoir, 5.8 mi east of Santa Fe, and at mile 37.1.

DRAINAGE AREA.--17.4 mi².

PERIOD OF RECORD.--September 1929, July to October 1930, April 1931 to June 1946, September 1947 to current year. Prior to October 1947, published in WSP 1312. Prior to October 1965, monthend contents only. Prior to January 1980 at site on outlet tower.

GAGE.--Water-stage recorder. Elevation of gage is 7,790 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1947, nonrecording gages at same site and various datums all referred to the Public Service Co. of New Mexico assumed datum, 165.9 ft lower.

REMARKS.--Reservoir is formed by earthfill dam, completed in 1926, capacity, 561 acre-ft, raised 3 ft in 1935, capacity, 650 acre-ft, and raised 36.5 ft more in 1947, capacity, 2,615 acre-ft at gage height 96.6 ft, crest of concrete spillway. Between October 1947 and May 1953 varying amounts of sandbag bulkheads were placed on crest of spillway to increase capacity. Between May 1953 and December 1971 spillway was equipped with radial gates that opened automatically, thereby increasing capacity to over 3,000 acre-ft. Radial gates were removed during 1972, capacity, 2,615 acre-ft. No dead storage. Water is for municipal use of city of Santa Fe. Equipment out of service during year because of dam construction. Frequent outside staff readings were made for daily contents.

COOPERATION.--Capacity table provided by Public Service Co. of New Mexico.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,140 acre-ft, June 25, 1960, gage height, 103.7 ft; no contents Jan. 25 to May 8, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 1,520 acre-ft; Oct. 1, 2, May 8-13, gage height, 79.40 ft; minimum, 582 acre-ft, Sept. 18, 19, gage height, 57.20.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Public Service Co. of New Mexico in 1947)

55	519	70	1,050
60	668	75	1,280
65	846	80	1,550

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1520	e1480	e1180	e1150	e1000	e855	e1100	1480	e1490	e1140	e744	e622
2	e1520	e1480	e1190	e1140	e994	e855	e1100	e1490	e1490	e1130	e741	e620
3	1510	e1440	e1200	1140	e982	855	1100	e1490	e1490	1120	e739	e617
4	e1500	e1420	e1200	e1150	947	e856	1100	e1500	e1480	e1110	e738	615
5	e1490	e1410	1200	e1140	e943	e856	e1100	1500	1480	e1090	e736	e614
6	e1480	e1400	e1190	e1140	925	858	e1100	e1510	e1480	e1070	e736	e612
7	e1480	1390	e1190	e1130	e926	e859	e1100	e1510	1480	1040	735	e611
8	e1480	e1380	e1190	e1130	e920	e861	e1110	e1520	e1480	e1020	e729	611
9	e1490	e1380	e1200	1130	e920	e862	e1120	e1520	e1470	e1010	e723	e611
10	1490	e1380	e1200	e1120	915	863	1130	e1520	e1470	997	e714	e611
11	e1480	e1380	e1200	e1120	e912	e875	e1140	e1520	e1470	e984	e703	606
12	e1470	e1370	1200	e1110	e912	e897	e1160	1520	1460	e967	e691	e606
13	e1460	e1370	e1190	e1110	909	925	e1170	e1520	e1440	e950	e679	e603
14	e1460	1370	e1180	e1090	e900	e939	e1180	e1510	e1420	e939	668	594
15	e1460	e1360	e1180	e1090	892	e951	e1190	1510	1410	e923	e661	e593
16	e1450	e1360	e1180	1090	e893	e968	e1220	e1510	e1390	e908	e658	e591
17	1440	e1340	e1180	e1080	e891	e984	1230	e1500	e1380	893	e653	e587
18	e1440	e1340	e1180	e1070	e888	e1000	e1240	e1490	e1360	793	647	582
19	e1450	e1330	1180	e1060	e881	e1020	e1260	1480	e1340	793	e648	e582
20	e1450	e1330	e1180	e1060	873	1030	e1280	e1490	e1330	e792	e648	e583
21	e1460	1320	e1170	e1050	e869	e1040	e1290	e1490	e1310	e792	642	e584
22	e1460	e1320	e1170	e1040	e862	e1050	e1310	e1490	e1300	e792	e641	e585
23	e1460	e1300	e1170	1030	e859	e1050	e1320	1490	1270	e792	e639	e587
24	1460	e1280	e1170	e1030	853	e1060	e1360	e1490	e1250	793	e635	e591
25	e1470	e1260	e1170	e1020	e853	e1060	e1370	e1490	e1240	e788	e633	594
26	e1470	e1240	e1170	e1020	e853	e1080	e1390	e1490	1230	e779	e629	e593
27	e1470	e1230	1170	e1020	854	1080	e1420	e1490	e1220	e772	e626	e592
28	e1480	1220	e1160	e1020	e856	e1090	e1440	e1490	e1200	e765	624	e591
29	e1490	e1200	e1160	e1010	---	e1090	e1460	e1490	1180	e756	e623	e591
30	e1480	e1190	e1160	1010	---	e1090	e1480	e1490	e1150	e750	e623	e590
31	1490	---	e1150	e1000	---	e1090	---	1490	---	746	622	---
MAX	1520	1480	1200	1150	1000	1090	1480	1520	1490	1140	744	622
MIN	1440	1190	1150	1000	853	855	1100	1480	1150	746	622	582
(+)	78.90	---	---	---	---	---	---	78.84	---	---	58.54	---
(++)	-40	-300	-40	-150	-144	+234	+390	+10	-340	-404	-124	-32

CAL YR 1988 MAX 1570 MIN 550 (++) +392
WTR YR 1989 MAX 1520 MIN 582 (++) -940

(+) GAGE HEIGHT, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-Feet

e Estimated

08316000 SANTA FE RIVER NEAR SANTA FE, NM

LOCATION.--Lat 35°41'12", long 105°50'35", in NE¼SE¼ sec.23, T.17 N., R.10 E., Santa Fe County, Hydrologic Unit 13020201, in Santa Fe National Forest, on left bank 0.4 mi downstream from McClure Dam, 5.3 mi east of Santa Fe, and at mile 36.6.

DRAINAGE AREA.--18.2 mi².

PERIOD OF RECORD.--June 1910, January 1913 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1953, published as Santa Fe Creek near Santa Fe.

REVISED RECORDS.--WSP 1512: 1933, 1936-37(M), 1942, drainage area. WSP 1732: 1923, 1925. WDR NM-75-1: 1927.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 7,720 ft above National Geodetic Vertical Datum of 1929, from topographic map. See WSP 1312 for history of changes prior to Oct. 1, 1947.

REMARKS.--Records good. Flow regulated by McClure Reservoir (station 08315500), completed in 1926, raised in 1935 and again in 1947. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--76 years, 8.08 ft³/s, 5,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,500 ft³/s, Aug. 14, 1921, gage height, 5.17 ft, site and datum then in use, from rating curve extended above 150 ft³/s; minimum, 0.05 ft³/s, Apr. 7, 8, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Peaks that probably exceeded 1,000 ft³/s occurred Aug. 19, 1872, and Sept. 29 or 30, 1904. Without regulation the flood of Sept. 23, 1929, might have exceeded 1,500 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16 ft³/s, Oct. 1-3, gage height, 2.06 ft; minimum daily, 0.18 ft³/s Apr. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	10	3.5	3.1	4.2	4.4	6.2	3.7	3.5	9.1	8.3	2.9
2	16	10	3.5	3.1	4.2	4.4	6.2	5.4	3.5	9.1	8.2	2.9
3	13	10	3.5	3.1	4.2	4.4	6.2	5.4	3.7	9.1	8.1	2.7
4	11	10	3.5	3.2	4.2	4.4	6.4	5.6	3.7	9.2	7.7	2.8
5	11	10	3.3	3.1	4.2	4.4	6.5	5.8	3.7	9.2	7.6	2.9
6	11	10	3.3	3.1	4.2	4.4	6.6	6.0	3.7	9.0	7.6	2.9
7	11	10	3.3	3.1	4.2	4.4	6.8	6.0	3.7	8.9	7.6	2.7
8	11	10	1.4	3.1	4.2	4.4	6.8	6.0	3.8	8.9	7.6	2.7
9	11	10	1.3	3.1	4.2	4.4	6.8	6.0	4.2	8.9	7.6	2.7
10	11	6.9	3.3	4.6	4.2	4.4	6.8	7.9	4.4	9.0	7.6	2.7
11	11	.37	3.3	5.7	4.2	4.5	4.7	9.3	4.4	8.9	7.5	2.7
12	10	.32	3.3	5.7	4.2	4.6	.18	9.3	7.3	8.7	7.5	2.7
13	10	.31	3.3	5.5	4.2	4.6	.42	9.3	9.9	8.6	7.3	2.7
14	9.9	2.8	3.3	5.4	4.2	4.6	1.3	9.3	9.9	8.6	7.3	2.7
15	9.9	2.3	3.3	5.4	4.2	4.6	2.4	9.3	9.9	8.6	7.3	2.7
16	9.9	.24	3.3	5.3	4.2	4.8	2.4	9.3	9.8	8.6	5.5	2.7
17	9.9	5.3	3.3	5.2	4.2	5.1	2.5	9.3	9.7	8.6	2.9	2.7
18	6.0	9.9	3.3	5.2	4.2	5.3	2.5	9.3	9.7	8.4	2.9	2.7
19	2.3	10	3.3	5.1	4.2	5.4	2.5	6.0	9.6	8.3	2.9	2.8
20	2.2	10	3.3	4.9	4.2	5.6	2.5	3.7	9.6	8.3	2.9	2.9
21	2.2	10	3.3	4.9	4.2	5.7	2.5	3.7	9.6	8.3	2.9	2.9
22	2.2	9.9	3.3	4.9	4.2	5.7	2.5	3.7	9.6	8.4	2.9	2.9
23	2.2	9.9	3.3	4.7	4.2	5.8	2.5	3.7	9.6	8.3	2.9	2.9
24	2.2	9.9	3.3	4.6	4.2	6.0	2.4	3.5	9.6	8.4	2.9	2.9
25	2.2	9.9	3.3	4.6	4.5	6.0	2.4	3.5	9.6	8.3	2.9	2.9
26	2.2	9.9	3.3	4.1	4.5	6.0	2.5	3.5	9.5	8.3	2.9	2.9
27	2.2	9.8	3.1	4.0	4.5	6.0	2.5	3.5	9.4	8.2	2.9	2.9
28	2.2	9.6	3.1	4.0	4.4	6.0	2.5	3.5	9.3	8.0	2.8	2.9
29	1.7	6.2	3.1	4.0	---	6.0	2.5	3.5	9.3	8.0	2.9	2.9
30	.28	3.5	3.1	4.1	---	6.0	2.5	3.5	9.2	8.0	2.9	2.9
31	6.0	---	3.2	4.2	---	6.2	---	3.5	---	8.2	2.9	---
TOTAL	228.68	227.04	98.3	134.1	118.7	158.5	111.50	181.0	222.4	266.4	163.7	84.2
MEAN	7.38	7.57	3.17	4.33	4.24	5.11	3.72	5.84	7.41	8.59	5.28	2.81
MAX	16	10	3.5	5.7	4.5	6.2	6.8	9.3	9.9	9.2	8.3	2.9
MIN	.28	.24	1.3	3.1	4.2	4.4	.18	3.5	3.5	8.0	2.8	2.7
AC-FT	454	450	195	266	235	314	221	359	441	528	325	167

CAL YR 1988 TOTAL 2384.25 MEAN 6.51 MAX 45 MIN .24 AC-FT 4730
WTR YR 1989 TOTAL 1994.52 MEAN 5.46 MAX 16 MIN .18 AC-FT 3960

08316500 NICHOLS RESERVOIR NEAR SANTA FE, NM

LOCATION.--Lat 35°41'24", long 105°52'46", in SE¼NE¼ sec.21, T.17 N., R.10 E., Santa Fe County, Hydrologic Unit 13020201, in Santa Fe National Forest, at Nichols Dam on Santa Fe River, 0.6 mi east of Twomile Reservoir, 3.3 mi east of Santa Fe, and at mile 34.4.

DRAINAGE AREA.--22.8 mi².

PERIOD OF RECORD.--March 1943 to September 1965 (monthend contents only), October 1965 to current year. Prior to January 1980 at site on outlet tower.

GAGE.--Water-stage recorder. Datum of gage is 7,313.2 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam. No contents prior to Mar. 16, 1943. Capacity, 685 acre-ft between gage heights 121.2 ft, bottom of lower operational gate, and 167.0 ft, crest of spillway. Dead storage, 14 acre-ft. Water is for municipal use of City of Santa Fe. Equipment out of service during year because of dam construction. Frequent outside staff readings were obtained for daily contents.

COOPERATION.--Survey to compute capacity table provided by Public Service Co. of New Mexico.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 836 acre-ft, June 8, 1952, gage height, 171.8 ft; minimum, 16 acre-ft, Feb. 11 to Mar. 10, 1944, Feb. 1-19, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 555 acre-ft, Oct. 15, 16, gage height, unknown; minimum, 109 acre-ft, Sept. 30, gage height, unknown.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on survey by Public Service Co. of New Mexico in 1943)

135	89	155	375
140	139	160	491
145	202	165	625
150	279	170	776

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e534	e286	e341	e224	e210	e236	e465	346	e291	e178	e234	e224
2	e534	e283	e339	e219	e217	e237	e470	e350	e284	e179	e244	e212
3	534	e285	e335	217	e218	238	475	e359	e272	180	e253	e200
4	e534	e293	e328	e215	e222	e240	479	e391	e262	e172	e261	183
5	e532	e296	326	e216	226	e240	e482	413	254	e167	e267	e178
6	e534	e298	e321	e216	e226	242	e487	e409	e241	e160	e274	e174
7	e536	300	e317	e216	e227	e243	e493	e400	223	155	281	e171
8	e536	e294	e314	e216	e225	e245	e500	e394	e210	e144	e287	170
9	e540	e290	e312	e217	e224	e247	e508	e391	e198	e133	e295	e168
10	544	e288	e304	217	223	247	512	e391	e182	126	e302	e167
11	e548	e288	e296	e214	e223	e250	e512	e390	e171	e124	e310	164
12	e552	e281	294	e207	e223	e254	e506	387	165	e122	e317	e163
13	e551	e273	e290	e200	222	257	e503	e397	e168	e120	e323	e156
14	e552	266	e285	e198	e222	e263	e497	e406	e171	e120	329	146
15	e555	e260	e285	e188	220	e272	e491	463	175	e120	e329	e140
16	e555	e260	e284	182	e220	e280	e485	e462	e174	e119	e329	e135
17	550	e260	e281	e180	e221	e295	476	e457	e172	119	e329	e133
18	e536	e261	e279	e180	e222	e307	e470	e451	e168	152	327	127
19	e522	e270	281	e182	e222	e320	e462	446	168	152	e328	e127
20	e498	e279	e279	e185	223	336	e453	e447	e168	e152	e328	e126
21	e472	288	e276	e187	e225	e358	e441	e436	e168	e152	327	e123
22	e448	e300	e273	e188	e226	e369	e430	419	e169	e152	e322	e122
23	e434	e304	e271	194	e226	e382	e424	e400	168	e153	e315	e119
24	413	e315	e269	e195	226	e395	e405	e379	e171	153	e306	e118
25	e394	e327	e265	e197	e230	e408	e398	e365	e177	e153	e296	114
26	e377	e335	e262	e198	e232	e420	e390	e352	182	e154	e285	e113
27	e362	e342	260	e199	233	435	e380	e339	e179	e157	e274	e113
28	e343	346	e253	e200	e235	e444	e376	e335	e176	e166	262	e113
29	e321	e346	e246	e200	---	e450	e365	317	178	e183	e253	e110
30	e302	e346	e237	203	---	e456	e353	e308	e178	e207	e244	e109
31	290	---	e230	e207	---	e462	---	300	---	223	237	---
MAX	555	346	341	224	235	462	512	463	291	223	329	224
MIN	290	260	230	180	210	236	353	300	165	119	234	109
(†)	---	---	---	---	---	---	---	151.10	---	146.40	147.30	---
(††)	-244	+56	-116	-23	+28	+227	-109	-53	-122	+45	+14	-128

CAL YR 1988 MAX 571 MIN 105 (††) -64
WTR YR 1989 MAX 555 MIN 109 (††) -425

(†) GAGE HEIGHT, IN FEET, AT END OF MONTH
(††) CHANGE IN CONTENTS, IN ACRE-FEET
e Estimated

08317200 SANTA FE RIVER ABOVE COCHITI LAKE, NM

LOCATION.--Lat 35°32'49", long 106°13'41", in NW¼ sec.8, T.15 N., R.7 E., Santa Fe County, Hydrologic Unit 13020201 in Mesita de Juana Lopez Grant, on right bank at foot of La Bajada Hill, 5.0 mi upstream from Cochiti Dam, 6.3 mi east of Pena Blanca, and at mile 7.9.

DRAINAGE AREA.--231 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1970 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 5,505 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Surface and ground-water diversions and returns for municipal supply of City of Santa Fe in upper part of basin. Diversions for irrigation of about 400 acres upstream from station.

AVERAGE DISCHARGE.--19 years, 9.68 ft³/s, 7,010 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,400 ft³/s, July 26, 1971, gage height, 9.58 ft, from rating curve extended above 160 ft³/s on basis of slope-area measurements at gage heights 5.69 ft and 9.58 ft; no flow July 16-18, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
July 23	1815	*1,490	*4.50	No other peak greater than base discharge.			
Minimum daily, 1.6 ft³/s, June 26.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	8.6	11	e10	11	11	8.8	7.8	2.9	2.8	10	4.5
2	8.3	8.7	11	e10	12	11	8.2	6.6	2.8	3.1	11	3.6
3	8.3	8.6	11	e10	11	11	7.8	6.4	3.1	3.5	10	4.4
4	8.3	8.5	11	12	11	12	7.5	4.9	2.9	4.5	8.7	4.6
5	7.9	8.1	11	12	12	12	7.3	5.0	2.6	4.2	8.5	7.4
6	9.1	8.7	11	12	9.6	12	7.9	5.1	2.7	6.1	7.0	5.3
7	9.5	8.9	11	e10	e9.0	11	8.6	5.0	2.3	5.4	7.0	4.6
8	9.7	9.1	11	e10	e10	10	7.4	4.8	2.3	4.7	7.2	6.7
9	9.8	9.8	e11	e10	e11	11	7.7	4.7	2.8	4.7	6.4	4.7
10	9.1	10	11	e10	12	11	7.0	5.1	3.6	4.7	7.6	5.2
11	9.5	10	e11	e10	13	11	8.8	6.9	4.5	4.7	7.8	4.7
12	9.3	10	e11	e10	13	11	9.2	4.9	2.2	4.7	9.6	4.7
13	9.5	9.8	e11	e10	13	11	9.7	5.2	2.2	5.4	8.9	4.3
14	10	10	e11	e10	12	11	9.3	4.7	2.0	5.2	8.1	3.7
15	9.4	9.8	e11	e10	12	9.5	8.7	3.4	2.0	6.1	12	3.3
16	9.9	9.5	e11	e10	12	9.7	9.2	3.6	1.9	5.7	13	3.7
17	9.7	9.6	11	e10	12	9.6	8.9	3.3	1.9	7.8	9.9	4.5
18	9.8	9.8	e11	12	12	10	7.1	3.2	1.8	5.0	9.9	4.1
19	9.1	10	e11	12	12	9.7	6.4	3.2	1.8	6.1	9.4	4.0
20	8.9	10	e11	11	12	11	5.1	3.1	1.8	9.8	6.7	6.1
21	8.4	e10	e11	11	12	13	4.9	3.4	1.8	10	5.5	5.8
22	8.1	e10	11	11	12	12	5.1	4.1	1.7	14	5.8	5.5
23	8.4	e10	e11	11	12	11	5.2	3.8	1.7	80	5.6	5.5
24	8.4	10	e11	11	12	10	5.6	2.8	1.8	15	5.4	5.3
25	5.7	11	e11	12	12	9.9	4.7	2.8	1.7	9.8	5.3	5.0
26	6.7	11	e10	11	12	9.7	5.8	2.9	1.6	10	5.6	5.6
27	8.3	11	e10	12	12	9.2	5.5	2.8	1.9	11	5.9	5.0
28	8.6	e11	e10	11	11	9.8	5.3	2.9	2.2	9.3	6.1	5.0
29	8.5	e11	e10	e10	---	8.7	5.9	2.9	2.5	8.7	4.6	5.1
30	8.6	11	e10	e10	---	8.8	6.2	2.9	3.1	8.9	4.4	5.5
31	8.8	---	e10	e10	---	9.0	---	2.7	---	9.3	3.8	---
TOTAL	272.5	293.5	335	331	326.6	326.6	214.8	130.9	70.1	290.2	236.7	147.4
MEAN	8.79	9.78	10.8	10.7	11.7	10.5	7.16	4.22	2.34	9.36	7.64	4.91
MAX	10	11	11	12	13	13	9.7	7.8	4.5	80	13	7.4
MIN	5.7	8.1	10	10	9.0	8.7	4.7	2.7	1.6	2.8	3.8	3.3
AC-FT	541	582	664	657	648	648	426	260	139	576	469	292

CAL YR 1988 TOTAL 3291.5 MEAN 8.99 MAX 52 MIN 2.3 AC-FT 6530
WTR YR 1989 TOTAL 2975.3 MEAN 8.15 MAX 80 MIN 1.6 AC-FT 5900

e Estimated

08317200 SANTA FE RIVER ABOVE COCHITI LAKE, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974-75, 1979, 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
JAN 26...	1302	7.7	500	--	8.63	--	12.0	6.5	12.4	--	--	--
FEB 10...	1230	8.6	500	583	8.70	8.50	6.5	7.0	10.4	--	150	0
APR 05...	1310	6.4	610	640	9.10	8.80	25.5	18.0	10.4	--	140	0
JUL 19...	1400	2.0	750	708	8.92	8.30	27.5	29.5	5.8	30	130	0
DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
JAN 26...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 10...	47	7.8	67	2	7.4	196	40	37	0.80	23	348	--
APR 05...	46	6.5	87	3	7.8	225	44	44	0.90	22	393	--
JUL 19...	40	6.5	110	4	13	232	39	45	1.0	27	445	3.70
DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
JAN 26...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 10...	--	--	--	--	--	--	--	120	8	--	--	--
APR 05...	--	--	--	--	--	--	--	180	13	--	--	--
JUL 19...	3.50	1.30	1.5	6.5	3.40	2.70	8.2	230	11	27	0.0	77

08317300 COCHITI LAKE NEAR COCHITI PUEBLO, NM

LOCATION.--Lat 35°37'01", long 106°18'58", in NW¼SW¼ sec.16, T.16 N., R.6 E., Sandoval County, Hydrologic Unit 13020201, in Pueblo de Cochiti Grant, in control tower at Cochiti Dam, 1.7 mi northeast of Cochiti Pueblo, and at mile 1,588.1.

DRAINAGE AREA.--14,900 mi², approximately, including 2,940 mi², in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Apr. 15, 1975, at site 1.3 mi upstream at same datum.

REMARKS.--Lake is formed by an earthfill dam on Rio Grande and Santa Fe River. Storage began on Nov. 12, 1973. Capacity, based on capacity table effective Jan. 1, 1988, 502,330 acre-ft between elevations 5,247.0 ft and 5,450.0 ft, crest of service spillway. Dead storage 560 acre-ft below elevation 5,255.0 ft, invert of outlet structure. Lake was created primarily for flood and sediment control. A 50,000-acre-ft permanent pool is authorized for recreational purposes. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 301,000 acre-ft, July 3, 1986, elevation, 5,417.32 ft; no storage prior to Nov. 12, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 60,940 acre-ft, Mar. 20, elevation, 5,275.46 ft; minimum, 47,860 acre-ft, July 10, elevation, 5,272.23 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Corps of Engineers in 1988)

5,325	42,250	5,385	166,390
5,345	68,010	5,395	201,410
5,355	86,140	5,405	241,230
5,365	108,740	5,415	286,210
5,375	135,480	5,435	395,540

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50310	52790	50660	50630	50870	50970	57470	49240	50450	48540	50570	49620
2	50360	53400	50640	50520	50920	50900	57270	49490	50450	48660	50200	49400
3	50090	54000	50690	50590	50840	50800	56880	49630	50210	48750	49950	49480
4	49670	54590	50730	50800	50730	50850	56390	49710	49730	48690	50360	50030
5	49600	55170	50640	50880	50740	50840	55960	49700	49640	48570	50670	50466
6	49940	55960	51040	50720	50270	50620	55320	49550	49720	48340	50350	50700
7	49960	56800	50920	50450	50380	50310	54900	49710	49700	48090	50210	50490
8	49880	57600	50740	50360	50780	50140	54830	49940	49690	47920	50290	49980
9	49850	58040	50670	50460	51180	50120	55230	49760	49600	47900	50520	49660
10	50010	56900	50570	50820	51370	50140	55920	50020	49670	47860	50740	49440
11	50140	55410	50720	51050	50980	50530	56710	49570	49770	47930	50970	49370
12	49920	54170	50830	50970	50590	50310	57650	49400	49760	48360	50990	49430
13	49850	52930	50690	50670	50580	52520	58560	50010	49140	48540	50800	49880
14	49960	51740	50750	50640	50840	54150	59240	50320	48660	48680	50690	50060
15	49890	51040	50750	50690	50970	56290	59760	50030	48610	48740	50520	50070
16	49840	50900	50770	50800	50930	58010	59830	49630	48720	48770	50100	49940
17	49920	50890	50690	50890	50930	59270	59300	49710	48750	48770	50020	49690
18	49950	50950	50670	50880	50950	59970	58640	49870	48600	48620	50230	49450
19	49900	50990	50680	50850	50830	60460	58230	49760	48540	48400	50570	49650
20	49780	50940	50680	50770	50820	60940	57760	49560	48590	48360	50640	50380
21	49780	50760	50580	50690	50870	60850	57220	49580	48660	48280	50670	50580
22	49850	50800	50490	50620	51020	59940	56720	50010	48700	48370	50400	50790
23	49790	50950	50490	50610	51650	59870	56160	50320	48850	49020	50080	50870
24	49840	51000	50400	50720	51650	59880	55490	50190	48920	49880	49970	50920
25	49880	50940	50420	50780	51450	60090	54550	50070	48930	50350	49950	50890
26	50030	50730	50490	50770	51290	60070	53600	50140	48990	50260	50130	50790
27	50310	50580	50530	50790	51090	59550	52400	50260	48930	50100	50340	50800
28	50620	50630	50290	50700	50970	59100	51470	50200	48740	50080	50340	50800
29	50990	50700	50510	50610	---	58820	50670	49970	48450	50520	50240	50750
30	51490	50700	50720	50640	---	58610	49550	49910	48440	50870	50200	50690
31	52160	---	50720	50750	---	58050	---	50180	---	50930	50120	---
MAX	52160	58040	51040	51050	51650	60940	59830	50320	50450	50930	50990	50920
MIN	49600	50580	50290	50360	50270	50120	49550	49240	48440	47860	49950	49370
(+)	5333.87	5332.73	5332.74	5332.77	5332.94	5338.33	5331.77	5332.30	5330.81	5332.91	5332.25	5332.72
(++)	+1970	-1460	+20	+30	+220	+7080	-8500	+630	-1740	+2490	-810	+570
CAL YR 1988	MAX 247650	MIN 48240	(++) -197840									
WTR YR 1989	MAX 60940	MIN 47860	(++) +500									

(+) ELEVATION, IN FEET, AT END OF MONTH.

(++) CHANGE IN CONTENTS, IN ACRE-FEET.

08317300 COCHITI LAKE NEAR COCHITI PUEBLO, NM -- Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected in Cochiti Lake impounded by Cochiti Dam on the Rio Grande.

PERIOD OF RECORD.--Water years 1981 to current year.

REMARKS.--Samples for chemical analyses are collected annually at Site A which is located 500 ft upstream from the Outlet Tower (Riser). Samples are collected 5 feet from the bottom of the lake.

08317300 - COCHITI LAKE AT SITE A (LAT 35°38'11" LONG 106°19'05")

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

		SAM- PLING DEPTH (FEET) (00003)	RESER- VOIR DEPTH (FEET) (72025)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	
JUN													
29...	1045	1.00	81.0	378	--	8.07	--	--	23.0	7.1	--	--	
29...	1046	5.00	81.0	--	--	--	--	--	21.5	7.1	--	--	
29...	1047	10.0	81.0	--	--	--	--	--	21.5	7.1	--	--	
29...	1048	15.0	81.0	--	--	--	--	--	21.5	7.0	--	--	
29...	1049	20.0	81.0	--	--	--	--	--	21.0	6.8	--	--	
29...	1050	25.0	81.0	--	--	--	--	--	20.5	6.3	--	--	
29...	1051	30.0	81.0	--	--	--	--	--	20.0	6.2	--	--	
29...	1052	35.0	81.0	--	--	--	--	--	20.0	6.0	--	--	
29...	1053	40.0	81.0	358	--	7.90	--	--	19.5	5.5	--	--	
29...	1054	45.0	81.0	--	--	--	--	--	19.0	4.7	--	--	
29...	1055	50.0	81.0	--	--	--	--	--	19.0	4.2	--	--	
29...	1056	55.0	81.0	--	--	--	--	--	18.5	3.5	--	--	
29...	1057	60.0	81.0	--	--	--	--	--	18.5	2.8	--	--	
29...	1058	65.0	81.0	--	--	--	--	--	18.0	2.1	--	--	
29...	1059	70.0	81.0	--	--	--	--	--	17.5	1.5	--	--	
29...	1100	75.0	81.0	360	318	7.46	8.10	24.0	16.5	0.1	26	130	
29...	1101	78.0	81.0	--	--	--	--	--	15.5	0.1	--	--	
DATE	TIME	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT LAB (MG/L AS CACO3) (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
JUN													
29...	21	41	7.6	21	0.8	2.9	134	0	110	113	59	5.7	
DATE	TIME	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS B) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L AS CD) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS ORTH, DIS- SOLVED (MG/L AS P) (00665)	PHOS- PHOROUS TOTAL (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)
JUN													
29...	0.30	20	226	0.200	0.180	0.020	0.48	0.70	0.060	0.040	3.4	2	
DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
JUN													
29...	2	30	<1	<1	2	<1	5	1	150	<1	1	0.10	

08317300 COCHITI LAKE NEAR COCHITI PUEBLO, NM -- Continued

WATER-QUALITY RECORDS

08317300 - COCHITI LAKE AT SITE A (LAT 35°38'11" LONG 106°19'05")

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)
JUN 29...	<0.1	<1	1	<10	9	3.0	120	53	15	<1	20	30
DATE	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	
JUN 29...	30	13000	20	1500	0.04	80	34	0.0	98	K1	<1	

08317400 RIO GRANDE BELOW COCHITI DAM, NM

LOCATION.--Lat 35°37'05", long 106°19'24", in SW¼NE¼ sec.17, T.16 N., R.6 E., Sandoval County, Hydrologic Unit 13020201, in Pueblo de Cochiti Grant, on right bank 320 ft upstream from bridge on State Highway 22, 700 ft downstream from Cochiti Dam, 1.4 mi northeast of Cochiti Pueblo, and at mile 1,587.6.

DRAINAGE AREA.--14,900 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,226.08 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Nov. 14, 1973, at site 2.4 mi downstream at elevation 5,210 ft, from topographic map. Nov. 14, 1973 to Jan. 8, 1976, at site 320 ft downstream at datum 1.79 ft lower.

REMARKS.--Records good. Discharges include flow of Santa Fe River, which is intercepted by Cochiti Dam and released through the combined outlet works. Flow regulated by Cochiti Dam since Nov. 12, 1973. Diversions upstream from station for irrigation of about 620,000 acres in Colorado and about 81,000 acres in New Mexico. Cochiti Eastside Main Canal, on left bank, and Sili Main Canal, on right bank, head at Cochiti Dam and bypass gage for irrigation of about 6,000 acres downstream from station; see tabulation below for monthly and yearly diversion. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft³/s, July 26, 1971, gage height, 7.90 ft, site and datum then in use, from rating curve extended above 2,600 ft³/s; minimum, 0.51 ft³/s, Aug. 3-5, 1977, Aug. 27, 28, 1978, result of regulation.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of May 15, 1941, reached a discharge of 23,400 ft³/s at a nearby site upstream from mouth of Santa Fe River. The flood of May 23, 1920, probably exceeded 23,400 ft³/s, and is likely the highest since 1905.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,830 ft³/s, Apr. 25; minimum daily, 128 ft³/s, Oct. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	482	263	807	769	772	913	3230	2970	1040	876	824	842
2	481	268	807	788	803	921	3220	2620	1070	882	802	799
3	566	283	807	734	871	913	3230	2630	1050	886	712	734
4	626	316	861	736	873	860	3210	2570	1040	887	598	670
5	535	316	891	801	840	866	3200	2410	734	895	447	672
6	440	320	685	861	778	936	3330	2030	565	896	531	620
7	537	322	929	892	618	1010	3430	1690	488	896	452	583
8	576	324	954	694	583	1010	3430	1700	494	957	313	583
9	513	551	887	519	711	1020	3430	1520	577	980	432	481
10	426	1330	841	536	927	1100	3540	1380	567	982	611	422
11	433	1650	711	692	1040	1170	3640	1830	570	982	671	371
12	550	1640	760	844	1030	1180	3650	1890	633	941	668	328
13	486	1640	842	797	832	1350	3640	1630	848	900	663	322
14	430	1630	817	660	713	1480	3640	1760	859	893	723	322
15	474	1440	817	660	766	1490	3660	2020	741	891	868	322
16	443	1050	838	660	834	1720	3660	1980	768	893	925	324
17	403	846	856	706	795	1900	3660	1680	788	896	923	328
18	401	830	834	773	814	1920	3640	1490	787	888	824	328
19	421	877	835	820	886	1930	3630	1410	709	877	704	288
20	441	913	856	836	864	2060	3620	1350	634	876	704	315
21	388	917	856	836	829	2140	3720	1240	621	876	704	281
22	393	854	826	834	781	2270	3790	1060	625	868	696	148
23	422	782	807	783	567	2470	3770	952	625	867	563	148
24	387	778	787	738	851	2550	3810	931	634	869	471	148
25	367	876	769	782	974	2610	3830	855	638	956	465	172
26	296	979	769	798	979	2700	3810	806	638	791	375	191
27	246	973	763	797	1040	3010	3780	876	645	542	297	148
28	241	873	649	846	1030	3210	3630	1000	645	435	393	148
29	240	807	519	841	---	3230	3510	1020	677	387	634	152
30	179	807	599	764	---	3210	3490	937	802	387	728	157
31	128	---	698	744	---	3230	---	935	---	537	815	---
TOTAL	12951	25455	24677	23541	23401	56379	106830	49172	21512	25689	19536	11347
MEAN	418	848	796	759	836	1819	3561	1586	717	829	630	378
MAX	626	1650	954	892	1040	3230	3830	2970	1070	982	925	842
MIN	128	263	519	519	567	860	3200	806	488	387	297	148
AC-FT	25690	50490	48950	46690	46420	111800	211900	97530	42670	50950	38750	22510
(+)	7480	0	0	0	0	6920	8090	9020	8890	8910	7730	8330
(++)	3490	0	0	0	0	4160	4360	4200	4380	4440	4000	4340

CAL YR 1988 TOTAL 439393 MEAN 1201 MAX 3720 MIN 128 AC-FT 871500
WTR YR 1989 TOTAL 400490 MEAN 1097 MAX 3830 MIN 128 AC-FT 794400

(+) DIVERSION, IN ACRE-FEET, BY COCHITI EASTSIDE MAIN CANAL AT HEAD

(++) DIVERSION, IN ACRE-FEET, BY SILI MAIN CANAL AT HEAD

08317900 GALISTEO RESERVOIR NEAR CERRILLOS, NM

LOCATION.--Lat 35°27'44", long 106°12'30", in NW¼ sec.9 T.14 N., R.7 E., Santa Fe County, Hydrologic Unit 13020201, in Mesita de Juana Lopez Grant, at Galisteo Dam on Galisteo Creek, 5.0 mi northwest of Cerrillos, and at mile 11.8.

DRAINAGE AREA.--596 mi².

PERIOD OF RECORDS.--October 1970 to current year.

GAGE.--Water-stage recorder above elevation 5,500.3 ft, nonrecording below. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by an earthfill dam, completed Oct. 11, 1970. Capacity, based on capacity table effective January 1972, 88,990 acre-ft between elevations 5,496.0 ft, sill of ungated outlet conduit, and 5,608.0 ft, crest of uncontrolled spillway. No dead storage. Reservoir is used for flood control. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,510 acre-ft, July 26, 1971, elevation, 5,517.00; no storage most of time.

EXTREMES FOR CURRENT YEAR.--No storage all year.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by U.S. Army Corps of Engineers in 1972)

5,500	0	5,504	41
5,501	2	5,505	69
5,502	9	5,506	109
5,503	21	5,508	244

08317950 GALISTEO CREEK BELOW GALISTEO DAM, NM

LOCATION.--Lat 35°27'53", long 106°12'49", in NE¼NE¼ sec.8, T.14 N., R.7 E., Santa Fe County, Hydrologic Unit 13020201, in Mesita de Juana Lopez Grant, on right bank 0.4 mi downstream from Galisteo Dam, 5.3 mi northwest of Cerrillos, and at mile 11.4.

DRAINAGE AREA.--597 mi².

PERIOD OF RECORD.--March 1970 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,450 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 21, 1981, at site 1,200 ft downstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Galisteo Reservoir 0.4 mi upstream. Diversions for irrigation of about 50 acres upstream from station. Several observations of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--19 years, 6.15 ft³/s, 4,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft³/s, July 27, 1971 gage height, 7.00 ft; maximum gage height, 7.33 ft, July 20, 1971; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 920 ft³/s, July 23, gage height, 5.50 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.84	2.9	3.8	e1.5	e1.9	2.2	3.8	.00	.00	.00	251	.00
2	.79	2.5	3.6	e1.6	e1.8	2.5	4.4	.00	.00	.00	34	.00
3	.32	2.4	4.3	e1.7	e1.8	2.2	4.6	.00	.00	.00	2.8	.00
4	.32	3.1	4.8	e1.8	e1.7	1.4	3.9	.00	.00	.00	.00	.00
5	10	2.7	5.0	e1.9	e1.6	2.0	3.5	.00	.00	.00	.00	9.4
6	8.0	2.6	e2.0	e1.8	e1.3	2.4	4.1	.00	.00	.00	.00	7.0
7	8.4	3.7	e1.6	e1.7	e.90	2.4	5.1	.00	.00	.00	.00	.15
8	5.5	2.7	e1.5	e1.3	e1.4	2.7	5.0	.00	.00	.00	.00	.00
9	4.5	3.3	e1.6	e1.2	e2.0	3.1	4.3	.00	.00	.00	.00	.00
10	4.5	2.9	e1.5	e1.1	e2.5	2.7	.38	.00	.00	.00	.00	.00
11	4.1	2.4	e1.4	e1.2	e2.6	2.8	4.1	.00	.00	.00	18	.00
12	4.4	3.0	e1.5	e1.3	2.7	2.7	4.2	.00	.00	.00	1.1	.00
13	3.9	3.0	e1.4	e1.4	2.6	3.1	5.4	.00	.00	.00	.00	.00
14	4.2	2.7	e1.4	e1.2	2.8	3.1	5.3	.00	.00	.00	.00	.00
15	5.0	1.9	e1.3	e1.3	2.6	2.5	4.7	.00	.00	.00	.00	.00
16	3.8	1.7	e1.4	e1.4	2.9	2.8	5.1	.00	.00	.00	.00	.00
17	2.9	1.5	e1.4	e1.4	2.9	3.5	4.0	.00	.00	.00	.00	.00
18	2.5	2.0	e1.3	e1.3	3.0	3.0	3.9	.00	.00	.00	.00	.00
19	2.4	2.6	e1.4	e1.4	2.9	3.4	3.7	.00	.00	.00	.00	9.0
20	2.3	2.6	e1.5	e1.5	3.2	2.2	3.9	.00	.00	142	.00	1.5
21	1.9	2.7	e1.5	e1.5	3.1	3.4	3.9	.00	.00	48	.00	.00
22	2.6	2.9	e1.6	e1.6	2.8	2.9	4.2	.00	.00	95	.00	.00
23	3.1	3.5	e1.5	e1.5	2.8	3.8	4.2	.00	.00	230	.00	.00
24	3.2	4.0	e1.6	e1.6	3.0	4.3	3.1	.00	.00	192	.00	.00
25	3.1	2.7	e1.5	e1.5	3.0	3.6	.00	.00	.00	49	.00	.00
26	3.4	2.5	e1.4	e1.4	2.7	4.3	.00	.00	.00	14	.00	.00
27	2.6	2.4	e1.3	e1.3	2.7	4.1	.00	.00	.00	11	.00	.00
28	2.7	2.5	e1.2	e1.2	2.3	3.7	.00	.00	.00	6.6	.00	.00
29	3.0	2.8	e1.1	e1.1	---	3.9	.00	.00	.00	3.6	.00	.00
30	3.3	3.4	e1.3	e1.2	---	4.5	.00	.00	.00	75	.00	.00
31	2.7	---	e1.4	e1.0	---	3.4	---	.00	---	167	.00	---
TOTAL	110.27	81.6	59.1	43.9	67.50	94.6	98.78	0.00	0.00	1033.20	306.90	27.05
MEAN	3.56	2.72	1.91	1.42	2.41	3.05	3.29	.00	.00	33.3	9.90	.90
MAX	10	4.0	5.0	1.9	3.2	4.5	5.4	.00	.00	230	251	9.4
MIN	.32	1.5	1.1	1.0	.90	1.4	.00	.00	.00	.00	.00	.00
AC-FT	219	162	117	87	134	188	196	.0	.0	2050	609	54

CAL YR 1988 TOTAL 2478.92 MEAN 6.77 MAX 215 MIN .00 AC-FT 4920
WTR YR 1989 TOTAL 1922.90 MEAN 5.27 MAX 251 MIN .00 AC-FT 3810

e Estimated

08319000 RIO GRANDE AT SAN FELIPE, NM
(Surveillance network station)

LOCATION.--Lat 35°26'39", long 106°26'23", in SW¼NW¼ sec.17, T.14 N., R.5 E., Sandoval County, Hydrologic Unit 13020201, in San Felipe Grant, on right bank 200 ft downstream from Tonque Arroyo, 1,700 ft upstream from steel highway bridge, 0.8 mi upstream from San Felipe Pueblo, 11 mi northeast of Bernalillo, and at mile 1,572.7.

DRAINAGE AREA.--16,100 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1925 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1926-30, WSP 1392: 1937(M), WSP 1512: 1931-32, 1933(M), 1934-36, 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 5,115.73 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 27, 1957, at site 1,800 ft downstream at datum 5.35 ft lower, except period May 16, 1945 to Sept. 30, 1946, when it was 5.94 ft lower than present datum.

REMARKS.--Water-discharge records good. Flow completely regulated since November 1973 by Cochiti Dam (station 08317300) 17 mi upstream. Prior to November 1973 some regulation of flow by El Vado Reservoir (station 08285000) and Abiquiu Reservoir (station 08286900). Since May 1971 flow affected by release of transmountain water from Heron Reservoir (station 08284510). Diversions for irrigation of about 705,000 acres upstream from station, some of which is irrigated downstream by Cochiti Eastside Main Canal and San Felipe eastside acequia, which bypass station.

AVERAGE DISCHARGE.--48 years (water years 1926-73), 1,374 ft³/s, 995,500 acre-ft/yr, prior to closure of Cochiti Dam.
16 years (water years 1974-89), 1,581 ft³/s, 1,145,000 acre-ft/yr, since closure of Cochiti Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,300 ft³/s, June 26, 1937, gage height, 11.13 ft, site and datum then in use, from rating curve extended above 15,000 ft³/s; minimum, 32 ft³/s, July 7, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Other major floods occurred in 1874, 1884, and 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,040 ft³/s, at 1530 hours Apr. 25, gage height, 5.52 ft; minimum daily, 290 ft³/s, Sept. 25, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	570	391	794	765	755	995	3130	3360	909	953	1440	1040
2	577	381	798	808	785	1020	3150	2830	991	970	1100	1010
3	622	378	799	767	839	1080	3180	2830	976	968	871	985
4	729	414	819	727	883	1040	3180	2810	968	974	811	882
5	686	415	911	829	815	1040	3190	2660	802	990	551	890
6	527	414	696	901	804	1080	3280	2360	532	999	587	872
7	593	410	884	928	622	1150	3420	1900	482	987	636	808
8	726	407	969	785	559	1120	3450	1840	417	1040	367	780
9	646	511	892	536	641	1100	3460	1720	551	1110	481	708
10	624	1390	853	508	864	1150	3540	1470	601	1110	709	587
11	476	1850	757	639	1040	1240	3660	1740	621	1110	837	559
12	726	1870	700	804	1050	1250	3680	2100	661	1100	862	487
13	671	1870	854	853	914	1360	3710	1680	861	1030	847	481
14	558	1860	823	648	709	1540	3730	1790	1010	1050	880	479
15	626	1720	812	643	741	1540	3760	2000	855	1040	1060	479
16	642	1270	822	643	820	1680	3790	2120	856	1050	1160	479
17	569	993	863	675	820	1940	3780	1790	870	1050	1180	495
18	575	921	861	756	784	1950	3780	1550	893	1060	1120	502
19	594	961	837	812	889	1970	3770	1440	831	1050	927	564
20	656	988	868	843	882	2030	3780	1360	720	1250	934	485
21	617	990	868	844	856	2130	3850	1290	678	1120	923	545
22	577	939	855	842	804	2220	3930	1120	677	1150	914	319
23	659	832	823	788	586	2430	3950	879	685	1240	825	307
24	614	830	759	728	819	2550	3970	890	678	1490	631	297
25	598	863	778	764	1010	2570	4010	790	693	1360	620	290
26	533	995	777	793	1020	2660	3970	686	680	1180	570	353
27	438	985	762	801	1060	2850	3940	681	667	820	446	293
28	434	898	718	829	1090	3100	3850	808	681	661	475	297
29	426	798	518	839	---	3090	3670	845	714	455	796	298
30	424	795	560	764	---	3110	3680	844	832	467	940	290
31	297	---	681	716	---	3100	---	782	---	699	967	---
TOTAL	18010	28339	24711	23578	23461	57085	109240	50965	22392	31533	25467	16861
MEAN	581	945	797	761	838	1841	3641	1644	746	1017	822	562
MAX	729	1870	969	928	1090	3110	4010	3360	1010	1490	1440	1040
MIN	297	378	518	508	559	995	3130	681	417	455	367	290
AC-FT	35720	56210	49010	46770	46530	113200	216700	101100	44410	62550	50510	33440
(+)	3690	0	0	0	0	3250	3930	4140	3960	4020	3670	3810

CAL YR 1988 TOTAL 475276 MEAN 1299 MAX 3530 MIN 297 AC-FT 942700
WTR YR 1989 TOTAL 431642 MEAN 1183 MAX 4010 MIN 290 AC-FT 856200

(+) MONTHLY DIVERSIONS, IN ACRE-FEET, OF COCHITI EASTSIDE CANAL; RECORDS OF THIS FLOW FURNISHED BY MIDDLE RIO GRANDE CONSERVANCY DISTRICT.

08319000 RIO GRANDE AT SAN FELIPE, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (000)	SPE-CIFIC CON-DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	PH LAB (STAND- ARD UNITS) '00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	
FEB	07...	0945	652	370	387	8.25	8.00	-5.0	0.5	13.4	12	130	0
APR	05...	1005	3220	392	309	8.09	8.00	14.5	10.5	9.8	17	120	27
JUN	28...	0845	655	352	379	7.80	7.90	30.0	18.0	7.5	20	140	18
SEP	06...	0945	918	410	413	8.11	7.80	24.5	18.0	11.6	--	160	40
DATE		CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
FEB	07...	41	7.7	31	1	3.4	154	0	126	134	50	9.3	0.40
APR	05...	36	6.8	17	0.7	2.5	105	0	86	91	56	4.6	0.30
JUN	28...	42	8.0	24	0.9	3.2	152	0	124	120	60	6.4	0.40
SEP	06...	49	9.2	26	0.9	3.4	134	0	110	120	84	5.8	0.40
DATE		SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHOSOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
FEB	07...	24	247	<0.100	<0.100	0.020	0.38	--	0.050	0.020	2.3	2	2
APR	05...	19	197	0.100	0.120	0.040	0.26	0.40	0.040	0.020	4.0	--	--
JUN	28...	19	235	<0.100	<0.100	<0.010	--	--	0.050	0.010	3.1	--	--
SEP	06...	17	267	<0.100	<0.100	0.060	0.24	--	0.040	0.030	27	2	2
DATE		BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
FEB	07...	30	1	<1	1	2	4	1	12	15	<5	<0.10	<0.1
APR	05...	30	--	--	--	--	--	--	22	--	--	--	--
JUN	28...	50	--	--	--	--	--	--	9	--	--	--	--
SEP	06...	40	<1	<1	19	2	12	2	6	24	1	<0.10	<0.1

08319000 RIO GRANDE AT SAN FELIPE, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN, NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)
FEB 07...	<1	<1	<10	3	3.0	39	130	5	<10	4	<50
SEP 06...	<1	<1	110	<3	--	--	--	--	--	--	--
DATE	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
FEB 07...	4	3600	<100	210	0.02	10	53	93	31	K4	K6
APR 05...	--	--	--	--	--	--	166	1440	14	K23	K58
JUN 28...	--	--	--	--	--	--	89	157	82	80	180
SEP 06...	--	--	--	--	--	--	593	1470	87	7700	7000

08321500 JEMEZ RIVER BELOW EAST FORK, NEAR JEMEZ SPRINGS, NM

LOCATION.--Lat 35°49'39", long 106°38'52", in NW¼ sec.5, T.18 N., R.3 E., Sandoval County, Hydrologic Unit 13020202, on left bank 0.4 mi downstream from East Fork and boundary of Santa Fe National Forest, 5.3 mi northeast of Jemez Springs, and at mile 43.0.

DRAINAGE AREA.--173 mi².

PERIOD OF RECORD.--July 1949 to October 1950 (gaged separately upstream from East Fork), May 1951 to September 1957 (irrigation seasons only), March 1958 to September 1976, July 1981 to current year.

REVISED RECORDS.--WSP 1512: 1951-54(M), 1955, 1956(M). WSP 1712: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,703 ft above National Geodetic Vertical Datum of 1929 (plane-table survey by Topographic Division, U.S. Geological Survey, 1952). Prior to May 1951, at sites 3,000 ft upstream, at different datums and on separate channels.

REMARKS.--Records good except for estimated daily discharges, which are poor. No diversion upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--27 years (water years 1950, 1959-76, 1982-89), 33.5 ft³/s, 24,270 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 2,500 ft³/s, Apr. 21, 1958, gage height, 7.35 ft, from rating curve extended above 1,100 ft³/s on basis of slope-area and contracted-opening measurements of peak flow; minimum, 0.91 ft³/s, Jan. 24, 1969, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 19	0100	*477	*3.20	No other peak greater than base discharge.			
Minimum daily discharge, 9.1 ft³/s, July 8, 9.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	19	21	e15	19	29	72	30	14	11	36	17
2	26	19	20	e15	19	30	68	29	14	10	41	17
3	26	19	19	e15	19	31	65	28	14	9.9	27	17
4	25	19	19	e17	19	29	61	26	13	9.5	19	19
5	28	18	17	e18	17	24	58	25	14	10	18	20
6	32	18	17	e17	17	27	58	24	13	9.9	18	19
7	33	19	20	e17	18	32	57	24	13	9.5	18	18
8	38	19	19	e18	19	41	57	23	13	9.1	19	16
9	31	24	16	e17	19	65	57	24	14	9.1	18	17
10	27	26	19	e17	20	97	57	35	14	9.3	21	16
11	26	23	17	e16	20	123	57	36	13	9.9	31	16
12	25	23	18	e16	20	151	57	25	12	12	31	17
13	24	23	19	e15	18	195	60	23	13	13	22	18
14	23	22	19	e14	21	242	61	22	14	13	20	17
15	23	24	19	e13	19	243	58	21	15	12	24	16
16	23	17	16	e12	20	228	55	21	14	13	21	16
17	22	21	18	e12	e21	272	53	21	12	12	23	16
18	21	19	18	e11	e23	310	52	21	11	11	28	17
19	21	24	19	e12	24	307	51	20	11	11	26	19
20	21	18	15	e12	21	271	50	18	11	16	21	30
21	21	20	13	e12	18	105	48	17	12	16	20	23
22	20	20	17	e13	21	94	45	17	12	15	20	18
23	20	23	15	e13	24	121	43	16	12	29	18	17
24	20	24	16	e14	26	129	41	15	12	23	17	17
25	20	25	17	e14	29	124	39	15	11	28	17	17
26	19	21	16	e13	33	114	35	15	11	25	17	17
27	20	14	e17	e13	33	103	33	16	11	23	17	17
28	19	20	e17	e13	30	89	33	16	11	19	17	17
29	19	23	e15	e15	---	97	32	16	10	18	18	17
30	20	24	e15	e18	---	91	32	14	12	18	17	17
31	19	---	e15	e18	---	75	---	14	---	24	17	---
TOTAL	739	628	538	455	607	3889	1545	667	376	458.2	677	535
MEAN	23.8	20.9	17.4	14.7	21.7	125	51.5	21.5	12.5	14.8	21.8	17.8
MAX	38	26	21	18	33	310	72	36	15	29	41	30
MIN	19	14	13	11	17	24	32	14	10	9.1	17	16
AC-FT	1470	1250	1070	902	1200	7710	3060	1320	746	909	1340	1060

CAL YR 1988 TOTAL 13419 MEAN 36.7 MAX 322 MIN 13 AC-FT 26620
WTR YR 1989 TOTAL 11114.2 MEAN 30.4 MAX 310 MIN 9.1 AC-FT 22050

e Estimated

08323000 RIO GUADALUPE AT BOX CANYON, NEAR JEMEZ, NM

LOCATION.--Lat 35°43'52", long 106°45'44", Sandoval County, Hydrologic Unit 13020202, in Canon de San Diego Grant, on left bank at downstream end of Guadalupe Box Canyon, 4.8 mi upstream from mouth, 5 mi southwest of Jemez Springs, and 7 mi north of Jemez.

DRAINAGE AREA.--235 mi².

PERIOD OF RECORD.--November 1938 to September 1942, August 1949 to September 1950, (monthly discharge only for November, December 1938 and August 1949 published in WSP 1312), May 1951 to September 1957 (irrigation seasons only), May 1958 to September 1976, July 1981 to current year. Prior to 1951 published as "08323500 Rio Guadalupe near Jemez Springs."

REVISED RECORDS.--WSP 1712: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,015 ft above National Geodetic Vertical Datum of 1929 (plane-table survey by Topographic Division, U.S. Geological Survey, 1952). Prior to 1951, at site 2.4 mi downstream at lower datums.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated to some extent since October 1958 by San Gregorio Reservoir on Clear Creek, 24 mi upstream (capacity, 345 acre-ft), and by transmountain diversion into Rio Puerco basin for irrigation of about 300 acres in vicinity of Cuba. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--31 years (water years 1939-42, 1950, 1959-76, 1982-89), 47.1 ft³/s, 34,120 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,190 ft³/s, May 13 or 14, 1941, gage height, 8.4 ft, from floodmarks, site and datum in use June 1941 to September 1942, from rating curve extended above 1,000 ft³/s; minimum, 2.8 ft³/s, Dec. 9, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 160 ft³/s, Mar. 20; minimum daily, 6.0 ft³/s, Jan. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	17	18	e9.8	e14	e20	e107	45	15	8.4	26	9.3
2	21	17	16	e10	e14	e21	e102	42	16	8.2	34	8.7
3	21	17	16	e9.6	e13	e22	e100	40	16	8.4	22	8.5
4	20	17	17	e10	e14	e20	e105	33	16	8.1	16	10
5	23	16	16	e12	e15	e18	e105	32	15	7.9	13	14
6	27	16	16	e13	e16	e20	e109	31	15	7.4	12	12
7	31	16	17	e9.6	e12	e23	e120	30	14	6.9	12	10
8	39	16	16	e7.6	e16	e26	e138	29	14	6.7	13	9.9
9	29	21	17	e6.0	e14	e28	e150	28	16	6.7	24	9.6
10	25	21	18	e15	e14	e39	e145	36	16	6.7	15	9.3
11	23	20	17	e12	e15	e50	e130	37	15	7.2	14	9.1
12	22	21	17	e12	e14	e69	e120	29	14	8.0	14	10
13	21	19	16	e13	e12	e76	105	27	14	8.1	13	9.2
14	22	19	16	e10	e13	e89	102	22	15	7.8	12	8.7
15	21	25	16	e15	e13	e110	105	24	15	7.4	15	8.4
16	20	17	15	e14	e11	e114	106	23	14	7.1	12	8.2
17	20	18	16	e17	e13	e120	105	24	13	6.9	12	8.4
18	20	17	15	e17	e13	e120	101	26	12	6.3	13	8.5
19	19	19	16	e15	e15	e119	102	24	12	6.2	13	8.5
20	19	17	16	e16	e17	e160	101	22	12	6.5	12	9.3
21	19	19	e13	e15	e13	e150	98	21	11	8.3	12	8.1
22	19	27	e10	e16	e10	e136	98	20	11	10	14	7.9
23	19	20	e9.8	e16	e13	e125	98	19	11	13	12	7.8
24	18	17	e9.6	e15	e15	e120	94	19	10	14	11	7.6
25	18	e16	e9.4	e13	e16	e125	90	18	9.6	18	10	7.4
26	18	e14	e9.0	e14	e15	e135	68	18	9.3	25	9.7	7.4
27	18	e15	e8.7	e13	e23	e122	62	18	9.0	17	9.8	7.4
28	18	e16	e8.0	e14	e22	e105	57	17	9.1	15	9.9	7.1
29	18	e20	e7.8	e13	---	e98	52	17	9.2	16	9.8	6.9
30	18	19	e8.0	e15	---	e108	48	17	9.1	13	9.8	7.0
31	17	---	e10	e16	---	e109	---	16	---	14	9.7	---
TOTAL	667	549	430.3	403.6	405	2597	3023	804	387.3	310.2	434.7	264.2
MEAN	21.5	18.3	13.9	13.0	14.5	83.8	101	25.9	12.9	10.0	14.0	8.81
MAX	39	27	18	17	23	160	150	45	16	25	34	14
MIN	17	14	7.8	6.0	10	18	48	16	9.0	6.2	9.7	6.9
AC-FT	1320	1090	853	801	803	5150	6000	1590	768	615	862	524

CAL YR 1988 TOTAL 14467.7 MEAN 39.5 MAX 199 MIN 7.8 AC-FT 28700
WTR YR 1989 TOTAL 10275.3 MEAN 28.2 MAX 160 MIN 6.0 AC-FT 20380

e Estimated

08324000 JEMEZ RIVER NEAR JEMEZ, NM

LOCATION.--Lat 35°39'42", long 106°44'34", Sandoval County, Hydrologic Unit 13020202, in Canon de San Diego Grant, on left bank 0.7 mi downstream from Rio Guadalupe, 3.5 mi north of Jemez, and at mile 29.5.

DRAINAGE AREA.--470 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1936 to May 1941, August 1949 to October 1950, May 1951 to September 1952 (irrigation seasons only), March 1953 to current year. Monthly discharge only for some periods, published in WSP 1732. Published as Jemez Creek near Jemez, 1936-41.

REVISED RECORDS.--WSP 1712: Drainage area. WSP 1923, 1957-58.

GAGE.--Water-stage recorder. Concrete control since Dec. 6, 1965. Datum of gage is 5,622 ft above National Geodetic Vertical Datum of 1929 (plane-table survey by Topographic Division, U.S. Geological Survey, 1952). June 22, 1936, to Mar. 11, 1937, at site 60 ft upstream at datum 0.50 ft higher. Mar. 12, 1937, to July 8, 1938, at present site at datum 0.7 ft higher. July 9, 1938, to May 6, 1941, at site 60 ft upstream at datum 0.70 ft higher.

REMARKS.-- Water-discharge records good. Diversion for irrigation of about 300 acres upstream from station. Several observations of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--41 years (water years 1937-40, 1950, 1954-89), 76.7 ft³/s, 55,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,900 ft³/s, Apr. 21, 1958, from rating curve extended above 2,200 ft³/s on basis of contracted-opening measurement of peak flow; maximum gage height, 10.10 ft, July 15, 1985, present datum; minimum, 1.2 ft³/s, July 25, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1890 occurred between May 6 and 15, 1941, after gage was destroyed (discharge probably exceeded 6,000 ft³/s), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 19	2000	*960	*6.38				

Minimum discharge, 12 ft³/s, June 25, July 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	35	47	26	33	54	170	67	30	16	136	26
2	46	35	47	27	33	55	162	68	25	15	92	27
3	45	36	44	27	S33	56	158	61	27	14	64	26
4	45	35	40	27	32	50	160	55	24	14	43	38
5	48	36	37	30	32	41	156	56	23	13	36	48
6	52	36	39	30	36	47	158	54	27	15	29	39
7	59	37	40	25	30	54	169	53	26	14	28	31
8	72	38	38	16	35	66	190	54	26	13	31	29
9	62	44	33	23	33	101	204	54	29	12	45	33
10	52	49	40	32	34	150	204	81	32	14	38	37
11	41	47	36	28	35	192	179	84	31	18	41	27
12	46	47	35	28	34	223	167	65	24	18	49	31
13	45	46	36	28	31	278	153	56	23	18	38	44
14	44	45	35	33	34	324	141	51	23	15	31	27
15	43	54	36	28	32	355	144	45	25	16	53	31
16	40	40	32	26	31	349	142	45	22	17	31	29
17	38	43	34	29	34	388	139	48	20	15	48	35
18	36	45	32	28	36	420	134	50	19	15	48	38
19	35	46	33	27	39	422	132	44	17	141	37	41
20	35	42	30	28	38	420	129	38	17	146	34	88
21	36	42	22	27	31	247	123	36	15	30	30	45
22	34	46	25	29	31	214	124	35	14	32	32	38
23	32	47	28	28	37	237	124	36	15	50	29	36
24	35	51	20	29	41	240	111	33	14	48	23	32
25	35	55	31	30	45	241	104	32	12	55	19	33
26	34	49	26	29	48	240	98	30	14	67	20	38
27	35	34	14	34	56	211	85	29	15	52	21	38
28	36	39	21	32	52	179	76	27	14	41	23	29
29	34	50	22	28	---	187	70	27	14	42	22	28
30	35	44	22	30	---	191	68	31	14	53	27	24
31	35	---	27	32	---	176	---	32	---	46	27	---
TOTAL	1314	1293	1002	874	1016	6408	4174	1477	631	1075	1225	1066
MEAN	42.4	43.1	32.3	28.2	36.3	207	139	47.6	21.0	34.7	39.5	35.5
MAX	72	55	47	34	56	422	204	84	32	146	136	88
MIN	32	34	14	16	30	41	68	27	12	12	19	24
AC-FT	2610	2560	1990	1730	2020	12710	8280	2930	1250	2130	2430	2110

CAL YR 1988 TOTAL 29094 MEAN 79.5 MAX 449 MIN 14 AC-FT 57710
WTR YR 1989 TOTAL 21555 MEAN 59.1 MAX 422 MIN 12 AC-FT 42750

08324000 JEMEZ RIVER NEAR JEMEZ, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
OCT 26...	1030	36	480	498	8.30	8.00	12.0	7.0	12.2	13	130	0
MAR 02...	1408	49	--	398	--	8.20	--	--	--	--	110	0
APR 12...	0950	172	205	215	7.60	8.00	17.5	9.5	10.0	--	68	0
MAY 18...	0930	51	475	472	7.85	8.30	18.5	11.0	15.6	--	130	0
JUN 21...	1515	15	720	745	8.50	8.40	32.0	24.5	7.9	22	150	0
DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 26...	45	5.2	47	2	7.4	161	13	52	0.70	40	307	<0.100
MAR 02...	38	4.5	35	1	6.0	132	13	35	0.60	33	245	--
APR 12...	23	2.5	13	0.7	2.7	79	8.2	12	0.30	20	129	--
MAY 18...	44	5.0	42	2	6.4	161	10	45	0.70	33	283	--
JUN 21...	48	6.7	88	3	15	197	13	120	1.1	43	454	<0.100
DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
OCT 26...	<0.100	<0.010	--	0.020	0.020	2.0	40	48	460	1	2	<1
MAR 02...	--	--	--	--	--	--	--	--	330	--	--	--
APR 12...	--	--	--	--	--	--	--	--	120	--	--	--
MAY 18...	--	--	--	--	--	--	--	--	410	--	--	--
JUN 21...	<0.100	0.020	0.28	0.020	0.020	2.2	--	--	920	--	--	--

08328500 JEMEZ CANYON RESERVOIR NEAR BERNALILLO, NM

LOCATION.--Lat 35°23'40", long 106°32'50", in SW¼SW¼ sec.32, T.14 N., R.4 E., Sandoval County, Hydrologic Unit 13020202, at corner of outlet works control tower of Jemez Canyon Dam on Jemez River, 2.8 mi upstream from mouth, and 6 mi north of Bernalillo.

DRAINAGE AREA.--1,034 mi².

PERIOD OF RECORD.--October 1953 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam, completed October 19, 1953. Capacity, 172,800 acre-ft, from capacity table adapted January 1, 1985, between elevations 5,125.0 ft, sill of outlet gates, and 5,252.3 ft, operating deck of spillway. Maximum controlled capacity, 102,700 acre-ft at elevation 5,232.0 ft (floor of spillway, which is located about 0.8 mi south of dam). Capacity by original survey was 189,100 acre-ft. Original plan for reservoir operation was to desilt all flow above 30 ft/s by storage for one day before releasing to Rio Grande, and for possible detention during flood stage on Rio Grande. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 72,110 acre-ft, June 1, 1987, elevation, 5,220.24 ft; no storage most of time prior to March 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 32,460 acre-ft, Mar. 22, 23, elevation, 5,198.88 ft; minimum contents, 23,090 acre-ft, Sept. 30, elevation, 5,191.88 ft.

Capacity table, (elevation, in feet, and contents, in acre-feet)

5,170	4,200	5,190	20,840	5,210	50,620
5,175	6,980	5,195	27,060	5,215	60,480
5,180	10,730	5,200	34,100	5,220	71,550
5,185	15,400	5,205	41,860	5,225	83,720

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26750	26240	27930	28640	29070	28750	31290	28970	27850	26320	26000	24180
2	26750	26270	28000	28670	29030	28850	31070	28930	27760	26240	26290	24060
3	26750	26290	28070	28710	29030	28890	30880	28930	27700	26120	25800	24020
4	26700	26270	28140	28820	29040	28890	30590	28940	27650	26060	25580	24000
5	26690	26250	28220	28890	29070	28890	30380	28960	27580	25980	25400	23910
6	26650	26230	28260	28820	29030	28890	30160	28940	27500	25930	25300	23850
7	26850	26230	28340	28810	29010	28790	30030	28930	27450	25850	25070	23790
8	26850	26240	28350	28810	29060	28590	29960	28920	27350	25800	24990	23740
9	26820	26290	28380	28790	29150	28490	29900	28890	27470	25720	24910	23690
10	26790	26330	28440	28810	29220	28520	29880	28890	27450	25640	24870	23640
11	26730	26490	28490	28880	29190	28570	29990	28740	27420	25580	24840	23560
12	26630	26520	28590	28900	29150	28640	30100	28600	27340	25530	24800	23490
13	26550	26550	28710	28900	29080	28920	30200	28610	27250	25460	24760	23430
14	26490	26630	28780	28930	29030	29190	30170	28610	27190	25420	24750	23370
15	26460	26770	28820	28960	29000	29570	30170	28610	27140	25370	24800	23320
16	26440	26750	28830	29000	28930	29890	30170	28590	27070	25320	24810	23280
17	26410	26770	28880	29070	28850	30310	30160	28570	27020	25270	24820	23260
18	26400	26830	28960	29150	28860	30650	30160	28520	26930	25210	24820	23220
19	26400	26940	29060	29250	28860	31060	30110	28500	26900	25150	24810	23230
20	26380	26950	29100	29260	28860	31890	30060	28480	26830	25120	24800	23280
21	26380	27020	29150	29280	28890	32340	29960	28450	26780	25070	24750	23330
22	26370	27060	29150	29290	28960	32460	29860	28420	26740	25050	24720	23320
23	26360	27190	29070	29210	29010	32460	29790	28390	26700	25040	24620	23290
24	26360	27370	28970	29110	28990	32450	29690	28330	26650	25080	24560	23240
25	26330	27490	28860	29260	28860	32450	29570	28270	26590	25180	24530	23220
26	26310	27580	28780	29330	28720	32450	29460	28200	26530	25550	24510	23190
27	26290	27680	28700	29360	28720	32420	29250	28140	26480	25580	24480	23170
28	26270	27760	28590	29390	28720	32310	29120	28120	26440	25560	24450	23150
29	26270	27820	28590	29370	---	32030	29070	28100	26380	25640	24370	23110
30	26250	27850	28590	29290	---	31830	29000	28000	26350	25880	24300	23090
31	26250	---	28610	29100	---	31500	---	27960	---	25800	24220	---
MAX	26850	27850	29150	29390	29220	32460	31290	28970	27850	26320	26290	24180
MIN	26250	26230	27930	28640	28720	28490	29000	27960	26350	25040	24220	23090
(†)	5194.39	5195.59	5196.15	5196.50	5196.23	5198.21	5196.43	5195.67	5194.46	5194.04	5192.80	5191.88
(††)	-500	+1600	+760	+490	-380	+2780	-2500	-1040	-1610	-550	-1580	-1130
CAL YR 1988	MAX 34960	MIN 26230	(††)	+2031								
WTR YR 1989	MAX 32460	MIN 23090	(††)	-3660								

(†) ELEVATION, IN FEET, AT END OF MONTH.

(††) CHANGE IN CONTENTS, IN ACRE-Feet.

08329000 JEMEZ RIVER BELOW JEMEZ CANYON DAM, NM

LOCATION.--Lat 35°23'24", long 106°32'03", in NE¼ sec.5, T.13 N., R.4 E., Sandoval County, Hydrologic Unit 13020202, on right bank 0.8 mi downstream from Jemez Canyon Dam, 2.0 mi upstream from mouth, and 6 mi north of Bernalillo.

DRAINAGE AREA.--1,038 mi².

PERIOD OF RECORD.--March 1936 to January 1938, March 1943 to current year. Published as "Jemez Creek" prior to 1948, and as "near Bernalillo" prior to 1954.

REVISED RECORDS.--WSP 1178: 1949. WSP 1212: 1950. WSP 1512: 1936, 1943, 1945, 1947-48, 1949(M), 1950. WSP 1732: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,095.60 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Apr. 24, 1951, at site 0.8 mi upstream at datum 24.51 ft higher. Apr. 24, 1951, to June 25, 1958, at site 37 ft upstream at datum 4.40 ft above present datum. Supplementary water-stage recorder at gages on Jemez Canyon Dam at datum 5,125.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark) used at times since January 1953.

REMARKS.--Records good except for estimated daily discharges, and those below 5.0 ft³/s, which are fair. Subsequent to October 1953, flow at this station can be completely regulated by Jemez Canyon Reservoir (station 08328500). However, reservoir is designed essentially for desilting and flood control rather than storage. Diversions for irrigation of about 3,000 acres upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years (water years 1937, 1944-89), 61.5 ft³/s, 44,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft³/s, Aug. 29, 1943, gage height, 5.62 ft, site and datum then in use, from rating curve extended above 3,000 ft³/s; no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood in 1900 was probably less than 16,000 ft³/s, but highest observed outside period of record.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 339 ft³/s, Apr. 5; minimum daily, 0.45 ft³/s, Dec. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	3.0	.77	.65	e43	20	329	24	4.9	4.5	170	6.4
2	21	3.0	.90	.72	e41	20	333	18	5.2	4.6	228	6.4
3	25	3.0	.90	.75	e29	28	337	17	5.4	4.8	287	6.4
4	37	6.4	.90	6.8	e19	37	336	14	5.6	4.8	140	6.4
5	38	7.5	.82	51	e18	35	339	13	5.6	4.8	63	6.4
6	36	6.4	.90	54	e18	64	294	13	5.6	4.8	63	6.4
7	50	5.5	.90	21	8.8	112	238	12	5.6	4.8	62	6.4
8	60	4.9	.89	21	1.6	134	237	12	5.6	4.8	37	6.0
9	59	4.1	.75	11	1.3	86	237	11	8.8	4.8	25	6.0
10	59	2.9	.75	2.5	26	95	212	11	9.5	4.8	17	6.0
11	71	2.5	.75	2.1	75	157	185	27	7.2	5.0	6.5	6.0
12	80	2.3	.73	1.6	75	157	185	24	6.7	5.2	6.7	5.3
13	80	2.3	.60	e1.8	83	156	181	11	9.8	5.2	6.8	4.9
14	61	2.2	.60	e1.5	79	156	178	9.4	9.3	5.2	6.8	4.4
15	44	2.1	.61	e1.5	62	156	179	7.2	8.2	5.2	6.8	3.8
16	44	1.8	.50	e1.5	61	154	177	5.7	7.5	5.4	6.8	3.5
17	38	1.5	.45	e1.5	48	154	176	5.2	7.1	5.8	6.8	3.4
18	24	1.2	.53	e1.5	22	154	176	4.9	6.8	6.5	22	3.3
19	20	1.0	.60	e1.1	22	154	173	4.9	6.4	7.2	33	3.2
20	20	.93	.60	e30	22	152	169	4.8	6.1	7.2	33	3.2
21	20	1.0	.60	e38	22	152	166	4.8	5.8	7.3	53	3.2
22	20	1.0	19	e38	21	230	166	4.8	5.3	7.5	69	3.2
23	19	1.0	49	e62	21	282	166	4.9	4.8	7.5	69	3.1
24	19	1.1	55	e48	57	284	166	5.2	4.8	7.9	35	2.8
25	19	1.2	55	e13	96	283	164	5.2	4.8	8.1	6.8	2.8
26	17	.93	55	e13	96	285	164	5.0	4.8	14	6.8	2.8
27	12	.73	83	e43	54	311	166	5.2	4.8	24	6.4	2.8
28	8.6	.85	55	e61	20	332	98	5.2	4.8	32	6.1	2.8
29	3.4	.90	1.7	e61	---	334	32	5.2	4.8	29	6.0	2.6
30	3.4	.80	1.1	e84	---	332	31	5.0	4.8	36	6.0	2.6
31	3.2	---	.76	e82	---	332	---	4.8	---	151	6.2	---
TOTAL	1033.6	74.04	389.61	766.42	1141.7	5338	5990	304.4	186.4	429.7	1497.5	132.5
MEAN	33.3	2.47	12.6	24.7	40.8	172	200	9.82	6.21	13.9	48.3	4.42
MAX	80	7.5	83	84	96	334	339	27	9.8	151	287	6.4
MIN	3.2	.73	.45	.65	1.3	20	31	4.8	4.8	4.5	6.0	2.6
AC-FT	2050	147	773	1520	2260	10590	11880	604	370	852	2970	263

CAL YR 1988 TOTAL 22317.69 MEAN 61.0 MAX 477 MIN .15 AC-FT 44270
WTR YR 1989 TOTAL 17283.87 MEAN 47.4 MAX 339 MIN .45 AC-FT 34280

e Estimated

08329700 CAMPUS WASH AT ALBUQUERQUE, NM

LOCATION.--Lat 35°05'40", long 106°37'22", in SE¼ sec.16, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on right bank 100 ft west of southwest corner of University of New Mexico North Golf Course, 200 ft downstream from Baretas Stormwater Pumping Station outfall, 600 ft downstream from Tucker Road bridge, and 1,500 ft northeast of intersection of Lomas and University Blvds. in Albuquerque.

PERIOD OF RECORD.--April 1982 to current year (no winter records).

GAGE.--Water-stage recorder and concrete-lined channel. Elevation of gage is 5,140 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Recording rain gage at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,010 ft³/s, Aug. 25, 1986, gage height, 4.00 ft, from floodmarks from step-backwater analysis of channel; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 497 ft³/s, at 2215 hours July 30, gage height, 2.67 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.10	---	---	---	.00	.00	.00	.00	1.6	.00
2	.00	.00	.31	---	---	---	.00	.00	.00	.00	.00	.00
3	.00	.00	.20	---	---	---	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
5	.00	.00	.14	---	---	---	.00	.00	.00	.00	.00	.00
6	3.9	.00	---	---	---	---	.03	.00	.00	.00	.00	.00
7	.95	.00	---	---	---	---	.00	.10	.00	.00	.00	.00
8	.00	.00	---	---	---	.00	.00	.20	.00	.00	.00	.00
9	.00	.00	---	---	---	.00	.00	.10	.00	.00	.01	.00
10	.00	.00	---	---	---	.00	.01	.00	.00	.00	.00	.00
11	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	---	---	---	.00	.00	.00	.00	3.3	.00	.00
16	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	---	---	---	.00	.00	.00	.00	.00	.10	.00
18	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	21
20	.00	.00	---	---	---	7.2	.00	.00	.00	.00	.00	.00
21	.00	.00	---	---	---	.90	.00	.00	.00	.00	.00	.00
22	.00	.00	---	---	---	.01	.01	.00	.00	4.1	.00	.00
23	.00	.01	---	---	---	.01	.00	.00	.00	1.9	.00	.00
24	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
25	.00	.42	---	---	---	.00	.00	.00	.00	13	.00	.00
26	.00	.21	---	---	---	.00	.00	.00	.00	15	.00	.00
27	.00	.40	---	---	---	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
29	.93	.40	---	---	---	.00	.00	.00	.00	.20	.00	.00
30	2.4	.00	---	---	---	.00	.00	.00	.00	20	.00	.00
31	.00	---	---	---	---	.00	---	.00	---	15	.00	---
TOTAL	8.18	1.44	---	---	---	---	0.05	0.40	0.00	72.50	1.71	21.00
MEAN	.26	.048	---	---	---	---	.002	.013	.00	2.34	.055	.70
MAX	3.9	.42	---	---	---	---	.03	.20	.00	20	1.6	21
MIN	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	16	2.9	---	---	---	---	.1	.8	.0	144	3.4	42

08329835 NORTH FLOODWAY CHANNEL AT ALBUQUERQUE, NM

LOCATION.--Lat 35°07'03", long 106°36'42", in SE¼ sec.3, T.10 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on right bank of concrete-lined drainage channel, 300 ft downstream (north) of bridge on Candelaria Blvd. NE, and 3,000 ft downstream from confluence of Campus Wash and Embudo Arroyo in Albuquerque.

PERIOD OF RECORD.--May 1982 to current year (no winter records).

GAGE.--Water-stage recorder and concrete-lined channel. Elevation of gage is 5,110 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,250 ft³/s, July 9, 1988, gage height, 12.10 ft, from floodmarks from step-backwater analysis of channel; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,150 ft³/s, at 1415 hours July 25, gage height, 6.38 ft, from floodmarks; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	---	---	---	.00	.00	.22	.04	34	.00
2	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	---	---	---	.00	.04	.00	.00	.00	1.8
6	67	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
7	36	.00	---	---	---	---	.00	.00	.00	1.5	.00	4.6
8	.00	.00	---	---	---	.00	.00	.00	6.1	.00	.08	.32
9	.00	.00	---	---	---	.00	.00	.57	.00	.00	.78	.00
10	.00	.00	---	---	---	.00	.00	.33	.00	.00	1.0	.00
11	.00	.00	---	---	---	.00	.00	2.1	.00	1.2	.00	.00
12	.00	.00	---	---	---	.00	.00	.14	.00	.08	.00	.00
13	.00	.00	---	---	---	.00	.00	.35	.00	.00	.00	.00
14	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	---	---	---	.00	.00	5.1	.00	.00	5.3	.00
16	.00	.00	---	---	---	.00	.04	.00	.00	22	.77	.00
17	.00	.00	---	---	---	.00	.00	.96	.00	.09	.09	.00
18	.00	.00	---	---	---	.00	.00	.00	.00	.00	3.3	.00
19	.00	8.4	---	---	---	.00	.00	.00	.00	.60	.00	59
20	.00	.00	---	---	---	52	.00	.00	.04	.04	.00	.00
21	.00	.00	---	---	---	21	.00	.00	.00	.04	.00	.00
22	.00	.00	---	---	---	.00	.00	.00	.08	13	.00	.00
23	.00	.00	---	---	---	.00	.00	.00	.00	37	.00	.00
24	.00	.00	---	---	---	.00	.00	.00	.09	.00	.00	.00
25	.00	8.6	---	---	---	.00	.00	.00	.00	112	.00	.00
26	.00	6.7	---	---	---	.00	.00	.00	.00	85	.00	.00
27	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	---	---	---	.00	.00	.17	.00	.00	.00	.00
30	.00	.00	---	---	---	.00	.00	.39	.00	42	.00	.00
31	.00	---	---	---	---	.00	---	.63	---	32	.00	---
TOTAL	103.00	23.70	---	---	---	---	0.04	10.78	6.53	346.59	45.32	65.72
MEAN	3.32	.79	---	---	---	---	.001	.35	.22	11.2	1.46	2.19
MAX	67	8.6	---	---	---	---	.04	5.1	6.1	112	34	59
MIN	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	204	47	---	---	---	---	.08	21	13	687	90	130

08329900 NORTH FLOODWAY CHANNEL NEAR ALAMEDA, NM

LOCATION.--Lat 35°11'58", long 106°35'53", Bernalillo County, Hydrologic Unit 13020203, in Elena Gallegos Grant, on left bank 0.5 mi upstream from Edith Blvd., 1.1 mi upstream from mouth, and 1.2 mi northeast of Alameda.

PERIOD OF RECORD.--July 1968 to current year (no winter records).

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

REMARKS.--Records good. Floodway channel intercepts flow of numerous arroyos in northeast Albuquerque and discharges into the Rio Grande at a point 1.6 mi north of Alameda.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s, Aug. 14, 1980, gage height, 10.4 ft, from rating curve extended above 2,900 ft³/s; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 25	1900	*3,520	*5.00	Sept. 19	1230	2,600	4.10

No flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	---	---	---	.00	.00	.00	.10	.00	.00
3	.00	.00	---	---	---	---	.00	.00	.00	.10	.00	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.10	.00	.00
5	.00	.00	---	---	---	---	5.0	.00	.00	13	.00	.00
6	66	.00	---	---	---	---	.00	.00	.00	10	.00	.00
7	45	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
8	.00	.00	---	---	---	.00	.00	1.0	17	.00	.00	.00
9	.00	.00	---	---	---	.00	.00	.00	17	15	.00	.00
10	.00	.00	---	---	---	.00	.00	.50	.00	8.0	.00	.00
11	.00	.00	---	---	---	1.0	.00	2.0	.00	5.5	.00	.00
12	.00	.00	---	---	---	.00	.00	3.0	.00	26	.00	.00
13	.00	.00	---	---	---	.00	.00	.00	.00	10	.00	.00
14	.00	.00	---	---	---	.00	.00	.00	.00	5.0	.00	.00
15	.00	.00	---	---	---	.00	.00	6.2	.00	.00	17	.00
16	.00	.00	---	---	---	.00	.00	4.2	.00	77	4.2	.00
17	.00	.00	---	---	---	.00	.00	.80	.80	20	.00	.00
18	.00	.00	---	---	---	.00	.00	.00	.00	.00	4.2	.00
19	.00	1.0	---	---	---	.00	.00	2.1	.00	.00	.00	150
20	.00	.00	---	---	---	94	.00	1.4	1.0	15	.00	25
21	.00	.00	---	---	---	58	.00	.00	12	.00	.00	.00
22	.00	.00	---	---	---	5.0	.00	.00	1.2	30	.00	.00
23	.00	.00	---	---	---	.00	.00	.00	.00	99	.00	.00
24	.00	.00	---	---	---	.00	.00	.00	.00	25	.00	.00
25	.00	.00	---	---	---	.00	.00	9.6	.00	320	.00	.00
26	.00	.00	---	---	---	.00	.00	17	2.0	30	.00	.00
27	.00	.00	---	---	---	.00	.00	17	4.8	.00	.00	.00
28	.00	.00	---	---	---	.00	.00	17	2.6	.00	.00	.00
29	.00	.00	---	---	---	.00	.00	.00	.80	.00	.00	.00
30	.00	.00	---	---	---	.00	.00	.00	.70	.00	.00	.00
31	.00	---	---	---	---	.00	---	.00	---	.00	.00	---
TOTAL	111.00	1.00	---	---	---	---	5.00	81.80	59.90	708.80	25.40	175.00
MEAN	3.58	.033	---	---	---	---	.17	2.64	2.00	22.9	.82	5.83
MAX	66	1.0	---	---	---	---	5.0	17	17	320	17	150
MIN	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	220	2.0	---	---	---	---	9.9	162	119	1410	50	347

08329928 RIO GRANDE NEAR ALAMEDA NM

LOCATION.--Lat 35°10'54", long 106°39'20", Bernalillo County, Hydrologic Unit 13020203, on downstream side of Paseo del Norte bridge in Albuquerque, and at mile 1,532.0.

DRAINAGE AREA.--17,263 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--March to September 1989.

GAGE.--Water-stage recorder. Datum of gage is 4,990 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow completely regulated since November 1973 by Cochiti Dam (station 08317300), 48 mi upstream. Possible regulation by operation of reservoirs on Rio Chama and by flood and silt-detention reservoirs on Galisteo Creek and Jemez River (stations 08285000, 08286900, 08317900, 08328500). Diversions upstream from station for irrigation of about 714,000 acres, several hundred of which are downstream from station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,630 ft³/s, Apr. 1, 2, 1989, gage height 5.55 ft; minimum, 14 ft³/s, Sept. 28, 29, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,630 ft³/s, Apr. 1, 2, gage height, 5.55 ft; minimum daily, 22 ft³/s, Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	959	3710	3530	551	396	913	574
2	---	---	---	---	---	781	3800	2470	549	491	e1600	546
3	---	---	---	---	---	831	3740	2510	554	545	e1100	573
4	---	---	---	---	---	738	3710	2540	558	545	e800	479
5	---	---	---	---	---	710	3690	2330	578	552	e600	425
6	---	---	---	---	---	698	3630	2150	362	565	e450	426
7	---	---	---	---	---	812	3650	1420	245	555	278	385
8	---	---	---	---	---	898	3610	1340	190	518	210	344
9	---	---	---	---	---	924	3620	1390	185	618	89	305
10	---	---	---	---	---	845	3560	1020	230	655	140	227
11	---	---	---	---	---	1070	3770	971	218	640	256	188
12	---	---	---	---	---	1110	3710	1780	233	628	320	147
13	---	---	---	---	---	1110	3670	1250	268	557	452	119
14	---	---	---	---	---	1330	3590	1190	507	543	e450	114
15	---	---	---	---	---	1320	3680	1280	523	542	e500	109
16	---	---	---	---	---	1330	3700	1610	457	550	e660	96
17	---	---	---	---	---	1730	3650	1300	447	559	e800	84
18	---	---	---	---	---	1780	3430	e1200	448	528	e820	85
19	---	---	---	---	---	1860	3380	e1000	482	549	e750	193
20	---	---	---	---	---	2070	3350	e900	396	629	e600	246
21	---	---	---	---	---	2360	3430	e830	319	668	e520	180
22	---	---	---	---	---	2440	3740	e716	292	662	e480	165
23	---	---	---	---	---	2600	3720	590	323	749	e450	72
24	---	---	---	---	---	2670	3780	485	322	919	e400	48
25	---	---	---	---	---	2520	3810	420	311	1170	e250	42
26	---	---	---	---	---	2660	3660	377	283	1010	e220	35
27	---	---	---	---	---	2860	3580	327	252	668	e160	35
28	---	---	---	---	---	3550	3570	362	252	413	110	23
29	---	---	---	---	---	3650	3240	463	263	327	150	22
30	---	---	---	---	---	3690	3320	498	289	250	347	30
31	---	---	---	---	---	3650	---	499	---	415	493	---
TOTAL	---	---	---	---	---	55556	108500	38748	10887	18416	15368	6317
MEAN	---	---	---	---	---	1792	3617	1250	363	594	496	211
MAX	---	---	---	---	---	3690	3810	3530	578	1170	1600	574
MIN	---	---	---	---	---	698	3240	327	185	250	89	22
AC-FT	---	---	---	---	---	110200	215200	76860	21590	36530	30480	12530

e Estimated

RIO GRANDE BASIN

149

08330000 RIO GRANDE AT ALBUQUERQUE, NM

LOCATION.--Lat 35°05'21", long 106°40'48", Bernalillo County, Hydrologic Unit 13020203, in Atrisco Grant, on downstream side of Central Ave. Bridge in Albuquerque, and at mile 1,540.0.

DRAINAGE AREA.--17,440 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1312: 1946(M).

GAGE.--Water-stage recorder. Datum of gage is 4,946.16 ft. above National Geodetic Vertical Datum of 1929. Prior to Sept. 18, 1947, at various sites at datum about 2.00 ft higher; Sept. 15, 1982, to Sept. 20, 1983, at site 1.0 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow completely regulated since November 1973 by Cochiti Dam (station 08317300) 50 mi upstream. Possible regulation by operation of reservoirs on Rio Chama and by flood- and silt-detention reservoirs on Galisteo Creek and Jemez River (stations 08285000, 08286900, 08317900, 08328500). Since May 1971 flow affected by release of transmountain water from Heron Reservoir (station 08284510). Diversions upstream from station for irrigation of about 718,000 acres, several hundred of which are downstream from station. National Weather Service gage-height telemeter, and U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records for Albuquerque Riverside drain and Arenal, Armijo, and Atrisco canals provided by Middle Rio Grande Conservancy District.

AVERAGE DISCHARGE.--32 years (water years 1942-73), 1,068 ft³/s, 773,800 acre-ft/yr, prior to closure of Cochiti Dam.

16 years (water years 1974-89), 1,449 ft³/s, 1,050,000 acre-ft/yr, since closure of Cochiti Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s, Apr. 24, 1942, from rating curve extended above 13,900 ft³/s; maximum gage height, 7.82 ft, Aug. 10, 1967; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,730 ft³/s, at 1245 hours Apr. 25, 27, gage height, 5.17 ft; minimum daily, 41 ft³/s, Sept. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	493	168	818	686	748	938	3380	3180	327	353	868	553
2	282	525	816	849	730	808	3310	2370	478	451	1530	566
3	201	495	823	807	745	878	3170	2250	608	511	1060	537
4	313	398	823	798	780	893	3080	2270	650	504	879	497
5	549	450	858	992	775	881	3030	2190	679	514	644	422
6	502	440	872	1130	808	889	2970	2050	443	511	469	430
7	570	414	712	1140	841	978	3060	1490	126	458	413	440
8	732	404	906	1090	699	1050	3110	1280	95	426	333	409
9	811	401	973	843	695	1080	3160	1230	86	443	122	378
10	739	539	855	746	666	1000	3250	1040	129	487	134	312
11	663	1370	774	809	884	1160	3330	983	162	470	276	225
12	482	1640	655	750	1010	1230	3390	1570	171	497	352	219
13	772	1630	633	922	1000	1190	3330	1330	216	488	418	170
14	707	1580	707	823	808	1460	3270	1130	423	455	433	162
15	592	1710	670	662	684	1560	3300	1240	551	436	495	150
16	550	1380	632	694	704	1470	3300	1610	470	407	665	130
17	487	1110	604	714	804	1840	3370	1470	426	454	796	114
18	291	963	661	746	750	1950	3320	1230	428	428	780	102
19	238	950	695	761	819	1840	3280	1040	457	416	718	181
20	226	947	680	814	899	1940	3320	900	409	431	593	323
21	249	975	707	853	883	2270	3330	829	333	562	506	270
22	253	993	724	855	833	2240	3530	743	267	490	491	272
23	235	942	712	837	754	2520	3520	614	281	584	464	98
24	303	839	706	844	587	2710	3580	e450	288	806	381	41
25	241	840	791	776	858	2680	3670	e440	272	1090	250	62
26	220	973	749	796	1030	2780	3630	e430	286	976	210	64
27	210	1090	681	880	991	2810	3710	e420	263	778	167	60
28	200	1120	862	945	949	3280	3640	e410	248	505	93	58
29	190	1010	726	958	---	3300	3240	e400	247	400	72	55
30	180	832	548	894	---	3370	3210	e400	272	313	308	51
31	171	---	583	800	---	3390	---	e350	---	450	472	---
TOTAL	12652	27128	22956	26214	22734	56385	99790	37339	10091	16094	15392	7351
MEAN	408	904	741	846	812	1819	3326	1204	336	519	497	245
MAX	811	1710	973	1140	1030	3390	3710	3180	679	1090	1530	566
MIN	171	168	548	662	587	808	2970	350	86	313	72	41
AC-FT	25100	53810	45530	52000	45090	111800	197900	74060	20020	31920	30530	14580
(+)	10510	1140	1130	992	877	7700	15800	16530	15540	15830	15620	13940
CAL YR 1988	TOTAL 444746	MEAN 1215	MAX 3880	MIN 168	AC-FT 882200	(+)	105900					
WTR YR 1989	TOTAL 354126	MEAN 970	MAX 3710	MIN 41	AC-FT 702400	(+)	115600					

(+) COMBINED FLOW, IN ACRE-FEET, OF ALBUQUERQUE RIVERSIDE DRAIN, AND ARENAL, ARMJO AND ATRISCO CANALS. THIS FLOW, WHICH BYPASSES RIVER GAGE, CAN BE ADDED TO RIVER RECORDS TO GET THE ENTIRE FLOW IN VALLEY CROSS SECTION.

e Estimated

08330000 RIO GRANDE AT ALBUQUERQUE, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1969 to current year.

WATER TEMPERATURE: October 1969 to current year.

SUSPENDED-SEDIMENT DISCHARGE: May 1969 to September 1969 (partial-record station), October 1969 to current year.

REMARKS.--Sediment total-load measurements were made monthly and total-load values were determined using equation from double-mass relationship plot for period of record. Some total load data were not available at time of publication and will be available at Albuquerque District Office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,840 microsiemens, Oct. 12, 1974; minimum daily, 115 microsiemens, Aug. 14, 1980.

WATER TEMPERATURE: Maximum daily, 34.0°C, July 12, 1970; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 45,500 mg/L, July 21, 1971; minimum daily mean, no flow on many days in 1971, 1972, and 1977.

SEDIMENT LOAD: Maximum daily, 275,000 tons, July 27, 1971; minimum daily, 0 ton on many days in 1971, 1972, and 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 538 microsiemens, Aug. 3; minimum daily, 299 microsiemens, Apr. 21.

WATER TEMPERATURE: Maximum daily, 25.0°C, July 6; minimum daily, 4.0°C, Jan. 12-14, Feb. 6,7.

SEDIMENT CONCENTRATION: Maximum daily mean, 3,370 mg/L, Aug. 2; minimum daily mean, 9 mg/L, Feb. 23.

SEDIMENT LOAD: Maximum daily, 13,900 tons, Aug. 2; minimum daily, 7.9 tons, June 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	
NOV 07...	1330	414	470	476	8.46	8.20	24.0	16.0	8.3	18	170	
DATE	TIME	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
NOV 07...	23	53	9.7	33	1	3.8	150	73	13	0.40	22	
DATE	TIME	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTH- DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	
NOV 07...	298	<0.100	<0.100	0.020	0.38	0.050	0.020	2.5	80	10		
DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)			
NOV 07...	1330	<1	4	1	1	<1	<1	5	4			

08330000 RIO GRANDE AT ALBUQUERQUE, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

		LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)			
NOV 07...		<5	<5	<0.10	<0.1	<1	<1	20	5			
DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	STREAM WIDTH (FT) (00004)	STREAM DEPTH, MEAN (FT) (00064)	STREAM VELOC- ITY, MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DISCH, SUSP. + BED MA- TERIAL (T/DAY) (80155)	SEDI- MENT, DISCH, SUSP. + BED MA- TERIAL (T/DAY) (80156)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	
NOV 07...	1330	414	221	1.1	1.70	470	16.0	79	88	145	--	
JAN 02...	1100	908	--	--	--	--	--	9	22	--	92	
MAR 02...	1000	798	--	--	--	--	9.0	201	433	--	37	
MAR 28...	1000	3460	--	--	--	--	12.0	609	5690	--	78	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70341)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)
NOV 07...	0	87	92	100	10	13	27	71	95	98	100	

08330540 TRAMWAY FLOODWAY CHANNEL AT ALBUQUERQUE, NM

LOCATION.--Lat 35°04'43", long 106°29'51", Bernalillo County, Hydrologic Unit 13020203, on left bank 300 ft downstream from Copper Boulevard Bridge, near corner of Tramway and Copper Boulevard NE in Albuquerque.

DRAINAGE AREA.--1.60 mi².

PERIOD OF RECORD.--July 1987 to current year (no winter record).

GAGE.--Water-stage recorder and concrete lined-channel. Elevation of gage is 5,760 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,250 ft³/s, July 9, 1988, gage height, 7.62 ft, from floodmarks, from step-backwater analysis of channel; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36 ft³/s, at 1620 hours Oct. 6, gage height 1.51 ft from floodmarks, from step-backwater analysis of channel; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	---	---	---	.00	.00	e.00	.00	.00	.00
2	.00	.00	.00	---	---	---	.00	.00	e.00	.00	.00	.00
3	.00	.00	.00	---	---	---	.00	.00	e.00	.00	.00	.00
4	.00	.00	.00	---	---	---	.00	.00	e.00	.00	.00	.00
5	.00	.00	.00	---	---	---	.00	.00	e.00	.00	.00	.00
6	.50	.00	---	---	---	---	.00	.00	e.00	.00	.00	.00
7	.00	.00	---	---	---	---	.00	.00	e.00	.00	.00	.00
8	.00	.00	---	---	---	---	.00	.00	e.00	.10	.00	.00
9	.00	.00	---	---	---	---	.00	.00	e.00	.00	.00	.00
10	.00	.00	---	---	---	.00	.00	.00	e.00	.00	.00	.00
11	.00	.00	---	---	---	.00	.00	.00	e.00	.00	.00	.00
12	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
13	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
14	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
15	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
16	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
17	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
18	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
19	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
20	.00	.00	---	---	---	.14	.00	.00	.00	e.00	.00	.00
21	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
22	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
23	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
24	.00	.00	---	---	---	.00	.00	.00	.00	e.00	.00	.00
25	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	---	---	---	.00	.00	.00	.00	.13	.00	.00
27	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	---	---	---	.00	.00	e.00	.00	.00	.00	.00
29	.00	.00	---	---	---	.00	.00	e.00	.00	.00	.00	.00
30	.00	.00	---	---	---	.00	.00	e.00	.00	.00	.00	.00
31	.00	---	---	---	---	.00	---	e.00	---	.06	.00	---
TOTAL	0.50	0.00	---	---	---	---	0.00	0.00	0.00	0.29	0.00	0.00
MEAN	.016	.00	---	---	---	---	.00	.00	.00	.009	.00	.00
MAX	.50	.00	---	---	---	---	.00	.00	.00	.13	.00	.00
MIN	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	1.0	.0	---	---	---	---	.0	.0	.0	.6	.0	.0

e Estimated

08330580 TIJERAS ARROYO AT MONTESSA PARK NEAR ALBUQUERQUE, NM

LOCATION.--Lat 35°01'19", long 106°35'40", Bernalillo County, Hydrologic Unit 13020203, on left bank 3.1 mi upstream from highway bridge on Interstate 25, and 3 mi south of Albuquerque.

DRAINAGE AREA.--122 mi².

PERIOD OF RECORD.--August 1987 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 5,140 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. Satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,090 ft³/s, July 9, 1988, gage height, 4.60 ft, from slope-area measurement of peak flow; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 88 ft³/s, at 2350 hours Aug. 1, gage height, 1.53 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.94	.00
2	.00	.00	.00	.00	---	---	.00	.00	.00	.00	8.9	.00
3	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	---	---	.00	.00	.00	.00	1.6	.00	.00
27	.00	.00	.00	---	---	.00	.00	.00	.00	.49	.00	.00
28	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	---	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00	2.09	9.84	0.00
MEAN	.00	.00	.00	---	---	---	.00	.00	.00	.067	.32	.00
MAX	.00	.00	.00	---	---	---	.00	.00	.00	1.6	8.9	.00
MIN	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00

08330600 TIJERAS ARROYO NEAR ALBUQUERQUE, NM

LOCATION.--Lat 35°00'09", long 106°38'57", in SW¼SW¼ sec.17, T.9 N., R.3 E., Bernalillo County, Hydrologic Unit 13020203, on left bank 800 ft upstream from bridge on Broadway Boulevard SE, 0.2 mi downstream from bridge on Interstate Highway 25, and 3 mi south of Albuquerque.

DRAINAGE AREA.--128 mi².

PERIOD OF RECORD.--October 1951 to September 1968 (annual maximum only), August 1974 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 5,000 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Mar. 10, 1988, at site 1,700 ft downstream at different datum.

REMARKS.-- Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,930 ft³/s, July 9, 1988, gage height, 9.6 ft, from floodmarks, from slope-area measurement of peak flow; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 178 ft³/s, at 0100 hours Aug. 2, gage height, 3.59 ft, from floodmarks; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	---	---	.00	.00	.00	.00	3.6	.00
2	.00	.00	.00	.00	---	---	.00	.00	.00	.00	12	.00
3	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	---	---	.00	.00	.00	.00	9.5	.00	.00
28	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	---	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	---	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	---	---	---	0.00	0.00	0.00	9.50	15.60	0.00
MEAN	.00	.00	.00	---	---	---	.00	.00	.00	.31	.50	.00
MAX	.00	.00	.00	---	---	---	.00	.00	.00	9.5	12	.00
MIN	.00	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	---	---	---	.0	.0	.0	19	31	.0

08330775 SOUTH DIVERSION CHANNEL ABOVE TIJERAS ARROYO NEAR ALBUQUERQUE, NM

LOCATION.--Lat 35°00'09", long 106°39'02", Bernalillo County, Hydrologic Unit 13020203, on right bank 600 ft upstream from confluence with Tijeras Arroyo, and 2.5 mi south of Albuquerque.

PERIOD OF RECORD.--June 1988 to current year (no winter record).

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

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft³/s, Aug. 9, 1988, gage height, 4.62 ft, from floodmarks, from step-backwater analysis of channel; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 690 ft³/s, at 1400 hours Sept. 19, gage height, 3.53 ft; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
2	.00	.00	---	---	---	---	.00	.00	.00	.00	4.1	.00
3	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
4	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
5	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
6	.00	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
7	6.1	.00	---	---	---	---	.00	.00	.00	.00	.00	.00
8	1.8	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	---	---	---	.00	.00	.00	.00	.00	4.0	.00
11	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
15	.00	.35	---	---	---	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	---	---	---	.00	.00	.00	.00	7.6	.00	.00
18	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	32
20	.00	.00	---	---	---	6.6	.00	.00	.00	.00	.00	1.6
21	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	---	---	---	.00	.00	.00	.00	.00	.00	.00
23	.00	---	---	---	---	.00	.00	.00	.00	4.1	.00	.00
24	.00	---	---	---	---	.00	.00	.00	.00	5.4	.00	.00
25	.00	---	---	---	---	.00	.00	.00	.00	9.0	.00	.00
26	.00	---	---	---	---	.00	.00	.00	.00	21	.00	.00
27	.00	---	---	---	---	.00	.00	.00	.00	7.6	.00	.00
28	.00	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
29	.00	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
30	.00	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	---	---	---	.00	---	.00	---	15	.00	---
TOTAL	7.90	---	---	---	---	---	0.00	0.00	0.00	69.70	8.10	33.60
MEAN	.25	---	---	---	---	---	.00	.00	.00	2.25	.26	1.12
MAX	6.1	---	---	---	---	---	.00	.00	.00	21	4.1	32
MIN	.00	---	---	---	---	---	.00	.00	.00	.00	.00	.00
AC-FT	16	---	---	---	---	---	.0	.0	.0	138	16	67

RIO GRANDE BASIN

08331000 RIO GRANDE AT ISLETA, NM
(Surveillance network station)

WATER-QUALITY RECORDS

LOCATION.--Lat 34°54'21", long 106°41'04", in NE¼NE¼SW¼ sec.24, T.08 N., R.02 E., Valencia County,
Hydrologic Unit 13020203, 50 feet upstream from diversion dam, 50 feet downstream from bridge on State Highway
147, at Isleta.

DRAINAGE AREA.--18,100 mi² (estimated).

PERIOD OF RECORD.--Water years 1972 to current year.

REMARKS.--Samples are collected on the Peralta main canal or the Belen Highline canal when the river is completely
diverted. Water-discharge measurements were made at the time water-quality samples were collected.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD CACO3 (00902)
NOV 04...	1200	398	580	538	8.16	7.50	22.0	16.0	8.8	27	170	28
FEB 08...	0845	699	420	459	8.34	8.20	-2.5	1.0	--	19	140	10
JUL 14...	1430	471	445	454	8.09	8.00	30.0	29.5	5.6	14	150	29
SEP 06...	1330	431	590	488	8.07	7.40	28.0	23.5	10.3	24	160	32

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT (MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
NOV 04...	53	9.3	43	1	5.3	187	0	152	143	79	24	0.50
FEB 08...	44	7.8	39	1	4.5	181	0	148	132	61	18	0.50
JUL 14...	46	8.6	35	1	4.6	159	0	130	122	76	14	0.50
SEP 06...	50	8.5	39	1	5.3	171	0	140	128	79	17	0.60

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L AS N) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS ORTHOPHOSPHATE TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHOPHOSPHATE TOTAL (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
NOV 04...	26	332	0.600	0.780	1.80	0.50	2.9	1.00	0.870	4.7	5	5
FEB 08...	25	282	0.200	0.230	1.00	0.20	1.4	0.650	0.580	3.4	--	--
JUL 14...	23	285	0.600	0.540	0.660	1.0	2.3	0.660	0.460	4.1	--	--
SEP 06...	23	305	0.800	0.730	1.30	0.90	3.0	0.880	0.800	5.6	4	4

DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
NOV 04...	110	1	1	<1	<1	7	4	18	<5	<5	<0.10	<0.1
FEB 08...	90	--	--	--	--	--	--	12	--	--	--	--
JUL 14...	90	--	--	--	--	--	--	18	--	--	--	--
SEP 06...	90	<1	<1	<1	1	3	2	20	5	1	1.2	<0.1

08331000 RIO GRANDE AT ISLETA, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)
NOV 04...	<1	<1	30	25	<2.0	74	350	3	1	8	10	20
SEP 06...	<1	<1	20	12	--	--	--	--	--	--	--	--
DATE	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)
NOV 04...	10000	10	310	0.08	50	3.9	7.6	7.8	4.8	5.8	4.2	0.07
DATE	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. 0.7 % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	
NOV 04...	2.9	285	306	33	3900	850	--	--	--	--	--	--
FEB 08...	--	206	389	25	K7	<1	--	--	--	--	--	--
JUL 14...	--	90	114	83	93	30	--	--	--	--	--	--
SEP 06...	--	155	180	93	K430	750	<0.1	<0.010	<0.1	<0.010	<0.010	--
DATE	DDT, TOTAL (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN, TOTAL (UG/L) (39380)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	
SEP 06...	<0.010	0.02	<0.010	<0.010	<0.010	<0.01	<0.010	<0.010	<0.010	<0.01	<0.01	--
DATE	METHYL PARA- THION, TOTAL (UG/L) (39600)	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOTAL TRI- THION (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PER- THANE TOTAL (UG/L) (39034)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	MIREX, TOTAL (UG/L) (39755)	
FEB 08...	--	--	--	--	--	<0.01	<0.01	<0.01	--	--	--	--
SEP 06...	<0.01	<0.01	<0.01	<1	<0.01	--	--	--	<0.1	<0.10	<0.01	--

08331990 RIO GRANDE CONVEYANCE CHANNEL NEAR BERNARDO, NM

LOCATION.--Lat 34°24'52", long 106°48'11", Socorro County, Hydrologic Unit 13020203, in Sevilleta or Belen Grant, 0.2 mi south of U.S. Highway 60, 1.8 mi east of Bernardo, about 3 mi upstream from floodway, and 4 mi upstream from Rio Puerco.

PERIOD OF RECORD.--June 1936 to September 1937, October 1964 to current year. July 1943 to September 1964, included in composite flow of "Rio Grande near Bernardo." October 1960 to September 1964, monthly acre-feet published in WSP 1923 (daily records available in district files). Beginning October 1952, flow in conveyance channel represents controlled diversion from Rio Grande. Prior to October 1952, records called "San Francisco Riverside drain near Bernardo," are not equivalent.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,720.00 ft above National Geodetic Vertical Datum of 1929. Prior to October 1964, 0.2 mi upstream at various datums.

REMARKS.--Records good. Conveyance channel is 1 of 4 channels (stations 08332010, 08332030, and 08332050) carrying flow in valley cross section. Original design and plan were for conveyance channel to carry flows up to about 2,000 ft³/s. For combined monthly flow in acre-ft of this channel, floodway, Bernardo interior drain, and Lower San Juan Riverside drain, see tabulation below daily table for station 08332010. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,220 ft³/s, Apr. 22, 1958; no flow many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.0	4.0	3.8	3.7	4.8	3.8	7.2	7.1	1.3	.00	.00	.00
2	e2.0	3.9	3.5	3.7	4.8	3.7	16	6.9	1.7	.00	.00	.00
3	e2.2	3.9	3.4	3.7	4.7	3.7	12	6.4	1.2	.00	.0	.00
4	e2.2	3.8	3.6	3.8	4.6	3.9	9.7	6.2	.93	.00	.21	.00
5	e2.4	4.0	3.4	4.0	4.7	3.8	8.9	5.8	1.2	.00	.27	.00
6	e2.4	4.0	3.4	4.0	4.6	3.8	7.9	5.6	.89	.00	.29	.00
7	e2.6	4.0	3.6	4.1	4.7	3.8	7.4	6.4	.63	.00	.10	.00
8	e2.6	4.2	3.4	4.0	4.6	3.8	7.5	5.7	.54	.00	.0	.00
9	e2.8	4.0	3.4	4.1	4.4	4.0	8.1	4.8	.59	.00	.00	.00
10	e2.8	3.7	3.7	4.1	4.2	4.0	26	4.6	.49	.00	.00	.00
11	e3.0	3.8	3.7	4.1	4.0	4.1	23	4.8	.48	.00	.00	.00
12	e3.0	3.9	3.5	4.0	4.0	4.1	29	4.7	.31	.00	.00	.00
13	3.4	3.8	3.4	3.8	4.1	4.2	26	4.4	.24	.00	.00	.00
14	4.4	4.1	3.4	4.1	4.1	4.7	11	4.1	.25	.00	.00	.00
15	4.3	4.5	3.4	4.1	4.1	17	9.4	3.7	.11	.00	.00	.00
16	4.1	4.7	3.4	4.1	4.1	4.3	8.8	3.7	.00	.00	.00	.00
17	3.7	4.9	3.4	4.4	4.1	16	8.9	3.9	.00	.00	.00	.00
18	3.3	4.9	3.5	4.5	4.1	8.2	8.5	4.1	.00	.00	.00	.00
19	3.2	4.6	3.8	4.5	4.0	5.6	8.0	4.0	.00	.00	.00	.00
20	3.3	4.2	4.1	4.5	3.6	5.6	6.4	3.6	.00	.00	.00	.00
21	3.3	4.2	4.0	4.5	3.4	5.3	6.6	4.3	.00	.00	.00	.00
22	3.4	4.1	4.1	4.6	3.4	6.0	6.8	4.2	.00	.00	.00	.00
23	3.2	4.1	3.9	4.9	3.9	6.5	9.3	3.4	.00	.00	.00	.00
24	3.1	4.4	4.0	4.7	3.8	4.8	7.4	3.4	.00	.00	.00	.00
25	3.2	4.3	4.0	4.9	3.8	4.8	6.6	3.3	.00	.00	.00	.00
26	3.2	3.9	4.0	4.9	3.8	5.0	6.5	2.7	.00	.00	.00	.00
27	3.1	3.6	3.8	5.2	3.8	5.2	7.6	2.2	.00	.00	.00	.00
28	3.1	3.6	4.0	4.9	3.8	5.1	8.2	2.1	.00	.00	.00	.00
29	3.9	3.7	4.1	4.9	---	7.8	7.3	1.9	.00	.00	.00	.00
30	4.0	3.7	3.9	4.8	---	7.1	7.1	1.6	.00	.00	.00	.00
31	3.6	---	3.7	4.7	---	7.8	---	1.4	---	.00	.00	---
TOTAL	96.8	122.5	114.3	134.3	116.0	177.5	323.1	131.0	10.86	0.00	0.87	0.00
MEAN	3.12	4.08	3.69	4.33	4.14	5.73	10.8	4.23	.36	.00	.028	.00
MAX	4.4	4.9	4.1	5.2	4.8	17	29	7.1	1.7	.00	.29	.00
MIN	2.0	3.6	3.4	3.7	3.4	3.7	6.4	1.4	.00	.00	.00	.00
AC-FT	192	243	227	266	230	352	641	260	22	.0	1.7	.0

CAL YR 1988 TOTAL 1527.8 MEAN 4.17 MAX 20 MIN 1.0 AC-FT 3030
WTR YR 1989 TOTAL 1227.23 MEAN 3.36 MAX 29 MIN .00 AC-FT 2430

e Estimated

08332010 RIO GRANDE FLOODWAY NEAR BERNARDO, NM

LOCATION.--Lat 34°25'01", long 106°48'00", Socorro County, Hydrologic Unit 13020203, in Belen or Sevilleta Grant, on downstream side of bridge on U.S. Highway 60, 5 mi downstream from heading of conveyance channel, 2 mi east of Bernardo, and at mile 1,487.2.

DRAINAGE AREA.--19,230 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1936 to January 1939, October 1941 to current year. Monthly discharge only October 1942 to June 1943, published in WSP 1312, and October 1960 to September 1964, published in WSP 1923 (daily records available in district files). Published as "Rio Grande near Bernardo" prior to October 1964. Prior to October 1952, flow of Bernardo interior drain was included only when it carried river overflow; the entire flow has been included from October 1952 to September 1964. Flow in the conveyance channel, formerly "San Francisco Riverside drain," has been included in records prior to October 1964.

GAGE.--Water-stage recorder. Datum of gage is 4,722.55 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Since November 1973 flow completely regulated by Cochiti Dam (station 08317300) 100 mi upstream. Floodway is 1 of 4 channels (stations 08331990, 08332030, and 08332050) carrying flow in valley cross section. For combined monthly flow in acre-ft of floodway, conveyance channel, Bernardo interior drain and Lower San Juan Riverside drain, see tabulation below. Diversions for irrigation of about 740,000 acres upstream from station.

AVERAGE DISCHARGE.--19 years (water years 1937-38, 1942-58), 1,125 ft³/s, 815,100 acre-ft/yr. Includes flow of floodway, conveyance channel, and Bernardo interior drain.
15 years (water years 1959-73), 898 ft³/s, 605,600 acre-ft/yr, includes flow of floodway, conveyance channel, Bernardo interior drain, and lower San Juan Riverside drain, prior to closure of Cochiti Dam.
16 years (water years 1974-89), 1,433 ft³/s, 1,038,000 acre-ft/yr, includes flow of floodway, conveyance channel, Bernardo interior drain, and lower San Juan Riverside drain, since closure of Cochiti Dam.

EXTREMES FOR PERIOD OF RECORD (1936-39 AND SINCE 1941).--Maximum discharge, 21,000 ft³/s, Apr. 25, 1942, gage height, 6.90 ft; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,880 ft³/s, Apr. 25; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	325	231	880	514	1050	1280	2830	3370	e.00	e.00	282	e.00
2	268	208	854	653	997	1230	2730	3030	e.00	e.00	529	e.00
3	214	360	857	762	951	1120	2720	2170	e.00	e.00	1270	e5.0
4	171	455	821	830	960	1190	2700	1830	e.00	e.00	922	e12
5	132	498	816	851	993	1200	2640	2060	e.00	e.00	598	e10
6	158	498	896	853	1060	1030	2620	1810	e.00	e.00	465	e10
7	238	526	982	864	1020	1020	2610	1520	e.00	e.00	265	e8.0
8	385	439	721	1090	921	1090	2670	1210	e.00	e.00	114	e8.0
9	466	446	803	962	737	1090	2920	921	e.00	e.00	87	e10
10	397	444	887	952	654	1240	3160	754	e.00	e.00	30	e10
11	347	444	893	654	647	1090	3000	687	e.00	e.00	e5.0	e10
12	310	973	934	559	832	1050	3090	687	e.00	e.00	e.00	e8.0
13	251	1420	874	594	1000	1470	3090	1010	e.00	e.00	e.00	e8.0
14	202	1580	766	745	1120	1420	3220	1110	e.00	e.00	e.00	e10
15	305	1610	947	801	1210	1330	3070	881	e.00	e.00	e.00	e12
16	298	1590	861	672	1090	1340	3140	810	e.00	e.00	e.00	e5.0
17	202	1390	891	653	1050	1330	3260	1040	e.00	e.00	e.00	e.00
18	166	1130	890	659	1070	1600	3450	1660	e.00	e.00	e.00	e.00
19	176	986	891	673	967	1810	3580	1220	e.00	e.00	e.00	e.00
20	208	914	817	729	1030	1880	3510	977	e.00	e.00	e.00	e.00
21	178	929	819	776	1100	2220	3410	655	e.00	e.00	e.00	e.00
22	154	944	854	834	1130	2420	3370	572	e.00	e.00	e.00	e.00
23	204	932	841	842	1080	2520	3470	451	e.00	e.00	e30	e.00
24	234	894	861	848	1030	2790	3630	348	e.00	94	e50	e.00
25	188	816	892	859	859	2860	3880	163	e.00	324	e25	e.00
26	180	815	817	814	903	2830	3720	92	e.00	924	e20	e.00
27	158	867	806	792	1200	3000	3700	66	e.00	1320	e5.0	e.00
28	146	979	790	820	1320	2750	3610	48	e.00	941	e10	e.00
29	119	988	747	872	---	2930	3450	57	e.00	636	e20	e.00
30	119	947	712	892	---	2890	3160	29	e.00	346	e15	e.00
31	161	---	563	994	---	2870	---	e5.0	---	249	e.00	---
TOTAL	7060	25253	25983	24413	27981	55890	95410	31243.0	0.00	4834.00	4742.00	126.00
MEAN	228	842	838	788	999	1803	3180	1008	.00	156	153	4.20
MAX	466	1610	982	1090	1320	3000	3880	3370	.00	1320	1270	12
MIN	119	208	563	514	647	1020	2610	5.0	.00	.00	.00	.00
AC-FT	14000	50090	51540	48420	55500	110900	189200	61970	.0	9590	9410	250
(+)	26000	53560	55460	54940	60520	121100	203300	74800	9420	20500	22400	13430
CAL YR 1988	TOTAL 409002.34	MEAN 1117	MAX 3560	MIN .58	AC-FT 811300	(+)	MEAN 1269	AC-FT 921400				
WTR YR 1989	TOTAL 302935.00	MEAN 830	MAX 3880	MIN .00	AC-FT 600900	(+)	MEAN 988	AC-FT 715500				

e Estimated

(+) COMBINED FLOW, IN ACRE-FT, AND MEAN, IN CUBIC FEET PER SECOND, OF FLOODWAY, CONVEYANCE CHANNEL, BERNARDO INTERIOR DRAIN AND LOWER SAN JUAN RIVERSIDE DRAIN.

