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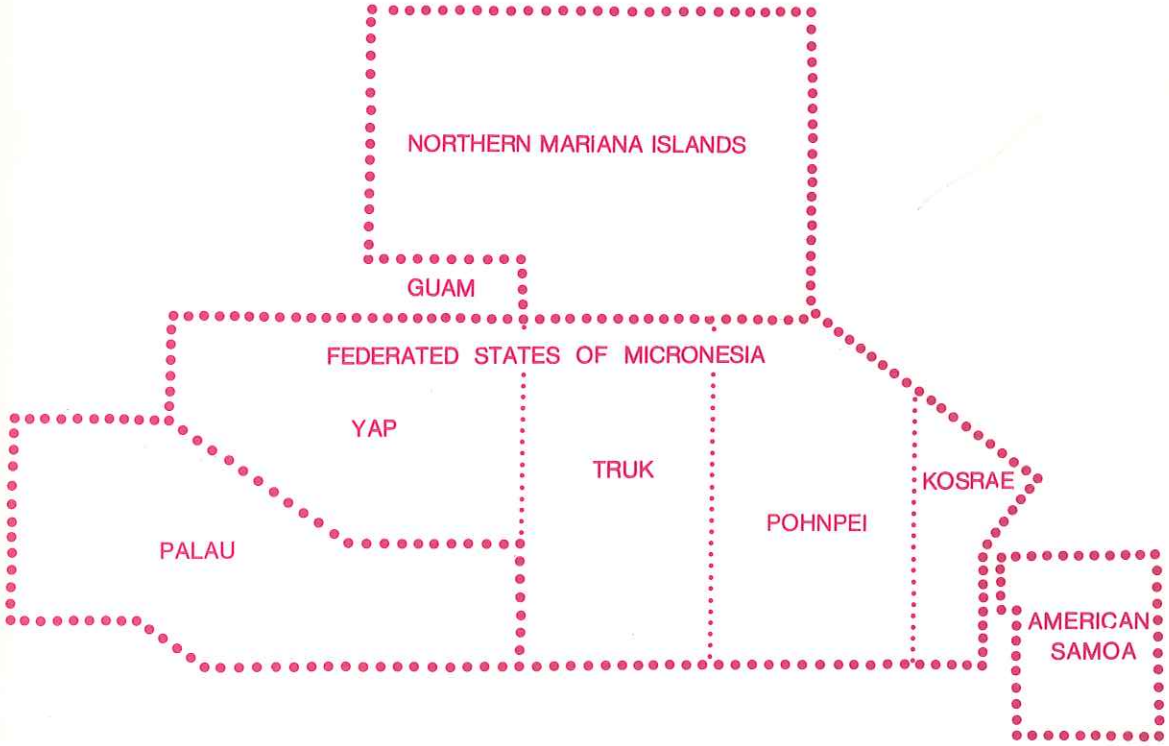
Water Resources Data Hawaii and other Pacific Areas Water Year 1987

Volume 2. Guam, Northern Mariana Islands, Federated States of Micronesia, Palau, and American Samoa

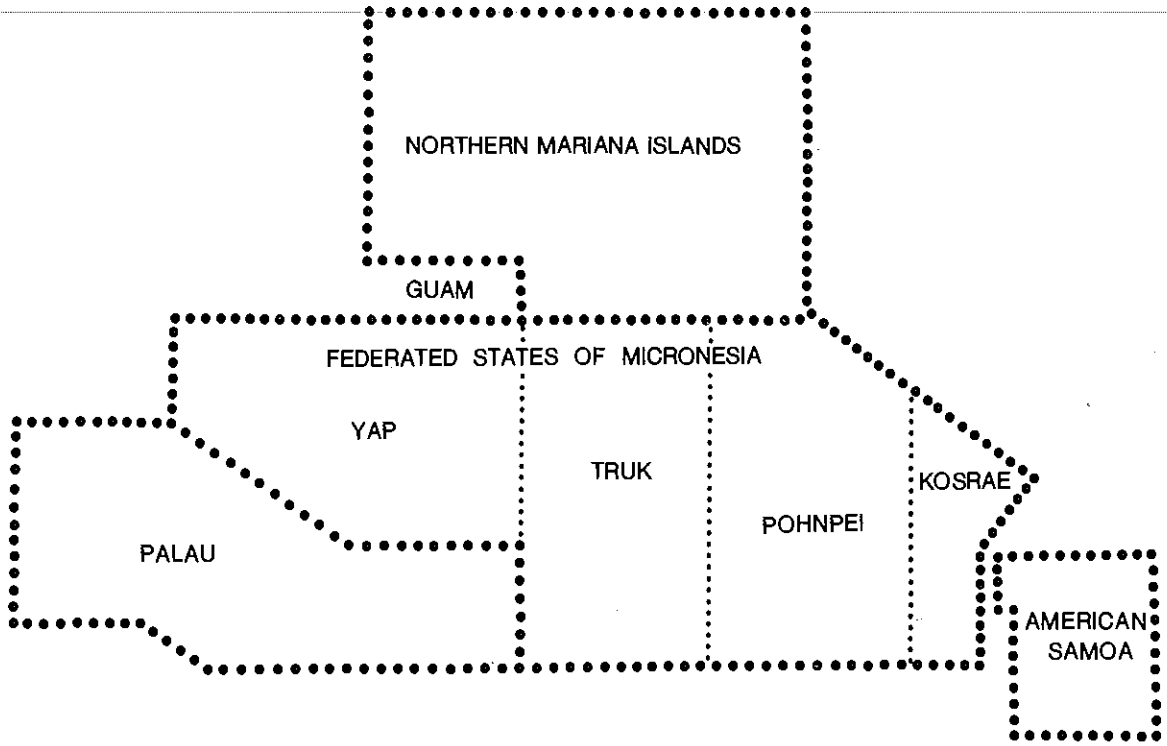


U.S. GEOLOGICAL SURVEY WATER-DATA REPORT HI-87-2
Prepared in cooperation with the Governments of Guam, Northern Mariana Islands, Federated States of Micronesia, Palau, American Samoa, and with other agencies

Water Resources Data Hawaii and other Pacific Areas Water Year 1987

Volume 2. Guam, Northern Mariana Islands, Federated States of Micronesia, Palau, and American Samoa

by Salwyn S. Chinn, Grace A. Tateishi, and Johnson J.S. Yee



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UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

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and other Pacific Areas write to
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U.S. Geological Survey
300 Ala Moana Boulevard, Rm. 6110
P.O. Box 50166
Honolulu, Hawaii 96850

1988

PREFACE

This volume of the annual hydrologic data report of Hawaii and other Pacific Areas 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 Pacific Islands. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Hawaii and other Pacific Areas are contained in two volumes:

Volume 1. Hawaii
Volume 2. Guam, Northern Mariana Islands, Federated States of Micronesia, Palau, and American Samoa.

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. In addition to the authors, who 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 collection, processing, and tabulation of the data:

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Adrian Gimed (Yap)
Siongau Esra (Truk)
Waltick Panuel (Pohnpei)
Winner Alik (Kosrae)
Frank Taotoai (American Samoa)

This report was prepared in cooperation with the Governments of Guam, Northern Mariana Islands, Federated States of Micronesia, Palau, American Samoa, and with other agencies under the general supervision of William Meyer, District Chief, Hawaii.

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16. Abstract (Limit: 200 words)

Volume 2 of water resources data for the 1987 water year for other Pacific areas consists of records of streamflow and stage of 2 lakes and a reservoir; and water levels and water quality in wells. This report contains discharge records for 26 gaging stations; stage only record for 3 gaging stations; water temperature for 26 gaging stations; and water levels for 36 observations wells and water quality for 64 ground-water sites. Also included are 12 low-flow and 2 crest-stage partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating Governments and Federal agencies in other Pacific areas.

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GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Letters after station name designate type of data:
(d) discharge, (e) stage or gage height, (t) temperature

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Letters after well number designate type of data:
(c) chemical, (t) water temperature, (w) water level

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MARIANA ISLANDS

ISLAND OF SAIPAN
(14-0742-07) 150737145431070 (ct) 70
(14-0742-11) 150731145430870 (ct) 70
(14-0742-13) 150736145425370 (ct) 70
(14-0743-09) 150732145432070 (ct) 70
(14-0743-10) 150728145431470 (ct) 70
(14-0743-11) 150730145431370 (ct) 70
(14-0743-13) 150736145430070 (ct) 70
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(14-0843-02) 150905145435870 (ct) 70
(14-0843-04) 150843145434770 (ct) 70
(14-1045-08) 151026145454870 (ct) 68
(14-1045-09) 151032145460370 (w) 71
(14-1143-02) 151127145434270 (ct) 71
(14-1143-05) 151127145434070 (ct) 71
(14-1144-05) 151133145445770 (ct) 69
(14-1144-07) 151130145445970 (w) 71
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(14-1244-08) 151246145443770 (ct) 71
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(14-1244-16) 151255145443770 (ct) 71
(14-1344-14) 151312145441570 (ct) 71
(14-1344-15) 151314145441570 (ct) 71
(14-1344-17) 151312145443970 (ct) 71

ISLAND OF GUAM
(18-2645-07) 132624144452771 (w) 72
(18-2647-01) 132815144470571 (w) 83
(18-2847-12) 132626144471771 (ctw) 84
(18-2648-02) 132644144480871 (w) 73
(18-2745-03) 132758144450571 (w) 85
(18-2745-07) 132742144452971 (w) 85
(18-2746-06) 132736144461671 (ctw) 86
(18-2848-01) 132824144484271 (w) 74
(18-2847-12) 132813144472771 (w) 75
(18-2848-03) 132806144481871 (ctw) 76
(18-3049-03) 133032144491871 (w) 78
(18-3049-05) 133047144500171 (w) 79
(18-3050-05) 133034144500871 (ctw) 87
(18-3148-02) 133115144484971 (w) 88
(18-3149-05) 133119144491771 (ctw) 80
(18-3150-10) 133120144505471 (w) 89
(18-3249-02) 133224144495271 (ctw) 82
(18-3651-05) 133628144513271 (w) 90

CAROLINE ISLANDS

YAP ISLANDS
(25-2904-01) 092919138045670 (w) 94
(25-2904-02) 092918138045470 (w) 94
(25-2905-01) 092915138050270 (w) 95
(25-2905-02) 092920138050270 (w) 95
(25-2905-03) 092616138050670 (w) 96
(25-2905-06) 092926138050470 (w) 96
(25-3109-01) 093158138095770 (w) 97
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(25-3109-04) 093154138095370 (w) 98
(25-3209-01) 093204138095970 (w) 91
(25-3210-01) 093217138101270 (w) 99

Page

CAROLINE ISLANDS--Continued
TRUK ISLANDS
(30-2450-01) 072454151503870 (ct)..... 100
(30-2550-02) 072504151503370 (ct)..... 100
(30-2650-01) 072658151511970 (ct)..... 100
(30-2650-02) 072654151511870 (ct)..... 100
(30-2650-05) 072704151511070 (ct)..... 100
(30-2651-01) 072702151512570 (ct)..... 100
(30-2651-03) 072706151512470 (ct)..... 100
(30-2750-03) 072708151512170 (ct)..... 100
(30-2750-07) 072723151502870 (ct)..... 100
(30-2751-01) 072710151512570 (ct)..... 100
SAMOA ISLANDS
ISLAND OF TUTUILA
(90-1534-01) 141528170340101 (ct)..... 103
(90-1535-01) 141546170354601 (ct)..... 103
(90-1639-08) 141623170393801 (ct)..... 103
(90-1639-09) 141625170393801 (ct)..... 103
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(90-1642-09) 141643170420301 (ct)..... 103
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WATER RESOURCES DATA FOR HAWAII AND OTHER PACIFIC AREAS, 1987

Volume 2

INTRODUCTION

Water resources data for the 1987 water year for Hawaii and other Pacific areas consist of records of stage, discharge, and water quality of streams, springs, and reservoir; and water-levels and water quality of wells. This report contains discharge records for 26 gaging stations; stage only records for 3 gaging stations; water temperature for 26 stations; and water levels for 36 observation wells and water quality for 64 ground-water sites. Also included are data for 12 low-flow and 2 crest-stage partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, Territorial, and Federal agencies in the Pacific areas.

Records of discharge and stage of streams, and contents or stage of lakes and reservoirs 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 (June 30, 1960, for Hawaii and other Pacific Areas), these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. The records for other Pacific areas were contained in one volume entitled "Surface Water Supply of Mariana, Caroline, and Samoa Islands." Records of chemical quality, water temperatures, 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 are available in the libraries of the principal cities in the United States or may be purchased from the Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Virginia, 22202.

For water years 1961 through 1970, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1970 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry 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 HI-87-2."

In this volume, the spelling of names, drainage areas, and locations for most stations in Palau, Yap, Truk, Ponape, and Kosrae differ from those used in "Water Resources Data for Hawaii and other Pacific Areas", 1968 to 1980. These had been based on 1954 U.S. Army Map Service series W 856 maps with a scale of 1:25,000 and 10-meter contours (International spheroid). The revised names and figures were based on the 1981 USGS maps with 1:10,000 scale and 5-meter contours (Clarke spheroid of 1866).

The water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia, 22161. Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (808) 541-2820.

COOPERATION

The U.S. Geological Survey has had cooperative agreements for the systematic collection of streamflow records with the Government of Guam since 1953, with the Government of American Samoa since 1957, and with the other Pacific Islands since 1968. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Government of Guam, Joseph P. Ada, Governor.
Government of Northern Mariana Islands, P. P. Tenorio, Governor.
Federated States of Micronesia, J. Haglelgam, President.
  State of Yap, Petrus Tun, Governor.
  State of Truk, Gideon Doone, Governor.
  State of Pohnpei, Resio Moses, Governor.
  State of Kosrae, Yosiwo George, Governor.
Republic of Palau, Lazarus Salii, President.
Government of American Samoa, A. P. Lutali, Governor.

Assistance in the form of funds or services was given by the Public Works, U.S. Navy, and the Corps of Engineers, U.S. Army.

SUMMARY OF HYDROLOGIC CONDITIONS

Based on the records at six index streams in the area covered by this volume, as shown in figure 1; the annual mean runoff for 1987 water year was in the normal range at the index stations on Babelthuap, Yap, Pohnpei, Kosrae, and American Samoa, and deficient (flow in the lower 25 percent of record) at Guam.

Streamflow at the Imong River near Agat, Guam (fig. 2) was normal for October, December through February, April to July; and deficient for November, March, August, and September. Annual mean runoff was 58 percent of the median.

At the Diongradid River (fig. 2) on the island of Babelthuap, Palau Islands, monthly mean was excessive for November and August; normal for October, December through April, June, July and September; and deficient for May. Annual mean runoff was 105 percent of the annual median.

On the island of Yap, Caroline Islands, streamflow at the Qaringeel Stream (fig. 3) was excessive for November, and August; normal for October, January through April, June, and July; and deficient for December, May, and September. Annual mean runoff was 93 percent of the annual median.

Streamflow at the Nanpil River in Pohnpei (fig. 3) was excessive for January, March, June, and July; normal for October, November, February, April, August, and September; and deficient for December and May. Annual mean discharge was 111 percent of the annual median.

On the island of Kosrae, streamflow at the Melo River (fig. 4) was excessive for November and September; normal for October, December through April, and July; and deficient for May, June, and August. Annual mean discharge was 83 percent of the annual median.

At Tutuila, American Samoa, atreamflow at Aasu (fig. 4) was excesaive for February and March; normal for October through January, April through June, and August; and deficient for July and September. Annual mean runoff was 98 percent of the annual median.

DEFINITION OF TERMS

Definition of terms related to streamflow, water-quality, and other hydrologic data are defined as follows:

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 gallona or 1,233 cubic meters.

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

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 ths 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 disease, 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 which produce colonies withing 24 hours when incubated at 35°C ± 0.5°C on M-Endoagar (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

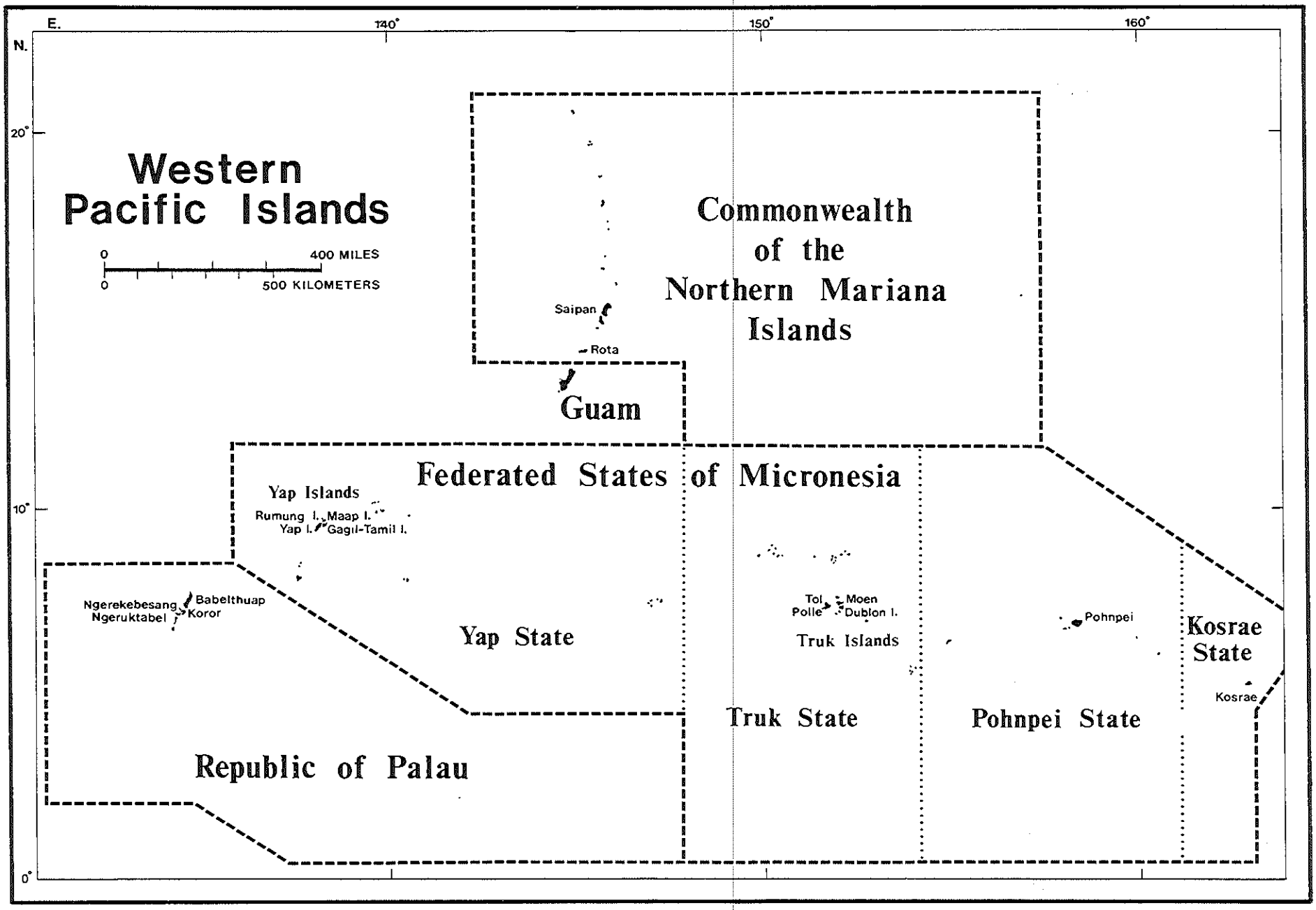
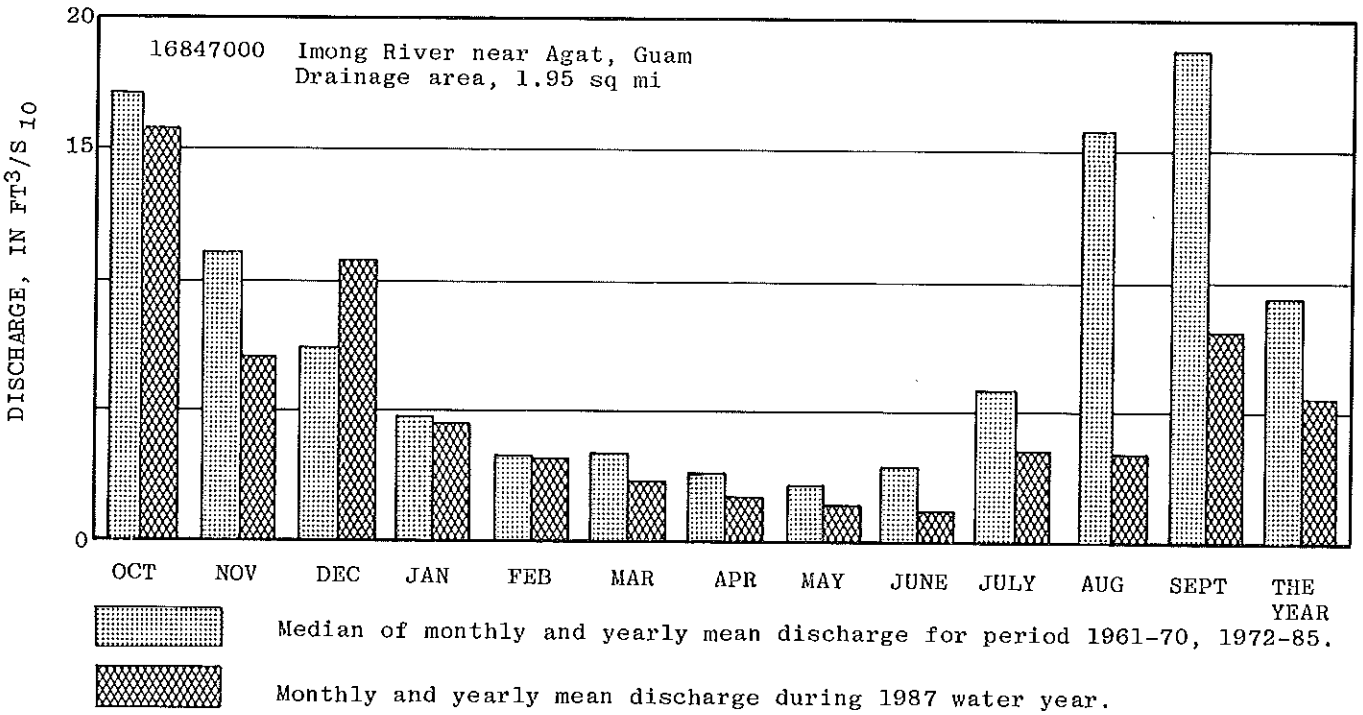


FIGURE 1.--LOCATIONS OF WESTERN PACIFIC ISLANDS.



