Water-Data Report 2007

# 09431500 GILA RIVER NEAR REDROCK, NM

Upper Gila Basin
Upper Gila-Mangas Subbasin

LOCATION.--Lat 32°43′37″, long 108°40′32″ referenced to North American Datum of 1983, Grant County, NM, Hydrologic Unit 15040002, on left bank 0.2 mi 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 $mi^2$.

## SURFACE-WATER RECORDS

PERIOD OF RECORD.--September 1904 to February 1905, May 1905 to December 1906, January to December 1907, July 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" 1904-07.

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 with satellite telemetry. Elevation of gage is 4,090 ft above NGVD 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.--Records fair except for those estimated daily discharges, which are poor. Diversions for irrigation of about 5,000 acres upstream from station.

**09431500 GILA RIVER NEAR REDROCK, NM—Continued**

**DISCHARGE, CUBIC FEET PER SECOND**
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**
**DAILY MEAN VALUES**
[e, estimated]

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 220 | 235 | 161 | 133 | 150 | e272 | 421 | 158 | 100 | 49 | 192 | 258 |
| 2 | 209 | 230 | 158 | 133 | 159 | 262 | 370 | 168 | 99 | 39 | 212 | 635 |
| 3 | 198 | 223 | 158 | 132 | 156 | 243 | 332 | 159 | 87 | 37 | 380 | 424 |
| 4 | 185 | 218 | 152 | 131 | e154 | 227 | 303 | 156 | 77 | 37 | 549 | 345 |
| 5 | 174 | 214 | 148 | 132 | 151 | 213 | 274 | 162 | 74 | 37 | 861 | 256 |
| 6 | 173 | 218 | 149 | 129 | 151 | 201 | e265 | 156 | 75 | 39 | 573 | 195 |
| 7 | 182 | 208 | 150 | 127 | 157 | 194 | e265 | 145 | 74 | 60 | 1,740 | 189 |
| 8 | 203 | 204 | 148 | 126 | 165 | 187 | e265 | 146 | 71 | 68 | 769 | 211 |
| 9 | 952 | 200 | 150 | 124 | 175 | 187 | e265 | 144 | 75 | 66 | 420 | 289 |
| 10 | 1,460 | 193 | 156 | 123 | 188 | 206 | e265 | 132 | 67 | 67 | 829 | 294 |
| 11 | 1,240 | 189 | 155 | 124 | 264 | 230 | 253 | 125 | 65 | 64 | 504 | 203 |
| 12 | 783 | 185 | 146 | 122 | 447 | 254 | 240 | 119 | 67 | 62 | 417 | 185 |
| 13 | 569 | 176 | 141 | 123 | 967 | 256 | 243 | 123 | 67 | 61 | 337 | 170 |
| 14 | 467 | 173 | 139 | 127 | 868 | 257 | 247 | 126 | 74 | 183 | 271 | 158 |
| 15 | 419 | e173 | 138 | 125 | 626 | 258 | 237 | 122 | 69 | 140 | 231 | 147 |
| 16 | 391 | 170 | 139 | 124 | 441 | 273 | 237 | 114 | 65 | 149 | 198 | 135 |
| 17 | 367 | 167 | 142 | 122 | 355 | 293 | 218 | 164 | 64 | 111 | 168 | 123 |
| 18 | 341 | 164 | 142 | 120 | 351 | 298 | 201 | 186 | 61 | 105 | 158 | 114 |
| 19 | 319 | 166 | 144 | 130 | 366 | 299 | 195 | 188 | 54 | 112 | 143 | 100 |
| 20 | 312 | 165 | 150 | 138 | 382 | 293 | 186 | 195 | 54 | 134 | 127 | 99 |
| 21 | 335 | 163 | 153 | 138 | 371 | 291 | 179 | 188 | 52 | 143 | 111 | 96 |
| 22 | 329 | 164 | 151 | 141 | 357 | 297 | 165 | 167 | 52 | 149 | 109 | 89 |
| 23 | 325 | 166 | 149 | 140 | 349 | 337 | 155 | 153 | 48 | 147 | 88 | 96 |
| 24 | 294 | 163 | 144 | 137 | 350 | 488 | 154 | 137 | 45 | 136 | 89 | 178 |
| 25 | 288 | 157 | 140 | 134 | 346 | 724 | 149 | 140 | 45 | 163 | 112 | 164 |
| 26 | 273 | 155 | 137 | 133 | 326 | 743 | 145 | 128 | 48 | 151 | 151 | 154 |
| 27 | 262 | 159 | 135 | 126 | 300 | 640 | 139 | 121 | 47 | 170 | 203 | 138 |
| 28 | 254 | 157 | 140 | 113 | e283 | 544 | 137 | 110 | 46 | 158 | 202 | 126 |
| 29 | 250 | 160 | 138 | 112 | --- | 478 | 157 | 105 | 48 | 289 | 216 | 115 |
| 30 | 252 | 161 | 137 | 112 | --- | 441 | 160 | 102 | 51 | 199 | 189 | 110 |
| 31 | 242 | --- | 134 | 119 | --- | 422 | --- | 110 | --- | 195 | 187 | --- |
| Total | 12,268 | 5,476 | 4,524 | 3,950 | 9,355 | 10,308 | 6,822 | 4,449 | 1,921 | 3,520 | 10,736 | 5,796 |
| Mean | 396 | 183 | 146 | 127 | 334 | 333 | 227 | 144 | 64.0 | 114 | 346 | 193 |
| Max | 1,460 | 235 | 161 | 141 | 967 | 743 | 421 | 195 | 100 | 289 | 1,740 | 635 |
| Min | 173 | 155 | 134 | 112 | 150 | 187 | 137 | 102 | 45 | 37 | 88 | 89 |
| Ac-ft | 24,330 | 10,860 | 8,970 | 7,830 | 18,560 | 20,450 | 13,530 | 8,820 | 3,810 | 6,980 | 21,290 | 11,500 |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2007, BY WATER YEAR (WY)**