08332010 RIO GRANDE FLOODWAY NEAR BERNARDO, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1956 to current year.

WATER TEMPERATURE: October 1964 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1964 to current year.

REMARKS.--Sediment total-load measurements were made monthly and total-load values were determined using equation from double-mass relationship for period of record. Some total-load data were not available at time of publication and will be available at the New Mexico District office in Albuquerque.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1964-89): Maximum daily, 1,410 microsiemens, July 23, 1976; minimum daily, 224 microsiemens, June 5, 1980.

WATER TEMPERATURE: Maximum daily, 34.5°C, Aug. 9, 1975; minimum daily, 0.0°C on several days during 1971-72, 1976-77, 1979, and 1983-87.

SEDIMENT CONCENTRATION (water years 1975-89): Maximum daily mean, 21,400 mg/L, Aug. 11, 1979; minimum daily mean, no flow on many days of most years.

SEDIMENT LOAD: Maximum daily, 356,000 tons, Aug. 11, 1967; minimum daily, 0 ton on many days each year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 715 microsiemens, July 24; minimum daily, 334 microsiemens, Apr. 16.

WATER TEMPERATURE: Maximum daily, 30.0°C, Apr. 30, May 29; minimum daily, 4.0°C, Feb. 17.

SEDIMENT CONCENTRATION: Maximum daily mean, 19,800 mg/L, Feb. 9; minimum daily mean, no flow on many days.

SEDIMENT LOAD: Maximum daily, 49,600 tons, Feb. 14; minimum daily, 0 tons, on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 03...	1515	460	630	622	8.49	8.20	21.0	15.5	10.6	19	200
FEB 10...	1030	536	585	523	8.18	8.00	8.0	5.0	10.8	--	160
JUL 23...	1030	5.0	--	--	--	--	--	--	--	15	--
27...	1030	1200	435	455	8.08	7.70	27.0	23.5	6.5	--	150
SEP 15...	0900	12	550	--	--	--	15.0	14.0	9.5	--	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)
NOV 03...	27	62	11	54	2	5.6	173	99	26	0.60	27
FEB 10...	16	51	8.8	44	2	5.0	148	72	24	0.50	25
JUL 27...	21	45	8.0	30	1	4.5	125	84	12	0.40	19

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
NOV 03...	395	1.00	0.990	0.040	0.76	1.8	0.520	0.440	16	130	11
FEB 10...	319	--	--	--	--	--	--	--	--	90	12
JUL 23...	--	--	--	--	--	--	--	--	34	--	--
27...	284	1.10	1.20	0.050	5.4	6.6	2.40	0.230	--	70	55

08332010 RIO GRANDE FLOODWAY NEAR BERNARDO, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

		ARSENIC		CADMIUM		CHRO- MIUM,		COPPER,		COPPER,		
		TOTAL (UG/L AS AS) (01002)	DIS- SOLVED (UG/L AS AS) (01000)	TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)			
NOV 03...	1515	7	6	1	3	3	<1	7	1			
DATE		LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, DIS- SOLVED TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)			
NOV 03...		<5	6	<0.10	0.3	<1	<1	20	4			
DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	STREAM WIDTH (FT) (00004)	STREAM DEPTH MEAN (FT) (00064)	STREAM VELOC- ITY, MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DISCH, SUSP. + BED MA- TERIAL (T/DAY) (80155)	SEDI- MENT, DISCH, SUSP. + BED MA- TERIAL (T/DAY) (80156)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .031 MM (70341)
NOV 03...	1515	460	334	0.89	1.50	630	15.5	125	155	280	--	0
JAN 24...	1500	847	--	--	--	508	14.0	158	361	--	72	--
JAN 30...	1213	894	331	1.5	1.83	--	0.0	519	1250	1880	--	--
FEB 10...	1030	536	--	--	--	585	5.0	148	214	339	--	--
FEB 28...	1500	1270	--	--	--	491	16.0	162	555	--	70	--
MAR 16...	1125	1370	342	2.1	1.94	440	14.5	616	2280	3590	--	0
DATE		SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM (80170)
NOV 03...	55	61	96	100	1	3	33	88	98	100	--	
JAN 30...	29	35	86	100	--	0	18	89	99	99	100	
FEB 10...	60	70	100	--	0	3	41	87	99	100	--	
MAR 16...	56	61	86	100	1	8	35	76	96	100	--	

RIO GRANDE BASIN

165

08332010 RIO GRANDE FLOODWAY NEAR BERNARDO, NM -- Continued

WATER-QUALITY RECORDS
SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	255	224	61	38	178	423	132	183	13800	39100	187	646
2	170	123	83	47	175	404	134	236	188	506	177	588
3	113	65	122	119	178	412	167	344	153	393	184	556
4	112	52	127	156	165	366	137	307	165	428	208	668
5	120	43	88	118	157	346	241	554	247	662	145	470
6	135	58	48	65	166	402	204	470	210	601	140	389
7	204	131	79	112	153	406	206	481	190	523	157	432
8	140	146	95	113	149	290	226	665	231	574	154	453
9	129	162	86	104	186	403	194	504	19800	39400	190	559
10	103	110	80	96	187	448	159	409	159	281	290	971
11	82	77	81	97	168	405	133	235	154	269	163	480
12	68	57	1090	2860	176	444	121	183	8570	19300	168	476
13	73	49	912	3500	146	345	120	192	4060	11000	237	941
14	81	44	708	3020	140	290	144	290	16400	49600	204	782
15	81	67	579	2520	192	491	141	305	182	595	261	937
16	59	47	534	2290	155	360	143	259	4510	13300	283	1020
17	61	33	407	1530	155	373	161	284	129	366	197	707
18	63	28	308	940	170	409	123	219	142	410	409	1770
19	65	31	745	1980	179	431	145	263	6870	17900	617	3020
20	60	34	232	573	167	368	228	449	133	370	586	2970
21	55	26	200	502	168	371	168	352	138	410	603	3610
22	56	23	221	563	172	397	160	360	1640	5000	560	3660
23	56	31	221	556	184	418	227	516	123	359	474	3230
24	58	37	210	507	176	409	253	579	8760	24400	496	3740
25	59	30	172	379	181	436	218	506	112	260	537	4150
26	62	30	156	343	173	382	178	391	168	410	449	3430
27	49	21	177	414	149	324	191	408	166	538	493	3990
28	45	18	225	595	164	350	234	518	177	631	456	3390
29	43	14	191	510	207	417	237	558	---	---	494	3910
30	42	13	194	496	128	246	229	552	---	---	610	4760
31	59	26	---	---	154	234	1590	4270	---	---	481	3730
TOTAL	---	1850	---	25143	---	11800	---	15842	---	227586	---	60435

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	359	2740	234	2130	0	.00	0	.00	433	330	87	.00
2	357	2630	216	1770	0	.00	0	.00	934	1330	71	.00
3	351	2580	213	1250	0	.00	0	.00	1020	3500	112	1.5
4	330	2410	193	954	0	.00	0	.00	206	513	247	8.0
5	307	2190	192	1070	0	.00	0	.00	2390	3860	226	6.1
6	279	1970	169	826	0	.00	0	.00	2610	3280	199	5.4
7	302	2130	160	657	0	.00	0	.00	1120	801	154	3.3
8	305	2200	158	516	0	.00	0	.00	435	134	164	3.5
9	289	2280	145	361	0	.00	0	.00	221	52	198	5.3
10	308	2630	163	332	0	.00	0	.00	147	12	178	4.8
11	297	2410	155	288	0	.00	0	.00	112	1.5	137	3.7
12	343	2860	176	326	0	.00	0	.00	0	.00	100	2.2
13	345	2880	192	524	0	.00	0	.00	0	.00	65	1.4
14	348	3030	215	644	0	.00	0	.00	0	.00	53	1.4
15	335	2780	138	328	0	.00	0	.00	0	.00	61	2.0
16	295	2500	139	304	0	.00	0	.00	0	.00	71	.96
17	303	2670	163	458	0	.00	0	.00	0	.00	40	.00
18	301	2800	153	686	0	.00	0	.00	0	.00	28	.00
19	310	3000	121	399	0	.00	0	.00	0	.00	23	.00
20	302	2860	107	282	0	.00	0	.00	0	.00	20	.00
21	256	2360	114	202	0	.00	0	.00	0	.00	17	.00
22	259	2360	91	141	0	.00	0	.00	0	.00	15	.00
23	282	2640	77	94	0	.00	0	.00	461	37	15	.00
24	285	2790	80	75	0	.00	6650	1690	635	86	13	.00
25	295	3090	74	33	0	.00	5380	4710	482	33	12	.00
26	272	2730	76	19	0	.00	5060	12600	483	26	12	.00
27	291	2910	55	9.8	0	.00	5610	20000	225	3.0	15	.00
28	308	3000	38	4.9	0	.00	1960	4980	266	7.2	14	.00
29	256	2380	26	4.0	0	.00	895	1540	328	18	13	.00
30	246	2100	25	2.0	0	.00	492	460	157	6.4	11	.00
31	---	---	28	.38	---	---	293	197	96	.00	---	---
TOTAL	---	77910	---	14690.08	---	0.00	---	46177.00	---	14030.10	---	49.56
TOTAL LOAD FOR YEAR:			495512.74		TONS.							

08332050 BERNARDO INTERIOR DRAIN NEAR BERNARDO, NM

LOCATION.--Lat 34°24'56", long 106°49'15", Socorro County, Hydrologic Unit 13020203, on right bank 110 ft upstream from culvert on U.S. Highway 60, and 1.0 mi east of Bernardo.

PERIOD OF RECORD.--June 1936 to May 1937, October 1943 to current year. Monthly discharge only June 1936 to May 1937, published in WSP 828. October 1943 to September 1960 included in composite records for station 08332000 "Rio Grande near Bernardo." October 1960 to September 1964, monthly acre-ft published in WSP 1923. Daily records available in district files beginning October 1943.

GAGE.--Water-stage recorder. Elevation of gage is 4,710 ft above National Geodetic Vertical Datum of 1929, from topographic map. June 4, 1936, to May 17, 1937, nonrecording gage 300 ft downstream, and Oct. 1, 1943 to Jan. 12, 1978, water-stage recorder at site 150 ft downstream at different datum.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. This drain is 1 of 4 channels (stations 08331990, 08332010, and 08332030) carrying flow in valley cross section. For combined monthly flow in acre-ft of this drain,, conveyance channel, floodway, and Lower San Juan Riverside drain, see tabulation below daily table for station 08332010. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 208 ft³/s, May 5, 1983; no flow at times. Prior to 1952, drain was subject to overflow from floodway.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	76	52	64	40	47	70	93	97	79	144	111
2	98	48	53	64	47	56	70	87	80	68	120	111
3	100	54	55	63	41	57	80	88	92	74	123	115
4	100	65	55	63	41	59	77	95	113	83	128	123
5	103	67	55	63	41	65	75	94	116	61	130	139
6	103	72	55	62	43	65	83	94	117	68	140	135
7	105	e66	56	62	43	69	88	94	124	84	132	143
8	105	e64	55	61	43	67	88	91	120	99	112	144
9	108	e60	55	60	43	70	88	85	114	112	98	143
10	108	59	56	59	43	65	79	84	96	86	107	137
11	110	56	56	58	42	68	82	91	94	85	99	134
12	113	48	55	57	43	75	86	94	94	70	87	136
13	102	50	55	57	43	75	84	86	75	78	91	136
14	104	51	55	57	43	72	98	88	76	91	82	125
15	100	52	55	58	43	78	90	86	64	104	95	125
16	105	52	56	58	43	84	89	81	66	107	106	103
17	102	52	55	58	43	86	100	95	69	125	93	133
18	98	49	55	58	43	90	89	92	65	127	103	119
19	99	48	60	58	44	85	93	81	63	120	117	111
20	96	48	68	58	43	87	82	90	59	114	127	115
21	98	48	71	58	44	86	88	77	76	94	127	126
22	99	47	75	58	44	94	90	77	83	77	123	132
23	97	48	72	58	44	88	96	71	85	89	130	119
24	88	49	67	58	44	92	87	74	90	96	124	114
25	88	50	67	53	44	88	84	69	88	96	110	102
26	93	49	66	49	44	91	81	67	106	107	110	93
27	91	49	65	47	45	94	86	78	101	124	116	107
28	96	50	65	44	46	91	88	71	103	127	115	87
29	95	51	65	40	---	83	92	69	104	127	117	85
30	97	51	66	38	---	84	100	60	79	134	136	74
31	101	---	65	38	---	77	---	69	---	130	106	---
TOTAL	3099	1629	1861	1739	1210	2388	2583	2571	2709	3036	3548	3577
MEAN	100	54.3	60.0	56.1	43.2	77.0	86.1	82.9	90.3	97.9	114	119
MAX	113	76	75	64	47	94	100	95	124	134	144	144
MIN	88	47	52	38	40	47	70	60	59	61	82	74
AC-FT	6150	3230	3690	3450	2400	4740	5120	5100	5370	6020	7040	7090

CAL YR 1988 TOTAL 26952 MEAN 73.6 MAX 141 MIN 26 AC-FT 53460
WTR YR 1989 TOTAL 29950 MEAN 82.1 MAX 144 MIN 38 AC-FT 59410

e Estimated

08334000 RIO PUERCO ABOVE ARROYO CHICO, NEAR GUADALUPE, NM

LOCATION.--Lat 35°38'08", long 107°09'56", in SW¼ sec.21, T.16 N., R.3 W., Sandoval County, Hydrologic Unit 13020204, on right bank 1.6 mi upstream from Arroyo Chico, 5.5 mi northeast of village of Guadalupe, and at mile 106.8.

DRAINAGE AREA.--420 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,950 ft above National Geodetic Vertical Datum of 1929. Prior to July 14, 1966, at datum 1.01 ft higher.

REMARKS.--Water-discharge records poor. Diversions for irrigation of about 3,700 acres upstream from station in past years, but present diversion negligible. Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE.--38 years, 13.5 ft³/s, 9,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,940 ft³/s, July 29, 1967, gage height, 13.53 ft, from rating curve extended above 1,300 ft³/s on basis of slope-area measurements at gage heights 7.75 ft and 10.60 ft; no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 29, 1943, probably exceeded 5,000 ft³/s based on records for stations upstream and downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 6	1530	1,150	5.83	July 23	0130	*2,150	*7.50

No flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.4	e.70	.00	.00	e.00	e.00	2.8	.00	.00	e.00	e15	e.00
2	e.90	.00	.00	.00	e.00	e.00	2.7	.00	.00	e.00	e9.0	e.00
3	e.50	.00	.00	.00	e.00	e.00	3.0	.00	.00	e.00	e3.0	e.00
4	e.00	.00	.00	.00	e.00	e.00	3.2	.00	.00	e.00	e.90	e.00
5	e.00	.00	.00	.00	e.00	e.00	3.2	.00	.00	e.00	e.30	e.00
6	195	.00	.00	.00	e5.0	e.00	3.3	.00	.00	e.00	e.00	e.00
7	11	.00	.00	.00	e3.0	e.00	3.3	.00	.00	e.00	e.00	e.00
8	13	.00	.00	.00	e.90	e.00	3.7	.00	.00	e.00	e.00	e.00
9	12	4.0	.00	.00	e.00	e.90	7.1	.00	.00	e.00	51	e.00
10	11	7.1	.00	e.00	e.00	e2.1	10	.00	.00	e.40	e10	e.00
11	10	9.1	.00	e.00	e.00	e3.2	11	.00	.00	e1.0	e3.0	e.00
12	7.9	9.1	.00	e.00	e.00	e4.3	6.4	.00	.00	e.00	e15	.00
13	7.5	7.5	.00	e.00	e.00	e6.1	5.1	.00	.00	e.00	e1.0	.00
14	7.1	5.7	.00	e.00	e.00	8.7	5.7	.00	.00	e.90	e.00	.00
15	6.4	8.7	.00	e.00	e.00	9.5	4.5	.00	.00	e.00	70	.00
16	6.1	e6.0	.00	e.00	e.00	10	4.2	.00	.00	e.00	e5.0	.00
17	5.7	e5.0	.00	e.00	e.00	11	4.2	.00	.00	e.00	e.50	.00
18	5.1	e3.0	.00	e.00	e.00	4.2	4.8	.00	.00	e.00	e.00	.00
19	4.2	e2.9	.00	e.00	e.00	4.2	6.1	.00	.00	e.00	e.00	.00
20	4.5	e1.9	.00	e.00	e.00	2.5	7.1	.00	.00	e.00	e.00	.00
21	4.5	e1.5	.00	e.00	e.00	1.9	2.8	.00	.00	e.00	e.00	.00
22	4.2	e1.1	.00	e.00	e.00	4.2	2.5	.00	.00	263	e5.0	.00
23	e1.9	e.90	.00	e.00	e.00	2.5	2.3	.00	.00	238	e1.0	.00
24	e.00	e.80	.00	e.00	e.00	1.3	1.5	.00	.00	e190	e.00	.00
25	e.00	e.60	.00	e.00	e.00	1.2	1.2	.00	.00	e80	e.00	.00
26	e.00	e.50	.00	e.00	e.00	1.2	.55	.00	.00	e20	e.00	.00
27	e.00	e.30	.00	e.00	e.00	1.3	.50	.00	e.00	96	e.00	.00
28	e.00	.00	.00	e2.0	e.00	1.8	.44	.00	e.00	e10	e.00	.00
29	e.00	.00	.00	e.50	---	1.5	.38	.00	e.00	36	e.00	.00
30	3.0	.00	.00	e.00	---	1.7	.16	.00	e.00	e10	e.00	.00
31	e1.0	---	.00	e.00	---	2.0	---	.00	---	55	e.00	---
TOTAL	323.90	76.40	0.00	2.50	8.90	87.30	113.73	0.00	0.00	1000.30	189.70	0.00
MEAN	10.4	2.55	.00	.081	.32	2.82	3.79	.00	.00	32.3	6.12	.00
MAX	195	9.1	.00	2.0	5.0	11	11	.00	.00	263	70	.00
MIN	.00	.00	.00	.00	.00	.00	.16	.00	.00	.00	.00	.00
AC-FT	642	152	.0	5.0	18	173	226	.0	.0	1980	376	.0

CAL YR 1988 TOTAL 5153.61 MEAN 14.1 MAX 1110 MIN .00 AC-FT 10220
WTR YR 1989 TOTAL 1802.73 MEAN 4.94 MAX 263 MIN .00 AC-FT 3580

e Estimated

08334000 RIO PUERCO ABOVE ARROYO CHICO, NEAR GUADALUPE, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948-56 (published as "below Cabezón"), 1981 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGES: July 1948 to June 1956, October 1981 to current year.

INSTRUMENTATION.--Automatic pumping sediment sampler since August 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 214,000 mg/L, Aug. 28, 1988; minimum daily mean, no flow on many days each year.

SEDIMENT LOADS: Maximum daily, 730,000 tons, July 27, 1955; minimum daily, 0 ton on many days each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 214,000 mg/L, Aug. 28; minimum daily mean, no flow on many days.

SEDIMENT LOADS: Maximum daily, 99,300 tons, Aug. 2; minimum daily, 0 ton on many days.

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2470	9.3	1710	3.2	0	.00	0	.00	0	.00	0	.00
2	1940	4.7	0	.00	0	.00	0	.00	0	.00	0	.00
3	1610	2.2	0	.00	0	.00	0	.00	0	.00	0	.00
4	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00
5	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00
6	64100	33700	0	.00	0	.00	0	.00	10000	135	0	.00
7	42500	1260	0	.00	0	.00	0	.00	6000	49	0	.00
8	35800	1260	0	.00	0	.00	0	.00	2500	6.1	0	.00
9	27300	885	8970	97	0	.00	0	.00	0	.00	2000	4.9
10	19700	585	10600	203	0	.00	0	.00	0	.00	5000	28
11	12100	327	10500	258	0	.00	0	.00	0	.00	6000	52
12	8710	186	10200	251	0	.00	0	.00	0	.00	8000	93
13	7290	148	9740	197	0	.00	0	.00	0	.00	12000	198
14	6190	119	9820	151	0	.00	0	.00	0	.00	11500	270
15	5480	95	11000	258	0	.00	0	.00	0	.00	10900	280
16	5160	85	11400	185	0	.00	0	.00	0	.00	12000	324
17	4780	74	11400	154	0	.00	0	.00	0	.00	13100	389
18	4330	60	9810	79	0	.00	0	.00	0	.00	8870	101
19	4200	48	7810	61	0	.00	0	.00	0	.00	7600	86
20	4050	49	6250	32	0	.00	0	.00	0	.00	6710	45
21	4060	49	5280	21	0	.00	0	.00	0	.00	9050	46
22	3850	44	4960	15	0	.00	0	.00	0	.00	9280	105
23	3360	17	3890	9.5	0	.00	0	.00	0	.00	7350	50
24	0	.00	3450	7.5	0	.00	0	.00	0	.00	6330	22
25	0	.00	2960	4.8	0	.00	0	.00	0	.00	6260	20
26	0	.00	2620	3.5	0	.00	0	.00	0	.00	6890	22
27	0	.00	2390	1.9	0	.00	0	.00	0	.00	7340	26
28	0	.00	0	.00	0	.00	12000	65	0	.00	8540	42
29	0	.00	0	.00	0	.00	500	.68	---	---	8320	34
30	2340	19	0	.00	0	.00	0	.00	---	---	8600	39
31	2050	5.5	---	---	0	.00	0	.00	---	---	7710	42
TOTAL	---	39031.70	---	1992.40	---	0.00	---	65.68	---	190.10	---	2318.90

WATER-QUALITY RECORDS

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9240	70	0	.00	0	.00	0	.0	54800	2220	0	.00
2	8190	60	0	.00	0	.00	0	.0	20700	503	0	.00
3	7090	57	0	.00	0	.00	0	.0	15600	126	0	.00
4	7320	63	0	.00	0	.00	0	.0	9720	24	0	.00
5	7230	62	0	.00	0	.00	0	.0	6030	4.9	0	.00
6	7340	65	0	.00	0	.00	0	.0	0	.00	0	.00
7	7100	63	0	.00	0	.00	0	.0	0	.00	0	.00
8	8100	81	0	.00	0	.00	0	.0	0	.00	0	.00
9	11400	219	0	.00	0	.00	0	.0	50200	6910	0	.00
10	13300	359	0	.00	0	.00	1940	2.1	44300	1200	0	.00
11	14500	431	0	.00	0	.00	3210	8.7	23800	193	0	.00
12	11900	206	0	.00	0	.00	0	.0	26800	1090	0	.00
13	11500	158	0	.00	0	.00	0	.0	22600	61	0	.00
14	10400	160	0	.00	0	.00	2070	5.0	0	.00	0	.00
15	9910	120	0	.00	0	.00	0	.0	77600	14700	0	.00
16	9200	104	0	.00	0	.00	0	.0	45000	607	0	.00
17	8640	98	0	.00	0	.00	0	.0	21200	29	0	.00
18	8910	115	0	.00	0	.00	0	.0	0	.00	0	.00
19	9690	160	0	.00	0	.00	0	.0	0	.00	0	.00
20	8880	170	0	.00	0	.00	0	.0	0	.00	0	.00
21	7950	60	0	.00	0	.00	0	.0	0	.00	0	.00
22	6290	42	0	.00	0	.00	34300	24400	13200	178	0	.00
23	5490	34	0	.00	0	.00	102000	65500	18800	51	0	.00
24	4390	18	0	.00	0	.00	33500	17200	0	.00	0	.00
25	3690	12	0	.00	0	.00	26400	5700	0	.00	0	.00
26	3240	4.8	0	.00	0	.00	54600	2950	0	.00	0	.00
27	2640	3.6	0	.00	0	.00	29700	7700	0	.00	0	.00
28	2770	3.3	0	.00	0	.00	17900	483	0	.00	0	.00
29	2560	2.6	0	.00	0	.00	81500	7920	0	.00	0	.00
30	1960	.85	0	.00	0	.00	39700	1070	0	.00	0	.00
31	---	---	0	.00	---	---	48400	7190	0	.00	---	---
TOTAL	---	3002.15	---	0.00	---	0.00	---	140128.8	---	27896.90	---	0.00
TOTAL LOAD FOR YEAR: 214626.63 TONS.												

RIO GRANDE BASIN

08341400 BLUEWATER LAKE NEAR BLUEWATER, NM

LOCATION.--Lat 35°17'31", long 108°06'40", in SE¼ sec.9, T.12 N., R.12 W., Cibola County, Hydrologic Unit 13020207, at left end of Bluewater Dam on Bluewater Creek, and 9.5 mi west of Bluewater.

DRAINAGE AREA.--201 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1927 to December 1950 (monthend contents only, published in WSP 1732), April 1958 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is 7,345.57 ft above National Geodetic Vertical Datum of 1929. July 1958 to January 1961, nonrecording gage at nearby site, same datum. Gage heights have been converted to sea-level elevations.

REMARKS.--Lake is formed by concrete arch dam. Storage began in 1927. Capacity, 38,500 acre-ft, survey of 1945 at elevation 7,402.6 ft, crest of uncontrolled siphon spillway, which is vented to avoid drawdown below crest, and 44,200 acre-ft, at elevation 7,405.6 ft, crest of ungated spillway over dam. Capacity table used through 1944 showed a capacity of 50,300 acre-ft at crest of ungated spillway over dam, and that used from 1945-50, 43,500 acre-ft. Tables used prior to 1958 are not available and no adjustments are made for changes in tables. Dead storage, 3.4 acre-ft at elevation 7,345.4 ft, sill of lower outlet tube. Lake not usually drawn below conservation-pool-level elevation, 7,365.36 ft, below which ownership is by State Game and Fish Department. Above this level, water is owned and used by Bluewater-Toltec Irrigation Co. Figures given herein represent total contents at 2400 hours.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents determined, 47,100 acre-ft, Apr. 30, 1941. Contents may have been greater on Apr. 28, 1941, when peak discharge of 800 ft³/s occurred at station 8 mi downstream; no storage at times prior to 1947.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 11,610 acre-ft, Mar. 16, elevation, 7,380.9 ft; minimum, 3,650 acre-ft, Sept. 30, elevation, 7,366.3 ft.

MONTHEND ELEVATION AND CONTENTS, AT 2400 HOURS, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	7,379.8	10,780	-----
Oct. 31	7,379.2	10,330	- 450
Nov. 30	7,379.0	10,180	- 150
Dec. 31	7,378.9	10,110	- 70
CAL YR 1988			- 4,230
Jan. 31	7,379.1	10,260	+ 150
Feb. 28	7,379.5	10,560	+ 300
Mar. 31	7,380.4	11,240	+ 680
Apr. 30	7,378.5	9,820	- 1,420
May 31	7,373.2	6,490	- 3,330
June 30	7,367.1	3,920	- 2,570
July 31	7,366.7	3,780	- 140
Aug. 31	7,366.9	3,850	+ 70
Sept. 30	7,366.3	3,650	- 200
WTR YR 1989			- 7,130

08341400 BLUEWATER LAKE NEAR BLUEWATER, NM -- Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected in Bluewater Lake impounded by Bluewater Dam on Bluewater Creek.

PERIOD OF RECORD.--Water years 1966-69, 1987 to current year.

REMARKS.--Samples for chemical analyses are collected 300 ft upstream from Bluewater Dam near Shore.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV 08...	0900	500	554	8.45	7.80	15.5	7.5	9.9	270	120	77
MAR 16...	1230	590	557	7.80	8.10	11.0	7.5	9.3	280	130	79
JUN 07...	1130	650	621	8.40	8.30	24.0	19.0	8.3	300	140	86
AUG 30...	1300	710	626	8.00	7.90	28.0	22.0	9.4	310	160	88
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
NOV 08...	20	11	0.3	6.6	146	14	144	153	130	9.1	0.30
MAR 16...	20	11	0.3	2.2	200	0	164	150	140	5.9	0.30
JUN 07...	21	12	0.3	2.5	190	17	184	164	160	6.2	0.40
AUG 30...	22	14	0.4	2.9	192	0	157	147	170	6.4	0.40
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	
NOV 08...	16	362	3	4	70	<1	4	<1	<1	4	
MAR 16...	14	362	--	--	50	--	--	--	--	--	
JUN 07...	13	399	--	--	50	--	--	--	--	--	
AUG 30...	14	406	--	--	40	--	--	--	--	--	
DATE	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	
NOV 08...	3	5	<5	<5	<0.10	<0.1	<1	<1	<10	7	
MAR 16...	--	18	--	--	--	--	--	--	--	--	
JUN 07...	--	8	--	--	--	--	--	--	--	--	
AUG 30...	--	10	--	--	--	--	--	--	--	--	

08343000 RIO SAN JOSE AT GRANTS, NM

LOCATION.--Lat 35°09'16", long 107°52'11", in SW¼NW¼ sec.26, T.11 N., R.10 W., Cibola County, Hydrologic Unit 13020207, on right bank at bridge on El Morro St., 0.2 mi south of Santa Fe Ave. in Grants, and at mile 67.8

DRAINAGE AREA.--1,020 mi², approximately.

PERIOD OF RECORD.--October 1912 to February 1914, June 1914, October 1914 to February 1915, May 1915 to June 1921, September 1921 to June 1923, October 1923 to May 1926, September to December 1926, May 1949 to September 1966, June 1968 to current year. Monthly discharge only for some periods published in WSP 1312. Prior to October 1967, published as "Bluewater Creek at Grants."

REVISED RECORDS.--WSP 1512: 1913-14. WSP 1712: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,468.34 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). See WSP 1732 or 1923 for history of changes prior to Jan. 1, 1926.

REMARKS.--Records good. Flow slightly regulated by Bluewater Lake (station 08341400) 24 mi upstream. Diversions and ground-water withdrawals for irrigation of about 4,500 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years (water years 1913, 1915-20, 1922, 1924-1925, 1950-66, 1968-89), 2.91 ft³/s, 2,110 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (1950-66 AND SINCE 1968).--Maximum discharge recorded, 1,760 ft³/s, Aug. 28, 1952, gage height, 5.35 ft, from rating curve extended above 300 ft³/s on basis of velocity-area studies; no flow for long periods.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood observed occurred Sept. 6 or 7, 1909, when Bluewater Dam washed out. A flood in July 1919 probably exceeded the one in 1952.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 4	2015	*7.2	*1.74				

No flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.71
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.19
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.07
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97
MEAN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.032
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.71
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1.9

CAL YR 1988 TOTAL 0.72 MEAN .002 MAX .34 MIN .00 AC-FT 1.4
WTR YR 1989 TOTAL 0.97 MEAN .003 MAX .71 MIN .00 AC-FT 1.9

08343100 GRANTS CANYON AT GRANTS, NM

LOCATION.--Lat 35°09'39", long 107°50'15", in NE¼NE¼ sec.25, T.11 N., R.10 W., Cibola County, Hydrologic Unit 13020207, on upstream side of culvert under Roosevelt Avenue, in Grants, 0.2 mi east of intersection of Roosevelt and First Avenues, and 1.1 mi upstream from confluence with Rio San Jose (formerly Bluewater Creek).

DRAINAGE AREA.--13.0 mi².

PERIOD OF RECORD.--December 1961 to current year.

GAGE.--Water-stage recorder and culvert control. Elevation of gage is 6,450 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--28 years, 0.119 ft³/s, 86 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,550 ft³/s, Aug. 26, 1963, gage height, 5.10 ft, from rating curve extended above 220 ft³/s on basis of slope-area measurements at gage heights 3.17 ft, 5.10 ft, and 5.38 ft; maximum gage height, 5.38 ft, Sept. 8, 1967; no flow for most of time.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 175 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 1	1245	*190	*1.68	No other peak greater than base discharge			
No flow most of time.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	5.6	.00
2	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
3	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
4	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
5	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
6	2.2	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
7	.16	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
8	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
9	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
10	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
11	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
12	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
13	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
14	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
15	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
16	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
17	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
18	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
19	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
20	.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
21	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
22	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
23	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
24	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
25	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
26	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
27	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
28	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
29	.00	e.00	.00	.00	---	.00	.00	.00	.00	.00	e.00	.00
30	.00	e.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	2.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.60	0.00
MEAN	.076	.00	.00	.00	.00	.00	.00	.00	.00	.00	.18	.00
MAX	2.2	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.6	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	4.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	11	.0

CAL YR 1988 TOTAL 37.91 MEAN .10 MAX 18 MIN .00 AC-FT 75
WTR YR 1989 TOTAL 7.96 MEAN .022 MAX 5.6 MIN .00 AC-FT 16

e Estimated

08343500 RIO SAN JOSE NEAR GRANTS, NM

LOCATION.--Lat 35°04'27", long 107°45'01", in SE¼SE¼ sec.23, T.10 N., R.9 W., Cibola County, Hydrologic Unit 13020207, on right bank at west boundary of Acoma Pueblo Grant, 8.5 mi southeast of Grants, and at mile 57.4.

DRAINAGE AREA.--2,300 mi², approximately, of which 1,130 mi² does not contribute directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1936 to current year. Prior to October 1955, published as "San Jose River near Grants."

REVISED RECORDS.--WSP 898: 1936-39(M). WSP 1512: 1943. WSP 1712: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 6,269.47 ft above National Geodetic Vertical Datum of 1929.

REMARKS.-- Water-discharge records good. Flow slightly regulated by Bluewater Lake (station 08341400), 34 mi upstream. Diversions and ground-water withdrawal for irrigation of about 5,100 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--53 years, 6.71 ft³/s, 4,860 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,400 ft³/s, Sept. 20, 1963, gage height, 4.87 ft, from rating curve extended above 450 ft³/s on basis of slope-area measurements at gage heights 3.19 ft and 4.87 ft; minimum, 1.9 ft³/s, Feb. 21, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood probably occurred Sept. 6 or 7, 1909, following destruction of Bluewater Dam. The peak of Sept. 20, 1963, may have been exceeded by those of July 1919, August and September 1929, and August 1935.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 3	1300	*14	*1.68				

Minimum daily discharge, 4.0 ft³/s, Apr. 13, 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	6.0	5.6	5.1	6.6	6.3	4.6	4.4	12	6.3	4.4	5.1
2	6.2	6.3	5.7	5.3	6.6	6.3	4.6	4.6	13	6.3	4.6	5.0
3	6.1	6.3	5.8	5.4	6.6	6.3	4.3	4.5	13	6.2	4.7	4.8
4	6.1	6.2	5.9	6.1	6.7	5.9	4.3	4.3	12	6.1	4.6	4.6
5	6.2	5.9	5.8	6.5	6.6	5.6	4.3	4.4	11	6.2	4.6	4.6
6	6.2	6.1	5.8	7.1	5.8	5.6	4.3	4.5	10	5.9	4.5	4.7
7	6.6	6.3	5.9	6.2	6.1	5.6	4.4	4.7	9.2	5.7	4.4	4.7
8	7.1	6.2	5.2	5.3	6.1	5.6	4.3	4.9	8.4	5.6	4.4	4.5
9	6.9	6.3	5.3	5.2	6.4	5.6	4.3	5.0	7.9	5.7	4.3	4.4
10	6.4	6.2	5.5	5.4	6.4	5.7	4.3	5.2	7.3	5.9	4.1	4.4
11	6.2	6.2	5.6	5.7	6.3	5.8	4.3	5.7	6.9	5.9	4.1	4.3
12	6.0	6.3	5.3	5.5	6.3	5.9	4.3	6.1	6.6	5.9	4.3	4.3
13	5.8	6.3	5.4	5.4	6.1	5.9	4.0	6.3	6.5	5.7	4.4	4.3
14	5.9	6.4	5.8	5.4	6.0	5.8	4.0	6.7	6.4	5.2	4.4	4.3
15	6.1	6.2	5.5	5.3	6.1	5.6	4.1	6.8	6.6	5.1	4.3	4.4
16	6.4	6.1	5.2	5.3	6.1	5.7	4.2	7.0	6.7	5.2	4.3	4.4
17	6.4	6.3	5.5	5.4	6.3	5.7	4.4	7.3	6.9	5.4	4.3	4.5
18	6.4	6.5	5.6	5.9	6.3	5.7	4.3	7.7	7.0	5.0	4.3	4.6
19	6.3	6.6	5.7	5.9	6.4	5.4	4.4	7.7	6.9	4.2	4.6	4.7
20	6.1	6.5	5.6	6.0	6.6	5.3	4.6	8.0	6.6	4.2	4.6	4.7
21	6.1	6.4	5.6	6.1	6.1	5.4	4.6	8.2	6.6	4.3	4.7	4.5
22	6.2	6.2	5.4	6.2	5.8	5.6	4.8	8.7	6.7	4.7	5.0	4.6
23	6.3	6.2	5.3	6.6	5.9	5.5	4.5	9.5	6.8	4.7	5.0	4.6
24	6.3	6.3	5.2	6.7	5.9	5.0	4.6	9.7	6.9	4.8	5.0	4.7
25	6.4	6.3	5.5	6.7	6.1	5.0	4.5	10	6.8	4.8	5.0	4.7
26	6.4	6.2	5.3	6.6	6.2	5.0	4.5	11	6.8	4.8	5.2	4.6
27	6.2	6.0	4.9	6.6	6.3	4.9	4.3	10	6.9	4.7	5.3	4.5
28	6.1	5.9	4.7	6.7	6.2	4.9	4.3	11	6.5	4.5	5.3	4.4
29	6.1	5.8	4.8	6.8	---	4.6	4.2	11	6.5	4.7	5.3	4.4
30	6.1	5.8	4.9	6.8	---	4.5	4.1	12	6.4	4.7	5.3	4.4
31	6.0	---	5.0	6.5	---	4.5	---	12	---	4.5	5.3	---
TOTAL	193.8	186.3	168.3	185.7	174.9	170.2	130.7	228.9	237.8	162.9	144.6	136.7
MEAN	6.25	6.21	5.43	5.99	6.25	5.49	4.36	7.38	7.93	5.25	4.66	4.56
MAX	7.1	6.6	5.9	7.1	6.7	6.3	4.8	12	13	6.3	5.3	5.1
MIN	5.8	5.8	4.7	5.1	5.8	4.5	4.0	4.3	6.4	4.2	4.1	4.3
AC-FT	384	370	334	368	347	338	259	454	472	323	287	271

CAL YR 1988 TOTAL 2271.0 MEAN 6.20 MAX 50 MIN 3.6 AC-FT 4500
WTR YR 1989 TOTAL 2120.8 MEAN 5.81 MAX 13 MIN 4.0 AC-FT 4210

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

		DIS- CHARGE, INST. CUBIC FEET	SPE- CIFIC CON- DUCT-	SPE- CIFIC CON- DUCT- ANCE	PH (STAND- ARD	PH LAB (STAND- ARD	TEMPER- ATURE AIR	TEMPER- ATURE WATER	OXYGEN, DIS- SOLVED	OXYGEN DEMAND, CHEM- ICAL (HIGH	HARD- NESS TOTAL	HARD- NESS NONCARB TOT FLD
DATE	TIME	PER SECOND (00061)	ANCE (US/CM) (00095)	LAB (US/CM) (90095)	ARD UNITS (00400)	ARD UNITS (00403)	(DEG C) (00020)	(DEG C) (00010)	(MG/L) (00300)	LEVEL) (MG/L) (00340)	AS CACO3) (00900)	MG/L AS CACO3 (00902)
NOV 10...	1040	5.6	1400	1450	8.00	8.00	18.0	13.0	9.0	19	400	170
JAN 27...	1145	6.7	1500	--	8.00	--	2.0	7.0	8.6	--	--	--
MAR 16...	1515	5.6	1710	1680	8.40	7.90	21.0	15.0	13.6	14	450	210
JUN 07...	1400	9.4	1350	1420	8.50	8.10	26.0	19.0	11.0	20	370	140
AUG 30...	1430	5.3	1250	--	8.00	--	22.5	19.0	10.2	<10	--	--
DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD CO3 (00452)	ALKA- LILITY WAT DIS TOT IT FIELD CACO3 (39086)	ALKA- LILITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
NOV 10...	89	44	160	4	7.5	297	0	244	237	320	130	0.70
JAN 27...	--	--	--	--	--	290	0	238	--	--	--	--
MAR 16...	93	52	200	4	8.2	242	35	256	234	420	160	0.80
JUN 07...	84	39	150	3	7.2	193	55	250	227	320	140	0.80
AUG 30...	--	--	--	--	--	271	0	222	--	--	--	--
DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHO- DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
NOV 10...	26	930	1.30	1.30	1.30	0.10	2.7	1.50	1.40	3.3	5	5
JAN 27...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 16...	26	1110	2.00	<0.100	0.560	0.74	3.3	1.90	1.50	4.0	--	--
JUN 07...	26	907	2.70	<0.100	0.500	0.90	4.1	1.10	1.10	3.8	--	--
AUG 30...	--	--	1.30	1.60	0.050	0.65	2.0	0.780	0.650	2.7	--	--
DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
NOV 10...	340	<1	3	4	2	4	2	17	<5	<5	<0.10	0.1
JAN 27...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 16...	380	--	--	--	--	--	--	10	--	--	--	--
JUN 07...	340	--	--	--	--	--	--	12	--	--	--	--
AUG 30...	--	--	--	--	--	--	--	--	--	--	--	--

RIO GRANDE BASIN

08343500 RIO SAN JOSE NEAR GRANTS, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN, NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM TOTAL FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G YT-90) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)
NOV 10...	4	3	40	11	3.0	38	240	3	<10	10	10	10
DATE	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	GROSS ALPHA, DIS- SOLVED (UG/L U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)
NOV 10...	7400	<100	120	<0.02	30	11	0.9	13	2.1	8.0	1.9	0.07
DATE	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. 0.7 & FINER THAN (0.062 MM 100 ML) (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	
NOV 10...	3.6	124	1.9	91	K41	48	--	--	--	--	--	--
JAN 27...	--	97	1.8	92	42	58	--	--	--	--	--	--
MAR 16...	--	95	1.4	97	73	K150	--	--	--	--	--	--
JUN 07...	--	111	2.8	68	39	39	--	--	--	--	--	--
AUG 30...	--	--	--	--	54	55	<0.1	<0.010	<0.1	<0.010	<0.010	--
DATE	DDT, TOTAL (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	
AUG 30...	<0.010	<0.01	<0.010	<0.010	<0.010	<0.01	<0.010	<0.010	0.010	<0.01	<0.01	
DATE	METHYL PARA- THION, TOTAL (UG/L) (39600)	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOTAL TRI- THION TOTAL (UG/L) (39786)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PER- THANE TOTAL (UG/L) (39034)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	MIREX, TOTAL (UG/L) (39755)	
MAR 16...	--	--	--	--	--	<0.01	<0.01	<0.01	--	--	--	
AUG 30...	<0.01	<0.01	<0.01	<1	<0.01	--	--	--	<0.1	<0.10	<0.01	

08349800 RIO PAGUATE BELOW JACKPILE MINE NEAR LAGUNA, NM

LOCATION.--Lat 35°07'09", long 107°19'58", in SW¼SE¼ sec.2, T.10 N., R.5 W., Cibola County, Hydrologic Unit 13020207, in Paguate Purchase Grant, near right bank on downstream end of bridge piling of the Atchison, Topeka and Santa Fe Railway Co. bridge, 1.4 mi downstream from Rio Moquino, 4.2 mi upstream from Paguate Reservoir, 5.0 mi southeast of Paguate, and 26 mi east of Grants.

DRAINAGE AREA.--107 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1976 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,820 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--13 years, 2.83 ft³/s, 2,050 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,200 ft³/s, Aug. 5, 1988, gage height, 23.0 ft, from floodmarks, from rating curve extended above 20 ft³/s on basis of slope-area measurements at gage heights 8.60 ft and 23.0 ft and contracted-opening measurement at gage height 10.19 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 30	2245	*167	*2.76	No other peak greater than base discharge			
No flow at times.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.8	e2.3	e3.0	4.8	1.6	1.6	.94	1.1	.22	.02	3.3	.0
2	e1.0	e2.7	e3.1	4.8	.89	1.6	1.0	1.1	.23	.01	.31	1.4
3	e.80	e2.8	e3.1	4.6	.89	1.6	.95	1.0	.23	.01	.13	.64
4	e.60	e2.0	e3.1	3.4	.89	1.6	.94	1.0	.21	.0	.14	.00
5	e.50	e2.2	e2.7	1.5	.91	2.8	1.0	.94	.21	.0	.09	.00
6	e.90	e1.8	e2.1	3.4	3.9	2.2	.98	.86	.18	.00	.08	.00
7	e2.2	e1.9	e1.8	5.6	6.7	1.2	.96	.86	.18	.00	.07	.00
8	e1.9	e2.1	e1.6	6.8	5.6	1.2	.97	.75	.18	.00	.07	.00
9	e1.0	e2.0	e2.5	6.8	2.0	1.3	.96	.71	.18	.00	.07	.00
10	e1.3	e2.0	e2.1	6.9	1.1	1.3	.90	.77	.18	.13	.09	.00
11	e1.1	e2.4	e1.9	6.7	1.1	1.3	1.1	.73	.16	.04	.08	.00
12	e1.0	e2.5	e1.8	6.5	1.6	1.4	1.1	.66	.15	.0	.06	.00
13	e1.0	e2.7	e1.8	6.5	1.3	1.5	1.2	.56	.16	.00	.08	.00
14	e1.1	e2.9	e2.1	6.5	1.8	1.6	1.1	.51	.17	.00	.07	.00
15	e1.1	e2.9	e1.9	6.5	1.2	1.7	1.0	.49	.17	.00	.07	.00
16	e1.4	e2.8	6.5	6.5	1.8	1.2	1.0	.52	.13	.01	.06	.00
17	e1.3	e2.6	1.6	6.5	1.3	1.1	1.3	.64	.10	.01	.05	.00
18	e1.6	e2.5	2.1	6.5	1.3	1.1	1.4	.59	.11	.00	.08	.00
19	e1.7	e2.6	1.5	6.4	1.5	.96	1.3	.46	.10	.09	.09	.00
20	e1.2	e2.6	4.3	5.7	1.4	1.2	1.3	.42	.11	.02	.05	.00
21	e2.4	e2.7	5.8	4.6	3.4	1.7	1.3	.37	.09	.00	.18	.00
22	e2.1	e2.4	6.9	2.7	2.9	1.3	1.2	.35	.09	.0	.18	.00
23	e1.5	e2.2	8.3	.93	1.3	1.0	1.1	.32	.11	.05	.07	.00
24	e1.4	e2.2	11	.65	1.3	1.0	1.0	.32	.08	.10	.05	.00
25	e.90	e2.1	7.7	.62	1.3	.98	1.2	.28	.06	2.0	.03	.00
26	e1.0	e2.4	6.1	1.7	1.5	.85	1.1	.29	.04	6.3	.01	.00
27	e1.9	e2.3	4.8	.87	1.5	.92	1.1	.32	.05	.59	.01	.00
28	e2.2	e2.3	4.8	1.0	1.6	.87	1.2	.29	.05	.39	.01	.00
29	e2.1	e2.9	4.8	2.5	---	.83	.99	.26	.04	.33	.01	.00
30	e2.1	e2.9	4.8	2.9	---	.81	1.0	.24	.04	7.4	.0	.00
31	e2.1	---	4.8	2.5	---	.88	---	.23	---	2.7	.0	---
TOTAL	44.20	72.7	120.4	133.87	53.58	40.60	32.59	17.94	4.01	20.20	5.59	2.04
MEAN	1.43	2.42	3.88	4.32	1.91	1.31	1.09	.58	.13	.65	.18	.068
MAX	2.4	2.9	11	6.9	6.7	2.8	1.4	1.1	.23	7.4	3.3	1.4
MIN	.50	1.8	1.5	.62	.89	.81	.90	.23	.04	.00	.00	.00
AC-FT	88	144	239	266	106	81	65	36	8.0	40	11	4.0

CAL YR 1988 TOTAL 5806.38 MEAN 15.9 MAX 3000 MIN .00 AC-FT 11520
WTR YR 1989 TOTAL 547.72 MEAN 1.50 MAX 11 MIN .00 AC-FT 1090

e Estimated

RIO GRANDE BASIN

08349800 RIO PAQUATE BELOW JACKPILE MINE NEAR LAGUNA, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977, 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
NOV 09...	1000	1.5	1950	2130	8.15	7.90	15.0	9.5	9.4	940	680
MAR 16...	1600	1.0	1820	1790	8.40	7.90	21.0	15.0	8.4	760	530
JUN 05...	1445	0.21	2550	2500	8.40	8.00	32.0	29.5	6.4	1100	910

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV 09...	180	120	170	2	8.0	334	0	274	260	1000
MAR 16...	140	99	140	2	7.8	227	48	266	232	830
JUN 05...	180	160	250	3	11	256	11	228	201	1400

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 09...	20	0.50	23	1680	<1	1	120	<1	1	2
MAR 16...	20	0.50	26	1400	1	1	90	<1	2	3
JUN 05...	27	0.80	24	2170	<1	<1	20	<1	<1	<1

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)
NOV 09...	<1	3	3	20	<5	<5	<0.10	<0.1	4	3
MAR 16...	1	2	5	9	<5	<5	<0.10	0.1	5	5
JUN 05...	2	2	3	20	<1	<1	<0.10	<0.1	10	10

DATE	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
NOV 09...	10	10	200	2.7	55	24	35	24	0.43	120
MAR 16...	<10	33	130	6.1	39	22	26	20	0.60	140
JUN 05...	<10	10	330	2.1	210	2.5	160	2.0	0.42	310

08351500 RIO SAN JOSE AT CORREO, NM

LOCATION.--Lat 34°58'03", long 107°10'10", in NE¼ sec.32, T.9 N., R.3 W., Cibola County, Hydrologic Unit 13020207, on left bank 0.3 mi downstream from State Highway 6, 1.2 mi northeast of Correo, and 13 mi upstream from mouth.

DRAINAGE AREA.--3,660 mi², approximately, of which about 1,130 mi² does not contribute directly to surface runoff.

PERIOD OF RECORD.--April 1943 to current year. Prior to October 1955, published as "San Jose River at Correo".

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,474.88 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1958 to Sept. 30, 1975, water-stage recorder at site 1 mi upstream at datum 17.55 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated to some extent since 1927 by Bluewater Lake (station 08341400) 79 mi upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--45 years, 11.6 ft³/s, 8,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,150 ft³/s, Aug. 11, 1955; maximum gage height, 20.7 ft, Aug. 22, 1958, backwater from dam (present datum); no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood that probably occurred Aug. 21, 1935, reached a stage of 15.4 ft, from floodmarks, (discharge, about 11,000 ft³/s), but was probably exceeded by the flood of Sept. 23, 1929 (discharge not determined), based on study of records for Rio Puerco at Rio Puerco.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 31	1345	*880	*4.78	No other peak greater than base discharge			
No flow for many days.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	5.1	9.5	.87	14	7.6	8.9	.00	.00	.00	48	.00
2	3.6	6.1	11	1.2	14	7.8	8.6	.00	.00	.00	207	.00
3	3.0	6.2	13	5.8	12	8.2	8.7	.00	.00	.00	48	.00
4	2.4	6.0	12	16	10	8.2	8.6	.00	.00	.00	9.9	.00
5	2.3	6.7	9.1	17	11	8.4	9.2	.00	.00	.00	3.1	.22
6	3.1	6.0	8.8	15	7.9	8.1	8.7	.00	.00	.00	.87	.19
7	5.5	6.5	11	13	8.3	7.8	8.9	.00	.00	.00	.43	.46
8	4.9	6.8	9.4	6.9	13	7.8	8.9	.00	.00	.00	.90	1.1
9	3.9	6.7	6.8	e6.5	15	7.4	8.8	.00	.00	.00	1.1	.49
10	4.3	6.6	9.5	e5.5	14	6.9	9.3	.00	.00	.00	.45	.49
11	4.0	7.1	11	e4.0	12	6.6	9.5	.00	.00	.00	.25	.50
12	3.7	7.3	12	e3.5	11	6.3	9.9	.00	.00	.00	.19	.55
13	3.7	7.2	18	e3.0	11	6.3	11	.00	.00	.00	.18	.30
14	3.8	7.5	20	e1.2	9.9	6.2	10	.00	.00	.00	.15	.14
15	3.8	8.0	14	e3.0	9.5	6.3	10	.00	.00	.00	.13	.03
16	4.3	7.9	8.3	3.0	9.4	6.4	11	.00	.00	.00	.12	.00
17	4.2	7.3	13	1.6	9.1	6.8	4.4	.00	.00	.00	.05	.00
18	4.7	7.7	11	3.5	9.2	6.5	1.4	.00	.00	.00	e.00	.00
19	4.9	8.3	11	12	9.3	6.5	1.0	.00	.00	.00	e.00	.05
20	4.3	8.2	9.6	18	9.9	7.2	.70	.00	.00	.00	e.00	.02
21	6.6	7.7	9.7	15	9.5	9.2	.52	.00	.00	.26	e.00	.00
22	5.2	7.0	8.0	27	8.4	11	.33	.00	.00	.01	e.00	.00
23	4.7	8.0	9.1	19	8.4	10	.17	.00	.00	.00	e.00	.00
24	4.3	9.4	7.3	20	8.6	9.3	.05	.00	.00	9.1	e.00	.00
25	3.6	8.9	8.1	19	8.6	8.5	.01	.00	.00	18	e.00	.00
26	3.9	9.1	12	13	8.5	8.2	.12	.00	.00	57	e.00	.00
27	5.3	6.7	7.0	18	8.3	8.2	.50	.00	.00	67	e.00	.00
28	6.3	5.6	7.3	14	7.9	8.9	.08	.00	.00	17	e.00	.00
29	6.2	6.2	7.4	13	---	8.9	.01	.00	.00	3.0	e.00	.00
30	6.3	8.0	.87	11	---	8.3	.00	.00	.00	16	e.00	.00
31	6.3	---	.90	11	---	8.0	---	.00	---	230	e.00	---
TOTAL	137.3	215.8	305.67	320.57	287.7	241.8	159.29	0.00	0.00	417.37	320.82	4.54
MEAN	4.43	7.19	9.86	10.3	10.3	7.80	5.31	.00	.00	13.5	10.3	.15
MAX	6.6	9.4	20	27	15	11	11	.00	.00	230	207	1.1
MIN	2.3	5.1	.87	.87	7.9	6.2	.00	.00	.00	.00	.00	.00
AC-FT	272	428	606	636	571	480	316	.0	.0	828	636	9.0

CAL YR 1988 TOTAL 9361.89 MEAN 25.6 MAX 2640 MIN .00 AC-FT 18570
WTR YR 1989 TOTAL 2410.86 MEAN 6.61 MAX 230 MIN .00 AC-FT 4780

e Estimated

08353000 RIO PUERCO NEAR BERNARDO, NM

LOCATION.--Lat 34°24'33", long 106°51'09", in SE¼ sec.8, T.2 N., R.1 E., Socorro County, Hydrologic Unit 13020204, on bridge on former U.S. Highway 85 and 0.2 mi upstream from Interstate Highway 25, 1.2 mi southwest of Bernardo, 3 mi upstream from mouth, and 18 mi south of Belen.

DRAINAGE AREA.--7,350 mi², approximately, of which at least 1,130 mi² does not contribute directly to surface runoff.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1939 to current year. Fragmentary gage height-record and footnotes concerning no flow for the period September 1910 to August 1914, published in WSP 358 and 388, are in error and should not be used.

REVISED RECORDS.--WSP 1512: 1941-42, 1944-45, 1946(P), 1947-49. WSP 1632: 1957. WSP 1732: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 4,722.34 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 24, 1969, at datum 3.10 ft higher.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Diversions for irrigation of about 11,500 acres upstream from station (includes 3,700 acres irrigated wholly or partly from wells).

AVERAGE DISCHARGE.--49 years (water years 1941-89), 44.5 ft³/s, 32,240 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,800 ft³/s, Sept. 23, 1941, from rating curve extended above 7,800 ft³/s; maximum gage height, 16.9 ft, present datum, Aug. 12, 1955; no flow for extended periods.

EXTREMES OUTSIDE PERIOD OF RECORD.--The greatest flood since about 1880 occurred Sept. 23, 1929, from information by local residents (discharge, about 35,000 ft³/s, estimated on basis of peak at Rio Puerco). Another flood occurred Aug. 12, 1929 (discharge, 30,600 ft³/s, by slope-area measurement, from reports of New Mexico State Engineer).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 2	1730	*912	*8.35				

No flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.00	.00	.00	3.2	32	e.00	e.00	.00	.00	72	e.00
2	.10	.00	.00	.00	3.4	29	e.00	e.00	.00	.00	623	e.00
3	.00	.00	.00	.00	3.2	14	e.00	e.00	.00	.00	604	e.00
4	.00	.00	.00	.00	3.4	e1.0	e.00	e.00	.00	.00	e190	e.00
5	.00	.00	.00	.00	3.0	e.00	e.00	e.00	.00	.00	e60	e.00
6	.00	.00	4.4	.00	e1.0	e.00	e.00	e.00	.00	.00	e35	e.00
7	.00	.00	5.8	.00	e.00	e.00	e.00	e.00	.00	.00	e15	23
8	222	.00	5.1	.00	e.00	e.00	e.00	e.00	.00	.00	e9.0	60
9	234	.00	6.6	.00	e.00	e.00	e.00	e.00	.00	.00	e3.0	46
10	54	.00	3.4	.00	.76	e.00	e.00	e.00	.00	.00	e.50	15
11	15	.00	4.8	.00	3.2	e.00	e.00	.00	.00	.00	e.00	e9.0
12	13	.00	4.2	.00	4.6	e.00	e.00	.00	.00	.00	e.00	e4.0
13	11	.00	e3.0	.00	9.7	e.00	e.00	.00	.00	.00	e.00	e3.0
14	8.8	.00	2.2	.00	15	e.00	e.00	.00	.00	.00	e.00	e1.0
15	7.2	.00	5.6	.00	12	e.00	e.00	.00	.00	.00	e.00	e.10
16	5.8	.00	5.6	.00	12	e.00	e.00	.00	.00	.00	e.00	e.05
17	5.1	.00	5.1	.00	13	e.30	e2.0	.00	.00	.00	45	e.02
18	4.6	.00	8.1	.00	6.9	e.10	e2.0	.00	.00	.00	50	e.00
19	e.00	.00	5.1	.00	5.6	e.10	e1.5	.00	.00	.00	15	e.00
20	e.00	.00	7.2	.00	5.6	e3.0	e.50	.00	.00	.00	3.4	e.00
21	e.00	e.00	4.0	.00	18	e1.0	e.00	.00	.00	.00	.00	e.00
22	e.00	e.00	3.0	.00	65	e.00	e.00	.00	.00	.20	.00	e.00
23	e.00	e.00	2.6	.00	28	e.00	e.00	.00	.00	25	e.00	e.00
24	e.00	e.00	.00	.00	18	e.00	e.00	.00	.00	9.2	149	e.00
25	e.00	2.7	.00	6.1	7.5	e.00	e.00	.00	.00	216	55	e.00
26	.00	3.4	.00	5.6	e2.0	e.00	e.00	.00	.00	97	e5.0	e.00
27	.00	4.0	.00	7.5	e1.0	e2.0	e.00	.00	.00	e400	e.00	e.00
28	.00	3.4	.00	6.1	e7.5	e1.0	e.00	.00	.00	e200	e.00	e.00
29	.00	2.0	.00	5.1	---	e.50	e.00	.00	.00	163	e.00	e.00
30	.00	.50	.00	6.0	---	e.00	e.00	.00	.00	35	e.00	e.00
31	.00	---	.00	4.8	---	e.00	---	.00	.00	48	e.00	---
TOTAL	581.20	16.00	85.80	41.20	252.56	84.00	6.00	0.00	0.00	1193.40	1933.90	161.17
MEAN	18.7	.53	2.77	1.33	9.02	2.71	.20	.00	.00	38.5	62.4	5.37
MAX	234	4.0	8.1	7.5	65	32	2.0	.00	.00	400	623	60
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	1150	32	170	82	501	167	12	.0	.0	2370	3840	320

CAL YR 1988 TOTAL 23702.40 MEAN 64.8 MAX 1940 MIN .00 AC-FT 47010
WTR YR 1989 TOTAL 4355.23 MEAN 11.9 MAX 623 MIN .00 AC-FT 8640

e Estimated

08353000 RIO PUERCO NEAR BERNARDO, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1947 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1956 to current year.

WATER TEMPERATURE: October 1964 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1947 to current year.

REMARKS.--Samples are collected when flow is observed on this ephemeral stream. Daily Specific Conductance and Temperature values can be obtained from the New Mexico District office in Albuquerque, NM.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 11,400 microsiemens, June 10, 1968; minimum daily, 238 microsiemens, July 30, 1969.

WATER TEMPERATURE: Maximum daily, 32.0°C, July 29, 1977; minimum daily, 0.0°C, Dec. 30, 1971, Mar. 3, 1985.

SEDIMENT CONCENTRATION: Maximum daily mean, 267,000 mg/L, July 26, 1957; minimum daily mean, no flow on many days of each year.

SEDIMENT LOAD: Maximum daily, 2,240,000 tons, Aug. 7, 1957; minimum daily, 0 ton on many days of each year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, undetermined; minimum daily, undetermined.

WATER TEMPERATURE: Maximum daily, undetermined; minimum daily, undetermined.

SEDIMENT CONCENTRATION: Maximum daily mean, 213,000 mg/L, July 29; minimum daily mean, no flow on many days.

SEDIMENT LOAD: Maximum daily, 107,000 tons, Aug. 3; minimum daily, 0 ton on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	
JAN 28...	0958	6.9	225	--	8.34	--	4.0	1.0	15.5	--	--	--	
FEB 10...	0850	E1.0	3000	3250	8.55	7.90	4.0	1.5	12.1	930	730	190	
MAR 17...	1025	0.31	3400	3490	8.28	8.00	21.0	13.0	10.6	820	650	190	
JUL 27...	1430	475	2600	2620	7.79	7.30	30.0	23.0	6.5	760	590	220	
DATE	TIME	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
FEB 10...	110	440	6	10	201	1200	310	0.80	16	2400	560	20	
MAR 17...	85	520	8	8.5	177	1400	310	0.90	9.9	2630	610	40	
JUL 27...	52	350	6	10	177	1300	72	0.90	9.0	2120	260	80	
DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)				
JUL 27...	1430	24	860	20	1700	16	1600	0.15	8.5				

RIO GRANDE BASIN

08353000 RIO PUERCO NEAR BERNARDO, NM -- Continued

WATER-QUALITY RECORDS

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		
	CONCENTRATION (MG/L)	LOADS (T/DAY)		CONCENTRATION (MG/L)	LOADS (T/DAY)		CONCENTRATION (MG/L)	LOADS (T/DAY)		CONCENTRATION (MG/L)	LOADS (T/DAY)		CONCENTRATION (MG/L)	LOADS (T/DAY)			
	OCTOBER			NOVEMBER			DECEMBER			JANUARY			FEBRUARY			MARCH	
1	3440	5.6		0	.00		0	.00		0	.00	26100	226		57300	4950	
2	2390	.7		0	.00		0	.00		0	.00	27300	251		53500	4190	
3	0	.0		0	.00		0	.00		0	.00	26600	230		43400	1640	
4	0	.0		0	.00		0	.00		0	.00	24500	225		26400	71	
5	0	.0		0	.00		0	.00		0	.00	18900	153		0	.00	
6	0	.0		0	.00	21200	252		0	.00	13900	38		0	.00		
7	0	.0		0	.00	36400	570		0	.00	0	.00		0	.00		
8	137000	82100		0	.00	35100	483		0	.00	0	.00		0	.00		
9	120000	75800		0	.00	35200	627		0	.00	0	.00		0	.00		
10	70500	10300		0	.00	31100	285		0	.00	17100	35		0	.00		
11	38900	1580		0	.00	30600	397		0	.00	33500	289		0	.00		
12	28800	1010		0	.00	28100	319		0	.00	31400	390		0	.00		
13	23500	698		0	.00	25500	207		0	.00	39100	1020		0	.00		
14	18700	444		0	.00	32400	192		0	.00	49300	2000		0	.00		
15	15000	292		0	.00	34100	516		0	.00	42800	1390		0	.00		
16	13700	215		0	.00	33200	502		0	.00	41600	1350		0	.00		
17	11800	162		0	.00	31500	434		0	.00	37900	1330		26000	21		
18	8850	110		0	.00	36200	792		0	.00	29200	544		15800	4.3		
19	0	.0		0	.00	32000	441		0	.00	29600	448		7620	2.1		
20	0	.0		0	.00	34500	671		0	.00	31400	475		17600	143		
21	0	.0		0	.00	28000	302		0	.00	40900	1990		31900	86		
22	0	.0		0	.00	27400	222		0	.00	78500	13800		0	.00		
23	0	.0		0	.00	28100	197		0	.00	52400	3960		0	.00		
24	0	.0		0	.00	0	.00		0	.00	42900	2080		0	.00		
25	0	.0	33400	243		0	.00	35200	580		37300	755		0	.00		
26	0	.0	31900	293		0	.00	35700	540		30200	163		0	.00		
27	0	.0	29300	316		0	.00	36200	733		26100	70		23000	124		
28	0	.0	25400	233		0	.00	34400	567		50600	1020		15600	42		
29	0	.0	22700	123		0	.00	33500	461		---	---		5510	7.4		
30	0	.0	17600	24		0	.00	27700	449		---	---		4210	.00		
31	0	.0	---	---		0	.00	28500	369		---	---		0	.00		
TOTAL	---	172717.3	---	1232.00	---	7409.00	---	3699.00	---	34232.00	---	---	---	---	11280.80		

DAY	MEAN CONCENTRATION		MEAN CONCENTRATION		MEAN CONCENTRATION		MEAN CONCENTRATION		MEAN CONCENTRATION		MEAN CONCENTRATION	
	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	0	.00	0	.00	0	.00	0	.0	43500	117000	0	.00
2	0	.00	0	.00	0	.00	0	.0	52800	118000	0	.00
3	0	.00	0	.00	0	.00	0	.0	65500	124000	0	.00
4	0	.00	0	.00	0	.00	0	.0	54200	27800	0	.00
5	0	.00	0	.00	0	.00	0	.0	57400	9300	0	.00
6	0	.00	0	.00	0	.00	0	.0	50800	4800	0	.00
7	0	.00	0	.00	0	.00	0	.0	21200	859	64300	3990
8	0	.00	0	.00	0	.00	0	.0	12800	311	143000	23200
9	0	.00	0	.00	0	.00	0	.0	10800	87	81100	10100
10	0	.00	0	.00	0	.00	0	.0	9090	12	66400	2690
11	0	.00	0	.00	0	.00	0	.0	0	.0	38300	931
12	0	.00	0	.00	0	.00	0	.0	0	.0	23700	256
13	0	.00	0	.00	0	.00	0	.0	0	.0	20200	164
14	0	.00	0	.00	0	.00	0	.0	0	.0	15000	40
15	0	.00	0	.00	0	.00	0	.0	0	.0	14600	3.9
16	0	.00	0	.00	0	.00	0	.0	0	.0	13400	1.8
17	28900	156	0	.00	0	.00	0	.0	51600	6270	11600	.63
18	31500	170	0	.00	0	.00	0	.0	106000	14300	0	.00
19	29900	121	0	.00	0	.00	0	.0	72300	2930	0	.00
20	6520	8.8	0	.00	0	.00	0	.0	38300	352	0	.00
21	0	.00	0	.00	0	.00	0	.0	0	.0	0	.00
22	0	.00	0	.00	0	.00	17800	9.6	0	.0	0	.00
23	0	.00	0	.00	0	.00	---	---	0	.0	0	.00
24	0	.00	0	.00	0	.00	113000	2810	128000	51500	0	.00
25	0	.00	0	.00	0	.00	110000	72000	99000	14700	0	.00
26	0	.00	0	.00	0	.00	68800	18000	44600	602	0	.00
27	0	.00	0	.00	0	.00	97500	105000	0	.0	0	.00
28	0	.00	0	.00	0	.00	98200	53000	0	.0	0	.00
29	0	.00	0	.00	0	.00	213000	93700	0	.0	0	.00
30	0	.00	0	.00	0	.00	96700	9140	0	.0	0	.00
31	---	---	0	.00	---	---	75000	11900	0	.0	---	---
TOTAL	---	455.80	---	0.00	---	0.00	---	365559.6	---	492823.0	---	41377.33
TOTAL LOAD FOR YEAR: 1130785.83 TONS.												

08354500 SOCORRO MAIN CANAL NORTH AT SAN ACACIA, NM

LOCATION.--Lat 34°15'17", long 106°53'43", in SE¼NW¼ sec.1, T.1 S., R.1 W., Socorro County, Hydrologic Unit 13020203, on right bank at San Acacia, and 0.5 mi downstream from point of diversion.

PERIOD OF RECORD.--April 1936 to September 1964 (monthly discharge only), October 1964 to current year.

REVISED RECORDS.--WSP 1242: 1951.

GAGE.--Water-stage recorder. Datum of gage is 4,660.16 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 8, 1958, at site 300 ft upstream (in old channel) at datum 0.42 ft lower.

REMARKS.--Records good. This canal is 1 of 3 channels (stations 08354800, 08354900) carrying flow in valley cross section. For combined monthly flow in acre-ft of this canal, conveyance channel, and floodway, see tabulation below daily table for 08354900. Canal diverts water from right bank of Rio Grande for irrigation of about 8,000 acres. Alamillo acequia and 3 other smaller ditches divert water from canal upstream from station for irrigation of about 400 acres. Discharge records collected at the canal heading from October 1964 to September 1965 indicate that 7,770 acre-ft or 9% of the initial canal flow was diverted before reaching the regular gaging station. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 286 ft³/s, April 20, 1989; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	147	.00	.00	.00	.00	219	223	120	102	e95	140
2	171	163	.00	.00	.00	.00	220	207	123	79	92	149
3	191	168	.00	.00	.00	.00	239	189	116	90	90	149
4	194	149	.00	.00	.00	.00	225	194	147	94	106	174
5	204	112	.00	.00	.00	81	245	210	164	76	119	157
6	211	105	.00	.00	.00	86	237	203	188	54	114	149
7	203	138	.00	.00	.00	41	243	191	198	51	130	149
8	182	172	.00	.00	.00	66	257	212	241	56	188	127
9	178	161	.00	.00	.00	87	248	229	215	73	206	114
10	137	129	.00	.00	.00	135	241	233	157	100	212	127
11	135	114	.00	.00	.00	136	252	222	130	77	190	159
12	142	136	.00	.00	.00	114	250	218	131	83	152	186
13	146	142	.00	.00	.00	137	247	232	111	85	137	176
14	169	100	.00	.00	.00	155	250	237	91	97	127	167
15	186	99	.00	.00	.00	151	241	215	95	153	135	185
16	159	97	.00	.00	.00	183	257	216	92	172	122	160
17	151	98	.00	.00	.00	191	246	229	89	203	102	163
18	159	98	.00	.00	.00	193	246	226	90	204	159	192
19	172	98	.00	.00	.00	200	259	214	96	216	168	188
20	172	98	.00	.00	.00	232	286	226	123	201	169	161
21	162	55	.00	.00	.00	246	273	225	117	199	160	179
22	145	.00	.00	.00	.00	229	266	233	107	204	154	195
23	166	.00	.00	.00	.00	204	260	232	107	95	159	199
24	143	.00	.00	.00	.00	148	268	227	129	94	169	188
25	138	.00	.00	.00	.00	152	281	256	120	93	161	174
26	165	.00	.00	.00	.00	171	255	223	137	97	148	159
27	182	.00	.00	.00	.00	163	245	256	151	101	172	143
28	159	.00	.00	.00	.00	182	225	223	152	e97	169	146
29	145	.00	.00	.00	---	212	204	223	136	e96	149	124
30	149	.00	.00	.00	---	213	208	161	120	e95	165	117
31	125	---	.00	.00	---	213	---	122	---	e95	154	---
TOTAL	5125	2579.00	0.00	0.00	0.00	4321.00	7393	6707	3993	3532	4573	4796
MEAN	165	86.0	.00	.00	.00	139	246	216	133	114	148	160
MAX	211	172	.00	.00	.00	246	286	256	241	216	212	199
MIN	125	.00	.00	.00	.00	.00	204	122	89	51	90	114
AC-FT	10170	5120	.0	.0	.0	8570	14660	13300	7920	7010	9070	9510

CAL YR 1988 TOTAL 45895.00 MEAN 125 MAX 282 MIN .00 AC-FT 91030
WTR YR 1989 TOTAL 43019.00 MEAN 118 MAX 286 MIN .00 AC-FT 85330

e Estimated

RIO GRANDE BASIN

08354800 RIO GRANDE CONVEYANCE CHANNEL AT SAN ACACIA, NM
(Surveillance network station)

LOCATION.--Lat 34°14'54", long 106°54'04", in SW¼ sec.1, T.1 S., R.1 W., Socorro County, Hydrologic Unit 13020203, on right bank 75 ft upstream from railway crossing, 0.5 mi south of San Acacia, and 1.2 mi downstream from San Acacia diversion dam.

PERIOD OF RECORD.--October 1958 to September 1964 included in composite flow of station "08355000," Rio Grande at San Acacia," October 1960 to September 1964 (monthly discharge published in WSP 1923 with records for station 08355000), October 1964 to current year. Daily records 1958-64 are available in files at district office.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Datum of gage is 4,652.50 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Conveyance channel, constructed in 1958, is 1 of 3 channels (stations 08354500, 08354900) carrying flow in valley cross section. Original design and plan were for conveyance channel to carry all flows up to about 2,000 ft³/s. For combined monthly flow in acre-ft of this channel, floodway, and Socorro main canal norths, see tabulation below daily table for station 08354900.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,950 ft³/s, May 12, 13, 1966; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	782	1070	.92	.84	.00	.00	.00	.00
2	.00	.00	.00	.00	739	1040	.92	.83	.00	.00	.00	.00
3	.00	.00	.00	.00	744	968	.92	.82	.00	.00	.00	.00
4	.00	.00	.00	12	848	941	.92	.84	.00	.00	.00	.00
5	.00	.00	.00	e30	865	972	.92	.89	.00	.00	.00	.00
6	.00	.00	.00	e190	941	962	.92	.87	.00	.00	.00	.00
7	.00	.00	.00	e280	854	944	.96	.83	.00	.00	.00	.00
8	.00	.00	.00	e475	931	926	.99	.80	.00	.00	.00	.00
9	.00	.00	.00	e600	844	945	.95	.78	.00	.00	.00	.00
10	.00	.00	.00	769	738	966	.92	.75	.00	.00	.00	.00
11	.00	.00	.00	658	702	983	.92	.71	.00	.00	.00	.00
12	.00	.00	.00	637	809	901	.92	.68	.00	.00	.00	.00
13	.00	.00	.00	633	1030	1000	.91	.64	.00	.00	.00	.00
14	.00	.00	.00	745	1100	1030	.88	.62	.00	.00	.00	.00
15	.00	.00	.00	858	1080	999	.88	.61	.00	.00	.00	.00
16	.00	.00	.00	764	945	1120	.88	.58	.00	.00	.00	.00
17	.00	.00	.00	709	916	1100	.88	.64	.00	.00	.00	.00
18	.00	.00	.00	703	943	1190	.92	.66	.00	.00	.00	.00
19	.00	.00	.00	699	966	1380	.98	.61	.00	.00	.00	.00
20	.00	.00	.00	741	929	1390	.95	.54	.00	.00	.00	.00
21	.00	.00	.00	784	962	1580	.92	.56	.00	.00	.00	.00
22	.00	.00	.00	835	999	1720	.92	.72	.00	.00	.00	.00
23	.00	.00	.00	857	971	1200	.90	.57	.00	.00	.00	.00
24	.00	.00	.00	850	948	120	.89	.31	.00	.00	.00	.00
25	.00	.00	.00	836	910	e1.0	.88	.14	.00	.00	.00	.00
26	.00	.00	.00	842	797	e1.0	.88	.08	.00	.00	.00	.00
27	.00	.00	.00	782	984	e.98	.86	.06	.00	.00	.00	.00
28	.00	.00	.00	759	1050	.95	.84	.04	.00	.00	.00	.00
29	.00	.00	.00	818	---	.94	.84	.03	.00	.00	.00	.00
30	.00	.00	.00	788	---	.96	.84	.01	.00	.00	.00	.00
31	.00	---	.00	786	---	.94	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	18440.00	25327	25453.77	27.23	17.06	0.00	0.00	0.00	0.00
MEAN	.00	.00	.00	595	905	821	.91	.55	.00	.00	.00	.00
MAX	.00	.00	.00	858	1100	1720	.99	.89	.00	.00	.00	.00
MIN	.00	.00	.00	.00	702	.94	.84	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	36580	50240	50490	54	34	.0	.0	.0	.0

CAL YR 1988 TOTAL 18.11 MEAN .049 MAX .40 MIN .00 AC-FT 36
WTR YR 1989 TOTAL 69265.06 MEAN 190 MAX 1720 MIN .00 AC-FT 137400

e Estimated

08354800 RIO GRANDE CONVEYANCE CHANNEL AT SAN ACACIA, NM -- Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected 100 ft downstream from discharge station.

PERIOD OF RECORD.--Water years 1959 to 1985, 1989.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1964 to September 1985, October 1988 to September 1989.

WATER TEMPERATURE: May 1959 to September 1985, October 1988 to September 1989.

SUSPENDED SEDIMENT DISCHARGE: January 1959 to September 1985, October 1988 to September 1989.

REMARKS.--There was no flow or very little flow in the Conveyance Channel for the period 1986 to 1989 water years due to construction work on the channel.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,840 microsiemens, Oct. 8, 1964; minimum daily, 136 microsiemens, June 19, 1967.

WATER TEMPERATURE: Maximum daily, 36.0°C, July 13, 1970, Aug. 13, 1978; minimum, 0.0°C on several days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 141,000 mg/L, Aug. 10, 1959; minimum daily mean, no flow on many days of most years.

SEDIMENT LOAD: Maximum daily, 528,000 tons Aug. 28 1972; minimum daily, 0 ton on many days during most years.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 673 microsiemens, Jan. 3; minimum daily, 442 microsiemens, Mar. 24.

WATER TEMPERATURE: Maximum daily, 19.0°C, Mar. 12; minimum daily, 1.0°C, Feb. 6.

SEDIMENT CONCENTRATION: Maximum daily mean, 2,150 mg/L, Feb. 28; minimum daily mean, no flow for many days.

SEDIMENT LOAD: Maximum daily, 6,100 tons, Feb. 28; minimum daily, 0 ton many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	
FEB 13...	1430	1050	620	568	8.41	7.90	12.5	9.5	9.4	20	
DATE	TIME	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
FEB 13...	170	24	52	9.7	53	2	5.0	174	7	155	
DATE	TIME	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	
FEB 13...	146	88	30	0.50	26	359	1.40	1.30	0.040		
DATE	TIME	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	
FEB 13...	0.46	1.9	0.470	0.330	4.8	460	680	110	5		
DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)				
JAN 05...	1730	750	--	--	347	703	45				
FEB 13...	1430	1050	620	9.5	258	731	82				
FEB 17...	1415	912	640	12.0	717	1770	65				
MAR 21...	1726	1610	430	10.0	425	1850	49				

08354800 RIO GRANDE CONVEYANCE CHANNEL AT SAN ACACIA, NM -- Continued

WATER-QUALITY RECORDS
SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	603	---	---	---	---	---	---	---
2	---	---	---	---	604	628	---	---	---	---	---	---
3	---	---	---	673	618	583	---	---	---	---	---	---
4	---	---	---	556	624	532	---	---	---	---	---	---
5	---	---	---	---	616	528	---	---	---	---	---	---
6	---	---	---	544	575	530	---	---	---	---	---	---
7	---	---	---	542	565	512	---	---	---	---	---	---
8	---	---	---	540	553	514	---	---	---	---	---	---
9	---	---	---	551	579	518	---	---	---	---	---	---
10	---	---	---	561	603	512	---	---	---	---	---	---
11	---	---	---	552	619	514	---	---	---	---	---	---
12	---	---	---	562	613	511	---	---	---	---	---	---
13	---	---	---	568	603	506	---	---	---	---	---	---
14	---	---	---	564	604	511	---	---	---	---	---	---
15	---	---	---	584	598	451	---	---	---	---	---	---
16	---	---	---	601	598	450	---	---	---	---	---	---
17	---	---	---	---	---	458	---	---	---	---	---	---
18	---	---	---	---	610	448	---	---	---	---	---	---
19	---	---	---	573	616	462	---	---	---	---	---	---
20	---	---	---	578	615	446	---	---	---	---	---	---
21	---	---	---	577	606	---	---	---	---	---	---	---
22	---	---	---	575	---	595	---	---	---	---	---	---
23	---	---	---	571	654	452	---	---	---	---	---	---
24	---	---	---	616	---	442	---	---	---	---	---	---
25	---	---	---	615	608	---	---	---	---	---	---	---
26	---	---	---	623	620	---	---	---	---	---	---	---
27	---	---	---	584	---	547	---	---	---	---	---	---
28	---	---	---	577	---	548	---	---	---	---	---	---
29	---	---	---	580	---	595	---	---	---	---	---	---
30	---	---	---	577	---	---	---	---	---	---	---	---
31	---	---	---	585	---	---	---	---	---	---	---	---
MEAN	---	---	---	578	605	512	---	---	---	---	---	---
WTR YR 1989	MEAN	564	MAX	673	MIN	442						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	9.0	---	---	---	---	---	---	---
2	---	---	---	---	9.0	11.0	---	---	---	---	---	---
3	---	---	---	7.0	10.0	9.0	---	---	---	---	---	---
4	---	---	---	8.0	7.0	8.5	---	---	---	---	---	---
5	---	---	---	9.0	6.0	8.0	---	---	---	---	---	---
6	---	---	---	9.0	1.0	12.0	---	---	---	---	---	---
7	---	---	---	9.0	3.5	13.5	---	---	---	---	---	---
8	---	---	---	9.0	4.0	12.0	---	---	---	---	---	---
9	---	---	---	4.0	6.0	14.5	---	---	---	---	---	---
10	---	---	---	5.0	10.5	16.5	---	---	---	---	---	---
11	---	---	---	7.0	13.0	18.0	---	---	---	---	---	---
12	---	---	---	6.0	10.5	19.0	---	---	---	---	---	---
13	---	---	---	6.0	11.0	17.5	---	---	---	---	---	---
14	---	---	---	6.0	10.0	18.0	---	---	---	---	---	---
15	---	---	---	7.0	9.5	17.5	---	---	---	---	---	---
16	---	---	---	7.0	9.5	18.5	---	---	---	---	---	---
17	---	---	---	---	12.0	17.0	---	---	---	---	---	---
18	---	---	---	---	10.0	16.5	---	---	---	---	---	---
19	---	---	---	5.5	10.5	17.0	---	---	---	---	---	---
20	---	---	---	5.0	10.5	12.0	---	---	---	---	---	---
21	---	---	---	4.5	12.5	10.0	---	---	---	---	---	---
22	---	---	---	7.5	14.5	12.0	---	---	---	---	---	---
23	---	---	---	8.5	15.5	14.0	---	---	---	---	---	---
24	---	---	---	7.5	11.0	13.0	---	---	---	---	---	---
25	---	---	---	7.0	15.0	---	---	---	---	---	---	---
26	---	---	---	8.5	15.0	---	---	---	---	---	---	---
27	---	---	---	7.0	---	13.5	---	---	---	---	---	---
28	---	---	---	6.5	---	12.0	---	---	---	---	---	---
29	---	---	---	5.0	---	10.5	---	---	---	---	---	---
30	---	---	---	8.5	---	---	---	---	---	---	---	---
31	---	---	---	4.5	---	---	---	---	---	---	---	---
MEAN	---	---	---	6.8	9.8	13.9	---	---	---	---	---	---
WTR YR 1989	MEAN	10.1	MAX	19.0	MIN	1.0						

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN	LOADS	MEAN	LOADS	MEAN	LOADS	MEAN	LOADS	MEAN	LOADS	MEAN	LOADS	
	CONCEN- TRATION (MG/L)		CONCEN- TRATION (MG/L)		CONCEN- TRATION (MG/L)		CONCEN- TRATION (MG/L)		CONCEN- TRATION (MG/L)		CONCEN- TRATION (MG/L)		
		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
2	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
3	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
4	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
5	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
6	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
7	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
8	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
9	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
10	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
11	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
12	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
13	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
14	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
15	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
16	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
17	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
18	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
19	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
20	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
21	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
22	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
23	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
24	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
25	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
26	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
27	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
28	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
29	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
30	0	.00	0	.00	0	.00	0	.00	0	.00	0	.00	
31	---	---	0	.00	---	---	0	.00	0	.00	---	---	
TOTAL	---	0.00	---	0.00	---	0.00	---	0.00	---	0.00	---	0.00	
TOTAL LOAD FOR YEAR:		97488.30		TONS.									

RIO GRANDE BASIN
08354900 RIO GRANDE FLOODWAY AT SAN ACACIA, NM
(Surveillance network station)

LOCATION.--Lat 34°15'23", long 106°53'18", Socorro County, Hydrologic Unit 13020203, in Sevilleta Grant, on right bank 0.2 mi downstream from San Acacia diversion dam, 0.3 mi east of San Acacia, 2 mi downstream from Rio Salado, and at mile 1,472.6.

DRAINAGE AREA.--26,770 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, Co.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1936 to September 1958 (prior to construction of conveyance channel), October 1958 to September 1964 (flow in conveyance channel included), October 1964 to current year. Prior to October 1964 published as 08355000 "Rio Grande at San Acacia" and records are not equivalent.

REVISED RECORDS.--WSP 1242: 1951. WSP 1732: 1958(M). WRD 1969: 1967.

GAGE.--Water-stage recorder. Datum of gage is 4,654.50 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 19, 1953, at several sites 0.1 mi upstream at different datums. Mar. 19, 1953 to Aug. 19, 1965, at site 0.4 mi downstream at datum 3.60 ft higher. Aug. 19, 1965 to Aug. 15, 1967 at same site at datum 1.89 ft higher. Datum on Aug. 21, 1967 was lowered 2.00 ft. Floodway is bypassed by Socorro main canal north and since Oct. 1958, by conveyance channel.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Floodway is 1 of 3 channels (stations 08354500, 08354800) carrying flow in valley cross section. For combined monthly flow in acre-ft of floodway, conveyance channel, and Socorro main canal north, see tabulation below. Normal plan is for floodway to carry flow when combined capacities of conveyance channel (about 2,000 ft³/s) and Socorro main canal north (about 200 ft³/s) is exceeded, during periods of silt sluicing, and when river silt load is excessive. Diversions upstream from station for irrigation of about 760,000 acres; this includes Socorro main canal north, which bypasses station and irrigates about 8,000 acres. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--22 years (water years 1937-58), 1,192 ft³/s, 863,000 acre-ft/yr, prior to construction of conveyance channel; does not include Socorro main canal north.
15 years (water years 1959-73), 911 ft³/s, 660,000 acre-ft/yr, combined flow of floodway, conveyance channel and Socorro main canal north, prior to closure of Cochiti Dam.
16 years (water years 1974-89), 1,473 ft³/s, 1,067,000 acre-ft/yr, combined flow of floodway, conveyance channel, and Socorro main canal north, since closure of Cochiti Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft³/s, Aug. 5, 1936, gage height, 10.75 ft, site and datum then in use; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,490 ft³/s, Apr. 29, 30; minimum daily, 1.6 ft³/s, Sept. 20, 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	482	147	1110	1080	293	41	2520	e3370	e10	9.3	878	76
2	505	187	1230	1150	285	87	2490	e3290	e11	9.9	1100	42
3	398	225	1130	1150	259	65	2670	e3210	e11	11	1530	70
4	316	327	1050	1030	179	38	2550	e2800	e10	11	1090	66
5	209	383	1050	1010	182	35	2560	e2430	e10	10	792	66
6	217	367	1110	838	214	45	2700	e2290	e10	8.9	734	190
7	376	338	1190	742	224	67	e2750	e2100	e9.7	8.7	706	109
8	691	308	1060	625	219	55	e2910	e1880	e9.3	9.1	326	204
9	907	325	1030	606	208	67	e2740	e1460	e9.3	9.4	106	201
10	822	462	1210	550	143	58	e2650	e1160	e9.4	10	63	149
11	842	625	1090	498	136	51	e2900	1050	e8.9	7.4	61	108
12	582	750	1040	395	144	56	e2990	910	e8.5	5.0	54	82
13	550	800	1040	347	139	101	e3070	899	e8.5	5.0	71	49
14	453	930	946	350	133	175	e3110	1340	e8.5	5.5	66	34
15	538	1140	936	329	125	198	e2860	1080	e8.7	7.0	74	4.6
16	582	2190	856	280	90	235	e2930	964	7.0	8.8	60	3.0
17	515	1890	904	243	55	251	e3020	1040	6.8	9.9	71	3.1
18	375	1590	1000	233	59	303	e2990	1550	7.7	9.1	50	2.6
19	341	1290	823	194	66	520	e2940	1240	8.2	11	45	2.4
20	348	1190	955	189	55	626	e3010	926	9.0	9.7	31	1.6
21	351	1190	937	187	62	701	e2970	765	8.5	11	74	1.6
22	287	1200	1270	174	85	1290	e3030	635	8.1	36	95	2.2
23	236	1230	1110	155	78	1700	e3010	555	8.8	160	109	2.2
24	298	1220	1090	159	61	2320	e3070	422	9.1	225	188	2.1
25	340	1160	1140	173	47	2080	e3160	209	8.8	988	157	2.3
26	233	1180	1160	158	10	2200	e3240	149	10	1020	136	1.8
27	216	1210	1080	244	63	2390	e3280	e30	10	1600	119	1.7
28	173	1240	1050	306	54	2240	e3370	e25	11	1650	149	2.4
29	185	1190	1010	281	---	2340	e3490	e20	11	1100	121	3.0
30	147	1150	1010	269	---	2480	e3490	e15	11	704	92	2.9
31	153	---	944	282	---	2540	---	e15	---	662	82	---
TOTAL	12668	27434	32561	14227	3668	25355	88470	37829	277.8	8331.7	9230	1485.5
MEAN	409	914	1050	459	131	818	2949	1220	9.26	269	298	49.5
MAX	907	2190	1270	1150	293	2540	3490	3370	11	1650	1530	204
MIN	147	147	823	155	10	35	2490	15	6.8	5.0	31	1.6
AC-FT	25130	54420	64580	28220	7280	50290	175500	75030	551	16530	18310	2950

CAL YR 1988 TOTAL 457024 MEAN 1249 MAX 4160 MIN 24 AC-FT 906500
WTR YR 1989 TOTAL 261537.0 MEAN 717 MAX 3490 MIN 1.6 AC-FT 518800

e Estimated

08354900 RIO GRANDE FLOODWAY AT SAN ACACIA, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1937-56, 1959 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July to December 1937, March 1939 to September 1956, October 1964 to current year.

WATER TEMPERATURE: October 1947 to August 1956, January 1959 to current year.

SUSPENDED-SEDIMENT DISCHARGE: July 1946 to June 1956, January 1959 to current year.

REMARKS.--Sediment total-load measurements were made monthly and total-load values were determined using equation from double-mass relationship plot for period of record. Some total-load data were not available at time of publication and will be available at Albuquerque District Office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 3,700 microsiemens, July 14, 1940; minimum daily, 236 microsiemens, May 17, 1942.

WATER TEMPERATURE: (1947-56, 1959-62, 1964-89): Maximum daily, 34.5°C, July 13, 1971; minimum daily, 0.0°C on many days during winter months of most years.

SEDIMENT CONCENTRATION: Maximum daily mean, 223,000 mg/L, Aug. 11, 1946; minimum daily mean, no flow on many days of most years.

SEDIMENT LOAD: Maximum daily, 1,760,000 tons, Aug. 12, 1955; minimum daily, 0 ton on many days of most years.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,740 microsiemens, July 25; minimum daily, 362 microsiemens, Apr. 21.

WATER TEMPERATURE: Maximum daily, 29.0°C, Aug. 20; minimum daily, 0.0°C, Nov. 19.

SEDIMENT CONCENTRATION: Maximum daily mean, 46,400 mg/L, Sept. 8; minimum daily mean, 33 mg/L, May 31, June 1.

SEDIMENT LOAD: Maximum daily, 120,000 tons, May 15; minimum daily, .30 tons, Sept. 27.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)
NOV 03...	0900	283	775	747	8.51	8.30	22.0	12.0	10.5	21
JUL 20...	1100	11	800	739	8.47	8.10	31.5	24.0	8.1	17
AUG 30...	1140	7.4	730	785	8.30	8.20	22.0	21.5	7.7	28

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV 03...	230	35	70	13	70	2	5.4	198	14	186
JUL 20...	230	40	69	13	71	2	5.8	203	12	186
AUG 30...	240	55	74	13	75	2	6.2	228	0	187

DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
NOV 03...	194	140	36	0.50	27	482	0.500	0.530	0.020
JUL 20...	186	130	43	0.60	26	473	0.200	0.460	0.050
AUG 30...	184	150	47	0.60	26	504	0.400	0.330	0.080

RIO GRANDE BASIN

08354900 RIO GRANDE FLOODWAY AT SAN ACACIA, NM --- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTH, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
NOV 03...	0.48	1.0	0.340	0.290	3.7	200	290	150	5
JUL 20...	0.85	1.1	0.260	0.200	4.1	48	24	150	7
AUG 30...	0.62	1.1	0.300	0.180	7.5	K3500	4300	150	9

DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
NOV 03...	0900	6	6	1	1	<1	<1	7	4	6
AUG 30...	1140	5	6	<1	<1	14	1	14	1	12

DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT. MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)
NOV 03...	<5	<0.10	<0.1	<1	<1	20	3	2.0	2.4	150
AUG 30...	<1	0.10	<0.1	<1	<1	50	<3	--	--	--

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)
NOV 03...	2	<10	1	<50	3	1700	<100	230	<0.01	<10

08354900 RIO GRANDE FLOODWAY AT SAN ACACIA, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)
AUG 30...	1140	<0.1	<0.010	<0.1	<0.010	<0.010	<0.010	<0.01	<0.010

DATE	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)
AUG 30...	<0.010	<0.010	<0.01	<0.010	<0.010	<0.010	<0.01	<0.01

DATE	METHYL PARA- THION, TOTAL (UG/L) (39600)	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APRENE, TOTAL (UG/L) (39400)	TOTAL TRI- THION TOTAL (UG/L) (39786)	PER- THANE TOTAL (UG/L) (39034)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	MIREX, TOTAL (UG/L) (39755)
AUG 30...	<0.01	<0.01	<0.01	<1	<0.01	<0.1	<0.10	<0.01

WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

[illegible]

WATER-QUALITY RECORDS

AN MEAN

DAY	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS
	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	696	4740	568	5170	33	.89	93	2.3	4280	10100	170	35
2	931	6260	421	3740	76	2.3	67	1.8	4770	14200	392	44
3	751	5410	8750	75800	103	3.1	78	2.3	16700	69000	355	67
4	383	2640	6860	51900	80	2.2	87	2.6	16700	49100	278	50
5	407	2810	11400	74800	66	1.8	84	2.3	17000	36400	241	43
6	406	2960	3590	22200	78	2.1	78	1.9	15000	29700	19800	10200
7	397	2950	371	2100	66	1.7	84	2.0	10700	20400	8300	2440
8	354	2780	6340	32200	54	1.4	76	1.9	1920	1690	46400	25600
9	462	3420	4980	19600	39	.98	159	4.0	777	222	11000	5970
10	709	5070	278	871	39	.99	259	7.0	713	121	7370	2960
11	814	6370	6980	19800	56	1.3	157	3.1	1000	165	853	249
12	698	5630	1440	3540	64	1.5	76	1.0	1060	155	528	117
13	986	8170	272	660	82	1.9	52	.7	949	182	1930	255
14	968	8130	8700	31500	117	2.7	95	1.4	5320	948	1320	121
15	841	6490	41300	120000	107	2.5	98	1.9	12100	2420	387	4.8
16	909	7190	216	562	73	1.4	101	2.4	11200	1810	194	1.6
17	857	6990	179	503	81	1.5	104	2.8	9410	1800	243	2.0
18	371	3000	134	561	105	2.2	67	1.6	10400	1400	264	1.9
19	415	3290	131	439	80	1.8	54	1.6	10800	1310	156	1.0
20	14600	119000	239	598	83	2.0	89	2.3	10100	845	137	.59
21	1140	9140	244	504	59	1.4	112	3.3	10500	2100	116	.50
22	445	3640	238	408	40	.87	3470	337	11800	3030	90	.53
23	426	3460	116	174	177	4.2	22700	9810	11800	3470	81	.48
24	598	4960	106	121	79	1.9	24100	14600	13300	6750	75	.43
25	439	3750	109	62	85	2.0	27800	74200	11400	4830	72	.45
26	799	6990	63	25	91	2.5	19900	54800	10300	3780	74	.36
27	866	7670	127	10	90	2.4	20500	88600	20200	6490	66	.30
28	611	5560	111	7.5	87	2.6	19200	85500	379	152	48	.31
29	568	5350	89	4.8	104	3.1	32600	96800	166	54	66	.53
30	841	7920	67	2.7	123	3.7	8750	16600	724	180	87	.68
31	---	---	33	1.3	---	---	5650	10100	176	39	---	---
TOTAL	---	271740	---	467864.3	---	60.93	---	451397.2	---	272843	---	48167.46
TOTAL LOAD FOR YEAR: 1908168.89 TONS.												

RIO GRANDE BASIN

08358300 RIO GRANDE CONVEYANCE CHANNEL AT SAN MARCIAL, NM
(National stream-quality accounting network, surveillance network, and radiochemical network station)

LOCATION.--Lat 33°41'15", long 106°59'40", Socorro County, Hydrologic Unit 13020203, in Pedro Armendaris Grant No. 34, on right bank 0.4 mi northwest of Atchison, Topeka and Santa Fe Railway Co. bridge over floodway channel, 1.0 mi southwest of former site of San Marcial, 3.5 mi downstream from railroad bridge near Tiffany siding, and 51 mi downstream from heading at San Acacia.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1958 to September 1959, October 1969 to current year. Prior to October 1964 monthly discharge only published with record for Rio Grande at San Marcial (station 08358500).

GAGE.--Water-stage recorder. Datum of gage is 4,454.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Apr. 29, 1958, at datum 4.19 ft higher.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. Original design and plan were for conveyance channel to carry all flows up to about 2,000 ft³/s. Conveyance channel is 1 of 2 channels (station 08358400) carrying flow in valley cross section. For combined monthly flow in acre-ft of this channel and floodway, see tabulation below daily table for station 08358400. U.S. Bureau of Reclamation satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD (SINCE 1954).--Maximum daily discharge, 2,200 ft³/s, May 14, 1966; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	296	e318	223	231	206	280	557	539	e150	50	249	295
2	290	320	217	226	195	289	525	539	e130	47	240	261
3	324	333	221	221	193	323	527	551	e120	54	214	265
4	315	316	216	215	194	324	506	489	e150	46	263	241
5	310	295	224	193	202	326	486	486	e180	41	220	171
6	308	276	226	212	223	346	481	475	e200	43	208	187
7	305	274	219	226	216	345	502	512	e220	42	204	173
8	341	245	221	225	211	355	540	473	e250	35	140	177
9	339	257	218	225	211	312	528	445	e290	31	92	e145
10	369	274	222	221	211	323	547	479	e240	49	99	e155
11	366	305	214	205	209	364	549	474	e160	52	140	e160
12	335	263	212	198	208	366	581	468	e140	35	140	e140
13	314	250	202	197	207	347	555	464	e130	45	142	e120
14	319	290	212	209	214	372	538	494	e90	44	112	e110
15	315	322	234	227	219	372	517	528	e92	37	111	116
16	322	278	243	232	216	312	565	469	e84	34	111	123
17	335	274	235	231	211	332	564	475	e78	29	82	155
18	303	302	234	225	211	358	524	502	e72	48	76	153
19	310	e250	233	198	211	312	492	519	e80	24	97	183
20	325	e240	226	190	213	336	485	504	e90	32	165	150
21	324	e230	224	188	208	400	528	484	84	25	210	154
22	324	200	218	198	210	505	544	502	80	84	147	130
23	307	211	216	228	216	509	589	481	98	250	124	142
24	313	208	216	218	204	493	569	424	89	257	141	124
25	321	201	223	218	198	492	527	310	93	516	152	154
26	314	196	217	219	197	508	536	274	99	363	144	149
27	296	194	210	218	224	533	543	e312	82	251	144	107
28	313	193	209	198	251	488	521	e262	50	298	231	96
29	307	214	211	205	---	502	517	e249	59	297	219	123
30	309	232	217	232	---	518	485	e188	56	281	148	142
31	e325	---	232	212	---	539	---	e140	---	261	252	---
TOTAL	9894	7761	6845	6641	5889	12181	15928	13511	3736	3701	5017	4801
MEAN	319	259	221	214	210	393	531	436	125	119	162	160
MAX	369	333	243	232	251	539	589	551	290	516	263	295
MIN	290	193	202	188	193	280	481	140	50	24	76	96
AC-FT	19620	15390	13580	13170	11680	24160	31590	26800	7410	7340	9950	9520

CAL YR 1988 TOTAL 121842 MEAN 333 MAX 555 MIN 193 AC-FT 241700
WTR YR 1989 TOTAL 95905 MEAN 263 MAX 589 MIN 24 AC-FT 190200

e Estimated

08358300 RIO GRANDE CONVEYANCE CHANNEL AT SAN MARCIAL, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1954 to current year.

WATER TEMPERATURE: March 1954 to current year.

SUSPENDED-SEDIMENT DISCHARGE: March 1954 to current year.

REMARKS.--Water samples for chemical and biological analyses collected at this station when all flow is diverted from the station 08358400 Rio Grande Floodway at San Marcial, NM. Sediment total-load measurements were made monthly and total-load values were determined using equation from double-mass relationship plot for period of record. Some total-load data were not available at time of publication and will be available at Albuquerque District Office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,860 microsiemens, Oct. 25, 1956; minimum daily, 298 microsiemens, May 25, 1984.

WATER TEMPERATURE: Maximum daily, 38.0°C, June 26, 1989; minimum daily, 0.0°C on many days during December and January of most years.

SEDIMENT CONCENTRATION: Maximum daily mean, 144,000 mg/L, Sept. 19, 1971; minimum daily mean, no flow on many days during most years.

SEDIMENT LOAD: Maximum daily, 638,000 tons, Aug. 28, 1972; minimum daily, 0 ton on many days during most years.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,360 microsiemens Sept. 25, 28; minimum daily, 299 microsiemens, Mar. 6.

WATER TEMPERATURE: Maximum daily, 38.0°C, June 26; minimum daily, 5.0°C, Nov. 27, Jan. 2.

SEDIMENT CONCENTRATION: Maximum daily mean, 21,400 mg/L, Apr. 19; minimum daily mean, 62 mg/L, Nov. 7.

SEDIMENT LOAD: Maximum daily, 28,400 tons, Apr. 19; minimum daily, 13 tons, July 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 02...	1430	314	950	960	8.17	8.10	26.0	15.0	37	9.5	250
FEB 14...	0800	212	1100	978	8.35	8.10	3.0	10.0	54	9.0	240
AUG 31...	1200	215	1090	1100	8.20	8.00	28.5	22.0	320	8.1	250
SEP 14...	1505	108	1100	1190	8.10	8.10	--	22.0	130	8.6	260

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT FLD MG/L AS CACO3 (39086)	ALKA- LITY AS CACO3 (90410)
NOV 02...	58	75	15	110	3	5.9	215	0	176	192
FEB 14...	49	72	14	120	4	5.8	220	11	198	190
AUG 31...	54	74	15	140	4	6.9	239	0	196	194
SEP 14...	54	78	16	150	4	7.3	261	0	214	208

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
NOV 02...	190	78	0.50	25	607	617	0.210	0.010	0.220	0.030
FEB 14...	180	87	0.40	24	615	619	--	<0.010	0.160	0.030
AUG 31...	200	110	0.50	25	686	690	--	<0.010	0.290	0.060
SEP 14...	220	130	0.60	29	750	759	0.350	0.020	0.370	0.030

RIO GRANDE BASIN

08358300 RIO GRANDE CONVEYANCE CHANNEL AT SAN MARCIAL, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTH, DIS- SOLVED (MG/L AS P) (00671)	CYANIDE TOTAL (MG/L AS CN) (00720)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 02...	0.030	0.47	0.120	0.100	<0.010	K150	180	--	10	5
FEB 14...	0.030	0.27	0.060	0.050	<0.010	K7	80	180	5	18
AUG 31...	0.010	1.2	0.330	0.090	<0.010	K210	5000	--	<3	<1
SEP 14...	0.030	0.27	0.140	0.150	<0.010	K210	K340	--	180	22
DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 02...	1430	<10	6	79	<0.5	<1	<1	<3	2	<5
FEB 14...	0800	<10	6	80	<0.5	<1	<1	<3	2	<5
AUG 31...	1200	<10	6	84	<0.5	<1	<1	<3	1	1
SEP 14...	1505	70	7	94	<0.5	<1	1	<3	1	<1
DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)
NOV 02...	98	0.2	<1	2	<1	<1.0	790	<6	4	<2.0
FEB 14...	100	<0.1	10	4	<1	<1.0	830	<6	4	--
AUG 31...	120	<0.1	<10	1	<1	<1.0	880	<6	10	--
SEP 14...	130	<0.1	6	2	<1	<1.0	970	<6	<3	--
DATE	NITRO- GEN, NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)
NOV 02...	7.6	<40	1	<10	1	<50	2	1800	<100	500
DATE	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)
NOV 02...	<0.01	<10	2.5	7.6	10	4.3	6.9	3.8	0.08	1.8

08358300 RIO GRANDE CONVEYANCE CHANNEL AT SAN MARCIAL, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	STREAM WIDTH (FT) (00004)	STREAM DEPTH, MEAN (FT) (00064)	STREAM VELOC- ITY, MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DISCH, SUSP. + BED MA- TERIAL (T/DAY) (80155)	SEDI- MENT, DISCH, SUSP. + BED MA- TERIAL (T/DAY) (80156)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)
NOV												
02...	1430	314	52.0	2.7	2.24	950	15.0	244	207	396	--	19
30...	1546	241	52.0	2.1	2.17	--	10.5	121	79	165	--	--
DEC												
20...	1430	227	51.0	2.1	2.14	--	12.0	54	33	75	--	--
JAN												
05...	0817	193	52.0	1.8	2.03	--	10.5	192	100	205	--	--
FEB												
14...	0800	212	--	--	--	1100	10.0	175	100	--	--	--
MAR												
06...	1800	349	--	--	--	299	16.0	351	331	--	91	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)	SED. SUSP. FALL DIAM. % FINER THAN .500 MM (70345)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM (80164)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM (80165)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM (80166)	BED MAT. SIEVE DIAM. % FINER THAN .500 MM (80167)	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM (80168)	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM (80169)
NOV												
02...	25	40	59	69	98	100	0	1	21	85	99	100
30...	--	--	15	31	97	100	0	1	33	92	99	100
DEC												
20...	--	--	65	69	98	100	0	1	31	91	100	--
JAN												
05...	--	--	49	58	98	100	0	1	40	95	100	--
FEB												
14...	--	--	78	83	98	100	0	2	25	94	100	--

08358300 RIO GRANDE CONVEYANCE CHANNEL AT SAN MARCIAL, NM -- Continued
WATER-QUALITY RECORDS
SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	910	1000	911	1030	925	731	785	---	1170	1060	1240	1130
2	938	1040	922	1080	943	783	802	---	1140	1030	1240	1120
3	737	1020	928	1080	947	791	800	---	1130	1070	1270	1140
4	929	1020	932	944	954	796	839	---	1120	1050	1290	1140
5	934	1020	927	949	952	799	849	---	1110	992	1330	1130
6	934	1030	912	912	949	---	801	---	1120	1050	1310	1130
7	936	1030	945	918	911	796	849	---	1120	1070	1320	1120
8	970	1020	938	940	925	795	838	---	1110	1090	1310	1150
9	962	1010	940	904	932	796	844	---	1130	740	1300	1180
10	973	1030	946	970	921	781	695	---	1110	742	1320	1200
11	973	1020	932	967	929	744	456	---	1100	741	1290	1220
12	968	718	945	1020	616	733	445	---	1140	703	1320	1170
13	983	998	---	988	889	758	451	---	1100	472	1290	1220
14	976	---	---	968	924	766	884	---	1100	416	1280	1180
15	972	---	---	966	927	754	890	---	1100	742	1330	1210
16	985	972	1180	983	923	746	918	---	1110	748	1300	1180
17	986	992	1040	1010	918	672	914	---	1130	743	1320	1340
18	934	964	1040	971	---	717	920	---	1010	774	1300	1340
19	931	945	1040	952	921	690	910	---	1000	974	1310	1300
20	906	971	1030	---	920	702	890	---	830	1020	1310	1310
21	899	967	1040	954	731	761	915	---	980	925	1190	1330
22	911	993	1040	962	781	726	893	---	982	910	1220	1330
23	912	927	1050	967	798	779	866	---	971	921	1220	1350
24	918	911	1020	958	780	779	855	---	974	919	1210	1340
25	942	909	1040	979	789	783	853	---	961	927	1210	1360
26	944	911	1020	979	776	765	852	---	976	902	1190	1330
27	944	912	1040	971	765	783	861	---	977	1010	1070	1310
28	946	---	1090	940	847	779	---	---	956	949	1030	1360
29	946	---	1080	938	---	810	---	---	963	980	995	1350
30	944	---	944	945	---	802	---	---	963	987	1040	1350
31	947	---	---	930	---	---	---	---	---	---	1040	---
MEAN	938	973	995	969	874	763	810	---	1050	889	1240	1240
WTR YR 1989		MEAN 981	MAX 1360	MIN 416								

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

[illegible]

WATER-QUALITY RECORDS
SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS	MEAN CONCEN- TRATION	LOADS
DAY	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)	(MG/L)	(T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	559	841	188	274	374	151	248	33	2390	1610	789	628
2	503	713	206	300	254	89	329	42	4990	3230	279	197
3	457	650	194	289	213	69	203	30	6040	3490	322	230
4	255	348	142	187	330	134	235	29	6220	4420	351	228
5	184	241	131	172	325	158	234	26	4050	2410	371	171
6	199	258	129	165	316	171	253	29	4890	2750	311	157
7	213	289	152	210	269	160	272	31	5740	3160	367	171
8	213	311	175	223	300	202	210	20	4660	1760	429	205
9	175	249	137	165	329	258	209	17	4690	1160	237	93
10	145	214	165	213	196	127	211	28	3310	885	248	104
11	149	221	178	228	136	59	221	31	3920	1480	270	117
12	167	262	175	221	149	56	300	28	4680	1770	316	119
13	169	253	176	220	160	56	142	17	4890	1870	175	57
14	194	282	179	239	174	42	184	22	4550	1380	150	45
15	214	299	206	294	203	50	208	21	5120	1530	134	42
16	230	351	141	179	231	52	195	18	4950	1480	174	58
17	208	317	134	172	224	47	190	15	4280	948	210	88
18	9780	13800	149	202	233	45	216	28	4260	874	201	83
19	21400	28400	144	202	204	44	208	13	4770	1250	390	193
20	196	257	134	182	166	40	248	21	3260	1450	338	137
21	173	247	142	186	166	38	494	33	2610	1480	308	128
22	179	263	166	225	179	39	547	124	2870	1140	.262	92
23	142	226	145	188	172	46	621	419	2660	891	280	107
24	213	327	166	190	137	33	650	451	3490	1330	229	77
25	180	256	137	115	161	40	626	872	1360	558	325	135
26	161	233	133	98	141	38	771	756	546	212	187	75
27	166	243	127	107	158	35	674	457	2040	793	218	63
28	164	231	124	88	216	29	238	191	1610	1000	243	63
29	166	232	162	109	171	27	347	278	689	407	239	79
30	146	191	170	86	141	21	455	345	571	228	285	109
31	---	---	325	123	---	---	360	254	959	653	---	---
TOTAL	---	51005	---	5852	---	2356	---	4679	---	47599	---	4051
TOTAL LOAD FOR YEAR:												
			162068		TONS.							

08358400 RIO GRANDE FLOODWAY AT SAN MARCIAL, NM

(National stream-quality accounting network, surveillance network, and radiochemical network station)

LOCATION.--Lat 33°40'50", long 106°59'30", Socorro County, Hydrologic Unit 13020203, in Pedro Armendaris Grant No. 33, on pier of the Atchison, Topeka, and Santa Fe Railway Co. bridge, 1.1 mi downstream from former site of San Marcial, 18.5 mi southwest of San Antonio, and at mile 1,425.2.

DRAINAGE AREA.--27,700 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year. Records collected at this site January 1895 to September 1964 represented total flow of the river and were published as Rio Grande at San Marcial (station 08358500). Records of daily discharge for floodway only, April 1950, to September 1964, are available in files of district office.

GAGE.--Water-stage recorder. Datum of gage is 4,455.19 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. Floodway is 1 of 2 channels (station 08358300) carrying flow in valley cross section. Prior to 1950 all flow was in floodway channel. Normal plan is for floodway to carry flow when capacity of conveyance channel (about 2,000 ft³/s) is exceeded. Combined monthly discharge in acre-ft is given at end of each year table. Diversion for irrigation of about 775,000 acres upstream from station (includes about 13,800 acre-ft diverted from conveyance channel, as based on weekly measurements, data provided by U.S. Bureau of Reclamation). U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--25 years (water years 1965-89), 741 ft³/s, 536,900 acre-ft/yr.

Total flow of river.--94 years (water years 1895-1989), 1,267 ft³/s, 917,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, since January 1895, about 50,000 ft³/s, Oct. 11, 1904; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,100 ft³/s, Apr. 30; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	.00	798	e530	919	946	2240	2990	.00	.00	189	.00
2	111	.00	729	456	885	1040	2330	2870	.00	.00	708	.00
3	133	.00	739	462	791	1040	2230	2820	.00	.00	1190	.00
4	84	.00	708	491	882	741	2240	2370	.00	.00	1840	.00
5	49	.00	705	745	999	700	2150	2090	.00	.00	862	.00
6	27	180	715	607	1130	706	2070	1900	.00	.00	444	.00
7	5.9	261	734	556	1130	671	2050	1790	.00	.00	291	.00
8	.00	276	847	586	862	664	2020	1510	.00	.00	129	5.4
9	.00	306	689	1010	982	615	2030	1120	.00	.00	51	28
10	296	313	777	1150	703	686	2160	764	.00	.00	17	13
11	269	251	910	884	556	708	2200	629	.00	.00	13	6.1
12	208	327	784	576	502	671	2380	712	.00	.00	11	.00
13	147	1030	713	518	732	545	2460	626	.00	.00	7.1	2.0
14	101	1540	674	518	955	677	2560	601	.00	.00	.00	.00
15	66	1510	623	651	1050	703	2550	1010	.00	.00	.00	.00
16	57	1960	785	786	923	670	2540	840	.00	.00	.00	.00
17	134	1810	772	640	850	775	2570	772	.00	.00	.00	.00
18	127	1490	744	607	799	722	2580	952	.00	.00	.00	.00
19	77	1310	716	600	880	836	2630	1560	.00	.00	.00	.00
20	51	1160	721	576	937	868	2650	1070	.00	.00	.00	.00
21	57	965	685	674	801	864	2600	691	.00	.00	.00	.00
22	65	886	689	697	908	956	2630	551	.00	.00	.00	.00
23	46	904	782	799	969	1140	2590	374	.00	.00	.00	.00
24	60	881	811	813	870	1240	2680	307	.00	.00	.00	.00
25	57	768	853	743	760	1260	2810	176	.00	.00	.00	.00
26	36	1000	915	794	667	1450	2830	96	.00	537	.00	.00
27	19	792	842	736	456	1560	2890	38	.00	690	.00	.00
28	2.2	787	757	813	790	1610	2950	28	.00	1230	1.9	.00
29	.00	872	733	792	---	1590	3060	21	.00	1610	.00	.00
30	.00	870	e700	965	---	1820	3100	12	.00	721	.00	.00
31	.00	---	e690	893	---	2080	---	.00	---	323	.00	---
TOTAL	2403.10	22449.00	23340	21668	23688	30554	74780	31290.00	0.00	5111.00	5754.00	54.50
MEAN	77.5	748	753	699	846	986	2493	1009	.00	165	186	1.82
MAX	296	1960	915	1150	1130	2080	3100	2990	.00	1610	1840	28
MIN	.00	.00	623	456	456	545	2020	.00	.00	.00	.00	.00
AC-FT	4770	44530	46290	42980	46990	60600	148300	62060	.0	10140	11410	108

CAL YR 1988 TOTAL 343355.60 MEAN 938 MAX 4530 MIN .00 AC-FT 681000
WTR YR 1989 TOTAL 241091.60 MEAN 661 MAX 3100 MIN .00 AC-FT 478200

e Estimated

08358400 RIO GRANDE FLOODWAY AT SAN MARCIAL, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1905-07, 1946 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1905 to April 1907, July 1946 to current year.