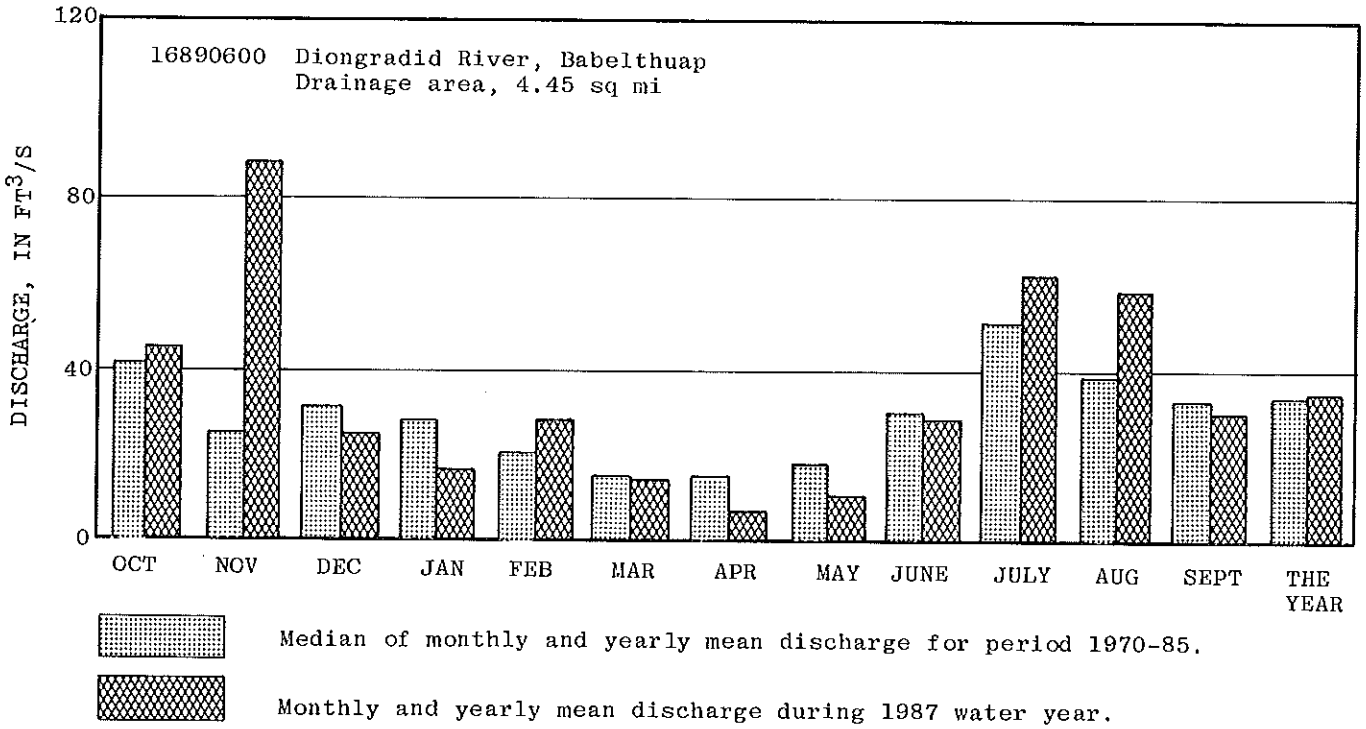
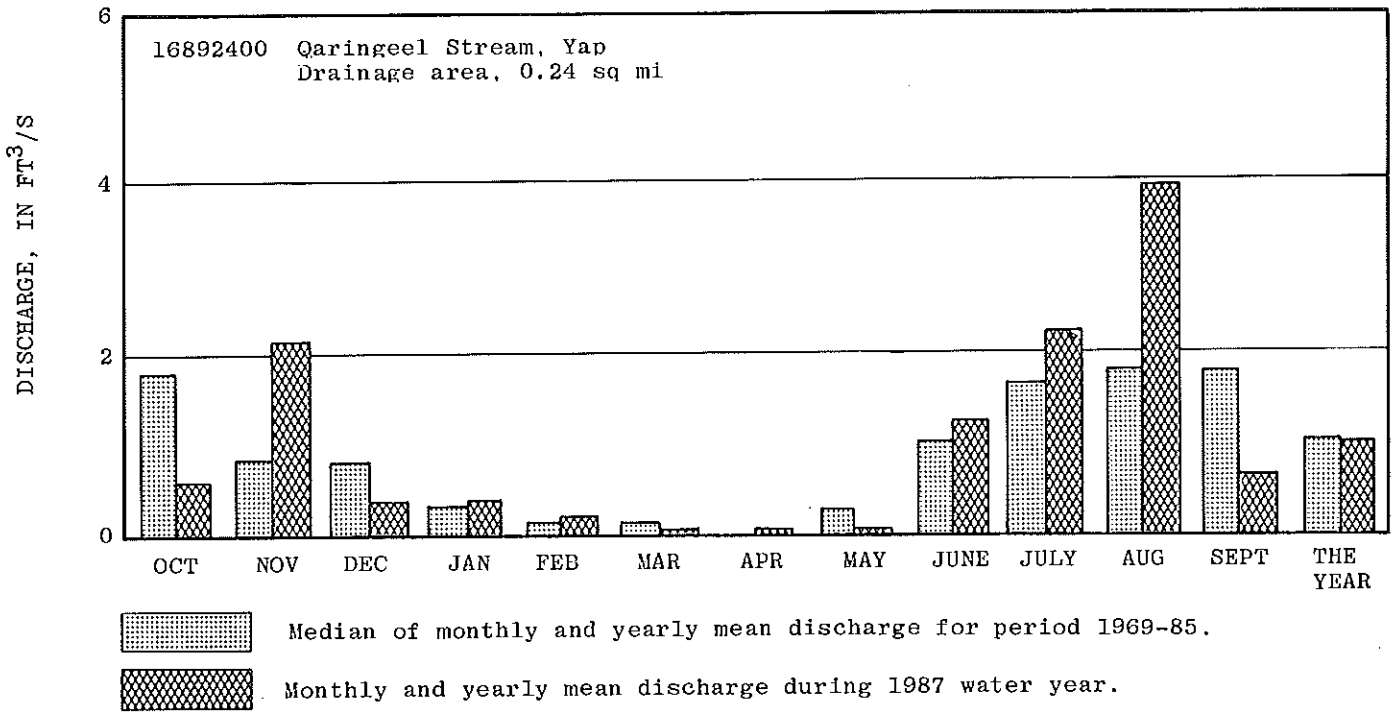


FIGURE 2.--DISCHARGE DURING 1987 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON GUAM AND BABELTHUAP.



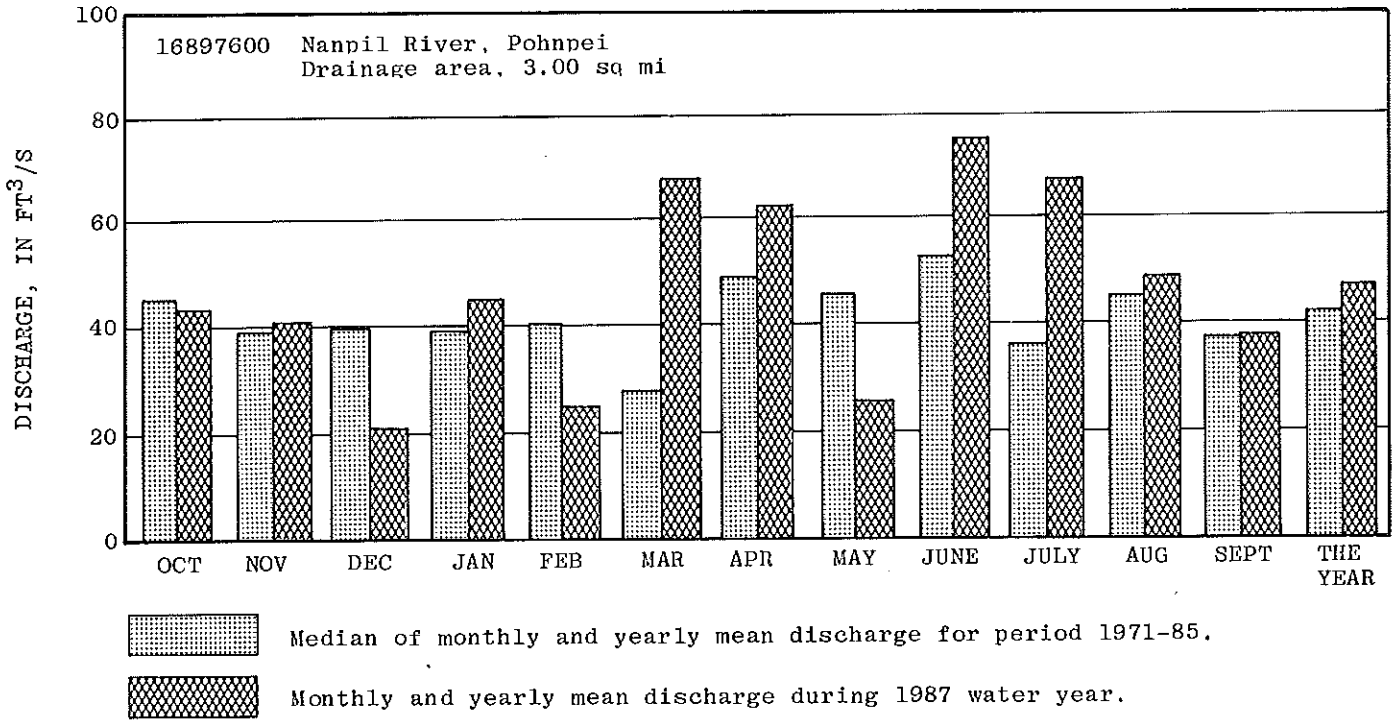
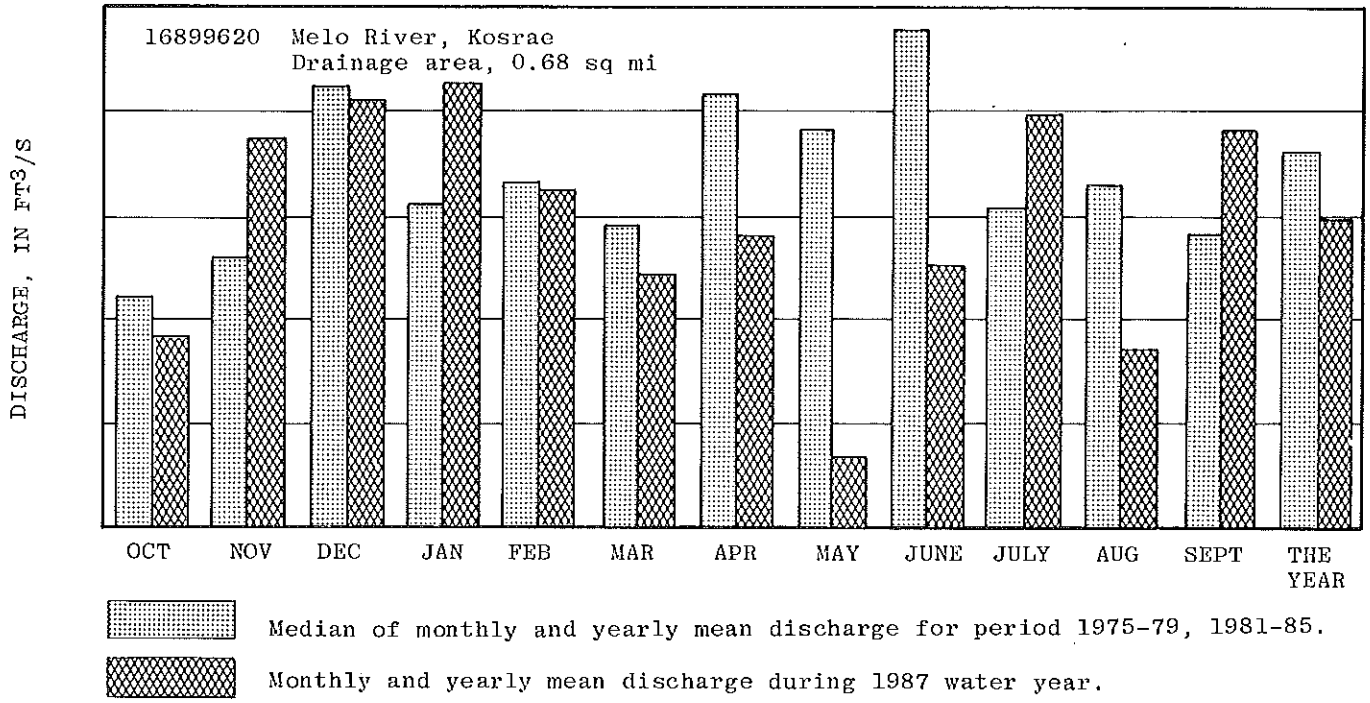


FIGURE 3.--DISCHARGE DURING 1987 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON YAP AND POHNPEI.



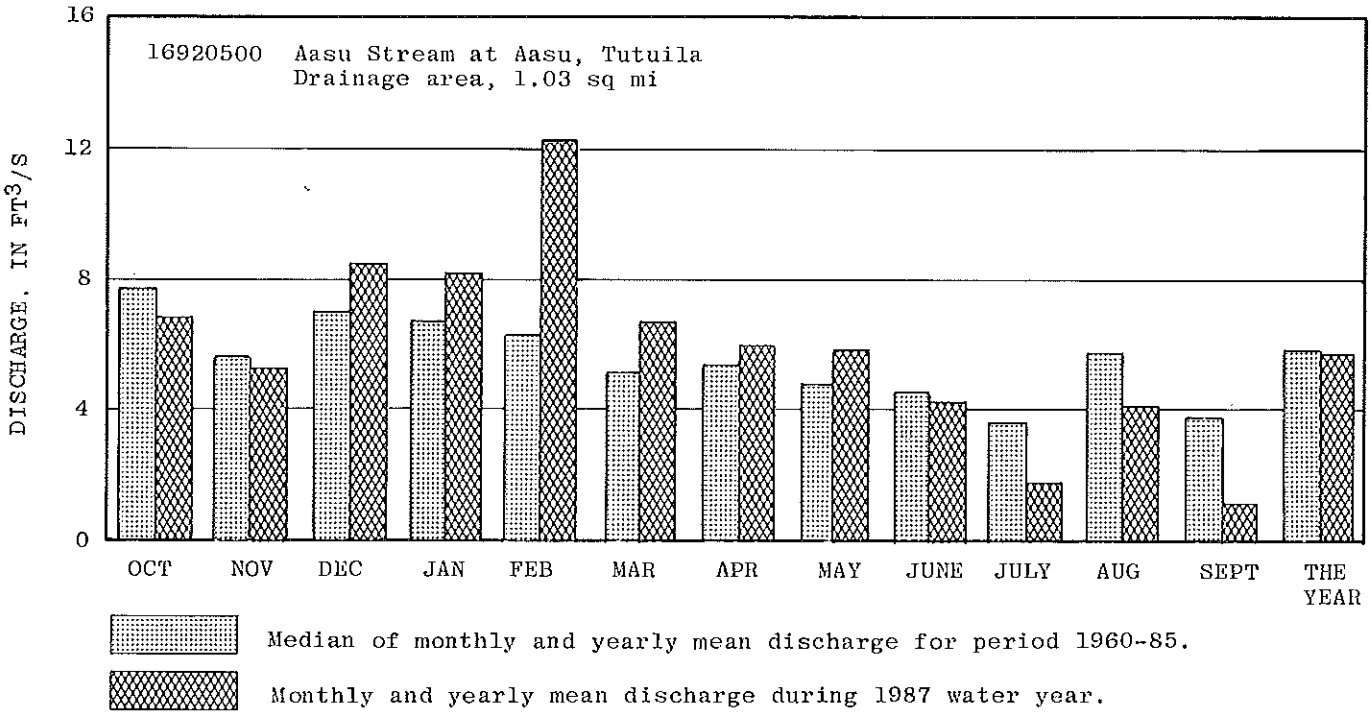


FIGURE 4.--DISCHARGE DURING 1987 WATER YEAR COMPARED WITH MEDIAN DISCHARGE FOR REPRESENTATIVE STREAMS ON KOSRAE AND TUTUILA.

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

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacterial 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 ± 0.5°C on KF Streptococcus agar (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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 time, expressed as the weight 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 g/m^3 (grams per cubic meter), and periphyton and benthic organisms in g/m^2 (grams per square meter).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for 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 is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

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.

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."

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 of liters (L).

CFS-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.9835 acre-feet, or 646,317 gallons or 2,447 cubic meters.

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

Coliform organisms are a group of bacteria used as an indicator of the sanitary quality of the water. The number of coliform colonies per 100 milliliters is determined by the immediate or delayed incubation membrane filter method.

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.

Continuing record station is a specified site which meets one or all conditions listed:

1. When chemical samples are collected daily or monthly for 10 or more months during the water year.

2. When water temperature records include observations taken one or more times daily.

3. When sediment dischsrge records include those periods for which sediment loads are computed and are considered to be representative of the runoff for the water year.

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 rsgulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second (FT^3/S, ft^3/s) 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 average of individual daily mean discharges during a specified period.

Instantaneous discharge is the discharge at a particular instant of time. If this discharge is reported instead of the daily mean, the heading of the discharge column in the table is "DISCHARGE (CFS)."

Dissolved is that material in a representative water sample which passes through a 0.45 micrometer 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.

Drainage area of a stream at a specific 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 river above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing sreas, 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 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 ia 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 charscteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and msgnesium) and is expressed as equivalent calcium csrbonate ($CaCO_3$).