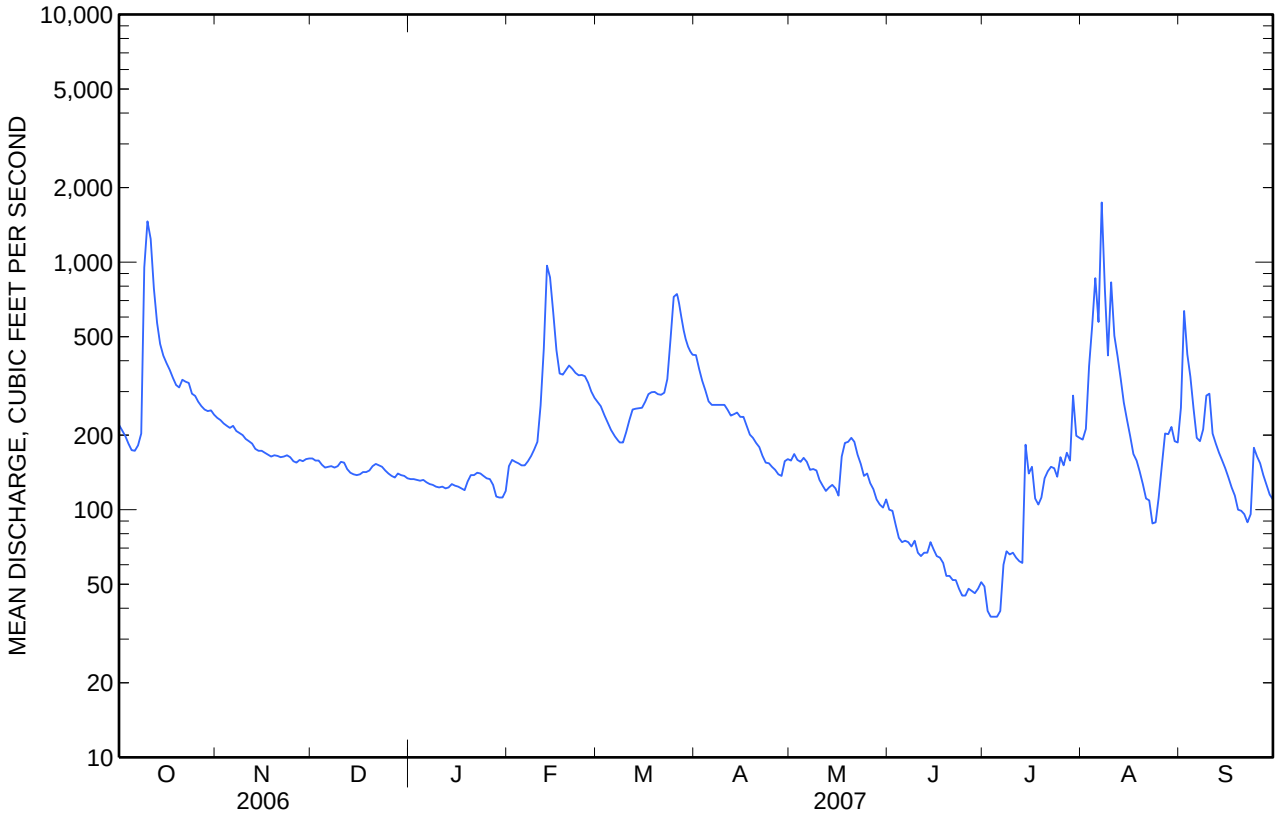
| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 195 | 159 | 298 | 299 | 419 | 460 | 295 | 178 | 57.8 | 74.7 | 236 | 237 |
| Max | 1,768 | 912 | 2,200 | 2,987 | 2,500 | 1,438 | 1,155 | 1,068 | 278 | 287 | 1,674 | 1,315 |
| (WY) | (1973) | (1995) | (1979) | (1993) | (2005) | (1978) | (1973) | (1992) | (1992) | (1986) | (2006) | (1975) |
| Min | 27.6 | 55.1 | 60.0 | 64.9 | 53.8 | 40.0 | 41.2 | 25.1 | 12.0 | 15.6 | 21.6 | 22.2 |
| (WY) | (1974) | (1974) | (1981) | (1971) | (1971) | (1971) | (1971) | (1996) | (1974) | (1978) | (2000) | (1978) |