WATER TEMPERATURE: January 1949 to current year.

SUSPENDED-SEDIMENT DISCHARGE: July 1946 to current year.

REMARKS.--Records of chemical analyses and sediment discharge for years prior to 1946 have been published in Water Bulletins of International Boundary and Water Commission. Sediment total-load measurements were made monthly and total-load values were determined using equation from double-mass relationship plot for period of record. Some total-load data were not available at time of publication and will be available at Albuquerque District Office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,730 microsiemens, Apr. 8, 1953; minimum daily, 277 microsiemens, June 12, 1983.

WATER TEMPERATURE: Maximum daily, 37.0°C, July 22, 27, Aug. 7; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATION: Maximum daily mean, 135,000 mg/L, July 23, 1977; minimum daily mean, no flow on many days each year.

SEDIMENT LOAD: Maximum daily, 1,200,000 tons, Sept. 21, 1982; minimum daily, 0 ton on many days each year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,160 microsiemens, July 29; minimum daily, 341 microsiemens, Apr. 2.

WATER TEMPERATURE: Maximum daily, 34.0°C, July 28; minimum daily, 0.0°C, Nov. 5.

SEDIMENT CONCENTRATION: Maximum daily mean, 18,300 mg/L, Aug. 4; minimum daily mean, no flow on many days.

SEDIMENT LOAD: Maximum daily, 90,900 tons, Aug. 4; minimum daily, 0 ton on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	STREAM WIDTH (FT) (00004)	STREAM DEPTH, MEAN (FT) (00064)	STREAM VELOC- ITY, MEAN (F/S) (00055)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SEDI- MENT, DISCH, BED MA- TERIAL (T/DAY) (80156)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	
NOV 30...	1348	901	218	1.2	3.51	--	--	2110	5130	6690	--	23	
JAN 05...	1153	879	133	1.7	3.93	--	3.5	3530	8380	10500	--	12	
12...	0825	576	--	--	--	604	5.0	235	365	--	42	--	
FEB 14...	1109	968	148	1.9	3.40	--	--	1760	4600	6060	--	17	
17...	1530	869	--	--	--	581	10.0	2260	5300	--	87	--	
MAR 05...	1915	760	--	--	--	475	18.0	298	611	--	62	--	
22...	1800	1090	--	--	--	366	20.0	401	1180	--	51	--	
MAY 04...	1800	2130	--	--	--	646	8.0	1540	8860	--	87	--	
DATE		SED. SUSP. FALL DIAM. % FINER THAN (70338)	SED. SUSP. FALL DIAM. % FINER THAN (70340)	SED. SUSP. FALL DIAM. % FINER THAN (70341)	SED. SUSP. FALL DIAM. % FINER THAN (70342)	SED. SUSP. FALL DIAM. % FINER THAN (70343)	SED. SUSP. FALL DIAM. % FINER THAN (70344)	SED. SUSP. FALL DIAM. % FINER THAN (70345)	BED MAT. SIEVE DIAM. % FINER THAN (80164)	BED MAT. SIEVE DIAM. % FINER THAN (80165)	BED MAT. SIEVE DIAM. % FINER THAN (80166)	BED MAT. SIEVE DIAM. % FINER THAN (80167)	BED MAT. SIEVE DIAM. % FINER THAN (80168)
NOV 30...	28	44	0	73	84	99	100	1	5	57	98	100	
JAN 05...	14	25	70	55	80	100	--	70	98	100	--	--	
FEB 14...	22	--	0	89	99	100	--	3	17	87	100	--	

08358400 RIO GRANDE FLOODWAY AT SAN MARCIAL, NM -- Continued
WATER-QUALITY RECORDSSPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	958	---	601	645	485	346	---	---	---	---	---
2	---	957	---	603	647	499	341	---	---	---	---	---
3	---	955	---	628	---	496	358	---	---	---	---	---
4	---	868	---	654	651	494	721	---	---	---	---	---
5	---	735	---	649	648	---	699	---	---	---	---	---
6	---	664	---	645	648	474	709	---	---	---	---	---
7	---	694	---	648	657	478	709	---	---	---	---	---
8	---	699	---	855	658	479	706	---	---	---	---	---
9	---	701	---	892	658	476	686	---	---	---	---	---
10	---	700	---	627	659	478	709	---	---	---	---	---
11	---	689	---	605	656	446	687	---	---	---	---	---
12	---	703	---	---	658	429	677	---	---	---	---	---
13	---	702	---	621	661	429	436	---	---	---	---	---
14	---	---	---	608	656	446	431	---	---	---	---	---
15	---	---	---	899	660	436	436	---	---	---	---	---
16	---	599	616	640	663	433	433	---	---	---	---	---
17	---	601	590	630	---	358	438	---	---	---	---	---
18	---	596	611	624	579	366	431	---	---	---	---	---
19	---	597	615	624	580	356	435	---	---	---	---	---
20	---	595	619	629	578	354	434	---	---	---	---	---
21	---	619	582	630	497	356	424	---	---	---	---	---
22	---	623	606	629	500	360	493	---	---	---	---	---
23	---	629	619	629	503	359	604	---	---	---	---	---
24	---	621	616	623	504	360	584	---	---	---	---	---
25	---	631	618	626	501	359	521	---	---	985	---	---
26	---	---	620	629	500	---	710	---	---	945	---	---
27	---	640	623	622	501	---	444	---	---	1150	---	---
28	---	---	629	647	488	367	---	---	---	1050	---	---
29	---	---	613	649	---	368	---	---	---	1160	---	---
30	---	---	583	650	---	368	---	---	---	951	---	---
31	---	---	---	645	---	367	---	---	---	---	---	---
MEAN	---	699	611	655	598	417	541	---	---	1040	---	---
WTR YR 1989	MEAN	600	MAX	1160	MIN	341						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	12.0	---	7.0	11.0	12.0	22.0	---	---	---	---	---
2	---	12.0	---	5.0	8.5	14.0	22.0	---	---	---	---	---
3	---	12.0	---	5.5	---	12.0	20.0	---	---	---	---	---
4	---	11.0	---	6.0	8.0	16.0	22.0	---	---	---	---	---
5	---	9.0	---	6.0	9.0	18.0	24.0	---	---	---	---	---
6	---	11.0	---	9.5	7.5	18.0	24.0	---	---	---	---	---
7	---	10.0	---	---	10.0	22.0	28.0	---	---	---	---	---
8	---	10.0	---	8.0	8.0	19.0	26.0	---	---	---	---	---
9	---	7.0	---	7.5	7.5	16.0	26.0	---	---	---	---	---
10	---	9.0	---	5.0	9.0	16.0	25.0	---	---	---	---	---
11	---	9.5	---	7.0	8.3	20.0	25.0	---	---	---	---	---
12	---	9.0	---	---	7.5	18.0	24.0	---	---	---	---	---
13	---	7.5	---	7.0	9.0	18.0	24.0	---	---	---	---	---
14	---	---	---	7.0	9.0	17.0	24.0	---	---	---	---	---
15	---	---	---	6.0	8.0	22.0	26.0	---	---	---	---	---
16	---	8.0	5.0	5.5	9.0	18.0	24.0	---	---	---	---	---
17	---	9.0	5.0	9.0	---	19.0	22.0	---	---	---	---	---
18	---	20.0	4.5	7.0	12.0	20.0	25.0	---	---	---	---	---
19	---	9.0	6.0	7.0	10.0	22.0	25.0	---	---	---	---	---
20	---	8.0	8.0	7.0	11.0	19.0	24.0	---	---	---	---	---
21	---	8.0	6.0	6.0	10.0	18.5	24.0	---	---	---	---	---
22	---	8.0	6.0	7.0	11.0	18.0	25.0	---	---	---	---	---
23	---	7.5	7.0	6.0	10.0	18.0	22.0	---	---	---	---	---
24	---	20.0	7.0	8.0	9.0	23.0	25.0	---	---	---	---	---
25	---	7.0	7.0	9.0	10.0	19.0	24.0	---	---	31.0	---	---
26	---	6.5	5.0	8.5	11.5	19.0	23.0	---	---	32.0	---	---
27	---	7.0	5.0	7.0	10.0	20.0	25.0	---	---	32.0	---	---
28	---	---	5.0	8.0	8.0	20.0	---	---	---	34.0	---	---
29	---	---	5.0	7.0	---	22.0	---	---	---	32.0	---	---
30	---	---	6.0	7.0	---	20.0	---	---	---	31.0	---	---
31	---	---	---	8.0	---	21.0	---	---	---	---	---	---
MEAN	---	9.5	5.8	7.0	9.3	18.5	24.1	---	---	32.0	---	---
WTR YR 1989	MEAN	13.8	MAX	34.0	MIN	.0						

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN	LOADS	MEAN	LOADS	MEAN	LOADS	MEAN	LOADS	MEAN	LOADS	MEAN	LOADS
	CONCENTRATION (MG/L)		CONCENTRATION (MG/L)		CONCENTRATION (MG/L)		CONCENTRATION (MG/L)		CONCENTRATION (MG/L)		CONCENTRATION (MG/L)	
		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER
1	498	3010	926	7480	0	.00	0	.00	516	263	0	.00
2	632	3980	714	5530	0	.00	0	.00	9140	17500	0	.00
3	716	4310	887	6750	0	.00	0	.00	13400	43100	0	.00
4	315	1910	843	5390	0	.00	0	.00	18300	90900	0	.00
5	277	1610	681	3840	0	.00	0	.00	10200	23700	0	.00
6	258	1440	415	2130	0	.00	0	.00	7280	8730	0	.00
7	232	1280	467	2260	0	.00	0	.00	6170	4850	385	.00
8	263	1430	486	1980	0	.00	0	.00	4520	1570	630	9.2
9	221	1210	340	1030	0	.00	0	.00	2930	403	81.2	61
10	205	1200	402	829	0	.00	0	.00	1640	75	430	15
11	253	1500	451	766	0	.00	0	.00	988	35	153	2.5
12	398	2560	495	952	0	.00	0	.00	540	16	34	.00
13	488	3240	415	701	0	.00	0	.00	340	6.5	106	.57
14	446	3080	343	557	0	.00	0	.00	0	.0	0	.00
15	555	3820	651	1780	0	.00	0	.00	0	.0	0	.00
16	342	2350	608	1380	0	.00	0	.00	0	.0	0	.00
17	658	4570	461	961	0	.00	0	.00	0	.0	0	.00
18	690	4810	414	1060	0	.00	0	.00	0	.0	0	.00
19	275	1950	842	3550	0	.00	0	.00	0	.0	0	.00
20	513	3670	568	1640	0	.00	0	.00	0	.0	0	.00
21	520	3650	399	744	0	.00	0	.00	0	.0	0	.00
22	835	5930	345	513	0	.00	0	.00	0	.0	0	.00
23	990	6920	310	313	0	.00	0	.00	0	.0	0	.00
24	1260	9120	265	220	0	.00	0	.00	0	.0	0	.00
25	1250	9480	195	93	0	.00	0	.00	0	.0	0	.00
26	565	4320	232	60	0	.00	759	1100	0	.0	0	.00
27	741	5780	173	18	0	.00	735	1370	0	.0	0	.00
28	1070	8520	178	13	0	.00	2290	7610	578	3.0	0	.00
29	816	6740	146	8.3	0	.00	1380	6000	0	.0	0	.00
30	819	6860	120	3.9	0	.00	932	1810	0	.0	0	.00
31	---	---	0	.00	---	---	1110	968	0	.0	---	---
TOTAL	---	120250	---	52552.20	---	0.00	---	18858.00	---	191151.5	---	88.27
TOTAL LOAD FOR YEAR: 737801.15 TONS.												

08360500 ELEPHANT BUTTE RESERVOIR AT ELEPHANT BUTTE, NM

LOCATION.--Lat 33°09'15", long 107°11'28", in NW¼ sec.30, T.13 S., R.3 W., Sierra County, Hydrologic Unit 13020211, at dam on Rio Grande, 1 mi west of Elephant Butte, 4 mi northeast of Truth or Consequences (Hot Springs), and at mile 1,383.2.

DRAINAGE AREA.--29,445 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--March 1915 to December 1939 (monthend contents only published in WSP 1312), January 1940 to September 1965 (monthend contents only), October 1965 to current year.

REVISED RECORDS.--WSP 1442: 1954(m). WSP 1632: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 43.3 ft above National Geodetic Vertical Datum of 1929. Oct. 16, 1939, to May 2, 1940, and prior to September 1930, nonrecording gages.

REMARKS.--Reservoir is formed by concrete dam. Storage began Jan. 6, 1915. Dam completed May 13, 1916. Capacity, 2,065,000 acre-ft, survey of 1988 at gage height 4,407.0 ft crest of spillway. Capacity by original survey was 2,638,900 acre-ft. No adjustment made for decrease in capacity due to sedimentation between effective dates of capacity tables. No dead storage. No storage allocated to flood control. Water is used for power development and irrigation on Rio Grande Project of U.S. Bureau of Reclamation. A 50,000-acre-ft permanent pool is authorized for recreational purposes.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily contents, 2,303,000 acre-ft, June 16-18, 1942, gage height, 4,409.19 ft; minimum daily contents after initial filling, 9,900 acre-ft, Aug. 6, 1954, gage height, 4,258.03 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,040,200 acre-ft, Feb. 15, gage height, 4,405.08 ft; minimum contents, 1,642,700 acre-ft, Sept. 30, gage height, 4,393.35 ft.

Capacity table (gage height, in feet, and contents, in thousands of acre-feet)

Oct. 1 to Dec. 31 (Based on survey by USBR in 1980)				Jan. 1 to Sept. 30 (Based on survey by USBR in 1988)			
4,380	1,264.3	4,400	1,860.9	4,380	1,241.2	4,390	1,509.1
4,390	1,540.7	4,410	2,222.6	4,400	1,819.7	4,410	2,177.0

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1983400	1984800	2010600	1990500	2025300	2018100	1954000	1982700	1930800	1835800	1748600	1687600
2	1983400	1984500	2012000	1990500	2027100	2015600	1955000	1985900	1927000	1833800	1746000	1687000
3	1982300	1984100	2013400	1990900	2027900	2014900	1956400	1987600	1924500	1830100	1743100	1686300
4	1983000	1984100	2014500	1991900	2028200	2012700	1958900	1989400	1922800	1826800	1741200	1685400
5	1982700	1984500	2015600	1993400	2028600	2009500	1958200	1988700	1919000	1822800	1742500	1684100
6	1983000	1984500	2017000	1994100	2031500	2007300	1958600	1988700	1915200	1817700	1742500	1682900
7	1982000	1984500	2021700	1995500	2031500	2005900	1960700	1988700	1911700	1814100	1737000	1679700
8	1983000	1984500	2019900	1996600	2033300	2004500	1961700	1986900	1907200	1812400	1733800	1678500
9	1982300	1984800	2022100	1996600	2034000	2002700	1962800	1986900	1902300	1809100	1729300	1676600
10	1982300	1984100	2023200	1997600	2035800	2000500	1958900	1981600	1899900	1803700	1726100	1674700
11	1982300	1984500	2025300	2000500	2037300	1998700	1960300	1978400	1899600	1800400	1723500	1672200
12	1982300	1984100	2026400	2002700	2038000	1996200	1962400	1973400	1896800	1798400	1722200	1671600
13	1983000	1985200	2027100	2001900	2039100	1994100	1962800	1973100	1893000	1794800	1722200	1670300
14	1982000	1985900	2029600	2001900	2039800	1992300	1964600	1971600	1889600	1789500	1718400	1667800
15	1983700	1988400	2031100	2003400	2040200	1989800	1965300	1969500	1885500	1787900	1714500	1663500
16	1984500	1990200	2031400	2004500	2039500	1987300	1967400	1966300	1882000	1785900	1710700	1662200
17	1985500	1991900	2033300	2005900	2038000	1984100	1969500	1964200	1881400	1782900	1705900	1661000
18	1985900	1993400	2033600	2006600	2037300	1980500	1971600	1962400	1880300	1780600	1702500	1659700
19	1985900	1995500	2035100	2008000	2036600	1976600	1972400	1961400	1879300	1777000	1701200	1656600
20	1985900	1997700	2036500	2008400	2036200	1972700	1974500	1963900	1876600	1771100	1699300	1654800
21	1985900	1998700	2037200	2009500	2034800	1967400	1976300	1962800	1871800	1770100	1698600	1652300
22	1985900	1999800	2037600	2010600	2033300	1964600	1976300	1962100	1868700	1768500	1695500	1651100
23	1985900	2000900	2038300	2012000	2031500	1961700	1976600	1958600	1860200	1765900	1692000	1648600
24	1985900	2001600	2037200	2013100	2029700	1959300	1977000	1954700	1859200	1764200	1689800	1646400
25	1986200	2003400	2037600	2015600	2027900	1956800	1977300	1951200	1856500	1759700	1687000	1644300
26	1985900	2004500	2038300	2017400	2026400	1952900	1977700	1948000	1854100	1758400	1686600	1644300
27	1985900	2005500	2037200	2018100	2023500	1952900	1978400	1944500	1850000	1775400	1685700	1643900
28	1985500	2006600	2036500	2020600	2020300	1953300	1979500	1943100	1846600	1752800	1685100	1643000
29	1985500	2008100	2036500	2021000	---	1954000	1980200	1942000	1841600	1751200	1685700	1643000
30	1985500	2009100	2035400	2022500	---	1954000	1983700	1938500	1837900	1752800	1690400	1642700
31	1985200	---	2034700	2023900	---	1953300	---	1934300	---	1751500	1688200	---
MAX	1986200	2009100	2038300	2023900	2040200	2018100	1983700	1989400	1930800	1835800	1748600	1687600
MIN	1982000	1984100	2010600	1990500	2020300	1952900	1954000	1934300	1837900	1751200	1685100	1642700
(+)	4403.55	4403.76	4404.76	4405.87	4405.77	4403.89	4404.75	4403.45	4400.54	4397.93	4395.95	4394.49
(++)	+2200	+23900	+25600	*-10800	-3600	-67000	+30400	-49400	-96400	-86400	-63300	-45500

CAL YR 1988 MAX 2099200 MIN 1911100 (++) -8700
WTR YR 1989 MAX 2040200 MIN 1642700 (++) -340300

(+) ELEVATION, IN FEET, AT END OF MONTH.

(++) CHANGE IN CONTENTS, IN ACRE-FEET.

* COMPUTED ON BASIS OF REVISED CAPACITY TABLE PUT INTO USE JAN. 1, 1989.

08361000 RIO GRANDE BELOW ELEPHANT BUTTE DAM, NM

LOCATION.--Lat 33°08'54", long 107°12'22", Sierra County, Hydrologic Unit 13030101, in Pedro Armendaris Grant, on left bank 1.0 mi downstream from dam, 1.5 mi upstream from Cuchillo Negro River, and at mile 1,382.2.

DRAINAGE AREA.--29,450 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--January 1915 to current year. Monthly or annual discharge only for some periods, published in WSP 1732. Figures of daily discharge, published in WSP 458 for October to December 1916, are unreliable.

REVISED RECORDS.--WSP 1562: 1920. WSP 1632: Drainage area. WSP 1732: 1917, 1920. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 4,241.09 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 24, 1980, at datum 1.0 ft higher. See WSP 1732 for history of changes prior to Apr. 24, 1942.

REMARKS.--Records good. Flow regulated by Elephant Butte Reservoir (station 08360500). Diversion for irrigation of about 800,000 acres upstream from station. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--74 years, 995 ft³/s, 720,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8,220 ft³/s, May 22, 1942; no flow at times prior to 1929, Mar. 2-4, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,190 ft³/s, Mar. 31; minimum daily, 8.0 ft³/s, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	43	72	680	108	1860	2020	1980	1930	1300	1910	658
2	38	43	72	682	108	1870	2020	1980	1880	1310	1800	659
3	37	43	72	684	109	1870	2020	1990	641	1320	1870	656
4	37	42	74	117	109	1870	2010	1970	645	1330	1750	656
5	35	42	74	93	110	1870	2000	1960	1540	1760	629	1030
6	34	42	75	96	110	1860	2000	1950	1910	1980	620	1210
7	39	42	77	99	110	1870	2010	1940	1900	1940	1480	1200
8	38	42	82	98	111	1860	2000	1940	1880	709	1820	992
9	39	42	81	97	164	1860	2000	1950	1830	712	1810	597
10	39	42	81	97	112	1860	2010	1960	627	1560	1800	594
11	38	42	82	98	110	1860	2020	1960	630	2000	1310	595
12	39	42	83	102	109	1870	2010	1950	1530	1980	583	591
13	39	42	81	104	109	1870	2020	737	1870	1990	580	947
14	39	43	81	102	110	1880	2020	722	1850	1950	1410	1130
15	39	45	81	102	907	1890	2020	1570	1860	708	1800	913
16	39	48	81	102	1280	1890	2030	1950	1820	707	1780	553
17	39	52	81	102	1280	2320	2030	1950	626	1540	1770	553
18	40	55	81	104	1290	3120	2020	1950	656	1990	1710	933
19	40	57	83	99	1290	3120	1990	1900	1130	2000	582	1130
20	40	59	93	96	1290	3100	1990	682	1390	1990	587	1130
21	40	60	100	96	1290	3190	1990	689	1660	1970	980	1130
22	41	62	457	96	1360	3140	1980	1550	2020	710	1160	907
23	41	64	679	96	1670	3140	1990	1910	1850	703	1170	564
24	41	65	680	96	1860	3160	1990	1900	727	1550	1170	567
25	41	66	683	98	1860	3170	1980	1890	1080	1990	1150	222
26	41	68	685	100	1870	3180	1990	1860	1930	1990	601	14
27	41	68	683	104	1850	2650	1980	660	1920	1980	268	11
28	42	69	682	107	1840	1990	1980	664	1920	1940	623	12
29	42	71	682	106	---	2000	1980	683	1920	688	637	8.1
30	42	71	682	107	---	2000	1980	1580	1900	685	654	8.0
31	43	---	680	112	---	2010	---	1950	---	1480	659	---
TOTAL	1221	1572	8280	4872	22526	71200	60080	50327	45072	46462	36673	20170.1
MEAN	39.4	52.4	267	157	804	2297	2003	1623	1502	1499	1183	672
MAX	43	71	685	684	1870	3190	2030	1990	2020	2000	1910	1210
MIN	34	42	72	93	108	1860	1980	660	626	685	268	8.0
AC-FT	2420	3120	16420	9660	44680	141200	119200	99820	89400	92160	72740	40010

CAL YR 1988 TOTAL 350029.2 MEAN 956 MAX 3050 MIN 9.0 AC-FT 694300
WTR YR 1989 TOTAL 368455.1 MEAN 1009 MAX 3190 MIN 8.0 AC-FT 730800

08362000 CABALLO RESERVOIR NEAR ARREY, NM

LOCATION.--Lat 32°53'47", long 107°17'30", in SE¼SW¼ sec.19, T.16 S., R.4 W., Sierra County, Hydrologic Unit 13030101, in control tower of Caballo Dam on Rio Grande, 0.5 mi downstream from mouth of Apache Canyon, 0.9 mi upstream from Bojarquez Bridge, 2 mi upstream from Percha diversion dam, 3.5 mi northeast of Arrey, 5.2 mi south of Caballo, and at mile 1,356.6.

DRAINAGE AREA.--30,700 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--February 1938 to September 1965 (monthend contents only), October 1965 to current year.

REVISED RECORDS.--WSP 978: 1942. WSP 1632: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 43.3 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earthfill dam, completed Sept. 19, 1938. Storage began Feb. 8, 1938. Capacity by 1983 survey, 331,500 acre-ft, between gage heights 4,104 ft, bottom of tunnel entrance of gates and 4,182 ft gage height above which spillway gates operate automatically. Capacity by original survey was 345,900 acre-ft. No dead storage. Storage held for flood control, 100,000 acre-ft. Water released from Elephant Butte Reservoir for power development is stored in Caballo Reservoir and released for irrigation on Rio Grande Project of U.S. Bureau of Reclamation.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 347,000 acre-ft, Mar. 4, 1942, gage height, 4,182.06 ft; minimum contents, 118 acre-ft, Oct. 14, 1938, gage height, 4,108.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 183,300 acre-ft, May 9, 12, gage height, 4,166.92 ft; minimum contents, 63,000 acre-ft, Sept. 29, 30, gage height, 4,148.11 ft.

Capacity table (gage height, in feet, and contents, in acre-feet)

4,125	4,810	4,160	131,200
4,130	11,680	4,170	209,400
4,140	33,770	4,180	308,900
4,150	71,800		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81200	75100	79700	99600	109300	132900	143800	175800	170100	120100	81600	69900
2	79100	75300	80300	101000	109700	134000	144500	177100	170100	117900	83000	69000
3	77100	75600	80500	102300	109900	135700	145900	178200	168000	115400	84800	68000
4	75000	75700	80800	102800	109800	135700	147400	179100	165600	113000	85200	67300
5	73200	75800	81100	103300	109500	136300	147600	179900	164000	111000	83800	67000
6	70900	75900	81200	103400	110900	137200	148500	181000	163900	110500	82500	66900
7	69900	76100	81800	104100	110900	137800	149500	182100	163600	109100	81400	67400
8	69900	76200	82300	104200	111100	138500	150500	183200	163200	105900	81800	68300
9	70200	76400	82300	104200	111400	139100	151700	183300	162700	102100	82400	68000
10	70300	76600	82500	104300	111700	139000	151500	183100	160300	99300	83000	67700
11	70600	76900	82800	104600	111900	138300	152700	183200	157500	98200	82700	67400
12	70800	76900	83400	105200	112200	137600	153800	183300	155800	96900	81200	66700
13	71100	77100	83700	105200	112100	136500	154700	181900	155000	96200	78800	65500
14	71300	77100	83900	105300	111700	135500	155800	180000	153800	94900	78000	65500
15	71700	77300	84100	105500	112100	133700	157700	179600	153200	92400	79100	65100
16	71900	77400	84400	105700	114100	132000	159500	179800	152000	88600	80100	64800
17	72100	77600	84500	106000	115900	130700	161100	180000	149200	87100	81200	64500
18	72400	77900	84800	106200	117700	131000	162700	181000	145400	86400	81900	64200
19	72600	78000	85100	106400	119600	131600	163400	182000	142400	87800	80900	64200
20	72700	78300	85300	106400	121700	132100	164300	181500	139900	87500	79300	64300
21	73100	78300	85500	106600	123300	132600	165300	180500	137600	87400	78800	64100
22	73100	78500	86100	106900	124400	133700	166500	180300	136300	86200	78700	64100
23	73400	78600	87600	106900	125200	134800	167400	181300	134300	82700	78300	64600
24	73600	78800	89100	107500	126400	136000	168400	181200	131800	81600	78000	65000
25	73800	79000	90600	108000	127700	137500	169300	181000	127900	82400	77200	65400
26	74100	79200	92100	108200	129000	139000	170300	180200	126600	83400	75400	65700
27	74100	79300	92600	108500	130400	141000	171100	177500	125500	84000	73500	64700
28	74400	79700	94300	109100	131600	141700	172200	175400	124300	84500	72700	63800
29	74600	79800	95800	109100	---	142300	173400	172100	123300	82900	72100	63000
30	74900	79800	96900	109100	---	142800	174800	170200	122000	80900	71300	63000
31	74900	---	98300	109200	---	143200	---	170100	---	80000	71300	---
MAX	81200	79800	98300	160200	131600	143200	174800	183300	170100	120100	85200	69900
MIN	69900	75100	79700	99600	109300	130700	143800	170100	122000	80000	71300	63000
(†)	4151.63	4151.58	4154.92	4156.70	4160.05	4161.68	4165.85	4165.26	4158.66	4151.63	4149.90	4148.12
(††)	-8400	+4900	+18500	+10900	+22400	+11600	+31600	-4700	-48100	-42000	-8700	-8300
CAL YR 1988	MAX 304000	MIN 69900	(††)	-140800								
WTR YR 1989	MAX 183300	MIN 63000	(††)	-20300								

(†) ELEVATION, IN FEET, AT END OF MONTH.

(††) CHANGE IN CONTENTS, IN ACRE-FEET.

08362500 RIO GRANDE BELOW CABALLO DAM, NM

LOCATION.--Lat 32°53'05", long 107°17'31", in NE¼SW¼ sec.30, T.16 S., R.4 W., Sierra County, Hydrologic Unit 13030102, on left bank 2,000 ft upstream from Interstate Highway 25, 4,200 ft downstream from Caballo Dam, 1.2 mi downstream from Apache Canyon, 1.3 mi upstream from Percha diversion dam, 3 mi northeast of Arrey, 5 mi south of Caballo, and at mile 1,355.6.

DRAINAGE AREA.--30,700 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--January 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,140.9 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 7, 1938, at datum 7.0 ft higher, Oct. 7-12, 1938, at datum 6.0 ft higher, and Oct. 13, 1938, to Dec. 31, 1945, at datum 5.0 ft higher than present datum.

REMARKS.--Flow regulated by Caballo Reservoir (station 08362000), capacity, 331,500 acre-ft, 1981 survey and Elephant Butte Reservoir (station 08360500), capacity, 2,065,000 acre-ft, 1988 survey. Diversions for irrigation of about 800,000 acres upstream from station. Figures of daily discharge do not include Bonita ditch which diverts from Caballo Dam and bypasses station for irrigation downstream. See monthly table below for record of ditch. U.S. Bureau of Reclamation satellite telemeter at station.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

AVERAGE DISCHARGE.--51 years, 903 ft³/s, 654,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 7,650 ft³/s, May 20, 1942; minimum daily, 0.1 ft³/s, Oct. 31 to Nov. 14, 1954, Nov. 7 to Dec. 31, 1955, Feb. 15-29, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,820 ft³/s, Mar. 19; minimum daily, 1.0 ft³/s, Nov. 16-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	2.0	2.0	2.0	2.0	1100	1550	1220	1790	2420	1180	1070
2	1120	2.0	2.0	2.0	2.0	1120	1570	1400	1860	2420	626	1210
3	1030	2.0	2.0	2.0	2.0	1290	1480	1420	1930	2420	486	1210
4	1030	2.0	2.0	2.0	2.0	1460	1510	1400	1930	2440	1310	1210
5	1040	2.0	2.0	2.0	2.0	1470	1590	1340	1910	2340	1520	1130
6	1300	2.0	2.0	3.0	2.0	1510	1600	1320	1940	2300	1590	1040
7	600	2.0	2.0	3.0	2.0	1540	1600	1320	1970	2510	1630	928
8	25	2.0	2.0	3.0	2.0	1560	1590	1310	1970	2600	1600	969
9	10	2.0	2.0	3.0	2.0	1560	1560	1640	2020	2520	1570	1010
10	3.0	2.0	2.0	2.0	2.0	1890	1560	1770	2050	2500	1570	1010
11	3.0	2.0	2.0	2.0	2.0	2170	1450	1720	2050	2450	1750	1000
12	3.0	2.0	2.0	2.0	2.0	2180	1460	1690	2050	2400	1870	1280
13	3.0	2.0	2.0	2.0	135	2170	1480	1610	2130	2400	1870	1370
14	3.0	2.0	2.0	2.0	244	2250	1300	1580	2250	2360	1580	1290
15	3.0	2.0	2.0	2.0	262	2620	1120	1580	2260	2340	1380	1130
16	3.0	1.0	2.0	2.0	260	2780	1110	1640	2410	2350	1280	1030
17	3.0	1.0	2.0	2.0	265	2790	1100	1630	2520	2180	1340	1030
18	3.0	1.0	2.0	2.0	271	2790	1250	1580	2500	2180	1460	1110
19	3.0	1.0	2.0	2.0	280	2820	1420	1460	2510	2180	1550	1290
20	3.0	1.0	2.0	2.0	269	2800	1460	1250	2510	2030	1430	1380
21	3.0	1.0	2.0	2.0	505	2680	1400	1190	2540	1970	1220	1360
22	3.0	1.0	2.0	2.0	727	2580	1290	1190	2520	1970	1320	954
23	3.0	1.0	2.0	2.0	1150	2580	1290	1550	2540	1980	1380	496
24	3.0	1.0	2.0	2.0	1210	2480	1270	1850	2540	1890	1420	392
25	3.0	1.0	2.0	2.0	1210	2300	1260	1930	2550	1740	1650	300
26	3.0	1.0	2.0	2.0	1160	2250	1300	2080	2550	1610	1770	446
27	3.0	1.0	2.0	2.0	1120	1850	1290	2150	2470	1610	1450	554
28	3.0	1.0	2.0	2.0	1120	1700	1290	2150	2420	1690	1180	500
29	3.0	1.0	2.0	2.0	---	1740	1250	2180	2420	1750	1040	219
30	3.0	1.0	2.0	2.0	---	1750	1220	2050	2420	1680	1140	5.0
31	3.0	---	2.0	2.0	---	1650	---	1790	---	1650	1040	---
TOTAL	7241.0	45.0	62.0	66.0	10212.0	63430	41620	49990	67530	66880	43202	27923.0
MEAN	234	1.50	2.00	2.13	365	2046	1387	1613	2251	2157	1394	931
MAX	1300	2.0	2.0	3.0	1210	2820	1600	2180	2550	2600	1870	1380
MIN	3.0	1.0	2.0	2.0	2.0	1100	1100	1190	1790	1610	486	5.0
AC-FT	14360	89	123	131	20260	125800	82550	99160	133900	132700	85690	55390
(+)	0	0	0	0	140	71	30	96	70	65	47	68

CAL YR 1988 TOTAL 421988.0 MEAN 1153 MAX 3290 MIN 1.0 AC-FT 837000
WTR YR 1989 TOTAL 378201.0 MEAN 1036 MAX 2820 MIN 1.0 AC-FT 750200

(+) DIVERSION, IN ACRE-FEET, BY BONITA DITCH; BONITA DITCH DIVERTS DIRECTLY FROM CABALLO DAM AND THIS DIVERSION IS NOT INCLUDED IN THE RIVER RECORDS.

RIO GRANDE BASIN

08364000 RIO GRANDE AT EL PASO, TX
(National stream-quality accounting network)

WATER-QUALITY RECORDS

LOCATION.--Lat 31°48'10", long 106°32'25", El Paso County, Hydrologic Unit 13030102, on downstream side of first pier from left abutment of Courchesne Bridge at El Paso, 1.7 mi upstream from American Dam, 5.6 mi upstream from Santa Fe Street-Juarez Avenue Bridge between El Paso and Cd. Juarez, Chihuahua, and at mile 1,249.

DRAINAGE AREA.--32,207 mi², approximately, including 2,940 mi² in closed basin in San Luis Valley, CO.

PERIOD OF RECORD.--Water years 1930 to current year.

REMARKS.--Records of discharge are given in International Boundary and Water Commission Water Bulletins.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 15...	1300	200	1700	1880	8.60	8.30	15.0	13.0	12	--	450
JAN 11...	1500	122	2100	2010	8.40	8.10	13.5	10.5	4.5	--	420
25...	1030	70	2000	2040	8.57	8.20	11.5	9.5	6.0	11.8	420
MAR 21...	1300	1240	850	854	8.30	8.10	12.5	14.0	65	9.0	230
MAY 16...	0915	906	925	958	8.30	8.10	18.5	18.0	34	8.1	240
JUL 11...	1130	1400	810	885	8.56	7.80	28.5	24.5	37	7.4	210
SEP 06...	1130	820	8995	1030	8.97	8.50	24.5	25.0	73	6.9	230

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV 15...	190	130	29	250	5	11	278	22	264	260	440
JAN 11...	160	120	29	280	6	10	276	19	258	262	470
25...	160	120	30	290	6	11	281	13	252	260	470
MAR 21...	75	70	14	97	3	8.8	199	5	171	158	150
MAY 16...	68	71	16	110	3	6.7	190	14	180	177	200
JUL 11...	50	62	14	100	3	6.5	178	10	162	164	170
SEP 06...	53	67	15	120	4	7.1	203	10	182	177	210

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
NOV 15...	200	0.70	--	26	1260	1250	0.690	0.090	0.780	0.120
JAN 11...	220	0.60	0.28	25	1320	1320	0.700	0.030	0.730	0.140
25...	240	0.60	--	21	1330	1340	0.680	0.040	0.720	0.060
MAR 21...	84	0.50	--	18	545	539	--	<0.010	0.310	0.040
MAY 16...	79	0.50	--	8.4	628	600	0.180	0.010	0.190	0.040
JUL 11...	71	0.50	--	9.6	554	534	--	<0.010	0.180	0.010
SEP 06...	91	0.60	--	14	655	634	0.400	0.030	0.430	0.060

08364000 RIO GRANDE AT EL PASO, TX -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHOPHOSPHATE (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)
NOV 15...	0.090	0.58	0.290	0.230	<10	3	96	<0.5	--	<1
JAN 11...	0.180	0.36	0.400	0.320	<10	3	100	<10	330	<1
25...	0.060	--	0.330	0.280	--	--	--	--	--	--
MAR 21...	0.050	0.56	0.390	0.070	--	--	--	--	--	--
MAY 16...	0.080	0.56	0.080	0.040	60	3	67	<0.5	--	<1
JUL 11...	0.040	1.1	0.070	0.030	20	3	62	<0.5	--	<1
SEP 06...	0.190	0.84	0.240	0.050	20	4	67	<0.5	--	<1

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)
NOV 15...	1	<3	3	6	<5	190	22	0.2	<10	1
JAN 11...	<1	<1	2	10	<5	200	100	<0.1	10	<1
25...	--	--	--	--	--	--	--	--	--	--
MAR 21...	--	--	--	--	--	--	--	--	--	--
MAY 16...	<1	<3	5	46	1	91	10	<0.1	<10	1
JUL 11...	<1	<3	3	6	1	85	4	<0.1	<10	<1
SEP 06...	1	<3	2	9	<1	96	2	--	10	1

DATE	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 15...	<1	<1.0	1600	<6	7	215	116	54	230	240
JAN 11...	<1	<1.0	1700	2	20	--	--	--	--	--
25...	--	--	--	--	--	87	16	79	73	240
MAR 21...	--	--	--	--	--	1050	3520	29	230	310
MAY 16...	<1	<1.0	860	<6	24	431	1050	34	150	180
JUL 11...	<1	<1.0	750	<6	10	538	2030	36	230	26
SEP 06...	<1	<1.0	840	<6	4	361	799	50	220	1500

RIO GRANDE BASIN

08370500 RIO GRANDE BELOW OLD FORT QUITMAN, TX
(National stream-quality accounting network)

WATER-QUALITY RECORDS

LOCATION.--Lat 31°05'05", long 105°36'25", Hudspeth County, Hydrologic Unit 13040201, at gaging station on the rectified channel of the Rio Grande, 1.5 mi downstream from Old Fort Quitman, and 81.7 mi downstream from the American Dam at El Paso.

DRAINAGE AREA.--31,990 mi², approximately, United States and Mexico; from International Boundary and Water Commission Bulletin No. 46 (excluding 2,940 mi² in closed basin in San Luis Valley, CO).

PERIOD OF RECORD.--Water years 1930 to current year.

REMARKS.--Records of discharge are given in International Boundary and Water Commission Water Bulletins.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L CACO3) (00900)	HARD- NESS NONCARB TOT FLD MG/L AS CACO3 (00902)
NOV 16...	1230	320	2750	2640	8.10	7.40	16.0	12.5	16	8.5	500	260
JAN 27...	1100	94	4100	3910	--	7.80	10.0	9.5	15	11.2	690	440
MAR 22...	1100	190	3200	3200	8.30	7.60	16.5	14.0	28	9.9	540	330
MAY 17...	1045	318	2650	2730	8.20	7.70	19.0	16.5	73	8.7	500	290
JUL 12...	1000	86	3550	3400	8.52	7.40	34.0	26.5	52	10.8	560	380
SEP 07...	1100	990	2680	2650	8.20	8.20	29.5	27.0	200	6.7	490	280

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
NOV 16...	140	36	380	8	10	322	0	264	244	480	440	0.70
JAN 27...	190	53	590	10	12	--	--	--	250	680	780	0.70
MAR 22...	150	41	480	9	9.3	244	14	224	219	550	630	0.70
MAY 17...	140	37	410	8	9.6	212	29	222	214	470	490	0.70
JUL 12...	150	45	490	9	12	225	12	204	184	600	620	0.70
SEP 07...	140	34	390	8	11	295	24	282	213	460	470	0.70

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHOS, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
NOV 16...	31	1700	1680	1.68	0.120	1.80	3.00	2.90	1.9	1.80	1.30	150
JAN 27...	27	2510	2490	0.580	0.090	0.670	1.30	1.30	1.1	0.710	0.580	--
MAR 22...	17	2030	2010	0.480	0.040	0.520	0.290	0.340	1.0	0.790	0.270	--
MAY 17...	17	1740	1710	1.31	0.090	1.40	0.130	0.120	0.87	0.590	0.360	<10
JUL 12...	18	2170	2050	0.200	0.040	0.240	0.070	0.080	2.2	0.240	0.080	10
SEP 07...	22	1690	1670	1.13	0.270	1.40	0.380	0.350	2.9	1.10	0.360	10

08370500 RIO GRANDE BELOW OLD FORT QUITMAN, TX -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
NOV 16...	8	100	<10	<1	2	<1	5	130	<5	170	70	0.2
JAN 27...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 22...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 17...	7	<100	<10	<1	1	1	6	60	<1	190	10	<0.1
JUL 12...	6	100	<10	<1	<1	<1	1	20	<1	220	20	<0.1
SEP 07...	7	<100	<10	1	2	<1	5	20	<1	160	10	--
DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 16...	6	3	1	<1.0	2300	8	20	752	650	27	160	>2500
JAN 27...	--	--	--	--	--	--	--	203	52	60	32	K21
MAR 22...	--	--	--	--	--	--	--	487	250	54	51	280
MAY 17...	9	6	<1	<1.0	2300	9	20	301	258	89	600	450
JUL 12...	11	1	<1	<1.0	2900	15	10	332	78	54	K5	140
SEP 07...	11	3	<1	<1.0	2100	29	20	912	2440	69	K560	320

RIO GRANDE BASIN

08377900 RIO MORA NEAR TERRERO, NM
(Hydrologic bench-mark station)

LOCATION.--Lat 35°46'38", long 105°39'27", in E NE¼ sec.22, T.18 N., R.12 E., San Miguel County, Hydrologic Unit 13060001, in Santa Fe National Forest, on left bank 450 ft upstream from bridge on State Highway 63, 600 ft upstream from mouth, and 2.6 mi north of Terrero.

DRAINAGE AREA.--53.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 7,890 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. About 90 percent of the drainage is in the Pecos Wilderness Area and not subject to development, watershed management, or the building of highways; there is limited cattle grazing by permit.

AVERAGE DISCHARGE.--26 years, 31.7 ft³/s, 22,970 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 820 ft³/s, June 8, 1979, gage height, 4.15 ft; minimum determined, 0.90 ft³/s, Jan. 12-14, 1964, but may have been less during periods of ice effect.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since 1886 probably occurred Sept. 29, 1904 (based on statement for Pecos River near Pecos and history of that flood period).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 10	0515	*204	*2.60	Apr. 23	2130	103	2.11

Minimum discharge, 4.5 ft³/s, Mar. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	13	e11	e7.5	e11	e16	30	59	20	8.0	13	6.9
2	38	14	e11	e7.5	e11	e13	30	55	20	6.9	11	6.8
3	36	13	e10	e8.0	e11	e12	33	54	21	6.5	9.2	7.0
4	34	13	e10	e8.0	e11	e12	35	53	22	6.4	8.1	8.4
5	39	12	e10	e8.5	e10	e12	34	50	19	7.5	7.7	18
6	35	12	e9.5	e8.5	e9.5	e12	36	50	17	8.9	12	18
7	34	12	e10	e8.5	e9.0	e12	40	51	16	6.4	12	17
8	33	12	e10	e8.5	e8.5	26	47	53	16	5.9	e11	13
9	30	13	e9.5	e8.0	e8.5	105	52	54	19	5.6	e9.5	12
10	28	11	e9.5	e8.0	e8.5	167	50	68	17	5.8	e8.0	11
11	28	12	e9.0	e8.5	e8.5	101	46	e88	15	5.8	e9.0	11
12	26	11	e9.0	e9.0	e8.5	54	44	e82	14	7.3	e10	18
13	25	12	e8.5	e9.0	e8.0	48	41	77	15	9.2	e9.0	17
14	24	12	e8.5	e9.0	e8.0	46	39	e74	15	6.5	e8.0	14
15	23	12	e8.5	e8.5	e8.0	38	39	e66	14	5.9	e12	13
16	22	e11	e8.0	e8.5	e8.0	32	43	e58	13	5.4	e9.5	13
17	21	e12	e7.5	e8.0	e8.0	32	48	e56	12	5.1	e9.0	12
18	20	e13	8.0	e8.5	e8.0	34	54	e54	11	4.7	e15	12
19	19	e14	e8.0	e9.0	e8.5	37	60	e48	10	4.7	e9.5	14
20	19	e12	e8.0	e9.0	e8.5	38	68	e45	10	7.8	e9.5	34
21	18	e11	8.0	e9.0	e8.0	44	78	e39	9.4	8.2	e8.5	19
22	18	e10	8.0	e8.5	e8.0	e40	89	e36	9.4	10	e9.0	16
23	18	e10	e7.5	e8.5	e8.5	e40	94	e33	9.3	12	e8.0	15
24	17	e10	e8.0	e8.0	e11	e40	96	e32	8.8	9.9	e7.5	14
25	17	e10	e8.0	e8.0	e12	e40	94	e30	8.3	14	e7.0	13
26	16	e10	e8.5	e8.0	15	43	89	27	7.8	21	e6.5	13
27	16	e10	e8.5	e8.0	e16	43	83	25	7.4	13	e6.5	13
28	15	e10	e8.0	e8.0	e16	e38	76	25	7.3	11	e7.5	12
29	14	e11	e8.0	e8.0	---	43	70	23	8.4	10	e7.5	12
30	14	e11	e7.5	e8.0	---	e34	64	22	11	9.8	e8.0	11
31	14	---	e7.5	e9.0	---	28	---	21	---	12	8.0	---
TOTAL	751	349	271.0	259.0	274.5	1280	1702	1508	403.1	261.2	286.0	414.1
MEAN	24.2	11.6	8.74	8.35	9.80	41.3	56.7	48.6	13.4	8.43	9.23	13.8
MAX	40	14	11	9.0	16	167	96	88	22	21	15	34
MIN	14	10	7.5	7.5	8.0	12	30	21	7.3	4.7	6.5	6.8
AC-FT	1490	692	538	514	544	2540	3380	2990	800	518	567	821

CAL YR 1988 TOTAL 14153.0 MEAN 38.7 MAX 202 MIN 4.3 AC-FT 28070
WTR YR 1989 TOTAL 7758.9 MEAN 21.3 MAX 167 MIN 4.7 AC-FT 15390

e Estimated

08377900 RIO MORA NEAR TERRERO, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	PH (STAND-ARD UNITS) (00400)	PH LAB (STAND-ARD UNITS) (00403)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
OCT 27...	1330	16	110	111	7.10	8.10	12.0	2.0	1.1	10.0	56	9
MAR 30...	1430	29	89	100	7.80	8.00	12.0	8.0	5.0	9.6	50	8
MAY 24...	1300	28	92	77	9.00	7.90	20.0	6.0	1.0	9.4	38	6
SEP 27...	0915	12	97	99	8.34	7.80	9.5	8.5	0.40	10.5	47	3
DATE		CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD CO3 (00452)	ALKA-LINITY WAT DIS TOT IT FIELD CACO3 (39086)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 27...	19		2.1	2.0	0.1	0.90	74	0	61	47	8.0	0.70
MAR 30...	17		1.9	1.6	0.1	0.60	51	0	42	42	11	0.60
MAY 24...	13		1.4	1.3	0.1	0.70	13	16	37	32	5.0	0.40
SEP 27...	16		1.8	1.3	0.1	0.60	51	0	42	44	7.0	0.40
DATE		FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)
OCT 27...	0.10	6.8	70	68	<0.010	<0.100	0.040	0.040	--	0.010	<0.010	
MAR 30...	0.10	7.0	64	65	<0.010	<0.100	0.120	0.030	--	0.010	<0.010	
MAY 24...	0.10	5.6	50	47	<0.010	<0.100	0.060	0.060	0.64	<0.010	<0.010	
SEP 27...	0.20	6.1	52	60	<0.010	<0.100	<0.010	<0.010	--	0.010	<0.010	
DATE		ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)
OCT 27...	10	<1	27	<0.5	2	<1	<3	4	19	<5	<4	
MAR 30...	100	<1	24	<0.5	<1	<1	<3	4	98	<5	<4	
MAY 24...	<10	<1	20	<0.5	<1	<1	<3	4	14	3	<4	
SEP 27...	<10	<1	24	<0.5	<1	1	<3	1	21	<1	<4	

RIO GRANDE BASIN

08377900 RIO MORA NEAR TERRERO, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)
OCT 27...	4	<0.1	<10	1	<1	1.0	45	<6	37	0.7	<0.4
MAR 30...	3	--	<10	4	<1	1.0	41	<6	17	--	--
MAY 24...	2	<0.1	<10	1	<1	<1.0	30	<6	9	1.0	<0.4
SEP 27...	<1	<0.1	<10	1	<1	<1.0	37	<6	8	--	--
DATE	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 27...	0.8	<0.4	0.7	<0.4	0.04	0.29	24	1.0	32	<1	<1
MAR 30...	--	--	--	--	--	--	6	0.47	93	>600	K0
MAY 24...	0.7	0.6	0.6	0.5	0.05	0.07	4	0.30	78	<3	K14
SEP 27...	--	--	--	--	--	--	8	0.26	24	K4	<1

08378500 PECOS RIVER NEAR PECOS, NM

LOCATION.--Lat 35°42'30", long 105°40'55", in NE¼NE¼ sec.17, T.17 N., R.12 E., San Miguel County, Hydrologic Unit 13060001, in Santa Fe National Forest, on left bank 30 ft downstream from bridge on private road, 270 ft upstream from Indian Creek, 2.4 mi downstream from Holy Ghost Creek, 9.0 mi north of Pecos, and at mile 896.6.

DRAINAGE AREA.--189 mi².

PERIOD OF RECORD.--August 1919 to current year. Monthly discharge only for some periods, published in WSP-1312. Published as "near Cowles" 1919-25, "at Irvins Ranch" 1926-29, and as "at Irvins Ranch near Pecos" 1930-39.

REVISED RECORDS.--WSP 898: Drainage area. WSP 1312: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 7,502.94 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1977, at site 30 ft upstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 75 acres, 1959 determinations, upstream from station. Several observations of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--70 years, 100 ft³/s, 72,450 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 4,500 ft³/s, Sept. 21 or 22, 1929, gage height, 6.2 ft, from floodmark, from rating curve extended above 1,600 ft³/s; minimum, 2.0 ft³/s, Mar. 19, 1971, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 29, 1904, was greatest since 1886, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 310 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 23	2200	*294	*2.77				
Minimum discharge, 18 ft ³ /s, Feb. 15.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	54	e38	e22	e40	49	115	165	93	47	60	29
2	113	54	e38	e23	e40	46	114	158	91	41	54	30
3	108	52	e37	e23	e39	42	125	156	92	39	42	30
4	105	51	e36	e23	e37	40	132	156	98	39	37	33
5	123	47	e35	e24	e36	40	128	153	85	43	35	50
6	113	49	e35	e25	e33	41	134	153	77	48	50	40
7	118	48	e35	e25	e31	50	146	156	73	38	54	37
8	115	48	e35	e25	e30	64	166	163	72	35	52	35
9	103	54	e34	e26	e31	82	179	168	84	32	39	33
10	97	49	e34	e26	e31	106	173	208	76	33	37	30
11	93	51	e34	e27	e31	121	161	225	67	40	41	30
12	90	47	e32	e27	e30	122	153	209	64	44	45	44
13	87	49	e31	e27	e30	140	144	194	68	59	39	42
14	84	49	e30	e27	e30	143	137	182	66	39	38	36
15	82	48	e30	e28	e30	122	138	170	62	36	53	34
16	79	38	e28	e29	e30	110	149	160	56	32	42	32
17	76	44	e27	e30	e30	110	164	155	52	31	41	31
18	73	49	e29	e30	32	115	177	148	49	28	68	30
19	71	42	e30	e32	31	124	193	138	47	28	51	37
20	69	e41	e29	e32	29	128	210	132	46	35	41	126
21	68	e39	e28	e33	33	113	230	128	43	41	38	60
22	66	e37	e27	e34	40	105	253	125	44	49	41	48
23	65	e36	e26	e35	38	102	263	121	44	48	35	44
24	63	e35	e25	e36	38	101	260	119	42	44	33	41
25	61	e35	e24	e37	45	102	252	116	39	56	31	39
26	60	e36	e24	e38	54	107	238	111	38	58	29	38
27	60	e36	e23	e39	58	104	224	109	36	46	30	38
28	58	e37	e21	e40	56	99	207	110	39	40	35	37
29	57	e38	e21	e41	---	108	193	106	48	40	34	36
30	56	e38	e21	e33	---	115	177	102	54	42	34	35
31	55	---	e22	e34	---	109	---	97	---	54	34	---
TOTAL	2587	1331	919	931	1013	2960	5335	4593	1845	1285	1293	1205
MEAN	83.5	44.4	29.6	30.0	36.2	95.5	178	148	61.5	41.5	41.7	40.2
MAX	123	54	38	41	58	143	263	225	98	59	68	126
MIN	55	35	21	22	29	40	114	97	36	28	29	29
AC-FT	5130	2640	1820	1850	2010	5870	10580	9110	3660	2550	2560	2390

CAL YR 1988 TOTAL 39778 MEAN 109 MAX 426 MIN 20 AC-FT 78900
WTR YR 1989 TOTAL 25297 MEAN 69.3 MAX 263 MIN 21 AC-FT 50180

e Estimated

08379187 TECOLOTE CREEK BELOW WRIGHT CANYON NEAR EL PORVENIR, NM

LOCATION.--Lat 35°40'20", long 105°27'58", in NW¼SE¼ sec.28, T.17 N., R.14 E., San Miguel County, Hydrologic Unit 13060001, in Santa Fe National Forest, on right bank 2.3 mi upstream from Blue Canyon, and 5.1 mi southwest of El Porvenir.

DRAINAGE AREA.--5.42 mi².

PERIOD OF RECORD.--September 1987 to current year (no winter records).

GAGE.--Water-stage recorder. Elevation of gage is 8,060 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13 ft³/s Sept. 14, 1988, gage height, 2.14 ft; minimum discharge recorded, 0.06 ft³/s, July 8, 9, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5.5 ft³/s, July 21, gage height, 1.82 ft; minimum discharge recorded, 0.06 ft³/s, July 8, 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	.77	.22	.12	2.3	.80
2	---	---	---	---	---	---	---	.74	.24	.09	1.6	.71
3	---	---	---	---	---	---	---	.71	.25	.09	1.2	.67
4	---	---	---	---	---	---	---	.67	.32	.08	1.1	.65
5	---	---	---	---	---	---	---	.66	.26	.09	1.4	.74
6	---	---	---	---	---	---	---	.63	.21	.09	1.1	.65
7	---	---	---	---	---	---	---	.60	.19	.08	1.0	.64
8	---	---	---	---	---	---	---	.58	.21	.07	1.2	.64
9	---	---	---	---	---	---	---	.59	.31	.06	1.4	.56
10	---	---	---	---	---	---	---	.97	.31	.07	1.2	.53
11	---	---	---	---	---	---	---	.97	.23	.10	1.5	.53
12	---	---	---	---	---	---	---	.74	.21	.16	2.9	.76
13	---	---	---	---	---	---	---	.67	.28	.24	3.1	.80
14	---	---	---	---	---	---	---	.64	.40	.20	2.7	.70
15	---	---	---	---	---	---	---	.63	.37	.15	2.5	.63
16	---	---	---	---	---	---	---	.63	.26	.12	1.9	.57
17	---	---	---	---	---	---	---	.63	.21	.10	1.6	.53
18	---	---	---	---	---	---	---	.59	.18	.09	2.0	.51
19	---	---	---	---	---	---	---	.50	.18	.17	1.5	.79
20	---	---	---	---	---	---	---	.45	.17	.37	1.3	2.7
21	---	---	---	---	---	---	---	.42	.15	1.5	1.1	1.3
22	---	---	---	---	---	---	---	.39	.15	1.3	1.0	1.1
23	---	---	---	---	---	---	---	.37	.17	1.0	.92	.94
24	---	---	---	---	---	---	---	.33	.15	1.7	.84	.86
25	---	---	---	---	---	---	---	.30	.13	3.1	.79	.80
26	---	---	---	---	---	---	---	.30	.12	3.2	.73	.75
27	---	---	---	---	---	---	---	.83	.11	2.0	.74	.72
28	---	---	---	---	---	---	---	.82	.31	1.0	.79	.69
29	---	---	---	---	---	---	---	.81	.27	1.5	1.0	.78
30	---	---	---	---	---	---	---	.79	.25	1.1	.92	.64
31	---	---	---	---	---	---	---	.23	---	1.4	1.1	---
TOTAL	---	---	---	---	---	---	---	16.84	6.40	21.14	44.21	23.57
MEAN	---	---	---	---	---	---	---	.54	.21	.68	1.43	.79
MAX	---	---	---	---	---	---	---	.97	.40	3.2	3.1	2.7
MIN	---	---	---	---	---	---	---	.23	.10	.06	.73	.51
AC-FT	---	---	---	---	---	---	---	33	13	42	88	47

LOCATION.--Lat 35°10'44", long 105°06'30", Guadalupe County, Hydrologic Unit 13060001, in Anton Chico Grant, on right bank 2.1 mi upstream from Canon Blanco, 2.3 mi southeast of Anton Chico, 9.7 mi downstream from Tecolote Creek, and at mile 808.0.

PERIOD OF RECORD.--April 1910 to May 1916, October 1916 to September 1924, August to December 1925, January 1927 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1342: 1951(M), 1952-53. WSP 1512: 1912-14, 1931, 1933(M), 1935-36(M), 1938(P), 1939-40, 41-42(P), 1945(M), 1946(P). WSP 1712: 1942(P).

REMARKS.--Records fair. Diversions upstream from station for irrigation of about 4,900 acres, 1959 determinations, upstream and downstream from station. Acequia del Bodo Juan Paiz (see table below) diverts water 8 mi upstream from gage and bypasses this station on left bank; ditch flow not included in record measurements made at point opposite regular gage. A portion of this flow may be returned to the river about 5.0 mi downstream. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,300 ft³/s, June 1, 1937, gage height, 20.34 ft, from floodmarks, at site and datum then in use, from slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--The greatest flood since 1879 occurred Sept. 29, 1904, discharge about 73,000 ft³/s. from information by a local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 15	1800	4,140	8.32	Aug. 17	2030	*15,800	*15.02

Minimum discharge, 0.70 ft³/s, July 25.

DISCHARGE MEASUREMENTS, IN CUBIC FEET PER SECOND, OF DITCH, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Discharge	Date	Discharge	Date	Discharge
Nov. 3	45.1	Feb. 21	34.6	June 19	0
Dec. 15	4.19	Mar. 28	0	Aug. 1	33.1
Jan. 10	0	May 8	5.93	Sept. 12	8.09

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	e13	45	30	3.0	26	121	102	15	4.4	373	e15
2	91	e7.5	42	34	3.2	62	121	94	14	2.8	149	e15
3	87	e7.5	28	45	2.8	58	118	83	16	4.4	104	e35
4	83	9.6	26	40	6.7	59	119	68	19	4.7	67	e22
5	83	7.8	26	36	18	56	129	84	22	4.1	44	e31
6	95	9.8	27	37	20	48	126	58	29	3.8	28	e25
7	87	7.5	25	33	20	44	124	55	13	3.6	20	e20
8	89	6.5	28	25	19	44	130	52	12	3.3	18	e15
9	89	7.4	29	17	19	55	144	54	12	3.0	17	e11
10	81	8.5	27	22	28	67	166	57	14	3.0	16	e6.0
11	76	9.8	29	38	41	93	170	116	16	3.0	15	e4.0
12	71	10	31	41	49	124	158	141	12	3.0	65	4.3
13	65	11	45	36	46	137	153	117	11	3.0	110	3.9
14	61	11	35	27	37	153	138	109	11	3.3	88	5.9
15	e59	10	35	31	4.2	167	130	104	40	619	110	6.9
16	e58	18	34	34	3.8	153	121	86	13	152	105	7.3
17	e43	40	29	42	3.6	134	110	75	9.4	e91	1370	7.6
18	e46	32	29	30	3.6	127	81	74	12	e65	437	3.7
19	e42	33	29	30	3.8	129	89	67	8.8	e37	87	2.9
20	e33	36	30	31	4.4	133	102	55	8.4	e17	56	313
21	e30	31	27	32	4.5	147	117	53	7.9	e6.3	e32	126
22	e26	34	27	32	4.8	131	131	48	7.9	75	e26	58
23	e24	45	25	32	4.0	128	151	43	7.9	41	e22	26
24	e18	50	32	31	3.8	121	173	30	7.5	e5.6	e19	20
25	e16	56	26	30	3.7	114	215	16	6.7	258	e17	15
26	e17	54	24	31	4.2	109	193	16	6.0	170	e17	11
27	e17	50	32	31	4.2	113	158	13	5.3	170	e17	8.3
28	e15	41	23	34	6.9	114	151	20	4.4	e119	e16	6.5
29	e15	42	15	29	---	110	129	31	13	e82	e16	5.9
30	e13	44	17	4.8	---	113	110	25	5.0	84	e16	5.5
31	e22	---	21	3.5	---	121	---	15	---	204	e15	---
TOTAL	1645	742.9	898	949.3	372.2	3190	4078	1961	379.2	2245.3	3492	836.7
MEAN	53.1	24.8	29.0	30.6	13.3	103	136	63.3	12.6	72.4	113	27.9
MAX	95	56	45	45	49	167	215	141	40	619	1370	313
MIN	13	6.5	15	3.5	2.8	26	81	13	4.4	2.8	15	2.9
AC-FT	3260	1470	1780	1880	738	6330	8090	3890	752	4450	6930	1660
CAL YR 1988	TOTAL 39420.9		MEAN 108	MAX 1050	MIN 6.5	AC-FT 78190						
WTR YR 1989	TOTAL 20789.6		MEAN 57.0	MAX 1370	MIN 2.8	AC-FT 41240						
e Estimated												

08380500 GALLINAS CREEK NEAR MONTEZUMA, NM

LOCATION.--Lat 35°39'07", long 105°19'06", San Miguel County, Hydrologic Unit 13060001, in Las Vegas Grant, on left bank 2.4 mi west of Montezuma, 6.9 mi northwest of Las Vegas, and at mile 74.4.

DRAINAGE AREA.--84 mi², approximately.

PERIOD OF RECORD.--March to September 1915, June 1916 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1964, published as Gallinas River near Montezuma.

REVISED RECORDS.--WSP 898: Drainage area. WSP 1562: 1951(P), 1952(M), 1955(P), 1957. WSP 1632: 1931-32, 1933(M), 1934, 1935(M), 1938, 1939-40(M), 1941-42, 1945, 1949-50(M).

GAGE.--Water-stage recorder. Elevation of gage is 6,880 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 21, 1934, at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 80 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--73 years, 19.4 ft³/s, 14,060 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,120 ft³/s, Aug. 2, 1966, gage height, 9.7 ft, from floodmarks, from rating curve extended above 500 ft³/s on basis of slope-area measurements at gage heights 5.25 ft, 8.25 ft, and 9.7 ft; minimum, 0.20 ft³/s, Oct. 6-9, 1922, Sept. 21, Oct. 9-14, 1956, Dec. 13, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--The greatest flood since about 1900 occurred the night of Sept. 29, 1904 (discharge not determined), from information by local residents and G. B. Monk's report on floods.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 18	0300	*196	*2.54				

Minimum discharge, 1.5 ft³/s, Jan. 21, but may have been less during periods of ice effect.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	8.2	11	e8.0	7.6	13	20	14	2.8	3.2	96	6.9
2	17	8.1	8.2	e9.7	e5.4	13	20	13	3.4	2.6	54	6.0
3	16	8.2	7.6	e10	e4.6	13	19	12	3.2	2.4	35	5.6
4	16	8.6	7.9	e9.0	e4.1	11	19	11	4.2	2.2	28	5.4
5	19	8.2	e7.7	e11	e4.0	e9.0	19	11	5.3	2.2	22	6.1
6	18	7.9	e7.8	e14	e3.4	e8.3	18	10	4.7	2.2	18	6.5
7	16	7.8	e7.8	e15	e3.2	e8.0	18	9.8	4.1	2.1	16	5.8
8	16	7.8	e7.8	e13	e3.5	14	19	8.9	4.0	2.1	17	6.6
9	15	7.8	e8.3	e15	e3.9	19	22	8.8	5.3	2.0	16	5.8
10	14	8.0	e8.6	e17	e6.1	25	21	15	5.4	2.0	16	5.2
11	13	8.2	e9.0	e14	e7.0	31	21	17	4.9	2.1	13	4.7
12	13	8.4	e9.3	e13	e8.0	32	19	13	4.4	2.1	24	6.6
13	11	8.2	e10	e12	e9.0	34	19	12	3.9	4.1	36	9.5
14	11	8.4	e10	e13	9.9	35	17	12	6.2	3.6	43	7.7
15	11	8.1	e9.7	e14	9.2	29	17	11	6.5	3.3	36	6.5
16	11	7.0	e8.6	e15	8.9	25	16	11	5.2	2.7	26	6.0
17	11	6.7	e10	e17	8.6	23	16	10	4.4	2.3	24	5.2
18	11	7.8	e9.0	e19	8.6	23	17	10	3.9	2.2	58	4.8
19	11	e6.8	7.7	e21	8.0	23	19	8.9	3.6	2.4	20	6.7
20	10	8.4	7.2	e22	6.5	24	20	7.2	3.4	6.4	15	62
21	9.6	9.2	8.2	e23	e7.1	22	20	4.8	3.1	9.4	12	27
22	9.6	9.6	8.3	e22	e7.7	24	21	4.6	2.9	14	11	18
23	9.4	9.0	e8.3	e21	e7.0	22	21	4.6	2.9	11	9.5	16
24	9.3	9.2	e8.2	e17	e6.6	21	21	4.1	2.8	17	8.8	13
25	9.1	8.4	e8.2	e15	e9.0	21	20	3.8	2.5	52	8.0	12
26	8.8	6.9	e8.5	e11	e12	20	18	3.7	2.2	50	7.3	11
27	8.7	8.0	e9.0	e6.5	e16	19	18	3.8	2.2	34	6.7	10
28	8.5	11	e15	e5.6	14	18	16	3.8	2.2	22	7.8	9.9
29	8.7	8.5	e9.0	e5.2	---	19	16	3.5	2.5	16	7.7	9.3
30	8.4	9.5	e6.2	e7.4	---	21	14	3.1	3.5	21	7.8	9.2
31	8.4	---	e7.2	9.9	---	20	---	2.9	---	52	8.2	---
TOTAL	375.5	247.9	269.3	425.3	208.9	639.3	561	268.3	115.6	352.6	707.8	315.0
MEAN	12.1	8.26	8.69	13.7	7.46	20.6	18.7	8.65	3.85	11.4	22.8	10.5
MAX	19	11	15	23	16	35	22	17	6.5	52	96	62
MIN	8.4	6.7	6.2	5.2	3.2	8.0	14	2.9	2.2	2.0	6.7	4.7
AC-FT	745	492	534	844	414	1270	1110	532	229	699	1400	625

CAL YR 1988 TOTAL 8047.7 MEAN 22.0 MAX 257 MIN 4.3 AC-FT 15960
WTR YR 1989 TOTAL 4486.5 MEAN 12.3 MAX 96 MIN 2.0 AC-FT 8900

e Estimated

08382500 GALLINAS RIVER NEAR COLONIAS, NM

LOCATION.--Lat 35°10'55", long 104°53'59", Guadalupe County, Hydrologic Unit 13060001, in Anton Chico Grant, on right bank 2.1 mi upstream from Canon Blanco, 2.3 mi southeast of Anton Chico, and Preston Beck Grants, on right bank 2.3 mi south of San Miguel-Guadalupe County line, 2.4 mi upstream from mouth, 5.8 mi northwest of Colonias, and 9.0 mi east of Dilia. Mouth at Pecos River mile 789.2.

DRAINAGE AREA.--610 mi², approximately.

PERIOD OF RECORD.--January 1951 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,940 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 7,000 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years, 17.0 ft³/s, 12,320 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,700 ft³/s, July 11, 1982, gage height, 19.67 ft, from rating curve extended above 1,900 ft³/s on basis of slope-area measurements at gage heights 8.64 ft, 12.74 ft, 16.65 ft, and 27.2 ft; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of about June 1, 1937, reached a stage of about 27.2 ft; discharge determined as 26,700 ft³/s by slope-area measurement made in 1951. A flood of about the same magnitude occurred Sept. 29-30, 1904.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 13	0545	*1,920	*8.05	No other peak greater than base discharge.			

No flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	9.1	11	13	10	9.3	8.9	2.3	.09	.33	63	6.7
2	14	8.4	9.7	11	10	9.6	7.6	2.4	.02	.13	34	4.3
3	14	8.1	9.6	11	11	9.3	7.2	2.1	.00	.02	18	26
4	13	8.0	9.6	10	10	7.9	6.9	1.8	.00	.00	11	11
5	13	8.0	9.8	11	10	7.4	7.0	1.9	.00	.00	7.4	192
6	12	7.9	9.8	10	5.2	7.4	5.2	2.3	.68	.00	32	32
7	12	7.1	10	12	6.8	7.4	3.7	3.0	1.6	.00	12	21
8	12	6.9	10	14	6.7	7.1	3.2	3.2	1.6	.00	5.6	11
9	11	6.7	11	6.2	8.2	7.3	3.1	2.5	195	.00	3.2	9.2
10	9.8	6.6	9.9	12	9.8	7.0	2.3	2.0	3.5	.00	4.8	4.8
11	9.8	7.2	11	18	11	7.4	2.3	1.9	2.0	.00	12	3.5
12	9.2	6.6	10	13	16	7.5	2.4	23	4.6	.00	9.2	3.9
13	8.2	6.3	12	12	19	6.9	3.5	17	59	.00	435	4.2
14	12	7.0	12	5.7	18	6.2	5.0	12	12	.00	52	4.2
15	12	7.4	11	11	15	6.5	6.3	9.9	11	.00	94	4.8
16	12	8.3	11	9.2	13	6.4	6.2	7.4	28	.00	17	4.1
17	12	8.9	11	8.9	13	6.1	4.4	5.6	17	.00	9.6	3.2
18	12	8.9	11	11	11	7.8	3.7	6.4	8.2	.00	173	2.9
19	10	9.4	11	9.3	10	11	3.0	6.8	4.3	.00	58	2.6
20	12	9.5	11	8.9	10	11	2.6	12	2.8	.00	37	14
21	12	9.4	12	10	9.9	11	2.5	12	2.1	.00	20	96
22	12	11	13	9.3	9.7	11	2.3	7.4	1.8	.00	11	45
23	11	9.8	12	9.7	9.7	16	2.0	5.8	1.8	189	7.9	25
24	10	9.8	14	9.8	9.5	15	2.2	2.8	2.0	32	5.9	12
25	10	9.5	8.9	8.9	8.8	14	2.0	2.8	75	636	5.0	8.7
26	9.6	9.1	12	8.5	8.1	12	1.7	2.0	7.0	140	4.9	6.4
27	9.2	9.3	11	9.0	8.5	11	1.2	1.4	2.3	42	4.3	5.8
28	8.4	9.5	6.4	9.5	9.1	11	1.1	1.2	.97	20	4.7	4.9
29	8.5	10	7.0	9.8	---	11	1.2	1.1	.68	12	3.9	3.7
30	8.4	10	7.8	9.8	---	11	1.3	.89	.51	19	12	3.6
31	8.9	---	8.8	10	---	10	---	.52	---	45	16	---
TOTAL	342.0	253.7	324.3	321.5	297.0	289.5	112.0	163.41	445.55	1135.48	1183.4	576.5
MEAN	11.0	8.46	10.5	10.4	10.6	9.34	3.73	5.27	14.9	36.6	38.2	19.2
MAX	14	11	14	18	19	16	8.9	23	195	636	435	192
MIN	8.2	6.3	6.4	5.7	5.2	6.1	1.1	.52	.00	.00	3.2	2.6
AC-FT	678	503	643	638	589	574	222	324	884	2250	2350	1140

CAL YR 1988 TOTAL 14212.79 MEAN 38.8 MAX 1800 MIN .99 AC-FT 26190
WTR YR 1989 TOTAL 5444.34 MEAN 14.9 MAX 636 MIN .00 AC-FT 10800

08382600 PECOS RIVER ABOVE CANON DEL UTA NEAR COLONIAS, NM

LOCATION.--Lat 35°05'29", long 104°48'00", in T.10 N., R.20 E., Guadalupe County, Hydrologic Unit 13060001, in Anton Chico Grant, on right bank 0.4 mi upstream from Canon del Uta, 2.9 mi southeast of Colonias, and at mile 775.8.

DRAINAGE AREA.--2,330 mi², approximately.

PERIOD OF RECORD.--January 1976 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,800 ft above National Geodetic Vertical Datum of 1929, from U.S. Army Corps of Engineers plan and profile map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Diversions and ground-water withdrawals for irrigation for about 11,800 acres, 1959 determination, upstream from station. Several observations of water temperatures were made during the year. U. S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--13 years, 84.5 ft³/s, 61,220 acre ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,400 ft³/s, June 20, 1982, gage height, 10.36 ft, from rating curve extended above 1,200 ft³/s on basis of discharges transferred from station 5 mi downstream using the relation between peak gage heights at the two stations; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 18	0130	*10,510	*a10.10	No other peak greater than base discharge.			

(a) from floodmarks

Minimum discharge, 1.4 ft³/s, part of each day Jan. 19 and June 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	12	8.2	5.4	5.2	5.1	52	34	19	4.3	283	e5.0
2	52	12	8.7	5.4	5.4	4.7	50	19	19	4.1	179	e5.0
3	52	12	8.7	5.4	5.6	5.2	50	14	18	4.1	90	79
4	34	11	8.2	5.4	5.7	5.9	41	14	18	4.1	56	15
5	35	11	8.2	4.8	5.0	5.4	47	13	18	4.1	29	62
6	36	11	8.2	4.8	5.2	6.1	56	15	18	4.1	22	22
7	66	11	7.9	5.5	5.6	6.0	50	15	18	4.1	21	e10
8	68	9.9	8.0	6.3	4.0	6.1	46	16	18	4.1	21	e7.0
9	64	9.5	7.2	5.9	3.0	6.3	54	16	34	4.1	22	e6.4
10	47	9.7	7.4	6.3	4.2	6.3	71	16	33	4.1	22	e6.2
11	26	9.3	7.2	6.7	4.1	6.2	90	16	5.7	4.0	22	e6.0
12	20	9.1	7.2	7.2	4.8	7.0	90	57	5.5	3.8	26	e6.0
13	21	9.0	7.1	6.7	5.4	35	80	98	5.4	4.1	195	e6.0
14	16	8.5	6.9	5.9	5.5	e74	73	77	5.5	4.1	77	e6.0
15	16	7.7	6.8	6.7	4.7	e96	62	71	5.5	3.8	58	e6.0
16	16	8.2	6.8	6.3	3.0	104	52	52	5.3	185	63	e6.0
17	15	8.2	6.8	5.9	3.0	82	40	28	5.3	11	21	e6.0
18	16	8.1	6.5	5.9	4.4	66	27	20	5.5	4.3	1260	e6.0
19	15	8.4	5.7	5.1	4.9	e70	11	19	5.5	4.1	129	e6.6
20	15	8.2	5.8	6.0	4.9	e85	13	18	5.2	4.0	57	87
21	13	9.7	5.7	5.8	5.2	90	29	18	5.2	4.0	24	232
22	10	8.4	5.5	5.6	5.4	92	47	17	5.2	15	e6.0	105
23	8.7	8.4	5.0	5.6	5.2	76	70	17	5.2	103	e5.6	30
24	8.7	8.3	5.5	6.0	5.4	68	74	17	5.2	28	e5.4	7.8
25	8.5	8.3	5.5	5.7	5.4	62	96	17	5.0	429	e5.2	3.7
26	8.2	9.8	5.3	5.9	5.4	51	118	17	4.8	312	e5.2	3.4
27	9.7	8.9	5.5	5.9	4.9	46	99	18	4.8	111	e5.2	3.3
28	10	9.5	5.5	5.9	4.2	53	81	18	4.8	84	e5.2	3.2
29	11	8.3	5.5	5.7	---	52	78	18	4.8	26	e5.2	3.3
30	13	8.2	5.5	5.6	---	50	57	18	4.6	13	e5.0	3.2
31	12	---	5.4	4.9	---	49	---	18	---	26	e5.0	---
TOTAL	800.8	281.6	207.4	180.2	134.7	1371.3	1804	821	317.0	1420.4	2730.0	754.1
MEAN	25.8	9.39	6.69	5.81	4.81	44.2	60.1	26.5	10.6	45.8	88.1	25.1
MAX	68	12	8.7	7.2	5.7	104	118	98	34	429	1260	232
MIN	8.2	7.7	5.0	4.8	3.0	4.7	11	13	4.6	3.8	5.0	3.2
AC-FT	1590	559	411	357	267	2720	3580	1630	629	2820	5410	1500

CAL YR 1988 TOTAL 30697.5 MEAN 83.9 MAX 1710 MIN 2.4 AC-FT 60890
WTR YR 1989 TOTAL 10822.5 MEAN 29.7 MAX 1260 MIN 3.0 AC-FT 21470

e Estimated

08382650 PECOS RIVER ABOVE SANTA ROSA LAKE, NM

LOCATION.--Lat 35°03'35", long 104°45'41", in NE¼SE¼SE¼ sec.25, T.10 N., R.20 E., Guadalupe County, Hydrologic Unit 13060001, at south boundary Preston Beck Grant, on left bank, 1.6 mi upstream from River Ranch, 5.8 miles southeast of Colonias, 9.1 miles northwest of Santa Rosa, and at mile 770.8.

DRAINAGE AREA.--2,340 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1976 to current year. Prior to October 1979, published as "above Los Esteros Reservoir."

GAGE.--Water-stage recorder. Elevation of gage is 4,760 ft above National Geodetic Vertical Datum of 1929, (levels by U.S. Army Corps of Engineers).

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Diversions and ground-water withdrawals for irrigation of about 11,800 acres, 1959 determination, upstream from station. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--13 years, 108 ft³/s, 78,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft³/s, June 21, 1982, gage height, 14.50 ft, recorded, 15.33 ft, from floodmarks, from rating curve extended above 1,500 ft³/s on basis of slope-area measurement of peak flow; minimum, 2.9 ft³/s, Aug. 21, 1984.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 18	0330	*9,930	*13.51	No other peak greater than base discharge.			
Minimum discharge, 19 ft ³ /s, part of each day Sept. 26, 27.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e74	e34	e32	31	25	e26	e60	59	29	23	376	21
2	e68	35	e33	32	24	e28	e60	47	28	24	292	22
3	e68	37	e34	31	25	e28	e58	36	30	25	141	81
4	e47	36	e32	29	25	e29	e54	31	30	24	93	34
5	e48	36	e32	28	26	e28	e58	30	30	25	54	63
6	e50	34	31	29	26	e30	e63	33	28	25	40	44
7	e64	32	30	30	26	e31	e58	31	28	27	41	25
8	e74	32	30	32	25	e32	e56	31	29	27	39	24
9	e55	32	29	31	25	e32	e60	32	40	27	40	24
10	49	36	30	30	23	31	e69	33	94	27	40	23
11	42	38	30	30	23	32	91	31	29	26	40	23
12	e37	37	29	30	23	34	94	62	27	26	54	25
13	e35	35	29	30	26	66	87	111	28	27	301	24
14	e32	32	31	30	26	92	84	88	28	28	133	23
15	e33	32	31	30	26	103	79	77	28	28	104	23
16	e34	36	31	30	26	129	69	58	28	260	128	24
17	e33	e32	31	30	26	116	60	47	28	39	70	23
18	e37	e32	31	29	27	98	56	39	31	25	1880	23
19	e35	e32	32	28	27	94	31	39	33	25	223	24
20	e34	e32	32	28	28	103	35	34	33	26	110	71
21	e34	e32	31	28	28	111	47	28	34	26	55	236
22	e34	e32	31	28	28	125	67	28	34	34	32	108
23	e34	e32	32	27	28	107	83	28	32	144	27	46
24	e34	e32	32	27	28	e90	102	28	30	55	25	26
25	e34	e32	32	27	e28	e90	137	28	27	643	24	20
26	e34	e32	31	27	e28	e70	161	29	26	436	24	20
27	e34	e32	31	28	e27	e60	124	30	24	175	24	20
28	e34	e32	31	28	e25	e64	100	30	26	154	22	22
29	e34	e32	30	27	---	e62	93	31	27	67	22	23
30	e34	e34	30	27	---	e60	77	29	26	46	21	23
31	e34	---	30	26	---	e58	---	28	---	53	21	---
TOTAL	1323	1004	961	898	728	2049	2273	1266	945	2597	4496	1188
MEAN	42.7	33.5	31.0	29.0	26.0	66.1	75.8	40.8	31.5	83.8	145	39.6
MAX	74	38	34	32	28	129	161	111	94	643	1880	236
MIN	32	32	29	26	23	26	31	28	24	23	21	20
AC-FT	2620	1990	1910	1780	1440	4060	4510	2510	1870	5150	8920	2360

CAL YR 1988 TOTAL 42708 MEAN 117 MAX 1830 MIN 20 AC-FT 84710
WTR YR 1989 TOTAL 19728 MEAN 54.0 MAX 1880 MIN 20 AC-FT 39130

e Estimated

08382650 PECOS RIVER ABOVE SANTA ROSA LAKE, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1981 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)
NOV 16...	1230	34	795	794	8.12	8.10	9.5	11.5	1.2	10.6	<10
JAN 18...	1030	30	810	793	8.12	7.90	21.5	5.5	21	10.3	--
MAR 14...	1030	91	440	463	7.85	8.20	19.0	8.5	160	10.1	--
MAY 17...	1045	47	605	624	7.97	8.40	16.0	15.0	19	8.3	--
JUL 18...	1200	23	840	864	7.95	8.00	29.5	23.0	54	7.3	--
SEP 19...	1030	24	810	878	7.94	7.90	21.0	18.0	1.5	8.2	<10

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV 16...	420	280	140	17	9.9	0.2	1.4	171	0	140
JAN 18...	450	350	150	19	11	0.2	1.4	171	0	140
MAR 14...	220	100	72	10	8.3	0.3	1.1	142	0	116
MAY 17...	330	200	110	13	11	0.3	1.2	155	0	127
JUL 18...	480	340	160	19	11	0.2	1.9	187	0	153
SEP 19...	510	410	170	21	11	0.2	1.3	167	0	137

DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
NOV 16...	139	290	4.7	0.20	11	573	560	<0.010	0.210	0.050
JAN 18...	104	330	5.0	0.20	11	608	591	<0.010	0.220	0.040
MAR 14...	120	110	3.9	0.30	8.9	316	286	<0.010	<0.100	0.040
MAY 17...	129	200	5.2	0.20	9.7	414	429	<0.010	0.120	0.020
JUL 18...	138	340	0.90	0.30	12	625	630	<0.010	0.150	0.100
SEP 19...	108	360	4.7	0.30	12	632	647	<0.010	<0.100	0.040

08382650 PECOS RIVER ABOVE SANTA ROSA LAKE, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHO, SOLVED (MG/L AS P) (00671)	CARBON, TOTAL (MG/L AS C) (00680)	ALUM- INUM, SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)
NOV 16...	0.040	0.25	0.020	<0.010	1.0	<10	<1	100	<0.5	<1
JAN 18...	0.080	0.16	<0.010	0.010	--	--	--	--	--	--
MAR 14...	0.030	0.26	0.230	<0.010	--	--	--	--	--	--
MAY 17...	0.030	0.18	0.250	<0.010	--	10	<1	94	<0.5	<1
JUL 18...	0.050	0.20	0.060	0.020	--	20	<1	180	<0.5	<1
SEP 19...	0.020	--	0.020	<0.010	0.5	<10	<1	120	<0.5	<1

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)
NOV 16...	<1	<3	6	6	<5	18	7	0.1	<10	<1
JAN 18...	--	--	--	--	--	--	--	--	--	--
MAR 14...	--	--	--	--	--	--	--	--	--	--
MAY 17...	<1	<3	2	7	1	14	5	<0.1	<10	1
JUL 18...	<1	<3	1	3	1	14	41	0.1	<10	1
SEP 19...	2	<3	1	<3	<1	15	53	<0.1	<10	<1

DATE	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 16...	1	8.0	1400	<6	17	101	9.3	27	<1	K3
JAN 18...	--	--	--	--	--	151	12	33	K6	K3
MAR 14...	--	--	--	--	--	510	125	77	<3	150
MAY 17...	<1	<1.0	960	<6	9	141	18	38	<1	32
JUL 18...	1	<1.0	1500	<6	19	273	17	89	<1	330
SEP 19...	<1	<1.0	1600	<6	11	71	4.6	77	<1	K15

08382730 LOS ESTEROS CREEK ABOVE SANTA ROSA LAKE, NM

LOCATION.--Lat 35°05'42", long 104°39'49", Guadalupe County, Hydrologic Unit 13060001, in Preston-Beck Grant, on left bank, 3.7 mi upstream from mouth, 4.9 mi northeast of Santa Rosa Dam, and 10.4 mi northeast of Santa Rosa. Mouth at Pecos River mile 763.0.

DRAINAGE AREA.--65.6 mi².

PERIOD OF RECORD.--July 1973 to current year. Prior to October 1979, published as "above Los Esteros Reservoir."

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,770 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. No known diversions or ground-water withdrawals for irrigation upstream from station. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--16 years, 1.51 ft³/s, 1,090 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,900 ft³/s, July 24, 1976, gage height, 9.3 ft, from rating curve extended above 70 ft³/s on basis of velocity-area studies and slope-area measurements at gage heights 6.5 ft and 9.3 ft; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood of unknown date reached a discharge of about 6,800 ft³/s, gage height, 11.6 ft, from floodmarks, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 23	2130	198	3.80	Aug. 18	0200	*3,260	*8.73

No flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	12
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	1.8
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.35
9	.00	.00	.00	.00	.00	.00	.00	.00	6.1	.00	e.00	.14
10	.00	.00	.00	.00	.00	.00	.00	.00	8.1	.00	e.00	.06
11	.00	.00	.00	.00	.00	.00	.00	.00	.73	.00	e.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.14	.00	e.00	.15
13	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	13	.46
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.78	.28
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.12	.17
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.07
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	320	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.90	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.35	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	17	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	e6.7	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.06	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.03	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	e.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	e.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	e.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.11	23.70	335.40	15.48
MEAN	.00	.00	.00	.00	.00	.00	.00	.00	.50	.76	10.8	.52
MAX	.00	.00	.00	.00	.00	.00	.00	.00	8.1	17	320	12
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	.0	.0	.0	.0	.0	30	47	665	31

CAL YR 1988 TOTAL 1241.49 MEAN 3.39 MAX 492 MIN .00 AC-FT 2460
WTR YR 1989 TOTAL 389.69 MEAN 1.07 MAX 320 MIN .00 AC-FT 773

e Estimated

08382760 LOS ESTEROS CREEK TRIBUTARY ABOVE SANTA ROSA LAKE, NM

LOCATION.--Lat 35°05'35", long 104°40'20", Guadalupe County, Hydrologic Unit 13060001, in Preston-Beck Grant, 0.5 mi southwest of Los Esteros Creek gage, 0.8 mi upstream from confluence with Los Esteros Creek, 4.6 mi northeast of Santa Rosa Dam, and 10.2 mi northeast of Santa Rosa.

DRAINAGE AREA.--13.7 mi².

PERIOD OF RECORD.--July 1973 to current year. Prior to October 1979, published as "above Los Esteros Reservoir."

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,760 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. No known diversions or ground-water withdrawals for irrigation upstream from station. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--16 years, 0.26 ft³/s, 188 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,400 ft³/s, Aug. 29, 1977, gage height, 7.80 ft, from rating curve extended above 0.5 ft³/s on basis of velocity-area studies and slope-area measurement at gage height 7.80 ft; no flow most of the time.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft³/s and maximum (*), from rating curve extended as explained above:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 9	2030	*48	*1.69				

No flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	5.3	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.41	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.3	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.2	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.68	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.71	2.88	3.30	0.00
MEAN	.00	.00	.00	.00	.00	.00	.00	.00	.19	.093	.11	.00
MAX	.00	.00	.00	.00	.00	.00	.00	.00	5.3	2.2	3.3	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	.0	.0	.0	.0	.0	11	5.7	6.5	.0

CAL YR 1988 TOTAL 90.07 MEAN .25 MAX 33 MIN .00 AC-FT 179
WTR YR 1989 TOTAL 11.89 MEAN .033 MAX 5.3 MIN .00 AC-FT 24

RIO GRANDE BASIN

08382810 SANTA ROSA LAKE NEAR SANTA ROSA, NM

LOCATION.--Lat 35°01'47", long 104°41'30", Guadalupe County, Hydrologic Unit 13060001, in Jose Perea Grant, near outlet gates of Santa Rosa Dam on Pecos River, approximately 7.0 mi north of Santa Rosa, and at mile 757.2.

DRAINAGE AREA.--2,430 mi², approximately.

PERIOD OF RECORDS.--April 1980 to current year.

GAGE.--Water-stage recorder. Elevation of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Lake is formed by earth and rockfill dam on Pecos River. Storage began on Apr. 22, 1980. Capacity, 447,100 acre-ft, from capacity table effective August 1980, between elevations, 4,630.0 ft, invert of outlet structure, and 4,797.0 ft, crest of spillway. No dead storage. Lake was created primarily for flood, irrigation, and sediment control. U. S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 120,481 acre-ft, May 8, 1987, elevation, 4,749.71 ft; no storage for many days, July-Sept., 1980 and June-Aug., 1981.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 87,400 acre-ft, Apr. 8, 9, elevation, 4,740.87 ft; minimum, 6,520 acre-ft, June 6, elevation, 4,690.69 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78880	80050	80340	81490	82550	83590	86790	49350	10560	7880	12970	20790
2	78950	80080	80340	81520	82480	83590	86860	47260	9960	7920	13540	20830
3	79010	80080	80400	81580	82450	83590	86890	45660	8670	7950	13840	21000
4	79070	80050	80460	81580	82420	83590	86960	43640	7460	7980	14000	21100
5	79100	80050	80530	81580	82420	83590	87090	41660	6630	8020	14110	21200
6	79260	80020	80560	81610	82480	83650	87230	39720	6520	8050	14170	21370
7	79320	80050	80560	81580	82520	83720	87330	37750	6570	8090	14170	21410
8	79510	80050	80590	81550	82550	83820	87400	35810	6620	8130	14210	21440
9	79610	80080	80690	81650	82610	83850	87400	33650	6700	8160	14280	21460
10	79670	80050	80690	81740	82780	83880	86690	31830	6920	8180	14340	21470
11	79770	80020	80750	81710	82840	83950	85100	29800	6990	8220	14390	21480
12	79730	80020	80810	81680	82870	83980	83520	27880	7040	8260	14540	21540
13	79800	80080	80940	81770	82910	84010	82000	26140	7070	8300	14990	21610
14	79860	80080	80970	81810	82970	84140	80370	24390	7150	8350	15290	21650
15	79890	80020	80940	81840	82970	84280	78760	22660	7200	8390	15450	21690
16	79890	80020	80970	81870	83040	84470	77080	20840	7260	8840	15630	21710
17	79890	80050	81040	81900	83100	84740	75330	18910	7300	8960	15830	21730
18	79890	80050	81130	81970	83170	84870	73520	16980	7340	9000	19370	21750
19	79960	80080	81100	81970	83200	84970	71800	15050	7390	9040	19900	21800
20	79960	80080	81130	82000	83230	85100	69840	13080	7430	9070	20150	21820
21	80020	80150	81170	82060	83300	85300	67820	10940	7470	9110	20290	22230
22	80020	80180	81200	82060	83330	85530	65860	10220	7500	9180	20330	22530
23	80020	80180	81170	82160	83430	85760	63890	10280	7560	9440	20380	22600
24	80020	80240	81200	82190	83520	85930	62030	10190	7600	9640	20420	22670
25	80020	80210	81290	82190	83590	86130	60120	10230	7650	10540	20450	22750
26	80020	80150	81260	82260	83590	86160	58470	10270	7700	11500	20490	22820
27	80020	80180	81230	82360	83560	86260	56630	10320	7720	11860	20560	22860
28	80020	80240	81260	82320	83560	86460	54890	10400	7750	12160	20610	22880
29	80050	80240	81290	82420	---	86590	53030	10430	7800	12310	20670	22910
30	80020	80270	81390	82450	---	86630	51230	10480	7840	12390	20710	22920
31	80080	---	81450	82520	---	86690	---	10520	---	12470	20770	---
MAX	80080	80270	81450	82520	83590	86690	87400	49350	10560	12470	20770	22920
MIN	78880	80020	80340	81490	82420	83590	51230	10190	6520	7880	12970	20790
(+)	+1260	+190	+1180	+1070	+1040	+3130	-35460	-40710	-2680	+4630	+8300	+2150

CAL YR 1988 MAX 114900 MIN 78820 (+) -30220
WTR YR 1989 MAX 87400 MIN 6520 (+) -55900

(+) CHANGE IN CONTENTS, IN ACRE-FEET

08382810 SANTA ROSA LAKE NEAR SANTA ROSA, NM -- Continued

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4738.25	4738.62	4738.71	4739.07	4739.40	4739.72	4740.69	4727.26	4698.73	4693.90	4702.04	4710.19
2	4738.27	4738.63	4738.71	4739.08	4739.38	4739.72	4740.71	4726.32	4697.77	4693.99	4702.75	4710.22
3	4738.29	4738.63	4738.73	4739.10	4739.37	4739.72	4740.72	4725.58	4695.50	4694.06	4703.10	4710.37
4	4738.31	4738.62	4738.75	4739.10	4739.36	4739.72	4740.74	4724.62	4692.97	4694.12	4703.30	4710.46
5	4738.32	4738.62	4738.77	4739.10	4739.36	4739.72	4740.78	4723.65	4690.96	4694.20	4703.42	4710.55
6	4738.37	4738.61	4738.78	4739.11	4739.38	4739.74	4740.82	4722.67	4690.69	4694.26	4703.49	4710.69
7	4738.39	4738.62	4738.78	4739.10	4739.39	4739.76	4740.85	4721.64	4690.82	4694.35	4703.50	4710.73
8	4738.45	4738.62	4738.79	4739.09	4739.40	4739.79	4740.87	4720.58	4690.94	4694.42	4703.54	4710.75
9	4738.48	4738.63	4738.82	4739.12	4739.42	4739.80	4740.87	4719.35	4691.14	4694.49	4703.62	4710.77
10	4738.50	4738.62	4738.82	4739.15	4739.47	4739.81	4740.66	4718.26	4691.70	4694.53	4703.69	4710.78
11	4738.53	4738.61	4738.84	4739.14	4739.49	4739.83	4740.18	4716.98	4691.87	4694.61	4703.75	4710.79
12	4738.52	4738.61	4738.86	4739.13	4739.50	4739.84	4739.70	4715.70	4691.99	4694.70	4703.92	4710.84
13	4738.54	4738.63	4738.90	4739.16	4739.51	4739.85	4739.23	4714.47	4692.07	4694.78	4704.43	4710.90
14	4738.56	4738.63	4738.91	4739.17	4739.53	4739.89	4738.72	4713.16	4692.25	4694.87	4704.77	4710.93
15	4738.57	4738.61	4738.90	4739.18	4739.53	4739.93	4738.21	4711.78	4692.37	4694.95	4704.94	4710.97
16	4738.57	4738.61	4738.91	4739.19	4739.55	4739.99	4737.67	4710.23	4692.51	4695.82	4705.14	4710.98
17	4738.57	4738.62	4738.93	4739.20	4739.57	4740.07	4737.10	4708.47	4692.60	4696.05	4705.36	4711.00
18	4738.57	4738.62	4738.96	4739.22	4739.59	4740.11	4736.50	4706.57	4692.70	4696.12	4708.90	4711.02
19	4738.59	4738.63	4738.95	4739.22	4739.60	4740.14	4735.92	4704.50	4692.81	4696.19	4709.39	4711.06
20	4738.59	4738.63	4738.96	4739.23	4739.61	4740.18	4735.25	4702.18	4692.90	4696.24	4709.62	4711.08
21	4738.61	4738.65	4738.97	4739.25	4739.63	4740.24	4734.54	4699.30	4692.99	4696.32	4709.74	4711.42
22	4738.61	4738.66	4738.98	4739.25	4739.64	4740.31	4733.84	4698.20	4693.06	4696.45	4709.78	4711.67
23	4738.61	4738.66	4738.97	4739.28	4739.67	4740.38	4733.12	4698.29	4693.19	4696.90	4709.82	4711.73
24	4738.61	4738.68	4738.98	4739.29	4739.70	4740.43	4732.43	4698.15	4693.30	4697.25	4709.86	4711.79
25	4738.61	4738.67	4739.01	4739.29	4739.72	4740.49	4731.70	4698.21	4693.40	4698.70	4709.89	4711.85
26	4738.61	4738.65	4739.00	4739.31	4739.72	4740.50	4731.06	4698.27	4693.50	4700.10	4709.92	4711.91
27	4738.61	4738.66	4738.99	4739.34	4739.71	4740.53	4730.33	4698.35	4693.56	4700.60	4709.98	4711.94
28	4738.61	4738.68	4739.00	4739.33	4739.71	4740.59	4729.62	4698.47	4693.62	4701.00	4710.03	4711.96
29	4738.62	4738.68	4739.01	4739.36	---	4740.63	4728.85	4698.53	4693.72	4701.20	4710.08	4711.98
30	4738.61	4738.69	4739.04	4739.37	---	4740.64	4728.08	4698.60	4693.81	4701.30	4710.12	4711.99
31	4738.63	---	4739.06	4739.39	---	4740.66	---	4698.66	---	4701.40	4710.17	---
MEAN	4738.51	4738.64	4738.90	4739.20	4739.53	4740.09	4736.66	4710.23	4692.98	4696.38	4706.52	4711.11
MAX	4738.63	4738.69	4739.06	4739.39	4739.72	4740.66	4740.87	4727.26	4698.73	4701.40	4710.17	4711.99
MIN	4738.25	4738.61	4738.71	4739.07	4739.36	4739.72	4728.08	4698.15	4690.69	4693.90	4702.04	4710.19
CAL YR 1988	MEAN 4744.29		MAX 4748.34		MIN 4738.23							
WTR YR 1989	MEAN 4723.98		MAX 4740.87		MIN 4690.69							

08382830 PECOS RIVER BELOW SANTA ROSA DAM, NM

LOCATION.--Lat 35°01'27", long 104°41'20", Guadalupe County, Hydrologic Unit 13060001, in Jose Perea Grant, on right bank, 0.2 mi downstream from Santa Rosa Dam, 5.7 mi north of Santa Rosa, and at mile 757.0.

DRAINAGE AREA.--2,430 mi², approximately.

PERIOD OF RECORD.--January 1980 to current year.

GAGE.--Water-stage recorder. Elevation 4,640 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 31, 1980, at datum about 1.2 ft higher. Prior to Mar. 26, 1982, at site 195 ft upstream at datum 2.36 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow completely regulated by Santa Rosa Lake (08382810) 0.2 mi upstream since April 1980. Diversions and ground-water withdrawals for irrigation of about 12,000 acres, 1959 determination, upstream from station. Several observations of water temperatures were made during the year. U. S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--9 years, 102 ft³/s, 73,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,090 ft³/s, June 26, 1980, gage height, about 5.77 ft, present datum; no flow many days.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,050 ft³/s, Apr. 21, 22; minimum daily, no flow, July 27 to Aug. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	.17	.26	e.08	.08	.08	.17	976	.13	.04	.00	.04
2	1.4	.19	.26	e.08	.08	.04	.17	975	321	.04	.00	.04
3	1.4	.22	.13	.08	e.08	.04	.17	972	614	.04	.00	.04
4	1.9	.18	.13	.08	e.08	.04	.17	966	599	.04	.00	.08
5	1.6	.17	.08	.08	e.08	e.04	.17	994	399	.04	.00	.08
6	1.6	.19	.08	.08	e.08	.02	.17	1010	66	.04	.00	.11
7	1.6	.21	.11	.08	e.08	.04	.18	1000	3.0	.15	.00	.08
8	1.1	.19	.11	.08	e.08	.05	.21	999	2.5	.08	.00	.03
9	1.2	.19	e.08	e.08	e.08	.06	.20	989	1.6	.04	.00	.01
10	1.2	.21	.08	e.08	e.08	.04	439	983	1.4	.04	.01	.01
11	1.3	.23	.04	e.08	e.08	.04	892	976	1.3	.04	.01	.01
12	1.4	.26	.08	.08	e.08	.04	886	973	.73	.06	.32	.18
13	1.8	.22	.08	e.08	e.08	.04	885	963	.08	.06	.08	.09
14	.38	.23	.08	e.08	e.08	.06	902	953	.01	.04	.02	.08
15	.21	.26	.08	e.08	.08	.08	920	948	.01	.04	.01	.08
16	.17	.24	.08	e.08	.08	.08	922	962	.01	.05	.01	.04
17	.18	.24	.08	e.08	.08	.08	915	980	.01	.04	.21	.04
18	.21	.24	.08	e.08	.08	.08	910	974	.01	.04	.38	.04
19	.23	.19	.08	.08	.08	.08	910	965	.01	.04	.08	.01
20	.25	.21	.08	.04	.08	.10	977	948	.01	.01	.07	.01
21	.21	.26	.08	.04	.08	.13	1050	936	.32	.01	.04	.01
22	.21	.28	.08	.06	.08	.13	1050	382	.61	.05	.04	.01
23	.21	.34	.09	.08	.08	.13	1040	2.7	.34	.08	.04	.01
24	.26	.34	.08	.08	.08	.13	1000	5.8	.05	.08	.08	.01
25	.26	.36	.08	.08	.08	.13	994	.70	.04	.25	.10	.01
26	.26	.37	.08	.08	.08	.13	1000	.13	.04	.01	.10	.01
27	.28	.36	.08	.08	.08	.13	996	.13	6.2	.00	.26	.01
28	.31	.35	e.08	.08	.08	.13	991	.14	5.0	.00	.14	.01
29	.31	.33	e.08	.08	---	.13	984	.12	.15	.00	.06	.01
30	.24	.27	e.08	.08	---	.16	979	.08	.05	.00	.04	.01
31	.17	---	e.08	.08	---	.17	---	.11	---	.00	.04	---
TOTAL	23.05	7.50	2.97	2.38	2.24	2.63	19643.61	20833.91	2022.61	1.45	2.14	1.20
MEAN	.74	.25	.096	.077	.080	.085	655	672	67.4	.047	.069	.040
MAX	1.9	.37	.26	.08	.08	.17	1050	1010	614	.25	.38	.18
MIN	.17	.17	.04	.04	.08	.02	.17	.08	.01	.00	.00	.01
AC-FT	46	15	5.9	4.7	4.4	5.2	38960	41320	4010	2.9	4.2	2.4

CAL YR 1988 TOTAL 46614.85 MEAN 127 MAX 1310 MIN .04 AC-FT 92460
WTR YR 1989 TOTAL 42545.69 MEAN 117 MAX 1050 MIN .00 AC-FT 84390

e Estimated

08383000 PECOS RIVER AT SANTA ROSA, NM

LOCATION.--Lat 34°56'36", long 104°41'55", in NW¼SE¼ sec.3, T.8 N., R.21 E., Guadalupe County, Hydrologic Unit 13060001, on left bank, 0.4 mi downstream from bridge on Interstate Highway 40, 0.6 mi upstream from bridge on Parker Street in Santa Rosa, 1.9 mi upstream from El Rito Creek, and at mile 748.4.

DRAINAGE AREA.--2,650 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1903 to December 1905 (gage heights only), January to December 1906, February 1910 to July 1911, September 1912 to December 1924, March to May 1927, July 1927, January 1928 to current year. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for Apr. 5-20, May 4-7, 11, Aug. 13, 16-18, 24, Sept. 7-9, 11, 13, 19, 21, 23, 25, 27, Oct. 1-31, Nov. 3, 4, 9, 11, 20, 22, 1910, and Feb. 1 to Mar. 31, June 1 to July 31, 1911, published in WSP 358 are unreliable and should not be used.

REVISED RECORDS.--WSP 1512: 1913-15. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and partial concrete control. Elevation of gage is 4,537.56 ft above National Geodetic Vertical Datum of 1929. For history of changes prior to Sept. 13, 1967, see WSP 2123.

REMARKS.--Water-discharge records good. Flow regulated by Santa Rosa Lake (station 08382810) 8.8 mi upstream since April 1980. Diversions for irrigation of about 12,000 acres, 1959 determination, upstream from station. Several observations of water temperatures were made during the year. U. S. Weather Bureau telemeter at station.

AVERAGE DISCHARGE.--63 years (water years 1906, 1913-1914, 1928-79), 135 ft³/s, 97,810 acre-ft/yr, prior to completion of Santa Rosa Dam.
10 years (water years 1980-1989), 102 ft³/s, 73,900 acre-ft/yr, since completion of Santa Rosa Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,200 ft³/s, June 2, 1937, gage height, 25.7 ft, site and datum then in use, from rating curve extended above 32,000 ft³/s; minimum, 0.28 ft³/s, Jan. 7, 1971. The flood of June 2, 1937, is the greatest since about 1886. Flood of Sept. 30, 1904, reached a stage of 24.7 ft, site and datum then in use, discharge, 45,000 ft³/s, by Kutter's formula. Flood of June 9, 1903, reached a stage of 21.1 ft, same site and datum as in 1904, discharge, 34,000 ft³/s, by comparison with 1904 flood.
Since completion of Santa Rosa Dam in 1980, maximum discharge, 7,050 ft³/s, Aug. 11, 1981, gage height, 6.56 ft; minimum daily, 2.0 ft³/s, July 23-25, 31, and Aug. 1, 12, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,080 ft³/s, Apr. 20, gage height, 2.57 ft; minimum daily, 3.3 ft³/s, Aug. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	5.8	6.5	5.8	6.3	5.7	4.5	977	5.1	5.3	4.7	5.7
2	20	5.7	6.5	5.8	6.0	5.7	4.4	968	205	4.5	3.8	5.5
3	16	5.7	6.5	5.8	5.8	5.8	4.4	970	616	4.3	3.5	6.3
4	13	5.7	6.5	5.8	5.8	7.2	4.5	966	607	4.3	3.8	5.9
5	12	5.8	6.5	5.7	5.8	5.9	4.5	991	480	4.0	13	5.8
6	12	5.6	6.5	6.0	5.8	5.8	4.5	1010	137	4.1	10	5.5
7	11	5.4	6.5	5.4	5.8	5.8	4.4	1010	20	4.2	3.4	5.1
8	10	5.1	6.5	5.8	6.1	5.1	4.4	1010	11	3.9	3.3	5.1
9	9.3	5.3	6.5	5.5	6.5	4.5	4.5	1000	12	4.0	27	5.1
10	8.9	5.5	6.9	5.4	6.5	4.5	290	994	20	4.6	6.4	5.1
11	8.1	5.5	7.3	5.1	6.5	4.5	880	997	8.1	4.5	4.0	5.1
12	7.3	5.1	7.3	5.1	6.5	4.5	880	985	6.5	4.6	17	6.6
13	7.1	5.2	7.3	5.1	6.7	5.1	876	984	5.9	4.6	9.6	5.4
14	9.5	5.1	7.3	5.7	6.5	4.9	890	969	6.3	4.4	5.1	5.5
15	7.9	5.7	7.3	5.6	6.5	4.3	909	957	5.6	4.5	4.4	5.2
16	7.3	5.8	6.7	5.1	6.5	4.0	905	969	5.3	4.3	4.6	5.1
17	6.9	5.8	6.5	5.3	6.5	4.2	903	996	5.3	4.2	5.6	5.1
18	6.5	5.8	6.2	5.1	6.5	3.9	902	984	5.1	4.4	14	5.1
19	6.6	6.0	5.7	5.3	6.6	3.9	899	972	5.0	4.3	5.5	5.1
20	6.5	6.5	6.5	5.1	7.3	4.4	957	952	4.8	4.3	4.5	5.1
21	6.5	6.5	6.3	5.1	7.3	4.9	1040	926	4.9	4.4	4.5	5.1
22	6.4	6.2	5.5	5.1	6.8	4.2	1040	537	5.1	4.9	4.0	5.1
23	6.3	6.2	5.2	5.2	6.3	3.7	1030	33	5.5	5.2	3.9	5.1
24	6.5	6.1	5.8	5.8	5.6	4.1	999	18	5.6	4.6	15	5.1
25	6.5	5.9	5.8	5.8	5.5	4.4	982	19	4.9	6.7	8.1	5.1
26	6.5	5.7	5.1	6.4	5.2	4.5	995	9.3	4.9	5.0	5.3	5.1
27	6.5	6.2	5.1	6.5	5.8	4.5	994	7.8	5.1	4.3	10	5.1
28	5.9	6.5	5.5	6.5	5.8	4.6	987	7.0	7.0	4.2	6.5	5.1
29	5.8	6.5	5.8	6.5	---	4.5	983	6.4	10	4.3	5.6	5.1
30	5.8	6.5	5.8	6.5	---	4.7	977	5.8	6.7	4.5	5.5	5.1
31	5.8	---	5.8	6.3	---	4.3	---	5.6	---	4.5	5.8	---
TOTAL	287.4	174.4	195.2	175.2	174.8	148.1	19358.1	21235.9	2230.7	139.9	227.4	159.4
MEAN	9.27	5.81	6.30	5.65	6.24	4.78	645	685	74.4	4.51	7.34	5.31
MAX	33	6.5	7.3	6.5	7.3	7.2	1040	1010	616	6.7	27	6.6
MIN	5.8	5.1	5.1	5.1	5.2	3.7	4.4	5.6	4.8	3.9	3.3	5.1
AC-FT	570	346	387	348	347	294	38400	42120	4420	277	451	316

CAL YR 1988 TOTAL 47380.6 MEAN 129 MAX 1270 MIN 4.5 AC-FT 93980
WTR YR 1989 TOTAL 44506.5 MEAN 122 MAX 1040 MIN 3.3 AC-FT 88280

08383000 PECOS RIVER AT SANTA ROSA, NM -- Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected 0.6 mi downstream from discharge station.

PERIOD OF RECORD.--Water years 1905-07, 1959 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE LAB	SPE-CIFIC CON-DUCT-ANCE LAB	PH (STAND-ARD UNITS)	PH LAB (STAND-ARD UNITS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB WH WAT TOT FLD (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)
		(000061)	(US/CM)	(US/CM)	(00400)	(00403)	(00020)	(00010)	(00300)	(00900)	(00902)	(00915)
NOV 15...	1700	5.9	2510	2640	8.09	7.80	10.0	11.0	10.4	1600	1600	540
JAN 19...	0925	5.7	2580	--	7.79	--	2.0	5.0	8.6	--	--	--
MAR 15...	0900	5.0	2650	2680	7.58	7.80	8.5	10.0	7.7	1700	1600	570
MAY 18...	0930	984	590	644	8.07	8.40	19.0	16.5	8.1	270	150	87
JUL 19...	0945	4.5	--	2660	--	7.90	--	--	--	1700	1600	570
SEP 20...	0900	5.2	2490	--	7.50	--	17.0	19.0	5.7	--	--	--

[illegible]

08383500 PECOS RIVER NEAR PUERTO DE LUNA, NM
(Surveillance network station)

LOCATION.--Lat 34°43'48", long 104°31'28", in NE¼SE¼NW¼ sec.20, T.6 N., R.23 E., Guadalupe County, Hydrologic Unit 13060001, on left bank 9.0 mi southeast of Puerto de Luna, 17.5 mi upstream from Sumner Dam, and at mile 719.5.

DRAINAGE AREA.--3,970 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1938 to current year.

REVISED RECORDS.--WSP 1512: 1939.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,311.34 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 15, 1954, at datum 1.0 ft higher.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Flow regulated by Santa Rosa Lake (station 08382810) 37.7 mi upstream since April 1980. Diversions for irrigation of about 12,500 acres, 1959 determination, upstream from station. Discharge represents inflow to Lake Sumner. Several observations of water temperatures were made during the year. U. S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--41 years (water years 1939-79), 209 ft³/s, 151,400 acre-ft/yr, prior to completion of Santa Rosa Dam.
10 years (water years 1980-89), 189 ft³/s, 136,900 acre-ft/yr, since completion of Santa Rosa Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,600 ft³/s, Sept. 1, 1942, gage height, 17.00 ft, from rating curve extended above 7,400 ft³/s on basis of flow "at Santa Rosa"; minimum, 11 ft³/s, Jan. 31, 1951.
Since completion of Santa Rosa Dam in 1980, maximum discharge, 27,100 ft³/s, Sept. 2, 1986, gage height, 11.23 ft; minimum, 37 ft³/s, Aug. 3, 4, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood since at least 1886 occurred June 2, 1937, when peak at Santa Rosa was 55,200 ft³/s, and peak inflow to Lake Sumner was about 75,000 ft³/s. Flood of July 24, 1895, was reported as "highest in 10 years." Other major floods occurred on June 9, 1903, Sept. 30, 1904, and May 1, 1914.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,250 ft³/s, May 11, gage height, 3.36 ft; minimum, 49 ft³/s, Apr. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	294	87	90	86	84	81	65	1040	67	81	66	97
2	146	87	86	86	84	79	66	1040	77	72	67	93
3	125	85	86	86	85	78	67	1030	615	70	63	92
4	111	84	85	87	e85	81	66	1030	824	66	61	128
5	104	84	86	87	e85	80	66	1030	815	62	68	95
6	102	86	86	85	e85	79	63	1070	414	65	77	92
7	101	90	87	e82	e86	79	59	1060	174	64	72	89
8	100	90	95	e82	e86	79	59	1050	95	65	65	88
9	97	83	90	e82	e86	78	62	1040	84	64	62	85
10	96	80	92	e82	e87	78	55	1030	260	65	170	83
11	e94	80	93	84	87	77	652	1030	267	69	82	83
12	e93	80	90	85	86	76	833	1030	100	67	109	147
13	e92	82	91	e91	84	76	897	992	86	70	443	105
14	e91	80	90	e91	83	76	909	991	80	70	124	88
15	90	79	89	90	84	e76	950	967	78	69	104	81
16	89	81	90	88	86	76	939	956	73	148	91	83
17	84	84	89	85	87	76	945	1010	69	84	332	80
18	85	86	90	85	87	74	965	1000	66	66	101	80
19	88	86	89	86	85	71	977	985	65	62	96	79
20	87	88	88	85	83	68	995	988	61	66	86	79
21	87	90	88	86	83	75	1150	969	61	62	84	76
22	85	90	87	85	82	73	1130	887	64	67	79	76
23	82	86	87	85	82	72	1120	183	73	67	76	77
24	86	85	e89	85	82	67	1100	83	74	106	76	78
25	84	86	88	86	81	67	1060	90	72	87	149	78
26	84	86	87	85	81	64	1080	92	68	85	127	78
27	83	87	e89	87	80	65	1060	86	69	73	222	78
28	84	88	e94	89	80	65	1050	84	69	70	150	78
29	88	86	e89	87	---	64	1060	81	69	64	103	75
30	90	92	e89	86	---	64	1050	73	158	66	115	75
31	90	---	e84	84	---	64	---	69	---	68	111	---
TOTAL	3112	2558	2753	2660	2356	2278	20550	23066	5147	2260	3631	2616
MEAN	100	85.3	88.8	85.8	84.1	73.5	685	744	172	72.9	117	87.2
MAX	294	92	95	91	87	81	1150	1070	824	148	443	147
MIN	82	79	84	82	80	64	55	69	61	62	61	75
AC-FT	6170	5070	5460	5280	4670	4520	40760	45750	10210	4480	7200	5190

CAL YR 1988 TOTAL 87413 MEAN 239 MAX 1910 MIN 62 AC-FT 173400
WTR YR 1989 TOTAL 72987 MEAN 200 MAX 1150 MIN 55 AC-FT 144800

e Estimated

08383500 PECOS RIVER NEAR PUERTO DE LUNA, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1937-66, 1972 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	PH (STAND-ARD UNITS) (00400)	PH LAB (STAND-ARD UNITS) (00403)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
NOV 17...	1315	86	2880	2910	8.12	7.70	14.5	8.5	15.1	<10	1700	1600
MAR 15...	1315	75	2820	2930	8.14	7.80	21.5	16.5	8.6	11	1700	1600
MAY 16...	1445	964	720	782	8.05	8.20	23.5	19.0	8.0	19	370	260
SEP 20...	1500	80	2910	2910	8.15	7.60	27.0	26.0	7.2	13	1700	1700

DATE	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3 CO3) (00453)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
NOV 17...	560	70	110	1	2.5	165	0	135	58	1700	140	0.50
MAR 15...	560	69	110	1	1.4	134	0	110	89	1700	150	0.60
MAY 16...	120	18	20	0.5	2.1	153	0	125	114	280	6.0	0.30
SEP 20...	580	72	100	1	2.3	122	0	100	76	1700	140	0.60

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)
NOV 17...	13	2630	<0.100	<0.100	0.180	0.32	<0.010	<0.010	0.9	<1	1	90
MAR 15...	14	2660	<0.100	<0.100	0.170	--	<0.010	<0.010	0.6	--	--	120
MAY 16...	7.0	522	<0.100	<0.100	0.050	0.45	0.090	0.010	3.1	--	--	50
SEP 20...	13	2650	<0.100	<0.100	0.160	0.04	0.030	<0.010	0.7	<1	<1	100

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)
NOV 17...	1	<1	4	3	1	2	30	<5	<5	0.10	0.9
MAR 15...	--	--	--	--	--	--	50	--	--	--	--
MAY 16...	--	--	--	--	--	--	8	--	--	--	--
SEP 20...	<1	<1	6	4	9	1	40	4	<1	<0.10	0.3

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

[illegible]

08384000 LAKE SUMNER NEAR FORT SUMNER, NM

LOCATION.--Lat 34°36'30", long 104°23'04", in SE¼SW¼ sec.34, T.5 N., R.24 E., DeBaca County, Hydrologic Unit 13060001, near center of dam on Pecos River, 5.0 mi northeast of Guadalupe, 12.2 mi northwest of Fort Sumner, and at mile 702.0.