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

Microgram per gram ($\mu g/g$) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Microgram per liter ($\mu G/L$, $\mu g/L$) 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 ia equivalent to one milligram per liter.

Milligram per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent 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 sediment per liter of water-sediment mixture.

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:

Classification	Size (mm)	Method of analysis
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 trsnsport in the stream. Most of the organic material is removed and the eample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

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

Pesticides are chemical compounds used to control the growth of undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

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} radio-active disintegrations per second. A picocurie yields 2.22 dpm (disintegrstione per minute).

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

Sediment is solid mstorial that originates mostly from disintsgrated 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 fsctors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

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).

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 milligrams per liter times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

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

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

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

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 wster.

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" csn 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 ia affected by diversion or regulation.

Suspended (as used in tables of chemical analyaes) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that 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 respresentative water-suspended sediment ssmple that is retained on a 0.45 micromater membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complate 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 smount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 micrometer 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, ss well ss 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 constituents.

Total, recoverable is the amount of a given constituent that is in solution after a repressntative water-suspended sediment sample has been digested by a msthod (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 aomething less than the "total" amount (that is, lsss 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 snalyses because different digestion procedures are likely to produce different analytical results.

Total is the total smount of a given constituent in a representative water-suspended sediment sample, regsrdless 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 thst the snalytical method determines all of the constituent in the sample.)

Time-weighted average is computed by multiplying the number of days in the sampling psriod 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 psr acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

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.

Turbidity of a sample is the reduction of transparency due to the presence of particulate matter. In this report it is expressed Nephelometric turbidity units (NTU).

WDR is used as an abbreviation for "Water-Data Reports" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports.

Weighted averege 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 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.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-dats reports published before 1975.

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

DOWNSTREAM ORDER AND STATION NUMBER

Records are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stresm in the order in which those tributaries enter the main stream. Stations on tributaries entering above sll main-stream stations are listed before the first main-stream station. Stations on tributaries to tributaries are listed in a similar manner. In the lists of gaging stations snd water-quality stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rsnk.

As an added means of identificaion, each gaging station, partial-record station, and water-quality station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, the station number for a partial-record stetion indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. 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 8-digit number for each station, such as 16858000 which appears just to the left of the station name includes the 2-digit number "16" plus the 6-digit downstream order number "858000." In this report, the records are listed in downstream order by islands. Locations of the stations are shown in figures 5-12.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscelleneoua sites where only random water-quality samples or discharge measurements are taken.

The well snd miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geogrephic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, snd seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 13.

The local well-numbering system for Pacific Areas was restructured to contain eight digits based on a non-arbitrary, unique one-minute grid system. One-minute parallel lines for both latitude and longitude are drawn on the msp resulting in one-minute grids. Each grid is designated by a four-digit number. The first two digits represent minutes of latitude for the grid and the second two digits represent minutes of longitude for that grid.

To distinguish wells within a minute grid, two digits are added following the 4-digit minute-grid numbers with a dash separator. These two-digit numbers are assigned with the oldest well dug within the grid as 01 and increase chronologically, with few exceptions, to the latest dug.

Since it is possible to have a same 6-digit number for wells on different islands, a 2-digit number distinguishing each of the islands or geographic areas is added in front of the 6-digit number with a dash separator. For example, in the number 18-2647-01, the first two digits designate an island of geographic area, then the 4-digit minute-grid numbers followed by a 2-digit sequential number. See figure 14.

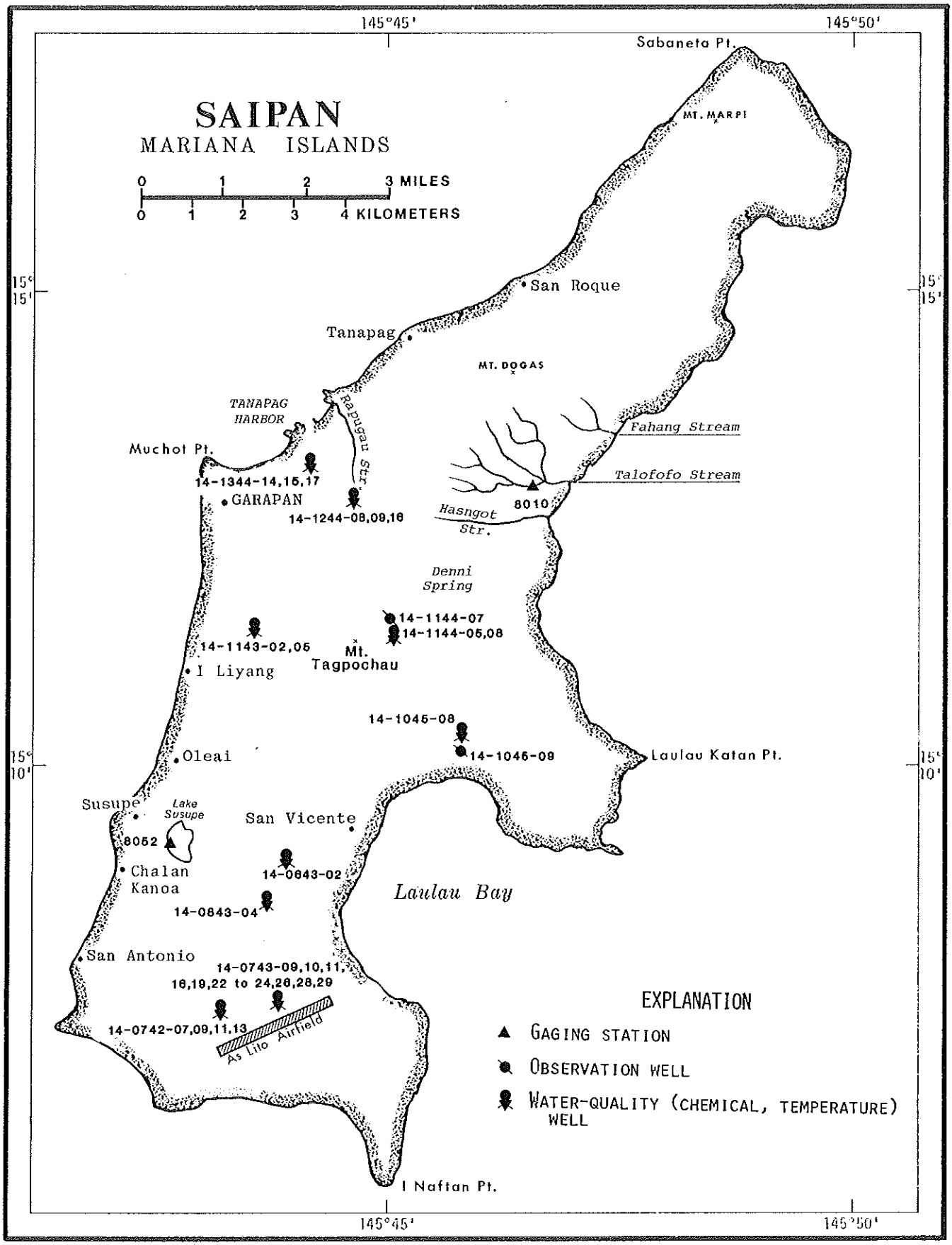


FIGURE 5.--LOCATIONS OF GAGING STATIONS, OBSERVATION WELLS, AND WATER-QUALITY SAMPLING SITES ON SAIPAN.

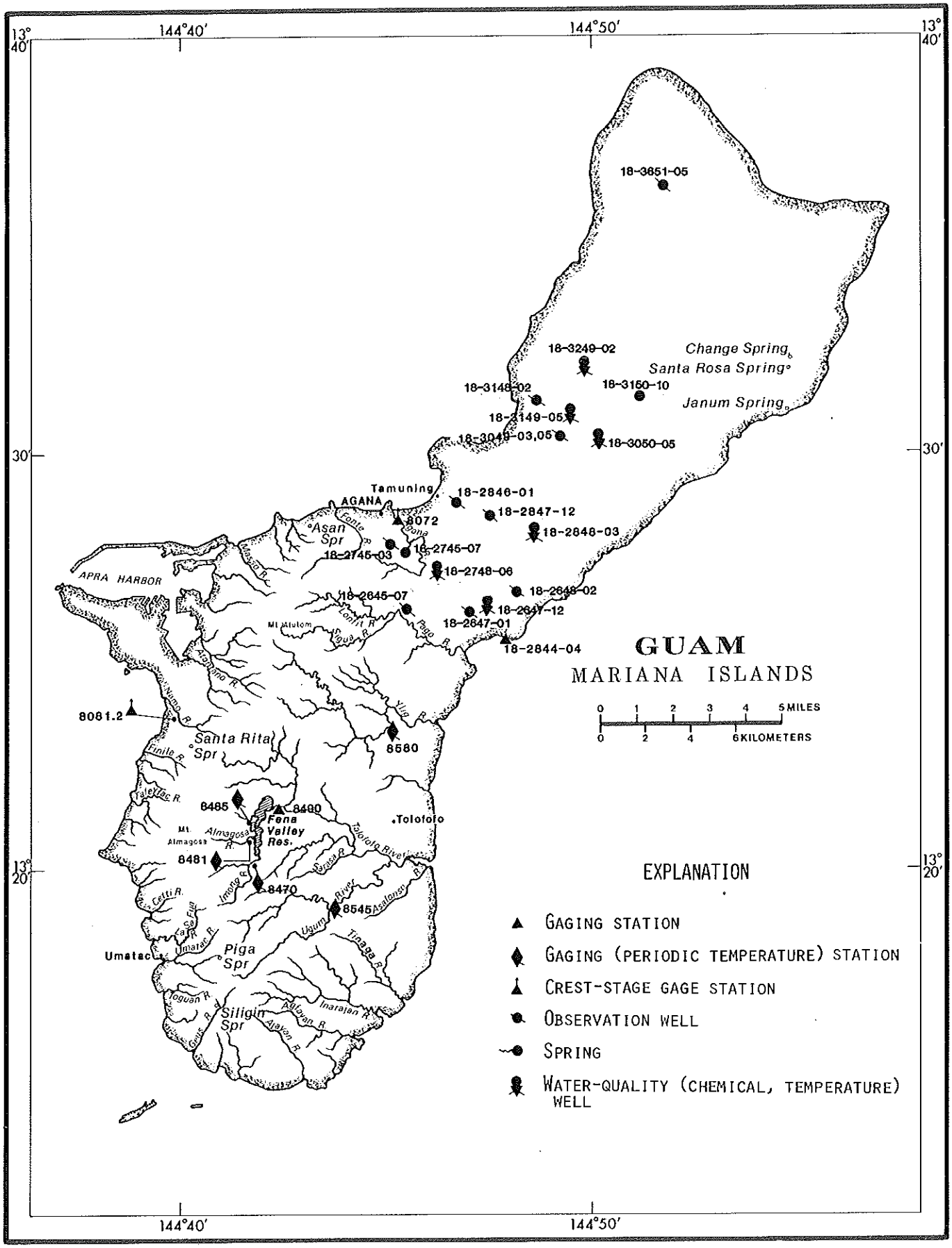


FIGURE 6.--LOCATIONS OF GAGING STATIONS, OBSERVATION WELLS, AND WATER-QUALITY SAMPLING SITES ON GUAM.

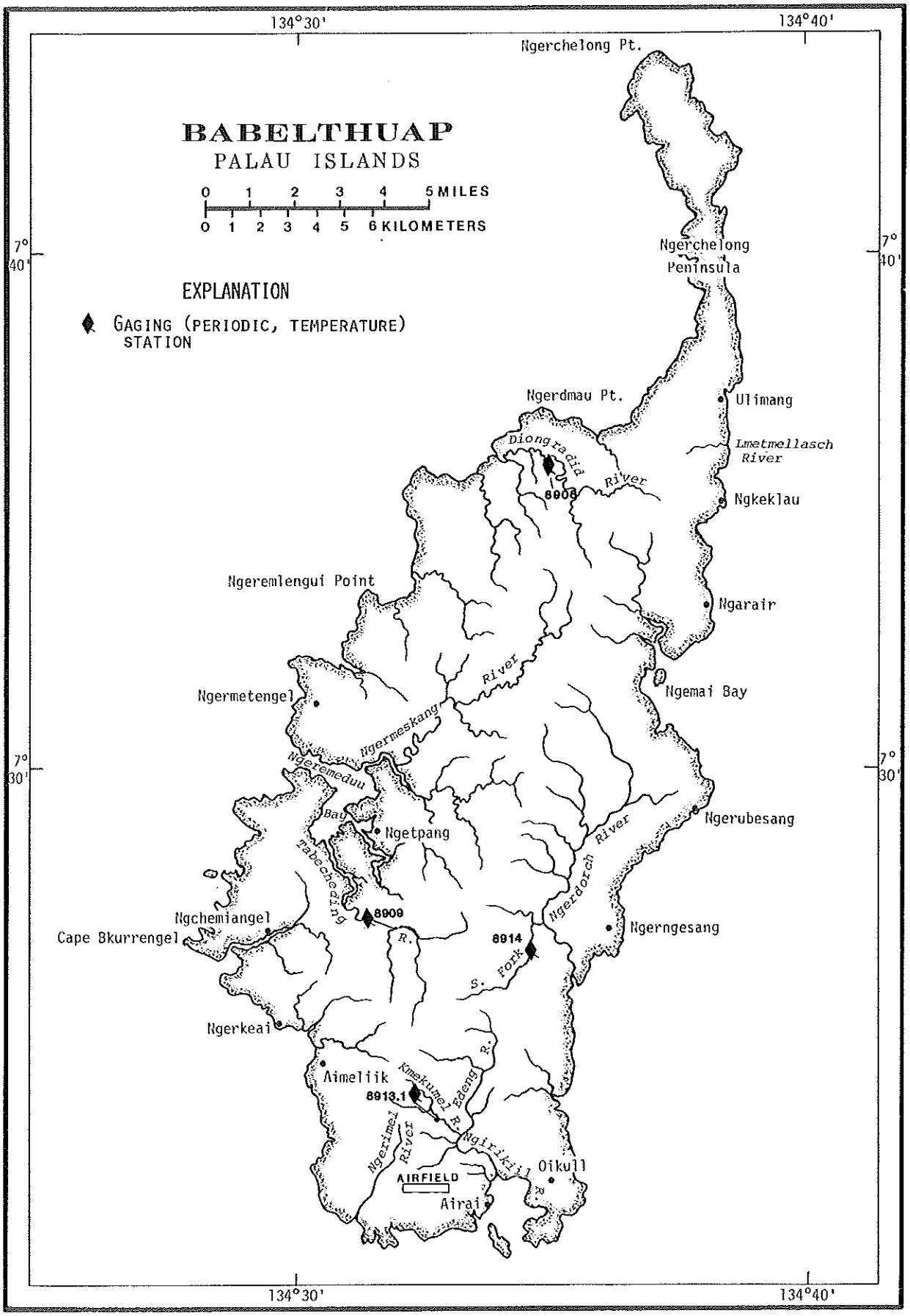


FIGURE 7. LOCATIONS OF GAGING STATIONS ON BABELTHUAP.

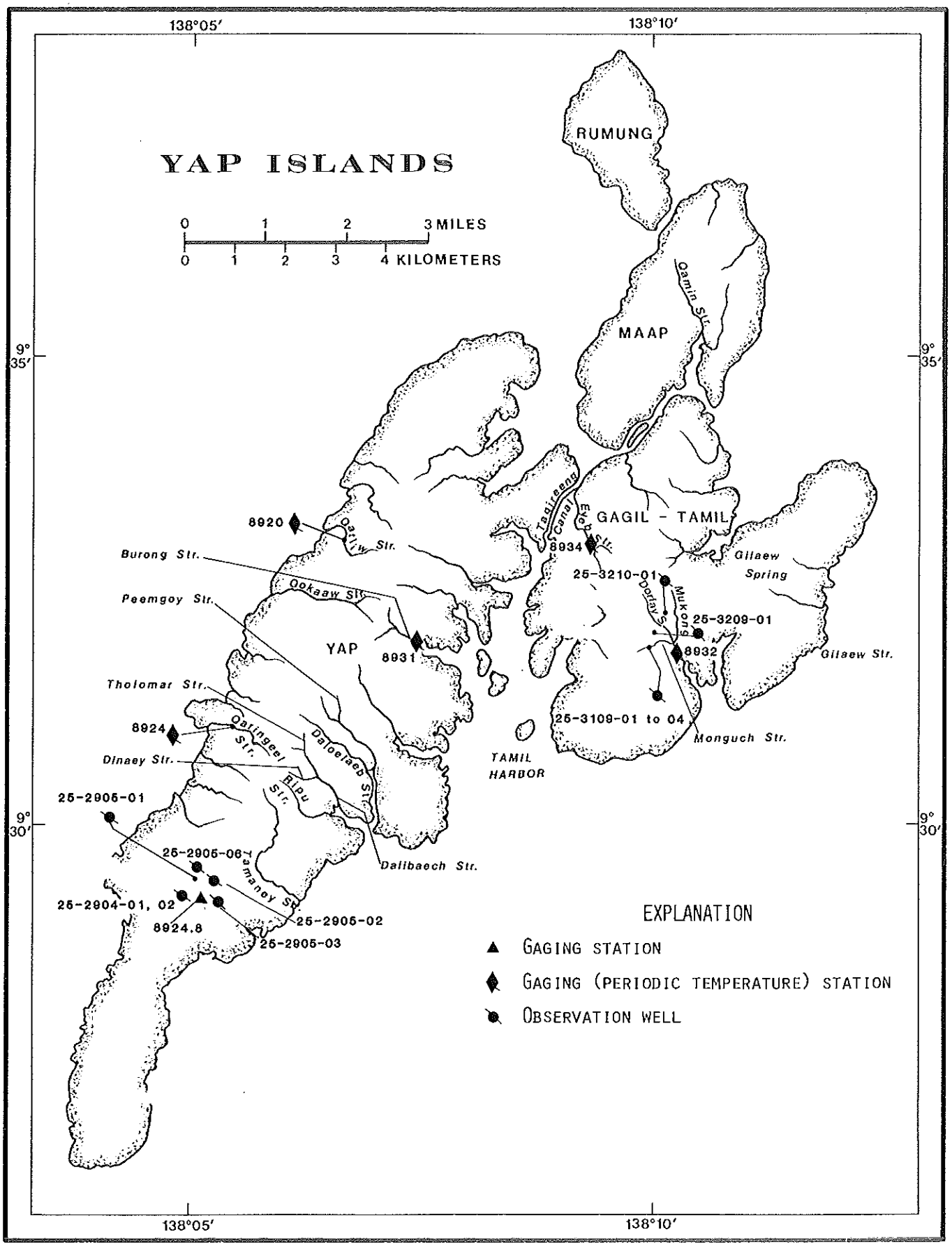


FIGURE 8.--LOCATIONS OF GAGING STATIONS AND OBSERVATION WELL SITES ON YAP ISLANDS.