**09431500 GILA RIVER NEAR REDROCK, NM—Continued**

**SUMMARY STATISTICS**

| | Calendar Year 2006 | | Water Year 2007 | | Water Years 1963 - 2007 | |
|---|---|---|---|---|---|---|
| **Annual total** | 118,274.2 | | 79,125 | | | |
| **Annual mean** | 324 | | 217 | | 242 | |
| **Highest annual mean** | | | | | 664 | 1993 |
| **Lowest annual mean** | | | | | 57.0 | 2000 |
| **Highest daily mean** | 6,180 | Aug 23 | 1,740 | Aug 7 | 34,000 | Dec 19, 1978 |
| **Lowest daily mean** | 6.2 | Jun 22 | 37 | Jul 3 | 3.6 | Jul 20, 1978 |
| **Annual seven-day minimum** | 8.2 | Jun 18 | 41 | Jun 30 | 4.9 | Jul 16, 1971 |
| **Maximum peak flow** | | | 7,850 | Aug 7 | [a]48,800 | Dec 19, 1978 |
| **Maximum peak stage** | | | 11.09 | Aug 7 | [b]29.80 | Dec 19, 1978 |
| **Instantaneous low flow** | | | 34 | Jul 4 | 2.2 | Aug 5, 1947 |
| **Annual runoff (ac-ft)** | 234,600 | | 156,900 | | 175,100 | |
| **10 percent exceeds** | 918 | | 370 | | 516 | |
| **50 percent exceeds** | 79 | | 160 | | 95 | |
| **90 percent exceeds** | 24 | | 74 | | 33 | |

[a] From rating curve extended above 9,500 ft³/s, on basis of slope-area measurement of peak flow.
[b] In gage well and 34.10 ft from floodmarks.



## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-97, 1999 to current year.

### WATER-QUALITY DATA
### WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 1 of 5

[Remark codes: <, less than; E, estimated.]

| Date | Time | Instantaneous discharge, cfs (00061) | Turbdty white light, det ang 90+/-30 degrees NTU (63675) | Barometric pressure, mm Hg (00025) | Dissolved oxygen, mg/L (00300) | Dissolved oxygen, percent of saturation (00301) | pH, water, unfltrd field, std units (00400) | Specif. conductance, wat unf µS/cm 25 degC (00095) | Temperature, air, deg C (00020) | Temperature, water, deg C (00010) | Hardness, water, mg/L as CaCO3 (00900) | Calcium water, fltrd, mg/L (00915) | Magnesium, water, fltrd, mg/L (00925) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mar** | | | | | | | | | | | | | |
| **21...** | 0945 | 298 | 28 | 660 | 9.6 | 101 | 8.2 | 237 | 17.0 | 11.0 | 52 | 15.6 | 3.19 |
| **Jul** | | | | | | | | | | | | | |
| **11...** | 1100 | 72 | 110 | 665 | 7.6 | 105 | 8.4 | 420 | 29.0 | 24.5 | 110 | 32.2 | 6.20 |

### WATER-QUALITY DATA
### WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007

Part 2 of 5

[Remark codes: <, less than; E, estimated.]