DRAINAGE AREA.--4,390 mi², approximately (contributing area).

PERIOD OF RECORD.--December 1938 to September 1965 (month end elevations and contents), October 1965 to current year. Month end elevations September 1937 to November 1938 published in reports of Pecos River Commission. Elevations and contents May 27, 1937 to June 10, 1937 in WSP 842. Prior to October 1974, published as "Alamogordo Reservoir".

REVISED RECORDS.--WSP 1732: 1939-54 (contents). WSP 1923: 1939-53(M).

GAGE.--Water-stage recorder. Elevation of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). April 1, 1946 to Sept. 30, 1957, water-stage recorder above elevation 4,234.25 ft, nonrecording gage below. Oct. 1, 1988 to current year, water-stage recorder above elevation 4,238.00 ft, nonrecording gage below.

REMARKS.--Lake is formed by earthfill dam, completed and storage began in August 1937. Capacity, 101,600 acre-ft, from capacity table dated November 1973, between elevation 4,200.0 ft, sill of outlet gate, and elevation 4,275.0 ft, normal operating level. No dead storage. Reservoir is used to store water for irrigation. U. S. Bureau of Reclamation satellite telemeter at station.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 138,300 acre-ft, May 23-30, June 1-10, July 21, Sept. 22, 23, 30, Oct. 12, Nov. 4, 5, 30, Dec. 23, 24, 1941, elevation, 4,275.00 ft; maximum elevation, 4,276.10 ft June 3, Sept. 8, 1958; no storage, July 28 to Aug. 2, 1951, elevation, 4,200.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 36,120 acre-ft, Mar. 14-16, elevation, 4,255.00 ft; minimum, 12,890 acre-ft, Aug. 12, 13, elevation, 4,240.50 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19170	17820	22590	27630	30350	34120	34340	30550	19450	15980	13940	15630
2	19310	17820	22590	27820	30350	34340	34340	30550	17950	16100	13730	15860
3	19310	18080	22920	27820	30350	34340	34340	30550	16700	16220	13620	15980
4	19310	18360	22920	28010	30350	34340	34120	30550	16220	16100	13520	15980
5	19310	18620	23240	28010	30350	34560	34120	30550	16100	16100	13410	15980
6	19310	18760	23410	28200	30350	34780	33900	30550	16100	15980	13410	15980
7	19310	18760	23410	28390	30350	35000	33900	30550	15980	15860	13310	15860
8	19310	18760	23570	28390	30350	35220	33690	30750	16100	15740	13200	15860
9	19310	19170	23740	28580	30550	35220	33690	30750	16460	15630	13100	15740
10	19310	19450	24070	28580	30750	35440	33690	30750	16460	15510	13000	15630
11	19310	19450	24240	28770	31160	35440	31570	30750	16820	15400	13000	15510
12	19310	19590	24410	29160	31370	35670	30960	30960	17190	15400	12890	15400
13	19310	19880	24580	29360	31370	35890	30550	30960	17190	15280	12890	16100
14	19160	20010	24750	29560	31780	36120	30550	30960	17190	15280	13620	16340
15	19030	20170	24930	29560	31780	36120	30150	30960	17070	15160	13730	16340
16	19030	20300	25100	29570	31990	36120	30150	30960	17070	15050	13730	16340
17	19030	20300	25280	29950	32200	35670	29950	30750	16950	15050	13940	16340
18	18890	20450	25450	29950	32200	35670	29950	30960	16950	15050	14270	16220
19	18890	20600	25630	30150	32200	35670	29950	30960	16950	14940	14270	16220
20	18760	20740	25810	30150	32620	35670	29750	30960	16700	14830	14270	16220
21	18620	21040	25810	30550	32830	35440	29750	30960	16580	14490	14160	16220
22	18360	21190	25980	30750	33040	35440	29750	30960	16580	14380	14160	16100
23	18360	21350	26160	30750	33470	35220	30150	30750	16460	14270	14050	16100
24	18360	21450	26340	30760	33690	35220	30150	29560	16340	14270	13940	16100
25	18360	21650	26520	30550	33690	35220	30150	28390	16220	14380	13840	16100
26	18080	21810	26710	30550	33690	35000	30150	27070	15980	14270	13840	15980
27	18080	21960	26890	30550	33900	35000	30150	25810	15860	14270	14050	15980
28	18080	21960	27070	30550	33900	34780	30150	24410	15740	14160	14600	15980
29	17950	22120	27260	30550	---	34780	30550	23240	15630	14160	14940	15860
30	17950	22280	27450	30550	---	34560	30550	21960	15740	14050	15170	15860
31	17820	---	27450	30550	---	34560	---	20740	---	14050	15400	---
MAX	19310	22280	27450	30760	33900	36120	34340	30960	19450	16220	15400	16340
MIN	17820	17820	22590	27630	30350	34120	29750	20740	15630	14050	12890	15400
(+)	+380	+4460	+5170	+3100	+3350	+660	-4010	-9810	-5000	-1690	+1350	+460

CAL YR 1988 MAX 46470 MIN 13730 (+) -10750
WTR YR 1989 MAX 36120 MIN 12890 (+) -1580

(+) CHANGE IN CONTENTS, IN ACRE-FEET

235

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4245.70	4244.80	4248.00	4250.90	4252.30	4254.10	4254.20	4252.40	4245.90	4243.30	4241.50	4243.00
2	4245.80	4244.80	4248.00	4251.00	4252.30	4254.20	4254.20	4252.40	4244.90	4243.40	4241.30	4243.20
3	4245.80	4245.00	4248.20	4251.00	4252.30	4254.20	4254.20	4252.40	4243.90	4243.50	4241.20	4243.30
4	4245.80	4245.10	4248.20	4251.10	4252.30	4254.20	4254.10	4252.40	4243.50	4243.40	4241.10	4243.30
5	4245.80	4245.30	4248.40	4251.10	4252.30	4254.30	4254.10	4252.40	4243.40	4243.40	4241.00	4243.30
6	4245.80	4245.40	4248.50	4251.20	4252.30	4254.40	4254.00	4252.40	4243.40	4243.30	4241.00	4243.30
7	4245.80	4245.40	4248.50	4251.30	4252.30	4254.50	4254.00	4252.40	4243.30	4243.20	4240.90	4243.20
8	4245.80	4245.40	4248.60	4251.30	4252.30	4254.60	4253.90	4252.50	4243.40	4243.10	4240.80	4243.20
9	4245.80	4245.70	4248.70	4251.40	4252.40	4254.60	4253.90	4252.50	4243.70	4243.00	4240.70	4243.10
10	4245.80	4245.90	4248.90	4251.40	4252.50	4254.70	4253.90	4252.50	4243.70	4242.90	4240.60	4243.00
11	4245.80	4245.90	4249.00	4251.50	4252.70	4254.70	4252.90	4252.50	4244.00	4242.80	4240.60	4242.90
12	4245.80	4246.00	4249.10	4251.70	4252.80	4254.80	4252.60	4252.60	4244.30	4242.80	4240.50	4242.80
13	4245.80	4246.20	4249.20	4251.80	4252.80	4254.90	4252.40	4252.60	4244.30	4242.70	4240.50	4243.40
14	4245.70	4246.30	4249.30	4251.90	4253.00	4255.00	4252.40	4252.60	4244.30	4242.70	4241.20	4243.60
15	4245.60	4246.40	4249.40	4251.90	4253.00	4255.00	4252.20	4252.60	4244.20	4242.60	4241.30	4243.60
16	4245.60	4246.50	4249.50	4252.00	4253.10	4255.00	4252.20	4252.60	4244.20	4242.50	4241.30	4243.60
17	4245.60	4246.50	4249.60	4252.10	4253.20	4254.80	4252.10	4252.50	4244.10	4242.50	4241.50	4243.60
18	4245.50	4246.60	4249.70	4252.10	4253.20	4254.80	4252.10	4252.60	4244.10	4242.50	4241.80	4243.50
19	4245.50	4246.70	4249.80	4252.20	4253.20	4254.80	4252.10	4252.60	4244.10	4242.40	4241.80	4243.50
20	4245.40	4246.80	4249.90	4252.30	4253.40	4254.80	4252.00	4252.60	4243.90	4242.30	4241.80	4243.50
21	4245.30	4247.00	4249.90	4252.40	4253.50	4254.70	4252.00	4252.60	4243.80	4242.00	4241.70	4243.50
22	4245.10	4247.10	4250.00	4252.50	4253.60	4254.70	4252.00	4252.60	4243.80	4241.90	4241.70	4243.40
23	4245.10	4247.20	4250.10	4252.50	4253.80	4254.60	4252.20	4252.50	4243.70	4241.80	4241.60	4243.40
24	4245.10	4247.30	4250.20	4252.50	4253.90	4254.60	4252.20	4251.90	4243.60	4241.80	4241.50	4243.40
25	4245.10	4247.40	4250.30	4252.40	4253.90	4254.60	4252.30	4251.30	4243.50	4241.90	4241.40	4243.40
26	4245.00	4247.50	4250.40	4252.40	4253.90	4254.50	4252.30	4250.60	4243.30	4241.80	4241.40	4

08384500 PECOS RIVER BELOW SUMNER DAM, NM
(National stream-quality accounting network station)

LOCATION.--Lat 34°36'15", long 104°23'14", sec.2, T.4 N., R.24 E., DeBaca County, Hydrologic Unit 13060003, on left bank 1,200 ft downstream from Sumner Dam, 2.9 mi upstream from Salado Creek, 4.6 mi northeast of Guadalupe, 12.2 mi northwest of Fort Sumner, and at mile 701.7.

DRAINAGE AREA.--4,390 mi², approximately (contributing area).

PERIOD OF RECORD.--October 1912 to April 1926, August 1926 to current year. Monthly discharge only for some periods, published in WSP 1312. October 1944 to September 1974, published as "below Alamogordo Dam." Prior to October 1944, published as "near Guadalupe."

REVISED RECORDS.--WSP 1512: 1932. WSP 1632: 1942. WSP 1712: 1944.

GAGE.--Water-stage recorder and Parshall flume, with concrete control above top of flume. Elevation of gage is 4,142.99 ft above National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation bench mark). Prior to Sept. 10, 1936, at site 1.5 mi upstream at different datum. Sept. 14, 1936 to Mar. 8, 1941, and June 11 to Sept. 21, 1941, at site 0.2 mi downstream at different datums.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Lake Sumner (station 08384000) 0.3 mi upstream since August 1937 and Santa Rosa Lake (station 08382810) 55.5 mi upstream since April 1980. Diversions for irrigation of about 12,500 acres, 1959 determination, upstream from station. Several observations of water temperatures were made during the year. U. S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--23 years (1913-25, 1927-36), 236 ft³/s, 171,000 acre-ft/yr, prior to completion of Sumner Dam. 53 years (water years 1937-89), 201 ft³/s, 145,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,800 ft³/s, Sept. 1, 1942, by computation of flow over spillway and through outlet gates of Sumner Dam by U.S. Bureau of Reclamation; maximum gage height, 13.58 ft, Sept. 22, 1941; no flow at times.

Flood of June 2, 1937, about 75,000 ft³/s, at site 1.5 mi upstream, from peak inflow to Lake Sumner.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,080 ft³/s, Apr. 29, 30, May 1; minimum daily, 0.03 ft³/s, Nov. 5, 6, 22, 24-30, Dec. 1-4, 11, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	4.5	.03	.11	95	.41	97	1080	533	1.6	96	.11
2	102	.05	.03	.13	95	.40	97	1050	536	1.6	97	.11
3	102	.04	.03	.19	94	.42	98	1050	535	58	97	42
4	101	.05	.03	.19	94	.31	98	1050	543	87	104	102
5	102	.03	.07	.13	56	.04	98	1040	553	87	97	99
6	102	.03	.08	.05	1.4	e.04	98	1040	364	84	94	102
7	102	.06	.09	.05	.36	e.04	98	1040	90	91	95	103
8	101	.11	.22	e.05	.11	e.77	98	1040	89	93	94	102
9	101	.08	.06	e.05	.12	.77	98	1040	89	101	95	102
10	101	.11	.05	e.05	.11	.80	730	1040	89	92	95	102
11	101	.08	.03	e.06	.11	.91	1040	1040	89	88	94	101
12	101	.04	.03	e.06	.11	.85	1040	1030	89	88	100	100
13	101	.10	.05	e.07	.11	.82	1040	1020	83	89	95	46
14	101	.06	.05	e.07	.11	.94	1040	1030	88	88	100	38
15	101	.08	.04	e.08	.11	44	1040	1020	88	93	102	101
16	101	.13	.05	e.08	.14	100	1040	1020	88	97	97	85
17	101	.19	.11	e.08	.14	99	1040	1010	89	94	104	77
18	101	.17	.11	.19	.17	99	1040	1020	89	85	106	77
19	101	.06	.14	.18	.14	99	1040	1020	97	84	100	77
20	101	.08	.11	.18	.13	99	1040	1030	101	85	101	78
21	101	.06	.13	e.18	.19	99	1040	1030	101	92	99	78
22	101	.03	.12	62	.19	99	1050	1020	102	89	100	78
23	101	.04	.10	94	.19	99	1050	776	101	88	100	77
24	101	.03	.11	94	.17	99	1060	549	102	84	100	77
25	101	.03	.11	94	.13	99	1060	533	101	82	100	77
26	101	.03	.12	94	.19	99	1060	555	101	93	100	77
27	101	.03	.12	94	.32	98	1070	555	100	97	39	77
28	102	.03	.13	94	.39	97	1070	553	101	87	.15	76
29	101	.03	.11	94	---	97	1080	553	101	82	.11	76
30	101	.03	.11	94	---	97	1080	552	34	83	.12	76
31	101	---	.11	95	---	97	---	546	---	93	.11	---
TOTAL	3136	6.39	2.68	911.23	439.14	1627.52	22630	27932	5266	2557.2	2601.49	2303.22
MEAN	101	.21	.086	29.4	15.7	52.5	754	901	176	82.5	83.9	76.8
MAX	102	4.5	.22	95	95	100	1080	1080	553	101	106	103
MIN	100	.03	.03	.05	.11	.04	97	533	34	1.6	.11	.11
AC-FT	6220	13	5.3	1810	871	3230	44890	55400	10450	5070	5160	4570

CAL YR 1988 TOTAL 82283.47 MEAN 225 MAX 1180 MIN .03 AC-FT 163200
WTR YR 1989 TOTAL 69412.87 MEAN 190 MAX 1080 MIN .03 AC-FT 137700

e Estimated

08385000 FORT SUMNER MAIN CANAL NEAR FORT SUMNER, NM

LOCATION.--Lat 34°30'30", long 104°16'40", in SE¼SW¼SW¼ sec.1, T.3 N., R.25 E., DeBaca County, Hydrologic Unit 13060003, on right bank of concrete canal, 200 ft downstream from diversion dam on Pecos River, 3.0 mi northwest of Fort Sumner, and at Pecos River mile 684.8.

PERIOD OF RECORD.--March 1939 to February 1943 (published in WSP 1732), April 1954 to current year (monthly discharge only prior to October 1965).

GAGE.--Water-stage recorder. Elevation of gage is 4,034.7 ft above National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation bench mark). Prior to March 1954, at site 2.4 mi downstream at different datum. April 1954 to March 1965, at site 1.1 mi downstream at datum 1.7 ft lower.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Canal diverts water from Pecos River for irrigation of about 6,600 acres, 1961 determination, by the Fort Sumner Irrigation District. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--38 years (water years 1940-42, 1955-89), 50.2 ft³/s, 36,370 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 174 ft³/s, July 22, 1941; no flow many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	76	.00	.00	89	.00	99	102	113	e20	92	e.00
2	98	12	.00	.00	87	.00	98	102	114	e.35	92	e.00
3	97	.35	.00	.00	81	.00	95	102	114	e.18	95	e.00
4	97	.13	.00	.00	85	.00	95	102	113	e60	97	e48
5	96	.08	.00	.00	e60	.00	94	101	114	75	96	87
6	93	.02	.00	.00	e10	.00	93	102	112	72	98	88
7	96	.00	.00	.00	e.00	.00	93	102	101	69	91	95
8	96	.00	.00	.00	e.00	.00	93	102	99	86	86	94
9	96	.00	.00	.00	e.00	.00	92	102	98	81	89	92
10	95	.00	.00	.00	e.00	.00	96	102	98	91	91	94
11	95	.00	.00	.00	e.00	.00	96	102	93	75	91	94
12	94	.00	.00	.00	e.00	.00	96	102	90	82	93	94
13	93	.00	.00	.00	e.00	.00	96	102	91	79	93	e52
14	98	.00	.00	.00	.00	.00	95	102	92	81	90	e6.0
15	96	.00	.00	.00	.00	.00	95	102	94	84	91	68
16	96	.00	.00	.00	.00	38	94	103	93	93	92	90
17	98	.00	.00	.00	.00	85	99	103	92	94	96	71
18	97	.00	.00	.00	.00	93	100	103	92	80	96	71
19	97	.00	.00	.00	.00	93	100	102	90	75	91	74
20	98	.00	.00	.00	.00	95	100	103	101	79	89	75
21	98	.00	.00	.00	.00	96	101	103	103	88	86	75
22	98	.00	.00	.00	.00	96	101	103	104	89	90	67
23	98	.00	.00	34	.00	96	101	91	104	96	92	74
24	98	.00	.00	75	.00	96	102	106	104	90	93	74
25	98	.00	.00	73	.00	96	101	114	103	85	94	74
26	98	.00	.00	82	.00	97	101	114	102	85	95	75
27	98	.00	.00	90	.00	97	101	114	99	90	e44	76
28	98	.00	.00	89	.00	95	101	113	97	85	e.35	72
29	98	.00	.00	87	---	89	102	113	102	79	e.00	71
30	97	.00	.00	87	---	99	102	113	89	80	e.00	77
31	96	---	.00	87	---	99	---	113	---	87	e.00	---
TOTAL	2972	88.58	0.00	704.00	412.00	1460.00	2932	3240	3011	2330.53	2443.35	2028.00
MEAN	95.9	2.95	.00	22.7	14.7	47.1	97.7	105	100	75.2	78.8	67.6
MAX	98	76	.00	90	89	99	102	114	114	96	98	95
MIN	71	.00	.00	.00	.00	.00	92	91	89	.18	.00	.00
AC-FT	5890	176	.0	1400	817	2900	5820	6430	5970	4620	4850	4020

CAL YR 1988 TOTAL 22596.28 MEAN 61.7 MAX 106 MIN .00 AC-FT 44820
WTR YR 1989 TOTAL 21621.46 MEAN 59.2 MAX 114 MIN .00 AC-FT 42890

e Estimated

RIO GRANDE BASIN

08386000 PECOS RIVER NEAR ACME, NM
(Surveillance network station)

LOCATION.--Lat 33°32'10", long 104°22'34", in SW¼NW¼ sec.14, T.9 S., R.25 E., Chaves County, Hydrologic Unit 13060007, on right bank 3.0 mi downstream from U.S. Highway 70, 3.7 mi downstream from Salt Creek, 4.7 mi southwest of Acme, 14 mi northeast of Roswell, and at mile 585.3.

DRAINAGE AREA.--11,380 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1921 to June 1923, July 1937 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Elevation of gage is 3,510 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 1, 1938, at site on highway bridge 3 mi upstream at various datums. Since Oct. 25, 1963, supplemental water-stage recorder at site opposite base gage at same datum.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Flow regulated by Lake Sumner (station 08384000) 117 mi upstream since August 1937 and Santa Rosa Lake (station 08382810) 172 mi upstream since April 1980. Diversions for irrigation of about 20,000 acres, 1959 determination, upstream from station. Several observations of water temperatures were made during the year. U. S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--52 years (water years 1938-89), 179 ft³/s, 129,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,000 ft³/s, Sept. 23, 1941, gage height, 13.71 ft, from rating curve extended above 27,000 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of May 28, 1937, reached a discharge of 53,000 ft³/s, gage height, 14.82 ft, from floodmarks, site and datum then in use, from slope-area measurement, but may have been exceeded by the flood of Oct. 1, 1904.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 12	2100	*2,540	*6.56	No other peak greater than base discharge			
No flow part or all each day Aug. 1-11, 13-18.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	785	65	14	11	21	12	14	807	687	24	.11	55
2	674	74	14	11	22	12	13	719	796	78	.00	36
3	291	76	15	13	21	11	11	758	741	128	.00	136
4	186	66	15	14	22	11	8.8	762	627	54	.00	63
5	142	50	15	13	e20	12	7.0	802	631	30	.00	35
6	108	39	15	12	e18	16	6.4	822	679	18	.01	31
7	90	33	16	11	e15	12	7.0	804	707	13	.07	29
8	111	29	18	9.0	e15	11	9.0	898	644	9.8	.01	27
9	144	26	20	e9.0	e24	11	11	877	317	7.0	.00	26
10	139	25	26	e9.0	41	11	10	838	275	5.9	.00	25
11	113	23	27	e9.0	95	9.0	14	858	144	4.8	1.4	25
12	107	22	28	9.1	78	8.4	18	1270	119	4.3	1.6	25
13	109	21	28	9.0	58	7.6	509	1130	93	4.0	.35	238
14	108	21	23	e7.0	40	6.1	610	934	77	3.7	.00	109
15	88	20	20	e8.6	31	4.4	620	1030	71	3.7	.00	135
16	83	19	18	e6.6	28	3.7	685	967	62	5.9	.00	103
17	109	19	17	e7.7	28	3.4	761	951	51	3.9	.00	58
18	83	18	16	9.2	27	2.7	749	932	46	3.5	21	39
19	70	19	16	9.3	25	2.5	705	893	39	3.2	4.8	62
20	74	20	15	10	23	2.4	743	915	33	5.0	2.0	52
21	67	20	14	10	21	6.2	768	922	35	29	5.7	36
22	62	20	14	10	20	9.0	758	937	31	16	18	29
23	78	19	13	10	18	8.8	789	897	32	7.9	15	29
24	81	18	12	9.9	17	8.5	804	888	28	9.3	6.7	26
25	83	17	12	9.5	17	9.2	828	753	23	7.6	15	22
26	87	16	12	9.4	15	11	766	658	22	3.5	7.1	22
27	87	14	11	12	13	12	801	651	19	1.6	16	19
28	79	14	e9.5	15	11	13	794	610	15	.96	54	19
29	74	14	e10	18	---	13	753	589	12	.63	233	17
30	65	14	e10	20	---	14	817	627	80	.58	121	16
31	62	---	e10	21	---	13	---	619	---	.48	99	---
TOTAL	4439	851	503.5	342.3	784	286.9	13389.2	26118	7136	487.25	621.85	1544
MEAN	143	28.4	16.2	11.0	28.0	9.25	446	843	238	15.7	20.1	51.5
MAX	785	76	28	21	95	16	828	1270	796	128	233	238
MIN	62	14	9.5	6.6	11	2.4	6.4	589	12	.48	.00	16
AC-FT	8800	1690	999	679	1560	569	26560	51810	14150	966	1230	3060

CAL YR 1988 TOTAL 67430.0 MEAN 184 MAX 1260 MIN 7.7 AC-FT 133700
WTR YR 1989 TOTAL 56503.00 MEAN 155 MAX 1270 MIN .00 AC-FT 112100

e Estimated

08386000 PECOS RIVER NEAR ACME, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1937 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
NOV 18...	1100	18	3220	3240	8.11	7.80	9.0	6.0	--	<10	1200	1200
MAR 16...	1100	3.9	5000	5360	8.07	7.90	18.0	12.5	9.7	27	1800	1700
MAY 19...	1445	911	875	936	7.97	8.10	34.0	22.0	7.8	32	440	340
SEP 21...	1100	38	2640	2700	7.96	7.90	26.5	21.0	7.9	26	1400	1400

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
NOV 18...	360	84	260	3	3.7	123	0	101	90	1300	380	0.40
MAR 16...	520	130	540	6	5.2	120	0	98	92	1900	860	0.50
MAY 19...	140	22	30	0.6	2.4	131	0	107	102	370	27	0.40
SEP 21...	450	76	140	2	3.9	74	0	61	69	1400	170	0.60

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)
NOV 18...	11	2450	0.200	0.180	0.120	0.28	0.60	<0.010	<0.010	1.9	2
MAR 16...	10	4020	<0.100	<0.100	0.160	0.04	--	0.010	0.010	1.8	--
MAY 19...	12	666	<0.100	<0.100	0.100	0.50	--	0.050	0.010	4.9	--
SEP 21...	12	2290	<0.100	<0.100	0.090	1.8	--	0.130	<0.010	3.5	1

DATE	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 18...	0	210	<1	<1	3	2	1	2	4	<5	<5
MAR 16...	--	370	--	--	--	--	--	--	40	--	--
MAY 19...	--	50	--	--	--	--	--	--	530	--	--
SEP 21...	<1	190	<1	<1	8	3	7	1	20	4	<1

RIO GRANDE BASIN

08386000 PECOS RIVER NEAR ACME, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)
NOV 18...	0.20	0.4	<1	<1	30	10	<2.0	1.2	<40	2	<10
MAR 16...	--	--	--	--	--	--	--	--	--	--	--
MAY 19...	--	--	--	--	--	--	--	--	--	--	--
SEP 21...	<0.10	<0.1	<1	<1	40	10	--	--	--	--	--
DATE	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 18...	3	<50	1	1500	<100	140	<0.01	6	211	10	56
MAR 16...	--	--	--	--	--	--	--	--	271	2.9	96
MAY 19...	--	--	--	--	--	--	--	--	951	2340	49
SEP 21...	--	--	--	--	--	--	--	--	389	40	95

08387000 RIO RUIDOSO AT HOLLYWOOD, NM

LOCATION.--Lat 33°19'36", long 105°37'38", in SE¼SE¼NE¼ sec.25, T.11 S., R.13 E., Lincoln County, Hydrologic Unit 13060008, on center pier on downstream side of bridge on Blooming Dale Road in Ruidoso Downs, 0.1 mi north of U.S. Highway 70, 0.7 mi downstream from Gavilan Canyon, 1.7 mi downstream from Carrizo Creek, and at mile 24.4.

DRAINAGE AREA.--120 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1953 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,420 ft above National Geodetic Vertical Datum of 1929, from topographic map. Mar. 14, 1953 to Mar. 28, 1985, at site 0.95 mi downstream at different datum.

REMARKS.--Water-discharge records good. Village of Ruidoso diverts from right bank 7.0 mi upstream for municipal use and returns a portion of this water as effluent from sewage disposal plant downstream from the gage. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--28 years (1954-1981), 14.9 ft³/s, 10,800 acre-ft/yr, for period when sewage disposal plant effluent was discharged upstream from gage.

7 years (water years 1982-89), 33.1 ft³/s, 23,980 acre-ft/yr, since disposal plant effluent is discharged downstream.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,120 ft³/s, Aug. 11, 1984, gage height, 9.68 ft, from rating curve extended above 510 ft³/s on basis of slope-area measurement of peak flow; maximum gage-height, 10.05 ft, datum then in use, June 17, 1965; minimum discharge, 0.30 ft³/s, Jan. 1, 1962 and May 8-9, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Sept. 29, 1941, is probably the highest since at least 1904 (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 19	0700	*169	*2.71	Aug. 26	1345	104	2.47
Aug. 12	2000	158	2.70				

Minimum discharge, 6.8 ft³/s, part of each day July 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	15	12	14	13	24	24	16	8.4	8.0	27	67
2	22	14	12	15	13	23	24	15	8.3	7.5	21	59
3	22	15	12	14	12	23	25	14	8.3	7.5	19	50
4	22	14	12	16	12	21	25	13	8.3	7.5	17	48
5	21	15	12	17	12	20	24	13	8.4	7.3	15	46
6	21	15	12	15	12	19	24	13	8.2	7.2	13	45
7	21	15	12	14	17	19	22	13	7.9	7.2	15	43
8	21	15	11	11	27	20	23	12	7.9	7.1	13	47
9	20	15	15	12	28	22	23	12	8.1	7.0	12	42
10	20	15	17	17	29	26	24	15	8.0	7.1	12	39
11	20	15	15	18	30	31	23	12	7.9	7.6	11	36
12	20	14	14	14	30	34	22	12	7.8	7.6	31	34
13	19	14	14	13	30	35	22	12	8.4	7.4	25	32
14	19	14	18	13	30	37	21	12	8.5	10	17	36
15	19	16	13	13	32	35	20	12	8.1	8.6	14	28
16	18	15	14	13	32	33	19	11	7.8	7.7	17	26
17	18	14	14	15	32	32	20	11	7.5	7.8	13	24
18	18	14	15	16	32	31	19	12	7.5	7.9	12	22
19	17	14	74	13	31	31	19	11	7.5	7.6	13	23
20	17	13	28	13	31	32	19	11	7.5	7.8	19	22
21	20	14	22	13	30	33	20	10	7.5	7.9	23	20
22	22	13	20	13	30	29	20	9.9	7.6	18	20	19
23	19	14	19	13	31	27	20	9.3	7.8	20	18	19
24	17	13	17	13	28	26	20	9.0	7.7	21	19	18
25	17	15	17	13	18	24	19	8.6	7.5	21	18	17
26	16	15	16	12	18	26	19	8.4	7.5	16	29	17
27	16	14	13	13	21	24	18	8.6	7.6	12	61	18
28	16	14	13	13	24	23	17	10	7.6	11	59	18
29	16	13	14	12	---	23	16	9.1	7.7	13	54	15
30	16	13	13	12	---	23	16	8.9	9.0	17	51	14
31	16	---	15	12	---	23	---	8.8	---	34	63	---
TOTAL	589	429	525	425	685	829	627	352.6	237.8	344.3	751	944
MEAN	19.0	14.3	16.9	13.7	24.5	26.7	20.9	11.4	7.93	11.1	24.2	31.5
MAX	23	16	74	18	32	37	25	16	9.0	34	63	67
MIN	16	13	11	11	12	19	16	8.4	7.5	7.0	11	14
AC-FT	1170	851	1040	843	1360	1640	1240	699	472	683	1490	1870

CAL YR 1988 TOTAL 10276.4 MEAN 28.1 MAX 210 MIN 8.8 AC-FT 20380
WTR YR 1989 TOTAL 6738.7 MEAN 18.5 MAX 74 MIN 7.0 AC-FT 13370

RIO GRANDE BASIN

08387000 RIO RUIDOSO AT HOLLYWOOD, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963-67, 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 03...	1130	15	1340	1380	7.93	7.80	23.0	10.5	11.1	14	680
MAR 09...	1300	21	975	1000	8.08	8.20	23.0	10.5	10.3	<10	460
MAY 03...	0850	14	1110	1140	8.11	8.00	22.5	9.0	11.0	<10	560
SEP 06...	1510	44	500	581	7.97	8.10	23.0	16.0	9.3	13	240

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
NOV 03...	500	190	50	61	1	1.7	178	490	71	0.30
MAR 09...	310	130	32	45	1	1.3	144	330	48	0.30
MAY 03...	420	160	39	48	0.9	1.4	142	400	50	0.30
SEP 06...	150	71	15	24	0.7	1.0	93	160	23	0.30

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 03...	15	987	0.300	0.270	0.090	0.21	0.60	0.040	0.020	2.0
MAR 09...	13	687	0.200	0.190	0.050	--	--	0.030	<0.010	1.9
MAY 03...	12	796	<0.100	<0.100	0.050	0.25	--	0.020	<0.010	1.3
SEP 06...	12	363	0.200	0.200	0.020	0.38	0.60	0.060	0.020	3.3

DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN, NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)
NOV 03...	30	6	2.0	140	470	2	2	8	10	20
MAR 09...	10	11	--	--	--	--	--	--	--	--
MAY 03...	30	20	--	--	--	--	--	--	--	--
SEP 06...	10	52	--	--	--	--	--	--	--	--

08387000 RIO RUIDOSO AT HOLLYWOOD, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 03...	13000	20	330	<0.03	110	190	7.7	68	K4	65
MAR 09...	--	--	--	--	--	86	4.9	57	K4	K8
MAY 03...	--	--	--	--	--	266	10	67	<1	64
SEP 06...	--	--	--	--	--	69	8.2	81	K1	230

08387600 EAGLE CREEK BELOW SOUTH FORK, NEAR ALTO, NM

LOCATION.--Lat 33°23'33", long 105°43'16", in SE¼SW¼ sec.31, T.10 S., R.13 E., Lincoln County, Hydrologic Unit 13060008, in Lincoln National Forest on right bank, 100 ft upstream from culvert under State Road No. 532, 400 ft downstream from South Fork, and 2.5 mi west of Alto. Mouth at Rio Ruidoso mile 11.3.

DRAINAGE AREA.--8.14 mi².

PERIOD OF RECORD.--August 1969 to December 1980, April 1988 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,600 ft above National Geodetic Vertical Datum of 1929, from topographic map. August 26, 1969 to December 31, 1980, at site 360 ft downstream at datum 6.0 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No diversions for irrigation above station. Some water is stored in small unregulated recreational ponds on the Mescalero Apache Indian Reservation upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years (water years 1970-80, 1989), 3.04 ft³/s, 2,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 206 ft³/s, Dec. 19, 1978, gage height, 3.79 ft, from rating curve extended above 21 ft³/s, site and datum then in use; minimum, no flow, July 9, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge 25 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 19	0545	*60	*5.68	July 22	1630	26	5.31

No flow part or all of each day June 24, July 5-11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	.76	.94	1.3	1.4	3.6	3.2	1.3	.18	.15	7.9	9.8
2	1.7	.71	.94	1.3	1.4	3.6	3.6	1.2	.19	.09	3.5	8.7
3	1.7	.71	.94	1.2	1.3	3.7	4.0	1.1	.18	.07	2.1	8.8
4	1.7	.69	.94	1.9	1.4	3.4	4.2	.89	.18	.07	1.5	7.2
5	1.7	.65	.94	2.0	1.4	3.1	3.9	.75	.18	.05	1.2	8.5
6	1.7	.65	.94	1.6	e1.4	2.7	3.7	.68	.17	.03	.93	7.3
7	1.7	.65	.92	1.4	e1.4	2.6	3.5	.61	.14	.01	.83	4.9
8	1.7	.65	.86	e1.5	e1.4	2.7	3.5	.56	.15	.01	.70	6.9
9	1.6	.65	.94	e1.6	e1.4	2.8	3.9	.51	.15	.00	.63	5.7
10	1.6	.65	1.2	e1.4	2.9	3.5	4.3	.59	.14	.01	.57	4.8
11	1.5	.63	1.1	1.4	5.9	5.2	4.1	.51	.12	.02	.50	3.4
12	1.5	.60	1.1	1.4	6.1	7.4	3.5	.44	.11	.04	.80	2.4
13	1.4	.59	1.1	1.4	4.7	8.0	3.2	.42	.10	.26	.93	1.9
14	1.4	.59	1.2	1.4	4.3	8.5	3.0	.40	.15	2.9	.69	1.7
15	1.4	.65	1.1	1.5	3.9	8.1	2.6	.39	.18	.93	.48	1.3
16	1.3	.65	1.1	1.5	3.8	7.0	2.4	.36	.14	.45	.37	1.1
17	1.3	.70	1.0	1.4	4.3	6.2	2.3	.40	.11	.28	.31	1.0
18	1.3	.76	1.3	1.4	4.8	5.7	4.4	.43	.10	.21	.29	.91
19	1.3	.84	28	1.6	4.6	5.3	3.6	.39	.09	.17	.26	.95
20	1.3	.84	8.1	1.6	4.0	5.5	1.8	.33	.07	.13	.34	.90
21	1.3	.87	3.5	e1.6	3.5	5.9	2.0	.29	.07	.48	.47	.79
22	1.3	.88	2.3	1.6	3.1	5.3	2.2	.26	.08	5.5	.39	.74
23	1.3	.87	1.9	1.2	2.7	4.9	2.2	.26	.08	1.8	.29	.69
24	1.2	.90	1.7	1.1	2.7	4.1	2.2	.24	.05	1.1	.27	.69
25	1.1	.92	1.5	1.2	2.7	3.7	2.1	.22	.10	2.8	.27	.63
26	1.2	1.1	1.4	1.2	3.0	3.6	1.9	.22	.19	1.6	.36	.59
27	1.2	.98	1.2	1.3	3.3	3.8	1.7	.25	.17	.86	3.1	.54
28	1.1	1.0	1.3	1.3	3.6	3.8	1.5	.35	.15	.62	1.6	.50
29	.94	.97	1.3	1.3	---	3.5	1.4	.28	.15	.72	7.5	.47
30	.86	.94	1.3	e1.3	---	3.2	1.3	.23	.23	3.6	9.2	.43
31	.82	---	1.3	1.3	---	3.2	---	.19	---	17	10	---
TOTAL	42.92	23.05	73.36	44.2	86.4	143.6	87.2	15.05	4.10	41.96	58.28	94.23
MEAN	1.38	.77	2.37	1.43	3.09	4.63	2.91	.49	.14	1.35	1.88	3.14
MAX	1.8	1.1	28	2.0	6.1	8.5	4.4	1.3	.23	.17	10	9.8
MIN	.82	.59	.86	1.1	1.3	2.6	1.3	.19	.05	.00	.26	.43
AC-FT	85	46	146	88	171	285	173	30	8.1	83	116	187

WTR YR 1989 TOTAL 714.35 MEAN 1.96 MAX 28 MIN .00 AC-FT 1420

e Estimated

08390500 RIO HONDO AT DIAMOND A RANCH, NEAR ROSWELL, NM

LOCATION.--33°20'57", long 104°51'05", in NE¼NE¼ sec.20, T.11 S, R.21 E., Chaves County, Hydrologic Unit 13060008, on right bank 40 ft downstream from bridge on Mossman Road at Diamond A Ranch farm, 1.3 mi south of U.S. Highway 70-380, 13 mi upstream from Two Rivers Reservoir, 21 mi upstream from mouth of Rocky Arroyo, 18 mi west of Roswell, and at mile 44.7.

DRAINAGE AREA.--947 mi², contributing area.

PERIOD OF RECORD.--May 1908 to August 1909, May 1939 to current year. Monthly discharge only for 1908-9, published in Technical Report No. 7, State of New Mexico, State Engineer Office, Streamflow and Reservoir Content 1888-1954.

REVISED RECORDS.--WSP 1392: Drainage area. WSP 1512: 1939-40(P), 1941, 1942-43(P), 1946(P).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 4,190 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 11, 1965, at site on left bank at same datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Diversions and ground-water withdrawals upstream from station for irrigation above and below station of about 6,500 acres, 1959 determination. Several observations of water temperatures were made during the year. U. S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--50 years (water years 1940-89), 25.5 ft³/s, 18,470 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,800 ft³/s, June 18, 1965, gage height, 26.40 ft, from rating curve extended above 3,100 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 28.78 ft, Sept. 22, 1941; no flow most of the time.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood on June 1, 1937, reached a discharge of 24,900 ft³/s, at Riverside about 13 mi upstream. Other major floods occurred Oct. 31, 1901, Sept. 29, 30, 1904 and July 25, 1905.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 27	1000	*1,440	*17.94	No other peak greater than base discharge.			
No flow many days.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	9.0	17	41	32	32	16	.00	.02	.00	.00	90
2	40	10	17	41	32	32	16	.00	.26	.00	.00	130
3	35	8.0	18	39	e30	31	15	.00	.00	.00	.00	137
4	28	11	17	40	e28	37	16	.00	.00	.00	.00	85
5	22	14	18	40	e31	39	17	.00	.00	.00	.00	71
6	18	13	19	44	e35	38	16	.00	.00	.00	.00	102
7	17	15	20	40	e40	37	13	.00	.00	.00	.00	119
8	16	15	25	41	e44	35	8.7	.00	.00	.00	.00	102
9	16	16	34	42	e48	32	8.4	.00	.00	.00	.00	94
10	20	17	31	42	53	31	10	.00	.00	.00	.00	75
11	21	18	29	38	55	30	19	.00	.00	.00	.00	64
12	22	20	32	41	57	29	18	.00	.00	.00	.00	45
13	22	20	30	43	55	30	18	.00	.00	.00	.00	31
14	19	15	31	43	48	32	16	.00	.00	.00	.00	29
15	16	13	31	43	47	32	11	.00	.00	.00	.00	26
16	16	15	33	43	49	29	9.6	.00	.00	.00	.00	19
17	16	18	30	41	53	26	8.9	.00	.00	.00	.00	15
18	17	18	31	39	49	23	8.3	.00	.00	.00	.00	8.9
19	16	18	36	38	45	22	7.9	.00	.00	.00	.00	5.2
20	17	24	107	38	44	21	6.6	.00	.00	.00	.00	75
21	20	25	67	36	45	26	5.9	.00	.00	.00	.00	36
22	21	22	52	36	46	28	5.8	.00	.00	.00	.00	28
23	22	20	48	35	42	27	5.9	.00	.00	.00	.00	27
24	23	21	44	31	40	23	6.1	.00	.00	.00	.00	23
25	20	19	41	25	39	24	6.2	.00	.00	.00	.00	22
26	17	20	44	21	33	25	4.1	.00	.00	.00	.00	17
27	18	22	44	26	29	23	.02	.00	.00	.00	173	13
28	13	20	41	30	29	23	.00	.00	.00	.00	95	9.8
29	7.8	14	41	31	---	22	.00	.00	.00	.00	89	9.8
30	7.1	20	41	27	---	18	.00	.00	.00	.00	70	8.5
31	8.8	---	41	25	---	17	---	.00	---	.00	108	---
TOTAL	613.7	510.0	1110	1140	1178	874	293.42	0.00	0.28	0.00	535.00	1517.2
MEAN	19.8	17.0	35.8	36.8	42.1	28.2	9.78	.00	.009	.00	17.3	50.6
MAX	42	25	107	44	57	39	19	.00	.26	.00	173	137
MIN	7.1	8.0	17	21	28	17	.00	.00	.00	.00	.00	5.2
AC-FT	1220	1010	2200	2260	2340	1730	582	.0	.6	.0	1060	3010

CAL YR 1988 TOTAL 15082.12 MEAN 41.2 MAX 432 MIN .00 AC-FT 29920
WTR YR 1989 TOTAL 7771.60 MEAN 21.3 MAX 173 MIN .00 AC-FT 15410

e Estimated

RIO GRANDE BASIN

08390600 TWO RIVERS RESERVOIR NEAR ROSWELL, NM

LOCATION.--08390610 Rio Hondo Reservoir: Lat 33°17'55", long 104°43'20", in SW¼SE¼NE¼ sec.4, T.12 S., R.22 E., Chaves County, Hydrologic Unit 13060008, near center of Diamond A Dam on Rio Hondo, 13 mi southwest of Roswell at mile 33.4.

08390620 Rocky Arroyo Reservoir: Lat 33°16'20", long 104°43'20", in NW¼SE¼NE¼ sec.16, T.12 S., R.22 E., at left end of Rocky Dam on Rocky Arroyo, and 14 mi southwest of Roswell.

DRAINAGE AREA.--1,027 mi²; Rio Hondo, 963 mi²; Rocky Arroyo, 64 mi².

PERIOD OF RECORD.--July 1963 to current year (prior to October 1965 month end contents only). Prior to October 1966 contents at 0800 hours.

GAGE.--Water-stage recorder. Elevation of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Two Rivers Reservoir, completed July 16, 1963, is formed by earthfill dams, on Rio Hondo, which forms Rio Hondo Reservoir, and on Rocky Arroyo, which forms Rocky Arroyo Reservoir. Above elevation 3,980.0 ft, the pools of the two reservoirs combine to form Two Rivers Reservoir with a total capacity of 166,200 acre-ft, at elevation 4,032.0 ft, crest of ungated spillway. Capacity of Rio Hondo Reservoir, 181 acre-ft, from capacity table dated August 1971, between elevations 3,957.0 ft, sill of outlet gate, and 3,980.0. Capacity of Rocky Arroyo Reservoir, 13,410 acre-ft, from capacity table dated August 1971, between elevations 3,945.0, sill of outlet gate, and 3,980.0 ft. No dead storage in Rio Hondo Reservoir or Rocky Arroyo Reservoir. Primary objective of project is flood control. Outlet conduits in Rocky Dam have fixed openings. Figures given herein represent total contents at 2400 hours from new capacity table put into use Jan. 1, 1972. U. S. Army Corps of Engineers satellite telemeters at stations.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Rio Hondo Reservoir: Maximum contents, 1,260 acre-ft, July 29, 1965, elevation, 3,985.7 ft; no storage most of time.

Rocky Arroyo Reservoir: Maximum contents, 6,090 acre-ft, June 18, 1965, elevation, 3,970.7 ft; no storage most of time.

EXTREMES FOR CURRENT YEAR.--No contents at 2400 hours all year.

CONTENTS, IN ACRE-FEET, AND ELEVATION, IN FEET, WATER YEAR, OCTOBER 1988 TO SEPTEMBER 1989.

Note: No contents at 2400 hours either reservoir, each day, all year.

08390800 RIO HONDO BELOW DIAMOND A DAM, NEAR ROSWELL, NM

LOCATION.--Lat 33°18'05", long 104°43'12", in NE¼SE¼NE¼ sec.4, T.12 S., R.22 E., Chaves County, Hydrologic Unit 13060008, on left bank, 500 ft downstream from outlet conduit of Diamond A Dam (Two Rivers Reservoir), 13 mi southwest of Roswell, and at mile 33.3.

DRAINAGE AREA.--963 mi², contributing area.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,949.68 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions and ground-water withdrawals for irrigation of about 6,500 acres, 1959 determination, upstream from station. This record represents the outflow from Two Rivers Reservoir through Diamond A Dam 0.1 mi upstream; flow from reservoir can also be discharged into Rocky Arroyo through Rocky Dam (see REMARKS for station 08390600). Several observations of water temperatures were made during the year. U. S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--26 years, 15.8 ft³/s, 11,450 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 659 ft³/s, July 29, 1965, gage height, 4.91 ft; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 107 ft³/s, Sept. 3; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	3.6	6.8	36	26	26	6.3	.00	.00	.00	.00	73
2	23	5.0	6.9	36	26	22	10	.00	.00	.00	.00	90
3	15	3.2	7.5	34	24	22	8.6	.00	.00	.00	.00	107
4	12	3.8	5.8	33	23	31	5.5	.00	.00	.00	.00	70
5	8.3	8.0	3.9	32	25	33	6.2	.00	.00	.00	.00	55
6	3.9	5.9	6.4	35	e27	31	5.7	.00	.00	.00	.00	68
7	1.7	7.5	9.8	33	e30	30	2.1	.00	.00	.00	.00	88
8	.85	8.3	17	33	e35	26	.45	.00	.00	.00	.00	79
9	.31	7.3	30	35	39	21	.00	.00	.00	.00	.00	74
10	4.1	7.9	31	34	45	19	.00	.00	.00	.00	.00	63
11	6.1	10	27	34	47	15	4.0	.00	.00	.00	.00	57
12	6.4	12	32	35	49	15	3.5	.00	.00	.00	.00	52
13	8.2	14	28	37	50	14	3.1	.00	.00	.00	.00	e29
14	12	10	29	37	44	15	7.9	.00	.00	.00	.00	e26
15	7.8	3.6	27	37	43	15	.37	.00	.00	.00	.00	e22
16	5.7	4.9	32	35	45	15	.00	.00	.00	.00	.00	e14
17	6.9	11	27	34	51	9.9	.00	.00	.00	.00	.00	e12
18	6.7	9.2	28	33	49	4.7	.00	.00	.00	.00	.00	e8.4
19	6.7	10	30	33	45	3.5	.00	.00	.00	.00	.00	e4.4
20	2.5	15	65	32	41	3.6	.00	.00	.00	.00	.00	e50
21	5.9	19	53	31	40	9.4	.00	.00	.00	.00	.00	e35
22	10	18	45	30	41	15	.00	.00	.00	.00	.00	e25
23	13	16	42	30	37	8.7	.00	.00	.00	.00	.00	e21
24	12	15	41	28	34	5.5	.00	.00	.00	.00	.00	e18
25	12	13	37	23	34	4.9	.00	.00	.00	.00	.00	e10
26	5.1	11	38	17	29	4.8	.00	.00	.00	.00	.00	e3.0
27	9.2	17	38	22	25	5.5	.00	.00	.00	.00	92	.19
28	9.2	16	38	26	25	5.6	.00	.00	.00	.00	82	.00
29	6.6	3.2	37	27	---	4.3	.00	.00	.00	.00	78	.00
30	3.7	5.9	37	26	---	2.0	.00	.00	.00	.12	58	.00
31	4.8	---	36	19	---	4.3	---	.00	---	.00	76	---
TOTAL	251.66	294.3	892.1	967	1029	441.7	63.72	0.00	0.00	0.12	386.00	1153.99
MEAN	8.12	9.81	28.8	31.2	36.7	14.2	2.12	.00	.00	.004	12.5	38.5
MAX	23	19	65	37	51	33	10	.00	.00	.12	92	107
MIN	.31	3.2	3.9	17	23	2.0	.00	.00	.00	.00	.00	.00
AC-FT	499	584	1770	1920	2040	876	126	.0	.0	.2	766	2290

CAL YR 1988 TOTAL 10884.79 MEAN 29.7 MAX 402 MIN .00 AC-FT 21590
WTR YR 1989 TOTAL 5479.59 MEAN 15.0 MAX 107 MIN .00 AC-FT 10870

e Estimated

08393500 RIO HONDO AT ROSWELL, NM

LOCATION.--Lat 33°22'19", long 104°32'42", in NE¼SE¼ sec.7, T.11 S., R.24 E., Chaves County, Hydrologic Unit 13060008, on left bank, 0.3 mi upstream from bridge on Sunset Ave. in Roswell, 6.3 mi downstream from Rocky Arroyo and 11.7 mi upstream from mouth. Mouth at Pecos River mile 566.0.

DRAINAGE AREA.--1,070 mi², approximately, contributing area.

PERIOD OF RECORD.--February 1981 to current year. Records for June 1903 to February 1906, published in WSP 358, are unreliable and should not be used.

GAGE.--Water-stage recorder. Elevation of gage is 3,620 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Flow regulated by Two Rivers Reservoir (station 08390600) 21.7 mi upstream. Diversions and ground-water withdrawals for irrigation upstream from station. Several observations of water temperatures were made during the year. U. S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--8 years, 25.6 ft³/s, 18,550 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 373 ft³/s, Dec. 23, 1984, gage height, 6.73 ft, from rating curve extended above 360 ft³/s; maximum gage height, 7.5 ft, May 3, 1981, from floodmarks; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 201 ft³/s, Aug. 27, gage height, 4.62 ft; no flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	.00	e.00	29	16	17	.00	.00	.00	.00	.00	65
2	5.1	.00	e.00	27	16	12	.00	.00	.00	.00	.00	70
3	1.3	.00	e.00	24	14	12	.00	.00	.00	.00	.00	91
4	.10	.00	e.00	23	15	18	.00	.00	.00	.00	.00	67
5	.00	.00	e.00	21	16	24	.00	.00	.00	.00	.00	48
6	.00	.00	e.00	24	e17	21	.00	.00	.00	.00	.00	53
7	.00	.00	.00	24	e19	19	.00	.00	.00	.00	.00	73
8	.00	.00	.00	23	e22	15	.00	.00	.00	.00	.00	70
9	.00	.00	5.0	26	e27	12	.00	.00	.00	.00	.00	66
10	.00	.00	12	25	37	8.9	.00	.00	.00	.00	.00	53
11	.00	.00	8.7	25	33	5.0	.00	.00	.00	.00	.00	43
12	.00	.00	13	22	32	3.0	.00	.00	.00	.00	.00	36
13	.00	.11	12	26	31	2.7	.00	.00	.00	.00	.00	26
14	.00	.04	13	28	27	4.3	.00	.00	.00	.00	.00	23
15	.00	.00	11	30	28	3.9	.00	.00	.00	.00	.00	21
16	.00	.00	15	29	28	4.7	.00	.00	.00	.00	.00	12
17	.00	.00	14	27	32	2.3	.00	.00	.00	.00	.00	12
18	.00	.00	14	26	32	.16	.00	.00	.00	.00	.00	6.1
19	.00	.00	16	24	27	.00	.00	.00	.00	.00	.00	.36
20	.00	.06	45	24	26	.00	.00	.00	.00	.00	.00	16
21	.00	2.6	48	23	27	.05	.00	.00	.00	.00	.00	23
22	.00	3.3	40	25	28	9.9	.00	.00	.00	.00	.00	16
23	.00	1.5	31	24	26	.65	.00	.00	.00	.00	.00	12
24	.00	1.4	31	21	23	.01	.00	.00	.00	.00	.00	3.5
25	.31	1.3	29	16	23	.00	.00	.00	.00	.00	.00	3.8
26	.01	.22	28	8.6	23	.00	.00	.00	.00	.00	.00	.42
27	.00	.63	28	8.5	16	.00	.00	.00	.00	.00	32	.00
28	.00	2.2	29	16	15	.00	.00	.00	.00	.00	79	.00
29	.00	.54	25	20	---	.00	.00	.00	.00	.00	67	.00
30	.00	e.00	27	20	---	.00	.00	.00	.00	.00	59	.00
31	.00	---	24	12	---	.00	---	.00	---	.00	70	---
TOTAL	14.52	13.90	518.70	701.1	676	195.57	0.00	0.00	0.00	0.00	307.00	910.18
MEAN	.47	.46	16.7	22.6	24.1	6.31	.00	.00	.00	.00	9.90	30.3
MAX	7.7	3.3	48	30	37	24	.00	.00	.00	.00	79	91
MIN	.00	.00	.00	8.5	14	.00	.00	.00	.00	.00	.00	.00
AC-FT	29	28	1030	1390	1340	388	.0	.0	.0	.0	609	1810

CAL YR 1988 TOTAL 6974.15 MEAN 19.1 MAX 247 MIN .00 AC-FT 13830
WTR YR 1989 TOTAL 3336.97 MEAN 9.14 MAX 91 MIN .00 AC-FT 6620

08394100 PECOS RIVER NEAR HAGERMAN, NM

LOCATION.--Lat 33°10'08", long 104°18'24", in SE¼SW¼SE¼ sec.23, T.13 S., R.26 E., Chaves County, Hydrologic Unit 13060007, on left bank 3.4 mi upstream from Rio Felix, 4.9 mi north of Hagerman, and at mile 544.6.

DRAINAGE AREA.--13,630 mi², approximately (contributing area).

PERIOD OF RECORD.--February 1968 to current year (operated as a low-flow station only).

GAGE.--Water-stage recorder. Elevation of gage is 3,390 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Flow regulated by Lake Sumner (station 08384000) 157 mi upstream and by Two Rivers Reservoir (station 08390600) 55 mi upstream. Diversions and ground-water withdrawals for irrigation of about 80,000 acres upstream from station. Several observations of water temperatures were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge determined, 3,700 ft³/s, Sept. 11, 1969; no flow at times in 1971, 1974, 1976, 1977, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge greater than 1,200 ft³/s, May 13, 14; no flow part of each day Aug. 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	955	65	40	45	58	59	32	787	476	87	6.1	133
2	944	67	40	47	59	60	31	798	526	58	5.5	105
3	533	74	41	49	62	57	31	791	595	36	7.5	90
4	265	85	42	50	59	54	29	799	549	104	6.1	163
5	240	85	42	52	54	59	27	824	556	64	4.4	111
6	200	76	43	53	53	64	26	829	500	41	5.0	63
7	169	63	44	52	58	45	24	822	498	28	5.8	50
8	145	57	48	49	82	61	23	820	490	18	23	58
9	145	54	53	47	94	55	23	836	415	14	11	52
10	174	51	56	44	109	46	24	860	269	14	6.7	47
11	178	49	63	45	140	45	25	856	232	12	5.8	43
12	155	47	69	44	186	44	25	924	170	10	4.0	50
13	144	46	68	45	185	43	177	a---	139	9.6	5.2	163
14	139	45	70	45	165	40	586	a---	118	9.2	4.7	217
15	135	43	67	45	138	38	619	883	99	7.4	3.6	158
16	119	43	62	45	126	36	650	933	86	9.7	3.5	166
17	103	42	59	47	126	34	668	937	77	7.8	2.8	129
18	102	42	56	46	126	32	662	978	62	4.4	2.2	93
19	100	42	56	44	121	31	665	926	55	4.0	.05	66
20	89	41	53	44	109	31	667	884	49	4.9	11	70
21	88	43	58	44	99	33	687	856	45	4.0	7.9	73
22	89	45	75	46	92	34	725	852	43	12	3.8	64
23	78	45	69	47	89	34	754	873	47	26	4.6	59
24	85	46	62	49	85	34	743	842	45	19	11	53
25	97	46	59	48	77	32	730	810	42	12	11	50
26	93	45	59	46	74	30	764	566	42	11	8.9	40
27	93	42	55	46	69	30	758	497	35	11	16	36
28	92	41	51	49	62	31	780	499	32	6.2	62	40
29	85	40	48	51	---	31	761	510	25	7.0	124	36
30	82	40	46	53	---	32	762	480	41	9.0	199	35
31	73	---	46	56	---	32	---	475	---	7.3	142	---
TOTAL	5989	1550	1700	1473	2757	1287	12478	---	6358	667.5	714.15	2513
MEAN	193	51.7	54.8	47.5	98.5	41.5	416	---	212	21.5	23.0	83.8
MAX	955	85	75	56	186	64	780	---	595	104	199	217
MIN	73	40	40	44	53	30	23	---	25	4.0	.05	35
AC-FT	11880	3070	3370	2920	5470	2550	24750	---	12610	1320	1420	4980

a Discharge greater than 1,200 ft³/s.

08395500 PECOS RIVER NEAR LAKE ARTHUR, NM

LOCATION.--Lat 32°59'18", long 104°19'20", in SW¼NE¼ sec.27, T.15 S., R.26 E., Chaves County, Hydrologic Unit 13060007, on left bank 400 ft upstream from bridge on Yuma Road, 2.5 mi east of Lake Arthur, 7 mi upstream from Cottonwood Creek, 11 mi northeast of Artesia, and at mile 522.0.

DRAINAGE AREA.--14,760 mi², approximately (contributing area).

PERIOD OF RECORD.--August 1938 to current year.

GAGE.--Water-stage recorder and rock control. Elevation of gage is 3,327.07 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Lake Sumner (station 08384000) 180 mi upstream since August 1937, and by Two Rivers Reservoir (station 08390600) 77 mi upstream since July 1963. Diversions and ground-water withdrawals for irrigation of about 124,000 acres, 1959 determination, upstream from station. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--51 years, 226 ft³/s, 163,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft³/s, Sept. 24, 1941, gage height, 21.90 ft, from rating curve extended above 16,100 ft³/s on basis of slope-area measurement at gage height 21.77 ft; no flow at times in 1947, 1953-4, 1962, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 30, 1937, reached a stage of 21.77 ft, discharge, 51,500 ft³/s on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,520 ft³/s, May 14, gage height, 5.73 ft; minimum recorded, 6.3 ft³/s, part of each day Aug. 13, 14, but may have been less during period of no gage-height record Aug. 3-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	803	76	50	53	66	70	31	754	448	26	9.8	135
2	818	73	50	52	65	75	39	768	455	67	7.2	127
3	614	73	50	54	64	70	40	761	492	34	e5.4	88
4	392	85	50	54	67	70	33	764	501	27	e5.6	111
5	e240	87	50	51	66	70	25	763	466	81	e5.4	155
6	e190	88	49	54	62	70	25	759	437	40	e5.2	91
7	e155	82	48	55	62	67	23	770	441	18	9.2	49
8	e140	64	57	52	74	54	27	772	453	9.5	e7.8	27
9	e128	56	59	52	92	63	26	765	448	7.3	e6.8	41
10	e130	52	64	50	100	57	33	779	316	7.0	e5.8	32
11	e139	54	69	48	108	51	29	779	e181	7.2	e5.2	30
12	e138	53	72	48	132	52	30	825	e140	7.4	e5.2	24
13	e129	52	77	47	174	52	30	1040	e96	7.3	e5.6	52
14	e122	51	75	49	162	47	442	1230	e78	7.3	7.4	259
15	e124	51	77	49	148	43	597	857	e67	7.4	7.9	189
16	e115	48	73	48	132	41	620	845	e58	e6.8	6.9	163
17	e102	49	67	43	136	42	647	846	e57	e6.2	6.6	162
18	e94	50	64	42	134	43	664	871	e54	e5.8	10	118
19	e89	50	63	49	135	43	679	881	e48	e7.2	8.9	83
20	e92	52	60	46	128	44	692	852	e43	e6.0	8.1	50
21	e89	52	59	48	111	42	707	841	e38	e5.2	8.1	53
22	e86	52	66	52	104	43	727	817	e35	e6.8	8.9	57
23	e92	54	81	56	107	44	748	817	e40	13	7.4	54
24	e94	54	73	56	108	36	744	803	41	34	7.3	48
25	95	54	66	57	105	38	729	778	41	17	8.0	45
26	90	54	65	55	97	34	736	622	38	13	7.6	35
27	86	53	62	53	97	33	738	463	32	7.7	8.1	32
28	89	52	59	53	84	30	743	456	24	7.8	20	26
29	97	50	57	55	---	34	744	462	22	8.1	68	25
30	96	49	54	58	---	32	756	462	19	9.2	160	23
31	92	---	53	64	---	31	---	448	---	14	159	---
TOTAL	5760	1770	1919	1603	2920	1521	12104	23650	5609	521.2	602.4	2384
MEAN	186	59.0	61.9	51.7	104	49.1	403	763	187	16.8	19.4	79.5
MAX	818	88	81	64	174	75	756	1230	501	81	160	259
MIN	86	48	48	42	62	30	23	448	19	5.2	5.2	23
AC-FT	11420	3510	3810	3180	5790	3020	24010	46910	11130	1030	1190	4730

CAL YR 1988 TOTAL 74920.3 MEAN 205 MAX 1230 MIN 6.8 AC-FT 148600
WTR YR 1989 TOTAL 60363.6 MEAN 165 MAX 1230 MIN 5.2 AC-FT 119700

e Estimated

08396500 PECOS RIVER NEAR ARTESIA, NM
(Surveillance program station)

LOCATION.--Lat 32°50'27", long 104°19'23", in NW¼NW¼ sec.18, T.17 S., R.27 E., Eddy County, Hydrologic Unit 13060007, on left bank 250 ft upstream from bridge on U.S. Highway 82; 4.3 mi east of Artesia, 7.0 mi upstream from Rio Penasco, 17 mi upstream from McMillan Dam, and at mile 503.9.

DRAINAGE AREA.--15,300 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1905 to June 1909, August 1909 to current year. Monthly discharge only for some periods, published in WSP 1312 and 1712. Records for Aug. 22-31, 1934, and October 1936 to April 1937, published in WSP 763 and 828, respectively are not reliable and should not be used. Prior to February 1936, published as "near Dayton."

REVISED RECORDS.--WSP 1312 and 1512: 1913, 1915, 1917-18(M), 1920, 1923, 1931-36. WSP 1712: 1906(M), 1908-11(M), 1919, 1921-23(M), 1929, 1931-32(M), 1935-36(M), 1937, 1939(M), 1941(M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Elevation of gage is 3,291.92 ft above National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation bench mark). See WSP 1923 or 2123 for history of changes prior to Apr. 5, 1941. Apr. 5, 1941 to Apr. 2, 1981, water-stage recorder at site 250 ft downstream at same datum.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Considerable flow regulation by Lake Sumner (station 08384000) since August 1937, and by Two Rivers Reservoir (station 08390600) since July 1963. Diversions and ground-water withdrawals for irrigation of about 154,000 acres, 1959 determination, upstream from station. Several observations of water temperatures were made during the year. U. S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--53 years (water years 1937-89), 240 ft³/s, 173,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge probably occurred May 30, 1937, when a discharge of 51,500 ft³/s was measured by slope-area method at a point 15 mi upstream, gage height, 14.7 ft, site and datum then in use; no flow at times in 1934, 1946-47, 1953-54, 1957, 1964-1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since at least 1893 occurred Oct. 2, 1904, discharge not determined; the peak inflow to Lake McMillan, which includes Rio Penasco and Fourmile Draw, was estimated at 82,000 ft³/s. The second highest flood occurred July 25, 1905, discharge downstream from Rio Penasco, 50,300 ft³/s, based on gain in storage and spill from Lake McMillan. The floods in August 1893 and October 1904 damaged McMillan Dam and washed out Avalon Dam.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 14	1130	*1,140	*8.51				
Minimum discharge, 4.6 ft ³ /s, part of each day Aug. 6, 7.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	745	98	57	52	e69	87	35	763	469	e16	9.7	125
2	805	87	57	52	70	81	36	766	472	e20	8.5	120
3	750	88	57	54	67	82	42	761	501	42	6.2	96
4	454	89	57	57	67	77	41	773	549	25	5.8	80
5	263	99	57	56	70	81	32	777	496	e32	5.9	138
6	210	100	56	54	70	83	28	792	483	46	5.5	114
7	178	99	55	55	66	90	28	797	460	28	11	72
8	154	86	57	e58	70	73	26	795	478	e14	8.5	50
9	140	76	61	e56	78	67	29	796	477	e8.9	7.4	39
10	141	70	63	e57	90	71	28	801	354	e8.6	6.3	48
11	153	68	66	e57	97	64	34	799	241	8.8	6.0	40
12	156	68	68	e55	110	59	30	828	174	8.9	5.6	39
13	141	68	73	e53	146	60	32	892	117	8.5	5.6	35
14	131	65	77	e53	159	57	216	1070	91	8.7	7.2	144
15	132	63	76	e54	147	52	524	840	73	8.2	7.7	185
16	130	62	75	e54	135	49	602	820	61	7.9	8.2	130
17	121	60	72	e56	130	46	630	822	60	7.3	6.8	131
18	103	63	72	e53	128	48	649	844	57	7.1	8.3	111
19	97	63	73	e50	129	48	674	842	52	6.3	11	81
20	99	62	66	e54	129	48	695	816	47	7.0	11	56
21	96	61	64	e52	116	48	704	810	39	6.0	10	39
22	93	61	62	e52	109	47	720	782	42	5.6	9.9	48
23	99	63	71	e60	105	48	738	793	38	6.7	11	49
24	99	64	78	e62	108	45	742	780	33	10	10	46
25	92	64	71	e64	109	40	736	751	32	22	8.9	44
26	100	64	66	e62	104	41	741	682	33	14	10	39
27	99	62	64	e62	100	39	744	539	29	11	11	34
28	97	61	61	e62	95	37	736	499	26	8.8	21	30
29	103	59	58	e61	---	36	752	498	22	7.3	27	28
30	106	58	55	e65	---	37	764	502	24	7.2	97	25
31	103	---	53	e68	---	35	---	478	---	7.3	157	---
TOTAL	6190	2151	1998	1760	2873	1776	11788	23508	6030	425.1	525.0	2216
MEAN	200	71.7	64.5	56.8	103	57.3	393	758	201	13.7	16.9	73.9
MAX	805	100	78	68	159	90	764	1070	549	46	157	185
MIN	92	58	53	50	66	35	26	478	22	5.6	5.5	25
AC-FT	12280	4270	3960	3490	5700	3520	23380	46630	11960	843	1040	4400
CAL YR 1988	TOTAL	76845	MEAN	210	MAX	1040	MIN	18	AC-FT	152400		
WTR YR 1989	TOTAL	61240.1	MEAN	168	MAX	1070	MIN	5.5	AC-FT	121500		
e Estimated												

08396500 PECOS RIVER NEAR ARTESIA, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1937 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1937 to current year.

WATER TEMPERATURE: April 1949 to current year.

SUSPENDED-SEDIMENT DISCHARGE: January 1949 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 28,800 microsiemens, June 24, 1977; minimum daily, 111 microsiemens, Aug. 31, 1982.

WATER TEMPERATURE: Maximum daily, 36.0°C, July 27, 1966, July 25, 1969; minimum daily, 0.0°C on many days during winter months of most years.

SEDIMENT CONCENTRATION: Maximum daily mean, 21,300 mg/L, Aug. 1, 1962; minimum daily mean, 0 mg/L on several days in 1982, 1984, and 1986.

SEDIMENT LOAD: Maximum daily, 183,000 tons, Sept. 26, 1955; minimum daily, 0 ton on many days during 1953-54, 1957, 1964, 1982, 1984.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 21,300 microsiemens, Aug. 17; minimum daily, 339 microsiemens, May 1.

WATER TEMPERATURE: Maximum daily, 34.0°C, July 13; minimum daily, 1.0°C, Dec. 6, Feb. 4.

SEDIMENT CONCENTRATION: Maximum daily mean, 5,030 mg/L, Sept. 17; minimum daily mean, 133 mg/L, Oct. 19.

SEDIMENT LOAD: Maximum daily, 7,910 tons, Oct. 2; minimum daily, 4.4 tons, July 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)
OCT 26...	1545	99	--	5160	8.26	7.40	29.0	19.0	10.9	25
MAR 02...	1130	79	7250	7770	8.23	7.90	15.0	11.0	11.7	38
MAY 08...	1300	799	1390	1460	7.86	8.00	39.5	19.5	9.4	16
SEP 05...	1315	156	3890	4040	7.81	7.50	31.0	26.5	7.1	72

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
OCT 26...	1500	1400	390	120	570	7	5.7	140	0	115
MAR 02...	2000	1800	490	180	1000	10	7.4	187	0	153
MAY 08...	630	530	200	32	81	1	2.6	129	0	106
SEP 05...	1400	1200	390	97	410	5	5.7	137	0	112

DATE	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
OCT 26...	112	1400	960	0.60	<0.50	3520	0.400	0.410	0.190
MAR 02...	138	1700	1800	0.80	9.2	5270	0.400	0.380	0.160
MAY 08...	100	550	110	0.50	8.4	1050	<0.100	1.40	0.080
SEP 05...	128	1200	660	0.70	13	2860	0.400	0.470	0.100

08396500 PECOS RIVER NEAR ARTESIA, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTH- DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER (31673)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT 26...	0.61	1.2	0.090	0.010	3.6	K3	23	320	20
MAR 02...	0.54	1.1	0.040	<0.010	2.9	K1	K21	400	40
MAY 08...	0.32	--	0.070	<0.010	9.5	K180	K110	80	5
SEP 05...	2.1	2.6	0.570	<0.010	13	K22	350	240	180

DATE	TIME	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
OCT 26...	1545	2	2	<1	<1	2	2	5	2	<5
SEP 05...	1315	2	1	<1	<1	22	4	15	1	7

DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)
OCT 26...	<5	0.30	0.5	2	1	20	<10	<2.0	2.3	<40
SEP 05...	<1	<0.10	<0.1	2	<1	90	10	--	--	--

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)
OCT 26...	2	1	1	<50	3	1600	<100	140	<0.01	<10

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 26...	1545	99	--	19.0	292	78	70
MAR 02...	1130	79	7250	11.0	148	32	71
MAY 08...	1300	799	1390	19.5	1550	3340	61
SEP 05...	1315	156	3890	26.5	1160	489	90

RIO GRANDE BASIN

08396500 PECOS RIVER NEAR ARTESIA, NM -- Continued

WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300	5610	8470	8990	10200	8070	10300	339	---	8900	19400	3480
2	1230	5930	8770	9220	9670	8010	10400	1640	1420	7780	17300	3040
3	1170	6060	8980	9200	9530	8350	10300	1470	1420	8060	16000	2680
4	1620	6230	8990	9360	9170	8610	10300	1460	1460	7590	16500	3310
5	1760	6100	9010	9340	9220	8490	10300	1360	1510	8520	18000	3160
6	2090	5800	8990	9310	9220	8650	10300	1360	1500	9300	18900	2960
7	2310	5710	8950	9200	9100	8600	10500	1450	1520	---	15500	2920
8	2790	5500	8980	9130	9230	8160	10400	1400	1600	7450	12400	3580
9	3020	6190	8810	9320	8960	9060	10500	1390	1730	7360	16100	4670
10	3350	6900	8920	9280	8100	9900	10500	1320	2190	9570	19400	5690
11	3390	7140	8490	9480	8210	9620	10400	1320	2200	9800	20900	5270
12	753	7300	8420	9780	7820	9720	10400	1340	2210	17100	19200	5860
13	1560	7370	8580	9750	7220	9980	10500	1310	2540	16800	18100	6170
14	3380	7480	8750	9900	6230	10200	10400	1400	2990	16500	18100	4260
15	3410	7620	8740	9830	5640	10200	4500	---	3420	16700	20800	3820
16	3560	7500	7990	9700	5530	10200	3490	1430	4320	17400	19600	2400
17	3710	8180	7970	9580	5740	10300	3280	1360	4770	17200	21300	2980
18	4010	8280	8130	9660	6230	10300	3200	1230	5220	17800	20000	2430
19	4360	8330	8420	9940	6490	10300	3140	1320	5470	18100	15400	3450
20	4510	8390	8570	9580	6640	10300	3100	1260	6000	18900	16100	3640
21	4690	8480	8710	9680	6970	10300	3080	1230	6320	19600	15400	4480
22	4940	8520	8700	9710	7420	10300	2990	1270	6540	19600	17100	5040
23	4830	8620	8810	9700	7410	10300	2710	1200	6960	19900	17200	5170
24	4780	8530	8870	9670	7420	10200	2560	1210	6740	18200	17900	5270
25	4960	8580	8690	9530	7460	10300	---	1160	7750	---	17800	5400
26	5490	8470	8810	9340	7420	10300	2360	1170	7730	13000	17200	5700
27	5110	8570	8420	9160	7630	10300	2390	1460	7660	13900	16500	6640
28	5190	8570	8590	9100	7830	10400	2310	1420	8230	14100	11600	7010
29	5060	8550	8670	9380	---	10300	2150	1400	8310	14100	12100	7120
30	5120	8630	8750	9600	---	10400	1940	1430	8380	13300	8420	7860
31	5500	---	8890	9520	---	10400	---	1410	---	---	---	---
MEAN	3510	7440	8670	9480	7780	9690	6510	1320	4420	13800	17000	4520
WTR YR 1989		MEAN 7830	MAX 21300	MIN 339								

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	18.0	5.0	3.0	11.0	12.0	16.0	17.5	---	24.0	24.0	25.0
2	18.0	14.0	9.0	5.0	14.0	14.0	15.5	17.0	25.0	25.0	28.0	31.0
3	19.5	19.0	5.0	5.0	8.5	14.0	23.5	20.0	24.0	32.0	28.0	25.0
4	20.0	18.0	11.0	7.0	1.0	9.0	23.0	22.0	22.0	16.0	31.0	29.0
5	17.0	13.0	6.0	8.5	1.5	7.0	16.5	21.5	22.0	25.0	23.0	28.0
6	18.0	11.0	1.0	6.0	2.0	12.0	15.0	22.0	26.0	30.0	32.0	24.0
7	18.0	17.0	10.0	9.0	4.0	13.0	15.5	19.5	24.5	---	25.0	24.0
8	21.0	15.0	8.0	7.0	3.0	13.5	23.0	23.5	24.5	25.0	25.0	25.0
9	19.0	17.0	5.0	5.0	6.0	19.0	14.5	21.5	22.0	22.5	20.0	28.5
10	18.0	18.0	5.5	5.0	11.0	13.5	11.0	21.0	22.0	22.0	20.0	22.0
11	19.0	15.0	5.0	10.0	12.0	14.0	13.0	21.0	25.0	29.5	32.0	20.0
12	15.5	12.0	5.0	4.0	13.0	18.0	21.0	20.5	27.0	29.0	25.0	28.0
13	21.0	16.5	5.5	5.0	10.0	15.0	14.0	21.5	23.0	34.0	25.0	20.0
14	16.0	16.0	9.0	7.0	10.0	19.0	15.0	19.0	20.0	24.0	22.0	21.0
15	21.0	12.0	6.0	2.5	11.0	14.0	15.6	21.0	21.0	27.0	33.0	18.0
16	22.0	13.5	4.0	7.0	10.0	18.5	18.0	20.5	29.0	31.0	23.0	18.0
17	18.0	17.0	5.0	2.0	8.0	20.0	17.5	19.0	27.0	24.0	23.0	23.5
18	21.0	9.0	7.5	4.0	12.5	20.0	21.0	22.0	25.5	30.0	23.5	20.0
19	21.0	10.0	6.0	9.0	13.0	13.0	22.0	20.5	32.0	31.0	31.0	25.0
20	17.0	6.0	8.0	3.0	9.0	11.0	21.5	24.0	30.0	27.0	25.0	21.0
21	17.0	11.0	5.0	7.0	10.0	15.0	20.0	23.0	27.0	33.0	25.0	28.0
22	16.5	6.0	7.5	10.0	9.5	17.5	22.0	22.0	21.0	33.0	31.0	21.5
23	20.0	5.0	10.0	7.5	10.0	12.0	21.0	23.0	24.0	26.0	27.0	22.0
24	15.0	8.5	9.0	8.0	5.0	12.0	19.0	25.0	27.0	23.0	30.0	22.0
25	19.0	11.5	5.0	9.0	12.0	19.5	20.0	25.0	30.5	---	28.0	18.0
26	15.0	9.0	9.0	9.0	13.0	16.5	20.0	23.0	24.0	25.0	27.5	18.5
27	15.0	12.0	8.0	8.0	13.5	15.0	18.0	21.5	32.0	22.5	31.0	15.0
28	15.0	7.0	3.5	7.5	12.0	19.0	17.0	25.0	29.0	27.0	28.0	15.0
29	14.0	4.5	5.5	7.0	---	24.0	17.0	25.0	23.0	22.0	25.0	25.0
30	15.5	5.0	2.0	7.5	---	21.0	18.5	25.0	31.0	23.0	23.5	16.0
31	14.5	---	4.0	9.0	---	20.0	---	25.0	---	---	---	---
MEAN	18.0	12.2	6.3	6.6	9.1	15.5	18.2	21.8	25.5	26.5	26.5	22.6
WTR YR 1989		MEAN 17.3	MAX 34.0	MIN 1.0								

MEAN CONCENTRATION (MG/L)	MEAN LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	MEAN LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	MEAN LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	MEAN LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	MEAN LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	MEAN LOADS (T/DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
2200	4430	182	48	392	60	624	88	463	86	298	70
3640	7910	239	56	482	74	492	69	436	82	273	60
1960	3970	202	48	414	64	410	60	355	64	261	58
883	1080	191	46	600	92	373	57	320	58	243	51
648	460	245	65	422	65	560	85	256	48	192	42
545	309	122	33	375	57	713	104	252	48	186	42
380	183	169	45	381	57	578	86	293	52	239	58
320	133	211	49	416	64	385	60	537	101	188	37
327	124	303	62	367	60	434	66	580	122	206	37
256	97	220	42	251	43	401	62	514	125	210	40
276	114	244	45	400	71	348	54	363	95	236	41
244	103	305	56	425	78	263	39	378	112	207	33
172	65	259	48	448	88	394	56	407	160	329	53
182	64	268	47	414	86	310	44	371	159	510	78
253	90	339	58	347	71	482	70	441	175	651	91
257	90	220	37	371	75	412	60	446	163	693	92
217	71	405	66	257	50	350	53	208	73	670	83
158	44	358	61	370	72	442	63	219	76	484	63
133	35	292	50	249	49	480	65	270	94	408	53
199	53	347	58	349	62	358	52	193	67	319	41
240	62	443	73	311	54	469	66	285	89	496	64
246	62	272	45	301	50	434	61	272	80	392	50
241	64	294	50	391	75	428	69	281	80	346	45
137	37	217	37	401	84	323	54	283	83	318	39
170	42	164	28	557	107	361	62	370	109	331	36
278	75	323	56	482	86	428	72	203	57	399	44
236	63	233	39	290	50	281	47	270	73	284	30
171	45	211	35	259	43	358	60	289	74	219	22
171	48	367	58	392	61	278	46	---	---	209	20
213	61	402	63	303	45	232	41	---	---	327	33
193	54	---	---	610	87	301	55	---	---	303	29
---	20038	---	1504	---	2080	---	1926	---	2605	---	1535

DAY	MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	314	30	1620	3340	634	803	257	11	824	22	1800	607
2	253	25	1710	3540	714	910	290	16	922	21	1980	642
3	430	49	1760	3620	772	1040	250	28	582	9.7	469	122
4	406	45	1650	3440	836	1240	251	17	902	14	1030	222
5	417	36	1690	3550	893	1200	219	19	723	12	1230	458
6	619	47	3320	7100	815	1060	279	35	193	2.9	1440	443
7	533	40	1890	4070	925	1150	308	23	181	5.4	654	127
8	496	35	1770	3800	779	1010	299	11	521	12	265	36
9	516	40	1590	3420	2410	3100	182	4.4	553	11	273	29
10	753	57	1650	3570	954	912	338	7.8	625	11	203	26
11	479	44	1990	4290	703	457	620	15	569	9.2	285	31
12	426	35	1850	4140	512	241	574	14	375	5.7	335	35
13	566	49	1580	3810	536	169	523	12	606	9.2	1200	113
14	949	553	1260	3640	1040	256	418	9.8	959	19	3540	1380
15	2330	3300	1320	2990	1040	205	357	7.9	892	19	3920	1960
16	1800	2930	1730	3830	382	63	423	9.0	489	11	2620	920
17	1920	3270	1590	3530	205	33	554	11	489	9.0	5030	1780
18	1700	2980	1640	3740	223	34	777	15	1260	28	1460	438
19	1600	2910	1580	3590	221	31	712	12	1320	39	897	196
20	1350	2530	1420	3130	240	30	500	9.5	1110	33	809	122
21	1270	2410	1700	3720	279	29	422	6.8	489	13	512	54
22	1300	2530	1860	3930	228	26	484	7.3	374	10	234	30
23	1450	2890	1760	3770	179	18	695	13	682	20	434	57
24	1630	3270	1330	2800	271	24	701	19	734	20	339	42
25	1590	3160	1020	2070	407	35	765	45	969	23	279	33
26	1490	2980	969	1780	295	26	931	35	674	18	474	50
27	1560	3130	973	1420	211	17	795	24	347	10	375	34
28	1560	3100	887	1200	179	13	534	13	309	18	223	18
29	1520	3090	847	1140	223	13	636	13	413	30	349	26
30	1750	3610	831	1130	232	15	365	7.1	775	203	196	13
31	----	---	666	860	----	---	580	11	1380	585	----	----
TOTAL	----	49175	---	99960	----	14160	----	481.6	----	1253.1	----	10044
TOTAL LOAD FOR YEAR: 204761.7 TONS.												

08398500 RIO PENASCO AT DAYTON, NM

LOCATION.--Lat 32°44'36", long 104°24'49", in NE¼SE¼SE¼ sec.18, T.18 S., R.26 E., Eddy County, Hydrologic Unit 13060010, on left bank 1.2 mi upstream from U.S. Highway 285, 1.9 mi northwest of old Dayton railway station, 5.6 mi upstream from mouth, and 7.0 mi south of Artesia. Mouth at Pecos River mile 496.4.

DRAINAGE AREA.--1,060 mi², approximately.

PERIOD OF RECORD.--April 1951 to current year. Prior to October 1953, published as "near Dayton."

REVISED RECORDS.--WSP 1242: 1951(M). WSP 1512: 1956. WSP 1923: 1955.

GAGE.--Water-stage recorder and rock and concrete control. Elevation of gage is 3,385.19 ft above National Geodetic Vertical Datum of 1929. Prior to May 9, 1968, at site 2.4 mi downstream, at datum 44.30 ft lower. May 9, 1968 to June 12, 1975, at present site at datum 1.98 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions and ground-water withdrawals for irrigation of about 3,000 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years, 5.93 ft³/s, 4,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,800 ft³/s, Aug. 23, 1966, gage height, 16.4 ft, from floodmarks, present site and datum, from rating curve extended above 7,800 ft³/s on basis of slope-area measurements at gage heights 6.82 ft and 7.90 ft, at previous site and datum; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of about Sept. 22, 1941, reached a stage of about 9 ft, from floodmark, previous site and datum, discharge not determined. Peak discharge at discontinued station "near Dunkin" (station 08397600), about 60 mi upstream, was 70,000 ft³/s, determined in 1956, from rating curve extended above a slope-area measurement of 36,000 ft³/s, for peak of Oct. 6 or 7, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 28	0130	*1.0	*0.66				
No flow most of time.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.06	.00
19	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.04	.03
23	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.02	.02
24	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.03	.01
25	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.16	.00
29	.00	.00	e.00	.00	---	.00	.00	.00	.00	.00	.03	.00
30	.00	.00	e.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	e.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.11
MEAN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.011	.004
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.16	.03
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.7	.2

CAL YR 1988 TOTAL 57.55 MEAN .16 MAX 31 MIN .00 AC-FT 114
WTR YR 1989 TOTAL 0.45 MEAN .001 MAX .16 MIN .00 AC-FT .9

e Estimated

08399500 PECOS RIVER (KAISER CHANNEL) NEAR LAKEWOOD, NM

LOCATION.--Lat 32°41'22", long 104°17'53", in NW¼SE¼ sec.5, T.19 S., R.27 E., Eddy County, Hydrologic Unit 13060011, on left bank 3.0 mi upstream from high-water line of Lake McMillan, 6.0 mi northeast of Lakewood, 7.0 mi northeast of gates in McMillan Dam, 12 mi southeast of Artesia, and at mile 492.1.

PERIOD OF RECORD.--May 1950 to current year. Prior to October 1954, published as Kaiser Lake-McMillan Channel near Lakewood.

GAGE.--Water-stage recorder. Elevation of gage is 3,268.53 ft above National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation bench mark). Prior to Mar. 23, 1955, at site 3.0 mi downstream at datum 7.83 ft lower. Mar. 23, 1955 to Sept. 30, 1963, at present site at datum 2.00 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Considerable flow regulation by Lake Sumner (station 08384000) since August 1937, and by Two Rivers Reservoir (station 08390600) since July 1963. Diversions and ground-water withdrawals for irrigation of about 170,000 acres, 1959 determination, upstream from station. Above about 1,500 ft³/s, flow will begin bypassing station and depending on the magnitude and duration of flow, may reach Lake McMillan (station 08400500). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--39 years, 157 ft³/s, 113,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,920 ft³/s, July 12, 1960; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 1,120 ft³/s, May 14; no flow, Aug. 11-17, 19, 26, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	654	93	54	56	65	88	33	755	442	21	e7.0	134
2	790	81	53	54	67	78	33	755	438	13	e5.0	129
3	750	78	52	54	65	79	35	736	453	46	e3.0	114
4	380	78	52	55	64	76	38	738	496	32	e1.6	76
5	226	83	52	55	68	76	e33	735	470	18	.01	110
6	213	87	52	52	68	80	e26	756	468	61	.35	118
7	203	87	52	54	64	85	e26	764	437	36	1.5	81
8	174	83	52	55	66	81	e24	770	453	20	9.6	50
9	154	69	55	54	72	59	e27	755	456	14	3.6	32
10	144	62	59	54	87	69	e25	754	397	e8.0	1.4	35
11	159	58	62	52	94	65	32	754	291	e8.0	.00	32
12	157	60	62	49	103	58	29	771	e210	e8.0	.00	28
13	149	60	67	48	130	58	28	825	e130	e7.8	.00	24
14	136	59	74	48	154	57	120	1120	e98	e7.8	.00	92
15	134	57	73	50	146	52	456	839	e79	e7.6	.00	224
16	132	54	73	49	137	48	543	773	e62	e7.4	.00	155
17	129	54	72	50	129	46	593	777	e60	e6.6	.00	154
18	112	56	67	47	128	44	593	798	e58	e6.2	.01	140
19	101	57	64	44	126	45	613	822	e53	e5.6	.00	105
20	100	55	61	49	127	44	662	773	e47	e5.8	2.0	78
21	97	55	60	47	121	44	656	759	e38	e5.2	2.1	50
22	92	56	59	49	110	43	681	729	e40	e4.8	1.7	48
23	96	57	62	53	106	44	705	728	e34	e4.5	.83	55
24	96	57	75	57	106	43	732	723	e31	e8.0	.85	51
25	88	57	71	58	108	36	736	701	e32	e13	.92	47
26	91	57	66	56	105	37	722	636	33	e9.0	.00	43
27	92	58	64	57	98	34	722	479	33	e6.0	.00	35
28	89	58	62	57	95	33	715	446	27	e4.8	14	35
29	91	57	60	56	---	33	730	445	22	e4.5	13	27
30	97	55	59	58	---	33	730	459	23	e4.5	62	27
31	95	---	57	60	---	33	---	452	---	e4.6	158	---
TOTAL	6021	1938	1903	1637	2809	1701	11098	22327	5911	408.7	288.47	2329
MEAN	194	64.6	61.4	52.8	100	54.9	370	720	197	13.2	9.31	77.6
MAX	790	93	75	60	154	88	736	1120	496	61	158	224
MIN	88	54	52	44	64	33	24	445	22	4.5	.00	24
AC-FT	11940	3840	3770	3250	5570	3370	22010	44290	11720	811	572	4620

CAL YR 1988 TOTAL 72255.4 MEAN 197 MAX 1110 MIN 5.0 AC-FT 143300
WTR YR 1989 TOTAL 58371.17 MEAN 160 MAX 1120 MIN .00 AC-FT 115800

e Estimated

08400000 FOURMILE DRAW NEAR LAKEWOOD, NM

LOCATION.--Lat 32°40'20", long 104°22'07", in SW¼NW¼SE¼ sec.10, T.19 S., R.26 E., Eddy County, Hydrologic Unit 13060011, in left side of channel 360 ft downstream from ford on Lakewood-Dayton road, 1.9 mi downstream from U.S. Highway 285, 2.8 mi north of Lakewood, 3.8 mi upstream from mouth, and 11.5 mi south of Artesia. Mouth at Pecos River mile 490.6.

DRAINAGE AREA.--265 mi², approximately.

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WDR NM-68-1: 1967.

GAGE.--Water-stage recorder. Elevation of gage is 3,299.14 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1951 to June 19, 1962, at site 1.8 mi upstream at datum 30.61 ft higher. June 19, 1962 to Oct. 12, 1966, at site 410 ft upstream at datum 6.08 ft higher.

REMARKS.--Records excellent. No surface diversions upstream from station.

AVERAGE DISCHARGE.--38 years, 4.21 ft³/s, 3,050 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,300 ft³/s, Aug. 23, 1966, gage height, 19.9 ft, from floodmarks, present datum, from rating curve extended above 5,000 ft³/s on basis of slope-area measurement of peak flow; no flow most of time.
The flood of Aug. 23, 1966 (information from local resident), is believed to be the greatest since at least 1920.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CAL YR 1988 TOTAL 14.22 MEAN .039 MAX 9.1 MIN .00 AC-FT 28
WTR YR 1989 TOTAL 0.00 MEAN .00 MAX .00 MIN .00 AC-FT .0

08400500 LAKE MCMILLAN NEAR LAKEWOOD, NM

LOCATION.--Lat 32°35'42", long 104°20'49", in NE¼NE¼ sec.11, T.20 S., R.26 E., Eddy County, Hydrologic Unit 13060011, near outlet gates of McMillan Dam on Pecos River, 3.4 mi southeast of Lakewood, and at mile 484.3.

DRAINAGE AREA.--16,990 mi², approximately (contributing area).

PERIOD OF RECORD.--January 1939 to September 1965 (monthend gage heights and contents), October 1965 to current year. Monthend gage heights, January 1918 to December 1938, in files of Pecos River Commission.

GAGE.--Nonrecording gage. Elevation of gage is 3,241.6 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Lake is formed by McMillan Dam, an earthfill structure; complet and storage began in 1893. The structure was damaged by floods of October 1893 and Oct. 2, 1904. Capacity, 27,300 acre-ft, from capacity table dated August 1964, between gage heights 0.0 ft (sill of outlet gate) and 24.9 ft, crest of spillway no. 2. Flashboards in spillway no. 2 may be used to increase this capacity. Maximum capacity without spill, 33,620 acre-ft, at gage height 26.1 ft, crest of spillway no. 1. No dead storage. No storage allocated to flood control. Figures given herein represent usable contents. Gage heights may be affected by variable drawdown due to flow through gates. Water is used for irrigation by Carlsbad Irrigation District.

COOPERATION.--Record provided by Carlsbad Irrigation District.

EXTREMES FOR PERIOD OF RECORD (SINCE 1938).--Maximum contents observed, 68,500 acre-ft, Sept. 26, 1941, gage height, 29.95 ft; no storage for periods in 1944-54, 1957, 1964, 1965, 1974, 1976, 1977, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 17,790 acre-ft, Oct. 1-3, gage height, 22.77 ft; no storage many days.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17790	7240	7920	10180	10970	12960	.00	.00	5420	.00	.00	.00
2	17790	7340	7920	10180	11030	13020	.00	.00	5690	.00	.00	.00
3	17790	7360	7920	10180	11090	13150	.00	.00	5870	.00	.00	.00
4	17690	7430	7920	10210	11110	13310	.00	.00	5980	.00	.00	.00
5	16370	7480	7920	10210	11170	13470	.00	.00	6090	.00	.00	.00
6	14040	7480	7970	10240	11230	13530	.00	.00	5870	.00	.00	.00
7	13960	7550	7970	10240	11230	13570	.00	.00	5820	.00	.00	.00
8	13700	e7600	8090	10260	11230	13660	.00	.00	5640	.00	.00	.00
9	13760	e7650	8140	10260	11230	13730	.00	.00	5530	.00	.00	.00
10	13530	e7670	8210	10180	11230	13830	.00	.00	5530	.00	.00	.00
11	12520	7700	8210	10320	11410	13960	.00	.00	5520	.00	.00	.00
12	12250	7700	8260	10350	11230	13990	.00	.00	5190	.00	.00	.00
13	11970	7650	8510	10400	11110	14090	.00	.00	4930	.00	.00	.00
14	11640	7650	8590	10350	10910	13990	.00	.00	4430	.00	.00	.00
15	11410	7600	8640	10350	10740	13990	.00	.00	e2940	.00	.00	.00
16	11090	7580	8670	10350	10690	13990	.00	.00	e1900	.00	.00	.00
17	10830	7460	8720	10380	10940	13990	.00	.00	e1030	.00	.00	.00
18	10740	7480	8770	10400	11110	13990	.00	.00	e184	.00	.00	.00
19	10180	7600	8850	10430	11350	13990	.00	.00	e44	.00	.00	.00
20	9850	7580	8970	10430	11610	13790	.00	.00	.00	.00	.00	.00
21	9420	7600	9240	10430	11910	11820	.00	.00	.00	.00	.00	.00
22	9290	7670	9370	10430	11970	9880	.00	.00	.00	.00	.00	.00
23	9290	7670	9450	10460	12090	7360	.00	.00	.00	.00	.00	.00
24	8970	7670	9500	10490	12220	4970	.00	1900	.00	.00	.00	.00
25	8850	7670	9640	10520	12370	3310	.00	2850	.00	.00	.00	.00
26	8460	7670	9770	10660	12520	.00	.00	3470	.00	.00	.00	.00
27	8140	7720	9930	10710	12680	.00	.00	3710	.00	.00	.00	.00
28	7720	7800	9960	10740	12800	.00	.00	3710	.00	.00	.00	.00
29	7360	7840	10020	10830	---	.00	.00	4110	.00	.00	.00	.00
30	7130	8040	10040	10860	---	.00	.00	4490	.00	.00	.00	.00
31	7210	---	10100	10880	---	---	---	4970	---	.00	.00	---
MAX	17790	8040	10100	10880	12800	14090	.00	4970	6090	.00	.00	.00
MIN	7130	7240	7920	10180	10690	.00	.00	.00	.00	.00	.00	.00
(+)	-10870	+830	+2060	+780	+1920	-12800	0	+4970	-4970	0	0	0

CAL YR 1988 MAX 28780 MIN 1980 (+) -10520
WTR YR 1989 MAX 17790 MIN .00 (+) -18080

e Estimated

(+) CHANGE IN CONTENTS, IN ACRE-FEET

RIO GRANDE BASIN

08400500 LAKE MCMILLAN NEAR LAKEWOOD, NM -- Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.77	19.30	19.58	20.45	20.73	21.39	13.10	13.10	18.50	13.10	13.10	13.10
2	22.77	19.34	19.58	20.45	20.75	21.44	13.10	13.10	18.62	13.10	13.10	13.10
3	22.77	19.35	19.58	20.45	20.77	21.45	13.10	13.10	18.70	13.10	13.10	13.10
4	22.75	19.38	19.58	20.46	20.78	21.50	13.10	13.10	18.75	13.10	13.10	13.10
5	22.40	19.40	19.58	20.46	20.80	21.55	13.10	13.10	18.80	13.10	13.10	13.10
6	21.77	19.40	19.60	20.47	20.82	21.57	13.10	13.10	18.70	13.10	13.10	13.10
7	21.70	19.43	19.60	20.47	20.82	21.58	13.10	13.10	18.68	13.10	13.10	13.10
8	21.62	e19.45	19.65	20.48	20.82	21.61	13.10	13.10	18.60	13.10	13.10	13.10
9	21.64	e19.47	19.67	20.48	20.82	21.63	13.10	13.10	18.55	13.10	13.10	13.10
10	21.52	e19.48	19.70	20.45	20.82	21.66	13.10	13.10	18.55	13.10	13.10	13.10
11	21.25	19.49	19.70	20.50	20.88	21.70	13.10	13.10	18.50	13.10	13.10	13.10
12	21.16	19.49	19.72	20.51	20.82	21.71	13.10	13.10	18.40	13.10	13.10	13.10
13	21.07	19.47	19.82	20.53	20.78	21.74	13.10	13.10	18.28	13.10	13.10	13.10
14	20.97	19.47	19.85	20.51	20.71	21.71	13.10	13.10	18.05	13.10	13.10	13.10
15	20.88	19.45	19.87	20.51	20.65	21.71	13.10	13.10	e17.30	13.10	13.10	13.10
16	20.78	19.44	19.88	20.51	20.63	21.71	13.10	13.10	e16.70	13.10	13.10	13.10
17	20.68	19.39	19.90	20.52	20.72	21.71	13.10	13.10	e16.10	13.10	13.10	13.10
18	20.65	19.40	19.92	20.53	20.78	21.71	13.10	13.10	e15.10	13.10	13.10	13.10
19	20.45	19.45	19.95	20.54	20.86	21.71	13.10	13.10	e14.30	13.10	13.10	13.10
20	20.33	19.44	20.00	20.54	20.95	21.65	13.10	13.10	13.10	13.10	13.10	13.10
21	20.17	19.45	20.10	20.54	21.05	21.03	13.10	13.10	13.10	13.10	13.10	13.10
22	20.07	19.48	20.15	20.54	21.07	20.34	13.10	13.10	13.10	13.10	13.10	13.10
23	20.07	19.48	20.18	20.55	21.11	19.35	13.10	13.10	13.10	13.10	13.10	13.10
24	20.00	19.48	20.20	20.56	21.15	18.30	13.10	16.70	13.10	13.10	13.10	13.10
25	19.95	19.48	20.25	20.57	21.20	17.50	13.10	17.25	13.10	13.10	13.10	13.10
26	19.80	19.48	20.30	20.62	21.25	13.10	13.10	17.58	13.10	13.10	13.10	13.10
27	19.67	19.50	20.26	20.64	21.30	13.10	13.10	17.70	13.10	13.10	13.10	13.10
28	19.50	19.53	20.37	20.67	21.34	13.10	13.10	17.70	13.10	13.10	13.10	13.10
29	19.35	19.55	20.39	20.68	---	13.10	13.10	17.90	13.10	13.10	13.10	13.10
30	19.25	19.58	20.40	20.69	---	13.10	13.10	18.08	13.10	13.10	13.10	13.10
31	19.28	---	20.42	20.70	---	13.10	---	18.30	---	13.10	13.10	---
MEAN	20.87	19.45	19.93	20.53	20.90	19.60	13.10	14.27	16.11	13.10	13.10	13.10
MAX	22.77	19.58	20.42	20.70	21.34	21.74	13.10	18.30	18.80	13.10	13.10	13.10
MIN	19.25	19.30	19.58	20.45	20.63	13.10	13.10	13.10	13.10	13.10	13.10	13.10

CAL YR 1988 MEAN 21.73 MAX 25.19 MIN 16.25
WTR YR 1989 MEAN 16.99 MAX 22.77 MIN 13.10

e Estimated

08401200 SOUTH SEVEN RIVERS NEAR LAKEWOOD, NM

LOCATION.--Lat 32°35'19", long 104°25'17", in SE¼SE¼NW¼ sec.7, T.20 S., R.26 E., Eddy County, Hydrologic Unit 13060011, on downstream side of center pier of bridge on U.S. Highway 285, 0.4 mi south of Seven Rivers, 2.6 mi upstream from mouth, and 4.0 mi southwest of Lakewood. Mouth at Pecos River mile 480.9.

DRAINAGE AREA.--220 mi², approximately.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,280 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 8, 1965, at site 400 ft upstream at datum 0.52 ft higher.

REMARKS.--Records excellent. No surface diversions upstream from station, ground-water withdrawals for 240 acres, upstream from station. Several observations of water temperatures were made during the year.

AVERAGE DISCHARGE.--26 years, 4.68 ft³/s, 3,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,500 ft³/s, May 30, 1965, gage height, 20.0 ft, from floodmarks, present site and datum, from rating curve extended above 5,700 ft³/s on basis of slope-area measurements at gage heights, 18.15 ft and 20.0 ft; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1941, about 30,000 ft³/s, gage height, 22.8 ft, from old debris on left bank, former site and datum, from rating curve extended above 5,700 ft³/s on basis of slope-area measurement at gage height 21.8 ft. Probable date of flood, Oct. 7, 1954.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
31	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CAL YR 1988 TOTAL 1681.71 MEAN 4.59 MAX 941 MIN .00 AC-FT 3340
WTR YR 1989 TOTAL 0.00 MEAN .00 MAX .00 MIN .00 AC-FT .0

RIO GRANDE BASIN

08401450 BRANTLEY LAKE NEAR CARLSBAD, NM

LOCATION.--Lat 32°32'48", long 104°22'43", in NE¼SE¼NE¼ sec.28, T.20 S., R.26 E., Eddy County, Hydrologic Unit 13060011, in control tower at Brantley Dam, 2.4 mi downstream from South Seven Rivers, 4.2 mi southeast of Seven Rivers, 6.0 mi south of Lakewood, 11.5 northwest of Carlsbad, and at mile 478.6.

DRAINAGE AREA.--17,650 mi², approximately (contributing area).

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

GAGE.--Water-stage recorder. Elevation of gage is 3,202.5 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Lake is formed by a concrete and earthfill dam on Pecos River. Storage began August 1988. Capacity, 966,360 acre-ft, from capacity table dated Aug. 24, 1981, between elevations 3,202.5 ft and 3,303.5 ft (stage at maximum flood). Dead storage 2,010 acre-ft. Lake was created primarily for irrigation storage and flood control.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 42,280 acre-ft, May 30, 31, June 13, 14, 18, 1989, elevation, 3,255.40 ft; minimum contents, 10,090 acre-ft, Sept. 30, 1989, elevation, 3,238.90 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,280 acre-ft, May 30, 31, June 13, 14, 18, elevation, 3,255.40 ft; minimum, 10,090 acre-ft, Sept. 30, elevation, 3,238.90 ft.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 07:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13600	19050	19050	19050	19570	19050	21910	25880	41970	36430	23060	13870
2	14410	19050	19050	19050	19570	19050	21730	26930	41660	35880	22670	13730
3	15120	19050	19050	19050	19570	19050	21360	27800	41660	35340	22480	13600
4	16000	19050	19050	19050	19390	19050	20810	28460	41660	34810	21910	13600
5	16770	18880	19050	19050	19390	19050	20450	28910	41660	34280	21360	13470
6	18210	18880	19050	19050	19390	18880	19920	29590	41660	33760	20810	13470
7	18380	18880	19220	19220	19390	18880	19220	30290	41660	33240	20270	13340
8	18710	18880	19220	19050	19220	18880	18710	31250	41660	32480	19920	13080
9	18710	18880	19220	19050	19220	18880	18050	31740	41970	31740	19740	12920
10	18710	18880	19390	19220	19220	18880	17560	32230	41970	31010	19570	12700
11	18710	18880	19390	19220	19390	18880	17080	32990	41970	30290	19390	12450
12	18880	19050	19390	19220	19390	18880	16610	32990	41970	29590	18880	12330
13	18880	19050	19390	19220	19390	18880	16150	33240	42280	29130	18540	12330
14	18880	19050	19390	19220	19390	18880	15700	34280	42280	28680	18050	12210
15	19050	19050	19390	19220	19390	18880	15560	35000	41970	28240	17720	12210
16	19050	19050	19220	19390	19390	18710	15850	37260	41970	28020	17400	12330
17	19050	19050	19220	19390	19390	18710	16310	38110	41970	27800	17080	12450
18	19050	19050	19220	19390	19390	18710	16770	38400	42280	27580	17080	12450
19	18880	19050	19220	19390	19390	18710	17080	39560	41970	27150	16610	12450
20	18880	19050	19220	19390	19390	18880	17880	40150	41660	26720	16310	12450
21	18880	19050	19220	19390	19220	19920	18710	40750	41050	26510	16150	12330
22	18880	19050	19220	19390	19220	20630	19570	41050	40450	26080	15850	12090
23	18880	19050	19050	19390	19050	21910	20090	41660	40150	25670	15560	11730
24	19050	19050	19050	19390	19050	23450	20810	41660	39270	25460	15410	11390
25	19050	19050	19050	19570	19050	24240	21170	41360	38980	25250	15120	11280
26	19050	19050	19050	19570	19050	25050	21910	41360	38400	25050	14980	11050
27	19050	19050	19050	19570	19050	24640	22480	41360	38110	24640	14690	10830
28	19050	19050	19050	19570	19050	24040	23060	41970	37830	24240	14550	10620
29	19050	19050	19050	19570	---	23450	23840	41970	37550	23840	14410	10400
30	19050	19050	19050	19570	---	22670	25050	42280	36980	23640	14270	10090
31	19050	---	19050	19570	---	22290	---	42280	---	23250	13870	---
MAX	19050	19050	19390	19570	19570	25050	25050	42280	42280	36430	23060	13870
MIN	13600	18880	19050	19050	19050	18710	15560	25880	36980	23250	13870	10090
(+)	+6230	0	0	+520	-520	+3240	+2760	+17230	-5300	-13730	-9380	-3780

WTR YR 1989 MAX 42280 MIN 10090 (+) -2730

(+) CHANGE IN CONTENTS, IN ACRE-FEET

263

ELEVATION (FEET NGVD), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 07:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3241.8	3245.4	3245.4	3245.40	3245.70	3245.40	3247.00	3249.00	3255.30	3253.40	3247.60	3242.00
2	3242.4	3245.4	3245.4	3245.40	3245.70	3245.40	3246.90	3249.50	3255.20	3253.20	3247.40	3241.90
3	3242.9	3245.4	3245.4	3245.40	3245.70	3245.40	3246.70	3249.90	3255.20	3253.00	3247.30	3241.80
4	3243.5	3245.4	3245.4	3245.40	3245.60	3245.40	3246.40	3250.20	3255.20	3252.80	3247.00	3241.80
5	3244.0	3245.3	3245.4	3245.40	3245.60	3245.40	3246.20	3250.40	3255.20	3252.60	3246.70	3241.70
6	3244.9	3245.3	3245.4	3245.40	3245.60	3245.30	3245.90	3250.70	3255.20	3252.40	3246.40	3241.70
7	3245.1	3245.3	3245.5	3245.50	3245.60	3245.30	3245.50	3251.00	3255.20	3252.20	3246.10	3241.60
8	3245.2	3245.3	3245.5	3245.40	3245.50	3245.30	3245.20	3251.40	3255.20	3251.90	3245.90	3241.40
9	3245.2	3245.3	3245.5	3245.40	3245.50	3245.30	3244.80	3251.60	3255.30	3251.60	3245.80	3241.20
10	3245.2	3245.3	3245.6	3245.50	3245.50	3245.30	3244.50	3251.80	3255.30	3251.30	3245.70	3241.10
11	3245.2	3245.3	3245.6	3245.50	3245.60	3245.30	3244.20	3252.10	3255.30	3251.00	3245.60	3240.90
12	3245.3	3245.4	3245.6	3245.50	3245.60	3245.30	3243.90	3252.10	3255.30	3250.70	3245.30	3240.80
13	3245.3	3245.4	3245.6	3245.50	3245.60	3245.30	3243.60	3252.20	3255.40	3250.50	3245.10	3240.80
14	3245.3	3245.4	3245.6	3245.50	3245.60	3245.30	3243.30	3252.60	3255.40	3250.30	3244.80	3240.70
15	3245.4	3245.4	3245.6	3245.50	3245.60	3245.30	3243.20	3253.20	3255.30	3250.10	3244.60	3240.70
16	3245.4	3245.4	3245.5	3245.60	3245.60	3245.20	3243.40	3253.70	3255.30	3250.00	3244.40	3240.80
17	3245.4	3245.4	3245.5	3245.60	3245.60	3245.20	3243.70	3254.00	3255.30	3249.90	3244.20	3240.90
18	3245.4	3245.4	3245.5	3245.60	3245.60	3245.20	3244.00	3254.20	3255.40	3249.80	3244.20	3240.90
19	3245.3	3245.4	3245.5	3245.60	3245.60	3245.20	3244.30	3254.50	3255.30	3249.60	3243.90	3240.90
20	3245.3	3245.4	3245.5	3245.60	3245.60	3245.30	3244.70	3254.70	3255.20	3249.40	3243.70	3240.90
21	3245.3	3245.4	3245.5	3245.60	3245.50	3245.90	3245.20	3254.90	3255.00	3249.30	3243.60	3240.80
22	3245.3	3245.4	3245.5	3245.60	3245.50	3246.30	3245.70	3255.00	3254.80	3249.10	3243.40	3240.60
23	3245.3	3245.4	3245.4	3245.60	3245.40	3247.00	3246.10	3255.20	3254.70	3248.90	3243.20	3240.30
24	3245.4	3245.4	3245.4	3245.60	3245.40	3247.80	3246.40	3255.20	3254.40	3248.80	3243.10	3240.00
25	3245.4	3245.4	3245.4	3245.70	3245.40	3248.20	3246.60	3255.10	3254.30	3248.70	3242.90	3239.90
26	3245.4	3245.4	3245.4	3245.70	3245.40	3248.60	3247.00	3255.10	3254.10	3248.60	3242.80	3239.70
27	3245.4	3245.4	3245.4	3245.70	3245.40	3248.40	3247.30	3255.10	3254.00	3248.40	3242.60	3239.50
28	3245.4	3245.4	3245.4	3245.70	3245.40	3248.10	3247.60	3255.30	3253.90	3248.20	3242.50	3239.30
29	3245.4	3245.4	3245.4	3245.70	---	3247.80	3248.00	3255.30	3253.80	3248.00	3242.40	3239.10
30	3245.4	3245.4	3245.4	3245.70	---	3247.40	3248.60	3255.40	3253.60	3247.90	3242.30	3238.90
31	3245.4	---	3245.4	3245.70	---	3247.20	---	3255.40	---	3247.70	3242.00	---
MEAN	3244.92	3245.38	3245.47	3245.55	3245.55	3246.09	3245.53	3253.09	3254.94	3250.30	3244.60	3240.75
MAX	3245.40	3245.40	3245.60	3245.70	3245.70	3248.60	3248.60	3255.40	3255.40	3253.40	3247.60	3242.00
MIN	3241.80	3245.30	3245.40	3245.40	3245.40	3245.20	3243.20	3249.00	3253.60	3247.70	3242.00	3238.90
WTR YR 1989	MEAN 3246.86		MAX 3255.40	MIN 3238.90								

08401500 PECOS RIVER BELOW BRANTLEY DAM NEAR CARLSBAD, NM
(Formerly published as Pecos River below Major Johnson Springs near Carlsbad, NM)

LOCATION.--Lat 32°32'38", long 104°22'00", in NE¼NW¼SE¼ sec.27, T.20 S., R.26 E., Eddy County, Hydrologic Unit 13060011, on left bank, 0.8 mi downstream from Brantley Dam, 3.2 mi downstream from South Seven Rivers, 4.7 mi southeast of Seven Rivers, 6.4 mi south of Lakewood, 11.0 mi northwest of Carlsbad, and at mile 477.8.

DRAINAGE AREA.--17,650 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1947 to September 1950, October 1971 to current year. Prior to October 1988, operated as a low-flow station only. Records prior to October 1971 not equivalent due to spring inflow between sites.

GAGE.--Water-stage recorder. Elevation of gage is 3,191.15 ft above National Geodetic Vertical Datum of 1929 (U.S. Bureau of Reclamation reference point). Prior to October 1971, at site 1.3 mi upstream at different datum. October 1971 to June 4, 1985, at site 0.8 mi upstream at datum 7.29 ft higher. Prior to October 1988, at site 0.2 mi downstream at same datum.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Flow regulated by Lake McMillan (station 08400500) 7.3 mi upstream and Brantley Lake (station 08401450) 0.8 mi upstream since August 1988. Diversions and ground-water withdrawals for irrigation of about 173,000 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year. U.S. Bureau of Reclamation satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,160 ft³/s, Sept. 15, 1949, July 24, 1950, from rating curve extended above 780 ft³/s; maximum gage height, 5.38 ft, Sept. 15, 1949, site and datum then in use; minimum discharge, 0.29 ft³/s, part of each day Nov. 25, 26, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 545 ft³/s, May 12; minimum daily, 0.31 ft³/s, Nov. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN VALUES										
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	SEP
1	20	18	3.2	7.3	13	13	185	19	274	293	140
2	21	11	5.0	8.7	13	13	185	82	339	297	206
3	21	14	4.5	8.7	14	10	255	270	338	296	310
4	21	8.7	11	7.5	13	6.0	352	257	337	294	348
5	21	9.9	8.0	5.3	14	13	295	237	338	292	347
6	22	9.9	7.3	4.9	12	14	466	234	337	290	347
7	22	9.9	5.3	5.8	20	15	412	230	339	318	270
8	23	9.2	3.7	5.2	35	12	396	244	338	433	161
9	22	6.3	5.4	4.8	35	12	394	328	344	430	141
10	291	8.7	6.4	5.1	85	10	340	368	348	427	141
11	208	10	7.5	4.0	137	10	361	477	242	370	207
12	132	11	5.3	4.5	137	14	253	545	183	272	284
13	140	11	.50	4.3	181	14	315	423	211	232	304
14	185	14	.43	4.5	207	12	401	11	265	232	274
15	185	5.7	.43	4.7	206	15	369	9.7	285	164	216
16	185	9.8	.42	3.7	134	12	342	29	286	122	193
17	183	4.5	.42	5.9	21	14	301	116	286	159	195
18	183	.45	.41	8.7	46	6.7	270	168	204	181	229
19	182	.38	.41	6.9	46	89	255	322	284	182	256
20	184	.36	3.3	9.4	46	219	147	423	289	185	223
21	154	.36	4.3	11	46	247	87	369	288	186	201
22	74	.36	6.7	12	44	223	103	299	284	189	173
23	39	.35	6.9	14	36	206	217	242	255	192	154
24	59	.33	7.0	19	11	231	351	241	233	123	152
25	168	.33	7.8	14	9.7	277	346	244	203	76	152
26	192	.31	7.9	15	13	282	269	248	181	178	151
27	192	.32	8.0	14	15	282	248	169	183	240	182
28	192	.33	8.7	13	13	347	209	122	185	239	200
29	191	.56	8.9	15	---	465	89	123	223	213	199
30	95	1.5	7.1	14	---	413	37	129	284	198	199
31	20	---	6.9	13	---	231	---	203	---	163	198
TOTAL	3627	177.54	159.12	273.9	1602.7	3727.7	8250	7181.7	8266	7466	6753
MEAN	117	5.92	5.13	8.84	57.2	120	275	232	276	241	218
MAX	291	18	11	19	207	465	466	545	348	433	348
MIN	20	.31	.41	3.7	9.7	6.0	37	9.7	181	76	140
AC-FT	7190	352	316	543	3180	7390	16360	14240	16400	14810	13390

WTR YR 1989 TOTAL 52216.66 MEAN 143 MAX 545 MIN .31 AC-FT 103600

e Estimated

WATER-QUALITY RECORDS

REMARKS.--This station prior to Brantley Dam was called Pecos River below Major Johnson Springs near Carlsbad, NM.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

[illegible]

08401900 ROCKY ARROYO AT HIGHWAY BRIDGE, NEAR CARLSBAD, NM

LOCATION.--Lat 32°30'23", long 104°22'28", in SE¼SE¼ sec.3, T.21 S., R.25 E., Eddy County, Hydrologic Unit 13060011, at downstream end of bridge pier nearest left bank on U.S. Highway 285, 2.1 mi upstream from mouth and 10 mi northwest of Carlsbad. Mouth at Pecos River mile 475.2.

DRAINAGE AREA.--285 mi², approximately.

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,250 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to February 1985, at site 60 ft downstream at same datum.

REMARKS.--Records excellent. Diversions for irrigation of 220 acres, upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--26 years, 8.00 ft³/s, 5,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,600 ft³/s, Aug. 23, 1966, gage height, 15.35 ft, from rating curve extended above 8,500 ft³/s on basis of slope-area measurement of peak flow; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Since about 1941 the maximum discharge probably occurred Oct. 7, 1954, discharge, 63,600 ft³/s, gage height, 19.2 ft, from floodmarks, on downstream end of bridge pier, by slope-area measurement at site 5 mi upstream.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

CAL YR 1988 TOTAL 1618.97 MEAN 4.42 MAX 866 MIN .00 AC-FT 3210
WTR YR 1989 TOTAL 0.00 MEAN .00 MAX .00 MIN .00 AC-FT .0

08402000 PECOS RIVER AT DAMSITE 3, NEAR CARLSBAD, NM

LOCATION.--Lat 32°30'40", long 104°19'58", sec.6, T.21 S., R.26 E., Eddy County, Hydrologic Unit 13060011, on right bank at damsite 3 of Carlsbad project of Bureau of Reclamation, about 1 mi upstream from flow line of Lake Avalon, 1.3 mi downstream from Rocky Arroyo, 8.0 mi northwest of Carlsbad, and at mile 473.8.