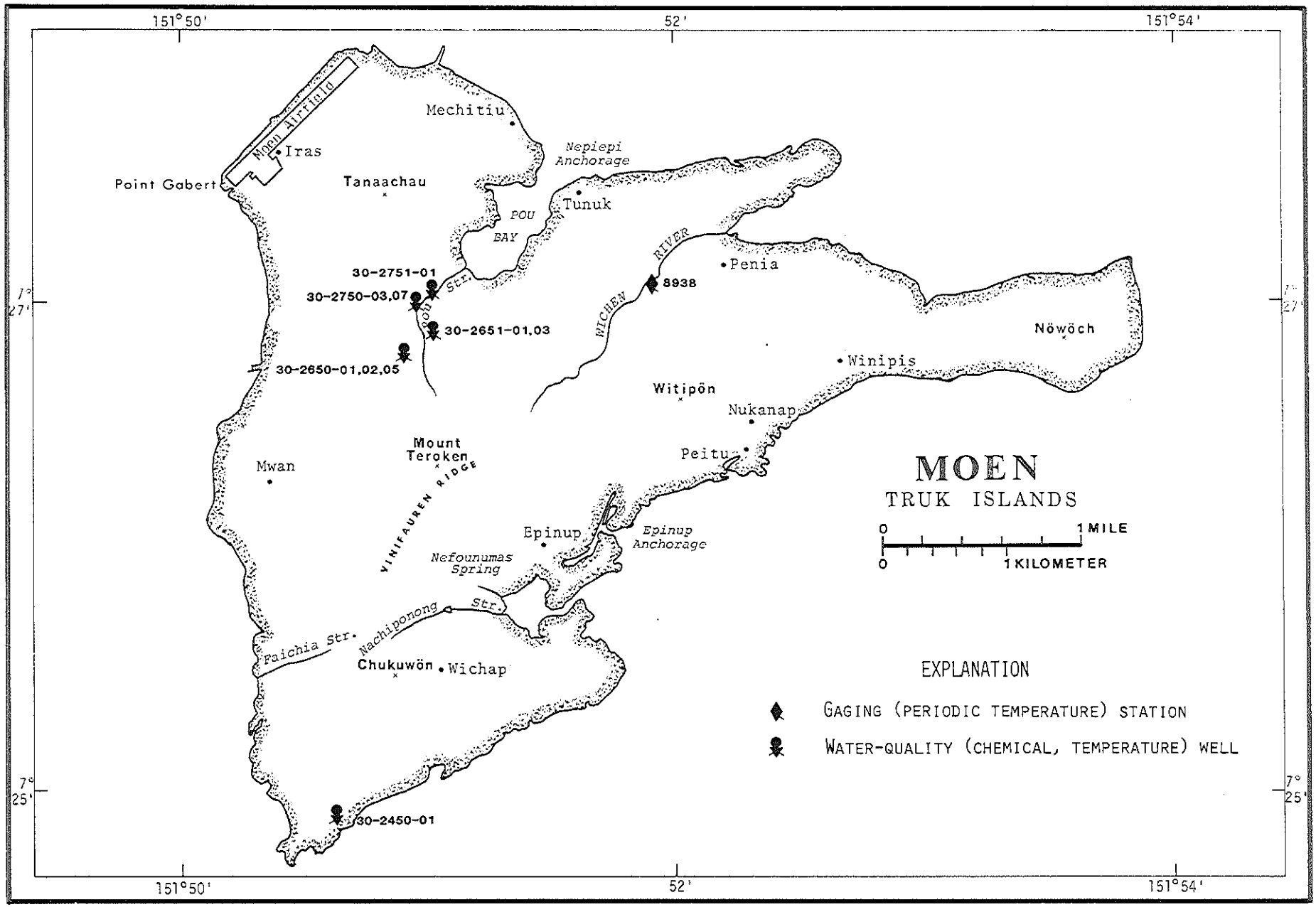


FIGURE 9.--LOCATIONS OF GAGING STATION, WELLS, AND WATER-QUALITY SAMPLING SITES ON MOEN.

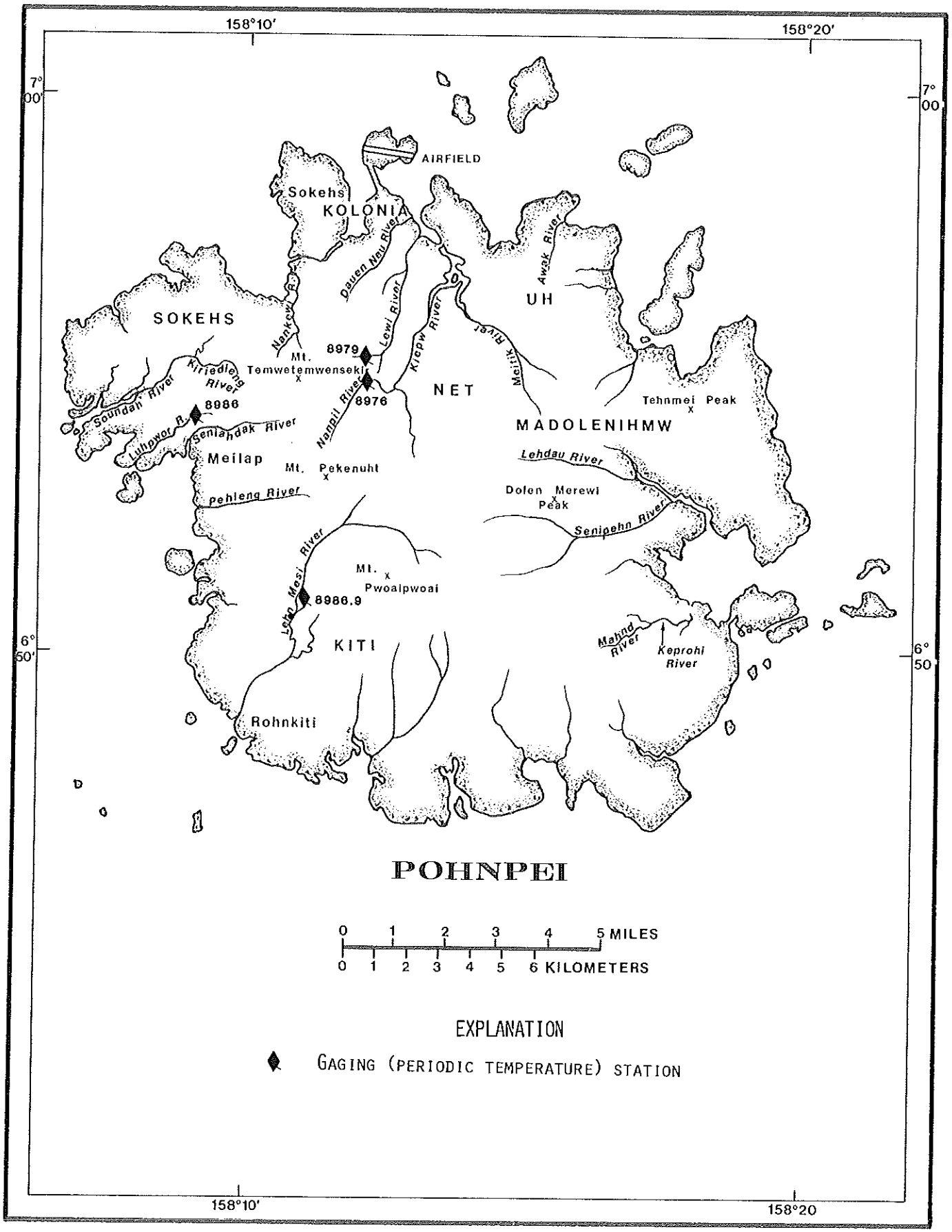


FIGURE 10.--LOCATIONS OF GAGING STATIONS ON POHNPEI.

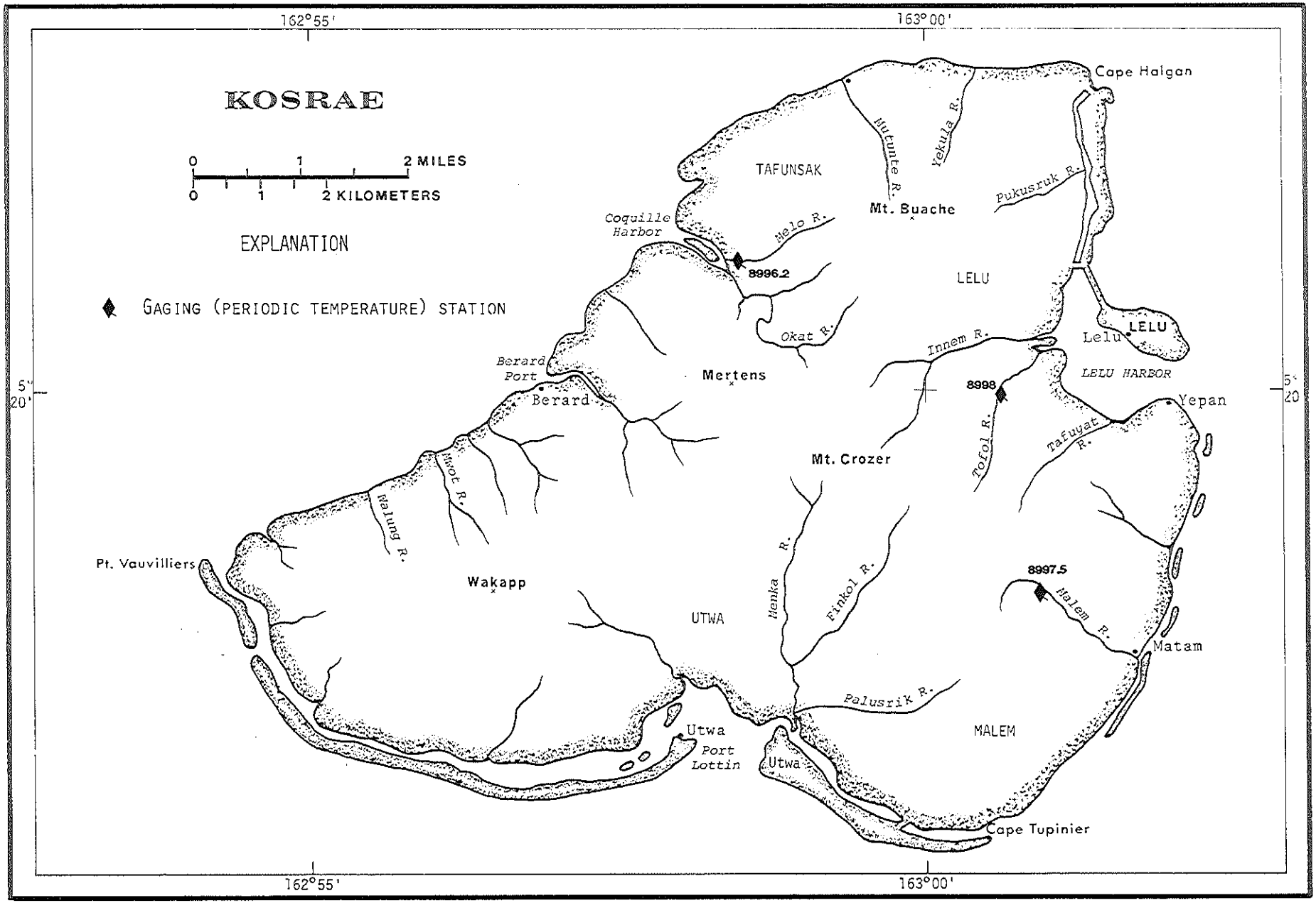


FIGURE 11.--LOCATIONS OF GAGING STATIONS ON KOSRAE.

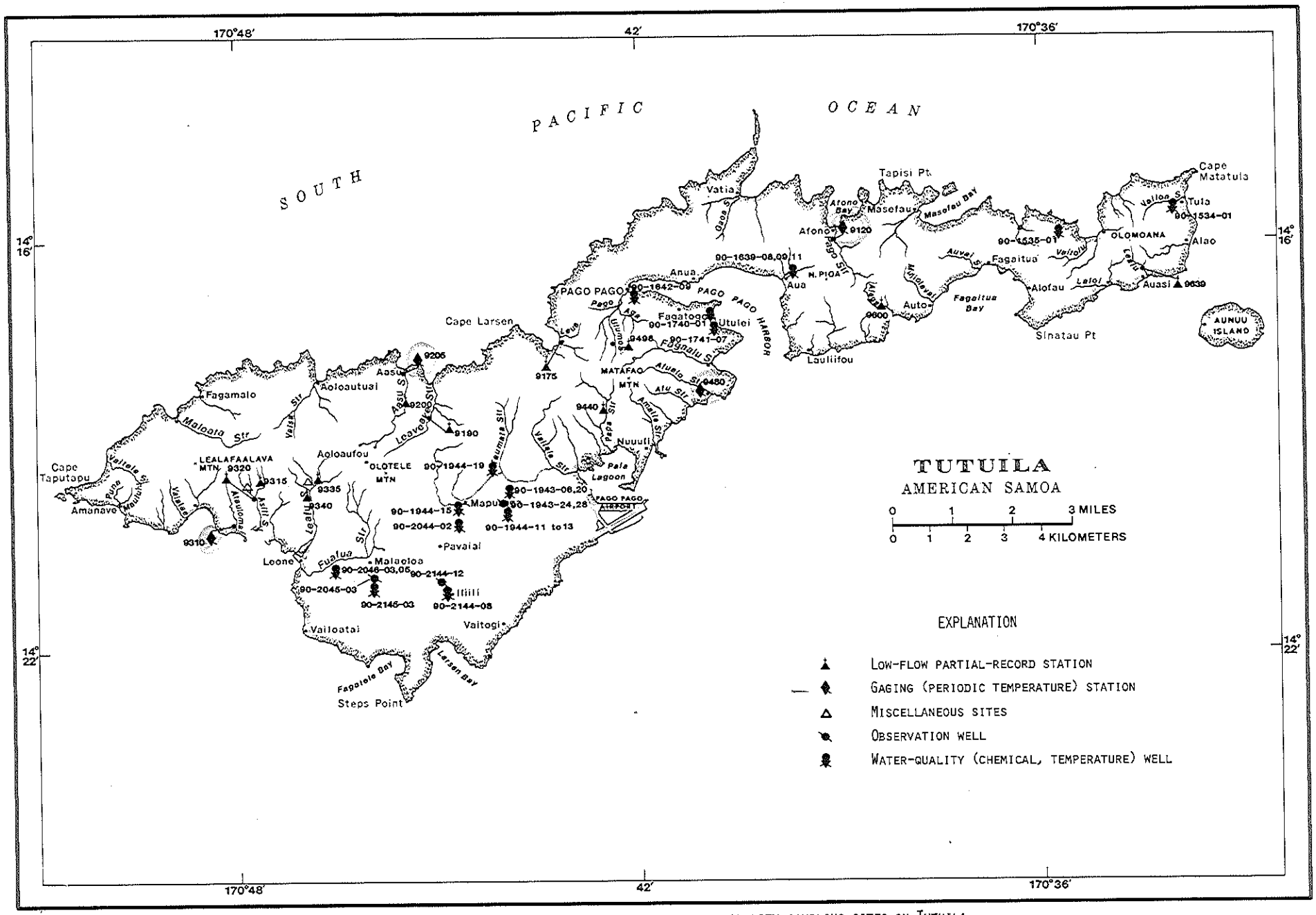


FIGURE 12.--LOCATIONS OF GAGING, LOW-FLOW PARTIAL-RECORD STATIONS, OBSERVATION WELLS, AND WATER-QUALITY SAMPLING SITES ON TUTUILA.

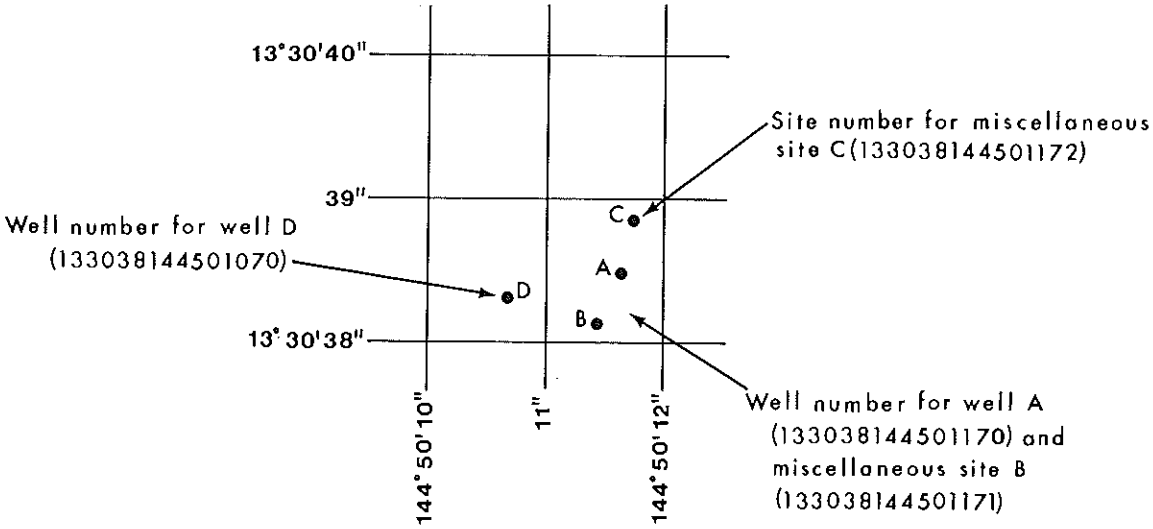


FIGURE 13.--SKECTH SHOWING SYSTEM FOR NUMBERING WELLS AND MISCELLANEOUS SITES.

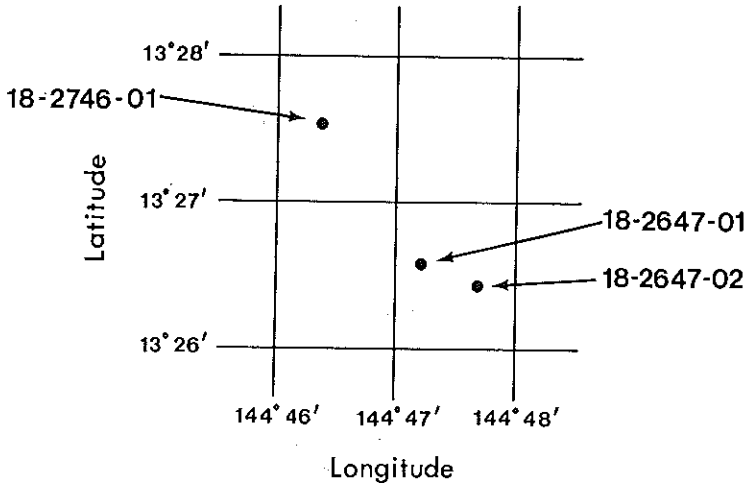


FIGURE 14.--SKETCH SHOWING LOCAL WELL NUMBERING SYSTEM.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations 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. 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 the general methods adopted by the Geological Survey. These methods are described in standard text books, in Water-Supply Paper 888, 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 extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily figures. 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 engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

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 computed 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 on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals, a table showing the daily discharge and monthly and yearly discharge is given. For gaging station on lakes and reservoirs, a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations 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 discharge were revised. If the drainage area has been revised, the report in which the revised figures was first published is given.

The type of gage currently in uss, the datum of the present gags above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey unless otherwise qualified.

Information pertaining to the accuracy of the discharge recorda and to conditions which affect the natural flow of the gaging station ia given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE", it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean dischargsa ia given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum diacharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations, peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaka, including the maximum for the year, above the aelected base with time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimuma for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly aummary 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 dischargea, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per aquare 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 aummary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are ussd 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 conditiona. Periods of no gage-height record are indicated if the period is continuous for a month or more or includea the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected.

For most gaging station on lakes and reservoirs, the data presented compriae a description of ths station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage 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.

Data collected at partial-record stationa follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record atations, and the second is 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. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or lossea along a reach of a atream or to determine the low-flow characteriatics of an area. Such measurements are alao given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

The accuracy of streamflow data 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 observationa of stage, measurements of diacharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure.

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 to 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 for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. 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.

Records of discharge collected by agencies other than the Geological Survey

The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, VA 22092, maintains an index of water-data sites not published by the Geological Survey. Information on records available at specific sites can be obtained upon request.

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. Also most gaging-station records are 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.

Publications

In each water-supply paper entitled, "Surface Water Supply of the United States" there is a list of numbers of preceding water-supply papers containing streamflow information for the area covered by that report. In addition, there is a list of numbers of water-supply papers containing detailed information on major floods in the area. Records for stations in Hawaii and other Pacific areas for the period October 1959 to September 1965, are in Water-Supply Paper 1937.

Two series of summary reports entitled, "Compilation of Records of Surface Waters of the United States" have been published; the first series covers the entire period of record through September 1950 (June 1950, for Hawaii), and the second series covers the period October 1950 to September 1960 (July 1950 to June 1960, for Hawaii and other Pacific areas). These reports contain summaries of monthly and annual discharge and monthend storage for all previously published records, as well as some records not contained in the annual series of water-supply papers. All records were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the water-supply papers in which daily records were published for that station. Records for stations in Hawaii and other Pacific areas are compiled in Water-Supply Paper 1319 through June 1950, in 1739 and 1751 for July 1950 to June 1960, in 1937 for October 1959 to September 1965, and 2137 for October 1966 to September 1970.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than water-supply papers. Information relative to these reports may be obtained from the district office.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses usually are collected at or near gaging stations. The water-quality records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives periods of record for the various types of water-quality data (chemical, specific conductance, biological determination, water temperatures, sediment discharge), period of record, and extremes of pertinent data, and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

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.