| Date | Potassium, water, fltrd, mg/L (00935) | Sodium adsorption ratio (00931) | Sodium, water, fltrd, mg/L (00930) | Alkalinity, wat flt fxd end lab, mg/L as CaCO3 (29801) | Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086) | Bicarbonate, wat flt incrm. titr., field, mg/L (00453) | Carbonate, wat flt incrm. titr., field, mg/L (00452) | Chloride, water, fltrd, mg/L (00940) | Fluoride, water, fltrd, mg/L (00950) | Silica, water, fltrd, mg/L (00955) | Sulfate water, fltrd, mg/L (00945) | Residue water, fltrd, sum of constituents mg/L (70301) | Ammonia + org-N, water, fltrd, mg/L as N (00623) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mar** | | | | | | | | | | | | | |
| **21...** | .94 | .8 | 12.9 | 93 | 98 | 118 | -- | 7.50 | 1.45 | 20.7 | 20.1 | 141 | .18 |
| **Jul** | | | | | | | | | | | | | |
| **11...** | 2.00 | 1.1 | 25.2 | 167 | 155 | 183 | 3 | 12.4 | 1.95 | 53.3 | 33.9 | 261 | .30 |

**09431500 GILA RIVER NEAR REDROCK, NM—Continued**

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**
Part 3 of 5
[Remark codes: <, less than; E, estimated.]

| Date | Ammonia + org-N, water, unfltrd mg/L as N (00625) | Ammonia water, fltrd, mg/L as N (00608) | Ammonia water, unfltrd mg/L as N (00610) | Nitrite + nitrate water fltrd, mg/L as N (00631) | Nitrite water, fltrd, mg/L as N (00613) | Ortho-phos-phate, water, fltrd, mg/L as P (00671) | Phos-phorus, water, fltrd, mg/L (00666) | Phos-phorus, water, unfltrd mg/L (00665) | Alum-inum, water, fltrd, µg/L (01106) | Anti-mony, water, fltrd, µg/L (01095) | Arsenic water, fltrd, µg/L (01000) | Barium, water, fltrd, µg/L (01005) | Beryll-ium, water, fltrd, µg/L (01010) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mar** | | | | | | | | | | | | | |
| **21...** | .43 | <.020 | .730 | .24 | E.002 | .041 | .045 | .123 | 15.5 | E.04 | .68 | 7 | <.06 |
| **Jul** | | | | | | | | | | | | | |
| **11...** | .59 | <.020 | E.048 | .27 | .006 | .052 | .064 | .274 | 5.8 | .06 | 1.4 | 18 | <.06 |

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**
Part 4 of 5
[Remark codes: <, less than; E, estimated.]

| Date | Boron, water, fltrd, µg/L (01020) | Cadmium water, fltrd, µg/L (01025) | Chrom-ium, water, fltrd, µg/L (01030) | Cobalt water, fltrd, µg/L (01035) | Copper, water, fltrd, µg/L (01040) | Iron, water, fltrd, µg/L (01046) | Lead, water, fltrd, µg/L (01049) | Mangan-ese, water, fltrd, µg/L (01056) | Mercury water, unfltrd recover-able, µg/L (71900) | Molyb-denum, water, fltrd, µg/L (01060) | Nickel, water, fltrd, µg/L (01065) | Selen-ium, water, fltrd, µg/L (01145) | Selen-ium, water, unfltrd µg/L (01147) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Mar** | | | | | | | | | | | | | |
| **21...** | 17 | .08 | .13 | E.03 | 1.4 | 11 | 1.15 | 2.5 | .010 | .9 | .33 | .09 | .14 |
| **Jul** | | | | | | | | | | | | | |
| **11...** | 61 | .07 | E.10 | .07 | 6.0 | 7 | .86 | 1.9 | .023 | 2.2 | .72 | .15 | .26 |

**WATER-QUALITY DATA**
**WATER YEAR OCTOBER 2006 TO SEPTEMBER 2007**
Part 5 of 5
[Remark codes: <, less than; E, estimated.]

| Date | Silver, water, fltrd, µg/L (01075) | Zinc, water, fltrd, µg/L (01090) | Uranium natural water, fltrd, µg/L (22703) | Suspnd. sedi-ment, sieve diametr percent <.063mm (70331) | Sus-pended sedi-ment concen-tration mg/L (80154) |
|---|---|---|---|---|---|
| **Mar** | | | | | |
| **21...** | <.1 | <.60 | .47 | 57 | 82 |
| **Jul** | | | | | |
| **11...** | <.1 | 41.9 | 1.20 | 96 | 161 |