DRAINAGE AREA.--17,980 mi², approximately (contributing area).

PERIOD OF RECORD.--August 1939 to December 1940, August 1944 to current year.

REVISED RECORDS.--WSP 1512: 1946-47(M), 1948(P), 1949, 1950(P). WSP 1712: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,171.31 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). Prior to Aug. 10, 1944, at site 1,000 ft downstream at datum 1.00 ft higher. Aug. 10, 1944, to Dec. 31, 1966, at present datum 1.00 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Brantley Lake (station 08401450) 4.8 mi upstream and other reservoirs and diversion dams. Diversions and ground-water withdrawals for irrigation of about 17,300 acres, 1959 determination, upstream from station. Discharge represents inflow to Lake Avalon. Several observations of water temperature were made during the year. U. S. Weather Bureau satellite telemeter at station.

AVERAGE DISCHARGE.--46 years (water years 1940, 1945-89), 162 ft³/s, 117,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,000 ft³/s, Aug. 23, 1966, gage height, 21.32 ft, present datum, from floodmark, from rating curve extended above 25,000 ft³/s on basis of slope-area measurement at gage height 19.53 ft; no flow, Dec. 21, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Peaks that probably exceeded 40,000 ft³/s, occurred in Aug. 1893, Oct. 2, 1904, July 25, 1905, Apr. 17, 1915, Aug. 7, 1916, and May 30, 1937, based primarily on records for station "at Carlsbad." Peak of May 22, 1941, was estimated at 60,000 ft³/s. Floods of 1893 and 1904 originated upstream from McMillan Dam and contributed to the two failures of Avalon Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 977 ft³/s, Apr. 4, gage height, 3.79 ft; no flow all or part of each day, Dec. 20-22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	16	e.70	4.5	7.7	12	186	25	239	290	144	187
2	19	9.7	e.70	4.9	8.4	12	187	39	315	296	195	187
3	20	11	e1.3	5.3	9.3	12	246	242	313	290	302	168
4	21	8.4	5.7	5.3	9.8	11	415	249	322	300	352	141
5	21	5.7	7.8	4.6	9.3	8.4	240	229	335	304	352	138
6	22	8.4	8.4	4.3	12	14	480	231	339	304	354	139
7	23	11	9.4	4.1	12	15	402	228	335	318	301	164
8	23	10	6.3	4.3	26	13	383	235	332	437	167	193
9	22	7.3	4.3	4.0	28	12	382	336	333	429	139	188
10	216	6.2	4.4	3.9	51	12	335	382	339	429	141	165
11	224	8.5	5.1	3.7	121	11	350	476	254	372	188	137
12	129	10	6.2	3.8	120	13	232	568	177	276	273	114
13	129	11	4.2	3.3	146	14	287	508	190	232	300	87
14	171	12	1.7	3.4	177	13	384	41	242	229	273	88
15	176	8.4	1.0	3.8	180	14	360	25	270	178	216	93
16	174	4.9	.81	3.6	137	14	333	26	271	122	186	94
17	175	7.8	.63	3.6	23	12	289	107	274	152	187	91
18	175	4.6	.42	4.3	40	11	263	135	273	175	224	91
19	173	1.3	.29	6.2	44	38	242	264	279	183	250	91
20	174	1.1	.07	5.4	45	196	167	383	281	180	222	91
21	158	e1.0	.00	7.3	44	235	91	335	283	183	191	164
22	94	e.92	1.4	8.1	42	218	94	276	275	186	175	268
23	43	e.85	5.0	9.4	41	194	191	215	255	191	152	254
24	43	e.80	5.6	13	15	214	350	221	222	147	152	183
25	130	e.77	4.9	10	9.7	261	347	234	207	86	151	184
26	188	e.75	5.2	12	9.5	269	272	239	181	140	150	184
27	189	e.75	6.3	11	14	259	235	181	181	235	169	184
28	191	e.70	6.3	9.6	12	318	203	119	186	244	196	184
29	191	e.70	5.7	9.8	---	413	117	120	210	232	191	184
30	129	e.70	5.3	9.5	---	429	35	127	276	208	190	183
31	20	---	4.7	8.2	---	243	---	171	---	180	186	---
TOTAL	3483	171.24	119.82	194.2	1393.7	3510.4	8098	6967	7989	7528	6669	4619
MEAN	112	5.71	3.87	6.26	49.8	113	270	225	266	243	215	154
MAX	224	16	9.4	13	180	429	480	568	339	437	354	268
MIN	19	.70	.00	3.3	7.7	8.4	35	25	177	86	139	87
AC-FT	6910	340	238	385	2760	6960	16060	13820	15850	14930	13230	9160

CAL YR 1988 TOTAL 49230.26 MEAN 135 MAX 767 MIN .00 AC-FT 97650
WTR YR 1989 TOTAL 50742.36 MEAN 139 MAX 568 MIN .00 AC-FT 100600

e Estimated

08403800 LAKE AVALON NEAR CARLSBAD, NM

LOCATION.--Lat 32°29'27", long 104°15'05", in NW¼SW¼ sec.12, T.21 S., R.26 E., Eddy County, Hydrologic Unit 13060011, on headwall at outlet gate of dam on Pecos River, 3.3 mi north of Carlsbad, and at mile 467.2.

DRAINAGE AREA.--18,070 mi², approximately (contributing area).

PERIOD OF RECORD.--January 1939 to September 1965 (monthend gage heights and contents), October 1965 to current year. Monthend gage heights January 1919 to December 1938 in files of Pecos River Commission.

REVISED RECORDS.--WSP 898: 1939.

GAGE.--Nonrecording gage. Elevation of gage is 3,157.0 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation).

REMARKS.--Lake is formed by Avalon Dam, an earthfill structure. The original Eddy (Avalon) Dam was completed and storage began in 1891. The dam was destroyed by flood of Aug. 3, 1893; repaired immediately. The dam was destroyed again Oct. 2, 1904; construction of present dam commenced on June 1, 1906, and was 88 percent complete June 30, 1907. Capacity, 4,330 acre-ft, from capacity table put into use January 1, 1982, between gage heights 0.0 (sill of outlet gates) and 20.4 ft, crest of spillway no. 2. No dead storage. No storage allocated to flood control. Figures given herein represent usable contents. Water is used by Carlsbad Irrigation District.

COOPERATION.--Records provided by Carlsbad Irrigation District.

EXTREMES FOR PERIOD OF RECORD (SINCE 1938).--Maximum contents, 11,000 acre-ft, May 22, 1941, gage height, 25.0 ft; no storage at times when natural flow is passing through reservoir.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,950 acre-ft, Oct. 1, gage height, 18.80 ft; minimum, 63 acre-ft, Jan. 5, gage height, 12.00.

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2950	335	116	119	288	662	864	919	811	811	1030	919
2	2870	335	109	119	288	662	760	710	710	919	864	975
3	2560	391	102	119	288	662	662	662	919	975	760	1030
4	2330	391	96	119	288	662	662	864	975	1030	811	1030
5	2100	391	90	63	288	662	662	864	975	975	919	1090
6	1750	391	93	84	288	662	573	864	975	975	975	1030
7	1470	391	96	116	288	662	710	864	919	919	1090	975
8	1210	e391	102	131	335	662	760	919	919	919	1090	864
9	811	e391	105	151	349	662	811	864	864	919	1030	864
10	662	e391	105	156	391	662	811	864	811	975	975	919
11	919	391	109	214	457	662	811	975	1030	1150	811	975
12	975	391	109	239	686	662	811	1610	1090	1280	710	1030
13	811	391	105	239	710	662	662	2330	1030	1210	975	975
14	760	391	105	239	662	662	710	2710	919	1210	1030	975
15	811	391	105	248	710	662	919	2400	919	1150	1030	1030
16	975	391	105	248	760	662	1090	1890	975	1090	1030	1030
17	1090	230	105	248	864	662	1210	1280	1090	1030	975	1090
18	1090	165	105	258	760	662	1210	919	1210	975	919	1090
19	1090	123	105	258	760	662	1210	662	1150	864	919	1030
20	1030	116	105	258	760	616	1210	760	1030	919	975	975
21	1030	116	102	268	760	710	1090	916	975	975	975	811
22	947	116	102	268	760	760	864	1030	811	975	1030	811
23	891	116	102	268	616	760	710	1030	975	1030	975	919
24	785	116	102	268	630	710	760	975	1030	1090	1030	975
25	662	116	102	278	630	616	864	975	1090	1030	1030	975
26	616	116	102	278	662	662	1030	975	1090	975	975	975
27	573	116	102	278	662	662	1030	1090	1030	864	919	1090
28	493	116	105	288	662	662	1030	1150	919	919	919	1030
29	457	116	105	288	---	662	1090	1150	760	975	975	975
30	457	116	109	288	---	662	1030	1090	710	1090	975	975
31	362	---	109	288	---	975	---	919	---	1150	975	---
MAX	2950	391	116	288	864	975	1210	2710	1210	1280	1090	1090
MIN	362	116	90	63	288	616	573	662	710	811	710	811
(+)	-2588	-246	-7	+179	+374	+313	+55	-111	-209	+440	-175	0

CAL YR 1988 MAX 3880 MIN 90 (+) -3601
WTR YR 1989 MAX 2950 MIN 63 (+) -1975

e Estimated

(+) CHANGE IN CONTENTS, IN ACRE-FEET

RIO GRANDE BASIN

08403800 LAKE AVALON NEAR CARLSBAD, NM -- Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.80	14.50	12.90	12.85	14.30	15.40	15.80	15.90	15.70	15.70	16.10	15.90
2	18.70	14.50	12.80	12.85	14.30	15.40	15.60	15.50	15.50	15.90	15.80	16.00
3	18.30	14.70	12.70	12.85	14.30	15.40	15.40	15.40	15.90	16.00	15.60	16.10
4	18.00	14.70	12.60	12.85	14.30	15.40	15.40	15.80	16.00	16.10	15.70	16.10
5	17.70	14.70	12.50	12.00	14.30	15.40	15.40	15.80	16.00	16.00	15.90	16.20
6	17.20	14.70	12.55	12.40	14.30	15.40	15.20	15.80	16.00	16.00	16.00	16.10
7	16.80	14.70	12.60	12.90	14.30	15.40	15.50	15.80	15.90	15.90	16.20	16.00
8	16.40	e14.70	12.70	13.10	14.50	15.40	15.60	15.90	15.90	15.90	16.20	15.80
9	15.70	e14.70	12.75	13.35	14.55	15.40	15.70	15.80	15.80	15.90	16.10	15.80
10	15.40	e14.70	12.75	13.60	14.70	15.40	15.70	15.80	15.70	16.00	16.00	15.90
11	15.90	14.70	12.80	13.90	14.90	15.40	15.70	16.00	16.10	16.30	15.70	16.00
12	16.00	14.70	12.80	14.05	15.45	15.40	15.70	17.00	16.20	16.50	15.50	16.10
13	15.70	14.70	12.75	14.05	15.50	15.40	15.40	18.00	16.10	16.45	16.00	16.00
14	15.60	14.70	12.75	14.05	15.40	15.40	15.50	18.50	15.90	16.40	16.10	16.00
15	15.70	14.70	12.75	14.10	15.50	15.40	15.90	18.10	15.90	16.30	16.10	16.10
16	16.00	14.70	12.75	14.10	15.60	15.40	16.20	17.40	16.00	16.20	16.10	16.10
17	16.20	14.00	12.75	14.10	15.80	15.40	16.40	16.50	16.75	16.10	16.00	16.20
18	16.20	13.50	12.75	14.15	15.60	15.40	16.40	15.90	16.40	16.00	15.90	16.20
19	16.20	13.00	12.75	14.15	15.60	15.40	16.40	15.40	16.30	15.80	15.90	16.10
20	16.10	12.90	12.75	14.15	15.60	15.30	16.40	15.60	16.10	15.90	16.00	16.00
21	16.10	12.90	12.70	14.20	15.60	15.50	16.20	15.90	16.00	16.00	16.00	15.70
22	15.95	12.90	12.70	14.20	15.60	15.60	15.80	16.10	15.70	16.00	16.10	15.70
23	15.85	12.90	12.70	14.20	15.30	15.60	15.50	16.10	16.00	16.10	16.00	15.90
24	15.65	12.90	12.70	14.20	15.35	15.50	15.60	16.00	16.10	16.20	16.10	16.00
25	15.40	12.90	12.70	14.25	15.35	15.30	15.80	16.00	16.20	16.10	16.10	16.00
26	15.30	12.90	12.70	14.25	15.40	15.40	16.10	16.00	16.20	16.00	16.00	16.00
27	15.20	12.90	12.70	14.25	15.40	15.40	16.10	16.20	16.10	15.80	15.90	16.20
28	15.00	12.90	12.75	14.30	15.40	15.40	16.10	16.30	15.90	15.90	15.90	16.10
29	14.90	12.90	12.75	14.30	---	15.40	16.20	16.30	15.60	16.00	16.00	16.00
30	14.90	12.90	12.80	14.30	---	15.40	16.10	16.20	15.50	16.20	16.00	16.00
31	14.60	---	12.80	14.30	---	16.00	---	15.90	---	16.30	16.00	---
MEAN	16.18	13.91	12.72	13.75	15.08	15.43	15.83	16.22	15.98	16.06	15.97	16.01
MAX	18.80	14.70	12.90	14.30	15.80	16.00	16.40	18.50	16.75	16.50	16.20	16.20
MIN	14.60	12.90	12.50	12.00	14.30	15.30	15.20	15.40	15.50	15.70	15.50	15.70
CAL YR 1988	MEAN 16.53		MAX 19.90	MIN 12.50								
WTR YR 1989	MEAN 15.26		MAX 18.80	MIN 12.00								

08404000 PECOS RIVER BELOW AVALON DAM, NM

LOCATION.--Lat 32°28'55", long 104°15'47", in SW¼SW¼NE¼ sec.14, T.21 S., R.26 E., Eddy County, Hydrologic Unit 13060011, on right bank 4,800 ft downstream from Avalon Dam, 4.5 mi northwest of Carlsbad, and at mile 466.3.

DRAINAGE AREA.--18,080 mi², approximately (contributing area).

PERIOD OF RECORD.--January 1906 to March 1907 (published as "at Avalon"), June 1951 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,130 ft above National Geodetic Vertical Datum of 1929, from topographic map. January 1906 to March 1907, nonrecording gage at site 0.5 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow completely regulated by Lake Avalon (station 08403800) 0.9 mi upstream. Diversions and ground-water withdrawals upstream from station for irrigation of about 198,000 acres, 1959 determination. Station bypassed by Carlsbad Main Canal (station 08403500). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--38 years, 36.0 ft³/s, 26,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,500 ft³/s, Aug. 23, 1966, gage height, 26.4 ft, from floodmarks, from rating curve extended above 33,000 ft³/s on basis of computation of peak flow over Tansill Dam 5.8 mi downstream; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 2, 1904, caused in part by failure of Avalon Dam, probably exceeded 90,000 ft³/s, and is probably the greatest flood since 1842. A major flood occurred Aug. 3, 1893, and was described as "greatest in 50 years"; it damaged McMillan Dam, then under construction, and washed out the original Avalon Dam. Another major flood occurred Aug. 7, 1916, discharge 70,000 ft³/s, at site 6.5 mi downstream.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 13 ft³/s, Nov. 17; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.19	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	e5.8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	e13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	8.0	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	6.4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.75	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	33.95	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.00	1.13	.00	.006	.00	.00	.00	.00	.00	.00	.00	.00
MAX	.00	13	.00	.19	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	67	.0	.4	.0	.0	.0	.0	.0	.0	.0	.0

CAL YR 1988 TOTAL 33.95 MEAN .093 MAX 13 MIN .00 AC-FT 67
WTR YR 1989 TOTAL 34.14 MEAN .094 MAX 13 MIN .00 AC-FT 68

e Estimated

08405150 DARK CANYON DRAW AT CARLSBAD, NM

LOCATION.--Lat 32°24'24", long 104°13'34", in NE¼NW¼SE¼ sec.7, T.22 S., R.27 E., Eddy County, Hydrologic Unit 13060011, on downstream side of bridge on Canal Street in Carlsbad, and 0.6 mi upstream from mouth. Mouth at Pecos River mile 459.2.

DRAINAGE AREA.--450 mi², approximately.

PERIOD OF RECORD.--January 1973 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,088.21 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. A Soil Conservation Service flood-control project on Hackberry Draw, an upstream tributary, has some effect on flood peaks and flow duration. Ground-water withdrawals upstream from station for irrigation of approximately 2,100 acres, 1973 determination, and for municipal supply for Carlsbad. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years, 7.46 ft³/s, 5,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft³/s Sept. 26, 1980, gage height, 12.10 ft, from rating curve extended above 7,100 ft³/s, maximum gage height, 12.53 ft, June 24, 1986; no flow most of time.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Aug. 23, 1966, reached a discharge of 66,000 ft³/s, as determined by slope-area measurement at site 1.2 mi upstream. Another flood of approximately the same magnitude occurred Sept. 20, 1941.

Other major peaks occurred July 17, 1906, July 24, 1908, July 24, 1911, Apr. 18, 1915, Aug. 8, 1916, Sept. 15, 1919, Aug. 4, 1925, and May 23, 1941.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
CAL YR 1988	TOTAL	80.50	MEAN	.22	MAX	46	MIN	.00	AC-FT	160		
WTR YR 1989	TOTAL	0.00	MEAN	.00	MAX	.00	MIN	.00	AC-FT	.0		

08405200 PECOS RIVER BELOW DARK CANYON DRAW, AT CARLSBAD, NM

LOCATION.--Lat 32°24'37", long 104°12'58", in NE¼SW¼NW¼ sec.8, T.22 S., R.27 E., Eddy County, Hydrologic Unit 13060011, on left bank, 700 ft downstream from mouth of Dark Canyon Draw, 0.3 mi downstream from Lower Tansill Dam and Bataan recreational area, 0.8 mi downstream from bridge on U.S. Highway 62-180 in Carlsbad, and at mile 459.1.

DRAINAGE AREA.--18,550 mi², approximately, contributing area.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1970 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,075.19 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Flow regulated by Lake Avalon (station 08403800) 8.1 mi upstream and by several other reservoirs and up to Nov. 1982 at low stages by power plant. Power plant discontinued operation Nov. 1982. Gage is bypassed on left bank by Carlsbad Main Canal East, which irrigates several hundred acres adjacent to and downstream from gage and on right bank by Carlsbad Main Canal South, which with supplemental ground-water withdrawals irrigates about 23,000 acres downstream. Diversions and ground-water withdrawals upstream from station for irrigation of about 198,000 acres, 1959 determination. Several observations of water temperature were made during the year. U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--19 years, 63.1 ft³/s, 45,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,300 ft³/s, revised, Aug. 10, 1984, gage height, 15.22 ft, from floodmarks, from rating curve extended above 12,000 ft³/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Aug. 23, 1966, reached a stage of about 22 ft, discharge not determined. (For dates of other historical floods see station 08404000.)

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 303 ft³/s, Oct. 28, gage height, 2.48 ft; minimum 2.2 ft³/s, Nov. 18.

REVISIONS.--The maximum discharge for water year 1980 has been revised to 23,700 ft³/s, Sept. 26, 1980, gage height, 14.60 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	51	23	25	27	28	20	31	e16	14	13	17
2	30	50	23	25	28	29	20	31	e16	13	12	16
3	30	49	23	25	25	28	20	31	e16	15	12	15
4	30	48	24	25	25	26	20	33	e16	15	13	15
5	30	47	23	26	26	24	19	25	e15	17	14	15
6	30	47	25	26	27	25	22	25	e15	16	14	14
7	30	47	24	25	25	26	25	23	e15	15	16	15
8	31	47	26	26	26	26	25	26	17	13	19	15
9	33	46	23	27	25	26	21	25	17	16	20	15
10	33	46	25	27	26	26	18	21	23	15	20	12
11	32	47	25	28	27	26	18	25	21	14	17	14
12	32	47	24	27	27	24	22	26	22	14	15	18
13	32	47	24	25	28	24	20	26	18	16	15	42
14	33	47	25	27	28	24	22	28	18	21	16	23
15	35	47	24	27	28	22	25	28	18	18	16	19
16	36	33	23	26	35	22	29	29	19	15	16	18
17	35	4.3	24	26	32	22	29	e22	20	14	16	19
18	34	2.7	24	27	28	21	24	e21	19	14	16	19
19	37	2.9	25	27	29	22	23	e21	18	12	16	19
20	38	2.4	24	26	29	26	26	e22	19	13	16	20
21	35	2.4	24	26	28	21	25	e22	22	13	18	19
22	36	2.4	26	27	27	22	25	e23	23	13	18	17
23	39	8.7	25	27	27	24	25	e24	18	15	17	16
24	37	23	24	26	28	23	29	e27	18	12	16	16
25	38	22	25	27	29	23	31	e25	18	12	16	17
26	34	22	27	27	30	22	30	e21	20	12	16	17
27	33	22	25	26	29	22	27	e20	18	13	17	17
28	155	22	24	27	27	22	20	e19	15	13	19	17
29	160	24	25	27	---	22	21	e18	13	13	17	17
30	75	23	25	28	---	19	28	e17	16	16	16	17
31	54	---	25	27	---	19	---	e16	---	14	17	---
TOTAL	1348	929.8	756	818	776	736	709	751	539	446	499	530
MEAN	43.5	31.0	24.4	26.4	27.7	23.7	23.6	24.2	18.0	14.4	16.1	17.7
MAX	160	51	27	28	35	29	31	33	23	21	20	42
MIN	30	2.4	23	25	25	19	18	16	13	12	12	12
AC-FT	2670	1840	1500	1620	1540	1460	1410	1490	1070	885	990	1050

CAL YR 1988 TOTAL 11618.8 MEAN 31.7 MAX 160 MIN 2.4 AC-FT 23050
WTR YR 1989 TOTAL 8837.8 MEAN 24.2 MAX 160 MIN 2.4 AC-FT 17530

e Estimated

08405200 PECOS RIVER BELOW DARK CANYON DRAW, AT CARLSBAD, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1972 to current year.

REMARKS.--Replaces station 08405000 Pecos River at Carlsbad, New Mexico at which sample collection was discontinued after September, 1987.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 28...	0830	267	3200	3480	7.76	7.70	11.0	17.0	10.2	1200	1000	300
DEC 29...	1200	25	2920	2980	8.17	7.80	14.5	7.5	13.9	1100	940	280
MAR 03...	1000	33	2700	2770	7.92	7.80	18.5	12.0	11.0	970	840	250
APR 28...	1100	20	2990	3190	7.86	7.70	25.0	18.0	8.4	1100	900	270
JUL 10...	1535	13	2990	3230	7.79	7.70	39.0	27.0	7.9	1200	1100	300
SEP 11...	1500	19	3190	3260	7.76	7.80	29.5	27.0	7.9	1200	1100	300

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINEITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT 28...	110	320	4	4.3	179	1100	480	0.70	17	2440	220	30
DEC 29...	91	290	4	4.1	139	900	440	0.60	15	2100	170	30
MAR 03...	84	250	4	3.8	133	810	400	0.70	16	1890	180	30
APR 28...	94	300	4	4.2	162	900	510	0.70	15	2190	220	30
JUL 10...	110	310	4	4.5	153	990	500	0.70	19	2330	220	20
SEP 11...	110	320	4	4.6	137	1000	490	0.70	19	2330	220	20

08405500 BLACK RIVER ABOVE MALAGA, NM

LOCATION.--Lat 32°13'44", long 104°09'02", in SW¼NW¼SW¼ sec.12, T.24 S., R.27 E., Eddy County, Hydrologic Unit 13060011, on right bank 0.6 mi upstream from Black River diversion dam, 4.6 mi west of Malaga, and 7.1 mi upstream from mouth. Mouth at Pecos River mile 436.3.

DRAINAGE AREA.--343 mi².

PERIOD OF RECORD.--March to December 1940, December 1946 to current year.

REVISED RECORDS.--WSP 1632: 1948, 1949-50(P).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 3,070 ft above National Geodetic Vertical Datum of 1929, from topographic map. March to December 1940, water-stage recorder and Cippoletti weir at site 0.3 mi downstream at different datum.

REMARKS.--Records good. Diversions and ground-water withdrawals for irrigation of about 1,000 acres, 1959 determination, upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--42 years (water years 1948-89), 13.1 ft³/s, 9,490 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 74,600 ft³/s, Aug. 23, 1966, gage height, 21.7 ft, from floodmarks, from rating curve extended above 5,900 ft³/s on basis of slope-area measurements at gage heights 12.60 ft and 21.7 ft; minimum, 0.51 ft³/s, June 1, 1983.
The flood of Aug. 23, 1966, exceeded the previous maximum stage, which occurred in 1908, by about 1.0 ft, from information by local resident.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 20 or 21, 1941, reached a stage of 19.0 ft, present site and datum, determined in 1947 from well-defined floodmarks, discharge, 33,000 ft³/s, from rating curve extended above 1,400 ft³/s on basis of slope-area measurements at gage heights 8.41 ft and 12.60 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Aug. 28	1015	*369	*2.82				
Minimum discharge, 7.5 ft³/s, Aug. 25.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	11	17	18	18	17	14	13	9.8	9.0	8.9	11
2	11	11	18	17	18	13	15	13	11	9.2	9.4	17
3	11	11	18	13	18	12	15	13	11	9.2	10	16
4	11	11	18	12	18	11	15	13	11	9.3	11	13
5	11	11	18	16	18	11	15	13	11	9.6	11	11
6	11	11	17	17	18	11	15	13	11	9.5	10	11
7	11	11	17	17	19	11	15	13	10	9.4	11	11
8	11	11	19	17	19	11	15	13	10	9.5	11	11
9	11	11	18	17	19	11	15	13	11	9.8	11	15
10	11	11	18	17	19	11	15	13	11	9.9	11	12
11	11	11	18	17	18	11	15	13	12	10	11	12
12	11	11	18	17	18	10	15	15	11	10	11	11
13	11	12	18	17	18	11	15	14	10	10	10	12
14	11	12	18	17	18	11	16	13	11	10	10	23
15	11	12	18	17	18	11	15	13	11	10	10	14
16	11	11	18	17	19	11	15	12	11	9.9	10	11
17	11	12	17	17	21	11	15	12	10	9.8	10	9.9
18	11	12	14	17	20	11	15	11	10	9.7	11	9.4
19	11	12	17	17	19	11	16	10	10	9.7	9.5	9.2
20	11	12	17	17	19	11	15	9.5	9.9	9.7	8.4	9.2
21	11	12	17	17	19	12	14	9.4	9.7	9.4	8.2	9.2
22	11	12	18	17	18	12	12	9.0	9.8	9.5	8.5	9.2
23	11	12	17	17	18	12	12	8.9	9.8	9.4	8.4	9.2
24	11	13	17	17	18	12	11	9.1	10	9.8	8.0	9.2
25	11	13	17	17	18	12	11	8.7	10	11	7.8	9.1
26	11	16	17	17	18	11	11	8.6	9.0	11	8.2	8.8
27	11	16	17	17	18	11	11	9.1	8.1	11	8.3	8.8
28	11	17	17	17	18	11	11	9.6	7.8	11	118	8.8
29	11	17	17	17	---	11	11	9.2	7.8	8.7	54	8.8
30	11	17	18	18	---	11	11	8.8	8.7	8.4	17	8.9
31	11	---	18	18	---	11	---	8.7	---	8.2	11	---
TOTAL	341	372	541	520	517	354	416	351.6	303.4	300.6	462.6	338.7
MEAN	11.0	12.4	17.5	16.8	18.5	11.4	13.9	11.3	10.1	9.70	14.9	11.3
MAX	11	17	19	18	21	17	16	15	12	11	118	23
MIN	11	11	14	12	18	10	11	8.6	7.8	8.2	7.8	8.8
AC-FT	676	738	1070	1030	1030	702	825	697	602	596	918	672

CAL YR 1988 TOTAL 5598.0 MEAN 15.3 MAX 285 MIN 7.2 AC-FT 11100
WTR YR 1989 TOTAL 4817.9 MEAN 13.2 MAX 118 MIN 7.8 AC-FT 9560

08406500 PECOS RIVER NEAR MALAGA, NM

LOCATION.--Lat 32°12'26", long 104°01'22", in SW¼NW¼NE¼ sec.19, T.24 S., R.29 E., Eddy County, Hydrologic Unit 13060011, on right bank 3.1 mi southeast of Malaga, 4.3 mi downstream from Black River, and at mile 432.2.

DRAINAGE AREA.--19,190 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1920 to current year. Monthly discharge only for some periods, published in WSP 1312.

REVISED RECORDS.--WSP 1632: 1925, 1932-37.

GAGE.--Water-stage recorder. Elevation of gage is 2,895.64 ft above National Geodetic Vertical Datum of 1929. May 1, 1920 to Mar. 24, 1949, at datum 3 ft higher.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Flow regulated by many reservoirs and diversion dams. Diversions and ground-water withdrawals upstream from station for irrigation of about 202,000 acres, 1959 determination. Harroun canal bypasses gage on left bank and irrigates approximately 1,000 acres adjacent to and downstream from gage. This bypass is not gaged. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--16 years (water years 1921-36), 274 ft³/s, 198,500 acre-ft/yr, prior to completion of Lake Sumner.
53 years (water years 1938-89), 167 ft³/s, 121,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 120,000 ft³/s, Aug. 23, 1966, gage height, 42.1 ft, from floodmarks, from rating curve extended above 36,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 3.7 ft³/s, Oct. 20, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--A major flood occurred in 1904, discharge not determined. Flood of Aug. 7, 1916, reached a discharge of 70,000 ft³/s, at Carlsbad, 27 mi upstream. Flood in September 1919 reached a stage of 29.4 ft, present datum, discharge, 40,400 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 212 ft³/s, Oct. 30, gage height, 4.38 ft; minimum, 23 ft³/s, Aug. 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	112	69	89	70	65	e49	42	26	36	30	34
2	95	111	69	90	72	62	e46	43	26	37	30	36
3	92	116	70	90	71	61	e46	42	26	34	30	37
4	112	111	71	81	72	62	e42	41	29	31	29	33
5	93	109	77	74	75	59	e38	41	28	29	28	32
6	76	107	80	75	77	67	40	39	27	28	26	32
7	64	109	81	71	80	63	35	39	26	28	26	33
8	62	109	87	73	80	58	34	38	26	27	24	35
9	68	110	90	70	80	55	41	37	25	26	23	31
10	65	109	86	70	77	57	44	37	27	30	23	28
11	64	106	86	71	75	53	43	39	37	31	24	28
12	62	110	85	72	75	53	42	43	33	27	31	27
13	66	109	84	70	79	52	43	38	30	25	32	26
14	74	111	86	70	91	52	42	35	35	26	35	26
15	73	113	85	71	92	53	40	32	36	29	39	39
16	73	109	84	71	67	48	48	33	31	32	31	37
17	74	100	83	70	87	44	49	35	28	33	30	37
18	71	81	83	70	99	41	51	34	27	34	31	36
19	68	67	84	69	85	e39	45	32	26	32	31	36
20	66	60	87	67	89	e43	45	37	25	31	35	36
21	69	58	86	67	98	e50	46	35	26	30	35	36
22	67	57	86	66	86	e62	44	36	27	28	36	38
23	67	56	86	68	78	e69	45	38	33	27	36	41
24	62	55	90	69	80	e64	45	33	30	26	36	41
25	67	57	85	74	78	e54	51	31	29	27	36	39
26	68	68	87	82	75	e52	57	29	29	27	34	39
27	80	71	89	77	74	e56	52	29	29	26	38	39
28	69	67	87	69	73	e49	43	27	29	27	40	37
29	124	69	87	62	---	e46	42	26	29	29	67	38
30	202	69	88	61	---	e44	43	26	32	30	44	39
31	141	---	89	60	---	e44	---	27	---	31	36	---
TOTAL	2517	2696	2587	2239	2235	1677	1331	1094	867	914	1026	1046
MEAN	81.2	89.9	83.5	72.2	79.8	54.1	44.4	35.3	28.9	29.5	33.1	34.9
MAX	202	116	90	90	99	69	57	43	37	37	67	41
MIN	62	55	69	60	67	39	34	26	25	25	23	26
AC-FT	4990	5350	5130	4440	4430	3330	2640	2170	1720	1810	2040	2070

CAL YR 1988 TOTAL 28168 MEAN 77.0 MAX 323 MIN 34 AC-FT 55870
WTR YR 1989 TOTAL 20229 MEAN 55.4 MAX 202 MIN 23 AC-FT 40120

e Estimated

08406500 PECOS RIVER NEAR MALAGA, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1937 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT 27...	0900	82	6250	6660	8.10	7.50	15.0	16.0	8.5	2000	1900	490
JAN 05...	1100	74	5900	6140	8.03	7.50	15.0	9.0	--	2000	1800	490
MAR 06...	1130	67	6400	6390	8.10	7.80	6.5	9.0	10.8	1900	1700	450
MAY 01...	1020	42	7000	7180	8.07	7.50	14.0	19.0	8.1	2000	1900	480
JUL 03...	1130	34	8200	8070	7.86	7.40	30.0	29.0	7.2	2400	2300	580
SEP 11...	1110	28	8000	7800	8.09	7.40	29.5	25.5	8.3	2400	2300	600

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT 27...	200	760	8	5.0	145	1800	1300	0.70	11	4650	420	60
JAN 05...	190	720	7	10	189	1700	1200	0.70	15	4440	350	14
MAR 06...	180	710	7	11	163	1600	1200	0.80	14	4260	380	50
MAY 01...	200	810	8	10	132	1800	1500	0.90	8.9	4890	440	40
JUL 03...	240	1000	9	17	132	2100	1700	0.90	19	5740	540	40
SEP 11...	230	980	9	15	140	2100	1700	1.0	18	5730	500	70

08407000 PECOS RIVER AT PIERCE CANYON CROSSING, NEAR MALAGA, NM

LOCATION.--Lat 32°11'19", long 103°58'43", in SW¼SW¼NW¼ sec.27, T.24 S., R.29 E., Eddy County, Hydrologic Unit 13060011, on right bank 550 ft upstream from Pierce Canyon Crossing, 6.0 mi southeast of Malaga, and at mile 425.7.

DRAINAGE AREA.--19,260 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1938 to September 1941, August 1951 to current year.

REVISED RECORDS.--WSP 898: 1938(M). WSP 1712: 1959.

GAGE.--Water-stage recorder. Elevation of gage is 2,889.18 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Bureau of Reclamation). July 1938 to Sept. 1941, at datum 1.19 ft higher.

REMARKS.--Water-discharge records good except those above 300 ft³/s, which are fair. Flow regulated by many reservoirs and diversion dams. Diversions and ground-water withdrawals upstream from station for irrigation of about 202,000 acres, 1959 determination. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--41 years (water years 1939-41, 1952-89), 134 ft³/s, 97,080 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge determined, 65,000 ft³/s, Aug. 23, 1966; maximum gage height, 31.6 ft, Aug. 23, 1966, from floodmarks; minimum, 0.54 ft³/s, May 30, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 201 ft³/s, Oct. 30, gage height, 2.28 ft³/s; minimum, 21 ft³/s, June 21.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	115	77	87	74	73	49	34	28	32	34	40
2	91	114	78	87	82	64	44	34	27	37	34	39
3	94	117	76	87	83	61	45	35	25	37	32	39
4	107	114	79	82	80	62	42	38	26	32	33	37
5	101	111	82	74	80	64	36	39	28	28	31	34
6	87	108	85	73	81	66	38	39	27	28	30	33
7	73	108	86	72	71	67	36	36	26	27	29	33
8	66	108	92	71	71	62	33	36	27	28	29	34
9	69	110	94	70	79	56	34	35	28	27	28	35
10	72	110	93	69	82	54	39	31	29	24	26	31
11	67	106	89	70	78	54	42	31	30	29	24	29
12	63	108	90	72	79	52	41	36	36	30	25	28
13	69	108	88	72	82	52	40	36	34	28	29	29
14	76	108	88	71	86	50	42	34	32	27	30	28
15	80	108	87	71	96	51	43	30	35	28	36	31
16	73	107	87	72	87	49	42	28	36	31	37	39
17	79	102	87	72	88	45	44	29	34	33	32	40
18	74	88	86	71	101	42	42	30	31	32	32	39
19	74	72	84	71	92	42	40	29	27	32	32	38
20	68	62	86	71	87	42	38	29	25	31	32	37
21	72	59	86	70	92	48	40	32	23	32	35	36
22	66	59	85	69	94	60	39	31	27	31	38	37
23	72	56	85	70	83	68	38	33	25	30	39	37
24	65	54	86	71	83	66	42	33	29	29	42	38
25	67	54	85	73	83	57	41	30	28	29	43	38
26	66	63	83	83	77	53	44	29	26	28	39	37
27	80	73	86	84	77	56	46	28	25	29	38	37
28	77	71	85	79	77	51	41	28	25	29	45	36
29	86	70	84	75	---	49	37	29	27	30	55	35
30	195	74	85	72	---	45	35	28	30	32	57	34
31	158	---	87	68	---	45	---	28	---	34	45	---
TOTAL	2571	2717	2651	2299	2325	1706	1213	998	856	934	1091	1058
MEAN	82.9	90.6	85.5	74.2	83.0	55.0	40.4	32.2	28.5	30.1	35.2	35.3
MAX	195	117	94	87	101	73	49	39	36	37	57	40
MIN	63	54	76	68	71	42	33	28	23	24	24	28
AC-FT	5100	5390	5260	4560	4610	3380	2410	1980	1700	1850	2160	2100

CAL YR 1988 TOTAL 29347 MEAN 80.2 MAX 310 MIN 37 AC-FT 58210
WTR YR 1989 TOTAL 20419 MEAN 55.9 MAX 195 MIN 23 AC-FT 40500

08407000 PECOS RIVER AT PIERCE CANYON CROSSING, NEAR MALAGA, NM -- Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected 0.2 mi downstream from streamflow gaging station.

PERIOD OF RECORD.--Water years 1938-41, 1952 to current year.

REMARKS.--No significant inflow between streamflow gaging station and sampling cross-section.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT												
27...	0950	83	9000	9610	8.01	7.40	23.0	17.0	10.8	2000	1900	470
JAN												
05...	1230	75	8100	8230	8.16	8.00	18.5	8.5	--	1900	1800	460
MAR												
06...	1300	66	8500	9210	8.23	7.80	17.0	9.0	12.4	1900	1800	460
MAY												
01...	1145	36	11100	11400	8.15	7.40	12.5	18.5	10.8	2100	2000	470
JUL												
03...	1230	38	14100	13900	8.26	7.20	33.0	29.0	10.9	2500	2400	580
SEP												
11...	1330	28	12500	12100	8.19	7.20	28.5	25.5	8.7	2500	2400	580

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT												
27...	210	1400	14	39	144	1900	2400	0.70	11	6520	540	40
JAN												
05...	190	1100	11	28	111	1700	1900	0.60	13	5460	420	40
MAR												
06...	190	1300	13	31	157	1700	2200	0.70	13	5990	480	40
MAY												
01...	220	1900	19	49	114	2000	2900	0.80	5.6	7610	620	50
JUL												
03...	260	2200	20	73	104	2300	3800	0.80	18	9300	930	60
SEP												
11...	260	1700	15	51	121	2200	3200	0.90	17	8080	650	50

RIO GRANDE BASIN

08407500 PECOS RIVER AT RED BLUFF, NM
(National stream-quality accounting network station)

LOCATION.--Lat 32°04'30", long 104°02'21", in SW¼NW¼NE¼ sec.1, T.26 S., R.28 E., Eddy County, Hydrologic Unit 13060011, on right bank at Red Bluff, 0.2 mi downstream from Red Bluff Draw, 1.6 mi northwest of the El Paso Natural Gas (Pecos River) compressor station, 5.2 mi north of the New Mexico-Texas State line, 5.5 mi upstream from Delaware River, and at mile 411.2.

DRAINAGE AREA.--19,540 mi², approximately (contributing area).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1937 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,850.05 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow regulated by many reservoirs and diversion dams. Diversions and ground-water withdrawals upstream from station for irrigation of about 202,000 acres, 1959 determination. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--52 years, 162 ft³/s, 117,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 111,000 ft³/s, Aug. 23, 1966, gage height, 33.32 ft, from rating curve extended above 32,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 0.19 ft³/s, Aug. 1, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1904 reached a stage of 28.0 ft, from information by Panhandle and Santa Fe Railway Co. (For dates of other historical floods see stations 08404000, 08406500.)

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 195 ft³/s, Oct. 30, gage height, 4.59 ft; minimum, 20 ft³/s, June 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	132	83	89	67	77	53	33	27	28	32	44
2	88	117	84	89	75	69	51	33	28	31	33	47
3	98	122	83	89	80	64	49	33	27	37	32	41
4	99	121	83	87	79	62	51	35	24	33	30	41
5	112	116	86	79	76	64	43	38	25	27	31	39
6	95	113	90	73	76	65	40	39	27	25	29	37
7	82	113	91	73	78	69	40	38	26	24	28	36
8	70	113	96	69	60	67	37	36	24	23	27	36
9	66	113	99	70	74	61	34	36	25	23	27	38
10	74	113	101	68	80	57	38	34	27	23	26	36
11	69	110	96	69	79	57	44	31	28	22	26	32
12	66	109	95	70	76	55	46	33	32	27	25	29
13	67	111	95	70	78	55	42	37	37	26	29	31
14	74	110	94	70	82	54	45	37	33	25	31	29
15	82	111	93	69	92	52	46	32	34	25	32	28
16	75	110	92	70	95	54	46	28	37	26	41	37
17	79	107	91	70	88	50	46	26	37	30	35	45
18	76	98	90	70	97	45	44	29	33	32	32	43
19	75	79	89	69	100	43	44	30	28	31	32	41
20	72	65	89	70	89	44	38	28	25	28	31	40
21	71	60	91	69	90	45	38	30	22	28	32	39
22	71	60	90	69	98	57	41	31	20	29	47	38
23	70	60	89	68	89	70	38	32	22	28	37	38
24	69	58	89	69	83	72	40	34	22	27	39	38
25	66	57	91	69	85	66	42	32	26	27	43	41
26	69	63	85	75	82	58	42	30	25	26	43	39
27	73	75	87	82	78	58	47	28	24	26	37	37
28	81	79	88	77	79	58	44	27	22	26	41	37
29	74	77	87	75	---	54	39	28	21	26	46	36
30	154	78	86	69	---	53	34	28	27	28	62	34
31	182	---	88	69	---	49	---	27	---	31	53	---
TOTAL	2585	2850	2791	2274	2305	1804	1282	993	815	848	1089	1127
MEAN	83.4	95.0	90.0	73.4	82.3	58.2	42.7	32.0	27.2	27.4	35.1	37.6
MAX	182	132	101	89	100	77	53	39	37	37	62	47
MIN	66	57	83	68	60	43	34	26	20	22	25	28
AC-FT	5130	5650	5540	4510	4570	3580	2540	1970	1620	1680	2160	2240

CAL YR 1988 TOTAL 29906 MEAN 81.7 MAX 308 MIN 38 AC-FT 59320
WTR YR 1989 TOTAL 20763 MEAN 56.9 MAX 182 MIN 20 AC-FT 41180

08407500 PECOS RIVER AT RED BLUFF, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1937 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE-CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	
OCT	27...	1315	71	10000	9950	8.07	7.50	32.0	19.0	8.5	9.9	2000	1900
DEC	30...	1230	86	8100	8440	8.25	7.40	13.5	5.0	2.4	12.0	1900	1800
FEB	28...	1300	79	8100	8370	8.17	7.80	11.0	14.0	18	9.4	1800	1700
MAY	01...	1345	32	12200	12500	8.25	7.30	23.5	20.0	15	8.9	2300	2200
JUN	29...	1330	21	17900	17400	8.28	7.20	32.0	30.0	16	8.2	2800	2700
SEP	01...	1115	43	12100	11900	8.10	7.60	34.0	28.0	16	7.0	2600	2500
DATE		CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
OCT	27...	470	210	1600	16	3.3	162	0	133	131	1900	2400	0.70
DEC	30...	460	190	1200	12	28	209	0	171	169	1800	2000	0.70
FEB	28...	430	170	1200	13	28	172	0	141	98	1600	1900	0.70
MAY	01...	520	240	2000	19	52	161	0	132	109	2100	3500	0.80
JUN	29...	610	300	3000	26	110	111	0	91	93	2400	5000	0.90
SEP	01...	600	270	1800	16	47	146	0	120	120	2200	3200	0.90
DATE		SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
OCT	27...	10	6920	6680	0.740	0.040	0.780	0.190	0.190	--	0.060	0.030	20
DEC	30...	14	5900	5800	1.57	0.030	1.60	0.150	0.180	1.1	<0.010	0.020	--
FEB	28...	11	5710	5400	0.850	0.040	0.890	0.300	0.270	0.60	0.070	<0.010	--
MAY	01...	4.5	8500	8480	--	<0.010	<0.100	0.170	0.150	0.43	0.110	0.020	420
JUN	29...	16	--	11500	--	<0.010	<0.100	0.170	0.130	2.1	0.090	0.010	30
SEP	01...	13	8380	8210	0.160	0.030	0.190	0.110	0.100	1.7	0.070	0.010	<10

RIO GRANDE BASIN

08407500 PECOS RIVER AT RED BLUFF, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
OCT 27...	2	<100	<10	<1	2	<1	1	50	<5	90	20	0.3
DEC 30...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 28...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	2	200	<10	1	<2	1	3	270	<1	110	50	0.7
JUN 29...	2	100	<10	<2	2	<2	4	90	<2	<10	40	0.2
SEP 01...	1	<100	<10	<1	3	1	2	50	<1	100	20	0.5

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, DIS- SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. & FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 27...	3	<1	2	<1.0	5900	41	20	455	87	90	K1	22
DEC 30...	--	--	--	--	--	--	--	495	115	83	<1	K1
FEB 28...	--	--	--	--	--	--	--	--	--	--	K1	410
MAY 01...	3	3	2	<1.0	720	48	20	709	61	90	K1	430
JUN 29...	2	<2	2	<2.0	5800	14	20	--	--	100	<3	K4
SEP 01...	2	<1	1	<1.0	6700	<15	20	--	--	--	<3	K4

08408500 DELAWARE RIVER NEAR RED BLUFF, NM

LOCATION.--Lat 32°01'23", long 104°03'15", in NE¼SW¼SE¼ sec.23, T.26 S., R.28 E., Eddy County, Hydrologic Unit 13070002, near center of channel on downstream side of pier of bridge on U.S. Highway 285, 2.1 mi north of the New Mexico-Texas State line, 3.6 mi southwest of Red Bluff, 3.7 mi upstream from mouth and 14 mi south of Malaga. Mouth at Pecos River mile 405.6.

DRAINAGE AREA.--689 mi².

PERIOD OF RECORD.--April 1912 to September 1913, May 1914 to June 1915, October 1937 to current year. Published as "near Malaga" 1912-13, and as "near Angeles, Tex." 1914-15.

GAGE.--Water-stage recorder. Elevation of gage is 2,900.66 ft above National Geodetic Vertical Datum of 1929 (U.S. Boundary Commission post). Prior to May 1914, at site 3.0 mi upstream at different datum. May 1914 to June 1915, at site 2.5 mi downstream at different datum.

REMARKS.--Records good. One small upstream diversion. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--52 years (water years 1938-89), 12.6 ft³/s, 9,130 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,400 ft³/s, Oct. 2, 1955, gage height, 27.0 ft, from floodmarks, from rating curve extended above 6,500 ft³/s on basis of slope-area measurements at gage heights, 12.84 ft, 17.55 ft, and 27.0 ft; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 29	1715	*365	*5.03				

No flow many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	2.8	3.7	4.2	4.3	3.8	3.4	1.9	.05	.00	.00	6.8
2	2.5	2.8	3.7	4.3	4.3	3.9	3.4	1.9	.30	.00	.00	5.4
3	2.5	2.8	3.8	4.3	4.2	3.7	3.4	1.8	18	.00	.00	4.1
4	2.5	2.8	3.8	4.3	4.2	3.7	3.2	1.6	4.9	.00	.00	2.8
5	2.5	2.7	3.8	4.3	4.2	3.7	3.3	1.5	2.9	.00	.00	1.7
6	2.5	2.7	3.9	4.3	4.2	3.7	3.4	1.4	2.2	.00	.00	1.2
7	2.6	2.8	3.9	4.3	4.1	3.7	3.7	1.3	1.6	.00	.00	1.1
8	2.6	2.9	4.1	4.4	4.0	3.8	3.7	1.3	1.2	.00	.00	1.2
9	2.6	2.9	4.0	4.4	4.0	3.7	3.7	1.1	.80	.00	.00	1.0
10	2.6	2.9	4.0	4.3	4.0	3.7	3.5	19	1.1	.00	.00	1.1
11	2.7	2.9	4.0	4.3	4.2	3.7	3.7	29	1.3	.00	.00	1.0
12	2.7	2.9	4.0	4.3	4.2	3.7	3.8	9.6	1.1	.00	.00	1.7
13	2.6	3.0	4.0	4.3	4.2	3.6	3.9	3.5	.54	.00	.00	5.0
14	2.6	3.1	4.0	4.3	4.2	3.6	3.9	1.9	.40	.00	.00	6.8
15	2.6	3.0	4.0	4.3	4.2	3.5	3.8	1.7	.47	.00	.00	7.0
16	2.6	3.0	3.9	4.3	4.3	3.4	3.8	1.6	.56	.00	.00	4.1
17	2.6	3.1	4.0	4.3	4.6	3.5	3.5	1.5	.40	.00	.00	2.6
18	2.5	3.2	4.0	4.3	4.5	3.5	3.5	1.4	.15	.00	.00	1.9
19	2.6	3.2	4.0	4.3	4.4	3.5	3.5	1.4	.00	.00	.00	1.7
20	2.6	3.3	3.9	4.3	4.2	3.4	3.3	1.4	.00	.00	.00	1.4
21	2.7	3.4	3.9	4.3	4.1	3.5	3.0	1.2	.00	.00	.00	1.3
22	2.7	3.4	3.9	4.3	3.9	3.5	2.9	.96	.00	.00	.00	1.3
23	2.7	3.0	4.0	4.3	3.9	3.5	2.6	.92	.00	.00	.00	1.5
24	2.7	3.5	4.0	4.3	3.9	3.5	2.6	.64	.00	.00	.00	1.3
25	2.6	3.5	4.1	4.3	4.0	3.5	2.5	.47	.00	.00	.00	1.3
26	2.6	3.5	4.1	4.3	3.9	3.4	2.3	.38	.00	.00	.00	1.2
27	2.6	3.6	4.2	4.4	3.9	3.4	2.1	.36	.00	.00	.52	1.1
28	2.6	3.7	4.2	4.4	3.9	3.5	2.0	.46	.00	.00	11	1.0
29	2.7	3.7	4.2	4.3	---	3.5	1.9	.56	.00	.00	71	1.0
30	2.7	3.7	4.2	4.3	---	3.5	1.9	.34	.00	.00	17	1.0
31	2.8	---	4.2	4.3	---	3.5	---	.16	---	.00	6.2	---
TOTAL	80.9	93.8	123.5	133.6	116.0	111.1	95.2	92.25	37.97	0.00	105.72	71.6
MEAN	2.61	3.13	3.98	4.31	4.14	3.58	3.17	2.98	1.27	.00	3.41	2.39
MAX	2.8	3.7	4.2	4.4	4.6	3.9	3.9	.29	.18	.00	.71	.70
MIN	2.5	2.7	3.7	4.2	3.9	3.4	1.9	.16	.00	.00	.00	1.0
AC-FT	160	186	245	265	230	220	189	183	75	.0	210	142

CAL YR 1988 TOTAL 1629.7 MEAN 4.45 MAX 21 MIN 1.4 AC-FT 3230
WTR YR 1989 TOTAL 1061.64 MEAN 2.91 MAX 71 MIN .00 AC-FT 2110

08410000 RED BLUFF RESERVOIR NEAR ORLA, TX

LOCATION.--Lat 31°54'04", long 103°54'35", Reeves County, Hydrologic Unit 13070001, at right end of Red Bluff Dam on the Pecos River, 2.8 mi upstream from Salt Creek, and 5.2 mi north of Orla.

DRAINAGE AREA.--20,720 mi², approximately (contributing area).

PERIOD OF RECORD.--February 1937 to current year. Monthly contents only for some periods, published in WSP 1312.

GAGE.--Nonrecording gage. Datum of gage is 0.43 ft below National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by a rock-faced earthfill dam 9,200 ft long. The dam was completed and storage began in September 1936. The dam and reservoir are owned and operated by the Red Bluff Water Power Control District. The water is used for power development and for irrigation from Mentone and Grandfalls. The uncontrolled emergency spillway, 790 ft wide, is a cut through natural ground located to the right of right end of dam. The controlled service spillway is equipped with 12 tainter gates that are 25 by 15 ft high. Inflow is regulated by many reservoirs and diversion dams. The capacity curve is based on Geological Survey topographic map and aerial photography, survey of 1986. Figures given herein represent total contents. Data regarding the dam and reservoir are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Top of dam	2,856.0	-
Crest of emergency spillway.....	2,845.0	324,000
Top of gates (top of conservation pool)	2,842.0	289,700
Crest of service spillway and bottom of tainter gates.....	2,827.0	155,700
Lowest gated outlet (invert)	2,764.0	2,800

COOPERATION.--Gage-height records and capacity curve were furnished by Red Bluff Water Power and Control District.

EXTREMES (AT 0800) FOR PERIOD OF RECORD.--Maximum contents observed, 352,000 acre-ft, Sept. 27, 28, 1941, gage height, 2,846.2 ft, observed on nonrecording gage at service spillway (affected by variable drawdown due to flow through tainter gates); minimum observed, 11,080 acre-ft, May 13, 1948, gage height, 2,781.4 ft.

EXTREMES (AT 0800) FOR CURRENT YEAR.--Maximum contents observed, 186,200 acre-ft, Mar. 2-11, gage height, 2,831.1 ft; minimum observed, 97,200 acre-ft, Sept. 28-30, gage height, 2,817.1 ft.

Capacity table (gage height, in feet, and total contents, in acre-feet)

2,817.0	96,680	2,824.0	135,800	2,830.0	177,700
2,820.0	112,200	2,826.0	148,900	2,831.0	185,400
2,822.0	123,600	2,828.0	162,800	2,832.0	193,500

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	180900	177300	177700	180900	182500	185400	176500	160600	150300	135800	109900	98700
2	180900	177300	177700	180900	182500	186200	175700	159900	149600	135000	108900	98700
3	180100	177300	177700	180900	182500	186200	174900	159900	149600	134400	107900	98200
4	180100	177300	177700	180900	183300	186200	174100	159200	149600	133200	107400	98200
5	180100	177300	177700	180900	183300	186200	173300	158500	148900	132600	106200	98200
6	180100	177300	177700	180900	183300	186200	172500	157800	148900	132000	105200	97700
7	180100	177300	177700	180900	183300	186200	171700	157100	148900	130800	104200	97700
8	180100	177700	177700	180900	183300	186200	170100	157100	148500	130200	103700	97700
9	180100	177700	178500	180900	183300	186200	169100	156400	148500	129600	102700	97700
10	180100	177700	178500	180900	183300	186200	168400	156400	147800	128400	102200	97700
11	180100	177700	178500	181700	183300	186200	167700	155700	147800	127800	101700	97700
12	179300	177700	178500	181700	183300	185400	167700	155700	147800	126600	101200	97700
13	179300	177700	178500	181700	183300	184900	167000	155700	147100	126000	100700	97700
14	179300	177700	179300	181700	183300	184100	167000	155200	147100	124800	101200	97700
15	179300	177700	179300	181700	183300	183300	167000	155200	146400	124200	101200	97700
16	179300	177700	179300	181700	183300	182500	167000	155200	146400	123600	100700	97700
17	179300	177700	179300	181700	184100	181700	166300	154500	145700	122600	100700	97700
18	179300	177700	179300	181700	184900	180900	166300	154500	145700	122000	100200	97700
19	179300	177700	179300	181700	184900	180900	166300	153800	145700	120800	100200	97700
20	179300	177700	179300	181700	184900	180900	165600	153800	145000	120200	100200	97700
21	179300	177700	179300	181700	184900	180100	165600	153800	145000	119600	99700	97700
22	179300	177700	179300	181700	185400	180100	164900	153100	144300	118400	101200	97700
23	179300	177700	180100	181700	185400	179300	164200	153100	142900	117800	100700	97700
24	178500	177700	180100	182500	185400	179300	164200	152400	142200	117000	100700	97700
25	178500	177700	180100	182500	185400	179300	163500	152400	140600	116400	100200	97700
26	177700	177700	180100	182500	185400	179300	162800	151700	140000	115800	99700	97700
27	177700	177700	180100	182500	185400	179300	162000	151700	139400	114600	99200	97700
28	177700	177700	180100	182500	185400	179300	162000	151000	138200	114000	99200	97200
29	177300	177700	180100	182500	---	178500	161300	151000	137600	112800	98700	97200
30	177300	177700	180100	182500	---	177700	161300	150300	136400	111400	98700	97200
31	177300	---	180100	182500	---	177300	---	150300	---	110900	98700	---
MAX	180900	177700	180100	182500	185400	186200	176500	160600	150300	135800	109900	98700
MIN	177300	177300	177700	180900	182500	177300	161300	150300	136400	110900	98700	97200
(+)	2829.9	2830.0	2830.3	2830.6	2831.0	2829.9	2827.8	2826.2	2824.1	2819.8	2817.4	2817.1
(++)	-3600	+400	+2400	+2400	+2900	-8100	-16000	-11000	-13900	-25500	-12200	-1500
CAL YR 1988	MAX	226500	MIN	177300	(++)	-41900						
WTR YR 1989	MAX	186200	MIN	97200	(++)	-83700						

(+) Gage height, in feet, at end of month.

(++) Change in contents, in acre-feet.

08477110 MIMBRES RIVER AT MIMBRES, NM

LOCATION.--Lat 32°51'17", long 107°58'23", in NW¼SW¼ sec.3, T.16 S., R.11 W., Grant County, Hydrologic Unit 13030202, on left bank 100 ft downstream from Willow Springs Canyon, 0.3 mi east of Mimbres, 1.1 mi downstream from Shepard Canyon,, 2.5 mi downstream from Bear Canyon, and at mile 73.1.

DRAINAGE AREA.--184 mi².

PERIOD OF RECORD.--March 1978 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,920 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Jan. 17, 1979, at datum 2.29 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--11 years, 20.7 ft³/s, 15,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,360 ft³/s, Dec. 28, 1984, gage height, 8.05 ft, from floodmarks, from rating curve extended above 450 ft³/s on basis of slope-area measurements at gage heights 6.70 ft and 8.05 ft; minimum, 0.22 ft³/s, Aug. 22, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 26	0230	355	4.29	July 30	1400	*2,890	*6.73

Minimum discharge, 1.7 ft³/s, Jun. 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	15	11	7.9	7.5	5.1	3.1	4.4	2.5	4.4	129	17
2	22	14	11	7.9	7.3	4.9	3.1	4.5	2.5	4.2	89	20
3	20	14	11	7.9	7.3	4.8	3.3	4.5	2.4	4.2	35	21
4	18	14	11	8.9	7.3	4.1	3.5	4.3	2.5	4.2	39	26
5	19	14	11	8.5	7.3	4.0	3.8	4.3	2.5	4.0	30	39
6	19	13	11	8.3	7.4	4.0	3.9	4.1	2.4	4.6	e28	19
7	19	12	11	8.1	7.3	4.0	3.7	3.8	2.2	7.6	e28	21
8	18	13	11	8.0	7.2	3.9	3.8	3.7	2.1	7.7	e26	14
9	19	13	11	8.0	7.0	3.6	4.0	3.5	1.9	9.1	e25	10
10	21	13	10	8.0	7.1	e3.2	4.6	3.5	1.9	12	e25	8.7
11	20	13	9.7	8.3	7.1	e3.1	4.3	3.5	2.0	13	e24	8.8
12	20	12	9.6	8.0	7.0	e3.0	4.4	3.3	1.7	9.9	e23	9.4
13	18	12	9.4	7.9	7.0	e2.9	4.4	3.2	1.7	5.8	e22	9.3
14	18	12	9.9	7.9	7.0	e2.9	4.1	3.1	1.8	5.9	e20	9.1
15	18	12	9.9	7.9	6.8	e2.9	3.7	3.0	2.4	5.8	e20	9.3
16	17	12	9.6	7.9	6.8	e3.0	3.8	3.0	4.6	5.4	e19	9.1
17	17	12	9.7	7.9	6.7	3.2	5.4	3.5	4.6	5.9	e17	9.3
18	17	12	9.4	8.0	6.6	3.3	6.2	3.7	4.3	5.1	e15	9.7
19	18	12	9.6	8.1	6.5	3.4	6.7	3.7	4.4	e15	e11	9.7
20	19	11	9.2	8.0	6.6	3.5	9.0	3.6	4.2	e24	e11	9.9
21	18	12	9.2	7.9	6.1	3.4	12	3.5	4.3	10	e10	9.8
22	17	12	9.1	7.8	6.0	3.2	9.4	3.3	4.4	8.9	e9.5	9.7
23	17	12	8.8	7.7	5.6	3.2	8.2	3.2	4.2	8.1	9.3	9.9
24	16	12	8.3	7.8	5.6	3.1	e12	3.2	3.9	12	9.0	10
25	16	12	8.3	7.7	5.4	3.1	e14	3.2	3.9	25	8.2	9.8
26	16	12	8.5	7.6	5.3	3.1	e19	3.0	3.9	105	7.1	7.7
27	16	12	8.3	7.7	5.3	3.9	e12	3.0	3.7	17	6.8	7.6
28	16	12	8.3	7.6	5.1	3.4	5.5	2.9	3.5	29	12	7.3
29	15	12	8.2	7.4	---	3.4	4.9	2.8	4.2	28	9.6	7.0
30	15	12	8.3	7.3	---	3.3	4.4	2.8	4.5	151	8.4	7.0
31	15	---	8.0	7.5	---	3.2	---	2.7	---	88	13	---
TOTAL	556	375	298.3	245.4	185.2	109.1	190.2	107.8	95.1	639.8	738.9	375.1
MEAN	17.9	12.5	9.62	7.92	6.61	3.52	6.34	3.48	3.17	20.6	23.8	12.5
MAX	22	15	11	8.9	7.5	5.1	19	4.5	4.6	151	129	39
MIN	15	11	8.0	7.3	5.1	2.9	3.1	2.7	1.7	4.0	6.8	7.0
AC-FT	1100	744	592	487	367	216	377	214	189	1270	1470	744

CAL YR 1988 TOTAL 11784.7 MEAN 32.2 MAX 1620 MIN 3.9 AC-FT 23370
WTR YR 1989 TOTAL 3915.9 MEAN 10.7 MAX 151 MIN 1.7 AC-FT 7770

e Estimated

TULAROSA VALLEY BASIN

08481500 TULAROSA CREEK NEAR BENT, NM
(National stream-quality accounting network station)

LOCATION.--Lat 33°08'41", long 105°53'50", in SE¼NW¼ sec.32, T.13 S., R.11 E., Otero County, Hydrologic Unit 13044503, on right bank 45 ft downstream from bridge on old U.S. Highway 70, 2.6 mi west of Bent, 8.5 mi northeast of Tularosa, and at mile 19.4.

DRAINAGE AREA.--120 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1947 to current year. Prior to October 1982, published as "Rio Tularosa near Bent."

REVISED RECORDS.--WSP 1312: 1949(M).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 5,450 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 1,000 acres, 1959 determination, upstream from station.

AVERAGE DISCHARGE.--41 years (1949-89), 11.7 ft³/s, 8,480 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,280 ft³/s, June 18, 1965, gage height, 5.02 ft, from rating curve extended above 160 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 5.60 ft, Aug. 8, 1988, discharge not determined; no flow May 14, 1955, result of unusual regulation.

EXTREMES OUTSIDE PERIOD OF RECORD.--A major flood probably occurred Sept. 3, 1938, when a peak of 9,640 ft³/s was computed for station approximately 6 mi downstream near Tularosa. Another flood may have occurred July 2, 1914.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 125 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 21	1745	*3,730	*4.64	July 30	2000	637	3.30
July 23	1645	174	2.88	Sept. 1	1830	460	3.18

Minimum discharge, 9.5 ft³/s, June 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	24	27	24	24	24	24	20	16	14	e20	31
2	17	24	27	24	22	24	21	20	16	14	e20	22
3	19	24	27	24	23	24	22	22	16	14	e21	21
4	18	24	26	25	23	24	22	21	16	14	e20	21
5	20	24	27	24	23	24	24	21	16	14	e19	23
6	20	24	27	24	24	24	22	22	15	15	e18	22
7	21	24	27	23	24	23	23	22	15	15	e20	25
8	22	24	27	23	23	24	24	22	14	15	e19	23
9	22	25	27	23	24	24	24	22	14	13	e19	22
10	22	26	28	23	24	24	23	23	14	13	e20	22
11	22	26	26	23	24	24	24	22	12	14	e20	21
12	22	26	26	24	25	22	24	22	12	15	e25	22
13	23	25	26	23	25	22	24	22	12	15	e20	22
14	24	25	26	24	25	24	24	20	14	15	e18	23
15	24	24	25	24	25	23	24	20	15	15	e17	22
16	19	24	25	23	26	23	21	20	14	15	e18	22
17	23	23	26	23	26	24	21	23	13	15	e17	21
18	19	25	26	23	26	24	22	22	13	16	e17	20
19	21	25	31	23	24	21	24	21	14	15	e17	19
20	22	24	25	22	24	22	23	21	14	15	e19	21
21	22	24	24	23	24	24	21	21	14	103	e20	21
22	22	25	24	23	24	25	22	20	15	e30	e18	21
23	22	25	24	23	24	25	22	19	15	e35	e17	21
24	22	26	24	24	24	25	22	19	15	e45	e16	20
25	23	27	24	24	24	24	22	18	12	e60	e16	20
26	24	28	24	24	23	24	22	17	13	e35	e18	20
27	23	27	23	25	23	25	22	17	12	e20	e30	19
28	25	27	23	24	23	24	22	16	14	e30	e23	19
29	25	27	23	23	---	24	22	16	14	e50	e22	19
30	25	27	23	23	---	25	20	15	14	e70	22	19
31	25	---	24	23	---	25	---	16	---	e35	24	---
TOTAL	679	753	792	728	673	738	677	622	423	804	610	644
MEAN	21.9	25.1	25.5	23.5	24.0	23.8	22.6	20.1	14.1	25.9	19.7	21.5
MAX	25	28	31	25	26	25	24	23	16	103	30	31
MIN	17	23	23	22	22	21	20	15	12	13	16	19
AC-FT	1350	1490	1570	1440	1330	1460	1340	1230	839	1590	1210	1280

CAL YR 1988 TOTAL 8669 MEAN 23.7 MAX 160 MIN 11 AC-FT 17190
WTR YR 1989 TOTAL 8143 MEAN 22.3 MAX 103 MIN 12 AC-FT 16150

e Estimated

TULAROSA VALLEY BASIN

287

08481500 TULAROSA CREEK NEAR BENT, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)
NOV											
17...	1330	23	1300	1250	8.50	7.80	15.0	8.0	4.6	9.7	44
FEB											
01...	1515	25	1300	1250	8.43	7.70	13.0	10.0	8.0	10.0	--
MAR											
16...	1300	24	1350	1250	8.31	7.90	21.5	12.0	15	9.3	--
MAY											
18...	1130	23	1320	1300	8.30	7.70	17.0	14.0	17	9.1	<10
JUL											
13...	1040	15	1290	1230	8.30	7.70	26.5	16.5	1.1	8.3	22
SEP											
27...	1145	20	1210	1280	8.20	7.80	15.0	13.0	7.7	8.6	19

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)
NOV											
17...	650	450	170	53	44	0.8	1.2	261	17	242	201
FEB											
01...	640	450	170	52	43	0.8	1.2	242	12	218	194
MAR											
16...	670	510	180	54	45	0.8	1.3	250	7	217	166
MAY											
18...	670	480	180	53	41	0.7	1.1	220	26	224	196
JUL											
13...	630	470	170	50	43	0.8	1.2	242	10	214	165
SEP											
27...	670	480	180	53	46	0.8	1.1	293	0	240	189

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)
NOV										
17...	440	57	0.40	15	933	907	0.630	0.030	0.660	0.050
FEB										
01...	460	60	0.40	13	937	919	--	<0.010	0.610	0.040
MAR										
16...	470	62	0.40	14	967	929	0.660	0.030	0.690	0.100
MAY										
18...	460	60	0.40	14	969	932	--	<0.010	0.510	0.060
JUL										
13...	440	56	0.30	14	903	877	--	<0.010	0.410	0.040
SEP										
27...	450	59	0.40	15	936	922	--	<0.010	0.500	0.040

TULAROSA VALLEY BASIN

08481500 TULAROSA CREEK NEAR BENT, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)
NOV 17...	0.070	0.25	0.030	0.030	3.8	<10	<1	36	<0.5	<1
FEB 01...	0.060	0.36	0.030	<0.010	--	--	--	--	--	--
MAR 16...	0.060	0.30	0.020	0.030	--	--	--	--	--	--
MAY 18...	0.060	0.34	<0.010	0.010	1.9	<10	<1	25	<0.5	<1
JUL 13...	0.070	0.16	0.020	<0.010	1.5	<10	<1	23	<0.5	<1
SEP 27...	0.050	0.56	0.040	0.020	1.8	20	<1	26	<0.5	<1

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)
NOV 17...	<1	<3	3	8	<5	25	20	0.1	<10	<1
FEB 01...	--	--	--	--	--	--	--	--	--	--
MAR 16...	--	--	--	--	--	--	--	--	--	--
MAY 18...	1	<3	7	6	2	19	13	<0.1	<10	2
JUL 13...	<1	<3	2	7	<1	18	8	<0.1	<10	1
SEP 27...	2	<3	1	7	<1	19	22	<0.1	<10	<1

DATE	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 17...	1	1.0	2200	<6	36	84	5.2	79	35	230
FEB 01...	--	--	--	--	--	93	6.2	74	22	160
MAR 16...	--	--	--	--	--	322	21	59	K6	26
MAY 18...	1	<1.0	2200	<6	24	112	7.0	65	110	160
JUL 13...	1	<1.0	2100	<6	15	63	2.6	95	73	530
SEP 27...	1	<1.0	2200	<6	20	110	5.9	82	40	110

08492900 SACRAMENTO RIVER NEAR SUNSPOT, NM

LOCATION.--Lat 32°42'50", long 105°45'15", in SW¼NE¼ sec.30, T.18 S., R.12 E., Otero County, Hydrologic Unit 13050004, on left abutment of concrete weir in Lincoln National Forest, 100 ft downstream from natural soda dam, 0.5 mi downstream from Hornbuckle Canyon, 3.2 mi downstream from Sacramento Lake, and 6.4 mi southeast of Sunspot.

DRAINAGE AREA.--12.8 mi².

PERIOD OF RECORD.--July 1984 to September 1989 (discontinued).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 7,830 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions upstream from station for municipal water supply for Village of Orogrande. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--5 years, 3.66 ft³/s, 2,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22 ft³/s, Aug. 14, 1984, gage height, 2.24 ft; minimum, 0.77 ft³/s, June 19, 20, 29, 30, July 22, 23, 1988, and July 16, 17, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13 ft³/s, at 2145 hours Aug. 19, gage height, 1.92 ft; minimum, 0.77 ft³/s, July 16, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	5.1	3.1	2.2	2.0	1.9	e1.6	1.4	1.6	2.4	1.1	1.5
2	6.2	5.1	3.1	2.5	2.1	1.8	e1.6	1.4	1.6	2.4	.99	1.4
3	6.3	5.0	3.1	2.7	2.0	1.9	e1.6	1.4	1.6	1.9	1.3	1.4
4	6.2	5.0	3.2	3.3	2.0	1.9	e1.6	1.4	1.6	1.2	1.2	1.4
5	6.2	4.9	3.3	3.1	2.0	1.8	e1.6	1.5	1.5	1.1	1.3	1.4
6	6.2	4.9	3.6	2.9	2.1	2.0	e1.6	1.5	1.5	1.1	1.3	1.5
7	6.2	4.7	3.7	2.8	2.0	2.1	e1.5	1.5	1.4	1.1	1.1	2.3
8	6.1	4.6	3.5	2.6	2.1	2.0	e1.5	1.5	1.4	1.1	1.1	1.7
9	6.2	4.7	3.0	2.6	2.1	1.9	e1.5	1.8	1.4	1.1	1.0	1.7
10	6.2	4.5	3.2	2.4	2.1	1.7	e1.5	2.4	1.4	1.1	1.0	1.7
11	6.2	4.5	3.0	2.2	2.2	1.7	e1.5	1.8	1.4	1.1	.98	1.7
12	6.1	4.4	3.2	2.2	2.2	1.7	e1.5	1.8	1.4	1.0	1.0	1.8
13	6.0	4.4	3.4	2.1	2.1	1.7	e1.5	1.7	1.4	1.1	1.1	2.0
14	6.0	4.3	3.4	2.1	2.2	1.7	e1.5	1.7	1.5	1.1	1.2	1.8
15	6.4	4.4	3.3	1.9	2.2	1.7	e1.5	1.6	1.3	1.0	1.1	1.8
16	5.9	4.1	3.2	1.9	2.6	1.7	e1.5	1.6	1.3	.98	1.8	1.8
17	5.8	4.1	3.3	2.0	2.8	1.6	1.5	1.7	1.3	.96	1.2	1.8
18	5.8	4.1	3.4	2.1	2.4	1.6	1.5	1.7	1.3	.99	1.1	1.8
19	5.7	4.0	4.2	2.1	2.3	1.6	1.5	1.6	1.3	1.0	2.2	2.2
20	5.7	3.8	3.2	2.1	2.2	1.6	1.5	1.6	1.3	1.0	2.0	2.0
21	5.6	3.9	3.1	2.1	2.1	1.9	1.5	1.6	1.3	1.4	1.3	1.9
22	5.6	3.7	3.2	2.1	2.0	1.7	1.5	1.6	1.3	1.1	1.2	2.3
23	5.6	3.8	3.1	2.0	2.0	1.7	1.5	1.6	1.3	1.1	1.2	2.0
24	5.5	3.9	3.0	2.0	2.0	1.7	1.5	1.6	2.7	1.2	1.1	2.0
25	5.4	3.9	3.1	1.9	2.0	1.6	1.5	1.6	4.2	1.9	1.1	1.9
26	5.4	2.5	3.1	1.9	1.9	1.6	1.5	1.7	4.3	1.1	1.7	2.0
27	5.4	2.7	2.9	2.0	1.9	1.6	1.5	1.7	4.2	1.1	5.7	2.0
28	5.4	3.0	2.9	1.9	1.9	e1.6	1.5	1.8	3.0	1.1	2.5	2.0
29	5.3	2.9	2.9	1.9	---	e1.6	1.5	1.7	3.0	1.1	1.9	2.0
30	5.3	3.0	2.9	2.0	---	e1.6	1.4	1.6	2.8	1.3	2.2	2.0
31	5.2	---	2.6	2.0	---	e1.6	---	1.6	---	1.2	1.6	---
TOTAL	181.3	123.9	99.2	69.6	59.5	53.8	45.5	50.7	56.6	38.33	46.57	54.8
MEAN	5.85	4.13	3.20	2.25	2.12	1.74	1.52	1.64	1.89	1.24	1.50	1.83
MAX	6.4	5.1	4.2	3.3	2.8	2.1	1.6	2.4	4.3	2.4	5.7	2.3
MIN	5.2	2.5	2.6	1.9	1.9	1.6	1.4	1.4	1.3	.96	.98	1.4
AC-FT	360	246	197	138	118	107	90	101	112	76	92	109

CAL YR 1988 TOTAL 921.18 MEAN 2.52 MAX 7.3 MIN .88 AC-FT 1830
WTR YR 1989 TOTAL 879.80 MEAN 2.41 MAX 6.4 MIN .96 AC-FT 1750

e Estimated

COLORADO RIVER BASIN

SAN JUAN RIVER BASIN

09346400 SAN JUAN RIVER NEAR CARRACAS, CO

LOCATION.--Lat 37°00'49", long 107°18'42", in SE¼SW¼ sec.17, T.32-N., R.4 W., Archuleta County, Hydrologic Unit 14080101, on right bank just upstream from flow line of Navajo Reservoir, 3 mi northwest of Carracas, 7.2 mi upstream from Piedra River, and at mile 332.8.

DRAINAGE AREA.--1,230 mi², approximately.

PERIOD OF RECORD.--October 1961 to current year. Water-quality data available, July 1969 to August 1973. Sediment data available, August 1973.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 6,090 ft above National Geodetic Vertical Datum of 1929, from river-profile map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 11,000 acres upstream from station. High-water diversions upstream from station into Rio Grande basin through Azotea tunnel (08284160) began in March 1971. Several observations of specific conductance and water temperature were obtained and are published in "Water resources for Colorado."

AVERAGE DISCHARGE.--9 years (water years 1962-70), 632 ft³/s, 457,900 acre-ft/yr, prior to completion of Azotea tunnel.

19 years (water years 1971-89), 649 ft³/s, 470,200 acre-ft/yr, since completion of Azotea tunnel.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,730 ft³/s, Sept. 6, 1970, gage height, 8.34 ft, from rating curve extended above 6,000 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 9.29 ft, Jan. 15, 1987 (backwater from ice); minimum, about 5 ft³/s, Dec. 10, 1961, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Major floods occurred Sept. 5 or 6, 1909; Oct. 5, 1911; June 29, 1927.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
May 25	1100	*1,830	*4.08				

Minimum daily discharge, 87 ft³/s, Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	140	166	e170	e170	e440	1210	757	1410	308	515	108
2	192	138	206	e160	e170	e430	1120	725	1260	294	826	102
3	180	135	220	e160	e170	e400	1070	740	1180	277	461	91
4	175	135	227	e180	e140	e390	1060	779	1100	257	342	89
5	169	130	227	e190	e110	385	1060	858	1030	242	282	125
6	175	128	224	e200	e100	343	1140	977	1090	235	254	164
7	196	125	241	e180	e120	441	1260	1120	1050	217	235	128
8	206	130	257	e160	e140	648	1450	1300	1020	210	221	114
9	196	140	208	e170	e170	939	1550	1540	981	196	210	104
10	182	174	189	e170	e200	1210	1500	1680	907	175	179	97
11	179	172	216	e180	e230	1300	1390	1680	890	175	175	96
12	175	206	193	e170	e250	1320	1320	1520	890	233	199	96
13	169	170	199	e170	e240	1290	1210	1350	875	234	199	102
14	166	169	e200	e170	e230	1340	1180	1200	821	204	186	118
15	163	189	e200	e170	e220	1170	1230	1080	804	179	191	116
16	163	210	e190	e170	e210	1150	1270	943	816	166	189	102
17	160	164	e190	e170	e210	1280	1320	871	879	157	179	93
18	157	175	e190	e170	e220	1290	1370	821	880	145	175	88
19	151	e160	e200	e170	e230	1320	1450	889	836	130	230	87
20	151	e150	217	e170	e240	1330	1540	1060	750	120	207	391
21	148	e130	186	e170	e210	1100	1700	1320	732	122	189	415
22	145	141	e160	e170	e200	1080	1760	1460	642	131	175	209
23	145	150	e150	e180	e240	1180	1720	1560	534	205	169	170
24	143	172	e160	e190	e280	1210	1710	1690	483	234	157	151
25	138	192	e160	e190	e310	1270	1610	1740	450	338	140	143
26	140	164	e150	e170	e360	1310	1530	1560	e420	420	133	130
27	133	163	e140	e180	e460	1180	1340	1510	e390	428	130	128
28	132	133	e150	e190	e460	1160	1170	1530	e360	310	128	124
29	132	135	e140	e200	---	1270	935	1690	347	285	125	120
30	135	148	e170	e180	---	1260	822	1730	326	254	120	118
31	137	---	e180	e180	---	1140	---	1580	---	242	119	---
TOTAL	5031	4668	5906	5450	6290	31576	39997	39260	24153	7123	7040	4119
MEAN	162	156	191	176	225	1019	1333	1266	805	230	227	137
MAX	206	210	257	200	460	1340	1760	1740	1410	428	826	415
MIN	132	125	140	160	100	343	822	725	326	120	119	87
AC-FT	9980	9260	11710	10810	12480	62630	79330	77870	47910	14130	13960	8170

CAL YR 1988 TOTAL 158826 MEAN 434 MAX 2160 MIN 125 AC-FT 315000
WTR YR 1989 TOTAL 180613 MEAN 495 MAX 1760 MIN 87 AC-FT 358200

e Estimated

SAN JUAN RIVER BASIN

291

09349800 PIEDRA RIVER NEAR ARBOLES, CO

LOCATION.--Lat 37°05'18", long 107°23'50", in NE¼SW¼ sec.21, T.33 N., R.5 W., Archuleta County, Hydrologic Unit 14080102, on left bank 3 mi downstream from Ignacio Creek, 4.6 mi northeast of Arboles Post Office, and 2.5 mi upstream from Navajo Reservoir.

DRAINAGE AREA.--629 mi².

PERIOD OF RECORD.--August 1962 to current year. Gage operated 1895-99, 1910-27 at a site 7.5 mi downstream at altitude 6,000 ft. Low-flow records probably not equivalent. Water-quality data available, November to August 1973.

GAGE.--Water-stage recorder. Elevation of gage is 6,147.52 ft. above National Geodetic Vertical Datum of 1929, from Colorado State Highway Department bench mark.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 2,800 acres upstream from station. Several observations of specific conductance and water temperature were obtained and are published in "Water resources data for Colorado."

AVERAGE DISCHARGE.--27 years, 411 ft³/s, 297,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,370 ft³/s, Sept. 6, 1970, gage height, 6.38 ft recorded, 7.55 ft, from floodmarks, from rating curve extended above 4,400 ft³/s on basis of slope-area measurement of peak flow; minimum, 11 ft³/s, Dec. 9, 1963, Oct. 1, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Major floods occurred Sept. 5 or 6, 1909; Oct. 5, 1911.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 26	0400	-----	a*4.05	Apr. 9	0400	*1,620	3.14

Minimum daily discharge, 36 ft³/s, Feb. 6.
(a) Backwater from ice.

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185	98	99	e70	e70	195	1030	543	862	149	455	56
2	174	99	105	e65	e70	198	934	501	798	142	494	55
3	162	97	105	e70	e70	216	908	494	756	125	333	52
4	152	95	97	e75	e60	189	978	547	693	108	232	50
5	151	95	97	e80	e38	167	941	636	651	99	196	63
6	167	87	95	e80	e36	164	1020	718	677	93	160	88
7	188	87	93	e70	e44	191	1150	857	645	91	145	71
8	209	89	99	e65	e50	249	1380	985	644	87	130	62
9	188	95	93	e70	e65	343	1500	1180	638	81	123	62
10	178	97	87	e70	e75	473	1470	1230	579	79	122	61
11	171	103	89	e75	e90	667	1310	1220	578	81	150	56
12	157	112	e80	e75	e100	788	1250	1050	584	89	158	49
13	151	99	e85	e70	e95	811	1050	887	566	103	160	60
14	145	101	e85	e70	e90	849	966	771	525	91	138	67
15	128	117	87	e70	e85	736	1000	673	512	79	125	65
16	125	115	87	e70	e85	707	1050	581	518	73	118	61
17	123	99	e75	e70	e85	880	1130	560	559	69	105	59
18	118	107	e75	e50	e90	833	1180	531	548	62	101	53
19	115	101	85	41	91	985	1280	542	542	56	120	57
20	113	e80	85	e55	93	1160	1330	624	501	47	113	346
21	108	e70	e80	e60	93	882	1420	807	454	53	99	309
22	105	65	e70	e70	89	868	1430	937	386	71	93	204
23	103	81	e65	e75	92	923	1360	1080	326	79	87	161
24	103	91	e65	e75	110	1040	1320	1140	302	93	77	139
25	101	97	e65	e75	135	1130	1200	1130	279	124	69	123
26	97	95	e60	e70	170	1160	1090	1000	262	156	64	101
27	95	85	e55	e70	201	952	949	957	e240	167	62	97
28	93	75	e60	e80	199	964	793	995	e210	214	65	90
29	93	87	e60	e80	---	1120	687	1130	195	174	65	81
30	93	91	e70	e75	---	1080	592	1080	174	184	61	77
31	99	---	e75	e75	---	974	---	959	---	167	58	---
TOTAL	4190	2810	2528	2166	2571	21894	33698	26345	15204	3286	4478	2875
MEAN	135	93.7	81.5	69.9	91.8	706	1123	850	507	106	144	95.8
MAX	209	117	105	80	201	1160	1500	1230	862	214	494	346
MIN	93	65	55	41	36	164	592	494	174	47	58	49
AC-FT	8310	5570	5010	4300	5100	43430	66840	52260	30160	6520	8880	5700

CAL YR 1988 TOTAL 109233 MEAN 298 MAX 1360 MIN 55 AC-FT 216700
WTR YR 1989 TOTAL 122045 MEAN 334 MAX 1500 MIN 36 AC-FT 242100

e Estimated

09354500 LOS PINOS RIVER AT LA BOCA, CO

LOCATION.--Lat 37°00'34", long 107°35'56", in NE¼NW¼ sec.22, T.32 N., R.7 W., La Plata County, Hydrologic Unit 14080101, on downstream end of right abutment of the Denver & Rio Grande Western Railroad Co. bridge, at southeast edge of La Boca, 0.1 mi upstream from Spring Creek, and 2 mi upstream from maximum elevation of Navajo Reservoir.

DRAINAGE AREA.--510 mi², approximately.

PERIOD OF RECORD.--October 1950 to current year. Monthly discharge only for some periods, published in WSP 1733. Water-quality data available, July 1969 to August 1973.

GAGE.--Water-stage recorder. Datum of gage is 6,143.59 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor. Flow regulated by Vallecito Reservoir (station 09353000) 24 mi upstream since April 1941. Diversions for irrigation of about 33,000 acres upstream from station. Several observations of specific conductance and water temperature were obtained and are published in "Water resources data for Colorado."

AVERAGE DISCHARGE.--39 years, 239 ft³/s, 173,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,400 ft³/s, July 27, 1957, gage height, 8.95 ft, from rating curve extended above 5,100 ft³/s; minimum daily, 6.1 ft³/s, May 1, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--A flood on Oct. 5, 1911, has not yet been exceeded.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 880 ft³/s, at 2200 hours Aug. 1, gage height, 5.42 ft; maximum gage height, 6.38 ft at 1700 hours Feb. 7 (backwater from ice); minimum daily, 53 ft³/s, Nov. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	272	138	e110	e110	309	189	170	e180	151	480	164
2	152	121	140	e110	e110	280	273	153	180	138	407	161
3	143	97	138	e110	e110	259	330	130	161	150	251	153
4	125	78	137	e110	e110	221	460	e130	155	133	234	152
5	130	64	137	e110	e110	196	479	e140	155	130	224	158
6	142	62	137	e110	e110	199	474	e150	153	137	200	158
7	147	63	139	e130	e110	258	392	e170	143	145	182	155
8	150	59	135	e130	e110	347	678	e180	140	144	209	158
9	152	59	135	e130	e110	404	698	e180	155	130	186	150
10	154	53	135	e130	e110	420	530	e210	164	132	164	140
11	143	78	130	e130	e110	462	384	e200	158	144	148	156
12	128	112	132	e130	e110	462	306	e210	164	153	164	203
13	154	130	120	e130	e110	525	280	e200	173	150	164	227
14	167	132	115	e130	e110	620	245	e210	176	143	158	196
15	176	155	137	e130	e110	563	334	e210	173	141	193	179
16	188	148	96	e130	e120	562	446	e200	167	152	203	176
17	195	139	85	e130	118	580	446	e200	158	141	182	161
18	202	135	83	e110	120	551	401	e190	161	133	212	145
19	206	140	87	e110	130	556	346	e190	155	130	196	138
20	258	138	85	e110	130	560	257	e190	153	140	197	394
21	173	133	87	e110	130	503	217	e190	167	147	209	200
22	135	142	e85	e110	130	479	162	e180	161	170	183	159
23	131	146	e85	e110	137	479	96	e170	168	185	158	145
24	123	150	e85	e110	155	490	73	e170	167	212	148	135
25	120	164	e85	e110	202	508	92	e170	176	206	150	130
26	120	150	e85	e110	285	537	185	e170	170	254	158	123
27	113	140	e110	e110	432	514	216	e170	167	221	158	118
28	97	142	e110	e110	351	496	177	e170	155	227	164	110
29	87	140	e110	e110	---	436	188	e180	145	278	143	115
30	83	140	e110	e110	---	231	185	e180	184	255	147	117
31	254	---	e110	e110	---	193	---	e180	---	221	162	---
TOTAL	4700	3682	3503	3630	4090	13200	9539	5543	4884	5193	6134	4876
MEAN	152	123	113	117	146	426	318	179	163	168	198	163
MAX	258	272	140	130	432	620	698	210	184	278	480	394
MIN	83	53	83	110	110	193	73	130	140	130	143	110
AC-FT	9320	7300	6950	7200	8110	26180	18920	10990	9690	10300	12170	9670

CAL YR 1988 TOTAL 56819 MEAN 155 MAX 653 MIN 53 AC-FT 112700
WTR YR 1989 TOTAL 68974 MEAN 189 MAX 698 MIN 53 AC-FT 136800

e Estimated

09355000 SPRING CREEK AT LA BOCA, CO

LOCATION.--Lat 37°00'40", long 107°35'47", in SE¼SW¼ sec.15, T.32 N., R.7 W., La Plata County, Hydrologic Unit 14080101, on right bank in an excavated channel, 0.2 mi upstream from mouth, and 0.2 mi east of La Boca.

DRAINAGE AREA.--58 mi², approximately.

PERIOD OF RECORD.--October 1950 to current year. Monthly discharge only for some periods, published in WSP 1733. Water-quality data available, May 1974.

GAGE.--Water-stage recorder. Elevation of gage is 6,160 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for flows above 125 ft³/s, which are fair, and those for estimated daily discharges, which are poor. Part of flow is return waste from irrigation. Nearly all irrigation in this basin is water diverted from the Los Pinos River near Bayfield, CO., which causes a considerable change in the annual pattern and natural flow. Several observations of specific conductance and water temperature were obtained and are published in "Water resources data for Colorado."

AVERAGE DISCHARGE.--39 years, 32.1 ft³/s, 23,260 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,980 ft³/s, Sept. 6, 1970, gage height, 4.62 ft, from rating curve extended above 160 ft³/s on basis of field estimate of peak flow; maximum gage height, 5.98 ft, Mar. 9, 1960 (backwater from ice); minimum discharge, 0.6 ft³/s, Nov. 27, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 866 ft³/s, at 1900 hours July 29, gage height, 4.62 ft; minimum daily, 2.2 ft³/s, Feb. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e50	5.2	e4.6	e4.0	4.0	e16	5.6	50	60	60	253	67
2	e46	5.2	e5.0	e3.6	4.0	e20	5.6	52	56	60	159	71
3	e44	5.2	e5.5	e4.0	4.0	29	5.2	50	58	60	71	67
4	42	4.8	e5.5	e4.4	3.2	29	4.8	42	60	60	66	71
5	47	4.8	e5.5	e4.4	2.2	20	4.4	52	60	60	64	72
6	48	4.8	e5.5	e4.2	2.4	23	4.4	50	60	60	62	64
7	50	5.2	e5.0	e4.0	2.6	42	3.9	52	60	60	62	64
8	52	5.2	e4.6	e4.0	3.0	45	3.9	52	62	60	62	65
9	50	5.6	e4.6	e4.0	3.8	37	3.9	54	64	60	65	64
10	47	5.2	e4.8	e4.2	4.4	28	3.9	59	64	60	65	62
11	47	7.3	e5.0	e4.4	5.0	22	3.9	59	64	62	67	65
12	43	6.9	e4.6	e4.4	6.0	18	3.9	60	64	60	66	80
13	47	5.7	e4.8	e4.0	5.5	15	3.9	60	65	57	65	72
14	47	5.2	e5.0	e4.0	5.5	15	3.7	62	64	57	e60	67
15	48	6.1	e4.8	e4.2	5.0	13	8.3	64	62	60	67	67
16	29	6.7	e4.6	e4.0	5.0	10	32	64	62	60	72	65
17	24	5.7	e4.4	e4.0	5.0	9.6	5.2	65	62	59	69	e28
18	22	5.6	e4.4	e4.0	5.0	10	8.0	62	62	55	82	e28
19	19	5.6	e4.6	e4.2	5.5	10	34	62	62	57	69	e32
20	25	e4.4	e5.0	e4.0	5.5	9.0	24	62	59	60	74	e91
21	18	e3.6	e4.8	e4.0	5.0	7.4	17	64	62	60	72	e32
22	6.5	e4.0	e4.0	e4.0	4.8	6.5	16	62	64	60	67	e24
23	5.7	e4.4	e3.8	e4.2	5.0	6.5	19	62	62	62	66	e18
24	5.6	e5.0	e3.8	e4.4	6.0	6.5	20	62	62	74	64	e13
25	6.1	e4.8	e3.8	e4.4	6.5	6.5	17	60	64	74	64	e 9.0
26	6.1	e5.0	e3.6	e4.2	7.5	6.9	24	62	64	127	67	e7.0
27	5.7	e4.2	e3.2	e4.2	9.0	7.4	38	62	62	97	67	e6.0
28	5.6	e3.6	e3.4	e4.6	12	6.9	39	60	60	102	66	4.9
29	5.6	e4.0	e3.4	e4.6	---	6.5	48	60	59	240	64	4.8
30	5.6	e4.0	e4.0	e4.4	---	6.1	50	60	57	151	65	4.4
31	5.2	---	e4.4	e4.4	---	5.7	---	59	---	97	65	---
TOTAL	902.7	153.0	140.0	129.4	142.4	493.5	460.5	1806	1846	2331	2347	1385.1
MEAN	29.1	5.10	4.52	4.17	5.09	15.9	15.3	58.3	61.5	75.2	75.7	46.2
MAX	52	7.3	5.5	4.6	12	45	50	65	65	240	253	91
MIN	5.2	3.6	3.2	3.6	2.2	5.7	3.7	42	56	55	60	4.4
AC-FT	1790	303	278	257	282	979	913	3580	3660	4620	4660	2750

CAL YR 1988 TOTAL 11897.8 MEAN 32.5 MAX 184 MIN 3.2 AC-FT 23600
WTR YR 1989 TOTAL 12136.6 MEAN 33.3 MAX 253 MIN 2.2 AC-FT 24070

e Estimated

SAN JUAN RIVER BASIN

09355100 NAVAJO RESERVOIR NEAR ARCHULETA, NM

LOCATION.--Lat 36°48'28", long 107°36'31", in SW¼SE¼ sec.18, T.30 N., R.7 W., San Juan County, Hydrologic Unit 14080101, in gate shaft of outlet works structure near right abutment of Navajo Dam on San Juan River, 5.5 mi east of Archuleta, 33 mi east of Farmington, and at mile 298.6.

DRAINAGE AREA.--3,230 mi², approximately.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

PERIOD OF RECORD.--June 1962 to current year. Prior to October 1968 dead storage included.

REMARKS.--Reservoir is formed by earthrock-fill dam, completed in June 1963; storage began June 27, 1962. Capacity, 1,708,600 acre-ft between elevation 5,720 ft upstream toe of dam and 6,085 ft crest of spillway. Usable capacity 1,696,000 acre-ft above elevation 5,774.9 ft minimum operating level. Dead storage below elevation 5,774.9 ft is 12,600 acre-ft. Figures given herein are usable contents. Reservoir is used for irrigation storage, river regulation, desilting, flood control, and recreation.

COOPERATION.--Records provided by U.S. Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,731,000 acre-ft, July 2-4, 1973, elevation, 6,087.25 ft; minimum contents after June 1964 (initial filling period), 234,300 acre-ft, Mar. 10, 11, 1965, elevation, 5,906.36 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,406,200 acre-ft, June 20, elevation, 6,064.81 ft; minimum contents, 1,118,800 acre-ft, Feb. 22, 23, elevation, 6,040.84 ft.

Capacity table (elevation, in feet, and contents, in thousands of acre-feet)

6,015	864.5	6,035	1,056.7	6,055	1,281.3	6,075	1,546.2
6,020	910.1	6,040	1,109.4	6,060	1,343.5	6,080	1,619.5
6,025	957.2	6,045	1,164.3	6,065	1,408.3	6,085	1,696.0
6,030	1,006.0	6,050	1,221.6	6,070	1,475.8	6,090	1,775.7

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1215000	1192100	1172000	1149500	1129200	1123700	1217400	1322300	1393100	1398100	1369300	1338900
2	1214600	1191700	1171300	1148600	1128800	1124300	1220000	1323100	1394400	1396900	1371700	1337800
3	1213900	1191100	1170700	1147900	1128000	1125000	1222300	1323700	1395500	1395600	1371800	1336300
4	1213000	1190200	1170100	1147500	1127700	1125300	1225500	1324600	1397100	1395200	1371700	1335200
5	1212200	1189400	1169400	1147100	1126800	1125600	1228000	1325800	1397900	1393500	1371700	1334000
6	1211700	1188400	1158900	1146600	1126400	1125900	1231200	1327700	1398600	1392900	1371000	1332900
7	1211800	1187600	1168400	1145900	1125400	1125900	1235800	1329900	1399400	1392200	1370400	1331400
8	1211800	1186700	1167700	1149300	1124900	1127000	1241100	1332600	1400400	1391200	1369500	1330200
9	1211800	1185900	1167000	1144300	1124200	1129700	1246800	1336900	1401000	1389500	1368400	1329000
10	1211500	1185000	1166400	1143700	1123600	1133300	1251900	1340300	1401500	1387800	1367300	1327700
11	1210800	1184900	1165700	1142900	1123200	1137200	1255700	1343600	1401800	1385700	1365900	1326500
12	1210100	1184500	1165000	1142300	1122600	1141200	1259000	1346700	1402600	1384500	1365500	1325500
13	1209400	1183800	1164200	1141600	1122300	1145400	1261800	1349000	1403700	1383000	1364300	1324500
14	1209400	1183000	1163700	1140900	1121900	1149800	1264400	1351300	1404000	1381100	1363400	1323700
15	1209000	1182500	1163000	1140000	1121300	1154400	1267600	1352800	1404400	1379600	1361900	1322500
16	1208700	1182200	1162200	1139300	1120600	1158100	1271600	1354200	1404300	1377900	1360500	1321600
17	1208000	1181500	1161300	1138300	1120300	1162700	1275600	1356200	1404700	1376300	1359200	1320500
18	1207700	1180800	1160400	1137700	1119900	1166900	1279500	1357300	1405800	1375200	1358200	1319100
19	1207000	1180200	1160000	1137000	1119700	1171300	1283900	1360200	1405900	1374000	1357400	1317800
20	1206500	1179600	1159300	1136400	1119700	1175600	1288400	1361200	1406200	1371700	1356600	1318600
21	1205900	1178300	1158500	1135900	1119300	1178100	1293600	1362300	1405800	1369700	1355300	1318600
22	1205200	1177600	1157600	1135000	1118800	1181300	1298700	1365200	1405600	1368200	1354100	1317800
23	1204200	1177200	1156900	1134400	1118800	1184900	1303400	1368200	1405000	1367200	1352500	1317100
24	1203100	1176800	1156300	1134000	1118900	1188900	1307600	1371400	1404600	1366600	1350900	1316300
25	1202000	1176400	1155500	1133400	1119400	1193100	1311400	1374500	1403800	1366600	1349100	1315200
26	1201100	1175800	1154800	1132700	1120700	1197600	1314300	1377500	1403000	1367000	1347600	1314100
27	1200100	1175000	1153900	1132500	1121900	1200800	1317000	1379700	1401800	1367000	1345000	1313000
28	1199200	1174100	1152900	1132000	1122800	1204300	1319100	1382400	1400900	1366900	1344600	1311900
29	1198200	1173500	1151900	1131200	---	1208200	1320300	1385700	1399800	1367400	1343400	1311000
30	1197400	1172400	1150900	1130700	---	1211400	1321500	1388700	1399000	1367000	1341700	1310000
31	1196500	---	1150300	1129800	---	1214400	---	1390800	---	1366900	1340500	---
MAX	1215000	1192100	1172000	1149500	1129200	1214400	1321500	1390800	1406200	1398100	1371800	1338900
MIN	1196500	1172400	1150300	1129800	1118800	1123700	1217400	1322300	1393100	1366600	1340500	1310000
(+)	6047.80	6045.69	6043.71	6041.85	6041.21	6049.35	6058.22	6063.64	6064.27	6061.80	6059.73	6057.30
(++)	-18800	-24100	-22100	-20500	-7000	+91600	+107100	+69300	+8200	-32100	-26400	-30500
CAL YR 1988	MAX 1236200	MIN 1045500	(++) +75200									
WTR YR 1989	MAX 1406200	MIN 1118800	(++) +94700									

(+) ELEVATION, IN FEET, AT END OF MONTH.

(++) CHANGE IN CONTENTS, IN ACRE-FEET.

09355500 SAN JUAN RIVER NEAR ARCHULETA, NM

LOCATION.--Lat 36°48'05", long 107°41'51", in N sec.20, T.30 N., R.8 W., San Juan County, Hydrologic Unit 14080101, on left bank 0.5 mi upstream from Gobernador Canyon, 0.8 mi northeast of Archuleta, 7.2 mi downstream from Navajo Dam, and at mile 291.4.

DRAINAGE AREA.--3,260 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1954 to current year.

REVISED RECORDS.--The annual runoff for the 1958 water year as published in table 2, WSP 1733, is 455,000 acre-ft. The correct value is 1,455,000 acre-ft.

GAGE.--Water-stage recorder. Elevation of gage is 5,653 ft above National Geodetic Vertical Datum of 1929, from river-profile survey. Prior to Dec. 29, 1959, at site 5.0 mi upstream at elevation 55 ft higher. Dec. 29, 1959 to Nov. 15, 1964, at site 0.4 mi upstream at elevation 5 ft higher. Prior to Nov. 28, 1966, at elevation 2.0 ft higher.

REMARKS.--Water-discharge records good. Flow completely regulated by Navajo Reservoir (station 09355100) 7 mi upstream except for minor inflow from 30 mi² intervening drainage area. High-water diversions through Azotea tunnel (station 08284160) into Rio Grande basin began in March 1971. Diversions for irrigation of about 47,000 acres upstream from station. Releases from Navajo Reservoir, beginning in January 1976, for use on Navajo Indian Irrigation Project bypass gage in tunnel on left bank. See tabulation below for monthly and annual releases as furnished by U.S. Bureau of Reclamation. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--7 years (water years 1956-62), 1,304 ft³/s, 944,700 acre-ft/yr, prior to closure of Navajo Dam. 27 years (water years 1963-89), 1,227 ft³/s, 889,000 acre-ft/yr, since closure of Navajo Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,900 ft³/s, July 27, 1957, gage height, 11.00 ft, site and datum then in use; minimum determined, 8 ft³/s, Feb. 28, 1963. Maximum discharge since construction of Navajo Dam in 1962, 6,500 ft³/s, June 20, 1965, gage height, 4.57 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 772 ft³/s, Oct. 30; minimum daily, 498 ft³/s, Oct. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	561	699	653	645	657	664	621	605	672	665	634	623
2	566	709	644	644	657	661	622	648	682	657	638	630
3	566	735	644	644	656	669	623	657	679	666	636	632
4	566	690	644	657	649	658	623	655	674	647	635	631
5	566	658	644	662	650	657	628	658	671	625	620	632
6	567	664	644	652	649	655	620	660	671	601	610	637
7	566	655	643	657	652	645	623	664	671	615	607	631
8	566	623	644	652	649	644	628	664	673	618	600	628
9	566	637	644	650	644	643	631	664	641	612	605	620
10	566	635	644	647	646	644	630	657	671	610	634	623
11	566	644	644	650	650	644	632	659	672	615	633	622
12	566	659	644	652	650	644	627	670	674	634	634	624
13	556	691	647	646	650	644	624	665	671	636	637	621
14	509	670	648	645	650	643	634	674	673	634	636	620
15	500	639	650	646	650	643	644	677	675	630	632	624
16	505	582	647	644	654	639	647	677	678	617	632	620
17	508	580	650	639	658	644	650	673	678	615	633	620
18	509	637	650	644	662	644	650	674	678	606	635	619
19	498	637	658	645	673	641	650	676	678	608	637	620
20	527	637	657	647	662	644	650	678	678	588	633	620
21	589	630	657	645	660	643	656	678	678	591	633	614
22	562	630	657	644	664	642	653	675	678	586	634	607
23	566	625	657	653	662	632	657	678	678	587	634	617
24	632	634	657	652	675	619	654	672	678	599	633	619
25	692	637	657	649	682	617	649	671	678	608	631	617
26	688	636	659	653	672	618	644	671	668	610	631	614
27	695	630	651	658	671	624	647	671	656	618	630	612
28	709	630	652	672	667	618	656	671	674	624	630	610
29	758	630	652	660	---	622	657	671	676	625	621	613
30	772	635	644	657	---	620	657	671	664	630	620	619
31	750	---	645	657	---	616	---	656	---	639	625	---
TOTAL	18313	19398	20131	20168	18421	19841	19187	20640	20188	19216	19483	18639
MEAN	591	647	649	651	658	640	640	666	673	620	628	621
MAX	772	735	659	672	682	669	657	678	682	666	638	637
MIN	498	580	643	639	644	616	620	605	641	586	600	607
AC-FT	36320	38480	39930	40000	36540	39350	38060	40940	40040	38110	38640	36970
(+)	9000	0	0	0	0	6000	16000	25000	35000	33000	29000	16000

CAL YR 1988 TOTAL 227568 MEAN 622 MAX 779 MIN 498 AC-FT 451400
WTR YR 1989 TOTAL 233625 MEAN 640 MAX 772 MIN 498 AC-FT 463400

(+) DISCHARGE, IN ACRE-FT, THROUGH NAVAJO INDIAN IRRIGATION TUNNEL.

SAN JUAN RIVER BASIN

09355500 SAN JUAN RIVER NEAR ARCHULETA, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)
NOV									
16...	1000	599	260	274	8.39	8.20	3.0	4.0	2.8
FEB									
24...	0915	650	255	273	8.06	7.80	8.0	3.5	3.7
MAY									
15...	1300	676	269	287	8.27	8.10	23.0	8.0	1.8
JUL									
05...	1600	580	275	280	8.86	8.20	--	11.5	1.7
AUG									
08...	1000	597	288	293	8.09	8.10	26.5	7.5	1.6
SEP									
13...	1630	624	265	282	8.98	8.50	22.5	10.5	1.4

DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)
NOV									
16...	12.2	100	23	30	6.8	15	0.7	1.7	89
FEB									
24...	12.2	100	22	31	6.6	15	0.7	1.7	103
MAY									
15...	10.8	110	23	31	6.9	16	0.7	1.6	103
JUL									
05...	11.0	110	22	31	6.7	16	0.7	1.7	81
AUG									
08...	9.6	110	25	32	7.1	17	0.7	1.8	109
SEP									
13...	12.5	110	24	31	6.8	15	0.7	1.4	87

DATE	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
NOV									
16...	0	81	80	52	2.1	0.20	11	151	167
FEB									
24...	0	84	83	59	2.1	0.20	11	159	176
MAY									
15...	0	84	83	53	2.2	0.20	10	169	171
JUL									
05...	10	82	83	51	2.4	0.20	10	163	169
AUG									
08...	0	89	84	56	2.3	0.20	10	175	177
SEP									
13...	7	83	82	52	2.3	0.20	10	170	168

09363500 ANIMAS RIVER NEAR CEDAR HILL, NM

LOCATION.--Lat 37°02'17", long 107°52'25", in sec.7, T.32 N., R.9 W., La Plata County, Colorado, Hydrologic Unit 14080104, on right bank 0.8 mi downstream from Florida River, 2.5 mi upstream from Colorado-New Mexico State line, 8.5 mi north of Cedar Hill, and at mile 32.9.

DRAINAGE AREA.--1,090 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1933 to current year. Monthly discharge only for October and November 1933, published in WSP 1313.

REVISED RECORDS.--WSP 1563: 1940 and 1946 (monthly figures only).

GAGE.--Water-stage recorder. Elevation of gage is 5,960 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Sept. 14, 1937, at datum between 1.52 ft and 1.36 ft higher. Sept. 15, 1937, to Sept. 30, 1946, at datum 1.36 ft higher.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 20,000 acres upstream from station. During water years 1944-49, Twin Rocks Canal diverted upstream from station for irrigation downstream. Slight regulation by Lemon Dam about 30 mi upstream on Florida River since November 1963 (capacity, 40,100 acre-ft). Several observations of water temperature were made during the year. Satellite telemeter at station.

AVERAGE DISCHARGE.--56 years, 921 ft³/s, 667,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,100 ft³/s, June 19, 1949, gage height, 11.45 ft; minimum, 63 ft³/s, Jan. 21, 1935.

EXTREMES OUTSIDE PERIOD OF RECORD.--A major flood occurred in October 1911 at this location.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
May 24	1015	*2,750	*6.39				

Minimum daily discharge, 214 ft³/s, Sept. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	559	314	298	e350	e264	563	1160	945	1720	768	1270	335
2	527	322	326	e345	278	549	1000	895	1660	749	1430	313
3	502	314	325	e340	285	567	912	843	1550	716	1050	303
4	490	320	313	e350	316	475	939	875	1430	712	861	300
5	491	315	268	e360	292	368	948	967	1300	722	719	297
6	514	288	268	e355	e285	348	959	1090	1370	685	621	322
7	569	281	319	e340	e250	428	1080	1320	1370	644	547	307
8	555	271	327	e290	e295	580	1270	1590	1370	592	506	292
9	543	275	312	e270	e390	749	1470	2020	1340	566	502	264
10	531	280	283	e300	e370	911	1510	2090	1280	519	496	249
11	531	336	277	e320	e323	1030	1480	2050	1210	549	488	236
12	512	347	264	e370	332	1010	1450	1790	1230	556	464	237
13	495	317	264	e390	324	993	1350	1530	1240	631	487	252
14	582	314	249	e350	304	1020	1230	1330	1170	573	424	257
15	549	370	286	e330	249	976	1190	1240	1200	532	432	234
16	539	345	301	e350	268	908	1270	1150	1390	494	430	232
17	523	322	306	e340	268	907	1390	1070	1530	462	423	232
18	512	343	276	e335	281	867	1490	987	1540	433	419	219
19	499	323	255	e330	331	817	1560	1190	1530	399	515	214
20	496	330	285	e325	338	837	1640	1470	1400	401	472	311
21	477	322	282	e310	295	828	1860	1880	1300	387	452	422
22	456	297	305	e300	290	808	2080	2070	1110	373	483	398
23	450	267	291	e295	310	826	2020	2230	935	400	436	328
24	442	299	e322	e290	367	872	1940	2320	884	491	412	318
25	447	348	e315	e295	389	911	1840	2180	896	600	398	303
26	391	356	e320	e315	437	1020	1750	1920	878	646	362	270
27	369	353	e295	e320	530	1080	1520	1870	859	768	345	254
28	356	302	e290	e315	576	1070	1270	2090	857	776	347	255
29	349	262	e300	e305	---	1080	1140	2270	828	792	384	240
30	320	318	e305	e300	---	1170	1060	2230	808	824	410	241
31	314	---	e340	e308	---	1180	---	1930	---	735	374	---
TOTAL	14890	9451	9167	10093	9237	25748	41778	49432	37185	18495	16959	8435
MEAN	480	315	296	326	330	831	1393	1595	1239	597	547	281
MAX	582	370	340	390	576	1180	2080	2320	1720	824	1430	422
MIN	314	262	249	270	249	348	912	843	808	373	345	214
AC-FT	29530	18750	18180	20020	18320	51070	82870	98050	73760	36680	33640	16730

CAL YR 1988 TOTAL 262590 MEAN 717 MAX 3000 MIN 249 AC-FT 520800
WTR YR 1989 TOTAL 250870 MEAN 687 MAX 2320 MIN 214 AC-FT 497600

e Estimated

COLORADO RIVER BASIN

SAN JUAN RIVER BASIN

09363500 ANIMAS RIVER NEAR CEDAR HILL, NM -- Continued

PERIOD OF RECORD.--Water years 1943, 1945, 1958-59, 1969-73, 1975, 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 16...	1333	337	650	536	8.83	8.00	6.0	5.5	12.4	11	250
FEB 21...	1400	364	610	543	8.65	7.90	8.0	5.0	11.7	12	220
MAY 15...	1615	1260	305	325	8.68	8.20	16.5	11.0	9.8	11	140
AUG 08...	1300	521	490	500	8.49	7.80	29.0	21.5	8.4	12	200

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
NOV 16...	140	77	13	27	0.8	3.4	103	130	21	0.40
FEB 21...	84	69	12	25	0.8	2.7	138	120	16	0.40
MAY 15...	65	46	6.8	9.9	0.4	1.8	78	56	7.7	0.20
AUG 08...	79	65	10	22	0.7	3.7	125	93	17	0.40

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 16...	7.6	342	0.200	0.140	0.050	--	--	0.040	0.020	1.1
FEB 21...	7.6	337	0.200	0.310	0.040	0.26	0.50	0.080	0.030	2.2
MAY 15...	6.3	182	<0.100	<0.100	0.030	0.17	--	0.010	<0.010	2.5
AUG 08...	8.8	296	<0.100	0.110	0.090	0.91	--	0.020	0.020	1.6

DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)
NOV 16...	60	9	3.0	77	65	5	<10	5	<50	20
FEB 21...	50	14	--	--	--	--	--	--	--	--
MAY 15...	30	22	--	--	--	--	--	--	--	--
AUG 08...	90	140	--	--	--	--	--	--	--	--

COLORADO RIVER BASIN

299

SAN JUAN RIVER BASIN

09363500 ANIMAS RIVER NEAR CEDAR HILL, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 16...	8600	20	500	0.03	200	30	27	73	K2	K8
FEB 21...	--	--	--	--	--	73	72	73	83	K76
MAY 15...	--	--	--	--	--	14	48	24	120	K35
AUG 08...	--	--	--	--	--	58	82	79	K37	K20

SAN JUAN RIVER BASIN

09364500 ANIMAS RIVER AT FARMINGTON, NM
(National stream-quality accounting network station)

LOCATION.--Lat 36°43'17", long 108°12'05", in SW¼SW¼ sec.15, T.29 N., R.13 W., San Juan County, Hydrologic Unit 14080104, in Boyd City Park, on right bank 900 ft upstream from bridge on Miller Ave., 0.4 mi downstream from bridge on U.S. Highway 64 in Farmington, and 1.5 mi upstream from mouth.

DRAINAGE AREA.--1,360 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1904 to October 1905 (published as "near Farmington"), September 1912 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 1243: 1931. WSP 1313: 1913.

GAGE.--Water-stage recorder. Elevation of gage is 5,280 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Nov. 1, 1905, nonrecording gage at old bridge 0.1 mi upstream at different datum. Sept. 17, 1912, to Oct. 4, 1938, water-stage recorder at site 0.8 mi downstream at lower datums (datum lowered 2.0 ft Aug. 15, 1927, and raised 0.2 ft Dec. 16, 1929). Oct. 5, 1938, to Nov. 1, 1973, at site 900 ft downstream at datum 1.74 ft lower.

REMARKS.--Water-discharge records good. Diversions for irrigation of about 30,000 acres upstream from station.

AVERAGE DISCHARGE.--78 years, 925 ft³/s, 670,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 25,000 ft³/s, June 29, 1927, gage height, 8.5 ft, site and datum then in use, from rating curve extended above 10,000 ft³/s; minimum, 1.0 ft³/s, Aug. 11, 1972.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood occurred Oct. 6, 1911, when a stage of about 16.5 ft was reached (datum in use Oct. 1938 to Nov. 1973). Flood of Sept. 6, 1909, reached a stage of 11.1 ft, 1904-5 site and datum (discharge, about 19,000 ft³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 29	1745	*2,420	*6.46				

Minimum discharge, 98 ft³/s, Sept. 10, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	421	328	360	359	308	482	1050	751	1670	529	876	151
2	395	329	375	361	319	475	976	631	1520	519	1460	129
3	368	344	385	356	328	482	851	592	1460	497	954	110
4	355	344	380	341	346	474	843	573	1330	469	731	99
5	350	343	367	372	345	389	841	641	1220	455	581	101
6	351	337	342	382	296	367	831	719	1180	439	501	100
7	396	339	355	331	244	371	880	876	1300	431	419	109
8	423	333	376	345	302	439	1010	1190	1230	384	335	106
9	417	334	368	274	410	558	1200	1590	1340	358	303	102
10	409	337	359	336	366	638	1280	1860	1240	345	315	98
11	419	367	339	399	380	772	1270	1860	1170	317	310	99
12	412	389	344	407	392	798	1190	1670	1100	336	292	98
13	384	375	340	355	364	759	1150	1400	1200	366	275	104
14	414	361	354	336	343	753	967	1170	1070	368	255	110
15	445	399	344	369	323	756	893	1060	1080	336	210	119
16	449	400	371	375	317	695	933	970	1190	324	223	112
17	434	393	374	331	332	682	1020	916	1380	301	215	111
18	416	393	361	341	327	683	1140	782	1300	279	240	112
19	414	390	356	332	349	636	1230	826	1290	259	274	115
20	419	386	336	321	358	657	1350	1080	1210	217	309	153
21	407	381	350	317	324	667	1540	1500	1050	217	274	206
22	396	371	340	301	307	649	1720	1820	924	212	261	242
23	386	358	342	297	313	649	1800	2050	693	233	264	216
24	384	347	347	297	343	684	1620	2150	622	397	227	193
25	375	389	316	313	363	714	1540	2090	597	446	209	181
26	377	391	322	324	401	793	1470	1760	624	512	199	167
27	355	394	347	318	454	855	1320	1610	591	846	171	151
28	354	382	295	331	471	835	1090	1790	580	663	168	146
29	354	346	295	308	---	840	925	2100	605	612	162	147
30	344	339	312	314	---	912	838	2190	571	665	176	131
31	328	---	333	310	---	1010	---	1970	---	642	177	---
TOTAL	12151	10919	10785	10453	9725	20474	34768	42187	32337	12974	11366	4018
MEAN	392	364	348	337	347	660	1159	1361	1078	419	367	134
MAX	449	400	385	407	471	1010	1800	2190	1670	846	1460	242
MIN	328	328	295	274	244	367	831	573	571	212	162	98
AC-FT	24100	21660	21390	20730	19290	40610	68960	83680	64140	25730	22540	7970

CAL YR 1988 TOTAL 241876 MEAN 661 MAX 3120 MIN 234 AC-FT 479800
WTR YR 1989 TOTAL 212157 MEAN 581 MAX 2190 MIN 98 AC-FT 420800

09364500 ANIMAS RIVER AT FARMINGTON, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1940 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1941 to current year.