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.

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.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. Large streams have a small diel temperature change; 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.

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 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 have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were 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 time 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were 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 were 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 the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

Publications

The annual series of water-supply papers that contain information on quality of surface waters in Hawaii and other Pacific areas are listed below.

Water year	WSP No.	Water year	WSP No.	Water year	WSP No.
1964	1986	1967	2016	1970	2160
1965	1966	1968	2018		
1966	1996	1969	2150		

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs. See figures 13 and 14.

Measurements are made in many types of wells, under varying conditions of access and at different temperatures, hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

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 altitude 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). To show the intraday variation in the ground-water levels caused by local pumping and tidal fluctuations, instantaneous maximum and minimum water levels are given with the mean water levels for the day.

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.

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
437 National Center
Reston, Virginia 22092

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, Branch of Distribution, 604 South Pickett St., Alexandria, VA 22304 (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-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.

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 and dispersion in streams by dye tracing,* by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 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-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-B1. *Aquifer-test design, observation, and data analysis,* by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction,* by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. *Type curves for selected problems of flow to wells in confined aquifers,* by J. E. Reed: USGS-TWRI Book 3, Chapter B3. 1980. 106 pages.

3-C1. *Fluvial sediment concepts* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. *Field methods for measurement of fluvial sediment*. by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. *Computation of rate and volume of stream depletion by wells*. by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*. by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.

5-A2. *Determination of minor elements in water by emission spectroscopy*. by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*. edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.

5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.

5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sedments*, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.

5-C1. *Laboratory theory and methods for sediment analysis*. by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.

7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*. by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

7-C3. *A model for simulation of flow in singular and interconnected channels* by R. W. Schaffrannek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. *Methods of measuring water levels in deep wells*. by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages

8-A2. *Installation and service manual for U.S. Geological Survey manometers* by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.

8-B2. *Calibration and maintenance of vertical-axis type current meters*. by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

MARIANA ISLANDS, ISLAND OF SAIPAN

16801000 SOUTH FORK TALOFOFO STREAM

LOCATION.--Lat 15°12'48" N., long 145°46'17" E., Hydrologic Unit 20100006, on left bank 0.4 mi upstream from confluence with Middle and North Forks, 1.4 mi south of Ogso Dogas, and 2.2 mi southeast of Tanapag.

DRAINAGE AREA.--0.64 mi^2. Area at site used prior to Mar. 31, 1971, 0.73 mi^2.

PERIOD OF RECORD.--October 1966 to November 1986. Low-flow records not equivalent prior to Mar. 31, 1971, due to undetermined amount of underflow between sites.

REVISED RECORDS.--WDR HI-78-2: 1976-77(M), WDR HI-82-2: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Mar. 31, 1971. Elevation of gage is 60 ft, from topogrephic map. Prior to Mar. 31, 1971, at site 0.2 mi downstream at different datum.

REMARKS.--Records good. No diversion upstream. Station destroyed on Dec. 3, 1986, by Typhoon Kim.

AVERAGE DISCHARGE.--15 years (water years 1972-88), 1.34 ft^3/s (971 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,100 ft^3/s, Aug. 4, 1976, gage height, 8.15 ft, from rating curve extended above 59 ft^3/s on basis of slope-area measurements at gage heights 7.30 and 8.15 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,460 ft^3/s Dec. 3, gage height, 7.8 ft, no other peak greater than base discharge of 400 ft^3/s; minimum, not determined, but greater than 0.10 ft^3/s.

DISCHARGE, IN CUBIC FEET PER SECOND, PERIOD OF OCTOBER 1 TO NOVEMBER 7, 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	2.0										
2	1.2	1.5										
3	2.6	1.2										
4	1.4	1.1										
5	1.3	1.1										
6	1.1	.93										
7	1.0	.75										
8	1.0	---										
9	2.6	---										
10	1.3	---										
11	1.1	---										
12	1.0	---										
13	.98	---										
14	.93	---										
15	1.5	---										
16	.87	---										
17	.81	---										
18	.75	---										
19	.69	---										
20	.64	---										
21	.64	---										
22	2.8	---										
23	2.9	---										
24	1.2	---										
25	1.1	---										
26	.98	---										
27	.93	---										
28	.75	---										
29	.81	---										
30	.69	---										
31	4.8	---										
TOTAL	43.97	---										
MEAN	1.42	---										
MAX	4.8	---										
MIN	.64	---										
AC-FT	87	---										

16805200 LAKE SUSUPE

LOCATION.--Lat 15°09'15" N., long 145°42'42" E., Hydrologic Unit 20100006, on west shore, at the end of Sugar Mill Road, 0.5 mi southeast from the Administration building, Northern Marianas Government.

PERIOD OF RECORD.--February 1981 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

REMARKS.--Water-level records good.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.89 ft, Dec. 4, 1986; lowest, 0.70 ft, June 13, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 12, 1978, reached a stage of 7.6 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Highest water level, 4.89 ft, Dec. 4; lowest, 1.23 ft, June 5, 6.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.62	2.48	1.90	2.59	2.21	1.83	1.58	1.37	1.27	1.31	2.08	2.78
2	2.59	2.43	1.92	2.57	2.19	1.81	1.58	1.36	1.26	1.31	2.05	2.75
3	2.60	2.43	2.93	2.56	2.17	1.79	1.59	1.35	1.25	1.32	2.04	2.72
4	2.80	2.40	4.86	2.64	2.16	1.77	1.57	1.34	1.24	1.32	2.03	2.70
5	2.60	2.38	4.64	2.61	2.13	1.75	1.56	1.33	1.23	1.31	2.00	2.74
6	2.57	2.37	4.43	2.58	2.10	1.75	1.55	1.32	1.23	1.35	2.00	2.73
7	2.56	2.33	4.52	2.54	2.08	1.74	1.53	1.31	1.24	1.41	2.06	2.76
8	2.55	2.31	4.48	2.51	2.08	1.71	1.54	1.30	1.24	1.46	2.14	2.83
9	2.56	2.28	4.25	2.47	2.07	1.70	1.56	1.31	1.24	1.59	2.14	2.87
10	2.54	2.25	4.01	2.45	2.04	1.69	1.54	1.30	1.24	1.67	2.13	2.90
11	2.52	2.23	3.80	2.44	2.01	1.67	1.53	1.30	1.24	1.74	2.12	2.91
12	2.50	2.22	3.60	2.44	2.00	1.66	1.53	1.28	1.25	1.80	2.10	2.93
13	2.49	2.20	3.42	2.43	1.97	1.63	1.52	1.27	1.25	1.86	2.10	3.00
14	2.46	2.19	3.22	2.40	1.96	1.60	1.51	1.27	1.25	1.83	2.13	3.05
15	2.44	2.18	3.07	2.32	1.93	1.58	1.50	1.27	1.25	1.97	2.20	3.05
16	2.43	2.16	2.95	2.30	1.93	1.57	1.48	1.25	1.25	2.05	2.28	3.00
17	2.41	2.16	2.88	2.34	1.94	1.57	1.47	1.25	1.25	2.13	2.41	2.94
18	2.39	2.15	2.84	2.31	1.95	1.60	1.47	1.25	1.27	2.17	2.49	2.87
19	2.37	2.14	2.81	2.29	1.95	1.60	1.46	1.24	1.30	2.17	2.51	2.83
20	2.34	2.10	2.76	2.27	1.96	1.58	1.46	1.24	1.31	2.17	2.52	2.77
21	2.31	2.08	2.71	2.25	1.96	1.56	1.45	1.24	1.31	2.16	2.52	2.78
22	2.34	2.04	2.66	2.22	1.95	1.55	1.47	1.25	1.31	2.15	2.51	2.79
23	2.39	2.01	2.64	2.20	1.93	1.54	1.42	1.25	1.30	2.17	2.50	2.78
24	2.38	2.01	2.63	2.18	1.91	1.53	1.43	1.25	1.29	2.17	2.52	2.84
25	2.39	2.00	2.58	2.16	1.89	1.51	1.42	1.25	1.28	2.16	2.56	2.88
26	2.37	1.99	2.55	2.14	1.89	1.50	1.42	1.27	1.28	2.18	2.62	2.85
27	2.36	1.97	2.65	2.13	1.87	1.50	1.42	1.28	1.28	2.17	2.61	2.81
28	2.33	1.95	2.68	2.15	1.85	1.50	1.42	1.28	1.29	2.15	2.61	2.77
29	2.31	1.93	2.66	2.15	---	1.51	1.40	1.28	1.31	2.14	2.86	2.73
30	2.32	1.92	2.64	2.20	---	1.58	1.39	1.28	1.31	2.13	2.82	2.73
31	2.38	---	2.63	2.23	---	1.59	---	1.27	---	2.10	2.81	---
MEAN	2.45	2.18	3.17	2.36	2.00	1.63	1.49	1.28	1.27	1.86	2.33	2.84
MAX	2.62	2.46	4.86	2.64	2.21	1.83	1.59	1.37	1.31	2.18	2.82	3.05
MIN	2.31	1.92	1.90	2.13	1.85	1.50	1.39	1.24	1.23	1.31	2.00	2.70

CAL YR 1986	MEAN	2.26	MAX	4.86	MIN	1.47
WTR YR 1987	MEAN	2.07	MAX	4.86	MIN	1.23

16847000 IMONG RIVER NEAR AGAT

LOCATION.--Lat 13°20'17" N., long 144°41'55" E., Hydrologic Unit 20100003, on left bank 500 ft upstream from Fena Valley Reservoir, 1.4 mi south of Fena Dam spillway, and 4.1 mi southeast of Agat School.

DRAINAGE AREA.--1.95 mi^2.

PERIOD OF RECORD.--March 1960 to March 1971. October 1971 to current year.

REVISED RECORDS.--WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 120 ft, from topographic map.

REMARKS.--Records fair. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--26 years (water years 1961-70, 1972-87), 10.0 ft^3/s (7,240 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,100 ft^3/s Sept. 27, 1978, gage height, 11.3 ft, from outside floodmarks, and from rating curve extended above 58 ft^3/s on basis of slope-area measurement of peak flow; minimum, 0.37 ft^3/s May 21, 22, 26, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,450 ft^3/s Dec. 27, gage height, 5.49 ft, no other peak greater than base discharge of 1,400 ft^3/s; minimum, 1.2 ft^3/s June 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	6.2	4.5	5.3	4.6	2.4	2.0	1.8	1.4	1.6	1.7	2.1
2	7.3	5.8	4.4	6.2	9.9	2.4	2.0	1.8	1.4	1.4	4.7	2.0
3	108	7.5	4.6	7.2	3.4	2.4	1.9	1.8	1.4	1.4	2.5	2.0
4	51	16	14	5.2	3.1	2.4	2.1	1.8	1.2	1.4	2.3	11
5	15	29	6.2	4.9	3.0	2.8	1.9	1.6	1.4	1.2	2.0	12
6	27	9.7	4.8	4.7	3.0	2.8	1.9	1.6	1.4	1.8	1.8	6.9
7	12	7.3	4.7	4.7	2.9	2.4	1.9	1.6	1.4	1.8	1.8	9.6
8	10	6.4	4.5	4.7	2.9	2.6	2.0	1.8	1.4	1.4	1.5	85
9	10	5.9	4.4	4.7	2.8	2.5	1.9	1.8	1.4	7.2	1.5	36
10	15	5.8	4.4	5.1	2.8	2.3	2.0	1.8	2.6	9.1	1.4	11
11	19	5.6	5.9	7.7	3.0	2.3	2.7	1.8	1.8	31	3.7	6.8
12	20	5.3	7.1	4.7	3.2	2.3	2.2	1.8	1.8	4.8	6.4	5.3
13	11	5.4	5.5	4.7	2.8	2.2	2.0	1.6	1.6	2.5	6.7	4.8
14	12	5.2	4.4	4.3	3.8	2.2	1.9	1.6	1.6	2.1	3.9	4.0
15	10	5.5	4.3	4.2	2.7	2.3	1.9	1.6	1.8	1.9	3.1	3.7
16	9.5	5.1	4.1	4.3	2.7	2.2	1.8	1.8	1.8	2.1	2.5	3.4
17	7.8	5.0	15	4.5	2.8	2.3	1.8	1.8	1.8	2.0	5.0	3.5
18	7.1	5.1	12	4.4	2.7	2.2	1.8	1.6	1.8	1.9	3.5	3.2
19	6.6	5.1	6.4	4.2	3.0	2.1	1.8	1.8	1.8	2.6	2.7	3.2
20	8.5	4.8	4.9	4.2	2.9	2.1	1.8	1.8	1.6	2.1	2.8	3.2
21	6.6	4.7	4.5	4.1	2.8	2.1	2.0	1.6	1.8	1.7	3.8	2.9
22	16	8.9	4.3	4.1	2.7	2.1	1.7	1.6	1.8	1.7	4.0	3.0
23	16	11	4.2	4.0	2.5	2.1	1.7	1.4	1.6	5.4	11	4.8
24	13	5.4	4.1	3.9	2.5	2.1	1.7	1.4	1.4	3.8	6.3	8.9
25	16	5.2	4.1	3.8	2.5	2.1	1.6	1.4	1.6	2.7	4.8	5.4
26	16	4.9	5.8	3.8	2.7	2.3	1.7	1.4	1.8	2.2	3.5	4.2
27	7.8	4.8	137	3.8	2.8	2.2	1.7	1.4	1.6	1.8	3.0	3.5
28	7.3	4.7	29	3.6	2.5	2.1	2.0	1.4	1.6	2.2	2.8	3.3
29	7.1	4.6	10	3.8	---	2.1	1.8	1.4	1.8	3.6	2.8	3.1
30	6.1	4.5	6.8	3.5	---	2.1	1.8	1.4	1.6	2.3	2.4	2.9
31	7.0	---	5.7	3.4	---	2.1	---	1.8	---	1.9	2.6	---
TOTAL	492.3	210.4	341.8	141.7	86.8	70.8	57.0	49.6	47.8	110.6	107.9	240.5
MEAN	15.9	7.01	11.0	4.57	3.17	2.28	1.90	1.60	1.59	3.57	3.48	8.02
MAX	108	29	137	7.7	9.9	2.8	2.7	1.8	2.6	31	11	85
MIN	8.1	4.5	4.1	3.4	2.5	2.1	1.6	1.4	1.2	1.2	1.4	2.0
AC-FT	976	417	678	281	176	140	113	98	95	219	214	477

CAL YR 1986	TOTAL	4650.3	MEAN	12.7	MAX	211	MIN	3.0	AC-FT	9220
WTR YR 1987	TOTAL	1958.8	MEAN	5.37	MAX	137	MIN	1.2	AC-FT	3890

16848100 ALMAGOSA RIVER NEAR AGAT

LOCATION.--Lat 13°20'43" N., long 144°41'36" E., Hydrologic Unit 20100003, on right bank 400 ft upstream from Fena Valley Reservoir and 3.5 mi southeast of Agat.

DRAINAGE AREA.--1.32 mi^2.

PERIOD OF RECORD.--April 1972 to current year.

REVISED RECORD.--WDR HI-75-1: Drainage area. WDR HI-76-1: 1972(P), 1973(M), 1974-75(P).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 155 ft, from topographic map.

REMARKS.--Records good. Up to 3.9 ft^3/s diverted upstream for domestic use. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years, 5.99 ft^3/s (4,340 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,650 ft^3/s Sept. 27, 1978, gage height, 7.78 ft, from rating curve extended above 46 ft^3/s on basis of slope-area measurement at gage height 7.32 ft; minimum, 0.13 ft^3/s June 27, July 11, 12, 14, 16, 17, 1979, June 3-9, 1984, June 23, 24, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 783 ft^3/s Dec. 27, gage height, 5.25 ft, no other peak greater than base discharge of 700 ft^3/s; minimum, 0.13 ft^3/s June 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	4.4	1.5	4.8	1.2	.88	.52	.41	.24	.13	.50	.74
2	3.2	3.8	1.5	4.3	3.7	.66	.79	.41	.27	.21	3.2	.68
3	64	5.4	1.9	4.0	1.0	.68	.52	.39	.24	.18	1.6	.68
4	56	14	7.5	3.3	.88	.86	.47	.42	.24	.21	1.0	5.6
5	19	26	2.7	2.9	.84	.74	.47	.38	.21	.21	.71	11
6	28	11	2.2	2.5	.82	.82	.47	.35	.21	.21	.62	5.6
7	12	7.8	2.1	2.2	.79	.71	.47	.35	.21	.39	.67	6.3
8	10	5.8	1.9	2.0	.76	.87	.52	.38	.18	.24	.52	54
9	9.0	4.9	1.4	1.8	.73	.86	.52	.35	.18	3.4	.52	42
10	10	4.4	1.3	1.8	.73	.71	.52	.35	.39	7.7	.47	17
11	24	3.9	2.5	3.0	.75	.66	.77	.34	.24	34	1.1	9.3
12	15	3.5	3.3	1.6	.86	.63	.67	.31	.21	10	1.5	5.8
13	11	3.3	2.0	1.6	.80	.63	.58	.31	.21	2.9	2.2	4.2
14	11	2.9	1.6	1.4	1.0	.58	.55	.31	.21	1.3	1.8	3.3
15	11	2.8	1.4	1.2	.79	.58	.52	.31	.35	.68	1.2	2.6
16	7.9	2.6	1.3	1.1	.73	.63	.51	.31	.27	.63	.84	2.0
17	6.4	2.4	6.9	.98	.74	.63	.47	.27	.21	.59	2.0	1.7
18	5.5	2.2	7.4	.95	.73	.63	.49	.29	.18	.53	2.0	1.6
19	4.8	2.1	4.4	.89	.82	.63	.47	.32	.18	1.1	1.4	1.4
20	4.4	2.0	3.3	.95	.81	.79	.49	.31	.15	.68	.95	1.3
21	4.1	1.8	2.7	.93	.83	.63	.51	.27	.15	.83	1.2	1.2
22	15	4.9	2.2	.89	.78	.52	.46	.28	.15	.51	2.1	1.2
23	10	8.0	1.9	.94	.71	.52	.43	.27	.13	2.4	9.7	2.2
24	13	2.6	1.7	.93	.71	.52	.43	.27	.13	3.3	8.7	6.8
25	15	2.2	1.5	.87	.68	.52	.42	.29	.24	1.9	5.2	2.9
26	19	2.0	1.9	.84	.72	.52	.42	.27	.35	1.1	3.7	1.9
27	9.0	1.8	101	.84	.71	.52	.43	.30	.18	.64	2.5	1.5
28	7.5	1.7	37	.84	.70	.58	.43	.27	.15	.76	1.9	1.6
29	6.0	1.6	16	1.5	---	.52	.43	.25	.15	1.6	1.9	1.3
30	5.0	1.5	9.3	.87	---	.52	.42	.27	.15	.82	1.0	1.2
31	5.0	---	6.2	.82	---	.52	---	.24	---	.62	.89	---
TOTAL	424.0	143.3	239.5	53.74	25.30	19.71	15.17	9.85	8.36	79.57	63.39	198.60
MEAN	13.7	4.78	7.73	1.73	.90	.64	.51	.32	.21	2.57	2.04	6.62
MAX	64	26	101	4.6	3.7	.87	.79	.42	.39	34	9.7	54
MIN	3.2	1.5	1.3	.82	.68	.52	.42	.24	.13	.13	.47	.68
AC-FT	841	284	475	107	50	39	30	20	13	158	126	394

CAL YR 1986	TOTAL	3104.85	MEAN	8.51	MAX	152	MIN	.79	AC-FT	6160
WTR YR 1987	TOTAL	1278.49	MEAN	3.50	MAX	101	MIN	.13	AC-FT	2540

16848500 MAULAP RIVER NEAR AGAT

LOCATION.--Lat 13°21'14" N., long 144°41'44" E., Hydrologic Unit 20100003, on right bank 100 ft from Fena Valley Reservoir and 3.2 mi southeast of Agat.