WATER TEMPERATURE: December 1950 to current year.

SUSPENDED-SEDIMENT DISCHARGE: December 1950 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,980 microsiemens, Aug. 19, 1944; minimum daily, 89 microsiemens, June 15, 1985.

WATER TEMPERATURE: Maximum daily, 32.0°C, Aug. 26, 1966 and July 16, 1977; minimum daily, 0.0°C, on many days during winter months each year.

SEDIMENT CONCENTRATION: Maximum daily mean, 36,800 mg/L, July 23, 1954; minimum daily mean, 1 mg/L on several days during 1956, 1958, and 1974.

SEDIMENT LOAD: Maximum daily, 337,000 tons, July 23, 1954; minimum daily, less than .50 ton on many days during 1955-57, 1959-60, 1963, 1972, 1974, and 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 807 microsiemens, July 24; minimum daily, 223 microsiemens, Nov. 11.

WATER TEMPERATURE: Maximum daily, 33.0°C, July 12; minimum daily, 0.0°C on several days during winter months.

SEDIMENT CONCENTRATION: Maximum daily mean, 36,000 mg/L, Oct. 6; minimum daily mean, 27 mg/L, July 21.

SEDIMENT LOAD: Maximum daily, 34,100 tons, Oct. 6; minimum daily, 16 tons, July 21, Sept. 12, 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)
		PER SECOND (00061)	ANCE (US/CM) (00095)	ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)
NOV 15...	0930	399	790	728	8.52	8.00	4.5	5.5	35	11.5
FEB 23...	0830	305	750	693	8.18	8.50	7.5	3.0	32	9.8
MAY 17...	1600	903	420	435	8.57	7.80	22.0	16.0	5.8	9.5
AUG 10...	1426	312	700	645	8.57	8.00	32.0	25.0	25	7.8
DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
	DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)
NOV 15...	310	150	97	16	39	1	3.5	185	14	176
FEB 23...	280	130	89	14	36	1	3.0	171	7	152
MAY 17...	190	73	60	8.8	16	0.5	2.0	124	7	114
AUG 10...	280	130	90	13	35	1	3.3	167	11	155
DATE	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	
	DATE	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)
NOV 15...	162	180	24	0.30	6.3	462	465	<0.010	<0.100	
FEB 23...	151	170	19	0.30	7.4	453	432	<0.010	0.280	
MAY 17...	114	89	10	0.30	6.3	272	262	<0.010	<0.100	
AUG 10...	146	150	20	0.40	9.4	410	410	<0.010	0.100	

SAN JUAN RIVER BASIN

09364500 ANIMAS RIVER AT FARMINGTON, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTH- DIS- SOLVED (MG/L AS P) (00671)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 15...	0.030	0.030	0.67	0.090	<0.010	K380	950	9	15
FEB 23...	0.040	0.040	--	0.030	0.020	K93	K21	4	14
MAY 17...	0.020	<0.010	0.28	0.020	<0.010	K15	K60	19	10
AUG 10...	0.040	0.050	0.46	0.020	<0.010	350	K76	6	18

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
NOV 15...	0930	10	<1	77	<0.5	<1	2	<3	2	<5
FEB 23...	0830	20	<1	71	<0.5	<1	<1	<3	2	<5
MAY 17...	1600	40	<1	73	<0.5	<1	1	<3	7	<1
AUG 10...	1426	20	<1	110	<0.5	<1	<1	<3	5	<1

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 15...	55	<0.1	<10	3	<1	<1.0	1300	<6	8
FEB 23...	48	<0.1	<10	1	1	<1.0	1100	<6	11
MAY 17...	26	<0.1	<10	1	<1	<1.0	670	<6	7
AUG 10...	54	<0.1	<10	3	<1	<1.0	1100	<6	11

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 15...	0930	399	790	5.5	426	459	28
FEB 23...	0830	305	750	3.0	163	134	45
MAY 17...	1600	903	420	16.0	103	251	14
AUG 10...	1426	312	700	25.0	154	130	60

SAN JUAN RIVER BASIN

09364500 ANIMAS RIVER AT FARMINGTON, NM -- Continued

WATER-QUALITY RECORDS

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN		MEAN		MEAN		MEAN		MEAN		MEAN	
	CONCEN- TRATION (MG/L)	LOADS (T/DAY)	CONCEN- TRATION (MG/L)	LOADS (T/DAY)	CONCEN- TRATION (MG/L)	LOADS (T/DAY)	CONCEN- TRATION (MG/L)	LOADS (T/DAY)	CONCEN- TRATION (MG/L)	LOADS (T/DAY)	CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24000	27300	62	55	128	124	139	135	111	92	534	695
2	3640	3880	77	68	105	106	139	135	71	61	446	572
3	13700	13600	76	71	113	117	157	151	153	135	439	571
4	3360	3220	113	105	107	110	124	114	222	207	526	673
5	6930	6550	86	80	113	112	127	128	194	181	706	742
6	36000	34100	98	89	125	115	136	140	157	125	205	203
7	9300	9940	103	94	150	144	94	84	273	180	599	600
8	9220	10500	67	60	135	137	82	76	223	182	834	989
9	3390	3820	81	73	96	95	155	115	176	195	1350	2030
10	28300	31300	131	119	85	82	170	154	161	159	1640	2830
11	23800	26900	161	160	73	67	186	200	349	358	1490	3110
12	4300	4780	206	216	75	70	189	208	318	337	981	2110
13	154	160	134	136	105	96	134	128	179	176	539	1100
14	2300	2570	95	93	102	97	102	93	104	96	524	1070
15	3990	4790	87	94	70	65	87	87	83	72	527	1080
16	1050	1270	178	192	47	47	184	186	85	73	387	726
17	14700	17200	138	146	68	69	149	133	88	79	233	429
18	3810	4280	82	87	83	81	116	107	96	85	395	728
19	101	113	92	97	83	80	107	96	169	159	314	539
20	92	104	137	143	71	64	115	100	218	211	214	380
21	71	78	189	194	85	80	117	100	96	84	774	1390
22	71	76	176	176	203	186	95	77	45	37	394	690
23	75	78	144	139	172	159	93	75	275	232	321	562
24	70	73	135	126	163	153	118	95	367	340	376	694
25	113	114	172	181	174	148	98	83	339	332	385	742
26	144	147	145	153	193	168	156	136	320	346	471	1010
27	144	138	133	141	187	175	129	111	479	587	462	1070
28	318	304	140	144	184	147	64	57	516	656	449	1010
29	261	249	112	105	136	108	73	61	---	---	566	1280
30	265	246	128	117	123	104	117	99	---	---	449	1110
31	108	96	---	---	134	120	140	117	---	---	366	998
TOTAL	---	207976	---	3654	---	3426	---	3581	---	5777	---	31733

DAY	MEAN		MEAN		MEAN		MEAN		MEAN		MEAN	
	CONCENTRATION (MG/L)	LOADS (T/DAY)	CONCENTRATION (MG/L)	LOADS (T/DAY)	CONCENTRATION (MG/L)	LOADS (T/DAY)	CONCENTRATION (MG/L)	LOADS (T/DAY)	CONCENTRATION (MG/L)	LOADS (T/DAY)	CONCENTRATION (MG/L)	LOADS (T/DAY)
		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER
1	370	1050	102	207	67	302	333	476	2390	5650	78	32
2	331	872	105	179	66	271	63	88	3050	12000	88	31
3	363	834	110	176	55	217	91	122	481	1240	71	21
4	252	574	116	179	52	187	103	130	200	395	86	23
5	245	556	84	145	47	155	136	167	81	127	112	31
6	297	666	62	120	41	131	112	133	144	195	85	23
7	295	701	107	253	39	137	56	65	182	206	79	23
8	322	878	199	639	42	139	44	46	147	133	93	27
9	633	2050	283	1210	50	181	47	45	86	70	110	30
10	560	1940	327	1640	29	97	69	64	75	64	80	21
11	356	1220	331	1660	44	139	40	34	62	52	65	17
12	291	935	161	726	54	160	35	32	54	43	59	16
13	284	882	97	367	71	230	65	64	51	38	57	16
14	237	619	85	269	68	196	75	75	59	41	114	34
15	182	439	61	175	105	306	49	44	80	45	160	51
16	172	433	52	136	86	276	34	30	78	47	135	41
17	288	793	61	151	54	201	61	50	44	26	142	43
18	334	1030	65	137	54	190	35	26	43	28	154	47
19	394	1310	78	174	56	195	45	31	42	31	130	40
20	316	1150	211	615	55	180	61	36	37	31	170	70
21	485	2020	277	1120	43	122	27	16	32	24	168	93
22	740	3440	187	919	32	80	1000	572	51	36	153	100
23	848	4120	168	930	55	103	1500	944	284	202	120	70
24	360	1570	170	987	60	101	3170	3400	65	40	126	66
25	224	931	160	903	49	79	588	708	101	57	143	70
26	196	778	133	632	48	81	900	1240	62	33	128	58
27	185	659	193	839	30	48	1800	4110	144	66	84	34
28	219	645	139	672	39	61	1740	3110	194	88	69	27
29	164	410	84	476	67	109	1430	2360	349	153	44	17
30	121	274	115	680	109	168	1940	3480	663	315	91	32
31	---	---	120	638	---	---	335	581	159	76	---	---
TOTAL	---	33779	---	17954	---	4842	---	22279	---	21552	---	1204
TOTAL LOAD FOR YEAR:			357757	TONS.								

09365000 SAN JUAN RIVER AT FARMINGTON, NM

LOCATION.--Lat 36°43'22", long 108°13'30", in NW¼SE¼ sec.17, T.29 N., R.13 W., San Juan County, Hydrologic Unit 14080105, on left bank 360 ft downstream from highway bridge on State Highway 371 in Farmington, 4,000 ft downstream from Animas River, 2.3 mi upstream from La Plata River, and at mile 251.4.

DRAINAGE AREA.--7,240 mi², approximately.

PERIOD OF RECORD.--June to December 1904, January 1905 to September 1906 (gage heights and discharge measurements only), September 1912 to current year. Monthly discharge only for some periods, published in WSP 1313. Discharge records for January to December 1905, published in WSP 175, are unreliable and should not be used.

REVISED RECORDS.--WSP 1119: Drainage area. WSP 1243: 1938. WSP 1313: 1905, 1914. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 5,230.37 ft above National Geodetic Vertical Datum of 1929. See WSP 1313 or 1733 for history of changes prior to Nov. 19, 1933.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair. Since June 1962 flow is partly controlled by operation of Navajo Reservoir (station 09355100) 50 mi upstream. Diversions upstream from station for irrigation of about 86,000 acres, 4,000 of which is irrigated by Farmers Mutual ditch, which diverts from Animas River and bypasses this station; ditch flow not included in record. At times this ditch may be supplied partly or entirely by diversion from San Juan River downstream from this station. National Weather Service gage-height telemeter and U.S. Bureau of Reclamation satellite telemeter at station.

AVERAGE DISCHARGE.--77 years (water years 1913-89), 2,374 ft³/s, 1,720,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 68,000 ft³/s, June 29, 1927, gage height, 10.2 ft, site and datum then in use, from rating curve extended above 37,000 ft³/s; minimum, 14 ft³/s, Aug. 22, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood occurred Oct. 6, 1911. Flood of Sept. 6, 1909, reached a stage of about 12.3 ft, site and datum in use May to September 1906.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 28	2230	*3,640	*3.82				

Minimum daily discharge, 517 ft³/s, July 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1070	890	832	863	959	1090	1610	1250	2030	953	1800	600
2	1000	875	840	869	1040	1080	1570	1060	1870	e940	2340	597
3	955	907	840	886	1090	1090	1440	1050	1780	e880	1680	602
4	924	941	853	897	1030	1130	1410	1060	1680	e840	1410	600
5	898	890	856	961	1030	1090	1400	1050	1590	e820	1220	658
6	879	852	840	975	932	1060	1380	1120	1460	e780	1040	647
7	860	851	831	941	840	1060	1380	1210	1530	e740	900	633
8	915	838	851	894	837	1080	1480	1430	1530	e710	741	619
9	922	805	868	828	900	1170	1650	1720	1580	e660	670	606
10	909	802	875	e830	958	1270	1800	2120	1570	e630	686	608
11	898	829	855	e900	1020	1430	1810	2180	1540	e600	686	595
12	896	886	851	e920	1280	1520	1770	2090	1420	652	670	605
13	858	901	851	e900	1150	1470	1740	1860	1450	695	662	616
14	840	910	851	e940	1010	1460	1590	1610	1400	744	645	619
15	844	915	831	e940	961	1500	1470	1470	1370	701	571	625
16	863	917	837	e960	958	1440	1500	1380	1380	682	564	620
17	863	872	853	e960	958	1390	1610	1280	1540	662	575	626
18	863	847	875	e960	954	1360	1710	1220	1710	610	629	623
19	850	849	875	e970	968	1340	1780	1160	1680	594	725	629
20	840	816	861	970	1060	1330	1830	1340	1700	562	759	744
21	840	842	851	970	942	1340	1930	1650	1560	524	767	752
22	840	823	870	956	946	1280	2110	2010	1430	517	881	834
23	840	817	854	934	936	1290	2240	2200	1250	620	813	803
24	827	816	852	945	971	1310	2160	2360	1070	906	703	768
25	836	853	875	958	1020	1380	2100	2390	1040	977	658	773
26	863	883	879	981	1060	1440	1990	2240	1020	1380	643	758
27	853	886	897	984	1080	1580	1860	2070	1010	1510	630	752
28	851	873	863	972	1150	1540	1650	2040	995	1420	656	735
29	864	853	837	954	---	1520	1450	2270	987	1530	676	726
30	896	817	839	958	---	1600	1320	2410	971	1290	656	642
31	898	---	847	955	---	1600	---	2310	---	1280	623	---
TOTAL	27355	25856	26490	28931	28040	41240	50740	52610	43143	26409	26679	20015
MEAN	882	862	855	933	1001	1330	1691	1697	1438	852	861	667
MAX	1070	941	897	984	1280	1600	2240	2410	2030	1530	2340	834
MIN	827	802	831	828	837	1060	1320	1050	971	517	564	595
AC-FT	54260	51290	52540	57380	55620	81800	100600	104400	85570	52380	52920	39700

CAL YR 1988 TOTAL 455836 MEAN 1245 MAX 3570 MIN 577 AC-FT 904200
WTR YR 1989 TOTAL 397508 MEAN 1089 MAX 2410 MIN 517 AC-FT 788500

e Estimated

09366500 LA PLATA RIVER AT COLORADO-NEW MEXICO STATE LINE

LOCATION.--Lat 36°59'51", long 108°11'17", in NW¼SE¼ sec.10, T.32 N., R.13 W., La Plata County, Colorado, Hydrologic Unit 14080105, on right bank at Colorado-New Mexico State line, 0.2 mi downstream from Ponds Arroyo, and 4.8 mi north of La Plata, NM.

DRAINAGE AREA.--331 mi².

PERIOD OF RECORD.--January 1920 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 1313: 1934(M), 1936(M).

GAGE.--Water-stage recorder. Datum of gage is 5,975.15 ft above National Geodetic Vertical Datum of 1929. See WSP 1713 or 1733 for history of changes prior to Mar. 17, 1934.

REMARKS.--Records good except for estimated daily discharges, which are fair. Diversions upstream from station for irrigation of about 15,000 acres, most of which are upstream from station.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--69 years, 36.3 ft³/s, 26,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,750 ft³/s, Aug. 24, 1927, gage height, 11.36 ft, present datum, from rating curve extended above 750 ft³/s on basis of slope-area measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 224 ft³/s, at 2130 hours July 31, gage height, 3.78 ft; minimum daily, 1.7 ft³/s, July 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	5.3	e12	e14	e20	35	57	23	36	4.4	60	3.2
2	4.6	6.9	e14	e14	21	39	57	18	33	4.2	39	2.7
3	3.6	9.6	e14	e14	21	40	52	17	32	3.4	19	3.9
4	3.6	10	e14	e16	22	29	48	16	31	2.2	15	4.9
5	4.6	10	e14	e16	e16	28	43	25	29	1.7	11	5.7
6	6.2	11	e14	e14	e10	28	41	32	26	2.1	7.6	4.8
7	9.7	11	15	e12	e16	29	39	41	24	3.9	7.5	4.6
8	10	13	15	e10	e18	35	49	46	23	3.3	7.9	3.7
9	9.7	15	e14	e12	e20	51	50	55	25	3.1	7.5	2.4
10	10	13	e14	e14	e24	69	45	67	23	3.1	8.6	3.0
11	9.5	16	e14	e16	e22	82	45	71	23	4.2	6.8	2.7
12	7.0	16	e14	e14	e22	77	52	72	19	5.5	6.1	3.7
13	7.5	15	e14	e14	e22	72	57	59	20	3.3	5.5	4.4
14	8.2	14	e14	e16	22	89	52	48	16	2.9	5.0	3.9
15	9.0	16	e14	e16	22	85	45	39	12	3.1	4.2	3.3
16	7.5	16	e14	e18	23	79	46	29	10	3.1	3.6	3.0
17	8.4	16	e14	e20	25	84	49	22	8.6	2.1	5.1	2.9
18	7.8	16	15	e20	29	85	55	19	8.8	2.4	6.9	2.2
19	7.9	15	15	e20	29	86	62	18	9.6	2.5	6.8	2.4
20	8.0	14	15	e20	26	98	68	23	16	2.5	6.0	4.4
21	8.0	16	15	e20	24	92	74	37	19	3.4	8.6	3.6
22	8.1	16	e14	e20	24	88	69	39	19	4.5	4.6	4.1
23	8.6	14	e14	e20	25	79	65	45	16	9.8	4.3	4.3
24	8.4	15	e14	e20	27	72	67	57	13	3.7	3.4	4.4
25	8.7	16	e14	e20	28	86	59	56	11	8.0	3.4	4.7
26	8.0	15	e12	e18	29	96	48	51	9.2	7.6	3.3	3.8
27	5.8	e10	e10	e20	34	96	52	49	8.5	35	3.4	3.1
28	5.7	e10	e12	e18	34	82	45	51	6.7	16	3.5	3.4
29	4.5	e12	e12	e18	---	70	37	50	6.7	11	3.6	3.3
30	4.8	e12	e14	e18	---	64	31	45	5.5	6.6	3.6	3.8
31	4.9	---	e14	e18	---	56	---	42	---	25	3.4	---
TOTAL	224.8	394.8	428	520	655	2101	1559	1262	539.6	193.6	284.2	110.3
MEAN	7.25	13.2	13.8	16.8	23.4	67.8	52.0	40.7	18.0	6.25	9.17	3.68
MAX	10	16	15	20	34	98	74	72	36	35	60	5.7
MIN	3.6	5.3	10	10	10	28	31	16	5.5	1.7	3.3	2.2
AC-FT	446	783	849	1030	1300	4170	3090	2500	1070	384	564	219

CAL YR 1988 TOTAL 10162.6 MEAN 27.8 MAX 93 MIN 3.6 AC-FT 20160
WTR YR 1989 TOTAL 8272.3 MEAN 22.7 MAX 98 MIN 1.7 AC-FT 16410

e Estimated

09367500 LA PLATA RIVER NEAR FARMINGTON, NM

LOCATION.--Lat 36°44'23", long 108°14'51", in NE¼SW¼ sec.7, T.29 N., R.13 W., San Juan County, Hydrologic Unit 14080105, on right bank 1,300 ft upstream from bridge on U.S. Highway 550 in Farmington, and 1,800 ft upstream from mouth.

DRAINAGE AREA.--583 mi².

PERIOD OF RECORD.--March 1938 to current year.

REVISED RECORDS.--WSP 1243: 1944-45. WSP 1313: 1943-44(M), 1946-50(M). WSP 1733: 1951(M).

GAGE.--Water-stage recorder. Elevation of gage is 5,210 ft above National Geodetic Vertical Datum of 1929, from river-profile map. Prior to July 28, 1978, at elevation 1.0 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of about 24,000 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--51 years, 29.5 ft³/s, 21,370 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, that of Sept. 10, 1939, "discharge not determined," gage height, 6.03 ft, site and datum then in use; no flow for long periods in some years.
Major floods occurred Sept. 5 or 6, 1909, and Oct. 5 or 6, 1911.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 968 ft³/s, at 0630 hours Aug. 1, gage height, 5.31 ft; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.5	e1.5	23	e28	e24	39	e39	e3.7	e.31	.01	157	.16
2	e1.8	e1.9	29	e27	e26	42	e37	e2.8	e.26	.01	8.1	.16
3	e1.4	e2.7	28	e26	e26	47	e36	e2.5	e.22	.01	2.6	.16
4	e1.4	e2.8	27	e29	e28	40	e31	e2.3	e.19	.01	e1.8	.17
5	e1.8	e2.8	30	e28	e22	36	22	e3.3	e.15	.0	e1.2	.19
6	e2.4	e3.1	30	e23	e13	37	20	e4.0	e.13	.0	e.66	.18
7	e2.7	e3.1	30	e19	e20	37	12	e4.7	e.09	.0	e.52	.17
8	e2.8	e3.6	30	e15	e25	37	10	e4.7	.08	.01	e.41	.18
9	e2.7	e4.5	30	e18	e28	47	e8.5	e5.0	.05	.01	e.25	.19
10	e2.8	e4.2	29	e20	e34	64	e8.0	e5.5	.06	.01	e.14	.19
11	e2.7	5.0	29	e21	e31	78	e7.0	e5.2	.04	.01	.13	.20
12	e2.0	4.5	29	e18	e31	81	e6.9	e4.6	.05	.01	.13	.21
13	e2.1	4.0	30	e17	e32	78	e6.2	e3.3	.04	.01	.11	.22
14	e2.3	4.2	29	e17	e33	90	e7.0	e2.2	.05	.01	.10	.22
15	e2.5	4.0	28	e16	e33	93	e6.9	e1.5	.04	.01	.10	.22
16	e2.1	e2.8	27	e18	e35	87	e6.9	e.84	.04	.0	.10	.22
17	e2.3	e2.4	28	e20	e39	94	e6.9	e.53	.03	.01	.10	.22
18	e2.2	e2.4	28	e20	e45	100	e6.7	e.38	.04	.0	.13	.22
19	e2.2	7.3	e26	e20	e45	100	e6.8	e.35	.01	.01	.13	.23
20	e2.8	8.0	e25	e20	e41	103	e6.4	e.42	.01	.01	.11	.22
21	e2.2	7.5	e25	e21	e39	103	e6.7	e.65	.00	.02	.23	.22
22	e2.3	7.5	26	e24	34	94	e9.4	e.65	.01	.04	2.1	.23
23	e2.4	9.0	30	e24	40	87	10	e.72	.01	18	.26	.23
24	e2.4	9.5	e25	e23	42	78	7.6	e.86	.0	2.4	.16	.23
25	e2.4	10	35	e25	43	84	e6.4	e.80	.0	2.2	.13	.23
26	e2.2	11	34	e20	43	98	e5.1	e.69	.0	.64	.14	.23
27	e1.6	15	e25	e23	43	112	e5.0	e.62	.0	3.0	.14	.23
28	e1.6	18	e27	e27	43	98	7.6	e.60	.01	1.0	.13	.25
29	e1.3	20	e26	e21	---	74	6.8	e.55	.02	1.5	.14	.26
30	e1.3	27	e29	e21	---	e55	e5.3	e.46	.02	.91	.14	.26
31	e1.4	---	e29	e21	---	e40	---	e.40	---	.76	.14	---
TOTAL	66.6	209.3	876	670	938	2253	361.1	64.82	1.96	30.62	177.53	6.30
MEAN	2.15	6.98	28.3	21.6	33.5	72.7	12.0	2.09	.065	.99	5.73	.21
MAX	2.8	27	35	29	45	112	39	5.5	.31	18	157	.26
MIN	1.3	1.5	23	15	13	36	5.0	.35	.00	.00	.10	.16
AC-FT	132	415	1740	1330	1860	4470	716	129	3.9	61	352	12

CAL YR 1988 TOTAL 6928.20 MEAN 18.9 MAX 141 MIN .40 AC-FT 13740
WTR YR 1989 TOTAL 5655.23 MEAN 15.5 MAX 157 MIN .00 AC-FT 11220

e Estimated

SAN JUAN RIVER BASIN

09367540 SAN JUAN RIVER NEAR FRUITLAND, NM

WATER-QUALITY RECORDS

LOCATION.--Lat 36°44'25", long 108°24'09", in NW¼Sec.10, T.29 N., R.15 W., San Juan County, Hydrologic Unit 14080105, on right bank 300 ft downstream from Four Corners Powerplant highway bridge, 0.4 mi west of Fruitland, 10 mi downstream from La Plata River, 14.0 mi upstream from Chaco River, and at mile 239.

DRAINAGE AREA.--8,010 mi², approximately.

PERIOD OF RECORD.--Water years 1978 to current year.

REMARKS.--Discharge record estimated from station 09365000 San Juan River at Farmington, which is approximately 11 miles upstream.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)
NOV 15...	1530	794	650	602	8.41	8.30	5.0	5.5	100
FEB 23...	1530	794	650	640	8.21	7.80	15.5	8.5	--
MAY 17...	1310	1290	460	476	8.46	8.10	21.5	14.5	13
JUL 06...	1000	820	610	525	8.55	8.00	34.0	21.0	3.6
AUG 11...	0845	704	630	567	8.38	7.90	28.0	21.0	41
SEP 13...	0830	608	600	564	8.45	8.00	12.0	13.0	25

DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)
NOV 15...	10.4	210	87	64	12	48	2	2.5	142
FEB 23...	10.3	230	110	70	14	44	1	2.4	133
MAY 17...	8.8	180	65	56	9.2	27	0.9	2.1	131
JUL 06...	9.0	190	62	59	9.8	37	1	2.4	126
AUG 11...	7.9	200	74	64	10	39	1	2.6	142
SEP 13...	8.3	190	68	58	10	44	1	2.0	137

DATE	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
NOV 15...	5	124	123	160	14	0.20	9.3	372	384
FEB 23...	4	115	125	190	12	0.20	9.5	428	417
MAY 17...	2	111	113	110	9.9	0.30	7.4	290	290
JUL 06...	10	119	126	130	12	0.30	7.3	318	333
AUG 11...	7	128	127	140	11	0.30	9.6	366	353
SEP 13...	5	120	118	150	10	0.30	9.4	359	354

SAN JUAN RIVER BASIN

309

09367561 SHUMWAY ARROYO NEAR WATERFLOW, NM

LOCATION.--Lat 36°46'24", long 108°26'26", in SE¼NW¼ sec.32, T.30 N., R.15 W., San Juan County, Hydrologic Unit 14080105, on right bank 0.6 mi downstream from Westwater Arroyo, 0.7 mi upstream from highway to San Juan Power Plant, 14 mi west of Farmington, and at mile 4.5.

DRAINAGE AREA.--73.8 mi².

PERIOD OF RECORD.--September 1974 to September 1989 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 5,130 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 20, 1978, at datum 10.0 ft higher.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--15 years, 1.48 ft³/s, 1,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,420 ft³/s, May 20, 1978, gage height, 18.94 ft, from floodmark, from rating curve extended above 6.0 ft³/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 80 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 27	0715	*17	*5.49				
No flow for many days.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	e.00	e.00	e.00	e.00	e.04	.02	.00	.00	.00	.00
2	e.00	e.00	e.00	e.00	e.03	e.00	e.04	.02	.00	.00	.40	.00
3	e.00	e.00	e.00	e.01	e.01	e.05	e.02	.02	.00	.00	.02	.00
4	e.00	e.00	e.00	e.00	e.01	e.07	.03	.01	.00	.00	.0	.00
5	e.00	e.00	e.00	e.02	e.00	e.01	e.03	.01	.00	.00	.00	.00
6	e.00	e.00	e.00	e.02	e.00	e.03	e.02	.00	.00	.00	.00	.00
7	e.00	e.00	e.00	e.00	e.00	e.04	e.02	.00	.00	.00	.00	.00
8	e.00	e.00	e.00	e.00	e.00	e.08	e.02	.00	.00	.00	.00	.00
9	e.00	e.00	e.00	e.00	e.00	e.05	e.02	.00	.00	.00	.00	.00
10	e.00	e.00	e.00	e.00	e.05	e.04	e.01	.00	.00	.00	.00	.00
11	e.00	e.60	e.00	e.00	e.03	e.06	e.01	.00	.00	.00	.00	.00
12	e.00	e.05	e.00	e.00	e.01	e.03	e.00	.00	.00	.00	.00	.00
13	.00	e.00	e.00	e.00	e.04	e.04	e.00	.00	.00	.00	.00	.00
14	e.00	e.00	.00	e.00	e.00	e.01	e.02	.0	.00	.00	.00	.00
15	e.00	e.85	e.00	e.00	e.05	e.01	e.02	.02	.00	.00	.00	.00
16	e.00	e.10	e.00	e.00	e.03	e.02	e.02	.02	.00	.00	.00	.00
17	e.00	.00	e.00	e.00	e.01	e.04	e.00	.02	.00	.00	.00	.00
18	e.00	e.00	e.00	.00	e.04	e.00	e.00	.01	.00	.00	.00	.00
19	e.00	e.00	e.00	e.00	e.03	e.02	e.00	.00	.00	.00	.00	.00
20	e.00	e.00	e.00	e.00	e.02	e.04	e.00	.00	.00	.00	.00	.00
21	e.00	e.00	e.00	e.00	e.04	e.00	e.01	.00	.00	.00	.00	.00
22	e.00	e.00	e.00	e.01	.04	e.04	e.00	.00	.00	.00	.00	.00
23	e.00	e.00	e.02	e.02	e.04	e.00	e.00	.00	.00	.00	.00	.00
24	e.00	e.00	e.00	e.01	e.06	e.02	e.01	.00	.00	.46	.00	.00
25	e.00	e.00	e.05	e.04	e.09	e.04	e.02	.02	.00	.17	.00	.00
26	e.00	e.00	e.04	e.03	e.03	e.06	e.02	.04	.00	.20	.00	.00
27	e.00	e.00	e.00	e.05	e.03	e.07	.02	.01	.00	1.7	.00	.00
28	e.00	e.00	e.00	e.06	e.01	e.03	.02	.00	.00	.02	.00	.00
29	e.00	e.00	e.00	e.00	---	e.04	.02	.00	.00	.65	.00	.00
30	e.00	e.00	e.00	e.00	---	e.00	.02	.00	.00	.01	.00	.00
31	e.00	---	e.00	e.00	---	e.00	---	.00	---	.00	.00	---
TOTAL	0.00	1.60	0.11	0.27	0.70	0.94	0.46	0.22	0.00	3.21	0.42	0.00
MEAN	.00	.053	.004	.009	.025	.030	.015	.007	.00	.10	.014	.00
MAX	.00	.85	.05	.06	.09	.08	.04	.04	.00	1.7	.40	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	3.2	.2	.5	1.4	1.9	.9	.4	.0	6.4	.8	.0

CAL YR 1988 TOTAL 6.16 MEAN .017 MAX .85 MIN .00 AC-FT 12
WTR YR 1989 TOTAL 7.93 MEAN .022 MAX 1.7 MIN .00 AC-FT 16

e Estimated

09367680 CHACO WASH AT CHACO CULTURE NATIONAL MONUMENT, NM

LOCATION.--Lat 36°01'43", long 107°55'04", in NW¼NE¼ sec.29, T.21 N., R.10 W., San Juan County, Hydrologic Unit 14080106, on downstream side of center bridge pier, 800 ft downstream from Fajada Wash, and 0.5 mi southwest of Chaco Culture National Historical Park Visitors Center.

DRAINAGE AREA.--578 mi².

PERIOD OF RECORD.--April 1976 to September 1989 (discontinued). Published as "at Chaco Canyon National Monument" prior to October 1985.

REVISED RECORDS.--WDR NM-80-1: 1979.

GAGE.--Water-stage recorder. Elevation of gage is 6,140 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--13 years, 4.30 ft³/s, 3,120 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,920 ft³/s, Sept. 2, 1988, gage height, 8.55 ft, from rating curve extended above 350 ft³/s on basis of slope-area measurements at gage heights 3.44 ft, 3.68 ft and 5.32 ft; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
July 29	0625	*141	*2.42	No other peak greater than base discharge			
No flow most of time.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.72	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.12	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	2.9	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.48	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.15	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.18	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.49	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.23	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	9.9	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.05	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.85	4.48	0.00
MEAN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.35	.14	.00
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	9.9	2.9	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	.0	.0	.0	.0	.0	.0	22	8.9	.0

CAL YR 1988 TOTAL 4064.71 MEAN 11.1 MAX 667 MIN .00 AC-FT 8060
WTR YR 1989 TOTAL 15.33 MEAN .042 MAX 9.9 MIN .00 AC-FT 30

e Estimated

SAN JUAN RIVER BASIN

311

09367950 CHACO RIVER NEAR WATERFLOW, NM

LOCATION.--Lat 36°43'28", long 108°35'27", in SW¼SW¼ sec.13, T.29 N., R.17 W., San Juan County, Hydrologic Unit 14080106, on downstream end of right bridge pier, 4.2 mi upstream from Dead Mans Wash, 5.3 mi downstream from the Hogback, 6.6 mi southwest of Waterflow, 7.2 mi southeast of Shiprock, and at mile 4.5.

DRAINAGE AREA.--4,350 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Water years 1959-69 (annual maximum only), November 1975 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,980 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to 1975 at site 1.8 mi upstream at different datum.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Base flow is mostly wastewater from Four Corners Power Plant.

AVERAGE DISCHARGE.--13 years (water years 1977-89), 49.1 ft³/s, 35,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,300 ft³/s, Sept. 20, 1969, gage height, 7.88 ft, site and datum then in use; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Feb. 12	2230	2,440	7.21	Aug. 2	2045	4,030	8.67
July 26	1745	*4,450	*8.98				

No flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.40	e.07	14	9.0	13	3.6	e26	36	2.5	e.65	41	5.0
2	e.28	e.44	11	12	15	3.2	e33	28	e.84	e.65	e909	4.7
3	e.07	e.07	8.6	9.5	108	3.3	e27	16	e.80	e.62	e1090	5.9
4	e.05	e.00	8.6	10	350	3.7	e21	e16	e.78	e.60	e58	5.7
5	e.01	e.00	8.6	11	263	4.8	20	e21	e.86	e1.7	e8.1	5.8
6	e.00	e.00	8.1	7.8	56	4.3	19	e21	e.84	12	1.1	6.5
7	e.00	e.00	6.5	10	60	4.9	19	e23	e.83	11	.54	5.5
8	e.03	e.00	6.9	12	34	4.9	19	e23	e.67	12	.36	5.4
9	e.07	e.00	8.1	10	23	6.5	18	e26	e.72	11	.27	6.7
10	e.06	e.00	9.0	14	21	7.7	18	e31	e.73	12	.26	6.6
11	e.03	e.12	7.3	9.7	17	10	18	e26	e.70	12	.74	5.8
12	e.02	e.04	6.5	8.8	230	10	19	e28	e.66	11	.74	5.6
13	e.08	e.00	6.9	11	684	9.0	18	e28	e2.0	10	1.1	5.8
14	e.11	e.00	9.0	12	340	7.3	19	e28	e.82	11	1.0	6.5
15	e.28	e.05	9.5	13	208	5.5	19	e28	e.75	11	.86	5.7
16	e.10	e.00	9.0	12	214	4.7	18	e21	e.77	11	.76	5.7
17	e.04	.00	8.1	12	114	4.6	17	20	e.73	11	1.5	5.5
18	e.02	.00	10	13	14	4.6	18	22	e.67	11	2.8	5.2
19	e.04	.00	10	17	24	4.8	16	20	e.67	11	74	5.0
20	e.01	.00	10	20	97	4.7	17	20	e.72	7.3	21	6.2
21	e.00	.00	9.0	15	82	5.0	19	20	e.76	7.7	70	6.2
22	e.00	.00	13	17	64	5.1	22	20	e.76	.85	26	5.8
23	e.00	.00	9.5	15	29	7.2	20	22	e.74	.20	23	5.8
24	e.00	.00	14	14	22	16	16	20	e.65	e631	12	8.1
25	e.00	.00	12	15	18	18	18	19	e.65	e263	19	5.2
26	e.03	.00	10	13	11	18	18	18	e.64	e857	8.9	4.9
27	e.07	.00	10	14	6.7	19	16	18	e.65	341	4.3	8.1
28	e.29	.00	9.0	13	4.5	17	20	18	e.66	e65	5.0	6.5
29	e.07	.00	7.7	16	---	19	19	19	e.68	e51	6.4	6.5
30	e.15	10	9.5	18	---	18	20	18	e.65	3.1	5.5	8.1
31	e.04	---	9.0	16	---	20	---	18	---	1.5	4.5	---
TOTAL	2.35	10.79	288.4	399.8	3122.2	274.4	587	692	24.90	2389.87	2397.73	180.0
MEAN	.076	.36	9.30	12.9	112	8.85	19.6	22.3	.83	77.1	77.3	6.00
MAX	.40	10	14	20	684	20	33	36	2.5	857	1090	8.1
MIN	.00	.00	6.5	7.8	4.5	3.2	16	16	.64	.20	.26	4.7
AC-FT	4.7	21	572	793	6190	544	1160	1370	49	4740	4760	357

CAL YR 1988 TOTAL 33994.29 MEAN 92.9 MAX 2990 MIN .00 AC-FT 67430
WTR YR 1989 TOTAL 10369.44 MEAN 28.4 MAX 1090 MIN .00 AC-FT 20570

e Estimated

09367950 CHACO RIVER NEAR WATERFLOW, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
FEB 23...	1745	27	1020	1030	7.93	8.00	14.0	9.5	8.5	140	0	44
MAY 17...	0930	19	1260	1240	8.51	8.10	18.0	16.0	8.7	380	260	87
AUG 10...	1020	E0.20	2240	2290	8.51	8.10	34.0	25.5	6.1	390	190	110

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
FEB 23...	6.5	170	7	4.1	203	0	166	160	310	18	0.70	10
MAY 17...	39	130	3	5.7	132	7	120	121	470	38	0.70	1.6
AUG 10...	29	380	9	8.6	205	22	204	206	920	61	1.4	13

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (70301)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
FEB 23...	659	--	--	150	--	--	--	<3	--	--	--
MAY 17...	845	--	--	380	--	--	--	8	--	--	--
AUG 10...	1650	2	2	490	<1	1	8	30	<1	<0.10	<0.1

DATE	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)
AUG 10...	6	6	<10	<10	<10	67	5	<1	3	<5	2

DATE	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	GROSS ALPHA, DIS- SOLVED AS (80030)	GROSS ALPHA, DIS- SOLVED AS (80040)	GROSS BETA, DIS- SOLVED AS (03515)	GROSS BETA, DIS- SOLVED AS (03516)	GROSS BETA, DIS- SOLVED AS (80050)	GROSS BETA, DIS- SOLVED AS (80060)
MAY 17...	--	--	--	--	--	11	6.4	18	7.4	14	5.8
AUG 10...	1900	<10	140	<0.01	<10	--	--	--	--	--	--

SAN JUAN RIVER BASIN

313

09367950 CHACO RIVER NEAR WATERFLOW, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM (70342)	SED. SUSP. FALL DIAM. % FINER THAN .125 MM (70343)	SED. SUSP. FALL DIAM. % FINER THAN .250 MM (70344)
FEB 23...	--	--	19300	1410	--	84	93	97	99	99	100
MAY 17...	<0.02	1.8	319	16	95	--	--	--	--	--	--
AUG 10...	--	--	112	--	97	--	--	--	--	--	--

09368000 SAN JUAN RIVER AT SHIPROCK, NM
(National stream-quality accounting network, surveillance network, and radiochemical network station)

LOCATION.--Lat 36°47'32", long 108°43'54", in NW¼ sec.27, T.30 N., R.18 W., San Juan County, Hydrologic Unit 14080105, on left bank 3 mi west of Shiprock, 6 mi downstream from Chaco River, and at mile 215.0.

DRAINAGE AREA.--12,900 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January to October 1911, February 1927 to current year. Monthly or yearly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 1243: 1931, 1934-38, 1951. WSP 1313: 1911, 1933. WDR NM-78-1: 1977.

GAGE.--Water-stage recorder. Datum of gage is 4,848.68 ft above National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to Apr. 6, 1922, nonrecording gage and Apr. 7, 1922, to Oct. 25, 1933, water-stage recorder, at site 3 mi upstream at different datum. Oct. 26, 1933, to Sept. 30, 1936, water-stage recorder at present site at datum 3.31 ft higher and Oct. 1, 1936, to Sept. 30, 1952, at datum 1.77 ft higher. Supplementary water-stage recorders at nearby sites, same datum, used at times.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Since 1962 flow partly regulated by Navajo Reservoir (station 09355100). Diversions for irrigation of about 118,000 acres upstream from station. Ungaged canals bypass station on both right and left banks, though some of bypass flow is returned to river downstream from gage. Satellite telemeter at station.

AVERAGE DISCHARGE.--63 years (water years 1927-89), 2,220 ft³/s, 1,608,000 acre-ft/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD (SINCE 1927).--Maximum discharge, about 80,000 ft³/s, Aug. 11, 1929, gage height, 5.7 ft, site and datum then in use; minimum daily, 8 ft³/s, Aug. 25, 26, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum flood occurred Oct. 6, 1911, and reached a stage of 22 ft, site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 30	0500	*2,960	*4.80				

Minimum daily discharge, 251 ft³/s, Sept. 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1050	924	795	e900	e1030	e1130	e1550	e1280	1600	743	e2050	278
2	e1000	926	835	e910	e1030	e1120	e1500	e1100	1400	714	e2500	252
3	e980	e930	851	e920	e1100	e1100	e1540	e1100	1380	658	e1750	254
4	e960	e920	827	e920	e1130	e1130	e1560	e1100	1270	629	e1500	251
5	e890	e910	811	e950	e1100	e1120	1580	e1090	1240	584	1380	274
6	e850	e880	756	e980	e1080	e1110	1500	e1140	1240	582	1170	367
7	828	e850	787	e1000	e970	e1100	1420	e1230	1310	518	1010	350
8	999	e840	868	e1010	e920	e1100	1530	e1450	1300	524	650	323
9	966	e810	827	e1000	e980	e1140	e1680	e1750	1430	463	490	324
10	928	e800	771	e980	e1030	e1200	e1850	e2150	1360	446	479	315
11	870	e830	749	e940	e1080	e1500	e1870	e2210	1290	432	481	317
12	843	e880	792	e920	e1100	e1550	e1800	e2120	1250	404	519	317
13	786	e900	e830	e930	e1090	e1600	e1780	e1900	1310	454	412	361
14	772	e910	e880	e980	e1080	e1600	e1650	e1630	1230	487	403	297
15	821	e930	e880	e990	e1070	e1620	e1500	e1500	1170	458	349	316
16	836	e920	e900	e990	e1060	e1620	e1520	e1420	1090	396	346	339
17	808	e950	e920	e1000	e1030	e1500	e1650	1200	1230	366	346	341
18	783	960	e900	e1010	e1010	e1550	e1750	1100	1440	381	350	330
19	793	764	e910	e1010	e1000	e1480	e1800	1030	1350	357	606	311
20	881	733	e920	e1020	e1000	e1470	e1860	1150	1360	e352	572	431
21	894	811	e910	e1020	e1000	e1450	e1950	1390	1290	e325	706	682
22	841	749	e910	e1010	e1000	e1400	e2150	2010	1190	e320	642	744
23	808	726	e900	e1000	e1000	e1400	e2280	1990	1010	e390	798	672
24	787	703	e920	e1010	e1000	e1380	e2200	2140	793	e720	768	641
25	869	787	e910	e1010	e1020	e1420	e2150	2080	711	e1000	674	648
26	922	803	e920	e1010	e1100	e1500	e2000	1910	741	e1450	579	609
27	851	756	e930	e1010	e1120	e1580	e1880	1700	804	e1700	476	530
28	891	771	e930	e1010	e1160	e1570	1660	1670	779	e1550	420	525
29	952	780	e940	e1020	---	e1550	1440	2170	796	e1680	407	511
30	963	741	e930	e1020	---	e1550	1400	2300	765	e1400	350	493
31	969	---	e910	e1020	---	e1550	---	2070	---	e1380	340	---
TOTAL	27391	25194	26919	30500	29290	43090	52000	50080	35129	21863	23523	12403
MEAN	884	840	868	984	1046	1390	1733	1615	1171	705	759	413
MAX	1050	960	940	1020	1160	1620	2280	2300	1600	1700	2500	744
MIN	772	703	749	900	920	1100	1400	1030	711	320	340	251
AC-FT	54330	49970	53390	60500	58100	85470	103100	99330	69680	43370	46660	24600
CAL YR 1988	TOTAL 459598	MEAN 1256	MAX 4120	MIN 520	AC-FT 911600							
WTR YR 1989	TOTAL 377382	MEAN 1034	MAX 2500	MIN 251	AC-FT 748500							

e Estimated

09368000 SAN JUAN RIVER AT SHIPROCK, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1941-45, 1951 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	
NOV 17...	1444	1000	700	643	8.30	8.40	10.0	6.0	75	10.4	240	110	
FEB 22...	1215	1240	700	684	8.18	8.00	10.5	4.5	900	11.6	230	100	
MAY 16...	1000	1420	490	494	8.32	7.80	17.0	14.0	34	9.4	190	79	
AUG 09...	0945	465	680	628	8.34	7.90	26.0	21.5	81	8.2	240	110	
DATE		CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
NOV 17...	74	14	47	1	2.7	165	0	135	132	180	14	0.30	
FEB 22...	69	14	58	2	2.7	159	0	130	128	210	12	0.30	
MAY 16...	59	9.9	30	1	1.9	123	5	109	110	120	10	0.30	
AUG 09...	75	13	43	1	2.8	144	10	134	135	170	13	0.30	
DATE		SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHOS, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
NOV 17...	10	415	424	0.260	0.020	0.280	0.170	0.110	0.53	0.120	0.030	20	
FEB 22...	10	453	456	--	<0.010	0.410	0.080	0.110	0.22	0.140	0.040	<10	
MAY 16...	7.5	296	306	--	<0.010	0.230	<0.010	0.010	--	0.030	0.010	20	
AUG 09...	9.8	408	410	0.210	0.010	0.220	0.030	0.030	0.37	0.050	0.030	10	
DATE		ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 17...	<1	78	<0.5	50	<1	1	<3	7	18	<5	33	6	
FEB 22...	<1	76	<0.5	40	<1	<1	<3	5	<3	<5	25	<1	
MAY 16...	1	78	<0.5	--	<1	<1	<3	2	12	1	26	5	
AUG 09...	<1	89	<0.5	60	<1	<1	<3	3	9	<1	35	3	

SAN JUAN RIVER BASIN

09368000 SAN JUAN RIVER AT SHIPROCK, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	NITRO- GEN, NO2+NO3 TOT. IN BOT MAT (MG/KG AS N) (00633)	NITRO- GEN,NH4 TOTAL IN BOT. MAT. (MG/KG AS N) (00611)	PHOS- PHOROUS TOTAL IN BOT. MAT. (MG/KG AS P) (00668)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)
NOV 17...	<0.1	<10	1	1	<1.0	940	<6	11	3.0	10	95	6
FEB 22...	<0.1	<10	3	2	2.0	900	<6	<3	--	--	--	--
MAY 16...	<0.1	<10	<1	<1	<1.0	680	<6	9	--	--	--	--
AUG 09...	<0.1	<10	2	<1	<1.0	900	<6	8	--	--	--	--
DATE	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD) (01028)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01029)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO) (01038)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU) (01043)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE) (01170)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB) (01052)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G) (01053)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG) (71921)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN) (01093)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)
NOV 17...	<10	4	<50	8	6300	<100	230	0.03	30	4.7	15	4.5
MAY 16...	--	--	--	--	--	--	--	--	--	4.6	5.2	2.7
DATE	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, DIS- SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI- FORM, FECAL, 0.7 KF AGAR (COLS./ UM-MF 100 ML) (31625)	STREP- TOCOCCI FECAL, 0.7 KF AGAR (COLS./ PER 100 ML) (31673)	PCB, TOTAL (UG/L) (39516)	ALDRIN, TOTAL (UG/L) (39330)
NOV 17...	21	3.3	18	0.08	2.0	900	2430	20	K43	K67	--	--
FEB 22...	--	--	--	--	--	2090	7000	50	K77	K47	--	--
MAY 16...	41	2.1	52	0.08	1.7	657	2520	22	K86	200	--	--
AUG 09...	--	--	--	--	--	302	379	59	260	1300	<0.1	<0.010
DATE	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN, TOTAL (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	
AUG 09...	<0.1	<0.010	<0.010	<0.010	<0.01	<0.010	<0.010	<0.010	<0.01	<0.010	<0.010	
DATE	LINDANE TOTAL (UG/L) (39340)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THION, TOTAL (UG/L) (39600)	METHYL TRI- THION, TOTAL (UG/L) (39790)	PARA- THION, TOTAL (UG/L) (39540)	TOX- APHENE, TOTAL (UG/L) (39400)	TOTAL TRI- THION (UG/L) (39786)	PER- THANE TOTAL (UG/L) (39034)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	MIREX, TOTAL (UG/L) (39755)	
AUG 09...	<0.010	<0.01	<0.01	<0.01	<0.01	<0.01	<1	<0.01	<0.1	<0.10	<0.01	

09371010 SAN JUAN RIVER AT FOUR CORNERS, CO

LOCATION.--Lat 37°00'20", long 109°02'00", SE¼NE¼ sec.21, T.32 N., R.20 W., Montezuma County, Hydrologic Unit 14080201, on left bank 1,300 ft upstream from bridge on U.S. Highway 160, 0.1 mi north of New Mexico-Colorado State line, 1.0 mi east of Four Corners Monument, 3.0 mi downstream from Mancos River, and at mile 187.2.

DRAINAGE AREA.--14,600 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,900 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records fair except for estimated daily discharges, which are poor. Flow partly regulated by Navajo Reservoir (09355100). Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years, 2,554 ft³/s, 1,850,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft³/s, May 29, 1979, gage height, 6.25 ft; maximum gage height, 14.43 ft, Dec. 12, 1978 (backwater from ice); minimum, 110 ft³/s, Aug. 19, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 2	1500	*3,780	*3.29				

Minimum daily discharge, 280 ft³/s, Aug. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1050	e950	e910	e900	e1000	e1150	2010	1450	1870	e720	2010	336
2	e975	e940	e905	e905	e1120	1480	2040	1240	1680	e695	3080	332
3	e915	e970	e900	e920	e1150	1500	1870	1110	1640	e675	2990	339
4	e900	e990	e910	e980	e1100	1600	1760	1030	1550	e660	2050	339
5	e880	e1000	e925	e1000	e1080	1460	1800	945	1540	e620	1600	343
6	e840	e930	e915	e998	e1000	1360	1760	962	1370	e600	1380	359
7	e850	e900	e905	e980	e960	1360	1600	1040	1390	e550	1130	380
8	e870	e890	e900	e975	e980	1370	1740	1260	1360	e540	880	360
9	e890	e870	e920	e955	e1000	1480	1950	1500	1410	e500	526	354
10	e900	e880	e915	e895	e1080	1730	2140	1920	1470	e455	463	352
11	e910	e900	e905	e910	e1100	1900	2000	2320	1440	e445	459	357
12	e895	e920	e900	e925	e1140	1990	2000	2190	1350	e400	496	336
13	e890	e930	e895	e965	e1080	1960	2020	1910	1350	e390	467	389
14	e880	e940	e900	e970	e1090	1990	1890	1690	1310	e400	401	347
15	e885	e940	e890	e965	e1050	2030	1680	1610	1210	e410	376	356
16	e870	e935	e880	e970	e1020	1950	1660	1460	1210	e395	293	403
17	e865	e920	e892	e980	e1000	1890	1860	1340	1240	e365	280	391
18	e855	e890	e900	e990	e1010	1850	1860	1300	1450	e355	287	394
19	e840	e880	e910	e998	e990	1830	1930	1220	1440	e350	683	359
20	e850	e895	e900	e999	e1000	1810	2020	1350	1400	e350	654	372
21	e840	e900	e910	e990	e1010	1800	2020	1540	1280	e335	1040	645
22	e895	e895	e898	e980	e1010	1720	2210	1920	1200	e320	846	778
23	e880	e900	e890	e985	e1020	1730	2370	2310	1050	e330	941	797
24	e885	e910	e895	e980	e1010	1730	2250	2320	821	448	992	733
25	e880	e920	e900	e985	e990	1790	2180	2220	699	1040	860	696
26	e900	e925	e920	e990	e1070	1880	2160	2060	668	1100	755	752
27	e910	e920	e915	e1000	e1100	2060	2060	1920	806	2480	641	666
28	e930	e940	e910	e1010	e1130	2090	1850	1900	585	1860	521	622
29	e940	e935	e898	e1000	---	2040	1680	2010	669	2040	459	573
30	e955	e930	e890	e998	---	2030	1580	2180	631	1660	404	548
31	e950	---	e895	e1000	---	2150	---	2120	---	1550	334	---
TOTAL	27775	27645	27998	30098	29290	54710	57950	51347	37089	23038	28298	14008
MEAN	896	921	903	971	1046	1765	1932	1656	1236	743	913	467
MAX	1050	1000	925	1010	1150	2150	2370	2320	1870	2480	3080	797
MIN	840	870	880	895	960	1150	1580	945	585	320	280	332
AC-FT	55090	54830	55530	59700	58100	108500	114900	101800	73570	45700	56130	27780

CAL YR 1988 TOTAL 507498 MEAN 1387 MAX 4380 MIN 529 AC-FT 1007000
WTR YR 1989 TOTAL 409246 MEAN 1121 MAX 3080 MIN 280 AC-FT 811700

e Estimated

SAN JUAN RIVER BASIN

09371010 SAN JUAN RIVER AT FOUR CORNERS, CO -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978-81, November 1984 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)
NOV 17...	1111	1020	770	706	8.38	8.40	12.5	4.0	200
FEB 22...	0930	1340	810	798	8.13	7.90	4.0	3.0	1200
MAY 16...	1530	1470	590	542	8.43	7.90	21.0	17.0	71
JUL 06...	1315	573	700	654	8.67	8.30	38.0	25.0	3.7
AUG 09...	1500	523	730	687	8.46	8.00	31.5	25.0	120
SEP 12...	1330	239	820	783	8.60	8.10	26.0	18.0	22
DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)
NOV 17...	11.2	260	120	74	18	51	1	2.7	149
FEB 22...	11.4	260	130	77	17	71	2	2.7	166
MAY 16...	8.6	200	86	60	12	34	1	2.0	132
JUL 06...	7.8	240	110	71	15	46	1	2.7	131
AUG 09...	7.2	250	120	77	15	48	1	3.1	154
SEP 12...	8.2	270	140	75	20	61	2	2.8	144
DATE	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
NOV 17...	10	138	135	220	15	0.30	9.3	438	471
FEB 22...	0	136	136	260	14	0.30	9.3	537	533
MAY 16...	2	112	114	140	12	0.30	7.1	359	336
JUL 06...	12	127	127	190	14	0.30	4.0	421	419
AUG 09...	7	138	135	190	13	0.40	9.3	451	437
SEP 12...	7	130	132	240	14	0.30	3.2	528	495

09386900 RIO NUTRIA NEAR RAMAH, NM

LOCATION.--Lat 35°16'57", long 108°33'10", in NW¼SW¼ sec.8, T.12 N., R.16 W., McKinley County, Hydrologic Unit 15020004, on Zuni Indian Reservation, on left bank at mouth of Nutria Canyon, 0.9 mi upstream from Nutria diversion dam, 1.3 mi northeast of Upper Nutria, and 10.4 mi northwest of Ramah.

DRAINAGE AREA.--71.4 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to current year.

REVISED RECORDS.--WDR NM-78-1: 1977.

GAGE.--Water-stage recorder and concrete control. Concrete control raised 1.0 ft June 6, 1975. Control raised 2.35 ft June 28, 1984. Elevation of gage is 6,860 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years, 6.84 ft³/s, 4,960 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 782 ft³/s, Apr. 14, 1973, gage height, 5.58 ft, datum then in use, from rating curve extended above 470 ft³/s; maximum gage height, 7.90 ft, Mar. 12, 1985; no flow Oct. 1-20, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 50 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
July 25	2100	*515	*7.60	Sept. 22	1900	194	6.52
July 31	1615	276	6.66				

Minimum daily discharge, 0.03 ft³/s, Sept. 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.13	.18	.14	.20	.30	2.4	.37	.16	.18	.30	3.3	.10
2	.15	.19	.14	.18	.34	2.3	.35	.16	.18	.27	.32	.10
3	.15	.21	.13	.20	.32	2.2	.33	.14	.20	.24	.15	.11
4	.16	.22	.13	.33	.33	.88	.31	.12	.19	.23	.11	.12
5	.14	.23	.13	.27	.33	.57	.30	.12	.18	.24	.08	.10
6	.10	.26	.13	.43	.28	.89	.26	.12	.17	.23	.07	.10
7	.13	.23	.14	.45	.24	4.4	.24	.10	.16	.21	.07	.09
8	.13	.21	.14	.28	.24	19	.24	.10	.16	.20	.08	.09
9	.12	.21	.13	.12	.29	24	.24	.11	.16	.08	.99	.07
10	.12	.20	.14	.12	.41	22	.23	.12	.16	.08	.19	.07
11	.11	.20	.13	.14	.68	19	.22	.12	.18	.08	.10	.08
12	.10	.21	.15	.14	6.3	14	.22	.12	.18	.11	.09	.09
13	.11	.21	.16	.14	5.2	9.6	.21	.13	.19	.11	.08	.10
14	.13	.22	.17	.14	1.7	6.2	.21	.14	.21	.12	.08	.08
15	.16	.29	.17	.15	.53	3.6	.21	.14	.21	.14	.10	.10
16	.19	.22	.16	.14	.37	2.5	.22	.15	.21	.15	.10	.10
17	.20	.23	.17	.15	.44	1.7	.29	.17	.21	.18	.12	.11
18	.20	.26	.19	.15	3.1	1.1	.29	.14	.20	.19	.17	.10
19	.19	.24	.23	.16	7.6	.90	.25	.14	.17	.20	.17	.11
20	.17	.20	.22	.17	2.7	.80	.24	.14	.17	.21	.16	.11
21	.15	.18	.23	.18	.99	.80	.23	.14	.18	.22	.32	.11
22	.15	.18	.23	.19	.77	.76	.22	.13	.18	.20	.18	17
23	.15	.19	.22	.23	1.4	.72	.23	.12	.20	.23	.13	4.2
24	.14	.20	.20	.24	7.3	.66	.22	.13	.21	.23	.11	.38
25	.15	.23	.26	.26	11	.59	.23	.15	.24	41	.08	.15
26	.17	.24	.27	.29	12	.58	.22	.16	.24	25	.09	.08
27	.19	.19	.24	.29	12	.53	.22	.17	.24	1.2	.09	.04
28	.22	.15	.21	.29	4.7	.57	.22	.18	.31	.35	.11	.03
29	.22	.14	.20	.29	---	.49	.24	.19	.32	.20	.09	.03
30	.18	.13	.18	.29	---	.44	.20	.19	.33	.17	.10	.04
31	.18	---	.18	.29	---	.40	---	.18	---	21	.11	---
TOTAL	4.79	6.25	5.52	6.90	81.86	144.58	7.46	4.38	6.12	93.37	7.94	23.99
MEAN	.15	.21	.18	.22	2.92	4.66	.25	.14	.20	3.01	.26	.80
MAX	.22	.29	.27	.45	12	24	.37	.19	.33	41	3.3	.17
MIN	.10	.13	.13	.12	.24	.40	.20	.10	.16	.08	.07	.03
AC-FT	9.5	12	11	14	162	287	15	8.7	12	185	16	48

CAL YR 1988 TOTAL 741.65 MEAN 2.03 MAX 42 MIN .04 AC-FT 1470

WTR YR 1989 TOTAL 393.16 MEAN 1.08 MAX 41 MIN .03 AC-FT 780

LITTLE COLORADO RIVER BASIN

09386900 RIO NUTRIA NEAR RAMAH, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978, 1980, 1987 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
NOV 06...	1300	0.23	590	598	7.75	7.70	18.5	5.0	9.8	320	58	83
JAN 25...	1430	0.28	--	525	7.60	8.10	9.0	9.5	10.1	300	86	82
MAR 15...	1030	3.6	380	405	8.30	8.20	10.5	7.5	9.8	210	17	46
JUN 06...	1200	0.19	590	594	7.80	8.10	25.5	19.0	7.2	300	82	83
AUG 29...	1100	0.09	600	632	7.40	7.70	22.0	14.0	6.0	320	110	91

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
NOV 06...	27	14	0.4	1.3	315	0	258	261	61	7.0	0.30	11
JAN 25...	23	16	0.4	1.0	308	0	252	214	62	6.0	0.40	11
MAR 15...	22	12	0.4	2.7	231	0	189	189	26	5.7	0.30	13
JUN 06...	22	11	0.3	1.0	397	0	325	216	55	6.3	0.40	11
AUG 29...	23	13	0.3	1.2	333	0	273	216	58	6.2	0.40	13

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
NOV 06...	361	1	<1	40	<1	2	2	2	4	1	<3
JAN 25...	330	1	1	30	<1	1	1	1	5	1	42
MAR 15...	241	1	1	40	<1	<1	2	<1	2	4	33
JUN 06...	319	1	<1	40	<1	<1	<1	1	3	1	16
AUG 29...	335	1	<1	50	<1	<1	<1	<1	2	<1	<3

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 06...	<5	<5	<0.10	<0.1	<1	<1	20	<3	54	0.03	38
JAN 25...	<5	<5	<0.10	<0.1	<1	<1	10	14	16	0.01	49
MAR 15...	<5	<5	0.20	<0.1	<1	<1	<10	10	10	0.10	75
JUN 06...	2	<1	<0.10	<0.1	<1	<1	<10	<3	123	0.06	69
AUG 29...	1	<1	0.40	0.2	<1	<1	<10	9	--	--	--

LITTLE COLORADO RIVER BASIN

321

09386950 ZUNI RIVER ABOVE BLACK ROCK RESERVOIR, NM

LOCATION.--Lat 35°06'03", long 108°45'03", in NE¼ sec.17, T.10 N., R.18 W., McKinley County, Hydrologic Unit 15020004, on Zuni Indian Reservation, on left bank downstream from highway bridge on State Highway 36, 0.8 mi. upstream from flow line of Black Rock Reservoir, 2.3 mi northeast of Black Rock, and 5.9 mi northeast of Zuni Pueblo.

DRAINAGE AREA.--848 mi², of which 13 mi² is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to current year. Prior to October 1974 published as "above Zuni Reservoir."

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 6,480 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years, 13.1 ft³/s, 9,490 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,200 ft³/s, Aug. 4, 1974, gage height, 6.61 ft, from rating curve extended above 670 ft³/s on basis of slope-area measurements at gage heights 4.05 ft, 3.94 ft, 5.16 ft, and 6.61 ft; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
July 26	0230	*764	*5.02	No other peak greater than base discharge.			
No flow for many days.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.4	e1.9	2.5	1.5	4.0	3.0	1.5	.22	.00	.00	.60	.00
2	e1.4	e1.8	2.8	1.6	8.0	2.9	1.5	.22	.00	.00	1.4	.00
3	e1.4	e1.9	2.8	1.8	14	3.0	1.5	.33	.00	.00	.72	.00
4	e1.5	e2.0	2.7	e2.7	8.2	3.1	1.4	.37	.00	.00	.45	.00
5	e1.5	e2.0	2.9	e4.1	6.1	e3.1	1.3	.23	.00	.00	.24	.00
6	e1.5	e2.0	2.8	e4.3	4.3	e3.1	1.3	.14	.00	.00	.06	.00
7	e1.4	e1.9	2.7	e3.7	4.4	3.0	1.3	.10	.00	.00	.00	.00
8	e1.5	1.8	2.4	e2.7	4.1	2.9	1.3	.03	.00	.00	.00	.00
9	e1.5	1.9	2.3	e1.8	4.9	2.7	1.2	.00	.00	.00	.00	.00
10	e1.4	1.9	2.4	1.8	6.6	2.5	1.2	.08	.00	.00	.00	.00
11	e1.6	2.0	2.5	1.9	7.0	2.6	1.3	.17	.00	.00	.00	.00
12	e1.6	2.0	2.3	1.9	e5.8	2.6	1.2	.06	.00	.00	.00	.00
13	e1.5	2.2	2.3	1.9	e4.8	2.5	1.1	.01	.00	.00	.00	.00
14	e1.4	2.1	2.4	1.9	e4.2	2.4	1.1	.05	.00	.00	.00	.00
15	e1.6	2.2	2.6	2.0	e4.0	2.4	1.1	.24	.00	.00	.00	.00
16	e1.6	2.4	2.4	2.0	e4.0	2.4	1.0	.30	.00	.00	.00	.00
17	e1.5	2.4	2.7	2.3	4.2	2.4	1.0	.63	.00	.00	.00	.00
18	e1.5	2.7	2.7	2.5	4.1	2.2	.97	.76	.00	.00	.00	.00
19	e1.5	2.5	2.9	2.6	3.9	2.2	.97	.70	.00	.00	.13	.00
20	e1.4	2.5	2.6	3.1	3.9	2.2	1.0	.50	.00	.00	.64	.00
21	e1.4	2.3	e2.7	3.7	3.4	2.2	.90	.34	.00	.00	.45	.00
22	e1.5	2.1	e2.8	3.5	3.4	2.2	.68	.18	.00	.00	.33	.00
23	e1.6	2.1	e2.8	4.0	3.4	2.1	.54	.04	.00	.00	1.4	.00
24	e1.7	2.6	e2.6	4.5	3.3	1.8	.48	.00	.00	.00	.68	.00
25	e1.6	2.9	e2.8	4.5	3.2	1.7	.43	.00	.00	.00	.19	.00
26	e1.6	2.6	e2.9	4.4	3.2	1.7	.50	.00	.00	105	.00	.00
27	e1.7	2.5	e2.7	4.6	3.2	1.7	.37	.00	.00	7.4	.00	.00
28	e1.7	2.2	e2.7	3.7	3.2	1.7	.28	.00	.00	3.5	.00	.00
29	e1.7	2.2	e1.9	3.7	---	1.7	.26	.00	.00	2.9	.00	.00
30	e1.8	2.3	e1.7	3.6	---	1.6	.29	.00	.00	.82	.00	.00
31	e1.9	---	e1.6	3.5	---	1.5	---	.00	---	.60	.00	---
TOTAL	47.9	65.9	78.9	91.8	136.8	73.1	28.97	5.70	0.00	120.22	7.29	0.00
MEAN	1.55	2.20	2.55	2.96	4.89	2.36	.97	.18	.00	3.88	.24	.00
MAX	1.9	2.9	2.9	4.6	14	3.1	1.5	.76	.00	105	1.4	.00
MIN	1.4	1.8	1.6	1.5	3.2	1.5	.26	.00	.00	.00	.00	.00
AC-FT	95	131	156	182	271	145	57	11	.0	238	14	.0

CAL YR 1988 TOTAL 1387.15 MEAN 3.79 MAX 157 MIN .00 AC-FT 2750
WTR YR 1989 TOTAL 656.58 MEAN 1.80 MAX 105 MIN .00 AC-FT 1300

e Estimated

LITTLE COLORADO RIVER BASIN

09386950 ZUNI RIVER ABOVE BLACK ROCK RESERVOIR, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND (00060)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV											
06...	1510	--	2.1	650	678	8.40	8.10	18.0	2.0	--	240
JAN											
25...	1300	--	4.5	--	610	7.90	8.00	9.0	14.5	9.2	210
MAR											
08...	1545	--	2.9	--	--	8.00	--	--	--	--	--
15...	1500	--	2.5	690	677	8.20	8.20	17.0	9.5	9.9	240
22...	1145	--	2.1	--	--	--	--	--	5.5	--	--
APR											
11...	1655	--	1.3	605	--	7.80	--	--	16.0	--	--
JUL											
26...	0210	--	656	--	--	--	--	--	--	--	130
JUL											
26-26	0210	313	--	--	--	--	--	--	--	--	100
26...	0240	--	650	--	--	--	--	--	--	--	110
26...	0320	--	435	--	--	--	--	--	--	--	--
26...	0500	--	110	--	--	--	--	--	--	--	85
26...	0940	--	57	--	--	--	--	--	--	--	--
26...	1600	--	15	220	--	7.55	--	--	15.0	7.1	90

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV											
06...	0	56	24	63	2	4.3	285	17	262	264	78
JAN											
25...	0	54	19	54	2	4.7	283	0	232	234	70
MAR											
08...	--	--	--	--	--	--	--	--	--	--	--
15...	0	61	22	63	2	3.8	337	0	276	272	72
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
11...	--	--	--	--	--	--	--	--	--	--	--
JUL											
26...	130	39	8.5	35	1	--	--	--	--	--	--
JUL											
26-26	100	31	5.7	17	0.8	--	--	--	--	--	--
26...	110	34	6.5	23	1	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	85	26	4.7	13	0.6	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--
26...	90	28	4.8	13	0.6	--	--	--	--	--	--

LITTLE COLORADO RIVER BASIN

323

09386950 ZUNI RIVER ABOVE BLACK ROCK RESERVOIR, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)
NOV 06...	16	0.30	14	414	1	1	--	--	90	1	2
JAN 25...	16	0.30	15	373	<1	<1	--	--	60	<1	<1
MAR 08...	--	--	--	--	--	--	--	--	--	--	--
15...	16	0.40	12	413	2	1	--	--	80	<1	1
22...	--	--	--	--	--	--	--	--	--	--	--
APR 11...	--	--	--	--	--	--	--	--	--	--	--
JUL 26...	--	--	7.8	--	--	--	190	<0.5	--	--	<1
JUL 26-26	--	--	7.4	--	--	--	140	<0.5	--	--	<1
26...	--	--	7.5	--	--	--	160	<0.5	--	--	<1
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	7.4	--	--	--	120	<0.5	--	--	<1
26...	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	9.6	--	--	--	95	<0.5	--	--	<1

DATE	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 06...	1	<1	--	5	<1	13	<5	<5	--	--
JAN 25...	2	1	--	2	4	61	<5	<5	--	--
MAR 08...	--	--	--	--	--	--	--	--	--	--
15...	2	1	--	2	4	13	<5	<5	--	--
22...	--	--	--	--	--	--	--	--	--	--
APR 11...	--	--	--	--	--	--	--	--	--	--
JUL 26...	--	<5	<3	--	<10	41	--	10	6	730
JUL 26-26	--	<5	<3	--	10	40	--	<10	4	510
26...	--	<5	<3	--	<10	49	--	20	5	610
26...	--	--	--	--	--	--	--	--	--	--
26...	--	<5	<3	--	<10	23	--	<10	4	470
26...	--	--	--	--	--	--	--	--	--	--
26...	--	<5	<3	--	<10	47	--	<10	<4	31

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)
NOV										
06...	<0.10	<0.1	--	--	<1	<1	--	--	--	30
JAN										
25...	<0.10	<0.1	--	--	<1	<1	--	--	--	10
MAR										
08...	--	--	--	--	--	--	--	--	--	--
15...	<0.10	<0.1	--	--	<1	<1	--	--	--	<10
22...	--	--	--	--	--	--	--	--	--	--
APR										
11...	--	--	--	--	--	--	--	--	--	--
JUL										
26...	--	--	<10	<10	--	--	1.0	300	<6	--
JUL										
26-26	--	--	<10	<10	--	--	1.0	220	<6	--
26...	--	--	<10	<10	--	--	<1.0	250	<6	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	<10	<10	--	--	2.0	180	<6	--
26...	--	--	--	--	--	--	--	--	--	--
26...	--	--	<10	<10	--	--	<1.0	180	<6	--

[illegible]

LITTLE COLORADO RIVER BASIN

325

09387300 ZUNI RIVER AT NEW MEXICO-ARIZONA STATE LINE

LOCATION.--Lat 34°52'35", long 109°02'29", in SW¼SW¼ sec.34, T.7 N., R.21 W., Cibola County, Hydrologic Unit 15020004, on Zuni Indian Reservation, on the left bank 0.2 mi upstream from the New Mexico-Arizona State line, 5 mi southwest of Ojo Caliente, and 14 mi southwest of Zuni.

DRAINAGE AREA.--1,314 mi², of which 13 mi² is noncontributing.

PERIOD OF RECORD.--October 1983 to April 1987 (annual maximum only), May 1987 to September 1989 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 6,020 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 12, 1987, crest-stage gage at site 200 ft upstream at same datum.

REMARKS.--Discharge records good. Flow partly regulated by Black Rock Reservoir 18 mi upstream. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,330 ft³/s, July 31, 1989, gage height, 5.63 ft, from rating curve extended above 1.0 ft³/s on basis of step-backwater analysis; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,330 ft³/s, 2200 hours July 31, gage height, 5.63 ft, from rating curve extended above 1.0 ft³/s on basis of step-backwater analysis; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.05	.00	.00	.00	.00	76	.00
2	.00	.00	.00	.00	.00	.08	.00	.00	.00	.00	.63	.00
3	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00	.04	1.8
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.0
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.1	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	30	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	4.4	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	10	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	2.3	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.39	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	158	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	205.09	77.81	2.80
MEAN	.00	.00	.00	.00	.00	.007	.00	.00	.00	6.62	2.51	.093
MAX	.00	.00	.00	.00	.00	.10	.00	.00	.00	158	76	1.8
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.0	.0	.0	.5	.0	.0	.0	407	154	5.6

CAL YR 1988 TOTAL 40.63 MEAN .11 MAX 20 MIN .00 AC-FT 81
WTR YR 1989 TOTAL 285.93 MEAN .78 MAX 158 MIN .00 AC-FT 567

LITTLE COLORADO RIVER BASIN

09395381 FOSTER CANYON NEAR CONTINENTAL DIVIDE, NM

LOCATION.--Lat 35°28'46", long 108°21'59", in SW¼NW¼ sec.18, T.14 N., R.14 W., McKinley County, Hydrologic Unit 15020006, on left bank 250 ft upstream from Interstate Highway 40, 0.2 mi west of Coolidge, 10 mi east of Fort Wingate, and 22 mi east of Gallup.

DRAINAGE AREA.--16.8 mi².

PERIOD OF RECORD.--April 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 7,090 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 127 ft³/s, Aug. 31, 1988, gage height, 3.60 ft, from rating curve extended above 1.0 ft³/s of basis on step-backwater analysis; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23 ft³/s, Feb. 26, gage height, 2.75 ft, from rating curve extended above 1.0 ft³/s on basis of step-backwater analysis; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.17	.00	2.6	.00	.00	.00	.00	.01	.00
2	.00	.00	.00	.16	.00	3.0	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.12	.00	2.4	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.04	.00	.63	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.33	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.43	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	7.3	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	9.1	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.04	.00	7.9	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.05	.00	6.3	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.02	.00	4.7	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.03	.60	3.3	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.12	.14	2.4	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.16	.00	1.4	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.17	.00	.71	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.19	.00	.26	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.21	.11	.02	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.20	1.3	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.16	1.3	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.09	.01	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.62	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	9.1	.00	.00	.00	.00	.04	.00	.00
27	.00	.00	.01	.00	8.3	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.05	.00	4.6	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.09	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.14	.00	---	.00	.00	.00	.00	.02	.00	.00
31	.00	---	.17	.00	---	.00	---	.00	---	.94	.00	---
TOTAL	0.00	0.00	0.46	1.94	26.08	52.78	0.00	0.00	0.00	1.00	0.01	0.00
MEAN	.00	.00	.015	.063	.93	1.70	.00	.00	.00	.032	.000	.00
MAX	.00	.00	.17	.21	9.1	9.1	.00	.00	.00	.94	.01	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.0	.9	3.8	52	105	.0	.0	.0	2.0	.02	.0

CAL YR 1988 TOTAL 177.87 MEAN .49 MAX 11 MIN .00 AC-FT 353
WTR YR 1989 TOTAL 82.27 MEAN .23 MAX 9.1 MIN .00 AC-FT 163

LITTLE COLORADO RIVER BASIN

327

09395390 SIXMILE CANYON NEAR FORT WINGATE, NM

LOCATION.--Lat 35°28'59", long 108°27'25", in SE¼SE¼ sec.31 projected, T.15 N., R.15 W., McKinley County, Hydrologic Unit 15020006, on left bank 1,200 ft upstream from Interstate Highway 40, 1.5 mi west of Ciniza Refinery, 5.0 mi east of Fort Wingate, and 16 mi east of Gallup.

DRAINAGE AREA.--10.7 mi².

PERIOD OF RECORD.--April 1987 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 6,910 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 384 ft³/s, Aug. 6, 1988, gage height, 5.66 ft, from rating curve extended above 1.0 ft³/s on basis of step-backwater analysis; no flow most of time.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 48 ft³/s, at 1500 hours July 26, gage height, 3.10 ft, from rating curve extended above 1.0 ft³/s on basis of step-backwater analysis; no flow most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.14	e.00	.00	.00	.00	.00	e.00	.00
2	.00	.00	.00	.00	.04	e.00	.00	.00	.00	.00	e.00	.00
3	.00	.00	.00	.00	.03	e.00	.00	.00	.00	.00	e.00	.00
4	.00	.00	.00	.40	.01	e.00	.00	.00	.00	.00	e.00	.00
5	.00	.00	.00	.10	.00	e.00	.00	.00	.00	.00	e.00	.00
6	.00	.00	.00	e.05	.00	e.00	.00	.00	.00	.00	e.00	.00
7	.00	.00	.00	e.06	.00	e.00	.00	.00	.00	.00	e.00	.00
8	.00	.00	.00	e.07	.00	e.00	.00	.00	.00	.00	e.00	.00
9	.00	.00	.00	e.10	.00	e.00	.00	.00	.00	.00	e.00	.00
10	.00	.00	.00	e.08	1.5	e.00	.00	.00	.00	.00	e.00	.00
11	.00	.00	.00	e.06	.45	e.00	.00	.00	.00	.00	e.00	.00
12	.00	.00	.00	e.04	.10	e.00	.00	.00	.00	.00	e.00	.00
13	.00	.00	.00	e.04	e.00	e.00	.00	.00	.00	.00	e.00	.00
14	.00	.00	.00	e.04	e.00	e.00	.00	.00	.00	.00	e.00	.00
15	.00	.00	.00	e.02	e.00	e.00	.00	.00	.00	.00	e.00	.00
16	.00	.00	.00	e.02	e.05	.00	.00	.00	.00	.00	e.00	.00
17	.00	.00	.00	e.04	e.06	.00	.00	.00	.00	.00	e.00	.00
18	.00	.00	.00	e.04	e.10	.00	.00	.00	.00	.00	e.00	.00
19	.00	.00	.00	e.01	e.01	.00	.00	.00	.00	.00	e.00	.00
20	.00	.00	.00	e.02	e.00	.00	.00	.00	.00	.00	e.00	.00
21	.00	.00	.00	e.04	e.00	.00	.00	.00	.00	.00	e.00	.00
22	.00	.00	.00	e.04	e.00	.00	.00	.00	.00	.00	e.00	.00
23	.00	.00	.00	e.07	e.05	.00	.00	.00	.00	.00	e.00	.00
24	.00	.00	.00	.06	e.04	.00	.00	.00	.00	.00	e.00	.00
25	.00	.00	.00	.01	e.06	.00	.00	.00	.00	.01	e.00	.00
26	.00	.0	.00	.01	e.08	.00	.00	.00	.00	1.9	e.00	.00
27	.00	.02	.00	.00	e.04	.00	.00	.00	.00	.19	e.00	.00
28	.00	.02	.00	.00	e.00	.00	.00	.00	.00	1.5	e.00	.00
29	.00	.0	.00	.00	---	.00	.00	.00	.00	1.0	e.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.50	.00	.00
31	.00	---	.00	.03	---	.00	---	.00	---	e.10	.00	---
TOTAL	0.00	0.04	0.00	1.45	2.76	0.00	0.00	0.00	0.00	5.20	0.00	0.00
MEAN	.00	.001	.00	.047	.099	.00	.00	.00	.00	.17	.00	.00
MAX	.00	.02	.00	.40	1.5	.00	.00	.00	.00	1.9	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.0	.08	.0	2.9	5.5	.0	.0	.0	.0	10	.0	.0

CAL YR 1988 TOTAL 110.71 MEAN .30 MAX 21 MIN .00 AC-FT 220
WTR YR 1989 TOTAL 9.45 MEAN .026 MAX 1.9 MIN .00 AC-FT 19

e Estimated

GILA RIVER BASIN

09430500 GILA RIVER NEAR GILA, NM

LOCATION.--Lat 33°03'40", long 108°32'12", in NE¼NW¼ sec.30, T.14 S., R.16 W., Grant County, Hydrologic Unit 15040001, on left bank at Hooker damsite, 1.6 mi upstream from Mogollon Creek, 7 mi northeast of Gila, and at mile 572.5.

DRAINAGE AREA.--1,864 mi².

PERIOD OF RECORD.--April to December 1914, December 1927 to current year. Monthly discharge only, December 1927 to September 1930, published in WSP 1313.

REVISED RECORDS.--WSP 1283: Drainage area. WSP 1313: 1944 (M), 1949 (M). WDR NM-78-1: 1977.

GAGE.--Water-stage recorder. Datum of gage is 4,655.8 ft above National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to Dec. 31, 1928, at site 5 mi upstream at different datum. Dec. 31, 1928, to Jan. 7, 1942, at site 200 ft upstream at same datum.

REMARKS.--Records good. Diversions for irrigation of about 500 acres upstream from station. Several observations of water temperature were made during the year. National Weather Service gage-height and rain-gage satellite telemeter at station.

AVERAGE DISCHARGE.--62 years (water years 1928-89), 150 ft³/s, 108,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,200 ft³/s, Dec. 28, 1984, gage height, 13.0 ft, from floodmark, from rating curve extended above 7,000 ft³/s on basis of slope-area measurement at gage height 12.5 ft; maximum gage height, 17.2 ft, from floodmark, Sept. 29, 1941; minimum, 14 ft³/s, July 15, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Other major floods occurred in November 1905, December 1906, and January 1916.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
July 30	2000	*451	* 1.83				

Minimum daily discharge, 25 ft³/s, June 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	252	125	95	82	83	101	58	61	32	26	158	78
2	234	121	95	84	83	103	57	58	31	26	153	81
3	220	118	94	85	83	103	55	57	31	26	139	189
4	185	116	94	97	83	105	55	56	30	26	130	325
5	175	114	94	109	84	101	55	54	29	27	127	291
6	168	113	94	127	93	93	55	52	28	29	132	257
7	161	111	92	141	109	89	57	51	27	28	120	228
8	154	110	95	125	111	87	58	50	28	27	126	202
9	146	109	97	111	106	90	58	50	28	30	112	166
10	170	108	99	101	104	99	58	51	27	35	98	139
11	181	107	98	99	103	109	59	49	27	32	89	123
12	175	107	97	100	105	115	59	47	27	34	82	110
13	163	105	94	100	109	120	61	47	27	32	78	104
14	156	103	93	97	109	122	65	46	27	32	76	98
15	190	104	92	93	107	121	70	46	29	32	144	93
16	233	103	90	90	105	117	69	47	29	32	98	88
17	227	102	90	88	102	107	68	50	28	36	87	84
18	203	101	90	89	98	99	71	53	29	35	85	79
19	184	102	91	89	95	93	74	51	28	40	98	82
20	177	101	92	91	96	88	73	48	27	38	95	96
21	180	100	92	88	95	83	72	46	27	38	123	91
22	170	99	91	86	94	80	70	43	28	39	110	86
23	159	98	91	87	92	78	68	41	27	39	98	98
24	157	98	89	86	90	74	67	40	26	51	86	81
25	153	107	89	90	88	71	66	39	26	55	78	77
26	154	110	88	90	89	68	64	36	26	120	73	76
27	148	104	88	91	92	69	62	35	25	123	73	74
28	140	99	87	92	95	70	62	35	26	106	81	73
29	133	97	83	90	---	64	62	35	26	109	91	68
30	129	95	82	86	---	63	61	34	26	193	82	67
31	126	---	81	85	---	60	---	32	---	168	76	---
TOTAL	5403	3187	2837	2969	2703	2842	1889	1440	832	1664	3198	3704
MEAN	174	106	91.5	95.8	96.5	91.7	63.0	46.5	27.7	53.7	103	123
MAX	252	125	99	141	111	122	74	61	32	193	158	325
MIN	126	95	81	82	83	60	55	32	25	26	73	67
AC-FT	10720	6320	5630	5890	5360	5640	3750	2860	1650	3300	6340	7350

CAL YR 1988 TOTAL 101465 MEAN 277 MAX 6320 MIN 47 AC-FT 201300
WTR YR 1989 TOTAL 32668 MEAN 89.5 MAX 325 MIN 25 AC-FT 64800

GILA RIVER BASIN

329

09430600 MOGOLLON CREEK NEAR CLIFF, NM
(Hydrologic bench-mark station)

LOCATION.--Lat 33°10'01", long 108°38'58", in SE¼SE¼ sec.13, T.13 S., R.18 W., Grant County, Hydrologic Unit 15040001, on right bank 0.3 mi downstream from Rain Creek, 0.8 mi downstream from Gila Wilderness boundary, 12 mi upstream from mouth, and 14 mi north of Cliff.

DRAINAGE AREA.--69 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1967 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,440 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good except for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--22 years, 30.1 ft³/s, 21,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,800 ft³/s, Aug. 12, 1967, gage height, 13.7 ft, from floodmarks, from rating curve extended above 220 ft³/s on basis of slope-area measurement of peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 160 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Sept. 4	unknown	*117	a*1.92				
No flow at times.							
a-from floodmarks							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	4.8	3.9	5.9	7.9	24	7.1	2.3	.00	.00	17	e5.8
2	15	4.4	3.7	5.4	9.0	20	7.7	2.1	.00	.00	36	e5.5
3	13	4.4	3.6	5.3	9.5	24	7.9	1.9	.00	.00	9.1	e12
4	11	4.3	3.8	42	9.6	22	7.8	1.7	.00	.00	11	e56
5	9.9	4.1	3.7	41	10	19	7.6	1.5	.00	.00	31	e15
6	9.0	3.9	3.7	28	15	17	7.4	1.3	.00	.00	10	e6.9
7	8.4	3.7	3.7	19	13	17	7.1	1.1	.00	.00	9.8	e3.8
8	7.7	3.7	4.7	15	11	25	7.1	.92	.00	.00	e11	e4.3
9	7.3	3.7	5.0	13	11	36	7.2	.76	.00	.00	e9.2	e3.9
10	12	3.6	7.4	e13	12	43	6.8	.72	.00	.00	e9.0	e3.4
11	11	3.7	6.9	e12	19	48	6.2	.64	.00	.00	e8.0	e2.5
12	8.6	4.1	5.6	e12	22	49	5.5	.58	.00	.00	e8.6	e2.7
13	7.7	4.0	5.1	e11	20	47	5.5	.64	.00	.00	e6.5	e2.3
14	7.8	4.0	4.7	e10	16	42	5.2	.68	.00	.00	e5.0	e1.9
15	26	4.2	4.5	e9.0	13	35	4.4	.64	.00	.00	e33	e1.5
16	20	4.2	4.4	e8.0	e14	30	3.9	1.1	.00	.00	e8.5	e1.3
17	14	4.1	4.2	e7.5	e22	26	3.6	2.3	.00	.00	e6.5	e1.2
18	11	4.0	4.4	7.1	e20	24	3.8	1.8	.00	.00	e10	e1.3
19	9.7	4.1	4.8	6.7	e18	21	4.3	1.3	.00	.00	e9.2	e3.7
20	11	3.9	5.1	5.6	16	19	3.9	.96	.00	.00	e6.3	e2.5
21	11	3.8	4.6	5.3	14	17	3.7	.69	.00	.00	e12	e1.2
22	12	3.6	4.4	5.2	13	14	3.4	.48	.00	.00	5.0	e1.3
23	8.9	3.6	4.1	5.0	13	12	3.2	.28	.00	.00	4.8	e1.2
24	8.0	3.6	e2.5	5.2	13	11	3.0	.12	.00	.00	4.0	e1.4
25	7.3	5.0	e3.0	5.8	13	10	2.8	.04	.00	4.2	3.3	e1.5
26	6.8	6.5	4.5	5.2	17	9.6	2.6	.00	.00	2.7	e4.0	e1.4
27	6.5	5.6	e3.0	7.3	25	11	2.5	.00	.00	.91	e5.0	1.5
28	6.1	4.5	e3.0	7.4	27	9.5	2.6	.00	.00	3.2	e5.5	1.3
29	5.8	4.3	e4.5	7.0	---	8.3	2.6	.00	.00	2.7	e6.0	1.0
30	5.3	4.1	5.3	7.0	---	7.5	2.5	.00	.00	2.8	e7.0	.80
31	5.1	---	5.6	8.0	---	7.1	---	.00	---	17	e6.5	---
TOTAL	320.9	125.5	137.4	344.9	423.0	705.0	148.9	26.55	0.00	33.51	317.8	150.10
MEAN	10.4	4.18	4.43	11.1	15.1	22.7	4.96	.86	.00	1.08	10.3	5.00
MAX	26	6.5	7.4	42	27	49	7.9	2.3	.00	17	36	56
MIN	5.1	3.6	2.5	5.0	7.9	7.1	2.5	.00	.00	.00	3.3	.80
AC-FT	637	249	273	684	839	1400	295	53	.0	66	630	298

CAL YR 1988 TOTAL 10090.79 MEAN 27.6 MAX 808 MIN .11 AC-FT 20020
WTR YR 1989 TOTAL 2733.56 MEAN 7.49 MAX 56 MIN .00 AC-FT 5420

e Estimated

09430600 MOGOLLON CREEK NEAR CLIFF, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB TOT FLD MG/L AS CACO3 (00902)
NOV 30...	1300	3.9	120	112	8.17	7.70	12.5	4.0	1.5	11.8	43	0
FEB 22...	1615	12	100	82	7.28	7.80	17.5	6.5	1.4	11.4	31	2
APR 18...	1400	4.7	87	94	8.00	8.10	28.0	18.5	0.30	9.7	34	0
AUG 22...	1910	5.0	120	122	7.40	7.90	28.0	21.0	0.20	7.8	45	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB AS (MG/L CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 30...	12	3.1	5.6	0.4	0.80	48	0	39	44	11	1.2
FEB 22...	8.8	2.1	4.7	0.4	1.0	35	0	29	29	10	1.0
APR 18...	9.7	2.3	5.5	0.4	0.90	60	0	49	37	8.6	0.90
AUG 22...	13	3.0	7.1	0.5	1.2	56	0	46	46	11	1.4

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
NOV 30...	0.30	19	95	79	<0.010	<0.100	0.010	<0.010	0.29	0.030	<0.010
FEB 22...	0.30	19	64	65	<0.010	<0.100	0.030	0.020	0.27	0.020	0.040
APR 18...	0.30	20	73	71	<0.010	<0.100	0.010	0.050	--	0.010	0.020
AUG 22...	0.40	23	103	88	<0.010	<0.100	0.020	0.020	0.28	0.010	0.010

DATE	ALUM- INIUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)
NOV 30...	10	<1	4	0.7	2	1	<3	2	11	<5	<4
FEB 22...	50	<1	4	<0.5	<1	1	<3	2	19	<5	<4
APR 18...	20	<1	5	<0.5	<1	<1	<3	2	15	<5	<4
AUG 22...	20	<1	5	<0.5	<1	20	<3	1	14	<1	<4

GILA RIVER BASIN

331

09430600 MOGOLLON CREEK NEAR CLIFF, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELENIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRONTIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANADIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)
NOV 30...	1	<0.1	<10	8	<1	1.0	64	<6	6	<0.4	<0.4
FEB 22...	2	<0.1	<10	<1	<1	<1.0	49	<6	<3	--	--
APR 18...	1	--	<10	4	<1	<1.0	52	<6	16	<0.4	<0.4
AUG 22...	3	0.4	<10	<1	<1	<1.0	75	<6	<3	--	--
DATE	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90) (80060)	RADIUM 226, DIS-SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS-SOLVED (UG/L AS U) (22703)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV 30...	1.0	0.8	0.9	0.8	0.03	0.15	3	0.03	33	--	K8
FEB 22...	--	--	--	--	--	--	4	0.13	73	K1	K3
APR 18...	0.9	<0.4	0.8	<0.4	<0.02	0.05	10	0.13	60	K1	K12
AUG 22...	--	--	--	--	--	--	5	0.07	96	K13	K210

GILA RIVER BASIN

09431500 GILA RIVER NEAR REDROCK, NM
(National stream-quality accounting network and radiochemical network station)

LOCATION.--Lat 32°43'37", long 108°40'30", in W sec.23, T.18 S., R.18 W., Grant County, Hydrologic Unit 15040002, on left bank 0.2 mi downstream from Copper Canyon, 0.2 mi upstream from lower end of box canyon, 4.7 mi northeast of Redrock, 14 mi downstream from Mangas Creek, and at mile 539.2.

DRAINAGE AREA.--2,829 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1904 to February 1905 (gage heights only). May 1905 to December 1906, January to December 1907, and July to October 1908 (gage heights only). November 1908 to December 1910, January 1911 to January 1912, and May to June 1912 (gage heights only). August 1912 to September 1955, October 1962 to current year. Monthly or annual discharge only for some periods, published in WSP 1313. Published as "near Cliff" 1904-7.

REVISED RECORDS.--WSP 1213: 1906, 1911-15, 1931, 1936-37, 1939, 1941, 1944, 1945(P), 1946(M), 1947. WSP 1283: Drainage area. WSP 1926: 1955. WDR NM-78-1: 1977.

GAGE.--Water-stage recorder. Elevation of gage is 4,090 ft above National Geodetic Vertical Datum of 1929, from plane-table survey. Prior to Dec. 31, 1907, nonrecording gage at site 13.5 mi upstream at different datum. May 14, 1908, to July 16, 1909, nonrecording gage at site 0.2 mi downstream at different datum. June 13, 1980, to Feb. 23, 1983, at site 1,300 ft downstream at same datum.

REMARKS.--Water-discharge records good. Diversions for irrigation of about 5,000 acres upstream from station. Gage-height and rain-gage satellite telemeter at station.

AVERAGE DISCHARGE.--73 years (water years 1906, 1909-10, 1913-55, 1963-89), 209 ft³/s, 151,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,800 ft³/s, Dec. 19, 1978, gage height, 29.8 ft, in gage well, 34.1 ft from floodmarks, from rating curve extended above 9,500 ft³/s on basis of slope-area measurement of peak flow; minimum, 2.2 ft³/s, Aug. 5, 1947.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 24	2400	*503	*6.95				

Minimum daily discharge, 9.0 ft³/s, July 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	407	169	126	86	103	133	120	71	35	12	218	64
2	359	170	122	94	111	133	120	62	40	12	177	57
3	322	179	112	103	106	135	117	61	32	14	162	121
4	304	174	112	113	95	123	111	63	30	13	198	205
5	301	155	109	120	93	127	106	59	26	13	153	236
6	287	143	113	107	101	128	107	56	31	11	139	218
7	269	147	113	118	113	124	108	53	37	10	149	195
8	241	146	121	129	129	125	107	57	36	9.0	200	172
9	233	144	118	134	128	137	104	55	34	9.5	129	150
10	227	145	113	126	113	140	100	52	25	12	109	130
11	258	142	110	119	110	138	99	50	19	21	95	113
12	264	127	111	113	109	151	98	50	19	20	86	97
13	256	127	120	103	111	159	98	49	26	19	82	92
14	226	129	118	101	126	161	92	54	19	19	80	97
15	247	128	117	100	132	173	92	47	17	16	156	88
16	254	121	113	97	133	179	91	49	16	11	130	66
17	273	125	103	98	131	176	98	54	14	12	107	55
18	274	125	98	107	117	156	98	72	12	14	93	58
19	260	124	95	108	112	141	95	77	16	12	127	70
20	248	124	95	104	119	142	86	57	15	13	100	97
21	240	119	99	92	127	152	79	55	14	17	120	84
22	226	120	110	91	127	148	76	54	13	17	118	62
23	213	118	106	94	125	137	75	58	15	17	114	58
24	204	114	94	100	117	121	77	46	12	27	94	62
25	205	119	92	113	101	117	73	40	16	172	75	52
26	210	133	95	113	99	112	73	38	15	143	63	47
27	206	126	104	113	100	116	77	39	12	155	61	58
28	196	121	103	104	123	126	73	38	12	145	88	66
29	190	125	100	100	---	134	67	36	13	158	89	62
30	175	123	88	98	---	127	70	34	12	172	93	48
31	172	---	86	96	---	125	---	32	---	222	78	---
TOTAL	7747	4062	3316	3294	3211	4296	2787	1618	633	1517.5	3683	2980
MEAN	250	135	107	106	115	139	92.9	52.2	21.1	49.0	119	99.3
MAX	407	179	126	134	133	179	120	77	40	222	218	236
MIN	172	114	86	86	93	112	67	32	12	9.0	61	47
AC-FT	15370	8060	6580	6530	6370	8520	5530	3210	1260	3010	7310	5910

CAL YR 1988 TOTAL 126106 MEAN 345 MAX 5920 MIN 19 AC-FT 250100
WTR YR 1989 TOTAL 39144.5 MEAN 107 MAX 407 MIN 9.0 AC-FT 77640

09431500 GILA RIVER NEAR REDROCK, NM -- Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	
OCT													
27...	1245	206	320	316	8.10	8.20	25.0	17.0	8.1	8.8	13	120	
NOV													
29...	1400	125	350	348	8.54	8.30	14.0	9.0	2.1	10.6	43	120	
DEC													
20...	1500	94	--	352	8.60	7.80	13.5	8.0	2.8	11.2	26	120	
JAN													
06...	1430	111	280	350	8.61	8.40	12.5	8.5	7.7	10.5	16	120	
FEB													
23...	1400	141	350	337	8.14	8.40	21.0	11.5	2.1	10.2	<10	110	
MAR													
14...	1630	190	280	286	8.68	8.70	23.0	19.0	8.0	8.8	11	93	
APR													
19...	1530	97	330	338	8.80	8.80	32.0	22.0	1.5	9.5	17	120	
MAY													
23...	1400	55	375	382	8.50	8.50	35.0	24.0	4.7	8.3	13	130	
JUN													
28...	1515	12	435	393	8.70	8.60	36.5	27.0	1.5	7.1	31	130	
JUL													
26...	1415	150	353	369	8.30	7.90	27.5	22.5	2700	7.1	--	120	
AUG													
31...	1330	81	386	376	8.57	8.30	30.0	27.0	77	7.1	21	130	
SEP													
21...	1230	89	363	371	8.57	8.00	32.5	20.0	130	8.4	43	120	
DATE		HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT													
27...	0	35	7.2	25	1	2.1	144	1	120	122	30	8.7	
NOV													
29...	0	36	7.6	26	1	1.8	154	0	126	131	30	9.6	
DEC													
20...	0	36	7.2	27	1	1.5	145	5	127	134	28	10	
JAN													
06...	0	36	7.4	28	1	1.8	144	7	130	129	31	10	
FEB													
23...	0	33	6.8	26	1	1.7	139	7	126	124	28	11	
MAR													
14...	0	28	5.7	25	1	1.8	112	8	106	107	29	9.3	
APR													
19...	0	35	7.1	29	1	2.1	124	17	130	132	28	9.8	
MAY													
23...	0	40	8.2	32	1	2.5	166	12	156	145	31	11	
JUN													
28...	0	38	8.0	33	1	2.9	146	19	152	143	40	12	
JUL													
26...	0	39	6.4	26	1	4.1	134	7	122	135	35	10	
AUG													
31...	0	39	8.2	32	1	2.8	134	12	130	142	30	12	
SEP													
21...	0	38	7.2	31	1	2.7	157	0	129	134	29	11	

GILA RIVER BASIN

09431500 GILA RIVER NEAR REDROCK, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 27...	1.5	37	207	221	18	--	<0.010	0.200	0.200	<0.010	0.010	--
NOV 29...	1.6	--	230	191	4	--	--	0.300	--	<0.010	--	--
DEC 20...	1.6	31	234	225	9	0.410	0.010	0.300	0.420	0.040	0.040	0.26
JAN 06...	1.6	--	220	193	13	--	--	0.200	--	0.040	--	0.16
FEB 23...	2.0	31	216	215	6	--	<0.010	0.200	0.210	0.020	0.010	0.28
MAR 14...	1.9	--	186	165	21	--	--	<0.100	--	0.070	--	0.23
APR 19...	1.9	34	218	226	2	--	<0.010	<0.100	<0.100	0.030	0.020	0.27
MAY 23...	1.9	--	249	214	15	--	--	0.100	--	0.030	--	0.57
JUN 28...	2.1	35	263	257	2	--	0.010	<0.100	<0.100	<0.030	0.030	--
JUL 26...	1.3	--	239	204	361	--	--	0.900	--	0.030	--	1.7
AUG 31...	2.1	39	246	253	3	0.290	0.010	0.300	0.300	0.040	0.030	0.56
SEP 21...	2.0	--	249	201	422	--	--	0.300	--	0.070	--	1.3

DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
OCT 27...	--	0.060	0.040	<10	2	1	15	<0.5	50	1	<1	2
NOV 29...	0.60	0.070	--	--	1	2	14	--	40	<1	2	2
DEC 20...	0.60	0.090	0.070	--	2	1	15	--	30	<1	<1	1
JAN 06...	0.40	0.060	--	--	1	2	43	--	40	1	<1	3
FEB 23...	0.50	0.050	0.040	--	1	1	13	--	30	1	<1	<1
MAR 14...	--	0.140	--	--	2	2	12	--	30	1	<1	<1
APR 19...	--	0.060	0.040	20	2	2	14	<0.5	50	<1	<1	<1
MAY 23...	0.70	0.050	--	--	2	1	17	--	40	<1	<1	1
JUN 28...	--	0.040	0.030	<10	2	2	17	<0.5	50	1	<1	1
JUL 26...	2.6	0.380	--	--	3	3	44	--	50	3	<1	93
AUG 31...	0.90	0.370	0.070	650	1	2	24	<0.5	50	<1	<1	5
SEP 21...	1.7	0.370	--	--	1	2	23	--	50	1	<1	11

09431500 GILA RIVER NEAR REDROCK, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)
OCT 27...	<1	<3	8	3	740	3	<5	<5	23	30	3	<0.10
NOV 29...	2	--	22	3	190	4	<5	<5	--	20	4	0.40
DEC 20...	1	--	10	3	100	9	<5	<5	--	10	2	<0.10
JAN 06...	<1	--	5	1	600	15	<5	<5	--	20	2	<0.10
FEB 23...	1	--	<1	1	140	5	<5	<5	--	30	2	<0.10
MAR 14...	1	--	11	3	660	9	<5	<5	--	30	3	<0.10
APR 19...	1	<3	5	2	100	5	<5	<5	20	<10	2	0.20
MAY 23...	<1	--	5	3	430	5	4	2	--	40	5	<0.10
JUN 28...	<1	<3	6	4	340	5	1	1	22	20	6	0.20
JUL 26...	1	--	--	22	140000	670	--	3	--	4800	50	<0.10
AUG 31...	<1	<3	<1	5	6500	330	<1	<1	24	200	19	<0.10
SEP 21...	<1	--	41	5	12000	28	14	<1	--	310	4	0.10

DATE	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYBDENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SELENIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRONTIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANADIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT) (80030)
OCT 27...	<0.1	<10	<1	<1	<1	1.0	140	<6	20	5	2.8
NOV 29...	--	--	--	<1	<1	<1.0	--	--	10	11	--
DEC 20...	--	--	--	<1	<1	<1.0	--	--	10	11	--
JAN 06...	--	--	--	<1	<1	<1.0	--	--	<10	10	--
FEB 23...	--	--	--	<1	<1	<1.0	--	--	<10	5	--
MAR 14...	--	--	--	<1	<1	<1.0	--	--	<10	5	--
APR 19...	0.1	<10	<1	<1	<1	1.0	150	<6	<10	<3	3.2
MAY 23...	--	--	--	<1	<1	<1.0	--	--	40	13	--
JUN 28...	0.2	<10	<1	<1	<1	<1.0	170	8	<10	13	--
JUL 26...	--	--	--	<1	<1	<1.0	--	--	940	12	--
AUG 31...	<0.1	<10	<1	<1	<1	<1.0	170	8	40	6	--
SEP 21...	--	--	--	<1	<1	1.0	--	--	60	<3	--

GILA RIVER BASIN

09431500 GILA RIVER NEAR REDROCK, NM -- Continued

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90) (80060)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOC CI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
OCT 27...	0.9	3.3	1.1	2.5	1.1	0.03	1.3	32	18	K11	29
NOV 29...	--	--	--	--	--	--	--	9	3.0	--	K11
DEC 20...	--	--	--	--	--	--	--	4	1.0	K1	K2
JAN 06...	--	--	--	--	--	--	--	19	5.7	K2	K11
FEB 23...	--	--	--	--	--	--	--	27	10	K1	K2
MAR 14...	--	--	--	--	--	--	--	303	155	K9	38
APR 19...	<0.4	2.8	<0.4	2.0	<0.4	<0.02	1.2	22	5.8	K1	K7
MAY 23...	--	--	--	--	--	--	--	29	4.3	K5	K11
JUN 28...	--	--	--	--	--	--	--	24	0.76	K21	24
JUL 26...	--	--	--	--	--	--	--	6290	2550	5300	>10000
AUG 31...	--	--	--	--	--	--	--	249	55	210	210
SEP 21...	--	--	--	--	--	--	--	383	92	--	200

09442680 SAN FRANCISCO RIVER NEAR RESERVE, NM

LOCATION.--Lat 33°44'12", long 108°46'14", in NE¼NW¼SE¼ sec.35, T.6 S., R.19 W., Catron County, Hydrologic Unit 15040004, on left bank 1,300 ft downstream from Rainbow Bridge Canyon, 1.7 mi northwest of Reserve, and at mile 563.1.

DRAINAGE AREA.--350 mi², approximately.

PERIOD OF RECORD.--March 1959 to current year.

REVISED RECORDS.--WDR NM-78-1: 1977. WDR NM-84-1: 1973, 1979-80.

GAGE.--Water-stage recorder. Elevation of gage is 5,820 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Dec. 15, 1972, at site 1,800 ft upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are poor. Possible minor regulation by Luna Lake, 27 mi upstream. Diversions for irrigation of about 280 acres upstream from station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--30 years, 28.5 ft³/s, 20,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,830 ft³/s, Oct. 1, 1983, gage height, 11.71 ft recorded, 11.3 ft, from outside floodmarks, from rating curve extended above 1,400 ft³/s on basis of slope-area measurement of peak flow; minimum, 1.0 ft³/s, Mar. 16, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage, about 15 ft, as determined in 1962 from old floodmarks. Major floods of Nov. 26, 1905, and Dec. 3, 1906, exceeded 20,000 ft³/s at Alma (downstream). See WSP 1313.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 15	0045	*298	*2.10				

Minimum discharge, 1.8 ft³/s Sept. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e13	14	14	11	15	18	e13	e14	3.6	e3.4	7.8	21
2	e13	14	13	12	16	17	e11	e13	5.5	4.4	10	18
3	e12	13	14	12	18	19	e12	e13	5.6	4.9	5.0	21
4	e13	15	13	49	25	20	e15	e12	5.0	e3.0	4.8	19
5	e13	14	14	144	26	18	e10	e11	4.4	e3.4	5.7	10
6	e14	14	13	63	27	17	e15	e10	5.8	e4.0	4.5	14
7	16	13	13	36	22	18	e15	e13	6.6	e3.6	4.5	11
8	16	13	13	24	20	24	e9.0	e12	6.5	e2.9	7.2	8.6
9	15	14	13	18	19	26	e10	e11	5.8	e3.5	6.5	6.8
10	14	13	14	18	21	23	e11	e10	5.3	4.8	5.1	6.2
11	15	13	13	19	34	22	e12	e12	5.8	4.7	5.0	5.8
12	13	13	13	17	36	22	e7.0	e13	5.6	4.7	4.3	5.5
13	15	13	13	13	28	22	e8.0	e14	4.9	5.0	4.6	5.6
14	15	13	14	14	25	18	e10	e14	5.0	5.7	6.2	5.1
15	57	14	14	16	22	18	e10	e14	4.7	5.0	5.4	5.3
16	33	13	12	16	21	e17	e9.0	15	4.6	4.9	6.2	3.7
17	24	13	12	15	21	e19	e9.0	17	5.0	5.0	4.7	4.7
18	20	13	13	15	20	e17	e9.0	16	4.9	5.5	5.4	4.6
19	22	14	12	14	23	e13	e5.0	12	4.6	4.7	8.3	3.0
20	21	14	12	15	23	e12	e4.5	8.7	4.0	4.8	11	4.7
21	20	15	13	15	21	e11	e4.0	11	4.9	5.4	5.1	2.7
22	19	14	13	15	18	e12	e4.0	10	4.7	5.8	11	1.8
23	17	14	13	13	19	e10	e4.5	6.2	4.9	6.1	21	2.6
24	15	14	12	14	18	e9.0	e5.0	4.1	5.0	10	20	7.0
25	15	15	14	16	17	e10	e6.0	3.9	5.1	8.8	20	7.7
26	15	15	13	14	18	e11	e6.5	5.2	5.0	7.5	22	7.6
27	14	14	11	19	19	e15	e7.0	6.0	5.1	5.9	24	7.7
28	14	15	12	16	20	e12	e6.0	7.3	5.0	4.8	22	4.1
29	15	14	11	15	---	e12	e5.5	6.3	5.2	6.4	23	2.6
30	14	13	8.5	16	---	e15	e6.0	4.4	3.8	6.4	17	4.3
31	15	---	9.8	15	---	e12	---	5.5	---	5.8	19	---
TOTAL	547	413	392.3	709	612	509.0	259.0	324.6	151.9	160.8	326.3	231.7
MEAN	17.6	13.8	12.7	22.9	21.9	16.4	8.63	10.5	5.06	5.19	10.5	7.72
MAX	57	15	14	144	36	26	15	17	6.6	10	24	21
MIN	12	13	8.5	11	15	9.0	4.0	3.9	3.6	2.9	4.3	1.8
AC-FT	1080	819	778	1410	1210	1010	514	644	301	319	647	460

CAL YR 1988 TOTAL 13151.2 MEAN 35.9 MAX 499 MIN 5.1 AC-FT 26090
WTR YR 1989 TOTAL 4636.6 MEAN 12.7 MAX 144 MIN 1.8 AC-FT 9200

e Estimated

09442692 TULAROSA RIVER ABOVE ARAGON, NM

LOCATION.--Lat 33°53'29", long 108°30'54", in NE¼NW¼ sec.9, T.5 S., R.16 W., Catron County, Hydrologic Unit 15040004, on right bank 0.4 mi upstream from first diversion, 1.4 mi northeast of Aragon, and 8 mi upstream from Apache Creek.

DRAINAGE AREA.--94 mi².

PERIOD OF RECORD.--July 1966 to current year. 1955 to 1965 at site 0.6 mi upstream (drainage area, 89 mi²), annual maximum only.

REVISED RECORD.--WDR NM-78-1: 1977.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 6,750 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years, 3.47 ft³/s, 2,510 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 660 ft³/s, Oct. 2, 1983, gage height, 3.90 ft in gage well, 4.23 ft from floodmarks, from rating curve extended above 80 ft³/s on basis of slope-area measurements at gage heights 3.13 ft and 3.90 ft; minimum, 1.1 ft³/s, July 22, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 19	0300	*26	*1.88	No other peak greater than base discharge.			
Minimum discharge, 2.7 ft ³ /s, July 6.							

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.3	3.3	3.2	3.3	3.1	3.1	3.1	2.9	2.8	3.0	2.9
2	3.0	3.3	3.2	3.2	3.3	3.2	3.1	3.1	2.9	2.8	3.0	3.0
3	3.0	3.1	3.1	3.2	3.2	3.3	3.2	3.1	2.9	2.8	3.0	3.6
4	e3.1	3.2	3.3	3.5	3.2	3.2	3.2	3.0	2.9	2.8	3.0	3.0
5	e3.2	3.1	3.3	3.3	3.2	3.2	3.2	3.0	2.9	3.0	2.9	3.3
6	e3.2	3.3	3.3	3.3	3.3	3.1	3.1	3.0	3.1	2.7	2.9	3.0
7	e3.7	3.3	3.4	3.3	3.2	3.1	3.1	3.0	2.9	2.8	2.9	2.8
8	e4.5	3.3	3.4	3.2	3.2	3.1	3.1	3.0	2.9	2.9	2.9	3.0
9	e4.6	3.2	3.4	3.1	3.2	3.0	3.1	3.0	2.9	2.9	2.9	2.9
10	e4.8	3.1	3.4	3.2	3.2	3.0	3.1	3.0	2.9	3.1	2.9	2.9
11	e4.8	3.1	3.3	3.2	3.2	3.0	3.1	3.0	2.9	2.9	2.9	2.9
12	e5.0	3.2	3.3	3.2	3.2	3.1	3.1	3.0	2.9	2.9	2.9	2.9
13	e5.1	3.2	3.3	3.2	3.2	3.1	3.1	3.0	2.9	2.9	2.9	2.9
14	e5.3	3.2	3.3	3.2	3.2	3.1	3.1	3.0	2.9	2.9	2.9	2.9
15	e5.5	3.3	3.3	3.2	3.2	3.1	3.1	3.0	2.9	2.8	2.9	3.1
16	e4.3	3.2	3.3	3.2	3.3	3.1	3.1	3.2	2.9	2.8	2.9	2.8
17	3.3	3.1	3.3	3.1	3.2	3.1	3.1	3.1	2.9	3.0	3.0	2.9
18	3.3	3.2	3.3	3.0	3.3	3.1	3.1	3.0	2.9	2.9	3.0	2.9
19	3.4	3.2	3.3	3.8	3.3	3.1	3.1	3.0	2.9	2.9	3.0	2.9
20	3.3	3.2	3.2	3.3	3.2	3.1	3.1	3.0	2.9	2.9	3.0	2.9
21	3.3	3.2	3.2	3.3	3.1	3.1	3.1	3.0	3.0	2.9	2.9	2.8
22	3.3	3.2	3.2	3.1	3.2	3.0	3.1	3.1	2.8	2.9	2.9	3.2
23	3.3	3.3	3.2	3.3	3.3	3.1	3.1	3.0	2.9	3.2	2.9	3.0
24	3.3	3.3	3.2	3.3	3.3	3.0	3.1	2.9	2.9	3.5	2.9	3.0
25	3.3	3.3	3.2	3.3	3.0	3.0	3.1	2.9	2.8	4.5	2.9	2.9
26	3.3	3.4	3.2	3.3	3.1	3.1	3.1	2.9	2.8	3.4	2.9	3.0
27	3.3	3.3	3.1	3.4	3.2	3.1	3.1	2.9	2.9	3.2	2.9	2.9
28	3.3	3.2	3.1	3.3	3.2	3.1	3.1	3.0	2.8	3.1	2.9	2.8
29	3.3	3.2	3.1	3.3	---	3.2	3.1	2.9	2.8	3.0	2.9	2.9
30	3.3	3.2	3.1	3.3	---	3.1	3.1	2.9	2.8	3.0	2.9	2.9
31	3.3	---	3.2	3.3	---	3.1	---	3.0	---	3.0	2.9	---
TOTAL	115.7	96.7	100.8	101.1	90.0	96.1	93.3	93.1	86.7	93.2	90.7	88.9
MEAN	3.73	3.22	3.25	3.26	3.21	3.10	3.11	3.00	2.89	3.01	2.93	2.96
MAX	5.5	3.4	3.4	3.8	3.3	3.3	3.2	3.2	3.1	4.5	3.0	3.6
MIN	3.0	3.1	3.1	3.0	3.0	3.0	3.1	2.9	2.8	2.7	2.9	2.8
AC-FT	229	192	200	201	179	191	185	185	172	185	180	176

CAL YR 1988 TOTAL 1286.6 MEAN 3.52 MAX 34 MIN 2.3 AC-FT 2550
WTR YR 1989 TOTAL 1146.3 MEAN 3.14 MAX 5.5 MIN 2.7 AC-FT 2270

e Estimated

09444000 SAN FRANCISCO RIVER NEAR GLENWOOD, NM

LOCATION.--Lat 33°14'48", long 108°52'47", in NE¼NW¼ sec.23, T.12 S., R.20 W., Catron County, Hydrologic Unit 15040004, on left bank 0.2 mi upstream from hot springs, 5 mi south of Glenwood, 6 mi downstream from Whitewater Creek, and at mile 511.5.

DRAINAGE AREA.--1,653 mi².

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 1213: 1931, 1934, 1936-37, 1940-42, 1943-44(M), 1945-47. WSP 1283: Drainage area. WDR NM-78-1: 1977. WDR NM-79-1: 1973, 1975-77 (P).

GAGE.--Water-stage recorder. Elevation of gage is 4,560 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Feb. 15, 1934, at site 4.5 mi upstream at datum 98.82 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are fair. Diversions for irrigation of about 2,000 acres upstream from station. Gage-height and rain-gage satellite telemeter at station.