DRAINAGE AREA.--1.15 mi^2.

PERIOD OF RECORD.--January 1972 to current year.

REVISED RECORDS.--WRD Hawaii 1973: 1972. WRD HI-75-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 130 ft, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years, 5.21 ft^3/s (3,770 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,420 ft^3/s Sept. 27, 1978, gage height, 9.2 ft, from rating curve extended above 23 ft^3/s, on basis of slope-area measurements at gage heights 8.21 ft and 9.2 ft; minimum, 0.31 ft^3/s June 28 to July 1, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, about 850 ft^3/s Dec. 27, no other peak greater than base discharge of 600 ft^3/s; minimum, 0.37 June 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	3.9	2.7	e2.9	3.1	1.0	.82	.68	.54	.47	e.96	1.5
2	2.9	3.5	2.5	e3.3	7.2	.96	.75	.68	.54	.82	e3.9	1.3
3	77	4.3	2.9	e3.8	1.7	.96	.75	.61	.54	.40	e1.4	1.3
4	32	17	12	e2.8	1.6	1.0	.82	.68	.47	.47	e1.3	7.6
5	8.3	25	3.3	e2.5	1.5	1.3	.75	.61	.54	.47	e1.2	6.0
6	7.9	5.5	2.9	2.3	1.3	1.3	.75	.68	.54	.68	e1.0	5.2
7	5.8	4.6	3.3	2.3	1.3	1.0	.75	.68	.47	.75	e1.0	6.3
8	4.6	4.3	2.9	2.2	1.3	1.5	.82	.81	.47	.40	e.92	49
9	5.2	3.9	2.7	2.2	1.2	1.3	.82	.61	.47	5.8	e.82	22
10	9.9	3.9	2.5	2.3	1.2	1.0	.82	.61	.82	11	e.82	9.1
11	35	3.7	4.9	4.1	1.2	1.0	1.0	.61	.54	26	e2.3	6.6
12	8.3	3.5	5.8	2.3	1.3	.98	.89	.61	.47	3.5	e5.2	4.9
13	6.3	3.3	3.3	2.3	1.2	.96	.75	.61	.47	e1.5	e5.2	4.1
14	5.2	3.3	2.5	2.2	1.7	.96	.75	.81	.47	e1.3	e2.0	3.3
15	7.2	3.7	2.3	1.9	1.3	.96	.75	.61	.68	e1.2	e1.7	2.9
16	4.8	3.3	2.2	1.8	1.2	.96	.75	.54	.54	e1.3	e1.5	2.7
17	3.7	3.3	12	1.8	1.2	.98	.75	.54	.47	e1.2	e4.3	3.7
18	3.5	3.5	e9.7	1.8	1.1	.98	.75	.54	.40	e1.2	e2.0	2.7
19	3.5	3.3	e3.4	1.8	1.5	.96	.89	.54	.40	e2.3	e1.6	2.3
20	3.1	3.1	e2.7	1.8	1.5	.96	.96	.54	.47	e1.2	e1.5	2.3
21	3.1	2.9	e2.5	1.8	1.3	.96	.75	.54	.40	e1.0	e2.1	2.1
22	27	5.8	e2.3	1.7	1.2	.96	.75	.54	.40	e1.0	e2.3	2.2
23	9.5	6.3	e2.3	1.5	1.1	.98	.68	.54	.40	e4.8	e9.0	4.1
24	20	3.3	e2.2	1.5	1.1	.96	.88	.54	.40	e2.4	e3.9	12
25	10	3.5	e2.2	1.5	1.0	.96	.75	.54	.40	e1.4	e3.0	4.1
26	21	3.1	e3.1	1.5	1.1	1.0	.75	.54	.75	e1.3	e2.5	3.3
27	4.9	2.9	e103	1.6	1.1	.89	.68	.54	.54	e1.0	e2.1	2.7
28	4.6	3.1	e14	1.5	1.0	.89	.68	.54	.47	e1.2	1.9	2.9
29	4.1	2.9	e5.2	1.7	---	.89	.68	.47	.47	e2.8	2.1	2.3
30	3.3	2.5	e3.5	1.5	---	.89	.61	.47	.47	e1.2	1.8	2.2
31	3.7	---	e3.1	1.3	---	.89	---	.47	---	e1.1	1.9	---
TOTAL	348.1	146.2	229.9	65.5	43.5	31.21	23.10	17.93	15.01	80.96	73.32	182.7
MEAN	11.2	4.87	7.42	2.11	1.55	1.01	.77	.58	.50	2.81	2.37	6.09
MAX	77	25	103	4.1	7.2	1.5	1.0	.68	.82	26	9.0	49
MIN	2.9	2.5	2.2	1.3	1.0	.89	.81	.47	.40	.40	.82	1.3
AC-FT	690	290	456	130	86	62	46	38	30	181	145	362

CAL YR 1986	TOTAL	2808.3	MEAN	7.69	MAX	151	MIN	1.3	AC-FT	5570
WTR YR 1987	TOTAL	1257.43	MEAN	3.45	MAX	103	MIN	.40	AC-FT	2490

e Estimated

16849000 FENA DAM SPILLWAY NEAR AGAT

LOCATION.--Lat 13°21'28" N., long 144°42'12" E., Hydrologic Unit 20100003, on left bank 3.5 mi southeast of Agat and 5.8 mi southwest of Yona.

DRAINAGE AREA.--5.88 mi^2.

PERIOD OF RECORD.--September 1951 to July 1952, November 1952 to current year. Daily mean gage heights published since October 1973.

REVISED RECORDS.--WSP 2137: Drainage area. WDR HI-78-2: 1977(M, m).

GAGE.--Water-stage recorder and concrete-dam control. Datum of gage is 111.35 ft above mean sea level (from U.S. Navy construction plans).

REMARKS.--Gage-height records good. About 14 ft^3/s is diverted from Fena Valley Reservoir and tributary springs for military and civilian use. Discharge records represent flow over spillway only.

AVERAGE DISCHARGE.--20 years (1953-73), 17.9 ft^3/s (12,970 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined, occurred Oct. 15, 1953 (gage height, at least 4.5 ft); no flow for many days each year. Minimum recorded gage height, -21.86 ft, Aug. 4, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 1.74 ft, Dec. 27; minimum, -20.47 ft July 9.

GAGE HEIGHT (FEET AT DATUM), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	.13	-0.01	.06	-1.29	-3.21	-6.55	-10.34	-14.67	-19.32	-19.37	-20.00
2	.26	.10	-0.01	.08	-1.13	-3.30	-6.65	-10.47	-14.80	-19.46	-19.24	-20.12
3	.76	.13	.00	.07	-1.13	-3.40	-6.78	-10.60	-14.95	-19.62	-19.24	-20.23
4	.77	.27	.16	.07	-1.18	-3.49	-6.86	-10.73	-15.10	-19.78	-19.32	-20.22
5	.33	.40	.13	.04	-1.25	-3.57	-8.94	-10.87	-15.26	-19.94	-19.39	-19.72
6	.28	.25	.07	.00	-1.34	-3.64	-7.12	-11.00	-15.42	-20.10	-19.49	-19.55
7	.24	.17	.04	-0.03	-1.43	-3.72	-7.25	-11.15	-15.57	-20.23	-19.59	-19.35
8	.18	.13	.03	-0.08	-1.50	-3.79	-7.37	-11.27	-15.72	-20.37	-19.71	-17.60
9	.18	.11	.01	-0.14	-1.58	-3.86	-7.49	-11.39	-15.83	e-20.34	-19.84	-15.67
10	.22	.11	-0.02	-0.17	-1.88	-3.95	-7.82	-11.55	-16.03	e-20.05	-19.98	-15.07
11	.38	.09	.02	-0.14	-1.78	-4.07	-7.74	-11.69	-16.20	e-19.01	-20.04	-14.84
12	.30	.07	.06	-0.14	-1.82	-4.18	-7.82	-11.81	-16.35	e-18.23	-20.06	-14.73
13	.22	.07	.02	-0.17	-1.89	-4.31	-7.94	-11.96	-16.53	e-18.20	-20.02	-14.69
14	.19	.07	.01	-0.21	-1.94	-4.43	-8.06	-12.09	-16.70	e-18.24	-20.01	-14.67
15	.19	.07	-0.05	-0.27	-1.98	-4.54	-8.18	-12.21	-16.88	e-18.33	-20.07	-14.69
16	.17	.07	-0.10	-0.32	-2.10	-4.65	-8.32	-12.35	-17.06	e-18.41	-20.16	-14.71
17	.13	.05	-0.05	-0.37	-2.19	-4.78	-8.45	-12.50	-17.22	e-18.51	-20.18	-14.72
18	.11	.05	.21	-0.44	-2.27	-4.87	-8.58	-12.65	-17.36	e-18.60	-20.17	-14.71
19	.10	.04	.15	-0.49	-2.35	-4.97	-8.72	-12.79	-17.50	e-18.63	-20.22	-14.78
20	.09	.03	.08	-0.55	-2.40	-5.07	-8.84	-12.92	-17.52	-18.65	-20.31	-14.84
21	.08	.01	.05	-0.59	-2.47	-5.20	-8.98	-13.07	-17.67	-18.73	-20.35	-14.91
22	.22	.10	.01	-0.66	-2.57	-5.32	-9.11	-13.21	-17.84	-18.84	-20.35	-14.99
23	.29	.17	-0.03	-0.74	-2.66	-5.44	-9.25	-13.37	-16.03	-18.81	-20.14	-14.98
24	.24	.11	-0.07	-0.81	-2.76	-5.56	-9.38	-13.50	-18.20	-18.70	-19.88	-14.74
25	.31	.07	-0.11	-0.88	-2.86	-5.70	-9.53	-13.67	-18.36	-18.74	-19.74	-14.61
26	.32	.07	-0.13	-0.96	-2.93	-5.82	-9.86	-13.81	-18.47	-18.83	-19.71	-14.60
27	.18	.06	.68	-1.03	-3.02	-5.92	-9.79	-13.96	-18.84	-18.92	-19.74	-14.62
28	.15	.04	.46	-1.10	-3.10	-8.05	-9.84	-14.10	-18.80	-19.03	-19.78	-14.67
29	.14	.03	.23	-1.18	---	-6.17	-10.07	-14.23	-18.98	-19.02	-19.80	-14.70
30	.13	.00	.15	-1.20	---	-8.30	-10.20	-14.38	-19.14	-19.11	-19.85	-14.76
31	.13	---	.10	-1.28	---	-8.42	---	-14.53	---	-19.24	-19.92	---
MEAN	.24	.10	.07	-0.44	-2.02	-4.70	-8.30	-12.39	-16.89	-19.10	-19.88	-16.08
MAX	.77	.40	.88	.07	-1.13	-3.21	-6.55	-10.34	-14.67	-18.20	-19.24	-14.60
MIN	.08	.00	-0.13	-1.28	-3.10	-6.42	-10.20	-14.53	-19.14	-20.37	-20.35	-20.23

CAL YR 1986	MEAN	-0.06	MAX	1.34	MIN	-1.98
WTR YR 1987	MEAN	-8.31	MAX	.88	MIN	-20.37

e Estimated

16854500 UGUM RIVER ABOVE TALOFOFO FALLS, NEAR TALOFOFO

LOCATION.--Lat 13°19'18" N., long 144°44'01" E., Hydrologic Unit 20100003, about 300 ft upstream from Talofofo Falls, 0.9 mi north of NASA Tracking Station, and 3.5 mi southwest of main intersection in Talofofo village.

DRAINAGE AREA.--5.76 mi^2.

PERIOD OF RECORD.--June 1977 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 130 ft, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--10 years, 25.0 ft^3/s (18,110 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,890 ft^3/s Feb. 26, 1980, gage height, 14.2 ft, from flood-marks, from rating curve extended above 350 ft^3/s on basis of slope-area measurement at gage height 14.2 ft; minimum, 3.4 ft^3/s, June 27, 1978, July 14, 18, 19, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,270 ft^3/s Dec. 27, gage height, 7.08 ft, no peak greater then base discharge of 1,300 ft^3/s; minimum, 8.2 ft^3/s Apr. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e23	22	14	17	12	10	6.6	5.0	4.5	3.7	6.8	8.3
2	e25	20	14	19	22	9.8	6.4	5.0	4.4	3.7	10	7.7
3	e243	26	14	18	11	9.5	6.1	4.9	4.2	3.6	8.0	7.7
4	e69	44	22	16	10	10	6.4	4.9	4.2	3.7	7.6	27
5	e52	61	14	16	9.9	10	6.1	4.7	4.0	3.7	6.6	47
6	e93	30	13	15	9.7	11	5.9	4.5	4.0	12	6.3	19
7	e40	22	18	14	9.7	9.5	5.9	4.5	4.0	6.2	6.2	22
8	e34	20	14	13	9.7	8.6	5.9	4.5	4.0	5.3	6.1	118
9	e35	19	13	13	9.7	9.0	5.9	4.5	4.0	20	5.9	101
10	46	18	13	13	9.7	8.8	5.9	4.7	6.1	27	5.7	36
11	50	16	16	17	9.7	8.0	6.6	4.7	4.9	60	16	24
12	75	17	18	13	11	7.6	8.0	4.7	4.2	19	13	20
13	39	17	15	13	9.7	7.8	6.1	4.7	4.2	9.7	17	19
14	35	16	13	12	12	7.5	5.9	4.7	4.2	7.7	11	17
15	33	16	12	12	9.7	7.5	8.4	4.5	4.4	6.7	10	16
16	31	17	12	12	9.7	7.5	5.9	4.5	4.5	7.0	8.6	14
17	27	18	46	12	9.7	7.5	5.7	4.5	4.2	7.2	12	14
18	25	16	42	12	9.4	7.8	5.9	4.5	3.8	7.0	11	14
19	24	16	22	11	9.5	7.5	5.7	4.5	3.8	6.7	8.7	14
20	23	15	15	11	10	7.3	5.4	4.5	3.8	7.2	8.1	13
21	23	15	14	11	10	7.0	5.4	4.4	3.8	8.3	6.2	13
22	37	34	13	11	10	7.0	5.2	4.4	3.7	6.2	6.6	13
23	61	23	12	10	10	7.0	5.2	4.4	3.7	11	22	17
24	34	18	12	11	10	7.0	5.2	4.4	3.7	12	18	24
25	56	19	12	11	10	7.0	5.2	4.4	3.6	11	14	17
26	28	16	21	10	10	7.0	5.2	4.4	4.2	11	10	16
27	23	16	311	11	10	7.3	5.2	4.4	4.0	8.2	9.4	14
28	24	15	75	11	10	7.3	5.2	4.4	3.6	7.6	10	13
29	32	14	31	10	---	6.6	5.2	4.4	3.8	15	9.0	12
30	22	14	21	10	---	6.6	5.2	4.4	3.8	9.6	8.7	12
31	28	---	18	9.9	---	6.8	---	4.7	---	7.8	9.1	---
TOTAL	1412	834	900	394.9	293.6	249.4	174.9	141.7	123.7	357.0	309.8	709.7
MEAN	45.5	21.1	29.0	12.7	10.5	8.05	5.83	4.57	4.12	11.5	9.99	23.7
MAX	243	61	311	19	22	11	8.0	5.0	6.1	60	22	118
MIN	22	14	12	9.9	9.4	6.6	5.2	4.4	3.7	3.7	5.7	7.7
AC-FT	2800	1260	1790	783	583	495	347	281	245	708	614	1410

CAL YR 1986	TOTAL	12677.8	MEAN	34.7	MAX	558	MIN	6.4	AC-FT	25150
WTR YR 1987	TOTAL	5700.9	MEAN	15.6	MAX	311	MIN	3.7	AC-FT	11310

e Estimated

MARIANA ISLANDS, ISLAND OF GUAM

16858000 YLIG RIVER NEAR YONA

LOCATION.--Lat 13°23'28" N., long 144°45'08" E., Hydrologic Unit 20100003, on right bank 2.2 mi upstream from mouth, 1.9 mi southwest of Yona, and 5.6 mi south of Agana.

DRAINAGE AREA.--6.46 mi^2.

PERIOD OF RECORD.--June 1952 to March 1986, April to September 1987.

REVISED RECORDS.--WSP 1937: 1957-58. WSP 2137: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 20 ft, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--33 years, 28.1 ft^3/s (20,290 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,900 ft^3/s Sept. 9, 1963, gage height, 19.77 ft, from flood-marks, from rating curve extended above 830 ft^3/s on basis of slope-area measurements at gage heights 11.24 ft and 15.87 ft, maximum gage height, 22.80 ft Feb. 26, 1980; minimum, 0.07 ft^3/s, May 20, 1973, but may have been less during period of diversion from gage pool May 15 to June 20, 1966.

EXTREMES FOR PERIOD OF OCTOBER 1, 1985 TO MARCH 31, 1986.--Maximum discharge, 3,640 ft^3/s Oct. 17, gage height, 16.53 ft, from rating curve extended above 360 ft^3/s, no other peak above base of 2,000 ft^3/s; minimum, 3.8 ft^3/s for several days in February.

EXTREMES FOR PERIOD OF APRIL 1 TO SEPTEMBER 30, 1987.--Maximum discharge, 1,120 ft^3/s Sept. 8, gage height, 8.10 ft, from rating curve extended above 360 ft^3/s, no peak above base of 2,000 ft^3/s; minimum, 0.35 ft^3/s June 24, 25.

DISCHARGE, IN 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	42	19	9.5	16	4.1	108						
2	33	16	8.9	14	4.3	43						
3	28	15	8.3	12	4.3	24						
4	26	15	20	11	5.0	32						
5	24	14	32	11	4.1	24						
6	23	14	148	11	3.9	38						
7	22	15	155	10	3.8	22						
8	19	15	29	9.8	3.8	18						
9	136	12	24	9.5	3.8	16						
10	30	11	20	8.6	3.8	27						
11	24	10	18	8.2	4.4	17						
12	24	10	24	8.2	10	15						
13	58	10	19	8.2	7.3	13						
14	166	11	20	7.5	5.8	12						
15	235	18	16	7.0	5.0	11						
16	51	13	14	7.0	4.3	11						
17	209	18	24	6.7	3.9	10						
18	30	20	51	6.7	13	9.6						
19	134	76	22	6.5	28	9.1						
20	52	16	17	6.3	12	8.6						
21	31	13	15	5.8	7.7	7.7						
22	27	11	24	5.8	7.3	7.3						
23	32	18	15	5.4	6.3	7.0						
24	26	17	15	5.2	5.4	6.7						
25	23	11	15	5.0	5.2	6.5						
26	33	9.8	12	4.8	5.2	9.1						
27	21	9.5	11	4.8	28	9.1						
28	51	8.9	11	4.4	44	6.5						
29	46	8.6	11	4.4	---	6.3						
30	21	9.5	56	4.3	---	5.6						
31	19	---	24	4.1	---	7.5						
TOTAL	1698	464.3	886.7	239.2	243.7	547.6						
MEAN	54.7	15.5	28.6	7.72	8.70	17.7						
MAX	235	76	155	16	44	108						
MIN	19	8.6	8.3	4.1	3.8	5.6						
AC-FT	3360	921	1760	474	483	1090						

CAL YR 1985 TOTAL 11274.0 MEAN 30.9 MAX 560 MIN 1.4 AC-FT 22360

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							e1.6	1.2	.64	e.41	e5.1	15
2							e1.6	1.2	.71	e.78	e18	14
3							e1.6	1.2	.86	e.64	e12	13
4							e1.5	1.2	.94	e.70	e7.4	102
5							e1.5	1.2	.86	e.70	e6.0	67
6							e1.5	1.1	.86	e.70	e5.1	36
7							e1.4	1.1	.86	e1.3	e5.6	46
8							e1.4	1.0	.86	e.67	e4.5	340
9							e1.4	1.0	.86	e10	e4.5	135
10							e2.3	1.0	1.2	e23	e4.1	51
11							e2.0	1.0	1.5	e180	e6.1	39
12							e1.9	1.0	1.1	e62	8.6	30
13							e1.7	.94	.86	e19	10	27
14							1.6	.86	.78	e13	12	24
15							1.8	.94	.71	e9.7	10	21
16							1.6	1.1	.78	e8.0	10	19
17							1.5	.94	.71	e6.5	15	18
18							1.5	.86	.64	e5.3	12	17
19							1.4	.86	.58	e8.4	9.4	14
20							1.4	.86	.46	e5.6	8.6	14
21							1.4	.86	.46	e5.0	8.3	13
22							1.4	.86	.40	e4.6	12	13
23							1.3	.86	.40	e13	47	13
24							1.3	.86	.40	e19	30	25
25							1.3	.86	.46	e13	30	15
26							1.3	.78	1.1	e9.6	21	13
27							1.2	.86	.94	e8.1	18	12
28							1.2	.86	e.54	e6.4	14	10
29							1.2	.78	e.53	e11	22	10
30							1.2	.86	e.52	e7.0	17	9.4
31							---	.71	---	e6.0	19	---
TOTAL							45.0	28.71	22.52	457.10	412.3	1175.4
MEAN							1.50	.96	.75	14.7	13.3	39.2
MAX							2.3	1.2	1.5	180	47	340
MIN							1.2	.71	.40	.41	4.1	9.4
AC-FT							89	59	45	907	818	2330

e Estimated

16890600 DIONGRADID RIVER, BABELTHUAP

LOCATION.--Lat 07°36'04" N., long 134°35'02" E., Hydrologic Unit 20100006, on right bank 0.3 mi upstream from left-bank tributary, 0.9 mi southeast of Ngetbong village school, and 2.4 mi upstream from confluence with Ngerchetang River.