AVERAGE DISCHARGE.--62 years, 84.2 ft³/s, 61,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,100 ft³/s, Oct. 2, 1983, gage height, 18.15 ft recorded, 20.80 ft from outside floodmarks, from rating curve extended above 4,200 ft³/s on basis of slope-area measurements at gage heights 10.74 ft, 15.6 ft, and 20.8 ft; minimum, 1.5 ft³/s, Aug. 6, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Major floods probably occurred Jan. 19 and Oct. 14, 1916, when discharges of 60,000 ft³/s or greater were computed for station at Clifton, AZ. On Nov. 26, 1905, a peak of 25,000 ft³/s was measured (by float-area method) at station at Alma (about 12 mi upstream, drainage area, 1,560 mi²); a similar measurement of 21,000 ft³/s was made at the Alma station for peak of Dec. 3, 1906.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 26	2345	*220	*2.20				

Minimum discharge, 15 ft³/s, July 4, 5, 8, and Aug. 25, 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	66	58	e65	e57	51	37	29	26	18	76	24
2	93	68	58	e70	e60	54	35	27	22	17	83	24
3	90	70	56	e75	e60	58	36	26	20	16	62	44
4	88	69	54	95	e65	59	37	26	21	15	49	36
5	83	65	56	111	e67	57	34	26	25	15	38	29
6	82	61	52	137	e70	52	39	26	23	16	33	26
7	78	68	57	102	e72	54	39	26	21	18	26	27
8	78	67	65	86	e65	48	33	26	20	15	21	26
9	76	67	63	e83	e65	48	34	26	20	24	25	25
10	84	66	69	e80	e70	51	35	26	21	24	22	24
11	92	64	69	e77	e75	55	36	26	21	21	19	22
12	91	64	66	e74	e80	57	31	26	19	19	18	20
13	85	59	65	70	e82	53	32	26	17	17	17	17
14	83	61	66	70	e83	50	34	27	17	17	17	16
15	153	64	65	e70	e85	48	34	27	18	16	16	18
16	116	64	64	e60	84	46	33	30	19	17	18	19
17	100	63	64	e55	63	49	32	32	21	17	20	19
18	92	65	63	e60	58	47	33	31	19	17	22	19
19	89	63	65	58	57	42	29	31	18	17	26	18
20	91	63	64	57	58	42	28	29	19	20	26	20
21	94	63	64	e55	60	41	28	24	18	21	27	21
22	87	56	64	e57	61	42	28	24	18	20	26	21
23	84	59	64	e60	60	38	28	23	17	21	21	22
24	83	59	65	e63	60	39	28	24	19	21	19	38
25	81	65	61	e65	53	40	28	24	21	20	15	35
26	78	65	63	e65	46	41	28	23	17	35	15	27
27	74	65	62	e63	50	45	29	21	17	172	17	23
28	71	64	e60	e60	50	42	29	22	20	86	23	22
29	72	63	e60	e58	---	42	29	23	19	74	23	24
30	72	59	e62	e55	---	45	29	26	18	47	23	23
31	68	---	e61	e60	---	42	---	27	---	43	25	---
TOTAL	2702	1915	1925	2216	1816	1478	965	810	591	916	868	729
MEAN	87.2	63.8	62.1	71.5	64.9	47.7	32.2	26.1	19.7	29.5	28.0	24.3
MAX	153	70	69	137	85	59	39	32	26	172	83	44
MIN	68	56	52	55	46	38	28	21	17	15	15	16
AC-FT	5360	3800	3820	4400	3600	2930	1910	1610	1170	1820	1720	1450

CAL YR 1988 TOTAL 49490 MEAN 135 MAX 1630 MIN 25 AC-FT 98160
WTR YR 1989 TOTAL 16931 MEAN 46.4 MAX 172 MIN 15 AC-FT 33580

e Estimated

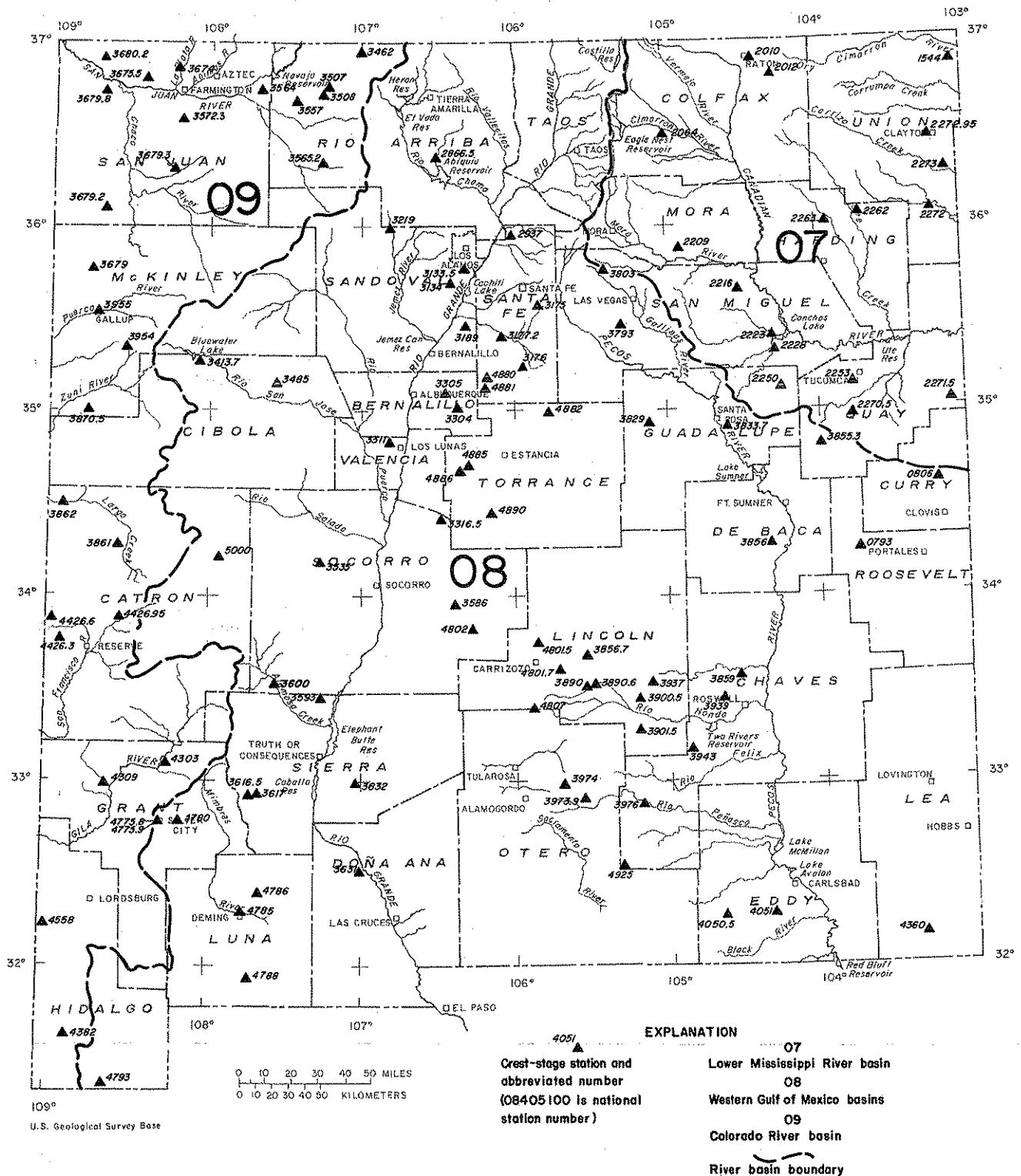


Figure 7.--Location of partial-record stations.

Because the number of streams on which streamflow information is likely to be needed far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in floodflow analyses. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements generally are made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in the second table.

Crest-Stage Partial-Record Stations

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device that will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each year is given. Information on some lower floods may have been obtained and discharge measurements made for purposes of establishing the stage-discharge relation, but these are not published herein. The year given in the period of record column represents the first year of a period extending through the current year unless otherwise noted. For some stations, publication of discharge is delayed pending definition of stage-discharge relations. Published maximums are for water years.

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

						Annual maximum	
Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (ft)	Discharge (ft ³ /s)
ARKANSAS RIVER BASIN							
07154400	Carrizozo Creek near Kenton, OK.	Lat 36°52'55", long 103°01'05", Union County, Hydrologic Unit 11040001, under bridge on New Mexico State Highway 406, 4 mi southwest of Kenton, OK.	111	1953-	06-02-89	3.43	(+)
07201000	Raton Creek at Raton.	Lat 36°55'38", long 104°26'22", Colfax County, Hydrologic Unit 11080001, 60 ft upstream from bridge on State Highway 72 at Raton.	14.4	1953-	09-05-89	3.01	878
07201200	Chicorica Creek tributary near Raton.	Lat 36°49'41", long 104°19'58", Colfax County, Hydrologic Unit 11080001, upstream from culvert on U.S. Highway 64-87, 7.7 mi southeast of Raton.	5.18	1971-	09-05-89	4.84	45
07206400	Clear Creek near Ute Park.	Lat 36°31'35", long 105°10'30", Colfax County, Hydrologic Unit 11080002, 0.25 mi upstream from mouth, and 4 mi southwest of Ute Park.	7.44	1962-67* 1968-	07-20-89	1.76	19
07220900	Dog Creek near Shoemaker.	Lat 36°49'32", long 104°53'28", Mora County, Hydrologic Unit 11080004, 0.5 mi upstream from Valmora-Shoemaker road, and 1.8 mi northwest of Shoemaker.	18.4	1954-	08-17-89	7.80	583
07221600	Lagartija Creek tributary near Sanchez.	Lat 35°39'21", long 104°24'57", San Miguel County, Hydrologic Unit 11080003, at bridge on State Highway 419, 0.9 mi northeast of Sanchez.	1.19	1961-	07-30-89	1.82	47
07222300	Trementina Creek at Trementina.	Lat 35°29'28", long 104°24'59", San Miguel County, Hydrologic Unit 11080005, at bridge on State Highway 419, at Trementina.	63.9	1959-	07-30-89	4.68	817
07222800	Garita Creek tributary near Variadero.	Lat 35°20'10", long 104°21'50", San Miguel County, Hydrologic Unit 11080005, 1.2 mi upstream from mouth, and 6.3 mi southeast of Variadero.	23.0	1971-	07-15-89	5.89	202

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft ³ /s)
ARKANSAS RIVER BASIN - Continued							
07225000	Pajarito Creek at Newkirk.	Lat 35°04'20", long 104°14'50", Guadalupe County, Hydrologic Unit 11080006, downstream side of bridge on old U.S. Highway 66, 1 mi east of Newkirk.	55.0	1954-	06-30-89	4.30	1,110
07225300	Bluewater Creek near Tucumcari.	Lat 35°08'31", long 103°47'32", Quay County, Hydrologic Unit 11080006, in Tucumcari Metropolitan Park, 1,600 ft north of the park's southern boundary, and 4.8 mi southwest of Tucumcari.	15.2	1971-	08-17-89	8.00	625
07226200	Bueyeros Creek at Bueyeros.	Lat 35°58'10", long 103°41'05", in E ₂ sec. 7, T. 20 N., R. 31 E., Harding County, Hydrologic Unit 11080007, on right upstream wingwall of culvert on State Road 102 at Bueyeros.	33.4	1957-	09-05-89	4.24	(+)
07226300	Carrizo Creek near Roy.	Lat 36°02'58", long 103°57'48", Harding County, Hydrologic Unit 11080007, 800 ft downstream from State Highway 120, and 15 mi northeast of Roy.	a68	1954-	07-13-89	4.10	1436
07227050	Plaza Larga Creek tributary near Ragland.	Lat 34°48'29", long 103°45'35", Quay County, Hydrologic Unit 11080008, at culvert on State Highway 209, 1.2 mi northwest of Ragland.	0.36	1952-	06-02-89	8.04	359
07227150	Arroyo del Puerto near Endee.	Lat 35°03'32", long 103°06'04", Quay County, Hydrologic Unit 11090101, at bridge on State Highway 93, 5.4 mi south of Endee.	a25	1961-	08-17-89	4.26	205
07227200	Tramperos Creek near Stead.	Lat 36°04'15", long 103°12'10", in NW ₁ sec. 10, T. 21 N., R. 35 E., Union County, Hydrologic Unit 11090102, at bridge on State Highway 402, 2.1 mi south of Stead, and 26 mi south of Clayton.	a556	1966-73* 1974-	06-09-89	4.08	132
07227295	Sand Draw tributary near Clayton.	Lat 36°23'20", long 103°19'05", Union County, Hydrologic Unit 11090103, upstream from culvert on U.S. Highway 56, 8 mi southwest of Clayton.	1.25	1952-	07-12-89	1.45	58
07227300	Sand Draw near Clayton.	Lat 36°20'30", long 103°11'30", Union County, Hydrologic Unit 11090103, on downstream side of bridge on State Highway 402, 7.5 mi south of Clayton.	a42	1953-	- -89	---	(k)
BRAZOS RIVER BASIN							
08079300	Blackwater Draw tributary near Floyd.	Lat 34°14'52", long 103°44'51", Roosevelt County, Hydrologic Unit 12050001, 0.5 mi downstream from section road, and 10 mi west of Floyd.	a10	1963-	08-12-89	0.80	20
08080600	Running Water Draw near Clovis.	Lat 34°31'55", long 103°12'05", Curry County, Hydrologic Unit 12050005, 0.25 mi upstream from State Highway 209, and 8 mi north of Clovis.	109	1953-56 1957-64* 1965-	06-30-89	1.67	a4

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft ³ /s)
RIO GRANDE BASIN							
08286650	Canjilon Creek above Abiquiu Reservoir.	Lat 36°18'55", long 106°29'05", Rio Arriba County, Hydrologic Unit 13020102, in Piedra Lumbre Grant, 300 ft upstream from bridge on U.S. Highway 84, 0.2 mi northwest of entrance to Ghost Ranch, and about 12 mi northwest of Abiquiu.	144	1965-	08-14-89	3.87	379
08293700	Arroyo Seco tributary near Pojoaque.	Lat 35°56'33", long 106°01'12", Santa Fe County, Hydrologic Unit 13020101, upstream from culvert on U.S. Highway 84-285, 3.5 mi north of Pojoaque.	0.72	1971-	- -89	---	(k)
08313350	Rito de los Frijoles in Bandelier National Monument.	Lat 35°46'35", long 106°16'06", Sandoval County, Hydrologic Unit 13020201, in Bandelier National Monument, downstream from Monument headquarters, 6.5 mi south of Los Alamos, and 18.5 mi northwest of Santa Fe.	18.1	1963-69* 1977-82* 1983-	08-09-89	2.46	18
08313400	Bland Canyon near Cochiti Pueblo.	Lat 35°42'11", long 106°24'56", Sandoval County, Hydrologic Unit 13020201, 200 ft south of Forest Service Road, 0.3 mi inside Santa Fe National Forest, and 7.5 mi north of Cochiti Pueblo.	7.57	1962-	03-20-89	1.67	17
08317500	Galisteo Creek at Canoncito.	Lat 35°33'02", long 105°49'20", Santa Fe County, Hydrologic Unit 13020201, upstream from railroad bridge, 0.2 mi upstream from Apache Canyon at Canoncito.	11.3	1955-56 1959-	- -89	<2.46	b<615
08317600	San Cristobal Arroyo near Galisteo.	Lat 35°22'55", long 105°51'05", Santa Fe County, Hydrologic Unit 13020201, at bridge on U.S. Highway 285, 5.5 mi east of Galisteo.	116	1955-	06-09-89	7.76	2,580
08317720	Canada de la Cueva near Galisteo.	Lat 35°26'13", long 106°00'45", Santa Fe County, Hydrologic Unit 13020201, 6.4 mi east of Cerrillos, and 4.8 mi northwest of Galisteo.	1.81	1970-	07-12-89	2.33	j58
08318900	San Pedro Creek near Golden.	Lat 35°13'45", long 106°18'00", Sandoval County, Hydrologic Unit 13020201, 1 mi downstream from bridge on State Highway 14, and 5.5 mi southwest of Golden.	45.2	1953-	08-14-89	0.62	450
08321900	Rio de las Vacas near Senorita.	Lat 35°59'35", long 106°47'45", Sandoval County, Hydrologic Unit 13020204, at bridge on side road, 0.1 mi south of State Highway 126, and 6.5 mi east of Senorita.	26.8	1957-	02-06-89	3.51	210
08330400	Juan Toro Canyon near Miera.	Lat 35°00'57", long 105°20'14", Bernalillo County, Hydrologic Unit 13020203, 150 ft east of State Highway 337, 1 mi southeast of Cedro, and 4.5 mi northwest of Miera.	1.57	1959-	07-22-89	d0.50	<2

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft ³ /s)
RIO GRANDE BASIN - Continued							
08330500	Tijeras Arroyo at Albuquerque.	Lat 35°03'40", long 106°28'40", Bernalillo County, Hydrologic Unit 13020203, 300 ft south of old U.S. Highway 66, and 0.4 mi southeast of city limits of Albuquerque.	75.3	1943-48* 1958-	07-25-89	<1.83	b<250
08331100	Belen Highline Canal tributary near Los Lunas.	Lat 34°49'20", long 106°49'10", Valencia County, Hydrologic Unit 13020203, upstream from culvert on Highway 6, 5.0 mi west of Los Lunas.	0.16	1952-53 1955-	07-13-89	<4.09	b<135
08331650	Canada Montoso near Scholle.	Lat 34°23'11", long 106°28'37", Socorro County, Hydrologic Unit 13020203, 130 ft upstream from dip on abandoned highway, 500 ft upstream from bridge on U.S. Highway 60, and 3.6 mi southwest of Scholle.	a35	1961-	07-11-89	1.08	(+)
08341370	Pine Canyon near Thoreau.	Lat 35°18'34", long 108°10'14", McKinley County, Hydrologic Unit 13020207, about 1 mi southwest of the north end of Bluewater Lake, and about 7 mi southeast of Thoreau.	6.09	1969-	02-06-89	2.66	86
08348500	Encinal Creek near Casa Blanca.	Lat 35°08'35", long 107°27'55", Valencia County, Hydrologic Unit 13020207, 1.8 mi north of village of Encinal, and 6.8 mi north of Casa Blanca.	6.19	1937-39* 1959-	08-05-88 01-27-89	5.86 2.64	h690 110
08353500	La Jencia Creek near Magdalena.	Lat 34°09'45", long 107°12'35", Socorro County, Hydrologic Unit 13020209, 3.5 mi northeast of Magdalena.	195	1957-	07-22-89	4.18	2,200
08358600	Chupadera Wash tributary at Bingham.	Lat 33°51'39", long 106°22'06", Socorro County, Hydrologic Unit 13020210, 75 ft upstream from culvert on U.S. Highway 380, and 0.1 mi west of Bingham.	1.29	1961-	07-23-89	1.20	(+)
08359300	San Jose Arroyo near Monticello.	Lat 33°28'05", long 107°14'30", Sierra County, Hydrologic Unit 13020211, at head of box canyon just downstream from major tributary, 800 ft downstream from culvert on old U.S. Highway 85, and 13 mi northeast of Monticello.	26.9	1959-	- -89	---	(k)
08360000	Alamosa Creek near Monticello.	Lat 33°34'09", long 107°35'33", Socorro County, Hydrologic Unit 13020211, on left bank at Alamosa damsite and downstream from Old Fort Ojo Caliente, just downstream from Wildhorse Creek, 15 mi northwest of Monticello.	403	1931-42* 1956-58 1958-69* 1973-	08-30-89	3.40	270
08361650	Percha Creek near Kingston.	Lat 32°55'05", long 107°38'55", Sierra County, Hydrologic Unit 13030101, at bridge on State Highway 152, 3.3 mi east of Kingston.	21.5	1953-	07-07-88 07-19-89	3.27 3.32	h340 350
08361700	Percha Creek near Hillsboro.	Lat 32°54'55", long 107°36'05", Sierra County, Hydrologic Unit 13030101, 150 ft south of State Highway 152, and 2 mi west of Hillsboro.	35.4	1957-78 1980-	07-19-89	3.44	630
08363100	Rio Grande tributary near Radium Springs.	Lat 32°30'05", long 106°57'05", Dona Ana County, Hydrologic Unit 13030102, upstream from culvert on U.S. Highway 85, 120 ft upstream from mouth, and 1.4 mi west of Radium Springs.	0.40	1955-	07-24-89	4.70	90

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft ³ /s)
RIO GRANDE BASIN - Continued							
08363200	Aleman Draw at Aleman.	Lat 33°00'00", long 107°00'20", Sierra County, Hydrologic Unit 13030103, on Santa Fe Railroad bridge, 140 ft upstream from dip on Engle-Rincon road, and 0.26 mi west of Aleman.	25.5	1959-	08-14-89	4.66	700
08379300	Tecolote Creek at Tecolote.	Lat 35°27'20", long 105°16'55", San Miguel County, Hydrologic Unit 13060001, on bridge on old U.S. Highway 85 at Tecolote.	122	1954-	- -89	<4.89	b<356
08380300	Sandoval Canyon at Gallinas.	Lat 35°41'19", long 105°21'17", San Miguel County, Hydrologic Unit 13060001, about 500 ft upstream from culvert on State Highway 65, at north edge of Gallinas.	7.6	1957-1961-	07-25-89	1.26	37
08382900	Pecos River tributary near Pintada.	Lat 34°58'06", long 105°05'38", Guadalupe County, Hydrologic Unit 13060001, in Anton Chico Grant, 1,500 ft south of Interstate Highway 40, and 6.8 mi north of Pintada.	0.16	1961-	- -89	---	(k)
08383370	Pecos River tributary near Puerto de Luna.	Lat 34°52'35", long 104°38'16", Guadalupe County, Hydrologic Unit 13060001, 25 ft upstream from culvert on State Highway 91, and 3.1 mi north of Puerto de Luna.	0.37	1961-	09-13-89	8.31	178
08385530	Alamosa Creek tributary near Jordan.	Lat 34°47'44", long 103°58'07", Quay County, Hydrologic Unit 13060004, 500 ft upstream from dip on State Highway 156, and 6.9 mi west of Jordan.	9.71	1962-	06-02-89	1.98	20
08385600	Yeso Creek near Fort Sumner.	Lat 34°16'32", long 104°17'28", De Baca County, Hydrologic Unit 13060003, at abandoned bridge 1 mi downstream from State Highway 20, and 14.5 mi south of Fort Sumner.	242	1937-	05-12-89	4.65	3,000
08385670	Aragon Creek tributary near Encinosa.	Lat 33°43'35", long 105°31'43", Lincoln County, Hydrologic Unit 13060005, 0.3 mi upstream from wooden bridge on dirt road, 1.2 mi north of State Highway 246, and 4.3 mi west of Encinosa.	6.07	1961-	08-27-89	4.38	860
08385900	Salt Creek tributary near Roswell.	Lat 33°32'22", long 104°31'08", Chavez County, Hydrologic Unit 13060005, at culvert on U.S. Highway 285, 4.7 mi north of junction of U.S. Highways 70 and 285, and 10 mi north of Roswell.	0.04	1952-	06-30-89	1.49	(+)
08389000	Rio Bonito near Fort Stanton.	Lat 33°31'05", long 105°29'10", Lincoln County, Hydrologic Unit 13060008, at bridge on U.S. Highway 380, 2.5 mi northeast of Fort Stanton.	a85	1955-	08-27-89	4.66	600
08389060	Rio Bonito tributary near Fort Stanton.	Lat 33°31'15", long 105°28'05", Lincoln County, Hydrologic Unit 13060008, at culvert on U.S. Highway 380, 150 ft upstream from mouth, and 3.5 mi northeast of Fort Stanton.	0.72	1955-	- -89	---	(k)

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft ³ /s)
RIO GRANDE BASIN - Continued							
08390050	Rio Hondo tributary at Tinnie.	Lat 33°22'36", long 105°13'01", Lincoln County, Hydrologic Unit 13060008, upstream from culvert on U.S. Highway 70-380, 0.5 mi east of junction of U.S. Highway 70-380 and State Highway 368, and at Tinnie.	0.23	1971-	08-27-89	4.04	(+)
08390150	Gallo Canyon near Picacho.	Lat 33°17'23", long 105°10'49", Lincoln County, Hydrologic Unit 13060009, 500 ft east of road, 5 mi south of Arabela.	1.32	1962-	08-27-89	5.15	265
08393700	Pancho Canyon near Arabela.	Lat 33°30'36", long 105°11'38", Lincoln County, Hydrologic Unit 13060008, 200 ft downstream from dip on State Highway 368, and 5.6 mi south of Arabela.	16.7	1962-	- -89	---	(k)
08393900	Eight Mile Draw near Roswell.	Lat 33°24'05", long 104°37'54", Chavez County, Hydrologic Unit 13060008, 6.5 mi west of Roswell.	397	1941-1952-	- -89	---	(k)
08394300	Twin Butte Canyon tributary near Roswell.	Lat 33°10'34", long 104°51'30", Chavez County, Hydrologic Unit 13060009, about 0.1 mi upstream from mouth, and about 22 mi southwest of Roswell.	5.01	1968-	08-08-84 08-27-89	3.84 3.44	h545 405
08397390	Curtis Canyon near Mayhill.	Lat 32°51'52", long 105°31'05", Otero County, Hydrologic Unit 13060010, 0.26 mi upstream from SCS dam, 0.4 mi west of State Highway 130, and 2.5 mi southwest of Mayhill.	10.3	1959-	- -89	<0.50	b<20
08397400	Hyatt Canyon near Cloudcroft.	Lat 32°56'06", long 105°37'37", Otero County, Hydrologic Unit 13060010, 0.5 mi south of U.S. Highway 82, and 7 mi east of Cloudcroft.	3.08	1953-	08-27-89	3.04	(+)
08397600	Rio Penasco near Dunken.	Lat 33°52'55", long 105°10'40", Chavez County, Hydrologic Unit 13060010, on bridge on State Highway 24, 5 mi north of Dunken.	583	1952-56 1956-62* 1963-	08-27-89	7.18	440
08405050	Last Chance Canyon tributary near Carlsbad Caverns.	Lat 32°17'30", long 104°36'20", Eddy County, Hydrologic Unit 13060011, upstream from culvert on State Highway 137, 0.1 mi north of road to Sitting Bull Falls, and 12.5 mi northwest of Carlsbad Caverns.	0.2	1959-	09-13-89	1.69	35
08405100	Mosley Canyon near White City.	Lat 32°15'27", long 104°22'43", Eddy County, Hydrologic Unit 13060011, 600 ft downstream from dip on Dark Canyon Road, and 5.5 mi north of White City.	14.6	1959-	09-13-89	3.05	430
08436000	Antelope Draw near Jal.	Lat 32°09'18", long 103°21'51", Lea County, Hydrologic Unit 13070007, 0.4 mi south of State Highway 128, and 10.7 mi west of Jal.	a20	1963-	06-29-89	1.95	(+)
MIMBRES BASIN							
08477580	Silva Creek at Silver City.	Lat 32°46'41", long 108°16'41", Grant County, Hydrologic Unit 13030202, 190 ft upstream from Twelfth Street bridge in Silver City.	10.0	1958-	07-30-89	2.58	400

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft ³ /s)
MIMBRES BASIN - Continued							
08477590	Pinos Altos Creek at Silver City.	Lat 32°46'52", long 108°16'04", Grant County, Hydrologic Unit 13030202, two blocks downstream from U.S. Highway 180 in Silver City.	4.63	1958-	- -89	<0.78	b<50
08478000	Cameron Creek at Central.	Lat 32°47'38", long 108°08'58", Grant County, Hydrologic Unit 13030202, 0.5 mi upstream from culvert on U.S. Highway 180, at north edge of Central.	18.8	1954-	07-30-89	2.23	320
08478500	Mimbres River at Deming.	Lat 32°17'00", long 107°45'35", Luna County, Hydrologic Unit 13030202, at bridge on U.S. Highway 180, at north end of Deming.	1,370	1954-79 1983-	- -89	---	(k)
08478600	Mimbres basin tributary near Florida.	Lat 32°21'30", long 107°37'30", Luna County, Hydrologic Unit 13030202, upstream from culvert on State Highway 26, and 5 mi southwest of Florida.	0.55	1959-	- -89	---	(k)
08478800	Seventysix Draw tributary near Waterloo.	Lat 31°56'34", long 107°44'38", Luna County, Hydrologic Unit 13030202, upstream from culvert on State Road 11, 3.9 mi southeast of Waterloo, and 7.9 mi north of Columbus.	0.2	1967-	07-30-89	3.81	78
PLAYAS BASIN							
08479300	Deer Creek tributary near Antelope Wells.	Lat 31°23'00", long 108°42'15", Hidalgo County, Hydrologic Unit 13030201, 0.1 mi downstream from dip on State Highway 81, 2.5 mi east of San Luis Pass, and 12 mi west of Antelope Wells.	4.3	1959-	- -89	---	(k)
TULAROSA BASIN							
08480150	White Oaks Canyon near Carrizozo.	Lat 33°43'51", long 105°50'11", Lincoln County, Hydrologic Unit 13050003, 100 ft upstream from culvert on U.S. Highway 54, 6 mi north of Carrizozo.	31	1959- 1961-	08-27-89	6.00	2,450
08480170	Nogal Creek tributary near Nogal.	Lat 33°34'54", long 105°41'10", Lincoln County, Hydrologic Unit 13050003, upstream from culvert on U.S. Highway 380, about 2.0 road mi west of Indian Divide, 7 mi northwest of Capitan, and 2 mi north of Nogal.	1.94	1968-	08-27-89	2.22	<10
08480200	Taylor Canyon tributary near Bingham.	Lat 33°48'11", long 106°12'00", Socorro County, Hydrologic Unit 13050003, 200 ft north of U.S. Highway 380, and 12 mi southeast of Bingham.	2.66	1961-	07-28-89	1.66	(+)
08480700	Indian Creek near Three Rivers.	Lat 33°22'10", long 105°53'25", Otero County, Hydrologic Unit 13050003, 150 ft upstream from diversion dam, and 12 mi east of Three Rivers.	6.8	1956-58* 1959-	07-19-89	3.19	69
ESTANCIA BASIN							
08488000	Estancia Valley tributary at Cedar Grove.	Lat 35°10'05", long 106°10'08", Santa Fe County, Hydrologic Unit 13050001, 50 ft upstream from culvert on State Highway 344, 0.1 mi south of Cedar Grove.	1.21	1955 1961-	08-01-89	7.56	(+)

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

						Annual maximum	
Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (ft)	Discharge (ft ³ /s)
ESTANCIA BASIN - Continued							
08488100	Juan Tomas Canyon near Edgewood.	Lat 35°04'35", long 106°13'46", Santa Fe County, Hydrologic Unit 13050001, 140 ft upstream from culvert on Interstate Highway 40, 2.5 mi northwest of Edgewood.	a20	1962-	08-01-89	2.48	150
08488200	Osita Draw near Clines Corners.	Lat 35°00'18", long 105°48'00", Torrance County, Hydrologic Unit 13050001, 100 ft upstream from culvert on Interstate Highway 40, 7.5 mi west of Clines Corners.	a10	1961-	07-25-89	1.49	(+)
08488500	Canon de Torreon at Torreon.	Lat 34°43'20", long 106°17'50", Torrance County, Hydrologic Unit 13050001, at culvert on State Highway 14, in Torreon.	18.2	1954-	07-24-89	1.39	115
08488600	Arroyo del Cuervo near Torreon.	Lat 34°41'35", long 106°18'27", Torrance County, Hydrologic Unit 13050001, in Town of Torreon Grant, about 0.3 mi upstream from culvert on State Highway 55, and 2 mi south of Torreon.	11.8	1969-	07-24-89	3.07	420
08489000	Big Draw near Mountainair.	Lat 34°18'45", long 106°11'35", Torrance County, Hydrologic Unit 13050001, 0.25 mi upstream from culvert on State Highway 55, and 8.4 mi southeast of Mountainair.	4.06	1953-	07-24-89	4.32	86
SALT BASIN							
08492500	Fleming Draw near Pinon.	Lat 32°31'01", long 105°20'42", Otero County, Hydrologic Unit 13050004, 0.2 mi upstream from dip in ranch road, and 7.5 mi south of Pinon.	16.6	1959-	- -89	---	(k)
SAN AGUSTIN PLAINS BASIN							
08500000	Swingle Canyon near Datil.	Lat 34°11'17", long 107°53'55", Catron County, Hydrologic Unit 13020208, 0.3 mi upstream from U.S. Highway 60, and 4.3 mi northwest of Datil.	6.35	1970-72 1976-	- -89	---	(k)
SAN JUAN RIVER BASIN							
09346200	Rio Amargo at Dulce.	Lat 36°56'00", long 107°00'00", Rio Arriba County, Hydrologic Unit 14080101, under bridge on U.S. Highway 64, at Dulce.	168	1956-	08-01-89	7.28	1,420
09350700	Ruben Canyon near Gobernador.	Lat 36°44'26", long 107°14'33", Rio Arriba County, Hydrologic Unit 14080101, in Carson National Forest, upstream from culvert on U.S. Highway 64, and 6.5 mi east of Gobernador.	5.06	1970-	02-05-89	4.03	(+)
09350800	Vaqueros Canyon near Gobernador.	Lat 36°43'23", long 107°16'47", Rio Arriba County, Hydrologic Unit 14080101, 100 ft east of U.S. Highway 64, and 4.2 mi east of Gobernador.	60.5	1956-	02-05-89	3.00	146

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

							Annual maximum	
Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (ft)	Discharge (ft ³ /s)	
SAN JUAN RIVER BASIN - Continued								
09355700	Gobernador Canyon near Gobernador.	Lat 36°41'05", long 107°25'10", San Juan County, Hydrologic Unit 14080101, 0.2 mi south of U.S. Highway 64, and 4 mi southwest of Gobernador.	19.8	1956-	- -89	---	(k)	
09356400	Manzanares Canyon near Turley.	Lat 36°44'15", long 107°42'15", San Juan County, Hydrologic Unit 14080101, 600 ft upstream from culvert on U.S. Highway 64, and 4.2 mi east of Turley.	3.20	1956-	01-30-89	1.57	225	
09356520	Burro Canyon near Lindrith.	Lat 36°16'21", long 107°14'46", Rio Arriba County, Hydrologic Unit 14080103, upstream from culvert on State Highway 537, 11.5 mi west of Lindrith.	9.11	1970-	- -89	---	(m)	
09357230	West Draw near Farmington.	Lat 36°35'24", long 108°11'03", San Juan County, Hydrologic Unit 14080101, 15 ft upstream from culvert on State Highway 371, 11 mi south of Farmington.	0.32	1975-	- -89	---	(k)	
09367400	La Plata River tributary near Farmington.	Lat 36°47'10", long 108°13'31", San Juan County, Hydrologic Unit 14080105, about 700 ft upstream from culvert on State Highway 170, and 4.1 mi northwest of Farmington.	1.03	1970-	08-01-89	2.86	60	
09367550	Stevens Arroyo near Kirtland.	Lat 36°45'56", long 108°21'59", San Juan County, Hydrologic Unit 14080105, upstream from gravel road to Young's Lake, 0.6 mi north of El Paso Natural Gas, San Juan Plant, and 2.3 mi north of Kirtland.	4.52	1970-	08-01-89	11.94	160	
09367900	Black Springs Wash near Mexican Springs.	Lat 35°45'40", long 108°49'00", McKinley County, Hydrologic Unit 14080106, 2.5 mi south of Mexican Springs, and 17 mi north of Gallup.	7.05	1954-78 1979-82* 1983-	- -89	---	(k)	
09367920	Coyote Wash tributary near Naschitti.	Lat 36°05'56", long 108°41'48", San Juan County, Hydrologic Unit 14080106, on bridge on U.S. Highway 666, 2.4 mi north of Naschitti, and 39 mi north of Gallup.	12.0	1967-	07-26-89	2.93	(+)	
09367930	Hunter Wash at Bisti Trading Post.	Lat 36°16'37", long 108°15'12", San Juan County, Hydrologic Unit 14080106, on right bank upstream from road crossing at Bisti Trading Post.	45.6	1975-82* 1983-	07-24-89	6.24	(+)	
09367980	Rattlesnake Arroyo near Shiprock.	Lat 36°46'14", long 108°43'32", San Juan County, Hydrologic Unit 14080105, upstream from bridge on U.S. Highway 64, 0.8 mi west of Shiprock.	---	1980-	08-18-89	2.28	65	
09368020	Malpais Arroyo near Shiprock.	Lat 36°55'33", long 108°43'26", San Juan County, Hydrologic Unit 14080105, upstream from bridge on U.S. Highway 666, 8.3 mi north of Shiprock.	---	1980-	08-18-89	1.25	(+)	
LITTLE COLORADO RIVER BASIN								
09386100	Largo Creek near Quemado.	Lat 34°19'25", long 108°31'40", Catron County, Hydrologic Unit 15020003, on downstream side of bridge on ranch road, 2.5 mi southwest of Quemado.	151	1954-	07-25-89	3.14	630	

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

					Annual maximum		
Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (ft)	Discharge (ft ³ /s)
LITTLE COLORADO RIVER BASIN - Continued							
09386200	Carrizo Wash near Salt Lake.	Lat 34°30'39", long 109°01'35", Catron County, Hydrologic Unit 15020003, on left downstream wingwall of bridge, 1.3 mi east of New Mexico-Arizona State line, and 15 mi west of Salt Lake.	af560	1957-	- -89	<-0.03	b<150
09387050	Galestena Creek tributary near Black Rock.	Lat 34°58'45", long 108°40'00", McKinley County, Hydrologic Unit 15020004, 100 ft downstream from bridge on State Highway 36, and 10.5 mi southeast of Black Rock.	a19	1957-	01-27-89	1.91	66
09395400	Milk Ranch Canyon near Fort Wingate.	Lat 35°25'55", long 108°33'30", McKinley County, Hydrologic Unit 15020006, 0.5 mi downstream from culvert on secondary road between Fort Wingate and McGaffey, and 3 mi south of Fort Wingate.	14.0	1949-	06-28-88 - -89	1.52 ---	h470 (k)
09395500	Puerco River at Gallup.	Lat 35°31'49", long 108°44'23", McKinley County, Hydrologic Unit 15020006, near center of span on downstream side of Third St. bridge in Gallup.	558	1940-46* 1957-77 1977-82* 1983-	08-18-89	4.56	480
GILA RIVER BASIN							
09430300	Copperas Canyon near Pinos Altos.	Lat 33°04'42", long 108°12'14", Grant County, Hydrologic Unit 15040001, on east side of State Highway 15, and 15 mi north of Pinos Altos.	3.95	1963-	08-15-88 - -89	3.81 <2.19	h260 b<80
09430900	Duck Creek at Cliff.	Lat 32°58'03", long 108°36'36", Grant County, Hydrologic Unit 15040002, at Cliff 100 ft downstream from bridge on State Highway 211, and 0.6 mi upstream from mouth.	a228	1957-	02-06-89	6.33	3,300
09438200	Animas Creek near Cloverdale.	Lat 31°34'15", long 108°52'30", Hidalgo County, Hydrologic Unit 15040003, near head of small box canyon, 0.1 mi west of State Highway 338, and 11 mi north of Cloverdale.	157	1959-	07-25-89	4.10	410
09442630	Mail Hollow near Luna.	Lat 33°47'38", long 108°56'59", Catron County, Hydrologic Unit 15040004, 1,000 ft upstream from culvert on U.S. Highway 180, 2.3 mi south of Luna.	4.20	1970-	10-05-88	3.10	70
09442660	Trout Creek at Luna.	Lat 33°50'50", long 108°59'38", Catron County, Hydrologic Unit 15040004, 500 ft downstream from bridge on Luna-Red Hill Road, and 2.6 mi north of Luna.	31.9	1954-	10-05-88	1.58	92
09442695	Negro Canyon at Aragon.	Lat 33°52'47", long 108°33'08", Catron County, Hydrologic Unit 15040004, upstream from culvert on State Highway 12, at west edge of Aragon.	9.62	1958-	07-24-89	3.86	640

Annual Maximum Discharge at Crest-Stage Partial-Record Stations

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft ³ /s)

GILA RIVER BASIN - Continued

09455800	Steins Creek at Steins.	Lat 32°13'47", long 109°00'01", Hidalgo County, Hydrologic Unit 15040006, at culvert on Interstate Highway 10, 0.9 mi west of Steins.	1.26	1959-	07-25-89	3.28	165
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< Less than.
 + Discharge not yet determined.
 * Operated as continuous-record gaging station.
 a Approximately.
 b Peak too low to register on gage.
 c Estimated.
 d From floodmark.
 e Gage height not determined.

f Contributing area.
 g Discontinued at end of year.
 h Revised.
 j May not have been peak for year.
 k No evidence of any flow during water year.
 m No record.
 n Correction.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Measurements at Miscellaneous Sites

Measurements of streamflow at points other than gaging stations are given in the following table.

Discharge Measurements Made at Miscellaneous Sites during Water Year 1989

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
RIO GRANDE BASIN						
Alamosa Creek 08360000	Rio Grande	Lat 33°34'09", long 107°35'33", in SE¼ sec. 31, T. 8 S., R. 7 W., Socorro County, Hydrologic Unit 13020211, 0.9 mi downstream from Wildhorse Creek, and 15 mi northwest of Monticello.	403	1931-42 1958-71 1972-	02-02-89 05-12-89 09-27-89	7.08 6.62 7.30
Lea Lake Drain 08394018	Pecos River	Lat 33°18'56", long 104°19'56", in SW¼SE¼SW¼ sec. 34, T. 11 S., R. 26 E., Chaves County, Hydrologic Unit 13060007, on downstream side of road crossing at Bottomless Lake State Park near Roswell.	---	1976-	11-02-88 01-09-89 04-13-89 07-21-89	5.76 7.19 4.29 5.77
Blue Springs 08405450	Black River	Lat 32°11'07", long 104°16'50", in SW¼NE¼SW¼ sec. 27, T. 24 S., R. 26 E., Eddy County, Hydrologic Unit 13060011, upstream from all diversions, 5.5 mi east of White City.	---	1907 1919-20 1923 1935 1952-70 1974-	10-18-88 01-05-89 04-10-89 07-03-89	16.0 15.8 14.5 15.4
Castle Springs 08405490	Black River	Lat 32°11'59", long 104°15'13", in SW¼SW¼SW¼ sec. 24, T. 24 S., R. 26 E., Eddy County, Hydrologic Unit 13060011, upstream from mouth at Black River Village, 7.2 mi east of White City.	---	1975-	10-18-88 01-05-89 04-10-89 07-07-89	3.08 2.65 1.38 0.63
Scott Able Creek 08492910	Sacramento River	Lat 32°42'35", long 105°44'34", in SE¼NW¼SW¼ sec. 29, T. 18 S., R. 12 E., Otero County, Hydrologic Unit 13050004, at mouth 7.0 mi southwest of Sunspot.	---	1985-89	10-25-88 12-07-88 02-13-89 03-17-89 05-04-89 06-15-89 07-20-89 08-17-89 10-04-89	3.22 1.49 0.20 0.38 0.31 <0.10 Dry Dry 0.73
GILA RIVER BASIN						
Mangas Creek 09431100	Gila River	Lat 32°50'48", long 108°30'57", in NW¼NE¼ sec. 8, T. 17 S., R. 16 W., Grant County, Hydrologic Unit 15040002, 0.4 mi northwest of Mangas Springs.	177	1970-	10-05-88	3.60

Red River Seepage Investigation

REACH.--Red River from discontinued gaging station "below Zwergle damsite near Red River" (station 08264500) to the gaging station "near Questa" (station 08265000), a distance of 15.1 river miles.

PREVIOUS INVESTIGATIONS.--1959, 1963, 1966.

DATE.--October 25, 1988.

WEATHER.--Clear with no precipitation for 17 days prior to the investigation.

STREAMFLOW.-- Measurements were made during period of base flow when streamflow was decreasing very gradually. Discharge of the Red River was nearly constant for the 24 hours preceding the run; discharge as recorded at the "near Questa" gage proceeded from 30.3 ft³/s at 1100 hours to 29.8 ft³/s at 1600 hours during the run. All known sources of inflow and diversion were accounted for in the tabulation. No changes in diversion occurred during the investigation. Tributary flow was considered a contribution, not a gain; diversion was considered a deduction, not a loss.

REMARKS.--Results of this investigation are rated good for the reach upstream from the MolyCorp, Inc. mill (mile 15.7) and fair for the downstream reach. Indicated gains or losses may be in error as affected by these inaccuracies in open-channel measurements. This investigation was conducted in conjunction with a water-quality survey by the New Mexico Environmental Improvement Division; observations of temperature, specific conductance, and pH were provided by that agency.

River mile	Stream	Location	Time	Water temp (° C)	Specific conductance (uS/cm)	pH units	Discharge, in ft ³ /s		
							Main stream	Tributary or diversion	Gain or loss
24.1	Red River	Below Zwergle damsite near Red River (discontinued gaging station 08264500)	0915	1.0	147	7.9	10.8		
23.7	Goose Creek	At mouth	1005	1.0	123	8.0		+1.8	
	Bobcat Creek	At mouth	1020	--	--	--		+0.1	
	Placer Creek	At mouth	1025	--	--	--		0.00	
	Bitter Creek	At mouth	1030	--	--	--		0.00	
	Mallette Creek	At mouth	1035	--	--	--		+0.4	
	Pioneer Creek	Above Arrowhead Lodge at Red River, SW¼NE¼, sec.35, T.29 N., R.14 E.	1100	3.0	183	8.1		+0.78	
17.7	Wastewater treatment plant discharge	At Elephant Rock Campground near Red Rock		--	--	--		+0.35	
17.6	Red River	At Elephant Rock Campground, below treatment plant, 20 ft below footbridge to Fawn Lakes, SW¼NE¼, sec.33, T.29 N., R.14 E., near Red River	1140	4.0	195	8.1	15.9	--	+1.7
15.7	Red River	Above MolyCorp mill near Red River, SE¼SE¼, sec.31, T.29 N., R.14 E.	1315	6.0	237	7.8	19.9	--	+4.0
15.4	MolyCorp diversion	At mill	1340	--	--	--		0.00	
13.2	Red River	300 ft above mouth of Columbine Creek (unsurveyed)	1430	7.7	257	7.9	18.9	--	-1.0
13.1	Columbine	At mouth (unsurveyed) near Questa (unsurveyed)	1420	6.5	130	8.1		+6.0	
10.3	Red River	0.2 mile above mouth of Bear Canyon near Questa (unsurveyed)	1545	8.1	287	7.5	28.6	--	+3.7
9.3	South ditch			--	--	--		+0.3	
9.0	Red River	Near Questa (gaging station 08265000)	1615	8.3	311	7.3	29.8	--	+1.5

a Average discharge provided by treatment plant operator.
e Estimated.

Rio Grande Seepage Investigation

REACH.--The seepage investigation was conducted along a 62.4-mile reach from the Rio Grande downstream from Leasburg Dam near Radium Springs, New Mexico, to the Rio Grande at El Paso, Texas (08364000). The river has been channelized through much of this reach and the gradient is quite flat. About 71,000 acres are irrigated in the Mesilla Valley between Leasburg Dam and El Paso, with ground-water withdrawals used to supplement the surface-water supply.

PREVIOUS INVESTIGATIONS.--A seepage investigation of the reach between the gaging station "below Caballo Dam" (08362500) and a site 0.3 mi upstream from the gaging station "at El Paso" (08364000) was conducted by the U.S. Geological Survey on February 12-13, 1974. A seepage investigation of this same reach was conducted on January 5-6, 1988.

DATE.--January 10-11, 1989.

WEATHER.--Weather was favorable for the seepage investigation. No measurable precipitation occurred after January 4 (0.02 inch). Air temperatures were lower than normal during the seepage investigation. Temperature extremes at Las Cruces, New Mexico, ranged from a low of -8 degrees Celsius on January 10 at 0700 hours to a high of 20 degrees Celsius on January 11 at 1500 hours. Precipitation did not affect streamflow conditions.

STREAMFLOW.--The seepage investigation was conducted during a period of constant base flow. Discharge measurements indicate a net seepage loss of 7.20 cubic feet per second from river mile 1,312.3 to river mile 1,249.9. Indicated gains and losses throughout the reach are shown in the following table. Tributary flow recorded as inflow is considered a contribution and not a gain; no outflow (diversions) occurred during the investigation. Evaporation from the water surface of the river in January is considered negligible.

REMARKS.--The seepage investigation is rated poor on the basis of unsteady streamflow. Temperature extremes during the investigation resulted in diurnal fluctuations in river stage. Shore ice was observed at many of the discharge-measurement sites. Recorded river stage in the Rio Grande at the New Mexico 227 Bridge near Vado, New Mexico (site 1,277.8), indicates a change in gage height from -0.36 foot on January 10 at 1530 hours to -0.44 foot on January 11 at 1045 hours. Indicated gains or losses may be significantly in error as affected by small inaccuracies in open-channel discharge measurements.

River mile	Stream	Location	Time	Water temp (°C)	Specific conduct- ance (uS/cm)	Discharge, in ft ³ /s		
						Main stream	Inflow	Gain or loss
January 10, 1989								
1,312.3	Rio Grande	Below Leasburg Dam near Radium Springs, NM Lat 32°28'41", long 106°55'10"	1105	4.0	1,500	33.1		--
1,310.2	Rio Grande	Near Leasburg, NM Lat 32°27'21", long 106°54'08"	1225	7.0	1,570	38.9		+5.8
*1,307.6	Selden Drain	Near Leasburg, NM Lat 32°25'38", long 106°52'50"	1320	5.0	1,270		1/ 0.2	--
1,306.3	Rio Grande	Near Hill, NM Lat 32°25'05", long 106°52'01"	1405	9.0	1,700	48.8		+9.7
1,302.7	Rio Grande	At Shalem Bridge near Dona Ana, NM Lat 32°22'34", long 106°51'16"	1520	8.5	1,650	51.5		+2.7
*1,301.2	Wasteway no. 5	Near Dona Ana, NM Lat 32°22'14", long 106°50'14"	1545	9.0	1,780		1/ 0.1	--
1,298.8	Rio Grande	Near Picacho, NM Lat 32°20'18", long 106°50'09"	1040	2.0	1,710	54.5		+2.9
1,295.6	Rio Grande	Below Picacho Bridge near Las Cruces, NM Lat 32°17'45", long 106°49'25"	1200	5.0	1,670	60.6		+6.1
*1,295.4	Wastewater inflow	City of Las Cruces, NM Lat 32°17'35", long 106°49'26"	1205	10.0	1,270		2/10.0	--
1,293.1	Rio Grande	At NM 359 Bridge near Mesilla, NM Lat 32°15'49", long 106°49'29"	1330	8.0	1,620	55.1		-15.5
*1,291.8	Picacho Drain	Above Mesilla Dam Lat 32°14'34", long 106°48'56"	1410	8.0	1,500		2.86	--
1,291.7	Rio Grande	Below Picacho Drain Lat 32°14'30", long 106°48'49"	1500	8.0	1,580	33.4		-24.6
*1,283.6	Santo Tomas River Drain	Near San Miguel, NM Lat 32°10'16", long 106°43'11"	1310	--	--		0	--
1,282.7	Rio Grande	At NM-228 Bridge near San Miguel, NM Lat 32°09'43", long 106°42'58"	1425	7.0	1,580	45.0		+1.7
1,277.8	Rio Grande	At NM-227 Bridge near Vado, NM Lat 32°06'48", long 106°40'05"	1530	7.0	1,520	50.4		+5.4

Rio Grande Seepage Investigation

River mile	Stream	Location	Time	Water temp (°C)	Specific conduct- ance (uS/cm)	Discharge, in ft ³ /s		
						Main stream	Inflow	Gain or loss
January 11, 1989								
1,277.8	Rio Grande	At NM-227 Bridge near Vado, NM Lat 32°06'48", long 106°40'05"	1045	3.0	1,540	42.4		--
*1,276.6	Del Rio Drain	Near Vado, NM Lat 32°06'09", long 106°39'27"	1215	9.0	1,300		33.2	--
1,273.8	Rio Grande	At NM-226 Bridge near Berino, NM Lat 32°03'56", long 106°39'45"	1310	10.0	1,460	70.1		-5.5
*1,271.6	La Mesa Drain	Near Chamberino, NM Lat 32°02'15", long 106°39'23"	1415	10.0	1,900		12.0	--
1,271.5	Rio Grande	Below La Mesa Drain near Chamberino, NM Lat 32°02'12", long 106°39'18"	1530	11.0	1,650	90.3		+8.2
1,268.5	Rio Grande	At NM-225 Bridge near Anthony, NM Lat 31°59'58", long 106°38'07"	1100	4.0	1,530	80.6		-9.7
*1,265.4	East Drain	Near Vinton, TX Lat 31°58'09", long 106°36'17"	1150	6.0	3,100		8.59	--
1,264.7	Rio Grande	At Vinton Bridge near Vinton, TX Lat 31°57'33", long 106°36'16"	1330	8.0	1,680	101		+11.8
1,261.6	Rio Grande	At TX-259 Bridge, Canutillo, TX Lat 31°54'54", long 106°36'06"	1440	8.0	1,670	105		+4.0
1,259.3	Rio Grande	At Borderland Bridge near Borderland, TX Lat 31°53'09", long 106°35'55"	1540	9.0	1,680	91.0		-14.0
1,256.2	Rio Grande	At TX-260 Bridge near Santa Teresa, NM Lat 31°50'46", long 106°36'18"	1130	4.0	1,740	87.9		-3.1
1,252.8	Rio Grande	Near Sunland Park, NM Lat 31°48'24", long 106°34'57"	1315	7.5	1,750	82.3		-5.6
*1,252.4	Wastewater inflow	Sunland Plant, City of Sunland Park, NM Lat 31°47'55", long 106°33'25"	1430	18.0	1,750		0.9	--
1,251.9	Rio Grande	At Sunland Park Bridge, Sunland Park, NM Lat 31°47'56", long 106°33'16"	1415	9.0	1,680	87.5		+4.3
*1,250.3	Montoya Drain	Near Sunland Park, NM Lat 31°48'10", long 106°32'47"	1620	11.0	2,260		36.2	--
*1,250.1	Keystone Reservoir outlet	Near El Paso, TX Lat 31°48'18", long 106°32'39"	1625	--	--		1/ 0.04	--
1,249.9	Rio Grande	At Courchesne Bridge, El Paso, TX Lat 31°48'09", long 106°32'26"	1510	10.0	1,975	122		-1.7

* River mile at mouth of drain or point of discharge.

1/ Estimated discharge.

2/ Reported mean daily discharge.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

Water-quality partial-record stations are particular sites where chemical data are collected systematically over a period of years for use in hydrological analyses. The data are collected less than quarterly, usually one to three times a year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN

08329865 GRANT LINE ARROYO AT ALBUQUERQUE, NM

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	PH (STAND-ARD UNITS) (00400)	PH LAB (STAND-ARD UNITS) (00403)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
JUL 25...	1345	1028	80020	.30	172	136	7.93	7.80	22.0	23.0	28
SEP 19...	1130	1028	80020	.20	60	97	8.11	7.20	17.0	18.0	23
DATE	HARD-NESS NONCARB WH WAT TOT FLD (MG/L AS CACO3) (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)
JUL 25...	0	9.5	1.1	2.4	0.2	5.5	63	1.0	2.5	0.10	3.3
SEP 19...	0	8.2	0.70	2.3	0.2	2.3	33	5.0	1.9	0.10	2.1
DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)
JUL 25...	68	0.900	0.740	0.390	2.7	4.0	0.720	0.270	29	1	1
SEP 19...	46	0.600	0.690	0.280	1.3	2.2	0.970	0.310	19	1	1
DATE	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
JUL 25...	40	2	<1	13	2	25	5	200	1	1	0.10
SEP 19...	40	<1	<1	8	<1	15	5	51	37	1	<0.10
DATE	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	SELE-NIUM, TOTAL (UG/L AS SE) (01147)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L) (32101)	CARBON-TETRA-CHLO-RIDE TOTAL (UG/L) (32102)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L) (32103)
JUL 25...	<0.1	<1	<1	140	17	2790	0.0	33	<0.20	<0.20	<0.20
SEP 19...	0.2	<1	<1	100	13	416	0.0	38	<0.20	<0.20	<0.20

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08329865 GRANT LINE ARROYO AT ALBUQUERQUE, NM -- Continued

DATE	BROMO- FORM TOTAL (UG/L) (32104)	CHLORO- DI- BROMO- METHANE TOTAL (UG/L) (32105)	CHLORO- FORM TOTAL (UG/L) (32106)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)	CHLORO- BENZENE TOTAL (UG/L) (34301)	CHLORO- ETHANE TOTAL (UG/L) (34311)	ETHYL- BENZENE TOTAL (UG/L) (34371)	METHYL- BROMIDE TOTAL (UG/L) (34413)	METHYL- CHLO- RIDE TOTAL (UG/L) (34418)	METHYL- ENE CHLO- RIDE TOTAL (UG/L) (34423)
JUL 25...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
SEP 19...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
DATE	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L) (34475)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L) (34488)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L) (34496)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L) (34501)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L) (34506)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L) (34511)	1,1,2,2 TETRA- CHLORO- ETHANE TOTAL (UG/L) (34516)	1,2-DI- CHLORO- BENZENE TOTAL (UG/L) (34536)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L) (34541)	1,2- TRANS DI- CHLORO- ETHENE TOTAL (UG/L) (34546)	1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34561)
JUL 25...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
SEP 19...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
DATE	1,3-DI- CHLORO- BENZENE TOTAL (UG/L) (34566)	1,4-DI- CHLORO- BENZENE TOTAL (UG/L) (34571)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L) (34576)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L) (34668)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34699)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34704)	VINYL CHLO- RIDE TOTAL (UG/L) (39175)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L) (39186)	STYRENE TOTAL (UG/L) (77128)	1,2- DIBROMO ETHANE WHOLE TOTAL (UG/L) (77651)	XYLENE TOTAL WHOLE TOT REC (UG/L) (81551)
JUL 25...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
SEP 19...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2

08330505 TIJERAS ARROYO ABOVE FOUR HILLS BRIDGE AT ALBUQUERQUE, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT 28...	1005	1028	80020	E0.50	910	897	8.20	7.90	12.5	11.5	390
NOV 30...	0930	1028	80020	E0.50	920	--	8.39	--	2.0	5.5	--
DEC 30...	1103	1028	80020	E1.0	950	--	8.41	--	-3.0	2.0	--
JAN 30...	1430	1028	80020	0.82	910	904	8.17	7.80	9.0	11.0	390
MAR 08...	1330	1028	80020	0.50	920	--	8.30	--	24.0	20.0	--
22...	1315	1028	80020	1.2	910	--	7.70	--	16.5	19.0	--
31...	1000	1028	80020	0.89	940	--	7.30	--	11.0	11.5	--
MAY 08...	1000	1028	80020	E0.25	925	894	8.17	8.20	23.5	19.0	360
JUL 26...	1000	1028	80020	E0.50	900	943	8.38	8.00	19.5	17.5	380

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08330505 TIJERAS ARROYO ABOVE FOUR HILLS BRIDGE AT ALBUQUERQUE, NM - Continued

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINIT LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)
OCT 28...	170	110	27	45	1	3.8	213	120	85	0.50	18
NOV 30...	--	--	--	--	--	--	--	--	--	--	--
DEC 30...	--	--	--	--	--	--	--	--	--	--	--
JAN 30...	170	110	27	46	1	3.4	219	120	90	0.50	17
MAR 08...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
MAY 08...	160	100	27	46	1	3.9	200	130	90	0.60	15
JUL 26...	150	110	26	48	1	5.8	232	130	89	0.60	18
DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTH, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
OCT 28...	543	1.40	1.40	<0.010	--	--	0.010	<0.010	2.1	<1	<1
NOV 30...	--	1.60	1.60	<0.010	--	2.0	0.420	0.010	--	--	--
DEC 30...	--	0.900	1.10	0.070	0.53	1.5	0.260	0.010	--	--	--
JAN 30...	554	1.90	1.90	0.070	0.73	2.7	0.430	0.020	2.5	--	<1
MAR 08...	--	1.50	1.60	0.010	0.29	1.8	0.020	<0.010	--	--	--
22...	--	1.50	1.50	0.020	0.18	1.7	0.030	0.030	--	--	--
31...	--	1.50	1.50	0.050	0.25	1.8	0.010	<0.010	--	--	--
MAY 08...	537	1.00	1.10	0.040	--	--	0.010	<0.010	1.9	<1	<1
JUL 26...	570	1.00	0.830	0.060	1.7	2.8	0.170	0.010	6.1	1	1
DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
OCT 28...	60	1	3	4	2	6	1	5	11	<5	<0.10
NOV 30...	--	--	--	--	--	--	--	--	--	--	--
DEC 30...	--	--	--	--	--	--	--	--	--	--	--
JAN 30...	50	<1	<1	4	2	9	1	13	6	<5	<0.10
MAR 08...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
MAY 08...	60	<1	<1	3	2	3	1	3	1	<5	<0.10
JUL 26...	70	<1	<1	8	2	5	2	11	3	1	<0.10

RIO GRANDE BASIN -- Continued

08330505 TIJERAS ARROYO ABOVE FOUR HILLS BRIDGE AT ALBUQUERQUE, NM - Continued

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. & FINER THAN .062 MM (70331)	DI- CHLORO- BROMO- METHANE TOTAL (UG/L) (32101)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L) (32102)	1,2-DI- CHLORO- ETHANE TOTAL (UG/L) (32103)
OCT											
28...	<0.1	2	2	50	6	300	0.0	11	<0.20	<0.20	<0.20
NOV											
30...	--	--	--	--	--	242	0.0	29	<0.20	<0.20	<0.20
DEC											
30...	--	--	--	--	--	216	0.0	26	<0.20	<0.20	<0.20
JAN											
30...	<0.1	--	2	40	16	132	0.29	59	<0.20	<0.20	<0.20
MAR											
08...	--	--	--	--	--	42	0.06	77	<0.20	<0.20	<0.20
22...	--	--	--	--	--	61	0.21	81	<0.20	<0.20	<0.20
31...	--	--	--	--	--	222	0.53	3	<0.20	<0.20	<0.20
MAY											
08...	0.2	1	2	<10	6	31	0.0	56	<0.20	<0.20	<0.20
JUL											
26...	<0.1	1	1	70	<3	486	0.0	4	<0.20	<0.20	<0.20

[illegible][illegible]

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08330505 TIJERAS ARROYO ABOVE FOUR HILLS BRIDGE AT ALBUQUERQUE, NM - Continued

DATE	1,3-DI- CHLORO- BENZENE TOTAL (UG/L) (34566)	1,4-DI- CHLORO- BENZENE TOTAL (UG/L) (34571)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L) (34576)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L) (34668)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34699)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34704)	VINYL CHLO- RIDE TOTAL (UG/L) (39175)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L) (39180)	STYRENE TOTAL (UG/L) (77128)	1,2- DIBROMO ETHANE WATER TOTAL (UG/L) (77651)	XYLENE TOTAL WATER TOTAL (UG/L) (81551)
OCT 28...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
NOV 30...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
DEC 30...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
JAN 30...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
MAR 08...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.2	<0.2	<0.2	<0.2
22...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
31...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
MAY 08...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
JUL 26...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2

08330540 TRAMWAY FLOODWAY CHANNEL AT ALBUQUERQUE, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST- CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)
SEP 19...	1900	1028	80020	20	271	7.79	7.20	20.0	20.0	93	0
DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
SEP 19...	33	2.6	12	0.6	4.1	110	14	7.4	0.30	9.6	152
DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHOR, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)
SEP 19...	0.400	0.410	0.390	1.8	2.6	0.240	0.150	34	2	2	140
DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)
SEP 19...	1	<1	3	1	9	5	110	55	1	<0.10	<0.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08330540 TRAMWAY FLOODWAY CHANNEL AT ALBUQUERQUE, NM - Continued

DATE	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	DI- CHLORO- BROMO- METHANE TOTAL (UG/L) (32101)	CARBON- TETRA- CHLO- RIDE TOTAL (UG/L) (32102)	1,2-DI- CHLORO- ETHANE TOTAL (UG/L) (32103)	BROMO- FORM TOTAL (UG/L) (32104)
SEP 19...	<1	<1	140	25	334	18	28	<0.20	<0.20	<0.20	<0.20
DATE	CHLORO- DI- BROMO- METHANE TOTAL (UG/L) (32105)	CHLORO- FORM TOTAL (UG/L) (32106)	TOLUENE TOTAL (UG/L) (34010)	BENZENE TOTAL (UG/L) (34030)	CHLORO- BENZENE TOTAL (UG/L) (34301)	CHLORO- ETHANE TOTAL (UG/L) (34311)	ETHYL- BENZENE TOTAL (UG/L) (34371)	METHYL- BROMIDE TOTAL (UG/L) (34413)	METHYL- CHLO- RIDE TOTAL (UG/L) (34418)	METHYL- CHLO- RIDE TOTAL (UG/L) (34423)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L) (34475)
SEP 19...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
DATE	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L) (34488)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L) (34496)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L) (34501)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L) (34506)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L) (34511)	1,1,2,2 TETRA- CHLORO- ETHANE TOTAL (UG/L) (34516)	1,2-DI- CHLORO- BENZENE TOTAL (UG/L) (34536)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L) (34541)	1,2- TRANSDI- CHLORO- ETHENE TOTAL (UG/L) (34546)	1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34561)	1,3-DI- CHLORO- BENZENE TOTAL (UG/L) (34566)
SEP 19...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
DATE	1,4-DI- CHLORO- BENZENE TOTAL (UG/L) (34571)	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L) (34576)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L) (34668)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34699)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34704)	VINYL CHLO- RIDE TOTAL (UG/L) (39175)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L) (39180)	STYRENE TOTAL (UG/L) (77128)	1,2- DIBROMO ETHANE WATER TOTAL (UG/L) (77651)	XYLENE TOTAL WATER TOTAL (UG/L) (81551)	
SEP 19...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2	

08379175 TECOLOTE CREEK NR EL PORVENIR, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (JCU) (00070)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT 07-07	1630	1028	9735	<2.0	40	7.50	--	--	1	--	50
07...	1631	1028	1028	<2.0	42	7.50	--	--	--	--	--
07...	1632	1028	1028	<2.0	40	7.70	--	--	--	--	--
07...	1633	1028	1028	<2.0	40	7.50	--	--	--	--	--
07...	1634	1028	1028	<2.0	40	7.60	--	--	--	--	--
07...	1635	1028	1028	<2.0	45	7.40	--	--	--	--	--
07...	1636	1028	1028	<2.0	48	7.50	--	--	--	--	--
11...	1630	1028	9735	80.50	50	7.77	--	0.0	0	--	45
APR 25...	1130	1028	9735	0.44	45	7.70	14.0	4.0	1	11.4	60
MAY 17...	1030	1028	9735	0.25	45	7.00	8.5	4.0	0	10.7	55
JUN 21...	1215	1028	9735	0.13	45	7.50	25.0	11.5	0	8.7	68
AUG 02...	1330	1028	1028	E1.1	--	--	20.5	12.5	10	--	--
02...	1335	1028	1028	E1.1	--	--	20.5	12.5	10	--	--
23...	1300	1028	9735	0.48	46	6.85	19.0	10.0	0	--	50
SEP 20...	0145	1028	1028	1.5	53	6.40	--	--	10	--	--
20...	0215	1028	1028	1.6	52	6.70	--	--	10	--	--
20...	0245	1028	1028	1.6	77	7.40	--	--	10	--	--
20...	0315	1028	1028	1.5	53	6.70	--	--	4	--	--
20...	0445	1028	1028	1.4	52	6.60	--	--	5	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08379175 TECOLOTE CREEK NR EL PORVENIR, NM - Continued

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINTY WAT WH TOT FET FIELD (MG/L AS CACO3 (00410)	BICAR- BONATE WATER WH FET FIELD (MG/L AS HCO3 (00440)	CAR- BONATE WATER WH FET FIELD (MG/L AS CO3 (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 07-07	36	20	0.0	4.0	0.3	1.0	14	18	0	5.6	<5.0
11...	29	12	3.7	4.0	0.3	2.0	16	20	0	5.6	<5.0
APR 25...	43	12	7.3	<5.0	--	<1.0	17	21	0	<5.0	<5.0
MAY 17...	35	10	7.3	4.0	0.2	3.0	20	25	0	<5.0	<10
JUN 21...	43	20	4.3	10	0.5	5.0	25	30	0	<5.0	11
AUG 23...	33	12	4.9	<5.0	--	1.0	17	21	0	<5.0	<5.0

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
OCT											
07-07	0.21	46	<3	--	--	--	--	--	--	--	--
11...	0.25	44	<3	--	--	--	<0.010	--	--	--	--
APR											
25...	0.32	38	<3	<0.040	<0.100	<0.14	<0.010	--	--	--	--
MAY											
17...	0.40	38	<3	<0.040	<0.100	<0.26	0.010	--	--	--	--
JUN											
21...	0.46	50	<3	<0.040	<0.100	<0.24	0.040	<5	<100	<1	<5
AUG											
23...	0.27	56	<3	<0.040	<0.100	<0.14	<0.010	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08379178 TECOLOTE CREEK AT WRIGHT CANYON NR EL PORVENIR, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (JCU) (00070)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT											
07-07	1430	1028	1028	<3.0	98	7.90	--	--	2	--	70
07...	1431	1028	1028	<3.0	100	7.90	--	--	--	--	--
07...	1432	1028	1028	<3.0	98	7.90	--	--	--	--	--
07...	1433	1028	1028	<3.0	100	8.00	--	--	--	--	--
07...	1434	1028	1028	<3.0	98	7.90	--	--	--	--	--
07...	1435	1028	1028	<3.0	100	7.90	--	--	--	--	--
07...	1436	1028	1028	<3.0	100	7.90	--	--	--	--	--
07...	1437	1028	1028	<3.0	100	8.00	--	--	--	--	--
11...	1430	1028	1028	0.72	112	7.70	14.0	6.5	0	--	75
APR											
25...	1245	1028	9735	0.56	120	8.00	16.0	9.0	1	9.2	80
MAY											
17...	1145	1028	9735	0.33	135	7.60	8.0	6.0	0	9.8	100
JUN											
21...	1430	1028	9735	0.18	142	8.00	23.0	15.0	0	7.1	100
JUL											
26...	1530	1028	9735	2.2	75	7.00	14.0	10.5	3	--	68
AUG											
02...	1500	1028	1028	1.5	--	--	24.0	14.0	10	--	--
02...	1535	1028	1028	1.5	--	--	24.0	14.0	10	--	--
23...	1430	1028	9735	0.66	105	7.34	20.5	13.0	0	--	90

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT WH TOT FET MG/L AS CACO3 (00410)	BICAR- BONATE WATER WH FET FIELD MG/L AS HCO3 (00440)	CAR- BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT											
07-07	31	24	2.4	3.0	0.2	1.0	39	48	0	7.3	<5.0
11...	28	28	1.2	3.0	0.2	1.0	47	58	0	8.5	<5.0
APR											
25...	29	32	0.0	4.0	0.2	2.0	51	62	0	8.6	<5.0
MAY											
17...	42	32	4.9	3.0	0.1	<1.0	58	71	0	9.4	<10
JUN											
21...	33	40	0.0	4.0	0.2	2.0	67	81	0	10	<10
JUL											
26...	39	20	4.3	<5.0	--	<1.0	29	35	0	<5.0	<5.0
AUG											
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
23...	44	24	7.3	<5.0	--	1.0	46	56	0	6.7	<5.0

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)
OCT											
07-07	0.20	78	4	--	--	--	--	--	--	--	--
11...	0.22	82	<3	0.050	<0.700	--	0.38	<0.010	--	--	--
APR											
25...	0.25	100	<3	<0.040	<0.100	--	<0.16	<0.010	--	--	--
MAY											
17...	0.31	92	<3	<0.040	<0.100	--	<0.19	<0.010	--	--	--
JUN											
21...	0.30	98	<3	<0.040	<0.100	--	<0.16	0.030	<5	<100	<1
JUL											
26...	0.25	84	<3	<0.040	0.150	0.04	<0.23	0.020	--	--	--
AUG											
02...	--	--	--	--	--	--	--	--	--	--	--
02...	--	--	--	--	--	--	--	--	--	--	--
23...	0.26	93	<3	<0.040	<0.100	--	<0.14	<0.010	--	--	--

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08379178 TECOLOTE CREEK AT WRIGHT CANYON NR EL PORVENIR, NM -- Continued

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	SELENIUM, TOTAL RECOVERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
OCT 11...	--	--	--	--	--	--	--	--	--	2	0.00
APR 25...	--	--	--	--	--	--	--	--	--	6	0.01
MAY 17...	--	--	--	--	--	--	--	--	--	1	0.00
JUN 21...	<5	<50	920	<5	<50	<0.50	<5	<1	<50	3	0.00
JUL 26...	--	--	--	--	--	--	--	--	--	4	0.02
AUG 02...	--	--	--	--	--	--	--	--	--	5	0.02
02...	--	--	--	--	--	--	--	--	--	6	0.02
23...	--	--	--	--	--	--	--	--	--	4	0.01

08379182 WRIGHT CANYON AT MILE 1.2 NR EL PORVENIR, NM

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (JCU) (00070)	OXYGEN, DISSOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
APR 25...	1430	1028	9735	0.16	275	8.20	16.0	9.0	2	11.0	160
MAY 17...	1400	1028	9735	0.10	306	8.20	8.0	7.5	1	9.5	170
JUN 21...	1530	1028	9735	<0.01	370	8.40	19.5	16.5	0	--	170
AUG 03...	1130	1028	1028	0.10	--	--	22.0	16.5	10	--	--
12...	1315	1028	1028	0.77	176	7.63	--	--	10	--	--
12...	1345	1028	1028	0.56	164	7.54	--	--	10	--	--
12...	1415	1028	1028	0.52	164	7.59	--	--	1	--	--
12...	1445	1028	1028	0.43	165	7.81	--	--	1	--	--
12...	1515	1028	1028	0.43	168	7.81	--	--	1	--	--
12...	1545	1028	1028	0.39	170	7.59	--	--	1	--	--
12...	1615	1028	1028	0.39	172	7.34	--	--	3	--	--
12...	1645	1028	1028	0.39	172	7.82	--	--	5	--	--
12...	1715	1028	1028	0.36	174	7.82	--	--	5	--	--
12...	1745	1028	1028	0.36	178	7.92	--	--	5	--	--
13...	1315	1028	1028	0.39	175	7.16	--	--	30	--	--
13...	1345	1028	1028	0.52	162	7.34	--	--	10	--	--
13...	1415	1028	1028	0.52	160	7.45	--	--	10	--	--
13...	1445	1028	1028	0.48	180	7.31	--	--	10	--	--
23...	1545	1028	9735	0.10	230	7.89	17.0	12.5	1	--	220
SEP 19...	2030	1028	1028	0.32	178	7.60	--	--	20	--	--
19...	2100	1028	1028	0.32	173	7.80	--	--	10	--	--
19...	2130	1028	1028	0.36	168	7.80	--	--	20	--	--
19...	2200	1028	1028	0.39	174	7.70	--	--	10	--	--
19...	2230	1028	1028	0.36	174	7.80	--	--	10	--	--
19...	2300	1028	1028	0.52	175	7.80	--	--	10	--	--
19...	2330	1028	1028	0.48	175	7.90	--	--	10	--	--
19...	2400	1028	1028	0.43	170	7.80	--	--	10	--	--
20...	0030	1028	1028	0.43	170	7.80	--	--	10	--	--
20...	0100	1028	1028	0.48	170	7.80	--	--	10	--	--
20...	0130	1028	1028	0.48	170	7.70	--	--	10	--	--
20...	0200	1028	1028	0.48	170	7.70	--	--	10	--	--
20...	0230	1028	1028	0.43	176	7.80	--	--	10	--	--
20...	0300	1028	1028	0.43	180	7.90	--	--	10	--	--
20...	0330	1028	1028	0.43	188	7.80	--	--	10	--	--

RIO GRANDE BASIN -- Continued

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08379185 WRIGHT CANYON AT MILE .55 NR EL PORVENIR, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (JCU) (00070)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT											
11...	1345	1028	9735	0.35	335	8.30	12.5	9.0	0	--	190
APR											
25...	1515	1028	9735	0.21	300	8.20	15.0	12.0	1	10.8	200
MAY											
17...	1315	1028	9735	0.15	350	8.30	9.0	8.0	0	9.5	230
JUN											
21...	1630	1028	9735	0.02	343	8.30	23.5	16.5	2	--	180
JUL											
26...	1615	1028	9735	0.20	328	7.80	14.0	12.0	4	--	200
AUG											
02...	1700	1028	1028	0.10	--	--	18.5	16.0	10	--	--
02...	1705	1028	1028	0.10	--	--	18.5	16.0	10	--	--
24...	1245	1028	9735	0.11	298	7.99	21.5	18.0	1	--	180
SEP											
19...	2345	1028	1028	0.58	238	7.70	--	--	50	--	--
20...	0215	1028	1028	0.58	265	7.90	--	--	20	--	--
20...	0245	1028	1028	0.58	252	7.90	--	--	20	--	--
20...	0445	1028	1028	0.53	275	7.80	--	--	20	--	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED MG/L AS MG) (00925)	SODIUM, DIS- SOLVED MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED MG/L AS K) (00935)	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICAR- BONATE WATER WH FET FIELD MG/L AS HCO3 (00440)	CAR- BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	SULFATE DIS- SOLVED MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED MG/L AS CL) (00940)
OCT 11...	37	76	1.2	2.0	0.1	1.0	158	190	1	15	<5.0
APR 25...	50	68	7.3	3.0	0.1	2.0	150	180	0	13	<5.0
MAY 17...	82	36	34	2.5	0.1	4.0	149	180	0	16	<10
JUN 21...	13	64	4.3	9.0	0.3	7.0	165	200	0	20	12
JUL 26...	47	72	4.3	<5.0	--	1.0	151	180	0	13	<5.0
AUG 24...	46	67	3.7	<5.0	--	1.0	137	170	0	12	<5.0

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08379187 TECOLOTE CREEK BL WRIGHT CANYON NR EL PORNENIR, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (JCU) (00070)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT											
11...	1130	1028	9735	1.0	218	8.20	15.0	5.0	0	--	140
APR											
26...	1030	1028	9735	0.85	210	8.10	14.0	5.0	0	9.4	130
MAY											
18...	1000	1028	9735	0.58	215	8.10	12.5	5.0	0	9.4	140
JUN											
22...	1030	1028	9735	0.16	230	8.20	6.5	10.0	0	8.2	140
JUL											
26...	1130	1028	9735	4.8	122	7.40	13.0	10.5	6	--	98
AUG											
03...	1330	1028	1028	1.2	--	--	25.0	15.5	10	--	--
03...	1335	1028	1028	1.2	--	--	25.0	15.5	10	--	--
12...	1345	1028	1028	2.9	140	7.32	--	--	10	--	--
12...	1415	1028	1028	3.2	140	7.47	--	--	10	--	--
12...	1445	1028	1028	4.2	133	7.57	--	--	10	--	--
12...	1515	1028	1028	4.9	138	7.54	--	--	10	--	--
12...	1545	1028	1028	4.9	135	7.34	--	--	10	--	--
12...	1615	1028	1028	4.5	132	7.33	--	--	10	--	--
12...	1645	1028	1028	4.5	128	7.14	--	--	10	--	--
12...	1715	1028	1028	4.5	130	7.68	--	--	10	--	--
12...	1745	1028	1028	4.4	120	7.11	--	--	10	--	--
12...	1815	1028	1028	4.2	122	7.69	--	--	10	--	--
12...	1845	1028	1028	4.2	128	7.61	--	--	10	--	--
12...	1915	1028	1028	4.0	127	7.46	--	--	10	--	--
12...	1945	1028	1028	4.0	130	7.27	--	--	10	--	--
12...	2015	1028	1028	4.0	130	7.64	--	--	10	--	--
12...	2115	1028	1028	3.9	130	7.45	--	--	10	--	--
12...	2215	1028	1028	3.8	132	7.46	--	--	10	--	--
12...	2315	1028	1028	3.8	138	7.45	--	--	10	--	--
24...	1015	1028	9735	0.88	180	7.81	17.0	11.5	1	--	120
SEP											
20...	0015	1028	1028	3.0	158	7.40	--	--	10	--	--
20...	0045	1028	1028	3.2	160	7.60	--	--	10	--	--
20...	0115	1028	1028	3.2	162	7.60	--	--	10	--	--
20...	0145	1028	1028	4.3	170	7.10	--	--	10	--	--
20...	0215	1028	1028	4.9	170	7.60	--	--	10	--	--
20...	0245	1028	1028	4.5	168	7.60	--	--	10	--	--

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	BICAR- BONATE WATER WH FET FIELD (MG/L AS HCO3) (00440)	CAR- BONATE WATER WH FET FIELD (MG/L AS CO3) (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT											
11...	40	51	3.7	3.0	0.1	1.0	103	120	1	11	<5.0
APR											
26...	27	42	4.9	3.0	0.1	2.0	98	120	0	<5.0	<5.0
MAY											
18...	32	50	2.5	4.0	0.2	4.0	103	130	0	14	<10
JUN											
22...	26	56	0.0	4.0	0.2	2.0	114	140	0	13	<10
JUL											
26...	47	28	6.7	<5.0	--	3.0	51	62	0	5.7	<5.0
AUG											
24...	36	36	7.3	<5.0	--	1.0	84	100	0	8.3	<5.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08379187 TECOLOTE CREEK BL WRIGHT CANYON NR EL PORNENIR, NM - Continued

DATE	FLUORIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
OCT 11...	0.19	142	<3	0.070	<0.100	0.82	<0.010	<5	<50	<1	<5
APR 26...	0.21	128	<3	<0.040	<0.100	<0.15	<0.010	<5	<100	<1	<5
MAY 18...	0.24	134	<3	<0.040	<0.100	<0.14	0.060	<5	<100	<1	<5
JUN 22...	0.24	148	<3	<0.040	<0.100	<0.16	0.040	<5	<100	<1	<5
JUL 26...	0.22	104	6	<0.040	<0.100	0.24	0.040	<5	<100	<1	<5
AUG 24...	0.23	130	<3	<0.040	<0.100	<0.14	<0.010	--	--	--	--

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08379940 GALLINAS CREEK AB BURRO CANYON NR EL PORVENIR, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (JCU) (00070)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 03...	1030	1028	9735	1.8	105	7.94	13.5	4.0	1	--	62
APR 18...	1025	1028	9735	3.6	85	7.60	17.0	4.0	3	9.8	70
MAY 16...	1215	1028	9735	2.1	105	7.80	10.0	5.5	1	10.4	130
JUN 08...	1300	1028	9735	1.2	111	7.60	15.0	10.0	0	8.4	110
JUL 12...	1115	1028	9735	0.96	110	7.80	15.0	11.0	2	8.0	67
AUG 17...	1325	1028	9735	2.0	100	8.20	22.0	11.5	1	8.0	100
SEP 27...	1145	1028	9735	1.1	124	8.00	16.0	8.0	1	--	75

DATE	HARD- NESS NONCARE WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICAR- BONATE WATER WH FET FIELD MG/L AS HCO3 (00440)	CAR- BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 03...	14	24	0.60	3.0	0.2	2.0	49	60	0	7.7	<5.0
APR 18...	32	24	2.4	<5.0	--	<1.0	38	47	0	6.0	<5.0
MAY 16...	81	28	15	4.0	0.2	4.0	49	60	0	5.5	<10
JUN 08...	55	32	7.3	3.0	0.1	<1.0	55	67	0	7.1	<10
JUL 12...	9	24	1.8	3.0	0.2	2.0	58	70	0	8.4	<5.0
AUG 17...	48	32	4.9	<5.0	--	1.0	52	64	0	5.7	<5.0
SEP 27...	20	28	1.2	<5.0	--	1.0	55	67	0	5.7	<5.0

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 03...	0.20	84	<3	0.130	<0.100	0.36	<0.010	<5	<100	<1	<5
APR 18...	0.20	72	5	<0.040	<0.100	<0.25	<0.010	<5	<100	<1	<5
MAY 16...	0.23	68	<3	0.130	<0.100	<0.23	0.060	<5	<100	<1	<5
JUN 08...	0.26	86	<3	<0.040	<0.100	<0.17	0.010	--	--	--	--
JUL 12...	0.32	86	5	<0.040	<0.100	<0.14	<0.010	<5	<100	<1	<5
AUG 17...	0.25	96	<3	<0.040	<0.100	<0.14	<0.010	<5	<100	<1	<5
SEP 27...	0.32	70	<3	0.060	<0.100	0.17	0.030	<5	<100	<1	<5

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08379940 GALLINAS CREEK AB BURRO CANYON NR EL PORVENIR, NM - Continued

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
NOV 03...	<50	60	<5	<50	<0.50	<5	<1	<50	--	--
APR 18...	<50	250	<5	<50	<0.50	<5	<1	<50	8	0.08
MAY 16...	<50	200	<5	<50	<0.50	<5	<1	<50	4	0.02
JUN 08...	--	--	--	--	--	--	--	--	4	0.01
JUL 12...	<50	120	<5	<50	<0.50	<5	<1	<50	3	0.01
AUG 17...	<50	<50	<5	<50	<0.50	<5	<1	<50	6	0.03
SEP 27...	<50	<50	<5	<50	<0.50	<5	<1	<50	--	--

08380000 GALLINAS CREEK NR EL PORVENIR, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (JCU) (00070)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 03...	1120	1028	9735	3.9	135	8.10	17.5	6.0	1	--	98
APR 18...	1300	1028	9735	8.7	106	7.80	18.0	9.0	2	9.0	86
MAY 16...	13	1028	9735	4.6	125	7.80	12.0	8.5	1	8.6	100
JUN 08...	1400	1028	9735	1.7	130	7.60	22.0	16.0	1	6.5	180
JUL 12...	1215	1028	9735	1.4	122	8.00	21.0	16.5	2	7.4	70
AUG 17...	1430	1028	9735	7.6	128	8.20	20.0	10.0	4	8.2	75
SEP 27...	1315	1028	9735	3.6	152	8.10	22.0	11.5	2	--	120

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICAR- BONATE WATER WH FET FIELD MG/L AS HCO3 (00440)	CAR- BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 03...	34	28	6.7	3.5	0.2	2.0	64	78	0	8.1	<5.0
APR 18...	36	27	4.4	3.0	0.1	2.0	50	61	0	6.2	<5.0
MAY 16...	42	36	2.4	3.0	0.1	<1.0	58	71	0	5.5	<10
JUN 08...	110	24	29	3.0	0.1	2.0	66	80	0	6.9	<10
JUL 12...	6	28	0.0	3.0	0.2	2.0	64	78	0	7.6	<5.0
AUG 17...	13	30	0.0	<5.0	--	1.0	62	75	0	5.9	<5.0
SEP 27...	47	28	11	<5.0	--	2.0	68	83	0	7.4	<5.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08380000 GALLINAS CREEK NR EL PORVENIR, NM - Continued

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 03...	0.30	100	23	0.350	<0.100	0.58	0.010	<5	<100	<1	<5
APR 18...	0.20	78	3	<0.040	<0.100	<0.23	<0.010	<5	<100	<1	<5
MAY 16...	0.26	80	3	0.130	<0.100	0.30	0.060	<5	100	<1	<5
JUN 08...	0.30	98	<3	<0.040	<0.100	0.83	0.030	--	--	--	--
JUL 12...	0.39	89	5	<0.040	<0.100	<0.14	0.010	<5	<100	<1	<5
AUG 17...	0.23	114	5	<0.040	<0.100	<0.15	<0.010	<5	<100	<1	<5
SEP 27...	0.32	90	<3	<0.040	<0.100	<0.18	0.030	<5	<100	<1	<5

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 03...	<50	120	<5	<50	<0.50	<5	<1	<50	4	0.04	27
APR 18...	<50	360	<5	<50	<0.50	<5	<1	<50	--	--	0
MAY 16...	<50	290	<5	<50	<0.50	<5	<1	<50	7	0.09	85
JUN 08...	--	--	--	--	--	--	--	--	9	0.04	71
JUL 12...	<50	1300	<5	<50	<0.50	<5	<1	<50	8	0.03	90
AUG 17...	<50	<50	<5	<50	<0.50	<5	<1	<50	3	0.06	60
SEP 27...	<50	380	<5	<50	<0.50	<5	<1	<50	--	--	--

08380075 PORVENIR CANYON NR EL PORVENIR, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (JCU) (00070)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV 03...	1300	1028	9735	4.2	155	8.04	17.0	5.5	0	--	140
APR 18...	1145	1028	9735	11	114	7.70	19.0	7.0	2	9.2	110
MAY 16...	1345	1028	9735	6.6	119	7.80	13.0	9.0	1	8.8	100
JUN 08...	1500	1028	9735	1.5	140	7.37	19.0	16.0	0	7.9	110
JUL 12...	1330	1028	9735	1.5	138	7.90	18.0	16.0	2	7.6	77
AUG 17...	1145	1028	9735	7.4	96	8.00	21.0	13.0	2	8.0	100
SEP 27...	1035	1028	9735	3.8	140	7.90	18.0	8.5	1	--	110

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08380075 PORVENIR CANYON NR EL PORVENIR, NM - Continued

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICAR- BONATE WATER WH FET FIELD MG/L AS HCO3 (00440)	CAR- BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
NOV 03...	66	36	12	2.0	0.1	1.0	72	88	0	9.7	<5.0
APR 18...	58	44	0.0	3.0	0.1	2.0	52	63	0	6.1	<5.0
MAY 16...	45	28	7.3	3.0	0.1	4.0	55	67	0	6.4	<10
JUN 08...	39	40	2.0	4.0	0.2	3.0	69	85	0	9.6	<10
JUL 12...	10	28	1.8	3.0	0.2	2.0	67	82	0	9.3	<5.0
AUG 17...	49	24	9.8	3.0	0.1	1.0	51	62	0	5.8	<5.0
SEP 27...	48	26	11	<5.0	--	1.0	62	76	0	6.5	<5.0

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (MG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 03...	0.18	108	<3	0.120	<0.100	0.34	<0.010	<5	<100	<1	5
APR 18...	0.18	72	3	<0.040	<0.100	<0.18	<0.010	<5	<100	<1	<5
MAY 16...	0.21	82	<3	0.160	<0.100	0.29	0.060	<5	<100	<1	<5
JUN 08...	0.26	106	<3	<0.040	<0.100	<0.17	0.010	--	--	--	--
JUL 12...	0.31	98	<3	<0.040	<0.100	<0.16	<0.010	<5	<100	<1	<5
AUG 17...	0.32	102	<3	<0.040	<0.100	<0.15	<0.010	<5	<100	<1	<5
SEP 27...	0.37	78	3	<0.040	<0.100	0.21	0.040	<5	100	<1	<5

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
NOV 03...	<50	90	<5	<50	<0.50	<5	<1	<50	4	0.04
APR 18...	<50	160	<5	<50	<0.50	<5	<1	<50	3	0.09
MAY 16...	<50	130	<5	<50	<0.50	<5	<1	<50	9	0.16
JUN 08...	--	--	--	--	--	--	--	--	9	0.04
JUL 12...	<50	280	<5	<50	<0.50	<5	<1	<50	8	0.03
AUG 17...	<50	<50	<5	<50	<0.50	<5	<1	<50	3	0.06
SEP 27...	<50	420	<5	<50	<0.50	<5	<1	<50	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08380090 PORNENIR CANYON AT MOUTH NR EL PORVENIR, NM

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (JCU) (00070)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CaCO3) (00900)
NOV 03...	1345	1028	9735	3.0	160	8.11	17.5	10.0	0	--	110
APR 18...	1215	1028	9735	8.0	122	7.80	24.0	10.0	2	8.8	100
MAY 16...	1415	1028	9735	5.1	132	8.20	16.0	12.0	1	8.1	130
JUN 09...	0800	1028	9735	1.5	152	7.90	11.0	10.0	1	8.5	160
AUG 18...	0945	1028	9735	9.9	115	8.10	20.0	12.5	5	8.1	110
SEP 27...	1355	1028	9735	2.6	148	8.20	20.0	15.5	1	--	130

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CaCO3 (00902)	CALCIUM DIS-SOLVED (MG/L AS Ca) (00915)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg) (00925)	SODIUM, DIS-SOLVED (MG/L AS Na) (00930)	SODIUM AD-SORPTION RATIO (00931)	POTASSIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CaCO3 (00410)	BICARBONATE WATER WH FET FIELD MG/L AS HCO3 (00440)	CARBONATE WATER WH FET FIELD MG/L AS CO3 (00445)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS Cl) (00940)
NOV 03...	33	32	6.7	3.5	0.2	2.0	75	91	0	9.7	<5.0
APR 18...	45	32	4.9	3.0	0.1	2.0	55	67	0	<5.0	<5.0
MAY 16...	69	32	12	3.0	0.1	3.0	61	74	0	7.0	<10
JUN 09...	87	36	17	5.0	0.2	5.0	74	90	0	9.2	10
AUG 18...	54	28	9.8	<5.0	--	1.0	56	68	0	5.7	<5.0
SEP 27...	53	36	8.6	<5.0	--	2.0	72	88	0	6.5	<5.0

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD) (01027)
NOV 03...	0.18	112	--	<3	0.120	<0.100	0.34	<0.010	<5	<100	<1
APR 18...	0.20	80	--	<3	<0.040	<0.100	<0.15	<0.010	<5	<100	<1
MAY 16...	0.24	82	--	<3	<0.040	<0.100	<0.15	<0.010	<5	<100	<1
JUN 09...	0.27	114	127	5	<0.040	<0.100	<0.20	0.040	--	--	--
AUG 18...	0.31	114	--	5	<0.040	<0.100	<0.17	<0.010	<5	<100	<1
SEP 27...	0.34	100	--	<3	<0.040	<0.100	<0.14	0.040	<5	100	<1

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	SELENIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)
NOV 03...	<5	<50	220	<5	<50	<0.50	<5	<1	<50	10	0.08
APR 18...	<5	<50	110	<5	<50	<0.50	<5	<1	<50	3	0.06
MAY 16...	<5	<50	200	<5	<50	<0.50	<5	<1	<50	1	0.01
JUN 09...	--	--	--	--	--	--	--	--	--	6	0.02
AUG 18...	<5	<50	<50	<5	<50	<0.50	<5	<1	<50	10	0.27
SEP 27...	<5	<50	120	<5	<50	<0.50	<5	<1	<50	--	--

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08380500 GALLINAS CREEK NR MONTEZUMA, NM

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (JCU) (00070)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
NOV 03...	1445	1028	9735	8.1	245	8.50	18.0	9.0	0	--	150
APR 18...	1430	1028	9735	20	159	8.20	20.0	13.0	2	8.5	100
MAY 16...	1500	1028	9735	11	222	8.40	16.0	12.5	1	8.1	150
JUN 09...	0900	1028	1028	4.6	295	8.00	12.0	13.0	2	8.1	170
JUL 12...	1715	1028	9735	2.1	278	8.40	20.5	22.0	1	7.1	140
AUG 18...	1100	1028	9735	62	170	8.20	21.5	16.0	100	7.8	130
SEP 27...	1510	1028	9735	9.0	258	8.50	24.5	15.0	1	--	170

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	BICAR-BONATE WATER WH FET FIELD MG/L AS HCO3 (00440)	CAR-BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE DIS-SOLVED (MG/L AS CL) (00940)
NOV 03...	27	48	6.7	4.0	0.1	1.0	121	140	2	11	<5.0
APR 18...	21	40	0.0	3.0	0.1	<1.0	79	96	0	5.5	<5.0
MAY 16...	53	44	9.8	5.0	0.2	4.0	97	120	0	8.4	<10
JUN 09...	26	56	7.3	5.0	0.2	2.0	144	170	0	14	<10
JUL 12...	13	52	2.8	5.0	0.2	2.0	129	160	0	13	<5.0
AUG 18...	43	42	6.1	<5.0	--	2.0	87	110	0	<5.0	<5.0
SEP 27...	49	52	8.6	<5.0	--	2.0	117	140	7	8.5	<5.0

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	CADMIUM, TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
NOV 03...	0.20	162	<3	0.130	<0.100	0.35	<0.010	<5	<100	<1	<5
APR 18...	0.22	104	<3	<0.040	<0.100	<0.14	<0.010	<5	<100	<1	<5
MAY 16...	0.29	126	<3	<0.040	<0.100	<0.21	0.020	<5	<100	<1	<5
JUN 09...	0.26	186	3	<0.040	<0.100	<0.22	0.010	--	--	--	--
JUL 12...	0.32	165	<3	<0.040	<0.100	<0.14	<0.010	<5	<100	<1	<5
AUG 18...	0.18	168	73	<0.040	<0.100	0.66	0.330	<5	<100	<1	7
SEP 27...	0.34	144	0	<0.040	<0.100	<0.21	0.030	<5	<100	<1	<5

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

08380500 GALLINAS CREEK NR MONTEZUMA, NM - Continued

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 03...	<50	60	<5	<50	<0.50	<5	<1	<50	1	0.02	60
APR 18...	<50	160	<5	<50	<0.50	<5	<1	<50	6	0.32	92
MAY 16...	<50	160	<5	<50	<0.50	<5	<1	<50	1	0.03	60
JUN 09...	--	--	--	--	--	--	--	--	4	0.05	83
JUL 12...	<50	100	5	<50	<0.50	<5	<1	<50	2	0.01	57
AUG 18...	<50	110	<5	<50	<0.50	<5	<1	<50	79	13	94
SEP 27...	<50	160	<5	<50	<0.50	<5	<1	<50	--	--	--

LITTLE COLORADO RIVER BASIN

09395350 PUERCO RIVER NEAR CHURCH ROCK, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
MAR 08...	1545	1028	1028	--	8.00	--	--	--
APR 11...	1655	1028	1028	--	7.80	--	16.0	--
SEP 05...	2110	1028	80020	661	--	7.82	--	240

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR 08...	--	--	--	--	846	0.0	86
APR 11...	--	--	--	--	625	0.0	44
SEP 05...	4.0	0.60	<0.010	0.550	--	--	--

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

LITTLE COLORADO RIVER BASIN -- Continued

09395630 PUERCO RIVER NEAR MANUELITO, NM

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)
MAR 09...	0815	1028	1028	--	--	--	--	--
APR 11...	1419	1028	1028	1970	--	7.80	--	21.5
JUL 13...	1400	1028	1028	2090	--	8.41	--	33.0
SEP 06...	0110	1028	80020	--	1340	--	7.84	--
06...	0120	1028	80020	--	1100	--	7.66	--
06...	0130	1028	80020	--	1010	--	7.81	--

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDED (T/DAY) (80155)
MAR 09...	--	--	--	--	--	--	--
APR 11...	--	--	--	--	--	37	0.0
JUL 13...	--	--	--	--	--	--	--
SEP 06...	480	37	0.70	0.060	1.40	--	--
06...	410	19	0.60	0.050	0.760	--	--
06...	380	16	0.60	0.050	0.740	--	--

Samples are collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin. Such sites are referred to as miscellaneous sites.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN

WRIGHT CANYON AT MI 0.40 (BLW ROAD) NR EL PORVENIR, NM (354140105284010)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR- BID- ITY (JCU) (00070)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
JUL 26...	1620	0.20	5	4	0.00

TECOLOTE CREEK AT WRIGHT CANYON (BELOW ROAD) NR EL PORVENIR, NM (354120105285010)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TUR- BID- ITY (JCU) (00070)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
JUL 26...	1535	2.2	4	2	0.01

SANTA FE RIVER BELOW TWO MILE RESERVOIR AT SANTA FE, NM (354109105534210)

DATE	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)
NOV 10...	-77.0	-10.40
30...	-76.0	-10.30

RIO GRANDE BELOW LEASBURG DAM, NM (322841106551010)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
JAN 10...	1105	33	1650	1550	8.20	7.90	7.5	3.0	3.4	450	240	140

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
JAN 10...	25	170	4	7.7	275	0	225	213	380	150	0.50

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

RIO GRANDE BELOW LEASBURG DAM, NM (322841106551010) -- Continued

DATE	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)
JAN 10...	0.25	20	1020	1020	0.340	0.020	0.360	0.070	0.070	0.43	0.020

DATE	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
JAN 10...	0.010	<10	2	87	<0.5	210	<1	<1	<3	1	4

DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
JAN 10...	<5	130	75	<0.1	<10	1	<1	1.0	1500	<6	22

RIO GRANDE BELOW PICACHO BRIDGE NR LAS CRUCES, NM (321745106492510)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARE WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
JAN 10...	1300	61	1850	1670	8.40	7.70	9.5	4.5	2.6	460	260	140

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
JAN 10...	26	190	4	11	276	7	238	196	400	180	0.50

DATE	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)
JAN 10...	0.27	20	1110	1090	0.280	0.020	0.300	0.090	0.090	0.41	0.020

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN --- Continued

RIO GRANDE BELOW PICACHO BRIDGE NR LAS CRUCES, NM (321745106492510) -- Continued

DATE	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
JAN 10...	0.020	<10	2	94	<0.5	240	<1	<1	<3	1	6
DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
JAN 10...	<5	170	43	<0.1	<10	2	<1	<1.0	1600	<6	15

RIO GRANDE BELOW MESILLA DAM NR SANTO TOMAS, NM (321317106471510)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
JAN 10...	1510	44	1650	1630	8.30	7.60	10.5	9.0	4.3	400	190	120
DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	
JAN 10...	25	190	4	13	281	0	230	218	360	180	0.50	
DATE	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	
JAN 10...	0.22	21	1030	1050	0.970	0.230	1.20	2.40	1.90	0.60	1.20	
DATE	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	
JAN 10...	1.10	<10	2	99	<0.5	240	<1	<1	<3	3	8	

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

RIO GRANDE BELOW MESILLA DAM NR SANTO TOMAS, NM (321317106471510) -- Continued

DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
JAN 10...	<5	150	9	<0.1	<10	2	<1	1.0	1500	<6	16

RIO GRANDE AT NM 227 BRIDGE NEAR VADO, NM (320648106400510)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
JAN 11...	1005	42	1600	1610	8.30	7.90	13.0	1.5	5.8	410	190	120

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
JAN 11...	26	190	4	10	276	0	226	220	350	180	0.60

DATE	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)
JAN 11...	0.21	20	1040	1040	1.27	0.130	1.40	1.30	1.20	0.80	1.10

DATE	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
JAN 11...	1.00	<10	2	110	<0.5	240	1	<1	<3	4	8

DATE	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
JAN 11...	<5	150	17	<0.1	<10	<1	<1	<1.0	1500	<6	20

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

RIO GRANDE BASIN -- Continued

RIO GRANDE AT TX 259 BRIDGE AT CANUTILLO, TX (315454106360610)

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED AS CA (MG/L) (00915)
JAN 11....	1215	105	1800	1740	8.40	8.00	12.5	6.5	2.8	440	190	130
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
JAN 11....	27	220	5	11	271	14	246	245	390	190	0.60	
DATE		BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL MG/L AS N (00605)	PHOS- PHOROUS TOTAL MG/L AS P (00665)
JAN 11....	0.23	21	1140	1140	0.870	0.050	0.920	0.250	0.290	0.95	0.470	
DATE		PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
JAN 11....	0.400	<10	2	80	<0.5	250	<1	<1	<3	3	4	
DATE		LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
JAN 11....	<5	170	29	<0.1	<10	<1	<1	3.0	1600	<6	13	

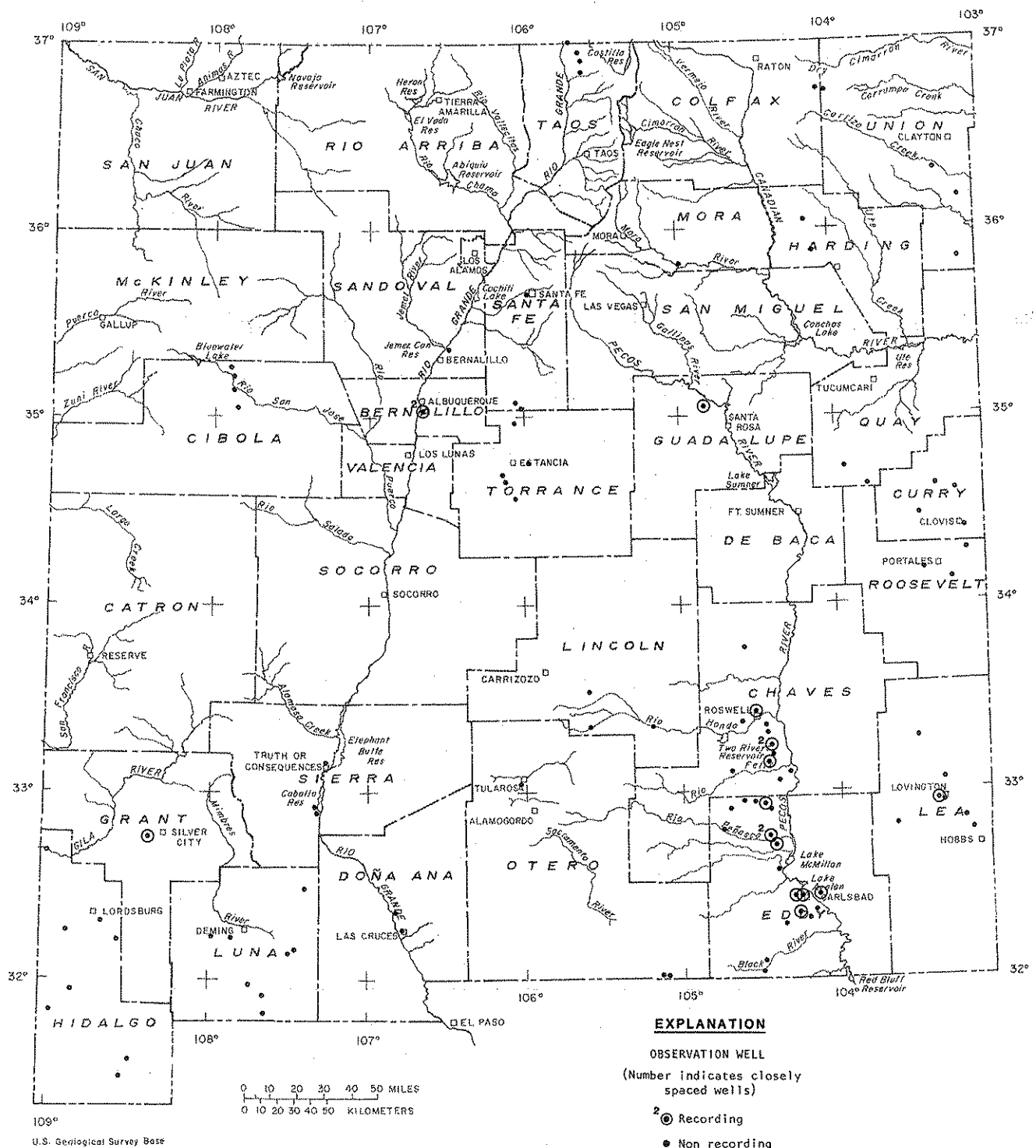


Figure 8.—Location of observation wells.

GROUND-WATER LEVELS

383

BERNALILLO COUNTY
Albuquerque Area

350256106390801. Local number, 10N.03E.32.314.

LOCATION.--Lat 35°02'56", long 106°39'08", Hydrologic Unit 13020203. Owner: City of Albuquerque.

AQUIFER.--Santa Fe Group.

WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 16 in., depth 764 ft, perforated 188-764 ft.

INSTRUMENTATION.--Digital recorder, 1-hr. punch.

DATUM.--Elevation of land-surface datum is 4,941 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.07 ft below land-surface datum, Jan. 5, 1987; lowest, 40.62 ft below land-surface datum, Aug. 19, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	32.23	31.95	28.53	28.27	29.35	32.45	32.92	36.04	37.66	37.39	32.18	36.22
10	31.03	30.89	29.32	28.03	29.18	32.34	34.88	37.53	36.39	38.39	34.14	36.71
15	32.54	29.41	29.24	28.94	28.73	31.46	34.62	36.05	35.06	36.60	35.14	35.85
20	31.48	29.49	28.11	29.14	29.71	33.24	35.58	35.21	37.11	35.89	35.89	34.66
25	30.72	30.18	28.37	29.56	30.83	31.98	34.76	37.16	36.01	33.49	36.23	34.00
EOM	31.09	---	28.51	29.18	---	33.17	---	36.87	---	31.50	35.97	---

WTR YEAR 1989 HIGHEST 27.91 JAN 2-3, 1989 LOWEST 38.59 JUL 11, 1989

350304106383401. Local number, 10N.03E.32.421.

LOCATION.--Lat 35°03'04", long 106°38'34", Hydrologic Unit 13020203. Owner: City of Albuquerque.

AQUIFER.--Santa Fe Group.

WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 16 in., depth 503 ft, perforated 360-503.

INSTRUMENTATION.--Digital recorder, 1-hr. punch.

DATUM.--Elevation of land-surface datum is 4,954 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.98 ft below land-surface datum, Dec. 22, 1986, lowest measured, 76.04 ft below land-surface datum, Aug. 19, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	54.28	53.74	48.18	47.86	49.14	54.28	55.61	61.34	62.74	62.85	54.53	60.52
10	51.81	51.76	49.51	47.25	49.17	53.89	58.73	63.37	61.34	64.61	58.19	61.04
15	54.73	49.66	49.51	48.51	48.75	52.85	58.42	60.40	59.23	61.78	59.02	59.94
20	53.21	49.72	47.34	49.05	49.59	55.67	59.95	59.56	63.09	60.69	59.85	58.02
25	52.14	50.71	47.64	49.94	52.06	53.79	58.55	62.11	61.28	56.17	60.99	56.88
EOM	52.31	---	48.28	48.68	---	55.77	---	62.18	---	53.01	60.32	---

WTR YEAR 1989 HIGHEST 47.04 JAN 2, 1989 LOWEST 65.09 JUL 11, 1989

CHAVES COUNTY
Roswell Basin

334645104344501. Local number, 07S.23E.23.244.

LOCATION.--Lat 33°46'45", long 104°34'45", Hydrologic Unit 13060005. Owner: Jess Corn.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled artesian irrigation well, diameter 14 in., depth 436 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,810 ft above National Geodetic Vertical Datum of 1929. Measuring point: Lower outer edge of mouth of discharge pipe, 3.71 ft above land-surface datum.

PERIOD OF RECORD.--May 1951 to Mar. 1960, Jan. 1962 to Jan. 1966, Jan. 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 239.83 ft below land-surface datum, May 26, 1951; lowest, 290.80 ft below land-surface datum, Aug. 21, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
May 30	267.76
Aug. 24	269.54

GROUND-WATER LEVELS

CHAVES COUNTY
Roswell Basin

332615104303601. Local number, 10S.24E.21.212.

LOCATION.--Lat 33°26'15", long 104°30'36", Hydrologic Unit 13060008. Owner: Pecos Valley Artesian Conservancy District.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled artesian observation well completed in San Andres Limestone, diameter 10 in., depth 324 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 3,580.65 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelf, 3.60 ft above land-surface datum.

PERIOD OF RECORD.--June 1940 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.06 ft below land-surface datum, Jan. 19, 1946; lowest, 74.40 ft below land-surface datum, July 30, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	46.68	44.26	42.27	40.50	39.43	39.51	43.71	46.17	47.99	50.34	51.35	48.81
10	46.30	43.94	41.88	40.31	39.36	40.20	44.25	45.95	48.32	49.79	50.29	49.17
15	45.97	43.43	41.69	40.17	39.36	40.70	45.02	45.40	48.57	50.75	50.03	48.44
20	45.59	43.21	41.30	40.19	39.00	40.97	45.64	46.90	48.78	50.98	50.21	48.00
25	45.06	42.73	40.96	39.91	39.31	41.98	45.96	47.64	49.25	51.07	50.58	47.30
EOM	44.66	42.66	40.72	39.69	39.41	43.05	45.95	48.30	49.84	50.36	49.17	47.00

WTR YEAR 1989 HIGHEST 38.97 FEB 19, 1989 LOWEST 53.51 JUL 28, 1989

332255104360401. Local number, 11S.23E.03.342.

LOCATION.--Lat 33°22'55", long 104°36'04", Hydrologic Unit 13060008. Owner: J. L. Mask.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 15 in., depth 478 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,725 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 0.50 ft above land-surface datum.

PERIOD OF RECORD.--Mar. 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 156.97 ft below land-surface datum, Mar. 11, 1952; lowest measured, 198.96 ft below land-surface datum, Oct. 18, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 27	178.45
Aug. 18	not measured

331930104261001. Local number, 11S.25E.29.34333.

LOCATION.--Lat 33°19'30", long 104°26'10", Hydrologic Unit 13060007. Owner: Valle Ranch.

AQUIFER.--Valley Fill

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 160 ft, cased to 160 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,535 ft above National Geodetic Vertical Datum of 1929. Measuring point: Edge of pump base, southeast corner, at land-surface datum.

PERIOD OF RECORD.--Aug. 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.19 ft below land-surface datum, Jan. 13, 1989; lowest measured, 21.72 ft below land-surface datum, Aug. 26, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 13	15.19
Aug. 18	not measured

332200104270001. Local number, 12S.25E.09.422.

LOCATION.--Lat 33°22'00", long 104°27'00", Hydrologic Unit 13060007. Owner: Cumberland Townsite.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 10 in., reported depth 90 ft, cased to 90 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,564 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 3/4 in. collar, 0.62 ft above land-surface datum.

PERIOD OF RECORD.--May 1937 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.64 ft below land-surface datum, Oct. 16, 1941; lowest measured, 83.06 ft below land-surface datum, Aug. 21, 1973.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 23	69.95
Aug. 24	72.40

GROUND-WATER LEVELS

385

CHAVES COUNTY
Roswell Basin

331525104245201. (formerly 331205104245101) Local number, 12S.25E.23.344.

LOCATION.--Lat 33°12'05", long 104°24'51", Hydrologic Unit 13060007. Owner: Pecos Valley Artesian Conservancy District.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 9 to 7 in., depth 930 ft, 9 in. casing 0-304 ft, 7 in. casing 304-714 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 3,539 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelf, 2.90 ft above land-surface datum.

REMARKS.--Lost record due to recorder malfunction.

PERIOD OF RECORD.--Jan. 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.84 ft below land-surface datum, Feb. 9, 1989; lowest, 199.68 ft below land-surface datum, June 20, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	21.18	14.05	13.92	22.70	---	112.53	122.92	124.94	130.20	104.31
10	---	---	19.29	13.86	12.07	37.70	---	101.55	119.04	128.46	121.94	97.91
15	---	---	17.95	13.37	16.22	52.82	---	---	128.43	137.46	114.76	68.69
20	46.10	---	16.58	---	14.49	70.82	116.32	---	131.45	139.76	109.34	72.81
25	---	25.27	15.58	13.04	19.48	86.68	116.04	116.24	137.82	133.87	109.36	72.93
EOM	---	22.90	14.71	13.17	22.87	---	111.23	123.54	128.23	135.73	100.32	72.96

WTR YEAR 1989 HIGHEST 11.84 FEB 9, 1989 LOWEST 148.27 JUNE 24, 1989

331524104245101. Local number, 12S.25E.23.344A.

LOCATION.--Lat 33°15'24", long 104°24'51", Hydrologic Unit 13060007. Owner: Pecos Valley Artesian Conservancy District.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 7 in., total depth 231 ft, cased to total depth, perforated 105-231 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 3,540 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelf 2.90 ft above land-surface datum.

REMARKS.--Lost record due to recorder malfunction.

PERIOD OF RECORD.--1942 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 102.79 ft below land-surface datum, April 6 and 14, 1969; lowest, 111.17 below land-surface datum, Sep. 22, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	103.73	104.17	103.95	103.72	103.62	103.29	103.40	103.58	103.83	104.08	104.34
10	---	103.67	104.15	103.90	103.66	103.47	103.31	103.40	103.54	103.88	104.10	104.40
15	---	103.49	104.26	103.96	103.79	103.45	103.19	103.39	103.64	103.90	104.11	104.44
20	103.67	---	104.15	103.95	103.60	103.40	103.24	103.53	103.59	103.91	104.15	104.49
25	103.68	104.16	103.95	103.84	103.54	103.30	103.29	103.49	103.74	104.02	104.23	104.57
EOM	103.77	104.33	103.99	103.76	103.62	103.28	103.36	103.58	103.76	104.02	104.29	104.52

WTR YEAR 1989 HIGHEST 103.09 APR 11, 1989 LOWEST 104.72 SEP 22, 1989

331216104241701. Local number, 13S.25E.12.311.

LOCATION.--Lat 33°12'16", long 104°24'17", Hydrologic Unit 13060007. Owner: Hal Bogle.