DRAINAGE AREA.--4.45 mi^2.

PERIOD OF RECORD.--October 1969 to current year. Prior to October 1980, published as Adeiddo River.

REVISED RECORDS.--WDR HI-75-1: 1970(M), 1972-73(P). WDR HI-81-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 15 ft, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--18 years, 32.3 ft^3/s (23,400 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,310 ft^3/s Jan. 22, 1975, gage height, 15.44 ft, from rating curve extended above 410 ft^3/s on basis of field estimate at gage height 15.44 ft; minimum, 2.1 ft^3/s Apr. 14-17, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,240 ft^3/s Nov. 11, gage height, 15.17 ft, no other peak greater than base discharge of 600 ft^3/s; minimum, 5.7 ft^3/s Apr. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	36	e50	12	16	19	9.7	8.9	27	55	28	50
2	93	38	e45	16	15	18	9.1	7.4	18	77	29	44
3	50	37	e43	13	15	17	8.4	7.7	16	84	27	40
4	36	37	e40	12	15	24	7.9	6.8	14	53	29	37
5	34	37	e38	11	94	34	7.9	7.9	13	47	29	45
6	33	38	e36	12	40	20	7.7	7.0	12	47	44	54
7	33	38	e33	15	31	19	7.7	6.8	12	62	31	40
8	33	38	e30	16	30	17	7.7	6.8	12	67	30	34
9	34	38	e45	21	27	16	7.4	19	11	65	30	32
10	39	108	e40	15	25	18	7.4	7.9	16	132	29	32
11	34	1050	e35	14	25	16	7.2	8.8	22	158	88	30
12	34	166	e30	30	26	16	7.0	6.6	15	133	79	e30
13	34	133	e25	19	24	15	7.0	6.6	14	120	74	e28
14	34	96	e20	15	24	15	6.8	6.3	13	94	71	e27
15	52	78	e18	14	26	15	6.8	6.3	12	80	84	e25
16	36	69	e17	18	26	14	6.6	6.1	13	69	66	e23
17	35	81	17	28	24	13	6.8	6.8	14	61	61	e23
18	37	51	16	17	23	13	6.8	6.3	15	55	57	e22
19	101	48	16	15	57	13	8.3	9.3	12	52	50	e23
20	84	45	15	15	38	13	6.3	8.6	14	58	46	e24
21	68	42	15	15	29	12	6.6	10	13	48	45	e23
22	55	42	15	13	26	13	6.3	9.6	12	40	43	e20
23	48	e40	14	13	23	12	6.6	12	18	36	45	e25
24	44	e40	14	40	22	12	6.6	9.7	37	34	51	e20
25	41	e39	15	21	21	12	5.9	12	54	34	159	e18
26	41	e38	13	16	20	11	7.0	8.6	104	35	121	e18
27	38	e45	13	16	20	11	7.4	8.1	97	32	90	e20
28	61	e40	13	16	19	10	8.4	9.8	72	30	76	e22
29	39	e38	12	15	---	10	11	10	86	29	65	e18
30	38	e37	15	16	---	10	18	15	65	27	63	e18
31	38	---	13	25	---	9.9	---	54	---	27	61	---
TOTAL	1388	2643	761	534	779	467.9	230.1	314.7	853	1919	1801	865
MEAN	44.8	88.1	24.5	17.2	27.8	15.1	7.67	10.2	28.4	61.9	58.1	28.6
MAX	101	1050	50	40	94	34	16	54	104	158	159	54
MIN	31	37	12	11	15	9.9	5.9	6.1	11	27	27	18
AC-FT	2750	5240	1510	1060	1550	928	456	624	1690	3810	3570	1720

CAL YR 1986	TOTAL	12469.3	MEAN	34.2	MAX	1050	MIN	9.7	AC-FT	24730
WTR YR 1987	TOTAL	12555.7	MEAN	34.4	MAX	1050	MIN	5.9	AC-FT	24900

e Estimated

16690900 TABECHEDING RIVER, BABELTHUAP

LOCATION.--Lat 07°27'03" N., long 134°31'29" E., Hydrologic Unit 20100006, on left bank 0.2 mi downstream from waterfall, 1.5 mi upstream from boat landing, and 1.6 mi east of forestry station.

DRAINAGE AREA.--6.07 mi^2.

PERIOD OF RECORD.--October 1970 to current year. Prior to October 1980, published as Tabagaten River.

REVISED RECORDS.--WDR HI-81-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 20 ft, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--17 years, 48.7 ft^3/s (35,280 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,580 ft^3/s Dec. 23, 1973, gage height, 8.79 ft, from rating curve extended above 290 ft^3/s; minimum, 0.57 ft^3/s Apr. 19, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0700	1,800	Unknown	Aug. 17	1330	982	6.03
Aug. 1	1600	1,100	Unknown	Aug. 19	0500	*2,000	*Unknown

Minimum discharge, 3.5 ft^3/s Apr. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	20	e35	18	e20	14	6.4	10	46	e150	e500	e85
2	18	20	e35	27	e18	13	6.9	8.9	38	e90	e200	e80
3	15	e25	e40	20	e15	12	5.9	7.1	38	e80	e100	e75
4	13	e25	e30	e20	e18	59	5.7	6.1	32	e80	e130	e50
5	12	e35	e25	e18	e30	68	5.7	7.6	26	e100	e100	e45
6	11	e30	e25	e18	e25	28	5.2	6.9	26	e80	e200	e45
7	11	e20	e20	e18	e20	25	5.0	8.1	24	e200	112	e40
8	30	e25	e20	e20	e18	20	4.5	17	22	e350	121	e30
9	42	e20	e60	e30	e18	16	4.8	23	24	e150	113	e30
10	100	e00	45	e20	e15	17	6.6	10	25	e450	131	e25
11	27	e00	64	e25	e15	17	5.4	7.6	21	e130	98	e25
12	20	e50	69	e20	e18	15	4.5	6.9	23	e100	112	e20
13	18	e00	50	e25	e15	15	4.3	6.1	20	e90	85	e25
14	17	e70	37	e18	e18	14	3.9	11	22	e80	67	e20
15	35	e50	33	e15	e20	15	3.9	7.8	28	e70	71	e20
16	44	e45	31	e40	e25	15	3.9	6.1	68	e60	126	e20
17	37	e50	28	e60	e20	13	8.9	18	111	e65	244	e18
18	81	e40	28	e30	17	13	5.9	11	81	e50	220	e18
19	41	e35	25	e25	49	12	4.1	58	59	e45	e650	e20
20	34	e35	22	e25	42	12	3.7	40	66	e45	e250	e18
21	33	e35	21	e20	27	10	6.5	35	45	e40	e150	e15
22	27	e30	20	e20	22	10	5.2	49	118	e70	e100	e15
23	23	e30	19	e20	19	9.5	3.9	30	64	e120	e100	e18
24	20	e25	17	e30	17	9.2	4.1	60	87	e85	e200	e15
25	24	e25	19	e25	16	8.7	3.9	200	85	e80	e130	e14
26	25	e30	18	e20	16	8.4	8.9	48	137	e70	e90	e18
27	20	e35	16	e20	14	7.9	12	48	155	e60	e80	e15
28	70	e30	16	e22	14	7.6	8.7	252	138	e50	e75	e14
29	29	e25	15	e20	---	7.4	14	84	e80	e150	e70	e18
30	24	e30	38	e18	---	8.6	14	73	e250	e80	e130	e15
31	22	---	20	e30	---	6.6	---	57	---	e70	e200	---
TOTAL	922	2290	939	737	581	506.9	184.4	1211.0	1939	3340	4956	864
MEAN	29.7	76.3	30.3	23.8	20.8	16.4	8.15	39.1	64.6	108	160	28.8
MAX	100	900	69	60	49	68	14	252	250	450	850	85
MIN	11	20	15	15	14	6.8	3.7	6.1	20	40	67	14
AC-FT	1830	4540	1860	1460	1150	1010	368	2400	3850	6620	9830	1710

CAL YR 1988	TOTAL	16742.8	MEAN	45.9	MAX	900	MIN	5.7	AC-FT	33210
WTR YR 1987	TOTAL	18470.3	MEAN	50.6	MAX	900	MIN	3.7	AC-FT	36640

e Estimated

16891310 KMEKUMEL RIVER, BABELTHUAP

LOCATION.--Lat 07°23'14" N., long 134°32'42" E., Hydrologic Unit 20100006, 0.5 mi upstream from confluence with Edeng River and 1.1 mi north of Palau Mission Academy.

DRAINAGE AREA.--1.44 mi^2.

PERIOD OF RECORD.--September 1978 to current year. Low-flow partial-record atation operated "at mouth" 1970-78. Prior to October 1980, published as Kumekumeyel River.

REVISED RECORDS.--WDR HI-81-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 96.44 ft, from stadia survey.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--9 years, 9.26 ft^3/s (6,710 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,560 ft^3/s Apr. 13, 1979, gage height, 10.53 ft, from rating curve extended above 106 ft^3/s on basis of slope-area measurement at gage height 10.53 ft; minimum, 0.18 ft^3/s Apr. 14-17, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 10	2230	1,140	9.23	Aug. 1	1430	680	7.44
July 7	0430	490	6.52	Aug. 19	0530	*1,360	*9.96

Minimum discharge, 0.62 ft^3/s May 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	4.4	11	2.6	3.0	2.1	1.4	1.1	2.4	30	98	16
2	3.9	4.1	7.5	3.6	2.6	2.0	1.5	1.1	2.2	17	44	13
3	3.2	5.2	8.3	2.6	2.2	2.0	1.3	1.0	3.5	17	23	11
4	3.0	6.1	6.4	2.5	2.1	6.2	1.3	1.0	2.9	14	17	9.7
5	2.6	11	5.7	2.2	4.5	8.3	1.2	1.1	2.6	18	14	8.6
6	2.8	5.7	5.3	2.1	3.5	3.5	1.2	.94	2.4	12	24	7.7
7	2.5	5.8	5.0	2.4	2.7	3.5	1.1	1.0	4.3	110	20	7.0
8	6.2	5.9	4.6	3.1	e2.5	2.7	1.1	1.6	3.5	63	28	6.2
9	5.3	5.2	8.7	5.0	e2.5	2.9	1.0	2.2	3.3	43	32	5.9
10	11	75	4.6	2.7	e2.0	2.7	1.0	1.0	3.4	88	27	5.3
11	5.0	171	5.0	3.2	e2.0	2.7	1.0	.84	2.6	29	19	5.2
12	4.1	37	5.9	2.6	e2.5	2.6	1.0	.75	4.2	19	19	4.4
13	3.9	21	5.0	2.5	e2.0	2.6	1.0	1.0	3.5	14	16	4.3
14	3.5	16	4.4	2.4	e2.0	2.2	.94	1.4	3.4	12	14	4.1
15	8.2	13	4.1	2.2	e2.5	2.9	.94	.84	2.9	9.7	19	3.7
16	10	11	4.1	12	e2.5	2.5	.94	.66	6.3	8.9	25	3.4
17	8.8	11	3.7	9.1	e2.0	2.4	1.4	1.8	9.2	10	17	3.4
18	18	8.6	3.9	4.3	e2.0	2.2	1.1	1.0	6.6	9.0	26	3.2
19	9.2	7.7	3.7	3.5	e5.5	2.1	.84	2.6	7.6	7.3	219	3.4
20	7.0	9.0	3.5	3.2	e4.0	2.1	.75	3.0	5.7	6.2	59	3.5
21	5.9	7.9	3.4	3.0	3.7	1.6	1.5	2.2	4.6	5.7	32	3.4
22	5.7	6.4	3.0	2.9	3.2	2.1	1.0	1.6	5.0	14	22	2.7
23	5.0	6.1	2.9	2.6	2.7	1.7	.84	1.7	5.3	27	16	3.7
24	4.4	5.5	2.7	7.4	2.6	1.6	.84	3.1	5.7	15	35	2.7
25	4.6	5.5	3.4	4.4	2.5	1.6	.84	9.1	7.4	11	22	2.5
26	5.9	5.7	2.9	3.4	2.6	1.6	2.2	2.4	14	10	16	2.5
27	4.6	7.7	3.2	3.0	2.2	1.6	2.1	2.2	10	23	13	2.7
28	12	7.8	2.7	3.2	2.1	1.6	2.0	7.2	16	14	11	3.0
29	5.7	5.5	2.9	2.7	---	1.6	1.6	3.4	11	32	10	2.5
30	5.0	5.2	6.3	2.7	---	1.5	1.5	2.7	62	15	14	2.4
31	4.8	---	3.2	3.4	---	1.4	---	3.0	---	13	39	---
TOTAL	185.6	497.0	145.0	112.5	76.2	78.3	36.43	64.75	223.5	736.8	992	157.1
MEAN	5.99	16.6	4.68	3.63	2.72	2.53	1.21	2.09	7.45	23.8	32.0	5.24
MAX	18	171	11	12	5.5	8.3	2.2	9.1	62	110	219	16
MIN	2.5	4.1	2.7	2.1	2.0	1.4	.75	.68	2.2	5.7	10	2.4
AC-FT	368	988	288	223	151	155	72	128	443	1460	1970	312

CAL YR 1986	TOTAL	3220.8	MEAN	6.82	MAX	171	MIN	1.3	AC-FT	6390
WTR YR 1987	TOTAL	3305.16	MEAN	9.06	MAX	219	MIN	.68	AC-FT	6560

e Estimated

16891400 SOUTH FORK NGERDORCH RIVER, BABELTHUAP

LOCATION.--Lat 07°26'19" N., long 134°34'28" E., Hydrologic Unit 20100006, on right bank 0.3 mi from left-bank tributary, 1.3 mi west of Rrai village, and 1.5 mi upstream from confluence with North Fork Ngerdorch River.

DRAINAGE AREA.--2.44 mi^2.

PERIOD OF RECORD.--March 1971 to current year. Prior to October 1980, published as South Fork Ngardok River.

REVISED RECORDS.--WDR HI-75-1: 1971(M), 1972, 1973(P), 1974. WDR HI-81-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 25 ft, revised, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--16 years, 19.1 ft^3/s (13,840 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,750 ft^3/s Dec. 13, 1974, gage height, 9.19 ft, from rating curve extended above 65 ft^3/s on basis of field estimate at gage height 7.57 ft; minimum, 0.48 ft^3/s Apr. 16-17, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 750 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 11	0530	2,560	6.42	Aug. 1	1500	1,010	4.43
July 7	0400	825	4.09	Aug. 19	0430	*2,760	*6.62

Minimum discharge, 2.0 ft^3/s Apr. 19, 20, May 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	8.1	14	7.1	7.1	5.9	3.1	e3.0	e7.0	66	231	33
2	7.1	8.7	14	10	6.7	6.3	3.8	e3.0	e6.5	36	85	25
3	6.3	8.1	17	7.5	6.3	5.4	3.1	e3.0	e9.0	28	42	22
4	5.4	8.1	12	7.1	6.7	17	3.1	e3.0	e8.0	27	56	19
5	5.0	14	9.9	6.7	12	22	3.1	e3.0	e7.5	42	43	16
6	5.0	9.3	9.3	6.7	9.3	10	3.1	e2.5	e7.0	28	104	16
7	4.6	7.5	8.7	6.7	7.1	8.7	3.1	e3.0	e10	85	50	14
8	26	8.7	8.1	8.3	6.7	7.1	2.8	e4.0	e9.0	167	53	12
9	13	7.5	20	13	6.7	7.5	3.1	e6.0	e9.0	63	77	12
10	20	151	14	7.5	6.3	7.1	3.1	e3.5	e9.0	200	63	10
11	10	665	72	8.7	5.9	6.7	2.8	e3.0	e7.5	58	44	9.9
12	9.9	68	25	8.1	6.7	6.7	3.4	e2.5	e10	41	49	8.7
13	7.5	47	17	8.7	6.3	6.7	3.1	e3.0	e9.0	33	35	9.3
14	7.5	32	13	7.1	6.7	5.9	2.6	e3.0	e9.0	27	28	8.7
15	12	24	12	6.3	8.7	6.7	2.8	e2.5	e8.0	24	27	7.5
16	16	21	12	19	9.9	5.9	2.8	e2.0	e12	22	25	7.1
17	19	24	10	31	8.7	5.9	2.8	e5.0	e20	24	39	6.7
18	34	17	10	13	6.7	5.4	2.8	e3.0	17	20	42	6.7
19	21	15	9.9	10	18	5.9	2.6	e7.5	17	16	355	7.1
20	19	16	9.9	9.3	13	5.4	2.3	e8.0	13	16	96	6.7
21	16	15	9.3	8.1	9.9	5.0	e4.0	e8.0	10	14	65	6.3
22	13	12	8.7	7.5	9.3	5.0	e3.5	e4.0	10	25	44	5.9
23	11	12	8.7	7.1	7.5	5.0	e3.0	e4.0	12	55	41	6.7
24	10	10	8.1	13	7.1	4.6	e3.0	e8.0	15	32	83	5.9
25	12	9.9	9.3	9.3	6.7	4.6	e3.0	e18	16	29	53	5.0
26	10	12	7.5	7.1	6.7	4.2	e7.0	e7.0	25	24	36	6.3
27	9.3	16	8.7	7.1	6.7	3.8	e8.0	e6.0	63	23	29	5.4
28	25	11	7.5	8.1	6.3	3.8	e6.0	e15	66	20	25	5.0
29	12	9.3	8.1	7.1	---	3.4	e4.0	e9.0	35	70	23	6.7
30	9.9	12	14	6.8	---	3.4	e3.5	e7.0	100	26	53	5.4
31	9.3	---	8.7	11	---	3.4	---	e8.0	---	23	81	---
TOTAL	395.2	1279.2	416.4	294.0	225.7	204.4	102.6	165.5	556.5	1364	2077	316.0
MEAN	12.7	42.6	13.4	9.48	8.06	6.59	3.42	5.34	18.6	44.0	67.0	10.5
MAX	34	665	72	31	18	22	7.0	18	100	200	355	33
MIN	4.6	7.5	7.5	6.3	5.9	3.4	2.3	2.0	6.5	14	23	5.0
AC-FT	784	2540	826	583	448	405	204	328	1100	2710	4120	627

CAL YR 1986	TOTAL	6606.9	MEAN	18.1	MAX	665	MIN	2.8	AC-FT	13100
WTR YR 1987	TOTAL	7396.5	MEAN	20.3	MAX	665	MIN	2.0	AC-FT	14670

e Estimated

16892000 QATLIW STREAM, YAP

LOCATION.--Lat 09°32'58" N., long 138°06'41" E., Hydrologic Unit 20100006, on right bank 90 ft below confluence with major tributary, 0.5 mi upstream from mouth, and 2.6 mi northwest of Colonia.