AQUIFER.--Alluvium

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 13 in., depth 190 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,506 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.80 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1939 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.23 ft below land-surface datum, Feb. 3, 1942; lowest measured, 90.13 ft below land-surface datum, Aug. 27, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 12	79.41
Aug. 24	85.94

GROUND-WATER LEVELS

CHAVES COUNTY
Roswell Basin

331002104254701. (formerly 331002104272001) Local number, 13S.25E.27.211.
 LOCATION.--Lat 33°10'02", long 104°27'20", Hydrologic Unit 13060007. Owner: Hal Bogle.
 AQUIFER.--San Andres Limestone.
 WELL CHARACTERISTICS.--Drilled artesian observation well completed in San Andres Limestone, diameter 10 in., depth 880 ft.
 INSTRUMENTATION.--Continuous strip-chart recorder.
 DATUM.--Elevation of land-surface datum is 3,523.76 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelf 3.59 ft above land-surface datum.
 REMARKS.--Lost record due to float line problems.
 PERIOD OF RECORD.--1940 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.23 ft above land-surface datum, Jan. 27, 1989; lowest, 198.30 ft below land-surface datum, July 18, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
 DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	66.32	30.67	15.34	5.42	---	17.48	130.52	116.41	---	---	141.90	113.13
10	52.52	28.69	12.99	4.78	---	33.36	129.79	---	---	142.78	---	108.82
15	46.14	28.07	10.94	4.48	---	58.39	124.33	---	---	---	120.15	71.61
20	44.03	22.08	9.20	4.10	6.22	77.98	131.63	---	154.19	---	117.96	---
25	38.72	19.64	7.26	3.48	11.86	98.44	127.83	---	148.33	153.72	116.15	---
EOM	31.87	16.79	6.18	3.38	15.57	118.37	127.41	---	150.62	158.07	109.03	---

WTR YEAR 1989 HIGHEST 3.23 JAN 27, 1989 LOWEST 172.95 JUL 30, 1989

330700104402501. Local number, 14S.23E.08.144.
 LOCATION.--Lat 33°07'00", long 104°40'25", Hydrologic Unit 13060009. Owner: M. D. Kincaid.
 AQUIFER.--San Andres Limestone.
 WELL CHARACTERISTICS.--Drilled artesian stock well, diameter 8 in., depth 460 ft, casing information not available.
 INSTRUMENTATION.--Periodic steel-tape measurements.
 DATUM.--Elevation of land-surface datum is 3,844 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 1.00 ft above land-surface datum.
 PERIOD OF RECORD.--Apr. 1940 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 257.55 ft below land-surface datum, Feb. 9, 1943; lowest measured, 327.34 ft below land-surface datum, Aug. 27, 1967.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 20	290.74
July 27	293.75

330640104174501. Local number, 14S.26E.12.433B.
 LOCATION.--Lat 33°06'40", long 104°17'45", Hydrologic Unit 13060007. Owner: C. B. Donaghay.
 AQUIFER.--Valley Fill.
 WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 13 in., depth 125 ft, cased 0-125 ft, perforated 50-115 ft.
 INSTRUMENTATION.--Periodic steel-tape measurements.
 DATUM.--Elevation of land-surface datum is 3,396.4 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing at land-surface datum.
 PERIOD OF RECORD.--Jan. 1940 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.50 ft below land-surface datum, Jan. 22, 1942; lowest measured, 23.77 ft below land-surface datum, Aug. 25, 1967.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 23	17.61
Aug. 24	18.17

CHAVES COUNTY
Roswell Basin

330404104221201. Local number, 14S.26E.30.444.

LOCATION.--Lat 33°04'04", long 104°22'12", Hydrologic Unit 13060007. Owner: Bartlett.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 5/8 in., depth 1150 ft, cased to 740 ft, open hole 740- 1150 ft

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,484 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--Feb. 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 65.19 ft below land-surface datum, Feb. 10, 1988; lowest measured, 261.75 ft below land-surface datum, Aug. 18, 1988.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 24	70.06
Aug. 24	255.42

325845104295501. Local number, 15S.24E.25.433.

LOCATION.--Lat 32°58'45", long 104°29'55", Hydrologic Unit 13060007. Owner: Pecos Valley Artesian Conservancy District.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 8 5/8 in., depth 910 ft, casing 0-548 ft.

INSTRUMENTATION.--Periodic steel-tape and pressure measurements.

DATUM.--Elevation of land-surface datum is 3,528.92 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, for steel-tape measurements, 1.45 ft. above land-surface.

REMARKS.--Water levels and pressure readings provided by N.M. State Engineer Office and Pecos Valley Artesian Conservancy District.

PERIOD OF RECORD.--Jan. 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.06 ft above land-surface datum, Jan. 5, 1989; lowest, 102.30 ft below land-surface datum, July 17, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	---	---	+ 16.59	+ 20.06	---	---	56.75	28.55	47.95	50.10	---	25.26
10	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	+ 19.48	---	+ 11.40	14.45	---	25.05	49.05	---	39.70	3.21
20	---	---	---	---	---	---	---	---	---	---	---	---
25	+ 9.08	---	---	+ 14.86	---	36.25	41.85	56.15	---	49.65	48.65	10.06
EOM	---	---	---	---	---	---	---	---	---	---	---	---

WTR YEAR 1989 HIGHEST + 20.06 JAN 5, 1989 LOWEST 56.75 APR 5, 1989

CIBOLA COUNTY
Grants-Bluewater Area

350400107510501. Local number, 10N.10W.26.331.

LOCATION.--Lat 35°04'00", long 107°51'05", Hydrologic Unit 13020207 Owner: Monico Mirabal.

AQUIFER.--Glorieta Sandstone of Permian Age.

WELL CHARACTERISTICS.--Drilled artesian irrigation well, diameter 16 in., depth 216 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,455 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 1/2 in. hole in pump base, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--Feb. 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.18 ft below land-surface datum, Feb. 21, 1952; lowest measured, 34.69 ft below land-surface datum, Jan. 17, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan.	not measured
Aug.	not measured

CIBOLA COUNTY
Grants-Bluewater Area

350925107523001. Local number, 11N.10W.27.241.

LOCATION.--Lat 35°09'25", long 107°52'30", Hydrologic Unit 13020207. Owner: City of Grants.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled water-table industrial well, diameter 16 to 12 in., depth 158 ft, perforated to 50 to 150 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,840 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing at land-surface datum.

PERIOD OF RECORD.--Feb. 1953 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 19.23 ft below land-surface datum, Sept. 29, 1988; lowest measured, 39.08 ft below land-surface datum, Aug. 1, 1972.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Mar. 28	19.57
Aug. 30	20.15

351400107524201. Local number, 12N.10W.29.434.

LOCATION.--Lat 35°14'00", long 107°52'42", Hydrologic Unit 13020207. Owner: A. R. Card.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled artesian unused well, diameter 18 in., reported depth 205 ft, cased 0-150 ft, perforated 93-130 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,552 ft above National Geodetic Vertical Datum of 1929. Measuring point: Lower edge of hole in north side of casing, 2.20 ft above land-surface datum.

PERIOD OF RECORD.--Oct. 1944, Feb. 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 65.46 ft below land-surface datum, Oct. 14, 1944; lowest measured, 107.61 ft below land-surface datum, Aug. 6, 1975.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan.	not measured
Aug.	not measured

351650107535001. Local number, 12N.11W.09.424.

LOCATION.--Lat 35°16'50", long 107°53'50", Hydrologic Unit 13020207. Owner: Tom Yager.

AQUIFER.--San Andres Limestone and Yeso Formation of Permian Age.

WELL CHARACTERISTICS.--Drilled artesian unused well, diameter 16 in., reported depth 505 ft, 16 in. casing to 175 ft, 12 in. casing to 325 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,642 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 3.05 ft above land-surface datum.

PERIOD OF RECORD.--May. 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 86.69 ft below land-surface datum, Sep. 29, 1988; lowest measured, 274.81 ft below land-surface datum, Jan. 23, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Mar. 14	89.32
Aug. 31	94.29

COLFAX COUNTY
Capulin Basin

364500104031501. Local number, 29N.27E.16.222.

LOCATION.--Lat 36°45'00", long 104°03'15", Hydrologic Unit 11040001. Owner: John King.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 8 in., depth 120 ft, cased to 20 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,821.5 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--Feb. 1957 to Feb. 1969, Feb. 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.65 ft below land-surface datum, Feb. 3 and Aug. 24, 1960; lowest measured, 9.37 ft below land-surface datum, Aug. 13, 1975.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 17	8.22
Aug. 10	8.03

COSTILLA COUNTY (in Colorado)
Sunshine Valley

370009105410001. Local number, 01N.74W.33.322.

LOCATION.--Lat 37°00'09", long 105°41'00", Hydrologic Unit 13020101. Owner: Waller and Allen.

AQUIFER.--Santa Fe Group.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 15 in., depth 232 ft, casing information not available.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 7,495 ft above National Geodetic Vertical Datum of 1929. Measuring point: Edge of hole inside pump base, 2.00 ft above land-surface datum (since 1971).

PERIOD OF RECORD.--Feb. 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 101.82 ft below land-surface datum, Aug. 26, 1968; lowest measured, 139.24 ft below land-surface datum, Sep. 2, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Mar. 3	134.89
Aug. 31	135.02

CURRY COUNTY
Clovis area

342358103093601. Local number, 02N.36E.15.111.

LOCATION.--Lat 34°23'58", long 103°09'36", Hydrologic Unit 12050001. Owner: Anne Humphreys.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter, depth and casing information not available.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,227 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete base 1.00 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 266.89 ft below land-surface datum, Jan. 4, 1974; lowest measured, 291.29 ft below land-surface datum, Aug. 6, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 10	281.14
Aug. 2	not measured

342815103270001. Local number, 03N.34E.23.433.

LOCATION.--Lat 34°28'15", long 103°27'00", Hydrologic Unit 12050001. Owner: Archie Baker.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 16 in., depth 418 ft, cased to 418 ft, perforated 365-418 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,432 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.40 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 340.62 ft below land-surface datum, Mar. 16, 1957; lowest measured, 358.70 ft below land-surface datum, Aug. 9, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 10	356.40
Aug. 9	358.70

343743103201501. Local number, 05N.34E.21.443.

LOCATION.--Lat 34°37'43", long 103°20'15", Hydrologic Unit 11120101. Owner: Garrett Farms.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 510 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,632 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 4 ft X 4 ft concrete pump base, 0.50 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 6, 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 439.62 ft below land-surface datum, Aug. 9, 1989; lowest measured, 448.41 ft below land-surface datum, Jan. 6, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 7	440.00
Aug. 9	439.62

GROUND-WATER LEVELS

CURRY COUNTY
Clovis area

343615103123801. Local number, 05N.35E.35.313.

LOCATION.--Lat 34°36'15", long 103°12'38", Hydrologic Unit 11120101. Owner: S. W. Pipkin.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 527 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,504 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 0.50 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 376.40 ft Mar. 26, 1954; lowest measured, 444.53 ft Aug. 9, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 10	444.29
Aug. 9	444.53

DONA ANA COUNTY
Rincon and Mesilla Valleys

322210106483001. Local number, 22S.01E.26.411.

LOCATION.--Lat 32°22'10", long 106°48'30", Hydrologic Unit 13030102. Owner: H. Wortheim.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 18 in., depth 107 ft, cased to 107 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,920 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of east side of casing, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.10 ft below land-surface datum, Sep. 11, 1989; lowest measured, 25.57 ft below land-surface datum, Apr. 25, 1957.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 22	11.95
Sep. 11	10.10

321620106461501. Local number, 23S.02E.31.213.

LOCATION.--Lat 32°16'20", long 106°46'15", Hydrologic Unit 13030102. Owner: New Mexico State University.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 14 in., reported depth 70 ft, cased to 70 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,880 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 5/8 in. hole in pump base, 1.08 ft above land-surface datum.

PERIOD OF RECORD.--Feb. 1948, Apr. 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 14.13 ft below land-surface datum, Feb. 10, 1948; lowest measured, 29.12 ft below land-surface datum, Jan. 7, 1958.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 27	19.33
Sep. 20	18.10

GROUND-WATER LEVELS

391

EDDY COUNTY
Roswell Basin

325510104410001. Local number, 16S.23E.15.323.

LOCATION.--Lat 32°55'10", long 104°41'00", Hydrologic Unit 13060007. Owner: D. W. Runyan.

AQUIFER.--Yeso.

WELL CHARACTERISTICS.--Drilled oil test well, used for stock water, diameter 10 in., depth 1,458 ft, cased.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,900 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 0.70 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1951 to Jan. 1965, Feb. 1970 to Aug. 1971, Jan. 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 225.16 ft below land-surface datum, Jan. 12, 1951; lowest measured, 277.60 ft below land-surface datum, Aug. 5, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 25	231.46
Aug. 24	241.49

325735104360701. Local number, 16S.24E.04.23123.

LOCATION.--Lat 32°57'35", long 104°36'07", Hydrologic Unit 13060007. Owner: Ellis Hunlic.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled artesian irrigation well, diameter not available, depth 610 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,623 ft above National Geodetic Vertical Datum of 1929. Measuring point: Southwest side of pump, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 62.36 ft below land-surface datum, Feb. 10, 1988; lowest measured, 100.54 ft below land-surface datum, Aug. 27, 1974.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 10	62.36
Aug.	not measured

325712104314501. Local number, 16S.25E.06.313.

LOCATION.--Lat 32°57'12", long 104°31'45", Hydrologic Unit 13060007. Owner: Frank Childress.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 20 in., depth 39 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,600 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of cribbing 0.40 ft above land-surface datum.

PERIOD OF RECORD.--Sept. 1937 to Jan. 1966, Aug. 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.41 ft below land-surface datum, Aug. 24, 1989; lowest measured, 31.66 ft below land-surface datum, Aug. 8, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 24	22.93
Aug. 24	20.41

325638104274801. Local number, 16S.25E.11.111A.

LOCATION.--Lat 32°56'38", long 104°27'48", Hydrologic Unit 13060007. Owner: Pecos Valley Artesian Conservancy District.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 7 in., depth 171 ft, casing 0-171 ft, perforated 94-170 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 3,450 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelf 3.00 ft above land-surface datum.

PERIOD OF RECORD.--1964 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.90 ft below land-surface datum, Feb. 18, 1966; lowest measured, 64.72 ft below land-surface datum, July 24, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	56.68	55.19	54.45	53.93	53.52	53.22	53.87	54.88	55.78	56.74	57.62	58.42
10	56.47	55.00	54.36	53.85	53.49	53.11	54.11	54.97	55.94	56.88	57.77	58.51
15	56.26	54.81	54.35	53.83	53.48	53.10	54.30	55.04	56.13	57.02	57.91	58.60
20	55.98	54.73	54.22	53.78	53.36	53.12	54.46	55.19	56.25	57.15	58.04	58.70
25	55.73	54.57	54.10	53.67	53.33	53.35	54.65	55.34	56.42	57.30	58.15	58.74
EOB	55.42	54.56	54.01	53.57	53.27	53.62	54.79	55.58	56.58	57.48	58.30	58.71

WTR YEAR 1989 HIGHEST 53.01 MAR 13, 1989 LOWEST 58.78 SEP 25, 1989

GROUND-WATER LEVELS

EDDY COUNTY
Roswell Basin

325445104253501. Local number, 16S.26E.19.211.

LOCATION.--Lat 32°54'45", long 104°25'35", Hydrologic Unit 13060007. Owner: John Crook.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 160 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,399 ft above National Geodetic Vertical Datum of 1929. Measuring point: 1/2 in. by 3 in. vertical slot under pump base, at land-surface datum.

PERIOD OF RECORD.--Jan. 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 82.60 ft below land-surface datum, Jan. 16, 1969; lowest measured, 112.85 ft below land-surface datum, Sep. 13, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 24	97.10
Aug.	not measured

324831104435701. Local number, 17S.23E.30.13244

LOCATION.--Lat 32°48'31", long 104°43'57", Hydrologic Unit 13060007. Owner: Village of Hope.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled artesian public-supply well, diameter 16 in., depth 600 ft, cased to 558 ft, perforated 498-558 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,095 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 2 in. pipe extension on north side of concrete base, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--Dec. 1968, Jan. 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 514.85 ft below land-surface datum, Jan. 27, 1988; lowest measured, 553.18 ft below land-surface datum, Aug. 7, 1974.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 17	519.00
Aug. 29	526.76

324620104255001. (formerly 324624104244501) Local number, 18S.26E.06.442A.

LOCATION.--Lat 32°46'24", long 104°24'45", Hydrologic Unit 13060007. Owner: Pecos Valley Artesian Conservancy District.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled artesian observation well, diameter 9 in., depth 1,008 ft, cased to 726 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 3,402.1 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelf, 3.40 ft above land-surface datum.

REMARKS.--Lost record due to recorder malfunction.

PERIOD OF RECORD.--June 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.57 ft below land-surface datum, Feb. 20, 1989; lowest, 209.15 ft below land-surface datum, July 31-Aug. 2, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	101.39	85.96	74.06	69.60	64.62	64.89	110.64	114.01	---	---	149.86	127.98
10	96.95	85.86	75.67	69.28	64.03	68.26	114.28	115.08	---	---	147.27	133.21
15	94.00	83.19	74.08	67.84	64.04	74.31	118.00	115.48	---	---	143.30	131.42
20	92.02	80.74	72.64	67.54	62.57	83.77	119.69	122.47	---	---	139.60	129.01
25	89.95	79.38	71.38	66.81	65.21	92.51	119.04	---	---	148.55	136.04	128.52
EOM	87.94	78.42	70.25	65.59	65.62	101.49	117.99	---	---	145.22	129.27	128.46
WTR YEAR 1989	HIGHEST		62.57 FEB 20, 1989		LOWEST	152.83	AUG 5, 1989					

GROUND-WATER LEVELS

393

EDDY COUNTY
Roswell Basin

324620104255101. Local number, 18S.26E.06.442B.

LOCATION.--Lat 32°46'20", long 104°25'51", Hydrologic Unit 13060007. Owner: Pecos Valley Artesian Conservancy District.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 7 in., depth 246 ft, casing 0-246 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 3,402 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelf, 2.70 ft above land-surface datum.

PERIOD OF RECORD.--1963 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 106.83 ft below land-surface datum, Jan. 7, 1974; lowest measured, 140.59 ft below land-surface datum, Sep. 13, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	122.56	118.17	114.51	111.45	109.12	107.94	112.56	119.92	124.48	127.76	131.22	131.48
10	121.91	117.46	114.03	111.08	108.85	107.57	114.33	120.49	125.35	128.21	131.15	131.60
15	121.08	116.65	113.75	110.81	108.73	107.45	115.72	120.93	125.85	129.14	131.71	131.50
20	120.28	116.32	113.08	110.58	108.07	107.84	117.19	121.65	126.09	129.85	---	131.31
25	119.56	115.46	112.39	110.03	107.96	108.81	118.40	122.35	126.60	130.41	132.05	131.25
EOM	118.84	115.25	111.95	109.47	107.81	110.97	119.30	123.47	127.17	130.00	131.72	131.03

WTR YEAR 1989 HIGHEST 107.23 MAR 13, 1989 LOWEST 132.22 AUG 26, 1989

324325104233001. Local number, 18S.26E.28.122.

LOCATION.--Lat 32°43'25", long 104°23'30", Hydrologic Unit 13060011. Owner: Town of Dayton.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 8 in., depth 250 ft, cased to 182 ft, casing slotted 92-182 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 3,403 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.06 ft above land-surface datum.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 59.79 ft below land-surface datum, Feb. 5, 1952; lowest, 124.87 ft below land-surface datum, Feb. 25, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	122.22	122.16	122.17	122.08	122.02	122.10	122.01	121.91	121.97	122.02	122.03	122.14
10	122.20	122.19	122.13	122.10	122.02	122.01	121.95	121.97	121.97	121.97	122.04	122.15
15	122.16	122.13	122.12	122.08	122.02	121.92	121.89	121.94	122.00	121.99	122.05	122.16
20	122.16	122.25	122.06	122.12	121.88	121.92	121.91	121.99	121.95	122.02	122.07	122.16
25	122.18	122.11	122.11	122.04	121.98	121.93	121.90	121.94	121.98	122.04	122.08	122.18
EOM	122.20	122.25	122.12	122.03	121.88	122.00	121.95	121.95	121.99	122.02	122.10	122.19

WTR YEAR 1989 HIGHEST 121.88 FEB 19, 1989 LOWEST 122.29 NOV 28, 1988

323540104232001. Local number, 20S.26E.08.1211.

LOCATION.--Lat 32°35'40", long 104°23'20", Hydrologic Unit 13060011. Owner: Moutry.

AQUIFER.--Valley Fill

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 13 in., depth 346 ft, casing information not available.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,286 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of basal flange of pump head, 0.20 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1938 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.87 ft below land-surface datum, Jan. 2, 1943; lowest measured, 90.25 ft below land-surface datum, Aug. 8, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 27	41.92
Aug. 28	35.80

GROUND-WATER LEVELS

EDDY COUNTY
Carlsbad Area

322637104142301. (formerly 322652104141901) Local number, 21S.26E.36.221.

LOCATION.--Lat 32°26'52", long 104°14'19", Hydrologic Unit 13060011. Owner: City of Carlsbad.

AQUIFER.--Capitan Limestone.

WELL CHARACTERISTICS.--Drilled water-table municipal well, diameter 20 in., depth 327 ft, casing 0-290 ft.

INSTRUMENTATION.--Digital recorder, 1-hr punch.

DATUM.--Elevation of land-surface datum is 3,121.84 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelf, 4.14 ft above land-surface datum.

PERIOD OF RECORD.--April 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.98 ft below land-surface datum, June 14, 1987; lowest measured, 26.07 ft below land-surface datum, Aug. 2, 1974.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.46	20.87	20.76	20.63	20.80	21.04	22.02	22.14	22.55	22.95	23.23	22.95
10	20.45	21.04	20.67	20.68	20.92	21.22	22.08	22.42	22.63	22.96	23.04	23.07
15	20.53	21.01	20.73	20.77	20.98	21.35	21.83	22.08	22.44	22.95	22.93	22.78
20	20.45	21.10	20.61	20.90	20.76	21.44	22.01	22.41	22.64	22.99	22.94	22.60
25	20.42	20.71	20.56	20.82	20.91	21.56	21.97	22.31	22.65	23.03	22.87	22.57
ECM	20.76	20.84	20.63	20.82	20.93	21.75	22.00	22.34	22.82	23.00	22.82	22.65

WTR YEAR 1989 HIGHEST 20.38 OCT 8, 1988 LOWEST 23.40 AUG 7, 1989

322640104165801. Local number, 21S.27E.32.112.

LOCATION.--Lat 32°26'40", long 104°16'58", Hydrologic Unit 13060011. Owner: L. E. Loman.

AQUIFER.--Capitan Limestone.

WELL CHARACTERISTICS.--Drilled water-table domestic well, diameter 12 in., reported depth 305 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,112 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.40 ft above land-surface datum.

PERIOD OF RECORD.--Oct. 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.64 ft below land-surface datum, Jan. 17, 1950; lowest measured, 17.35 ft below land-surface datum, Aug. 9, 1974.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 12	11.43
Aug. 28	13.54

322712104074501. (formerly 322710104073901) Local number, 21S.28E.30.141.

LOCATION.--Lat 32°27'10", long 104°07'39", Hydrologic Unit 13060011. Owner: Forrest Miller.

AQUIFER.--Capitan Limestone.

WELL CHARACTERISTICS.--Drilled exploration well, diameter 8 5/8 - 5 1/2 in., reported depth 1,060 ft, plugged back, total depth 906 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 3,181.71 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 1.64 ft above land-surface datum.

PERIOD OF RECORD.--1963 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 88.13 ft below land-surface datum, June 29, 1987; lowest measured, 98.68 ft below land-surface datum, Aug. 3, 1974.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	91.82	92.07	92.03	91.93	92.06	92.33	93.24	93.34	93.71	94.10	94.38	94.05
10	91.78	92.19	91.92	91.95	92.20	92.49	93.39	93.68	93.89	94.18	94.17	94.16
15	91.87	92.19	92.09	92.07	92.28	92.66	93.12	93.28	93.58	94.08	94.02	93.89
20	91.79	92.33	91.88	92.21	92.02	92.69	93.25	93.67	93.75	94.15	94.05	93.76
25	91.73	91.95	91.83	92.14	92.20	92.82	93.28	93.58	93.83	94.26	93.95	93.71
ECM	92.00	92.15	91.95	92.13	92.22	93.09	93.25	93.54	93.95	94.12	93.87	93.79

WTR YEAR 1989 HIGHEST 91.67 OCT 22, 1988 LOWEST 94.56 AUG 7, 1989

GROUND-WATER LEVELS

395

EDDY COUNTY
Carlsbad Area

322120104151501. Local number, 22S.26E.25.3333. (formerly 22S.26E.36.111A)

LOCATION.--Lat 32°21'20", long 104°15'15", Hydrologic Unit 13060011. Owner: Carlsbad Airfield.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 12 in., depth 260 ft, cased to 260 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 3,225 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder platform, 2.70 ft above land-surface datum.

PERIOD OF RECORD.--July 1942 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 131.50 ft below land-surface datum, Oct. 14, 1942; lowest, 214.82 ft below land-surface datum, Sep. 15, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	150.98	147.37	143.36	141.49	140.89	141.10	145.14	152.32	155.61	159.41	162.16	164.09
10	151.28	146.44	143.03	141.38	140.95	141.07	147.38	152.41	156.03	159.78	162.42	164.04
15	150.25	145.53	142.74	141.36	140.94	141.10	149.06	152.54	156.11	159.84	162.17	163.72
20	149.15	145.04	142.29	141.43	140.76	142.19	151.11	153.14	156.19	159.71	161.88	162.76
25	149.12	144.07	141.88	141.11	140.96	142.81	152.29	154.08	157.37	160.54	162.57	161.83
EOM	148.41	143.93	141.69	141.01	140.79	143.44	152.65	155.19	158.76	161.73	163.89	161.18

WTR YEAR 1989 HIGHEST 140.56 MAR 3, 1989 LOWEST 164.25 SEP 3, 1989

322231104131001. Local number, 22S.27E.22.421.

LOCATION.--Lat 32°22'31", long 104°13'10", Hydrologic Unit 13060011. Owner: Enea Grandi.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., reported depth 150 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,100 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.20 ft above land-surface datum.

PERIOD OF RECORD.--Sep. 1947 to Aug. 1968, Jan. 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.43 ft below land-surface datum, Sep. 15, 1950; lowest measured, 81.10 ft below land-surface datum, Aug. 8, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 12	29.81
Aug. 28	37.20

321741104204901. (formerly 321721104204801) Local number, 23S.25E.24.213.

LOCATION.--Lat 32°17'21", long 104°20'48", Hydrologic Unit 13060011. Owner: City of Carlsbad.

AQUIFER.--Capitan Limestone.

WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 16 in. 0-20 ft, open hole 20-900 ft.

INSTRUMENTATION.--Digital recorder, 1-hr punch.

DATUM.--Elevation of land-surface datum is 3,501.7 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.17 ft above land-surface datum.

REMARKS.--Lost record, several days, due to recorder malfunction.

PERIOD OF RECORD.--1963 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 369.53 ft below land-surface datum, June 27, 1986; lowest measured, 404.06 ft below land-surface datum, July 10, 1974.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	397.07	397.24	397.36	397.55	397.68	397.85	398.71	399.33	400.07	400.59	400.83	400.48
10	397.07	397.34	397.29	397.61	397.89	397.99	398.93	399.45	400.01	400.49	400.67	400.48
15	397.11	397.29	---	397.67	397.88	398.08	398.79	399.29	---	400.66	400.49	399.87
20	397.14	397.48	---	397.77	397.71	398.22	399.02	399.77	400.24	400.80	400.50	399.67
25	397.02	397.23	397.39	397.63	397.80	398.23	399.14	400.14	400.11	400.65	400.41	399.67
EOM	---	397.40	397.48	397.71	397.77	398.56	399.18	400.18	400.42	400.30	400.22	399.68

WTR YEAR 1989 HIGHEST 396.87 OCT 1, 1988 LOWEST 400.95 AUG 6, 1989

GROUND-WATER LEVELS

EDDY COUNTY
Carlsbad Area

321930104113301. Local number, 23S.27E.09.211.

LOCATION.--Lat 32°19'30", long 104°11'33", Hydrologic Unit 13060011. Owner: H. C. Bindel.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 200 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,150 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, under pump base, 1.25 ft above land-surface datum.

PERIOD OF RECORD.--July 1949 to Nov. 1955, Jan. 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.70 ft below land-surface datum, Sep. 15, 1950; lowest measured, 60.92 ft below land-surface datum, Jan. 13, 1976.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 12	55.62
Aug. 31	53.90

320602104285201. Local number, 25S.24E.27.421.

LOCATION.--Lat 32°06'02", long 104°28'52", Hydrologic Unit 13060011. Owner: Walker Hood.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 101 ft, uncased.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,701 ft above National Geodetic Vertical Datum of 1929. Measuring point: Northwest corner of pump base, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1952 to Aug. 1967, Jan. 1969 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 50.12 ft below land-surface datum, Aug. 22, 1988; lowest measured, 85.10 ft below land-surface datum, Aug. 25, 1967.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 12	51.67
Aug. 25	52.63

320257104295201. Local number, 26S.24E.09.441.

LOCATION.--Lat 32°02'57", long 104°29'52", Hydrologic Unit 13060011. Owner: John Mayes.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 12 in., depth 100 ft, cased to 85 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,749.4 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of air-line flange support, 1.40 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.31 ft below land-surface datum, Aug. 22, 1988; lowest measured, 54.98 ft below land-surface datum, Sep. 8, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 12	36.10
Aug. 25	38.57

GRANT COUNTY
Silver City Area

324600108222501. Local number, 18S.15W.11.323.

LOCATION.--Lat 32°46'00", long 108°22'25", Hydrologic Unit 15040002. Owner: Town of Silver City.

AQUIFER.--Gila Conglomerate.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 12 in., depth 580 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 5,845 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 12 in. casing, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--Mar. 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 262.34 ft below land-surface datum, Mar. 3, 1962; lowest measured, 294.52 ft below land-surface datum, Apr. 20, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	288.62	289.01	288.82	288.80	288.34	288.57	288.41	288.35	288.57	289.00	289.15	288.98
10	288.61	289.02	288.75	288.72	288.69	288.58	288.16	288.26	288.62	288.95	289.13	288.89
15	288.61	288.85	288.76	288.75	288.56	288.28	288.15	288.32	288.73	289.00	289.12	288.94
20	288.61	289.01	288.71	288.84	288.25	288.22	288.27	288.51	288.74	289.04	289.13	288.79
25	288.78	288.59	288.59	288.56	288.52	288.19	288.21	288.36	288.86	288.90	288.91	288.96
EOM	289.02	289.04	288.79	288.65	288.20	288.30	288.26	288.44	288.91	289.16	288.98	288.81

WTR YEAR 1989 HIGHEST 287.99 MAR 3, 1989 LOWEST 289.28 AUG 18, 1989

GROUND-WATER LEVELS

397

GUADALUPE COUNTY
Santa Rosa Area

350414104485101. Local number, 10N.20E.28.2214.

LOCATION.--Lat 35°04'14", long 104°48'51", Hydrologic Unit 13060001. Owner: Town of Santa Rosa.

AQUIFER.--San Andres Limestone.

WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 12 3/4 in. casing 0-514 ft, 10 3/4 in.

505-575 ft, casing perforated 515-575 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 5,162.7 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 1.10 ft above land-surface datum.

PERIOD OF RECORD.--May 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 345.64 ft below land-surface datum, Oct. 17, 1988; lowest measured, 362.36 ft below land-surface datum, Apr. 12, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	345.84	346.15	346.62	347.19	347.84	348.72	348.36	347.61	347.93	348.85	349.21	349.62
10	345.74	346.25	346.70	347.31	348.10	348.81	348.27	347.59	348.44	349.38	349.24	349.70
15	345.65	346.20	346.94	347.50	348.29	348.67	348.01	347.51	348.18	349.17	349.24	349.85
20	345.66	346.52	346.86	347.68	348.18	348.47	347.92	347.56	348.33	349.32	349.18	349.99
25	345.76	346.41	346.94	347.70	348.45	348.39	347.74	347.52	348.47	349.32	349.29	350.00
EOM	345.97	346.64	347.11	347.76	348.51	348.42	347.78	347.74	348.65	349.29	349.45	350.14

WTR YEAR 1989 HIGHEST 345.64 OCT 17, 1988 LOWEST 350.61 SEP 25, 1989

HARDING COUNTY
Roy Area

355352104054201. Local number, 19N.27E.05.334.

LOCATION.--Lat 35°53'52", long 104°05'42", Hydrologic Unit 11080007. Owner: Town of Roy.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table municipal well, diameter 10 in., depth 75 ft, cased to 75 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 5,658 ft above National Geodetic Vertical Datum of 1929. Measuring point: 3/4" plugged hole, east side, 1.50 ft above land-surface datum.

REMARKS.--Submersible pump installed in 1984.

PERIOD OF RECORD.--Jan. 1967 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 48.34 ft below land-surface datum, Jan. 18, 1983; lowest measured, 55.76 ft below land-surface datum, Aug. 19, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 19	52.84
Aug. 10	50.84

360340104085001. Local number, 21N.26E.03.4443.

LOCATION.--Lat 36°03'40", long 104°08'50", Hydrologic Unit 11080007. Owner: U. S. Government.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 5 in., depth 120 ft, cased to 120 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 5,870 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 5 in. galvanized casing, 0.30 ft above land-surface datum on east side.

PERIOD OF RECORD.--Jan. 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 82.92 ft below land-surface datum, Jan. 28, 1976; lowest measured, 84.45 ft below land-surface datum, Sep. 3, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 19	83.44
Aug. 10	83.51

HIDALGO COUNTY
Virden Valley

324053108594101. Local number, 19S.21W.03.414.

LOCATION.--Lat 32°40'53", long 108°59'41", Hydrologic Unit 15040002. Owner: Jones, Clouse, and Jensen.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 20 in., depth 72 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,750 ft above National Geodetic Vertical Datum of 1929. Measuring point: Hole inside pump shell, 0.90 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 9.27 ft below land-surface datum, Jan. 12, 1979; lowest measured, 15.38 ft below land-surface datum, July 10, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 10	11.79
July 10	15.38

GROUND-WATER LEVELS

HIDALGO COUNTY
Lordsburg Area

321848108391401. Local number, 23S.18W.12.333.

LOCATION.--Lat 32°18'48", long 108°39'14", Hydrologic Unit 15040003. Owner: R. I. McDonald.

AQUIFER.--Bolson deposits.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 12 in., depth and casing information not available.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,365 ft above National Geodetic Vertical Datum of 1929. Measuring point: End of entry port pipe, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 100.02 ft below land-surface datum, Jan. 11, 1958; lowest measured, 190.45 ft below land-surface datum, Aug. 2, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 10	168.59
July 10	172.66

321540108514101. Local number, 23S.20W.25.422.

LOCATION.--Lat 32°15'40", long 108°51'41", Hydrologic Unit 15040003. Owner: Kerr Cattle Co.

AQUIFER.--Bolson deposits.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 150 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,150 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 0.80 ft above land-surface datum.

PERIOD OF RECORD.--May 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.36 ft below land-surface datum, May 21, 1948; lowest measured, 51.15 ft below land-surface datum, July 11, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 11	50.78
July 11	51.15

321257108331201. Local number, 24S.17W.14.442.

LOCATION.--Lat 32°12'57", long 108°33'12", Hydrologic Unit 15040003. Owner: E. W. Richens.

AQUIFER.--Bolson deposits.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 18 in., depth 420 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,276 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 78.97 ft below land-surface datum, Jan. 7, 1981; lowest measured, 114.90 ft below land-surface datum, Jan. 15, 1970.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 10	88.78
July 10	88.79

Animas Valley

315645108493501. Local number, 27S.19W.20.343.

LOCATION.--Lat 31°56'45", long 108°49'35", Hydrologic Unit 15040003. Owner: Felix Gauthier.

AQUIFER.--Bolson deposits.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 358 ft, cased to 358 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,420 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of 1 1/4 in. pipe in concrete pump base, 1.25 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 132.12 ft below land-surface datum, Jan. 19, 1950; lowest measured, 198.50 ft below land-surface datum, Aug. 1, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 11	176.14
July 11	184.02

HIDALGO COUNTY
San Simon Valley

315010108570001. Local number, 28S.21W.30.222.
LOCATION.--Lat 31°50'10", long 108°57'00", Hydrologic Unit 15040006. Owner: C. L. Johnston.
AQUIFER.--Bolson deposits
WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 8 in. depth 471 ft, cased to 471 ft.
INSTRUMENTATION.--Periodic steel-tape measurements.
DATUM.--Elevation of land-surface datum is 4,440 ft above National Geodetic Vertical Datum of 1929. Measuring point: Hole in west side of casing, 0.70 ft above land-surface datum.
PERIOD OF RECORD.--Jan. 1971 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 112.62 ft below land-surface datum, Jan. 19, 1971; lowest measured, 124.20 ft below land-surface datum, July 15, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 9	122.38
July 11	123.00

Playas Valley

313502108275001. Local number, 31S.16W.33.233.
LOCATION.--Lat 31°35'02", long 108°27'50", Hydrologic Unit 13030201. Owner: U-Bar Ranch.
AQUIFER.--Bolson deposits.
WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 16 in., depth 654 ft, 16 in. casing.
INSTRUMENTATION.--Periodic steel-tape measurements.
DATUM.--Elevation of land-surface datum is 4,400 ft above National Geodetic Vertical Datum of 1929. Measuring point: Bottom edge of shelf, 4.05 ft above land-surface datum.
PERIOD OF RECORD.--Jan. 1971 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.66 ft below land-surface datum, Apr. 18-20, and 30, 1973; lowest, 54.95 ft below land-surface datum, Sep. 4, 1976.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 13	46.97
July 14	46.91

312938108302301. Local number, 32S.16W.30.134.
LOCATION.--Lat 31°29'38", long 108°30'23", Hydrologic Unit 13030201. Owner: C. C. Edwards.
AQUIFER.--Bolson deposits.
WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 150 ft.
INSTRUMENTATION.--Periodic steel-tape measurements.
DATUM.--Elevation of land-surface datum is 4,490 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 3/4 in. pipe nipple inside pump shell, 1.45 ft above land-surface datum.
REMARKS.--a indicates pumping water level.
PERIOD OF RECORD.--Mar. 1952 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 85.11 ft below land-surface datum, Mar. 27, 1952; lowest measured, 129.10a ft below land-surface datum, Aug. 20, 1962.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 13	87.51
July 14	87.23

LEA COUNTY
Tatum-Lovington-Hobbs Area

331740103285001. Local number, 12S.34E.11.421.
LOCATION.--Lat 33°17'40", long 103°28'50", Hydrologic Unit 12080006. Owner: A. D. Jones.
AQUIFER.--Ogallala Formation.
WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 15 in., depth 87 ft.
INSTRUMENTATION.--Periodic steel-tape measurements.
DATUM.--Elevation of land-surface datum is 4,150 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete pump base, 0.80 ft above land-surface datum.
PERIOD OF RECORD.--May 1949 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.57 ft below land-surface datum, May 24, 1949; lowest measured, 34.14 ft below land-surface datum, Aug. 17, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 5	31.01
Aug. 8	30.95

GROUND-WATER LEVELS

LEA COUNTY
Tatum-Lovington-Hobbs Area

330400103193401. Local number, 14S.36E.32.121.

LOCATION.--Lat 33°04'00", long 103°19'34", Hydrologic Unit 12080003. Owner: E. T. Howell.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth and casing information not available.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,990 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete pump base, 0.50 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1949 to Jan. 1950, Jan. 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 53.38 ft below land-surface datum, Jan. 19, 1949; lowest measured, 70.07 ft below land-surface datum, Jan. 14, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 6	67.40
Aug. 8	67.78

325730103213901. (formerly 325703103213201) Local number, 16S.36E.04.322.

LOCATION.--Lat 32°57'03", long 103°21'32", Hydrologic Unit 12080003. Owner: City of Lovington.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 13 in., depth 212 ft, perforated 80-208 ft.

INSTRUMENTATION.--Digital recorder, 1-hour punch.

DATUM.--Elevation of land-surface datum is 3,926 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelf, 4.00 ft above land-surface datum.

REMARKS.--Record good.

PERIOD OF RECORD.--Aug. 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 59.78 ft below land-surface datum, Mar. 19, 1989; lowest measured, 67.11 ft below land-surface datum, Aug. 24, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
DAILY HIGHEST VALUES, FROM RECORDER GRAPH

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	60.36	60.25	60.11	60.01	59.91	59.89	59.85	59.87	59.99	60.14	60.15	60.04
10	60.35	60.19	60.10	59.99	59.91	59.86	59.86	59.87	59.98	60.14	60.15	60.01
15	60.32	60.15	60.12	59.99	59.91	59.83	59.83	59.87	60.05	60.16	60.11	59.99
20	60.29	60.18	60.08	59.99	59.87	59.80	59.84	59.92	60.06	60.16	60.11	59.95
25	60.27	60.12	60.04	59.95	59.86	59.80	59.85	59.91	60.09	60.17	60.08	59.95
EOM	60.26	60.15	60.03	59.93	59.87	59.81	59.86	59.96	60.10	60.15	60.06	59.93

WTR YEAR 1989 HIGHEST 59.78 MAR 19, 1989 LOWEST 60.42 OCT 1, 1988

325658103200001. Local number, 16S.37E.11.111.

LOCATION.--Lat 32°56'58", long 103°20'00", Hydrologic Unit 12080003. Owner: H. J. Taylor.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., reported depth 118 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,900 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 1 in. hole in southwest side of pump, 1.34 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.93 ft below land-surface datum, Jan. 23, 1949; lowest measured, 78.64 ft below land-surface datum, Jan. 3, 1979.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 5	65.80
Aug. 8	65.44

324947103371001. Local number, 17S.33E.13.341.

LOCATION.--Lat 32°49'47", long 103°37'10", Hydrologic Unit 12080003. Owner: Potash Co. of America.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 6 in., depth 252 ft, cased to 252 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,124 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 1.10 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1953 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 146.00 ft below land-surface datum, Jan. 21, 1953; lowest measured, 174.79 ft below land-surface datum, Aug. 7, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 4	172.42
Aug. 7	174.79

GROUND-WATER LEVELS

401

LEA COUNTY
Tatum-Lovington Hobbs Area

325132103112501. Local number, 17S.38E.07.111A.

LOCATION.--Lat 32°51'32", long 103°11'25", Hydrologic Unit 12080003. Owner: L. R. Seblings.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., reported depth 125 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,740 ft above National Geodetic Vertical Datum of 1929. Measuring point: Edge of small pipe projecting from west side of pump, 1.91 ft above land-surface datum.

PERIOD OF RECORD.--July 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.59 ft below land-surface datum, Mar. 21, 1952; lowest measured, 74.15 ft below land-surface datum, July 22, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 4	66.67
Aug. 8	66.27

324745103082001. Local number, 17S.38E.34.113.

LOCATION.--Lat 32°47'45", long 103°08'20", Hydrologic Unit 12080003. Owner: W. E. Busby.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 12 in., depth 125 ft, cased to 90 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,660 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 1/2 in. hole in pump base, 0.54 ft above land-surface datum.

PERIOD OF RECORD.--Nov. 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.78 ft below land-surface datum, Jan. 15, 1944; lowest measured, 62.29 ft below land-surface datum, Sep. 4, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 4	61.30
Aug. 8	62.07

LINCOLN COUNTY
Hondo Valley

333242105340701. Local number, 09S.14E.10.132.

LOCATION.--Lat 33°32'42", long 105°34'07", Hydrologic Unit 13060008. Owner: Village of Capitan.

AQUIFER.--Mancos Shale of Late Cretaceous Age.

WELL CHARACTERISTICS.--Drilled water-table municipal well, diameter 8 in., depth 324 ft, cased to 271 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,340 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of breather hole on west side of pump base, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.34 ft below land-surface datum, Aug. 30, 1979; lowest measured, 69.77 ft below land-surface datum, Nov. 28, 1956.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 20	38.32
Aug. 23	38.34

332145105333001. Local number, 11S.14E.15.432.

LOCATION.--Lat 33°21'45", long 105°33'30", Hydrologic Unit 13060008. Owner: E. H. Fuchs.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 8 in., depth 90 ft, casing information not available.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,200 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 1.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.16 ft below land-surface datum, Mar. 26, 1958; lowest measured, 63.75 ft below land-surface datum, Aug. 10, 1970.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 20	59.89
Aug. 23	59.80

GROUND-WATER LEVELS

LINCOLN COUNTY
Hondo Valley

332157105094101. Local number, 11S.18E.15.333.
 LOCATION.--Lat 33°21'57", long 105°09'41", Hydrologic Unit 13060008. Owner: Lincoln County Livestock Co.
 AQUIFER.--Yesso Formation of Permian Age.
 WELL CHARACTERISTICS.--Drilled water-table domestic and stock well, diameter 12 in., depth 125 ft, cased to 110 ft.
 INSTRUMENTATION.--Periodic steel-tape measurements.
 DATUM.--Elevation of land-surface datum is 4,989 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.5 ft above land-surface datum.
 PERIOD OF RECORD.--Oct. 1955 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.43 ft below land-surface datum, Aug. 18, 1988; lowest measured, 60.18 ft below land-surface datum, Jan. 15, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 20	48.04
Aug. 23	47.27

LUNA COUNTY
Nutt-Hockett

322930107221001. Local number, 21S.05W.08.444.
 LOCATION.--Lat 32°29'30", long 107°22'10", Hydrologic Unit 13030202. Owner: Leonard Farms.
 AQUIFER.--Valley Fill.
 WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 435 ft, cased to 435 ft.
 INSTRUMENTATION.--Periodic steel-tape measurements.
 DATUM.--Elevation of land-surface datum is 4,530 ft above National Geodetic Vertical Datum of 1929. Measuring point: Hole in NE side of pump shell, 1.60 ft above land-surface datum.
 PERIOD OF RECORD.--Nov. 1961 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 102.06 ft below land-surface datum, Jan. 17, 1962; lowest measured, 185.06 ft below land-surface datum, Jan. 4, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 4	185.06
Aug.	not measured

Mimbres Valley

321352107493901. Local number, 24S.10W.12.431.
 LOCATION.--Lat 32°13'52", long 107°49'39", Hydrologic Unit 13030202. Owner: Steve Hrna.
 AQUIFER.--Bolson Deposits.
 WELL CHARACTERISTICS.--Dug and drilled water-table unused well, diameter 36 in., reported depth 132 ft.
 INSTRUMENTATION.--Periodic steel-tape measurements.
 DATUM.--Elevation of land-surface datum is 4,330 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelter shelf, 1.36 ft above land-surface datum.
 REMARKS.--Recorder removed June 30, 1986.
 PERIOD OF RECORD.--Apr. 1939 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level, 71.61 ft below land-surface datum, May 6-13, 1940; lowest, 113.30 ft below land-surface datum, Aug. 12 and 20, 1976.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	LEVEL
Jan. 17	100.23
July 19	102.39

321415107565501. Local number, 24S.11W.14.122.
 LOCATION.--Lat 32°14'15", long 107°56'55", Hydrologic Unit 13030202. Owner: Charles Waldrop.
 AQUIFER.--Bolson Deposits.
 WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 12 in., reported depth 350 ft, cased to 198 ft.
 INSTRUMENTATION.--Periodic steel-tape measurements.
 DATUM.--Elevation of land-surface datum is 4,405 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 1 in. hole in pump base, 0.80 ft above land-surface datum.
 PERIOD OF RECORD.--July 1951 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 107.66 ft below land-surface datum, Jan. 23, 1952; lowest measured, 228.00 ft below land-surface datum, May 11, 1956.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 3	165.10
July 15	171.04

GROUND-WATER LEVELS

403

LUNA COUNTY
Mimbres Valley

321015107260501. Local number, 25S.06W.02.111.

LOCATION.--Lat 32°10'15", long 107°26'05", Hydrologic Unit 13030202. Owner: C. W. Johnson, Jr.

AQUIFER.--Bolson Deposits.

WELL CHARACTERISTICS.--Drilled artesian irrigation well, diameter 16 in., depth 235 ft, perforated 180-235 ft, gravel packed.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,090 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.30 ft above land-surface datum.

PERIOD OF RECORD.--May 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.45 ft below land-surface datum, Mar. 14, 1953; lowest measured, 117.66 ft below land-surface datum, Aug. 6, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 3	22.16
July 5	42.37

320915104294501. Local number, 25S.06W.07.211.

LOCATION.--Lat 32°09'15", long 104°29'45", Hydrologic Unit 13030202. Owner: H. C. Telles.

AQUIFER.--Bolson Deposits.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 230 ft, cased to 230 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,084.22 ft above National Geodetic Vertical Datum of 1929. Measuring point: Hole in pump base, 1.20 ft above land-surface datum (since Jan. 15, 1966).

PERIOD OF RECORD.--Jan. 1953 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 65.34 ft below land-surface datum, Mar. 14, 1953; lowest measured, 122.16 ft below land-surface datum, Aug. 13, 1970.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 3	84.90
July	not measured

315525107374501. Local number, 27S.08W.35.122.

LOCATION.--Lat 31°55'25", long 107°37'45", Hydrologic Unit 13030202. Owner: M. M. Gibson.

AQUIFER.--Bolson Deposits.

WELL CHARACTERISTICS.--Drilled water-table unused irrigation well, diameter 12 to 8 in., depth 550 ft, cased to 550 ft, perforated 155-550 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,070 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.20 ft above land-surface datum.

PERIOD OF RECORD.--July 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.84 ft below land-surface datum, Mar. 16, 1953; lowest measured, 119.34 ft below land-surface datum, Aug. 3, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 3	75.22
July 5	78.81

315905107425001. Local number, 27S.09W.01.431.

LOCATION.--Lat 31°59'05", long 107°42'50", Hydrologic Unit 13030202. Owner: I. G. Burns.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 62 ft, cased to 62 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,135 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of rectangular hole in pump base, 0.65 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.61 ft below land-surface datum, Jan. 19, 1954; lowest measured, 47.26 ft below land-surface datum, Aug. 11, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 3	38.08
July 5	38.47

GROUND-WATER LEVELS

LUNA COUNTY
Mimbres Valley

314938107371401. Local number, 28S.08W.36.411.

LOCATION.--Lat 31°49'38", long 107°37'14", Hydrologic Unit 13030202. Owner: M. R. Hemley.

AQUIFER.--Bolson deposits.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 250 ft, cased to 250 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,008 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.85 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.18 ft below land-surface datum, Aug. 2, 1983; lowest measured, 27.85 ft below land-surface datum, Jan. 14, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 3	11.20
July 5	11.26

MORA COUNTY
Watrous Area

354840104590301. Local number, 18N.18E.01.333.

LOCATION.--Lat 35°48'40", long 104°59'03", Hydrologic Unit 11080004. Owner: Sellman Bros.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 14 in., depth 100 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,420 ft above National Geodetic Vertical Datum of 1929. Measuring point: Hole in southeast corner of pump base, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.21 ft below land-surface datum, July 17, 1984; lowest measured, 6.74 ft below land-surface datum, Feb. 14, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Mar. 1	2.34
Sep. 5	2.24

OTERO COUNTY
Tularosa-Alamogordo Area

330324106011201. Local number, 14S.10E.31.144.

LOCATION.--Lat 33°03'24", long 106°01'12", Hydrologic Unit 13050003. Owner: Luther Watson.

AQUIFER.--Bolson deposits.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, depth 230 ft, diameter 17 in., casing 0-130 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,450 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of 1 in. hole in pump base, 0.70 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 73.75 ft below land-surface datum, Apr. 8, 1952; lowest measured, 134.21 ft below land-surface datum, Aug. 3, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Mar. 13	105.14
Aug.	not measured

OTERO COUNTY
Crow Flats Basin
(Salt Basin)

320657105061501. Local number, 25S.18E.21.233.

LOCATION.--Lat 32°06'57", long 105°06'15", Hydrologic Unit 13050004. Owner: Gene Lewis.

AQUIFER.--Bolson deposits.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth unknown.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,690 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 0.50 ft above land-surface datum.

PERIOD OF RECORD.--Apr. 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 68.80 ft below land-surface datum, Apr. 20, 1956; lowest measured, 101.55 ft below land-surface datum, Sep. 15, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 12	91.68
Aug. 25	93.75

320650105034801. Local number, 26S.18E.21.331.

LOCATION.--Lat 32°06'50", long 105°03'48", Hydrologic Unit 13050004. Owner: Frank Gentry.

AQUIFER.--Bolson deposits.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 18 in., depth 544 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,000 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.50 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 51.08 ft below land-surface datum, Jan. 8, 1973; lowest measured, 82.94 ft below land-surface datum, Aug. 17, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 12	57.41
Aug. 25	67.03

QUAY COUNTY
House Area

343810103463001. Local number, 05N.30E.18.331.

LOCATION.--Lat 34°38'10", long 103°46'30", Hydrologic Unit 13060004. Owner: W. C. and H. J. Lee.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 75 ft, cased to 60 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,640 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete pump base, 0.50 ft above land-surface datum.

PERIOD OF RECORD.--May. 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 34.76 ft below land-surface datum, Mar. 28, 1946; lowest measured, 51.49 ft below land-surface datum, Aug. 11, 1969.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 4	43.06
Aug. 9	43.65

344350103553001. Local number, 06N.28E.24.233.

LOCATION.--Lat 34°43'50", long 103°55'30", Hydrologic Unit 13060004. Owner: G. B. Irwin.

AQUIFER.--Ogallala formation.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., reported depth 131 ft, cased to 131 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,790 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 2 in. opening in concrete base, 1.21 ft above land-surface datum.

PERIOD OF RECORD.--Mar. 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 77.97 ft below land-surface datum, Mar. 27, 1944; lowest measured, 113.50 ft below land-surface datum, Aug. 20, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 4	107.39
June 16	96.45

GROUND-WATER LEVELS

ROOSEVELT COUNTY
Portales Valley

341037103254501. Local number, 01S.33E.36.23111.

LOCATION.--Lat 34°10'37", long 103°25'45", Hydrologic Unit 12050002. Owner: State of New Mexico.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 18 in., depth 105 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,048 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 1.95 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 38.19 ft below land-surface datum, Jan. 25, 1952; lowest measured, 86.42 ft below land-surface datum, Jan. 17, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 5	84.65
Aug. 8	84.42

340740103145501. Local number, 02S.35E.23.111.

LOCATION.--Lat 34°07'40", long 103°14'55", Hydrologic Unit 12050001. Owner: H. F. Gras.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 10 in., depth 80 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,961 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete pump base, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.32 ft below land-surface datum, Mar. 27, 1951; lowest measured, 51.90 ft below land-surface datum, Jan. 9, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 6	48.98
Aug.	not measured

Causey-Lingo Area

335655103032001. Local number, 06S.38E.21.233.

LOCATION.--Lat 33°56'55", long 103°03'20", Hydrologic Unit 12050001. Owner: C. C. Harvey.

AQUIFER.--Undifferentiated Cretaceous rocks.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 140 ft, cased to 140 ft, casing slotted 100-140 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 3,939 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 1 in. hole in north side of pump, 2.10 ft above land-surface datum.

REMARKS.--a means well pumping during measurement.

PERIOD OF RECORD.--Jan. 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 87.18 ft below land-surface datum, Jan. 13, 1956; lowest measured, 115.21a ft below land-surface datum, Aug. 11, 1976.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 9	93.19
Aug.	not measured

SANDOVAL COUNTY
Bernalillo Area

352235106282401. Local number, 13N.04E.12.112.

LOCATION.--Lat 35°22'35", long 106°28'24", Hydrologic Unit 13020201. Owner: John Bowers.

AQUIFER.--Valley Fill

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 12 in., depth 50 ft, cased.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 5,117 ft above National Geodetic Vertical Datum of 1929. Measuring point: Lower inside edge of hole in south side of casing 0.45 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.94 ft below land-surface datum, Sep. 9, 1987; lowest measured, 25.27 ft below land-surface datum, Jan. 31, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan.	not measured
Sep. 14	21.83

SANTA FE COUNTY
Estancia Valley

350525106025001. Local number, 10N.08E.13.133.

LOCATION.--Lat 35°05'25", long 106°02'50", Hydrologic Unit 13050001. Owner: W. R. Irby.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., reported depth 513 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,274 ft above National Geodetic Vertical Datum of 1929. Measuring point: Lower inside edge of hole in south side of casing, 0.45 ft above land-surface datum.

REMARKS.--c indicates nearby well pumping, a indicates well pumping during measurement.

PERIOD OF RECORD.--Feb. 1950 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 86.75 ft below land-surface datum, Feb. 22, 1950; lowest measured, 181.55a ft below land-surface datum, Aug. 4, 1969.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 21	137.07
Aug. 31	148.34c

350340106005001. Local number, 10N.09E.29.133.

LOCATION.--Lat 35°03'40", long 106°00'50", Hydrologic Unit 13050001. Owner: Phil Wallen.

AQUIFER.--Glorieta Sandstone of Permian Age.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 14 in., reported depth 200 ft, cased to 140 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,248 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of 3 in. pipe on north side of pump, 1.30 ft above land-surface datum.

PERIOD OF RECORD.--Feb. 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 55.13 ft below land-surface datum, Feb. 13, 1949; lowest measured, 124.26 ft below land-surface datum, Aug. 12, 1988.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 21	105.50
Aug. 31	120.28

GROUND-WATER LEVELS

SANTA FE COUNTY
Santa Fe Area

354005105574501. Local number, 17N.09E.27.441.

LOCATION.--Lat 35°40'05", long 105°57'45", Hydrologic Unit 13020201. Owner: U.S. Indian School.

AQUIFER.--Tesuque Formation of Santa Fe Group.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 8 in., depth 989 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,848 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 2.40 ft above land-surface datum.

PERIOD OF RECORD.--Dec. 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 102.33 ft below land-surface datum, Dec. 27, 1951; lowest measured, 215.60 ft below land-surface datum, July. 28, 1988.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 25	213.24
Aug. 31	212.84

SIERRA COUNTY
Hot Springs Area

331002107150001. Local number, 13S.04W.21.213.

LOCATION.--Lat 33°10'02", long 107°15'00", Hydrologic Unit 13030101. Owner: Unknown.

AQUIFER.--Alluvium.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 13 in., depth unknown.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,355 ft above National Geodetic Vertical Datum of 1929. Measuring point: 1 1/2 in. hole in top of discharge pipe, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--Feb. 25, 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 51.18 ft below land-surface datum, Sep. 11, 1989; lowest measured, 65.56 ft below land-surface datum, Feb. 25, 1972.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 15	51.80
Sep. 11	51.18

325550107184001. Local number, 15S.05W.24.312.

LOCATION.--Lat 32°55'50", long 107°18'40", Hydrologic Unit 13030101. Owner: William M. Dawson.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth and casing information not available.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,279 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.20 ft above land-surface datum.

PERIOD OF RECORD.--May 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 25.13 ft below land-surface datum, Sep. 11, 1975; lowest, 41.97 ft below land-surface datum, Feb. 29, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 15	35.46
Sep. 11	35.43

Rincon Valley

325350107175501. Local number, 16S.05W.25.211.

LOCATION.--Lat 32°53'35", long 107°17'55", Hydrologic Unit 13030102. Owner: U.S. Government.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 10 in., depth 32 ft, cased to 32 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,198 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1961 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.29 ft below land-surface datum, Feb. 12, 1987; lowest measured, 25.95 ft below land-surface datum, Jan. 6, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 13	18.65
Sep. 11	18.59

GROUND-WATER LEVELS

409

TAOS COUNTY
Sunshine Valley

365036105355301. Local number, 30N.13E.18.1121.

LOCATION.--Lat 36°50'36", long 105°35'53", Hydrologic Unit 13020101. Owner: U. S. Government.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table observation well, diameter 10 in., depth 500 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 7,597 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--Sep. 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 66.52 ft below land-surface datum, Jan. 21, 1985; lowest measured, 77.33 ft below land-surface datum, Aug. 9, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Mar. 3	70.26
Aug. 4	70.81

365650105370001. Local number, 01S.74W.24.244.

LOCATION.--Lat 36°56'50", long 105°37'00", Hydrologic Unit 13020101. Owner: Dimmitt.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 270 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 7,620 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 3.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1955 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 186.79 ft below land-surface datum, Mar. 3, 1989; lowest measured, 213.53 ft below land-surface datum, Aug. 10, 1965.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Mar. 3	186.79
Aug. 31	187.72

365410105354501. Local number, 02S.73W.05.244.

LOCATION.--Lat 36°54'10", long 105°35'45", Hydrologic Unit 13020101. Owner: Unknown.

AQUIFER.--Santa Fe Group.

WELL CHARACTERISTICS.--Drilled water-table domestic and stock well, diameter 6 in., depth unknown.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 7,587 ft above National Geodetic Vertical Datum of 1929. Measuring point: 1 in. hole in plate over casing, 0.10 ft above land-surface datum.

PERIOD OF RECORD.--Feb. 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.77 ft below land-surface datum, Aug. 17, 1988; lowest measured, 84.78 ft below land-surface datum, Jan. 27, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Mar. 3	74.02
Aug. 31	73.11

TORRANCE COUNTY
Estancia Valley

343443106024401. Local number, 04N.09E.07.334.

LOCATION.--Lat 34°34'43", long 106°02'44", Hydrologic Unit 13050001. Owner: Franklin Development.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 16 in., reported depth 163 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,118 ft above National Geodetic Vertical Datum of 1929. Measuring point: Hole in northwest side of pump base, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--Feb. 1956 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 54.70 ft below land-surface datum, Feb. 10, 1958; lowest measured, 93.91 ft below land-surface datum, Aug. 11, 1988.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 21	79.91
Aug. 31	86.14

GROUND-WATER LEVELS

TORRANCE COUNTY
Estancia Valley

344016106064701. Local number, 05N.08E.08.424.

LOCATION.--Lat 34°40'16", long 106°06'47", Hydrologic Unit 13050001. Owner: J. J. Spangler.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., reported depth 204 ft, cased to 98 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,218 ft above National Geodetic Vertical Datum of 1929. Measuring point: .75 inch plug in south side of discharge pipe, 1.80 ft above land-surface datum.

PERIOD OF RECORD.--Jan. 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 62.03 ft below land-surface datum, Mar. 23, 1948; lowest measured, 129.74 ft below land-surface datum, Sep. 17, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 21	121.43
Aug.	not measured

344234106074901. Local number, 06N.08E.32.212.

LOCATION.--Lat 34°42'34", long 106°07'49", Hydrologic Unit 13050001. Owner: Robert Mc Math.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 18 in., reported depth 209 ft, cased to 84 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,174 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 1 1/2 in. hole in pump base, 0.04 ft above land-surface datum.

PERIOD OF RECORD.--Feb. 1947 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.22 ft below land-surface datum, Feb. 18, 1947; lowest measured, 83.51 ft below land-surface datum, Sep. 4, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 21	77.08
Aug. 31	79.72

344622105575501. Local number, 06N.09E.11.211.

LOCATION.--Lat 34°46'22", long 105°57'55", Hydrologic Unit 13050001. Owner: Paragon Corp.

AQUIFER.--Valley Fill.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 18 in., reported depth 148 ft, cased to 140 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,086 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.75 ft above land-surface datum.

PERIOD OF RECORD.--May 1949 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.07 ft below land-surface datum, May 4, 1949; lowest measured, 28.25 ft below land-surface datum, July 19, 1979.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 21	13.82
Aug. 31	14.93

345900106034301. Local number, 09N.08E.24.332.

LOCATION.--Lat 34°59'00", long 106°03'43", Hydrologic Unit 13050001. Owner: Unknown.

AQUIFER.--Valley Fill

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 16 in., depth unknown.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,205 ft above National Geodetic Vertical Datum of 1929. Measuring point: Anchor bolt hole, northwest corner, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--Feb. 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.08 ft below land-surface datum, Jan. 30, 1980; lowest measured, 85.77 ft below land-surface datum, Aug. 12, 1988.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Feb. 21	81.68
Aug. 31	82.60

GROUND-WATER LEVELS

411

UNION COUNTY
Clayton Area

360940103083501. Local number, 19N.36E.23.244.

LOCATION.--Lat 36°09'40", long 103°08'35", Hydrologic Unit 11090102. Owner: Stevens.

AQUIFER.--Dakota and Purgatoire Sandstone.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 14 in., depth 206 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,326 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.00 ft above land-surface datum.

REMARKS.-- c indicates nearby well pumping during measurement.

PERIOD OF RECORD.--Nov. 1967 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 145.22 ft below land-surface datum, Mar. 17, 1971; lowest measured, 158.58c ft below land-surface datum, Aug. 19, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 10	147.88
Aug. 9	148.27

361015103075201. Local number, 22N.36E.05.131.

LOCATION.--Lat 36°10'15", long 103°07'52", Hydrologic Unit 11090104. Owner: James Parker.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 14 in., depth 224 ft, cased to 224 ft, perforated 144-224 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,646 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 0.40 ft above land-surface datum.

PERIOD OF RECORD.--Dec. 1965 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 190.34 ft below land-surface datum, Dec. 8, 1965; lowest measured, 219.13 ft below land-surface datum, Aug. 16, 1988.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 10	212.77
Aug. 10	214.38

361910103170501. Local number, 24N.36E.17.244.

LOCATION.--Lat 36°19'10", long 103°17'05", Hydrologic Unit 11090103. Owner: Glen Burrows.

AQUIFER.--Ogallala Formation.

WELL CHARACTERISTICS.--Drilled water-table unused well, diameter 20 in., depth 231 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 4,707 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.30 ft above land-surface datum.

PERIOD OF RECORD.--May 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 81.38 ft below land-surface datum, May 8, 1968; lowest measured, 94.36 ft below land-surface datum, Sep. 19, 1989.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Mar. 2	93.87
Sep. 19	94.36

UNION COUNTY
Capulin Area

364430103595501. Local number, 29N.28E.18.341.

LOCATION.--Lat 36°44'30", long 103°59'55", Hydrologic Unit 11040001. Owner: City of Raton.

AQUIFER.--Cinders.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 16 in., depth 78 ft.

INSTRUMENTATION.--Periodic steel-tape measurements.

DATUM.--Elevation of land-surface datum is 6,821.2 ft above National Geodetic Vertical Datum of 1929. Measuring point: Edge of 2 in. hole in west side of steel plate, at land-surface datum.

REMARKS.-- a indicates well pumping during measurement.

PERIOD OF RECORD.--July 1951, Aug. 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.01 ft below land-surface datum, Feb. 8, 1974; lowest measured, 53.38a ft below land-surface datum, Aug. 7, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	WATER LEVEL
Jan. 17	34.74
Aug. 10	34.52

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

EXPLANATION OF GEOLOGIC UNIT (AQUIFER) CODES (LISTED FROM YOUNGEST TO OLDEST AGE) U-UPPER, M-MIDDLE, L-LOWER:
 110 AVMB-Cenozoic, Quaternary, Alluvium, Bolson Deposits and other Surface Deposits; 112 SNTF-Cenozoic, Quaternary, Pleistocene, Santa Fe Group; 121 TSUQ-Cenozoic, Tertiary, Pliocene, Tesque Formation, Undifferentiated Unit; 221 MRSN Mesozoic Upper Jurassic, Morrison Formation; 313 SADG-Paleozoic, Permian, Guadalupian, San Andres Limestone and Glorieta Sandstone; 313 SADR-Paleozoic, Permian, Guadalupian, San Andres Limestone of Manzano Group; 330 TRRR-Paleozoic, Mississippian, Tererro Formation.

REMARKS.--Ground-water sites in this table are segregated by county, which appear alphabetically. The sites are then listed in ascending local identifiers.

CIBOLA COUNTY

LOCAL IDENT- I- FIER	STATION	NUMBER	COUNTY	SITE	DATE	TIME	GEO- LOGIC UNIT	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT) (72016)
08N.10W.24.341 KOWINA	345416107505101	006	GW	01-01-89	0614			--	2596.00	--
		006	GW	03-01-89	1130	313SADG		--	2596.00	--
08N.19W.29.331 ZUNI ZS-3	345321108521101	006	GW	10-03-88	0900	313SADG	487.00	782.00	782	
		006	GW	10-07-88	1450	313SADG	487.00	782.00	782	
		006	GW	10-12-88	1020	313SADG	487.00	782.00	782	
09N.09W.28.113 ACOMA NO. 2	345901107480901	006	GW	01-14-89	2134	313SADR		--	2391.00	--
09N.09W.28.1344	345850107475401	006	GW	02-15-89	1122	313SADR		--	2520.00	--
LOCAL IDENT- I- FIER	DEPTH TO TOP OF SAMPLE INTER- VAL (FT) (72015)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
08N.10W.24.341 KOWINA	--	--	1400	1470	8.60	7.60	--	--	560	140
	--	--	--	1580	--	6.90	--	13	590	150
08N.19W.29.331 ZUNI ZS-3	602	--	1100	1110	7.48	7.80	27.0	--	490	130
	602	--	1070	1100	7.01	7.50	27.0	--	520	140
	602	--	1080	1110	7.18	7.90	27.0	--	520	140
09N.09W.28.113 ACOMA NO. 2	--	--	--	1210	--	7.60	--	--	460	120
09N.09W.28.1344	--	6655	--	1270	--	7.30	40.5	--	510	140
LOCAL IDENT- I- FIER	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	
08N.10W.24.341 KOWINA	50	140	3	7.1	--	--	--	480	160	
	52	140	3	8.8	--	--	--	589	140	
08N.19W.29.331 ZUNI ZS-3	41	52	1	5.5	332	0	272	262	310	
	42	53	1	5.4	332	0	272	273	310	
	41	51	1	3.3	336	0	275	237	310	
09N.09W.28.113 ACOMA NO. 2	39	85	2	7.6	--	--	--	300	240	
09N.09W.28.1344	40	91	2	7.3	--	--	--	326	300	
LOCAL IDENT- I- FIER	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	
08N.10W.24.341 KOWINA	120	0.20	--	16	--	924	--	--	--	
	120	0.40	0.32	16	960	985	<0.010	<0.100	0.070	
08N.19W.29.331 ZUNI ZS-3	30	0.40	--	17	--	743	--	<0.100	--	
	29	0.40	--	18	--	762	--	<0.100	--	
	29	0.50	--	17	--	734	--	<0.100	--	
09N.09W.28.113 ACOMA NO. 2	75	0.50	--	16	--	763	--	--	--	
09N.09W.28.1344	70	0.60	--	18	--	863	--	--	--	

QUALITY OF GROUND WATER

413

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

CIBOLA COUNTY -- Continued

LOCAL IDENT- I- FIER	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)
08N.10W.24.341 KOWINA	--	--	2.1	--	--	--	--	390	--
08N.19W.29.331 ZUNI ZS-3	0.33	0.010	<0.1	<10	<1	68	<0.5	400	<1
	--	--	--	--	8	24	--	--	4
	--	--	--	--	10	23	--	--	4
	--	--	--	--	8	22	--	--	4
09N.09W.28.113 ACOMA NO. 2	--	--	1.3	--	--	--	--	250	--
09N.09W.28.1344	--	--	--	--	--	--	--	250	--
LOCAL IDENT- I- FIER	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)
08N.10W.24.341 KOWINA	--	--	--	2300	--	--	--	--	--
	<1	10	<1	2000	<5	500	30	<0.1	<10
08N.19W.29.331 ZUNI ZS-3	2	--	1	82	<5	--	6	<0.1	--
	2	--	1	36	<5	--	5	<0.1	--
	1	--	1	38	<5	--	3	<0.1	--
09N.09W.28.113 ACOMA NO. 2	--	--	--	<3	--	--	--	--	--
09N.09W.28.1344	--	--	--	490	--	--	--	--	--
LOCAL IDENT- I- FIER	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, DIS- SOLVED (UG/L AS) (80030)	GROSS BETA, DIS- SOLVED (PCI/L AS) (03515)	GROSS BETA, DIS- SOLVED (PCI/L AS) (80050)
08N.10W.24.341 KOWINA	--	--	--	--	--	--	90	56	36
	<1	<1	<1.0	1300	<6	180	43	25	16
08N.19W.29.331 ZUNI ZS-3	--	<1	2.0	--	--	11	5.1	9.0	6.0
	--	<1	<1.0	--	--	7	--	--	--
	--	<1	1.0	--	--	12	5.3	8.9	6.0
09N.09W.28.113 ACOMA NO. 2	--	--	--	--	--	--	41	18	11
09N.09W.28.1344	--	--	--	--	--	--	12	15	9.9
LOCAL IDENT- I- FIER	RA-226, DIS- SOLVED, PLAN- CHET COUNT (PCI/L) (09510)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L) (09511)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	TRITIUM TOTAL (PCI/L) (07000)	C-13 / C-12 STABLE ISOTOPE RATIO PER MIL (82081)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)	S-34 / S-32 STABLE ISOTOPE RATIO PER MIL (82086)	CARBON 14 PERCENT MODERN (82172)
08N.10W.24.341 KOWINA	--	15	41	--	--	--	--	--	--
	16	--	7.7	<0.3	-5.20	-64.5	-9.15	6.60	2.9
08N.19W.29.331 ZUNI ZS-3	--	0.09	2.4	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--
	--	0.16	2.2	--	--	--	--	--	--
09N.09W.28.113 ACOMA NO. 2	--	8.3	0.75	--	--	--	--	--	--
09N.09W.28.1344	--	9.2	0.28	--	--	--	--	--	--

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DONA ANA COUNTY

LOCAL IDENT- I- FIER	STATION	NUMBER	COUNTY	SITE	DATE	TIME	GEO- LOGIC UNIT	DEPTH OF WELL, TOTAL (FEET) (72008)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)
21S.04E.10.411 HTA-10	322941106311501	013	GW	04-05-89	1400			--	--	1010
22S.05E.22.122A T-28A	322312106250901	013	GW	01-16-89	1500	110AVMB		200.00	430	399
22S.05E.22.141 T-27	322258106252101	013	GW	01-26-89	1500	110AVMB		250.00	--	355
22S.05E.28.122 T-29	322213106261301	013	GW	02-13-89	1420	110AVMB		255.00	--	657
22S.05E.28.142A T-35	322208106261401	013	GW	02-08-89	1420	110AVMB		300.00	--	657
22S.05E.28.142B T-37	322205106261801	013	GW	02-01-89	1335	110AVMB		313.00	--	494
22S.05E.28.234 T-34	322201106260201	013	GW	01-30-89	1412	110AVMB		400.00	--	770
22S.05E.32.334A T-30	322044106273101	013	GW	02-15-89	1400	110AVMB		305.00	--	278

LOCAL IDENT- I- FIER	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
21S.04E.10.411 HTA-10	7.60	20.0	400	110	30	61	1	1.4	237	180
22S.05E.22.122A T-28A	8.10	24.0	150	43	9.2	28	1	3.4	118	53
22S.05E.22.141 T-27	8.20	23.0	150	45	8.1	21	0.8	2.4	119	35
22S.05E.28.122 T-29	7.80	22.0	240	70	15	44	1	2.7	136	110
22S.05E.28.142A T-35	7.90	22.0	270	81	16	31	0.9	2.7	119	120
22S.05E.28.142B T-37	8.00	24.0	180	56	9.4	27	0.9	2.3	71	63
22S.05E.28.234 T-34	7.90	23.0	300	94	16	38	1	2.8	90	120
22S.05E.32.334A T-30	7.80	25.0	94	28	5.8	23	1	1.5	81	34

LOCAL IDENT- I- FIER	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
21S.04E.10.411 HTA-10	52	4.6	0.24	25	670	650	<0.010	9.70	0.040	0.030
22S.05E.22.122A T-28A	17	0.40	0.11	50	269	286	--	2.30	--	--
22S.05E.22.141 T-27	14	0.40	0.095	31	228	233	--	0.840	--	--
22S.05E.28.122 T-29	45	0.20	2.3	41	440	439	--	5.90	--	--
22S.05E.28.142A T-35	48	0.20	2.4	40	436	444	--	7.00	--	--
22S.05E.28.142B T-37	54	0.20	1.0	39	319	322	--	6.10	--	--
22S.05E.28.234 T-34	110	0.20	1.5	38	518	518	--	9.60	--	--
22S.05E.32.334A T-30	10	0.50	0.070	45	200	202	--	1.10	--	--

LOCAL IDENT- I- FIER	NITRO- GEN, ORGANIC TOTAL (MG/L AS P) (00605)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
21S.04E.10.411 HTA-10	1.1	<0.010	<0.010	<1	40	60	<1	1	3
22S.05E.22.122A T-28A	--	--	--	3	62	50	<1	4	4
22S.05E.22.141 T-27	--	--	--	3	230	40	<1	2	2
22S.05E.28.122 T-29	--	--	--	<1	88	100	<1	2	2
22S.05E.28.142A T-35	--	--	--	1	140	30	<1	2	3
22S.05E.28.142B T-37	--	--	--	<1	93	20	<1	3	5
22S.05E.28.234 T-34	--	--	--	<1	81	40	<1	3	21
22S.05E.32.334A T-30	--	--	--	1	61	10	<1	2	3

DONA ANA COUNTY -- Continued

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WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DONA ANA COUNTY -- Continued

LOCAL IDENT- I- FIER	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L) (34576)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L) (34668)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34699)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34704)	VINYL CHLORO- RIDE TOTAL (UG/L) (39175)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L) (39180)	STYRENE TOTAL (UG/L) (77128)	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L) (81551)
21S.04E.10.411 HTA-10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
22S.05E.22.122A T-28A	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
22S.05E.22.141 T-27	--	--	--	--	--	--	--	--	--
22S.05E.28.122 T-29	<0.20	<0.20	<0.20	<0.20	<0.20	0.3	<0.2	<0.2	<0.2
22S.05E.28.142A T-35	<0.20	<0.20	<0.20	<0.20	<0.20	0.3	<0.2	<0.2	<0.2
22S.05E.28.142B T-37	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
22S.05E.28.234 T-34	<0.20	0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
22S.05E.32.334A T-30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2

OTERO COUNTY

LOCAL IDENT- I- FIER	STATION	NUMBER	COUNTY	SITE	DATE	TIME	GEO- LOGIC UNIT	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)
19S.06E.13.113 BAIRD SOUTH	323945106171901	035	GW	03-21-89	1500	110AVMB	--	--	--	
19S.06E.28.221 MAR-CW	323802106194001	035	GW	04-03-89	1400	110AVMB	--	--	--	
		035	GW	08-31-89	1330	110AVMB	72.74	--	--	
22S.06E.16.233 TW-1	322346106195501	035	GW	01-04-89	1400	110AVMB	--	285.00	4032	
22S.06E.16.234 TW-2	322348106195001	035	GW	01-10-89	1450	110AVMB	--	285.00	4038	
22S.06E.16.234A TW-3	322345106195201	035	GW	01-12-89	1420	110AVMB	--	290.00	4037	
22S.06E.16.412 TW-4	322341106195301	035	GW	09-27-89	1130	110AVMB	--	407.00	--	
		035	GW	09-27-89	1330	110AVMB	--	407.00	--	

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OTERO COUNTY -- Continued

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QUALITY OF GROUND WATER
WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

OTERO COUNTY -- Continued

LOCAL IDENT- I- FIER	CHLORO- ETHANE TOTAL (UG/L) (34311)	ETHYL- BENZENE TOTAL (UG/L) (34371)	METHYL- BROMIDE TOTAL (UG/L) (34413)	METHYL- CHLO- RIDE TOTAL (UG/L) (34418)	METHYL- ENE CHLO- RIDE TOTAL (UG/L) (34423)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L) (34475)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L) (34488)	1,1-DI- CHLORO- ETHANE TOTAL (UG/L) (34496)	1,1-DI- CHLORO- ETHYL- ENE TOTAL (UG/L) (34501)
19S.06E.13.113 BAIRD SOUTH	--	--	--	--	--	--	--	--	--
19S.06E.28.221 MAR-CW	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
22S.06E.16.233 TW-1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
22S.06E.16.234 TW-2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
22S.06E.16.234A TW-3	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
22S.06E.16.412 TW-4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
	--	--	--	--	--	--	--	--	--
LOCAL IDENT- I- FIER	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L) (34506)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L) (34511)	1,1,2,2 TETRA- CHLORO- ETHANE TOTAL (UG/L) (34516)	1,2-DI- CHLORO- BENZENE TOTAL (UG/L) (34536)	1,2-DI- CHLORO- PROPANE TOTAL (UG/L) (34541)	1,2- TRANS DI- CHLORO- ETHENE TOTAL (UG/L) (34546)	1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34561)	1,3-DI- CHLORO- BENZENE TOTAL (UG/L) (34566)	1,4-DI- CHLORO- BENZENE TOTAL (UG/L) (34571)
19S.06E.13.113 BAIRD SOUTH	--	--	--	--	--	--	--	--	--
19S.06E.28.221 MAR-CW	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
22S.06E.16.233 TW-1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
22S.06E.16.234 TW-2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
22S.06E.16.234A TW-3	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
22S.06E.16.412 TW-4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
	--	--	--	<5.0	--	--	--	<5.0	<5.0
LOCAL IDENT- I- FIER	2- CHLORO- ETHYL- VINYL- ETHER TOTAL (UG/L) (34576)	DI- CHLORO- DI- FLUORO- METHANE TOTAL (UG/L) (34668)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34699)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34704)	VINYL CHLO- RIDE TOTAL (UG/L) (39175)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L) (39180)	STYRENE TOTAL (UG/L) (77128)	1,2- DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L) (81551)
19S.06E.13.113 BAIRD SOUTH	--	--	--	--	--	--	--	--	--
19S.06E.28.221 MAR-CW	<0.20	<0.20	<0.20	<0.20	<0.20	0.2	<0.2	<0.2	<0.2
22S.06E.16.233 TW-1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
22S.06E.16.234 TW-2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
22S.06E.16.234A TW-3	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
22S.06E.16.412 TW-4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.2
	--	--	--	--	--	--	--	--	--

SAN JUAN COUNTY

LOCAL IDENT- I- FIER	STATION	NUMBER	COUNTY	SITE	DATE	TIME	GEO- LOGIC UNIT	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)
24N.19W.24.41 12T-640	361805108484001	045	GW	11-23-88	1230	221MRSN	--	2349.00	
NR033.0120X0389	362637108461701	045	GW	11-22-88	1300	221MRSN	--	1912.00	
NR034.0100X1300	363345109011001	045	GW	04-25-89	1700	221MRSN	349.98	702.00	
NR050.0265X0540	362521108475101	045	GW	01-05-89	1100	221MRSN	--	2125.00	
NR050.0378X1562 12T-632	361626108490301	045	GW	11-22-88	1700	221MRSN	--	2518.00	
NR050.0881X0477 12T-662	362558108544001	045	GW	01-05-89	1315	221MRSN	--	1751.00	

QUALITY OF GROUND WATER

419

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

SAN JUAN COUNTY -- Continued

LOCAL IDENT- I- FIER	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	PH (STAND- ARD UNITS) (00400)	PH LAB (STAND- ARD UNITS) (00403)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
24N.19W.24.41 12T-640	5905	438	466	9.25	9.40	21.5	2	0.66	0.01
NR033.0120X0389	5670	500	490	9.41	9.40	21.0	--	0.86	<0.01
NR034.0100X1300	6206	300	302	9.12	8.70	16.0	20	5.0	1.6
NR050.0265X0540	5840	290	282	9.06	9.20	22.0	4	1.3	0.06
NR050.0378X1562 12T-632	6010	815	832	8.88	8.90	24.0	6	1.9	0.19
NR050.0881X0477 12T-662	6090	352	350	8.58	8.60	16.0	32	11	0.89

LOCAL IDENT- I- FIER	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
24N.19W.24.41 12T-640	110	39	0.60	164	34	190	36	8.4	0.50
NR033.0120X0389	120	--	0.50	193	38	222	22	3.0	0.70
NR034.0100X1300	60	6	1.0	117	10	112	23	8.3	0.40
NR050.0265X0540	66	16	0.70	134	22	146	3.0	1.6	0.20
NR050.0378X1562 12T-632	190	37	1.0	295	17	270	130	7.1	1.7
NR050.0881X0477 12T-662	70	6	1.9	200	0	164	13	2.7	0.80

LOCAL IDENT- I- FIER	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	TRITIUM TOTAL (PCI/L) (07000)
24N.19W.24.41 12T-640	19	175	<10	70	<3	3	38	--
NR033.0120X0389	17	--	20	50	<3	1	56	--
NR034.0100X1300	10	110	<10	30	180	3	380	--
NR050.0265X0540	16	89	10	10	8	<1	47	<26
NR050.0378X1562 12T-632	15	347	<10	140	8	12	140	<26
NR050.0881X0477 12T-662	18	119	<10	50	11	2	780	--

SAN MIGUEL COUNTY

LOCAL IDENT- I- FIER	STATION	NUMBER	COUNTY	SITE	DATE	TIME	GEO- LOGIC UNIT	FLOW RATE, INSTAN- TANEOUS (G/M) (00059)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)
17N.14E.20.4212 GRINDSTONE	354120105284601	047	SP		06-22-89	1400	330TRRR	9.4	383
LOCAL IDENT- I- FIER	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (JCU) (00070)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)
17N.14E.20.4212 GRINDSTONE	8.20	7.0	7.5	0	150	56	1.8	3.0	0.1

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

SAN MIGUEL COUNTY -- Continued

LOCAL IDENT- I- FIER	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER WH FET FIELD MG/L AS HCO3 (00440)	CAR- BONATE WATER WH FET FIELD MG/L AS CO3 (00445)	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	RESIDUE TOTAL AT 105 DEG. C SUS- PENDED (MG/L) (00530)
17N.14E.20.4212 GRINDSTONE	2.0	220	0	181	20	<10	0.12	212	4

SANTA FE COUNTY

LOCAL IDENT- I- FIER	STATION	NUMBER	COUNTY	SITE	DATE	GEO- LOGIC UNIT	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	H-2 / H-1 STABLE ISOTOPE RATIO PER MIL (82082)	O-18 / O-16 STABLE ISOTOPE RATIO PER MIL (82085)
16N.08E.25.2422	353528106021101	049	GW	10-24-88			--	--	-77.0	-11.10
16N.08E.25.3142 NEWMAN	353508106025701	049	GW	10-17-88			--	9999	-75.0	-11.00
16N.09E.01.4432	353809105555501	049	GW	10-25-88			--	--	-84.9	-11.40
16N.09E.12.4414	353736105555201	049	GW	10-18-88			--	--	-72.5	-10.25
16N.09E.13.1134	353714105564201	049	GW	10-18-88			--	--	-73.0	-10.15
16N.09E.14.3234	353700105572201	049	GW	10-18-88			--	--	-77.5	-10.50
16N.09E.17.4414	353643106001201	049	GW	10-24-88	121TSUQ	341.00	6540	--	-79.5	-11.35
16N.09E.18.4342	353641106012401	049	GW	10-17-88			--	--	-81.0	-11.60
16N.09E.20.1311	353620106010201	049	GW	10-24-88			--	--	-76.5	-10.85
16N.09E.22.1324	353618105584201	049	GW	10-24-88			--	--	-81.5	-11.60
16N.09E.24.22321	353623105555501	049	GW	10-18-88		375.00	6970	--	-78.5	-11.15
16N.09E.30.3331	353456106020701	049	GW	10-24-88			--	--	-81.0	-11.50
16N.10E.07.1431	353758105552601	049	GW	10-18-88			--	--	-76.0	-9.75
16N.10E.17.411 STAMM	353655105541801	049	GW	10-17-88			--	--	-71.5	-9.95
16N.10E.20.3134	353555105543301	049	GW	10-18-88			--	--	-73.0	-10.50
16N.10E.20.3321	353552105543101	049	GW	10-18-88			--	--	-62.0	-9.35
17N.09E.02.4321	354346105570801	049	GW	11-01-88			--	--	-80.5	-11.10
17N.09E.15.3114	354208105585101	049	GW	10-28-88			--	--	-92.0	-12.65
17N.09E.32.412 MONTOYA RUD	353934106002101	049	GW	05-05-89			--	--	-70.0	-10.05
17N.10E.05.2111	354423105540801	049	GW	11-01-88			--	--	-82.0	-11.45
17N.10E.05.3114	354353105543401	049	GW	11-01-88			--	--	-81.5	-11.20
17N.10E.05.3334	354336105543301	049	GW	10-25-88			--	--	-78.0	-10.70
17N.10E.06.2231	354408105545201	049	GW	10-25-88			--	--	-81.5	-11.45
17N.10E.07.2243	354320105544501	049	GW	10-25-88			--	--	-80.0	-10.95
18N.07E.01.21231	354935106085501	049	GW	11-22-88	121TSUQ	--	--	--	-111.0	-15.00
18N.09E.25.4222	354542105554301	049	GW	10-25-88			--	--	-84.5	-11.55
18N.09E.25.4244	354530105554301	049	GW	10-25-88			--	--	-86.0	-12.75
18N.09E.35.4334	354433105571701	049	GW	11-01-88			--	--	-81.5	-11.70
18N.10E.07.3424	354801105551401	049	GW	10-28-88			--	--	-101.0	-13.55
18N.10E.07.4142	354811105545801	049	GW	10-27-88			--	--	-107.5	-13.90
18N.10E.07.4333	354756105551201	049	GW	10-27-88			--	--	-96.0	-12.55
18N.10E.30.3331	354523105553901	049	GW	10-25-88			--	--	-84.5	-12.10
18N.10E.31.1233	354504105552401	049	GW	10-25-88			--	--	-85.5	-12.40
18N.10E.31.4243	354439105544701	049	GW	10-25-88			--	--	-87.0	-12.80
19N.07E.35.4122A	355006106094801	049	GW	11-21-88	121TSUQ	300.00	5455	--	-83.5	-11.95
19N.07E.35.4122B	355006106094802	049	GW	11-21-88	110AVMB	160.00	5455	--	-81.5	-11.95
19N.07E.35.4122C	355006106094803	049	GW	11-21-88	110AVMB	69.00	5455	--	-83.0	-11.75
19N.07E.36.3113 SF-2A	355000106092801	049	GW	11-21-88	112SNTF	1863.00	5540	--	-111.5	-15.00
19N.08E.10.4424	355315106041801	049	GW	10-27-88			--	--	-79.5	-11.00
19N.08E.11.3332	355312106041401	049	GW	10-27-88			--	--	-76.0	-10.40
19N.08E.11.4243	355320106032101	049	GW	10-27-88			--	--	-79.0	-10.80
19N.08E.12.2434	355333106021901	049	GW	10-27-88			--	--	-76.5	-10.55
19N.09E.20.2443	355148106000601	049	GW	11-01-88			--	5995	-82.0	-11.20
19N.09E.28.1422	355104105592901	049	GW	10-27-88			--	--	-87.0	-12.10
19N.09E.28.4321	355039105591701	049	GW	11-01-88			--	--	-84.0	-11.50
LAND GRANT BUCKMAN 2	354944106091801	049	GW	11-22-88			--	--	-104.5	-14.25

QUALITY OF GROUND WATER

421

WATER-QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

TAOS COUNTY

LOCAL IDENT- I- FIER	STATION	NUMBER	COUNTY	SITE	DATE	TIME	GEO- LOGIC UNIT	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)
22N.12E.09.3144	360909105402101	055	GW	06-12-89	--	110AVMB	1028	
22N.13E.06.3242	361001105360701	055	GW	06-13-89	--	110AVMB	1028	
24N.11E.32.4214	361609105472201	055	GW	10-13-88	1100	112SNTF	1028	
24N.12E.01.3224	362029105364301	055	GW	06-15-89	--	110AVMB	1028	
25N.13E.05.1432	362553105345501	055	GW	10-14-88	0930	110AVMB	1028	
25N.13E.08.2443	362457105340601	055	GW	06-15-89	--	110AVMB	1028	
25N.14E.16.4233	362347105265101	055	GW	06-02-89	1030	110AVMB	1028	
25N.14E.28.4431	362157105265201	055	GW	06-02-89	1245	110AVMB	1028	
27N.12E.32.2312	363204105410201	055	GW	06-14-89	--	112SNTF	1028	
LOCAL IDENT- I- FIER	AGENCY ANA- LYZING OF SAMPLE (CODE NUMBER) (00028)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
22N.12E.09.3144	9735	--	7905	355	6.73	--	240	80
22N.13E.06.3242	9735	--	7860	550	7.14	--	230	64
24N.11E.32.4214	9735	--	6070	650	6.83	15.0	390	130
24N.12E.01.3224	9735	--	7039	500	7.67	--	250	80
25N.13E.05.1432	9735	131.00	6996	290	7.19	--	150	58
25N.13E.08.2443	9735	--	6980	395	7.12	--	240	68
25N.14E.16.4233	9735	--	8960	375	7.38	--	230	56
25N.14E.28.4431	9735	--	7980	440	7.56	--	270	72
27N.12E.32.2312	9735	90.00	6750	550	7.55	--	260	76
LOCAL IDENT- I- FIER	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE IT-FLD AS HCO3 (99440)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
22N.12E.09.3144	9.2	6.0	0.2	3.0	230	190	0	156
22N.13E.06.3242	16	13	0.4	5.0	300	308	0	252
24N.11E.32.4214	16	14	0.3	3.0	460	--	--	--
24N.12E.01.3224	12	19	0.5	3.0	250	256	0	210
25N.13E.05.1432	2.4	5.0	0.2	1.0	180	195	0	160
25N.13E.08.2443	16	7.0	0.2	5.0	180	240	0	196
25N.14E.16.4233	22	6.0	0.2	1.0	210	227	0	186
25N.14E.28.4431	22	9.0	0.2	2.0	210	212	0	174
27N.12E.32.2312	16	22	0.6	3.0	290	266	0	218
LOCAL IDENT- I- FIER	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
22N.12E.09.3144	151	19	<10	9.6	236	--	0.510	<0.100
22N.13E.06.3242	248	48	8.0	5.2	320	309	0.210	<0.100
24N.11E.32.4214	--	20	<5.0	12	458	--	0.120	<0.100
24N.12E.01.3224	208	64	<10	12	322	--	0.460	<0.100
25N.13E.05.1432	158	8.9	<5.0	8.2	186	--	0.290	<0.100
25N.13E.08.2443	195	21	<10	6.3	210	--	1.30	<0.100
25N.14E.16.4233	182	29	<10	5.4	232	--	0.050	<0.100
25N.14E.28.4431	171	47	12	5.4	274	274	0.290	<0.100
27N.12E.32.2312	219	37	<10	17	330	--	0.680	<0.100

	Page		Page
Abiquiu Reservoir near Abiquiu.....	106	Cimarron River, below Eagle Nest Dam.....	38
Access to WATSTORE data.....	13	near Cimarron.....	39-41
Accuracy of the records.....	9	Clear Creek near Ute Park (crest).....	341
Acequia Madre at Costilla.....	75	Cochiti Bastside Main Canal at Head.....	132,135
Acre-foot, definition of.....	14	Cochiti Lake near Cochiti Pueblo.....	129-131
Adenosine triphosphate, definition of.....	14	Colfax County, ground-water levels in.....	388
Alamosa Creek near Monticello (crest) (misc).....	344,352	Color unit, definition of.....	14
Alamosa Creek tributary near Jordan (crest).....	345	Conchas Canal below Conchas Dam.....	57
Aleman Draw at Aleman (crest).....	345	Conchas Lake at Conchas Dam.....	58
Algae, definition of.....	14	Conchas River at Variadero.....	56
Algal growth potential, definition of.....	14	Contents, definition of.....	15
Analyses of samples collected at: miscellaneous sites.....	377-381	Control, definition of.....	15
water-quality partial-record stations.....	356-376	Control structure, definition of.....	15
Animas Creek near Cloverdale (crest).....	350	Cooperation.....	1
Animas River, at Farmington.....	300-304	Copperas Canyon near Pinos Altos (crest).....	350
near Cedar Hill.....	297-299	Costilla County, CO, ground-water levels in.....	389
Antelope Draw near Jal (crest).....	346	Costilla Creek, above Costilla Dam.....	69
Aquifer, definition of.....	14	at Garcia, CO.....	74
Aragon Creek tributary near Encinoso (crest).....	345	below Costilla Dam.....	72
Arroyo del Cuervo near Torreon (crest).....	348	diversions from.....	75
Arroyo del Puerto near Endee (crest).....	342	near Costilla.....	73
Arroyo Seco tributary near Pojoaque (crest).....	343	Coyote Creek near Golondrinas.....	51
Artesian, definition of.....	14	Coyote Wash tributary near Naschitti (crest).....	349
Artificial substrate, definition of.....	18	Crest-stage partial-record stations.....	356-376
Ash mass, definition of.....	14	Cubic foot per second, definition of.....	15
Azotea Tunnel at Outlet, near Chama.....	98	Curry County, ground-water levels in.....	389,390
		Curtis Canyon near Mayhill (crest).....	346
Bacteria, definition of.....	14	Dark Canyon Draw at Carlsbad.....	272
Bed load, definition of.....	17	Deer Creek tributary near Antelope Wells (crest).....	347
Bed load discharge, definition of.....	17	Definition of terms.....	14-19
Bed material, definition of.....	14	Delaware River near Red Bluff.....	283
Belen Highline Canal trib near Los Lunas (crest).....	344	Diatoms, definition of.....	16
Bernalillo County, ground-water levels in.....	383	Discharge, definition of.....	15
Bernardo Interior Drain near Bernardo.....	166	Discharge-weighted average, definition of.....	15
Big Draw near Mountainair (crest).....	348	Dissolved, definition of.....	15
Biochemical oxygen demand, definition of.....	14	Dissolved-solids concentration, definition of.....	15
Biomass, definition of.....	14	Diversity index, definition of.....	15
Black River above Malaga.....	275	Dog Creek near Shoemaker (crest).....	341
Black Springs Wash near Mexican Springs (crest).....	349	Dona Ana County, ground-water levels in.....	390
Blackwater Draw tributary near Floyd (crest).....	342	quality of ground water in.....	414-416
Bland Canyon near Cochiti Pueblo (crest).....	343	Downstream-order system.....	6
Blue-green algae, definition of.....	16	Drainage area, definition of.....	15
Blue Springs near White City (misc).....	352	Drainage basin, definition of.....	15
Bluewater Creek near Tucumcari (crest).....	342	Dry mass, definition of.....	14
Bluewater Lake near Bluewater.....	170,171	Duck Creek at Cliff (crest).....	350
Bonita Ditch.....	207		
Bottom material, definition of.....	14	Eagle Creek below South Fork, near Alto.....	244
Brantley Lake near Carlsbad.....	262,263	Eagle Nest Lake near Eagle Nest.....	37
Bueyeros Creek at Bueyeros (crest).....	342	Eagle Tail ditch near Maxwell.....	30
Burro Canyon near Lindrith (crest).....	349	Eddy County, ground-water levels in.....	391-395
		Eight Mile Draw near Roswell (crest).....	346
Caballo Reservoir near Arrey.....	206	El Vado Reservoir near Tierra Amarilla.....	103
Cabresto Creek near Questa.....	78	Elephant Butte Reservoir at Elephant Butte.....	204
Cameron Creek at Central (crest).....	347	Embudo Creek at Dixon.....	93,94
Campus Wash at Albuquerque.....	145	Encinal Creek near Casa Blanca (crest).....	344
Canada de la Cueva near Galisteo (crest).....	343	Estancia Valley tributary at Cedar Grove (crest).....	347
Canada Montoso near Scholle (crest).....	344	Explanation of the records.....	6-13
Canadian River, at Logan.....	63		
near Sanchez.....	53-55	Fecal coliform bacteria, definition of.....	14
near Taylor Springs.....	47	Fecal streptococcal bacteria, definition of.....	14
Canjilon Creek above Abiquiu Reservoir (crest).....	343	Fleming Draw near Pinon (crest).....	348
Canon de Torreon at Torreon (crest).....	348	Fort Sumner Main Canal near Fort Sumner.....	237
Carlsbad Main Canal at Head, near Carlsbad.....	268	Foster Canyon near Continental Divide.....	326
Carriazo Creek near Roy (crest).....	342	Fourmile Draw near Lakewood.....	258
Carriazo Wash near Salt Lake (crest).....	350		
Carriazo Creek near Kenton, OK (crest).....	341	Gage height, definition of.....	15
Casias Creek near Costilla.....	70	Gaging station, definition of.....	15
Castle Springs near White City (misc).....	352	Galestena Canyon tributary near Black Rock (crest).....	350
Cells/volume, definition of.....	14	Galisteo Creek, at Canoncito (crest).....	343
Cerro Canal, at Costilla.....	75	below Galisteo Dam.....	134
at State line near Jaroso, CO.....	75	Galisteo Reservoir near Cerrillos.....	133
below Association ditch, at Costilla.....	75	Gallinas Creek near Montezuma.....	218
Cfs-day, definition of.....	14	Gallinas River near Colonias.....	219
Chaco River near Waterflow.....	311-313	Gallo Canyon near Picacho (crest).....	346
Chaco Wash at Chaco Culture National Monument.....	310	Garita Creek tributary near Variadero (crest).....	341
Chaves County, ground-water levels in.....	383-387	Gila River, near Gila.....	328
Chemical oxygen demand, definition of.....	14	near Redrock.....	332-336
Chicorica Creek tributary near Raton (crest).....	341	Gobernador Canyon near Gobernador (crest).....	349
Chlorophyll, definition of.....	14	Grants Canyon at Grants.....	173
Chupadera Wash tributary at Bingham (crest).....	344	Grant County, ground-water levels in.....	396
Cibola County, ground-water levels in.....	387,388	Green algae, definition of.....	16
quality of ground water in.....	412,413	Ground water, quality of.....	412-421
Cieneguilla Creek near Eagle Nest.....	35	Guadalupe County, ground-water levels in.....	397
Cimarron River, at Springer.....	46		

	Page		Page
Harding County, ground-water levels in.....	397	Map of New Mexico showing location of:	
Hardness, definition of.....	15	Observation wells.....	382
Heron Reservoir near Los Ojos.....	101	Partial-record stations (surface water).....	340
Hidalgo County, ground-water levels in.....	397-399	Surface-water gaging stations.....	23
Horse Lake Creek above Heron Reservoir, near Los Ojos.....	100	Water-quality gaging stations.....	24
Hunter Wash at Bisti Trading Post (crest).....	349	McClure Reservoir near Santa Fe.....	124
Hyatt Canyon near Cloudcroft (crest).....	346	Mean concentration, definition of.....	17
Hydrologic bench-mark station, definition of.....	3	Mean discharge, definition of.....	15
Hydrologic conditions.....	2,3	Measuring point (MP), definition of.....	15
Hydrologic unit, definition of.....	15	Metamorphic stage, definition of.....	15
Identifying estimated daily discharge.....	9	Methylene blue active substances, definition of..	15
Indian Creek near Three Rivers (crest).....	347	Micrograms per gram, definition of.....	15
Instantaneous discharge, definition of.....	15	Micrograms per liter, definition of.....	15
Introduction.....	1	Milk Ranch Canyon near Fort Wingate (crest).....	350
Jemez Canyon Reservoir near Bernalillo.....	143	Milligrams per liter, definition of.....	16
Jemez River, below East Fork, near Jemez Springs.	138	Mimbres Basin tributary near Florida (crest).....	347
below Jemez Canyon Dam.....	144	Mimbres River, at Deming (crest).....	347
near Jemez.....	140-142	at Mimbres.....	285
Juan Tomas Canyon near Edgewood (crest).....	348	Mogollon Creek near Cliff.....	329-331
Juan Toro Canyon near Miera (crest).....	343	Mora County, ground-water levels in.....	404
La Cueva Canal below La Cueva.....	48	Mora River, at La Cueva.....	48,49
La Jencia Creek near Magdalena (crest).....	344	near Golondrinas.....	50
La Plata River, at Colorado-New Mexico State line	306	near Shoemaker.....	52
near Farmington.....	307	Moreno Creek at Eagle Nest.....	34
La Plata River tributary near Farmington (crest).	349	Mosley Canyon near White City (crest).....	346
Lagartija Creek tributary near Sanchez (crest)...	341	Nambe Falls Reservoir near Nambe.....	116
Lake Alice near Raton.....	26	National Geodetic Vertical Datum of 1929.....	16
Lake Avalon near Carlsbad.....	269,270	Natural substrate, definition of.....	3
Lake Maloya near Raton.....	25	Navajo Reservoir near Archuleta.....	294
Lake McMillan near Lakewood.....	259,260	Negro Canyon at Aragon (crest).....	350
Lake Sumner near Fort Sumner.....	234,235	Nichols Reservoir near Santa Fe.....	126
Lakes and reservoirs:		Nogal Creek tributary near Nogal (crest).....	347
Abiquiu Reservoir near Abiquiu.....	106	North Floodway Channel, at Albuquerque.....	146
Alice, Lake, near Raton.....	26	near Alameda.....	147
Avalon, Lake, near Carlsbad.....	269,270	On-site measurements and sample collection.....	10
Bluewater Lake near Bluewater.....	170,171	Organic mass, definition of.....	14
Brantley Lake near Carlsbad.....	262,263	Organism, definition of.....	16
Caballo Reservoir near Arrey.....	206	Organism count/area, definition of.....	16
Cochiti Lake near Cochiti Pueblo.....	129-131	Organism count/volume, definition of.....	16
Conchas Lake at Conchas Dam.....	58	Osita Draw near Clines Corners (crest).....	348
Eagle Nest Lake near Eagle Nest.....	37	Otero County, ground-water levels in.....	404,405
Elephant Butte Reservoir at Elephant Butte.....	204	quality of ground water in.....	416-418
El Vado Reservoir near Tierra Amarilla.....	103	Pajarito Creek at Newkirk (crest).....	342
Galisteo Reservoir near Cerrillos.....	133	Pancho Canyon near Arabela (crest).....	346
Heron Reservoir near Los Ojos.....	101	Partial-record station, definition of.....	16
Maloya, Lake, near Raton.....	25	Particle size, definition of.....	16
Jemez Canyon Reservoir near Bernalillo.....	143	Particle size classification, definition of.....	16
McClure Reservoir near Santa Fe.....	124	Pecos River, above Canon del Uta near Colonias...	220
McMillan, Lake, near Lakewood.....	259,260	above Santa Rosa Lake.....	221-223
Nambe Falls Reservoir near Nambe.....	116	at damsite 3, near Carlsbad.....	267
Navajo Reservoir near Archuleta.....	294	at Pierce Canyon Crossing, near Malaga.....	278,279
Nichols Reservoir near Santa Fe.....	126	at Red Bluff.....	280-282
Red Bluff Reservoir near Orla, TX.....	284	at Santa Rosa.....	229,230
Rio Hondo Reservoir.....	246	below Avalon Dam.....	271
Rocky Arroyo Reservoir.....	246	below Brantley Dam near Carlsbad.....	264,265
Santa Rosa Lake near Santa Rosa.....	226,227	below Dark Canyon Draw, at Carlsbad.....	273,274
Sumner, Lake, near Fort Sumner.....	234,235	below Major Johnson Springs near Carlsbad (see Pecos	
Two Rivers Reservoir near Roswell.....	246	River below Brantley Dam near Carlsbad)	
Ute Reservoir near Logan.....	60-62	below Santa Rosa Dam.....	228
Land-surface datum (lsd), definition of.....	15	below Sumner Dam.....	236
Largo Creek near Quemado (crest).....	349	Kaiser Channel near Lakewood.....	257
Last Chance Canyon tributary near Carlsbad		near Acme.....	238-240
Caverns (crest).....	346	near Anton Chico.....	217
Latitude-longitude system.....	6	near Artesia.....	251-255
Lea County, ground-water levels in.....	399-401	near Hagerman.....	249
Lea Lake drain near Roswell (misc).....	352	near Lake Arthur.....	250
Lincoln County, ground-water levels in.....	401,402	near Malaga.....	276,277
Llano ditch near Questa.....	78	near Pecos.....	215
Local well numbers.....	7	near Puerto de Luna.....	231-233
Los Esteros Creek above Santa Rosa Lake.....	224	Pecos River tributary, near Pintada (crest).....	345
Los Esteros Creek tributary above Santa Rosa Lake	225	near Puerto de Luna (crest).....	345
Los Pinos River at La Boca, CO.....	292	Percent composition, definition of.....	16
Lower San Juan Riverside drain near Bernardo.....	161	Percha Creek, near Hillsboro (crest).....	344
Luna County, ground-water levels in.....	402-404	near Kingston (crest).....	344
Mail Hollow near Luna (crest).....	350	Periphyton, definition of.....	16
Malpais Arroyo near Shiprock (crest).....	349	Pesticides, definition of.....	16
Mangas Creek near Cliff (misc).....	352	Phytoplankton, definition of.....	16
Manzanares Canyon near Turley (crest).....	349	Picocurie, definition of.....	16
Map of New Mexico showing location of:		Piedra River near Arboles, CO.....	291
Hydrologic units.....	22	Pine Canyon near Thoreau (crest).....	344
		Pinos Altos Creek at Silver City (crest).....	347

	Page		Page
Plankton, definition of.....	16	Rito de los Frijoles in Bandelier National Monument (crest).....	343
Plaza Larga Creek tributary near Ragland (crest).....	342	Rocky Arroyo at Highway Bridge, near Carlsbad....	266
Polychlorinated biphenols, definition of.....	16	Rocky Arroyo Reservoir.....	246
Ponil Creek near Cimarron.....	42,43	Roosevelt County, ground-water levels in.....	406
Primary productivity, definition of.....	16,17	Ruben Canyon near Gobernador (crest).....	348
Publications on techniques of water-resources investigations.....	20,21	Running Water Draw near Clovis (crest).....	342
Puerco River at Gallup (crest).....	350		
Quality of ground water.....	412-421	Sacramento River near Sunspot.....	289
Quay County, ground-water levels in.....	405	Salt Creek tributary near Roswell (crest).....	345
		San Cristobal Arroyo near Galisteo (crest).....	343
Radiochemical program, explanation of.....	3	San Francisco River, near Glenwood.....	339
Rattlesnake Arroyo near Shiprock (crest).....	349	near Reserve.....	337
Raton Creek at Raton (crest).....	341	San Jose Arroyo near Monticello (crest).....	344
Rayado Creek at Sauble Ranch, near Cimarron.....	44,45	San Juan County, quality of ground water in.....	418,419
Records of ground-water levels, explanation of... 11,12		San Juan River, at Farmington.....	305
Records of ground-water quality, explanation of... 12,13		at Four Corners, CO.....	317,318
Records of stage and water discharge, explanation of.....	7-9	at Shiprock.....	314-316
Records of surface-water quality, explanation of... 9-11		near Archuleta.....	295,296
Red Bluff Reservoir near Orla, TX.....	284	near Carracas, CO.....	290
Red River, below Fish Hatchery, near Questa.....	79	near Fruitland.....	308
near Questa.....	77	San Miguel County, quality of ground water in... 419,420	
Red River seepage investigation.....	353	San Pedro Creek near Golden (crest).....	343
Remark codes.....	11	Sand Draw near Clayton (crest).....	342
Reservoirs, see Lakes and reservoirs.....	424	Sand Draw tributary near Clayton (crest).....	342
Revuelto Creek near Logan.....	64,65	Sandoval Canyon at Gallinas (crest).....	345
Rio Amargo at Dulce (crest).....	348	Sandoval County, ground-water levels in.....	407
Rio Bonito near Fort Stanton (crest).....	345	Santa Clara Creek near Espanola.....	115
Rio Bonito tributary near Fort Stanton (crest)...	345	Santa Cruz River at Cundiyo.....	112
Rio Chama, above Abiquiu Reservoir.....	105	Santa Fe County, ground-water levels in.....	407,408
below Abiquiu Dam.....	107	quality of ground water in.....	420
below El Vado Dam.....	104	Santa Fe River, above Cochiti Lake.....	127,128
near Chamita.....	109-111	near Santa Fe.....	125
near La Puente.....	96,97	Santa Rosa Lake near Santa Rosa.....	226,227
Rio de las Vacas near Senorita (crest).....	343	Santistevan Creek near Costilla.....	71
Rio Grande, at Albuquerque.....	149-153	Scott Able Creek near Sunspot (misc).....	352
at El Paso, TX.....	208,209	Sediment, definition of.....	17
at Embudo.....	95	explanation of program.....	10
at Isleta.....	158,159	Seventysix Draw tributary near Waterloo (crest)...	347
at Otowi Bridge, near San Ildefonso.....	118-123	Shumway Arroyo near Waterflow.....	309
at San Felipe.....	135-137	Sierra County, ground-water levels in.....	408
at Santa Clara.....	113,114	Sili Main Canal at Head.....	132
below Caballo Dam.....	207	Silva Creek at Silver City (crest).....	346
below Cochiti Dam.....	132	Sixmile Canyon near Fort Wingate.....	327
below Elephant Butte Dam.....	205	Sixmile Creek near Eagle Nest.....	36
below Old Fort Quitman, TX.....	210,211	Socorro Main Canal North at San Acacia.....	183
below Taos Junction Bridge, near Taos.....	90-92	Sodium adsorption ratio, definition of.....	17
near Alameda.....	148	Solute, definition of.....	17
near Arroyo Hondo.....	81	Solution, definition of.....	17
near Cerro.....	76	South Diversion Channel above Tijeras Arroyo	
near Lobatos, CO.....	66-68	near Albuquerque.....	157
Rio Grande Conveyance Channel, at San Acacia.... 184-187		South Seven Rivers near Lakewood.....	261
at San Marcial.....	194-199	Special networks and programs.....	3-6
near Bernardo.....	160	Specific conductance, definition of.....	17
Rio Grande del Rancho near Talpa.....	86	Spring Creek at La Boca, CO.....	293
Rio Grande Floodway, at San Acacia.....	188-193	Stage-discharge relation, definition of.....	17
at San Marcial.....	200-203	Station-identification numbers, downstream-order system.....	6
near Bernardo.....	161-165	latitude-longitude system.....	6
Rio Grande seepage investigation.....	354,355	local well numbers.....	7
Rio Grande tributary near Radium Springs (crest)...	344	Steins Creek at Steins (crest).....	351
Rio Guadalupe at Box Canyon, near Jemez.....	139	Stevens Arroyo near Kirtland (crest).....	349
Rio Hondo, at Diamond A Ranch, near Roswell.....	245	Streamflow, definition of.....	17
at Roswell.....	248	Substrate, definition of.....	17
below Diamond A Dam, near Roswell.....	247	Summary of hydrologic conditions: streamflow....	2
near Valdez (tributary to Rio Grande).....	80	surface-water quality.....	2,3
Rio Hondo Reservoir.....	246	ground-water levels.....	3
Rio Hondo tributary at Tinnie (crest).....	346	Surface area, definition of.....	18
Rio Lucero near Arroyo Seco.....	83-85	Surface-water data, accuracy of.....	9
Rio Mora near Terrero.....	212-214	Surficial bed material, definition of.....	18
Rio Nambe below Nambe Falls Dam, near Nambe.....	117	Surveillance program, explanation of.....	6
Rio Nutria near Ramah.....	319,320	Suspended, recoverable, definition of.....	18
Rio Ojo Caliente at La Madera.....	108	Suspended, total, definition of.....	18
Rio Pagate below Jackpile Mine near Laguna.....	177,178	Suspended sediment, definition of.....	17
Rio Penasco, at Dayton.....	256	Suspended-sediment concentration, definition of... 17	
near Dunken (crest).....	346	Suspended-sediment discharge, definition of.....	17
Rio Pueblo de Taos, below Los Cordovas.....	87-89	Suspended-sediment load, definition of.....	17
near Taos.....	82	Swingle Canyon near Datil (crest).....	348
Rio Puerco, above Arroyo Chico, near Guadalupe... 167-169			
near Bernardo.....	180-182	Taos County, ground-water levels in.....	409
Rio Ruidoso at Hollywood.....	241-243	quality of ground water in.....	421
Rio San Jose, at Correo.....	179	Taylor Canyon tributary near Bingham (crest)....	347
at Grants.....	172	Taxonomy, definition of.....	18
near Grants.....	174-176	Techniques of water-resources investigations, list of.....	20,21

	Page		Page
Tecolote Creek, at Tecolote (crest).....	345	Union County, ground-water levels in.....	411
below Wright Canyon near El Porvenir.....	216, 367, 368	Ute Creek near Logan.....	59
Terms, definition of.....	14-19	Ute Reservoir near Logan.....	60-62
Thermograph, definition of.....	18		
Tijeras Arroyo, at Albuquerque (crest).....	344	Vaqueros Canyon near Gobernador (crest).....	348
at Montessa Park near Albuquerque.....	155	Vermejo ditch near Colfax.....	32
near Albuquerque.....	156	Vermejo River, at Vermejo Park.....	27-29
Time-weighted average, definition of.....	18	near Dawson.....	31
Tons per acre-foot, definition of.....	18	near Maxwell.....	33
Tons per day, definition of.....	18		
Torrance County, ground-water levels in.....	409, 410	Water temperature.....	10
Total, definition of.....	18	Water-quality records, explanation of.....	9-11
coliform bacteria, definition of.....	14	Water year, definition of.....	19
discharge, definition of.....	18	WDR, definition of.....	19
in bottom material, definition of.....	18	Weighted average, definition of.....	19
load, definition of.....	18	West Draw near Farmington (crest).....	349
organism count, definition of.....	16	Wet mass, definition of.....	14
recoverable, definition of.....	19	White Oaks Canyon near Carrizozo (crest).....	347
sediment discharge, definition of.....	17	Willow Creek, above Heron Reservoir near Los Ojos	99
sediment load, definition of.....	17	below Heron Dam.....	102
Tramperos Creek near Stead (crest).....	342	WSP, definition of.....	19
Tramway Floodway Channel at Albuquerque.....	154		
Trementina Creek at Trementina (crest).....	341	Yeso Creek near Fort Sumner (crest).....	345
Tritium network, explanation of.....	6		
Trout Creek at Luna (crest).....	350	Zooplankton, definition of.....	16
Tularosa Creek near Bent.....	286-288	Zuni River, above Black Rock Reservoir.....	321-324
Tularosa River above Aragon.....	338	at New Mexico-Arizona State line.....	325
Twin Butte Canyon tributary near Roswell (crest).....	346		
Two Rivers Reservoir near Roswell.....	246		

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1 2.54×10^{-2}	millimeters (mm) meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3 4.047×10^{-1}	square meters (m ²) square hectometers (hm ²)
square miles (mi ²)	4.047×10^{-3} 2.590×10^0	square kilometers (km ²) square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0 3.785×10^0	liters (L) cubic decimeters (dm ³)
million gallons	3.785×10^{-3} 3.785×10^3	cubic meters (m ³) cubic meters (m ³)
cubic feet (ft ³)	3.785×10^{-3} 2.832×10^1	cubic hectometers (hm ³) cubic decimeters (dm ³)
cfs-days	2.832×10^1 2.447×10^3	cubic meters (m ³) cubic meters (m ³)
acre-feet (acre-ft)	2.447×10^{-3} 1.233×10^3	cubic hectometers (hm ³) cubic meters (m ³)
	1.233×10^{-3} 1.233×10^{-6}	cubic hectometers (hm ³) cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1 2.832×10^1	liters per second (L/s) cubic decimeters per second (dm ³ /s)
gallons per minute (gal/min)	2.832×10^{-2} 6.309×10^{-2}	cubic meters per second (m ³ /s) liters per second (L/s)
million gallons per day	6.309×10^{-2} 6.309×10^{-5}	cubic decimeters per second (dm ³ /s) cubic meters per second (m ³ /s)
	4.381×10^1 4.381×10^{-2}	cubic decimeters per second (dm ³ /s) cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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