DRAINAGE AREA.--0.31 mi^2.

PERIOD OF RECORD.--January 1982 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 40 ft, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--5 YEARS (1983-87), 1.15 ft^3/s (833 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 874 ft^3/s June 21, 1982, gage height, 5.98 ft, from rating curve extended above 10 ft^3/s; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug 12	0430	281	4.18	Aug. 28	0930	*347	*4.57

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	.03	.16	.00	.03	.00	.00	.01	.00	.82	2.2	7.3
2	2.3	.02	.08	.00	.08	.00	.00	.00	.00	.63	1.1	4.3
3	.13	.02	.06	.00	.02	.00	.00	.00	.00	1.8	.23	4.8
4	.05	8.1	.04	.00	.01	.00	.00	.00	.00	.88	2.0	2.3
5	.04	1.2	.04	.00	.02	.00	.00	.00	.00	.34	.30	5.3
6	.02	2.0	.03	.00	.01	.00	.00	.00	.00	.11	1.6	.76
7	.02	.23	.01	.00	.00	.00	.00	.00	.00	.06	.45	.23
8	.01	2.3	.01	.28	.00	.00	.00	.00	.01	.10	.10	.08
9	.02	1.6	.01	.08	.00	.00	.00	.00	.27	2.2	5.1	.04
10	.03	6.9	.01	.45	.00	.01	.00	.00	.03	5.6	3.5	.03
11	.01	5.4	.00	1.2	.00	.01	.00	.00	.02	1.9	25	.03
12	.01	3.8	.25	.34	.14	.03	.00	.00	.10	.27	39	.03
13	.01	11	.04	.10	1.4	.01	.00	.00	1.9	.06	2.7	.02
14	.01	1.1	.04	15	.05	.00	.00	.00	16	1.8	5.2	.01
15	.04	.19	.04	.82	.01	.00	.00	.00	.39	2.6	10	.01
16	.27	.05	.04	.23	.01	.00	.00	.00	2.8	19	4.7	.01
17	.60	2.2	.02	.89	.01	.00	.00	.00	.51	3.1	1.5	e.01
18	1.3	1.7	.01	.13	.01	.00	.00	.00	3.1	2.0	.82	e.01
19	.16	1.7	2.1	.06	3.6	.00	.00	.00	.45	.34	4.0	e.00
20	.11	.16	6.4	e.05	.63	.00	.00	.00	.08	8.9	2.7	e.00
21	.09	.06	.34	e.04	.13	.00	.00	.00	.04	1.9	.88	e.01
22	.11	.03	.06	e.03	.16	.00	.00	.00	.10	5.6	.63	e.00
23	.03	.03	.04	e.03	.05	.00	.00	.00	.93	6.7	.51	.00
24	.03	.11	.03	e.02	.05	.00	.00	.00	.63	3.0	.51	.00
25	.04	.04	.02	e.02	.05	.00	.00	.00	1.2	.76	24	.00
26	.05	.02	.01	e.02	.02	.00	.00	.00	.57	.45	2.8	.00
27	.04	1.2	.01	e.01	.01	.00	.00	.00	2.5	.45	.76	.00
28	7.1	2.9	.01	e.01	.01	.00	.00	.00	1.1	.16	39	.00
29	1.4	2.3	.01	e.00	---	.00	.00	.00	.13	.06	19	.00
30	.16	.76	.01	e.01	---	.00	.70	.00	.06	1.2	7.6	.00
31	.05	---	.01	.00	---	.00	---	.00	---	.27	15	---
TOTAL	18.44	57.15	9.94	19.82	6.51	.06	.70	.01	32.92	73.06	222.69	25.28
MEAN	.59	1.90	.32	.84	.23	.00	.02	.00	1.10	2.36	7.19	.84
MAX	7.1	11	6.4	15	3.6	.03	.70	.01	16	19	39	7.3
MIN	.01	.02	.00	.00	.00	.00	.00	.00	.00	.06	.10	.00
AC-FT	37	113	20	39	13	.1	1.4	.02	65	145	442	50

CAL YR 1986	TOTAL	478.76	MEAN	1.31	MAX	34	MIN	.00	AC-FT	950
WTR YR 1987	TOTAL	466.78	MEAN	1.28	MAX	39	MIN	.00	AC-FT	926

e Estimated

16892400 QARINGEEL STREAM, YAP

LOCATION.--Lat 09°31'02" N., long 138°05'31" E., Hydrologic Unit 20100006, on right bank at Qaringeel and 0.3 mi southwest of Dalipeebinaew School.

DRAINAGE AREA.--0.24 mi^2.

PERIOD OF RECORD.--April 1968 to current year. Prior to October 1980, published as Aringel Stream.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 15 ft, from topographic map.

REMARKS.--Records poor. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--19 years, 1.10 ft^3/s (797 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 874 ft^3/s July 13, 1981, gage height, 7.82 ft, from rating curve extended above 20 ft^3/s; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 288 ft^3/s Aug. 12, gage height, 5.55 ft, no other peak greater than base discharge of 200 ft^3/s; minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	e.10	e.20	.01	.00	.01	.00	e.02	.00	.64	.65	5.5
2	1.0	e.08	e.14	.01	.01	.01	.00	e.01	.00	.96	.47	1.3
3	.25	e.07	e.11	.01	.01	.01	.00	e.00	.00	.88	.32	6.3
4	.13	e8.0	e.09	.01	.01	.01	.00	e.00	.00	.68	1.1	2.7
5	.07	e1.5	e.12	.06	.01	.01	.00	e.00	.00	.80	.53	4.0
6	.05	e2.5	e.07	.01	.01	.01	.00	e.00	.00	.30	1.9	.64
7	.04	e.50	e.05	.01	.01	.01	.00	e.00	.00	.15	.64	.30
8	.04	e3.0	e.06	.28	.01	.01	.00	e.00	.01	.32	.30	.19
9	.09	e1.5	e.04	.23	.01	.01	.00	e.00	1.0	2.0	4.5	.11
10	.09	e10	e.03	.23	.01	.02	.00	e.00	.21	3.6	2.1	.07
11	.05	e3.5	.02	.69	.01	.02	.00	e.00	.09	1.8	18	.03
12	.03	e2.0	1.0	.32	.05	.06	.00	e.00	e.20	.80	38	.02
13	.03	e20	.30	.07	2.1	.03	.00	e.00	e2.0	.17	.88	.02
14	.03	e.80	.13	10	.15	.02	.00	e.00	e15	1.2	3.0	.02
15	.03	e.40	.11	.44	.04	.02	.00	e.00	e.50	1.8	2.3	.02
16	.05	e.30	.07	.13	.03	.01	.00	e.00	e2.0	14	1.3	.02
17	.46	e.20	.05	.38	.03	.01	.00	e.00	e.70	1.9	.47	.02
18	1.5	3.7	1.1	.11	.03	.01	.00	e.00	e4.0	2.8	.27	.02
19	.50	1.6	7.2	.05	2.4	.01	.00	e.00	e1.0	1.1	4.0	.03
20	.38	.27	.64	.02	.53	.01	.00	e.00	e.20	9.2	.68	.03
21	.76	.17	.19	.02	.17	.01	.00	.00	e.50	2.7	.38	.06
22	e.90	.11	.09	.01	.15	.01	.00	.00	e.80	12	.27	.04
23	e.20	e.20	.08	.01	.09	.01	.00	.00	e.60	3.9	.21	.03
24	e.10	e.30	.04	.01	.08	.00	.00	.00	e1.2	1.6	.13	.03
25	e.20	e.15	.03	.01	.19	.00	.00	.00	e.50	.68	14	.03
26	e.40	e.40	.02	.00	.03	.00	.00	.00	e4.5	.76	1.1	.02
27	e.25	e2.0	.03	.00	.03	.00	.00	.00	e2.0	.47	.35	.02
28	e6.0	e1.0	.02	.00	.02	.00	.00	.00	e.60	.25	10	.02
29	e1.5	e.60	.02	.00	---	.00	.00	.00	e.40	.21	4.9	.02
30	e.30	e.35	.01	.00	---	.00	e.30	.00	.20	1.6	2.3	.01
31	e.15	---	.01	.00	---	.00	---	.00	---	.38	7.3	---
TOTAL	18.58	65.30	12.05	13.13	6.22	.34	.30	.03	38.41	70.05	122.55	21.82
MEAN	.60	2.18	.39	.42	.22	.01	.01	.00	1.28	2.26	3.95	.72
MAX	6.0	20	7.2	10	2.4	.06	.30	.02	15	14	38	6.3
MIN	.03	.07	.01	.00	.00	.00	.00	.00	.00	.15	.13	.01
AC-FT	37	130	24	26	12	.7	.6	.06	76	139	243	43

CAL YR 1986	TOTAL	442.14	MEAN	1.21	MAX	33	MIN	.01	AC-FT	877
WTR YR 1987	TOTAL	368.58	MEAN	1.01	MAX	38	MIN	.00	AC-FT	731

e Estimated

16892480 AIRPORT POND, YAP

LOCATION.--Lat 09°29'14" N., long 138°05'08" E., Hydrologic Unit 20100008, on northwest shore of pond, behind Pacific Missionary Aviation facilities, and north of former landing strip.

PERIOD OF RECORD.--October 1983 to February 1987. Periodic staff-gage readings, March to September 1987.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.38 ft, June 18, 1985; lowest, 26.86 ft, May 26, 1987.

EXTREMES FOR CURRENT YEAR.--Highest water level, 33.44 ft, Nov. 4; lowest, 26.88 ft, May 26.

GAGE HEIGHT (FEET AT DATUM), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.69	32.65	32.75	32.49	32.21			---	---			
2	32.79	32.63	32.72	32.44	32.17			---	---			
3	32.74	32.66	32.70	32.39	32.12			---	---			
4	32.70	32.99	32.68	32.36	32.09			---	---			
5	32.67	33.05	32.67	32.31	32.04			---	---			
6	32.63	32.88	32.64	32.29	31.98			---	---			
7	32.60	32.82	32.63	32.25	31.92			---	---			
8	32.56	32.84	32.59	32.27	31.86			---	---			
9	32.56	32.92	32.56	32.24	31.62			---	---			
10	32.54	33.01	32.53	32.23	31.76			---	---			
11	32.48	33.19	32.50	32.25	31.70			---	---			
12	32.45	33.06	32.73	32.30	31.74			---	---			
13	32.42	33.07	32.75	32.31	31.94			---	---			
14	32.39	33.00	32.71	32.56	31.94			---	---			
15	32.38	32.90	32.68	32.72	31.91			---	---			
16	32.34	32.63	32.66	32.70	31.67			---	---			
17	32.44	32.94	32.65	32.73	31.83			---	---			
18	32.50	32.92	32.62	32.72	31.78			---	---			
19	32.49	32.95	32.68	32.69	31.92			---	---			
20	32.60	32.86	32.96	32.69	31.98			---	---			
21	32.74	32.79	32.91	32.63	31.95			---	---			
22	32.71	32.75	32.84	32.66	31.92			---	---			
23	32.67	32.77	32.78	32.58	31.88			---	---			
24	32.69	32.84	32.72	32.53	31.86			---	---			
25	32.66	32.84	32.69	32.50	31.85			---	h28.77			
26	32.64	32.75	32.66	32.45	31.80			h26.86	---			
27	32.63	32.75	32.64	32.41	31.75			---	---			
28	32.69	32.83	32.62	32.37	31.70			---	---			
29	32.75	32.79	32.59	32.33	---			---	---			
30	32.74	32.77	32.56	32.29	---			---	---			
31	32.89	---	32.53	32.25	---			---	---			
MEAN	32.60	32.87	32.68	32.45	31.90			---	---			
MAX	32.79	33.19	32.96	32.73	32.21			---	---			
MIN	32.34	32.63	32.50	32.23	31.70			---	---			

CAL YR 1966 MEAN 32.81 MAX 33.62 MIN 32.28

h Staff-gage reading.

16893100 BURONG STREAM, YAP

LOCATION.--Lat 09°32'05" N., long 138°07'19" E., Hydrologic Unit 20100006, on left bank at Dugor, 0.25 mi upstream from mouth, and 0.5 mi northeast of Mount Gamuw.

DRAINAGE AREA.--0.23 mi^2.

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

REVISED RECORDS.--WDR HI-79-2: Drainage area, 1968-78(P).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 15 ft, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--19 years, 0.941 ft^3/s (682 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 550 ft^3/s June 21, 1982, gage height, 5.45 ft, from rating curve extended above 15 ft^3/s; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 16	1600	131	3.64	Aug. 28	2330	240	4.28
Aug. 12	0530	*353	*4.77				

No flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	.10	.18	.05	.02	.04	.00	.01	.00	e1.5	1.5	4.3
2	1.3	.09	.14	.03	.05	.02	.00	.00	.00	e.70	1.0	.62
3	.20	.07	.13	.03	.03	.01	.00	.00	.00	e1.8	.30	1.6
4	.11	5.8	.10	.03	.01	.00	.00	.00	.00	e.90	2.7	2.2
5	.07	.95	.11	.03	.02	.00	.00	.00	.00	e.50	.50	4.0
6	.05	2.2	.07	.02	.04	.00	.00	.00	.00	e.30	1.4	.75
7	.05	.30	.06	.02	.01	.00	.00	.00	.00	e.20	.65	.37
8	.05	1.3	.04	.21	.00	.00	.00	.00	.00	e.40	.27	.20
9	.06	.95	.05	.06	.00	.00	.00	.00	.00	e2.0	2.5	.14
10	.07	7.3	.03	.13	.00	.01	.00	.00	.00	e5.0	1.9	.10
11	.05	4.1	.02	.40	.04	.01	.00	.00	e.00	e2.0	19	.08
12	.04	3.8	.23	.22	.01	.02	.00	.00	e.00	e.30	51	.06
13	.04	7.3	.09	.10	.65	.01	.00	.00	e.20	e.20	1.0	.05
14	.07	.95	.09	9.8	.08	.00	.00	.00	e10	e2.0	3.1	.04
15	.11	.34	.07	.57	.04	.00	.00	.00	e.40	e3.0	4.0	.04
16	.23	.20	.06	.18	.03	.00	.00	.00	e2.5	e3	1.7	.02
17	.30	1.3	.05	.16	.03	.00	.00	.00	e.50	e13.0	.50	.02
18	1.5	2.0	.03	.10	.02	.00	.00	.00	e3.0	e2.0	.24	.01
19	.20	1.7	1.3	.09	1.5	.00	.00	.00	e.80	e.50	3.9	.01
20	.36	.37	5.9	.06	.40	.00	.00	.00	e.25	e7.0	1.2	.01
21	.30	.20	.44	.06	.13	.00	.00	.00	e.10	e1.5	.40	.00
22	.14	.13	.16	.04	.09	.00	.00	.00	e.30	4.1	.20	.00
23	.09	.14	.10	.02	.06	.00	.00	.00	e.90	5.8	.16	.00
24	.11	.37	.10	.02	.07	.00	.00	.00	e.60	1.8	.11	.00
25	.77	.18	.06	.02	.07	.00	.00	.00	e1.2	.60	15	.00
26	.40	.13	.06	.02	.07	.00	.00	.00	e.60	.34	1.3	.00
27	.13	.30	.07	.02	.08	.00	.00	.00	e2.5	.20	.40	.00
28	5.3	1.3	.07	.01	.08	.00	.00	.00	e1.0	.13	19	.00
29	2.0	.85	.07	.01	---	.00	.00	.00	e.20	.08	11	.00
30	.27	.44	.04	.02	---	.00	.06	.00	.25	1.3	1.8	.00
31	.14	---	.04	.01	---	.00	---	.00	---	.27	8.0	---
TOTAL	18.51	45.16	9.98	12.54	3.63	.12	.06	.01	25.30	62.42	155.73	14.62
MEAN	.53	1.51	.32	.40	.13	.00	.00	.00	.84	2.01	5.02	.49
MAX	5.3	7.3	5.9	9.8	1.5	.04	.06	.01	10	13	51	4.3
MIN	.04	.07	.02	.01	.00	.00	.00	.00	.00	.08	.11	.00
AC-FT	33	90	20	25	7.2	.2	.1	.02	50	124	309	29

CAL YR 1986	TOTAL	371.86	MEAN	1.02	MAX	27	MIN	.00	AC-FT	738
WTR YR 1987	TOTAL	346.06	MEAN	.95	MAX	51	MIN	.00	AC-FT	686

e Estimated

16893200 MUKONG STREAM, GAGIL-TAMIL

LOCATION.--Lat 09°32'05" N., long 138°10'18" E., Hydrologic Unit 20100006, on right bank 0.2 mi upstream from mouth and 0.9 mi south of U.S. Coast Guard LORAN station.

DRAINAGE AREA.--0.50 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1972-75, December 1974 to June 1978, July to September 1978, stage-discharge relation indefinite due to blocked control. October 1978 to current year.

REVISED RECORDS.--WDR HI-79-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5 ft, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. At times some water is pumped from upstream for village use. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--11 years (water years 1976-77, 1979-87), 1.98 ft^3/s (1,430 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 153 ft^3/s June 21, 1982, gage height, 4.10 ft, from rating curve extended above 18 ft^3/s; minimum, 0.02 ft^3/s May 17-23, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 55 ft^3/s Aug. 12, gage height, 3.12 ft, no other peak greater than base discharge of 50 ft^3/s; minimum, 0.10 ft^3/s Apr. 15-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	1.5	1.6	.82	1.1	.47	.18	1.9	.21	1.6	2.9	6.6
2	4.2	1.4	1.4	.69	1.1	.42	.18	1.1	.21	1.4	2.6	4.6
3	1.6	1.3	1.2	.69	1.2	.42	.15	.75	.28	2.3	1.9	4.1
4	1.2	4.9	1.2	.69	1.2	.52	.15	.57	.18	3.6	1.9	3.4
5	1.1	2.7	1.2	.83	1.2	.52	.13	.52	.15	3.1	1.7	8.0
6	1.0	5.6	1.1	.63	.89	.52	.13	e.40	.18	2.1	2.3	3.2
7	.96	2.1	.96	.69	.89	.47	.13	e.30	.15	1.5	1.6	2.5
8	1.8	3.1	.89	1.8	.82	.42	.13	e.25	1.0	1.3	1.4	2.1
9	2.8	2.7	.82	.98	.82	.42	.13	e.20	1.9	2.1	2.7	1.9
10	2.6	5.1	.89	1.2	.82	.52	.13	e.18	1.2	3.6	3.4	1.6
11	1.5	6.6	.96	1.9	.69	.47	.13	e.18	.75	3.5	6.8	1.5
12	1.0	3.9	1.6	1.3	1.4	.57	.13	e.15	.82	2.1	24	1.3
13	.96	9.2	1.2	2.0	2.2	.42	.13	e.15	1.2	1.5	4.3	1.2
14	1.0	3.8	1.2	7.1	1.0	.37	.13	e.13	6.8	1.8	4.7	1.0
15	2.3	2.7	1.0	2.7	.96	.37	.10	e.13	2.7	e8.0	5.2	1.0
16	2.4	2.3	1.3	2.0	.98	.33	.10	e.13	2.9	e4.0	4.1	.96
17	2.9	4.2	1.0	2.1	.89	.37	.10	e.13	2.2	e3.0	2.7	.96
18	1.9	3.1	.96	1.5	.75	.37	.10	e.13	2.5	e2.5	2.3	.89
19	1.4	2.6	5.7	1.3	2.9	.37	.10	e.13	1.9	2.2	4.2	1.2
20	1.2	2.0	7.0	1.2	1.8	.37	.10	e.13	1.3	3.4	3.9	1.0
21	1.1	1.8	2.2	1.2	1.1	.37	.10	e.13	1.2	4.2	2.3	1.0
22	1.3	1.8	1.4	1.1	1.1	.33	.10	e.13	1.2	3.8	1.8	.96
23	1.1	2.1	1.2	1.0	.82	.33	.10	e.13	1.0	9.7	1.7	.89
24	1.8	2.1	1.1	.96	.82	.33	.10	e.13	.89	4.2	1.6	.82
25	4.7	1.6	1.0	.89	.75	.33	.10	e.13	.82	4.8	11	.75
26	2.9	1.5	.96	.89	.57	.28	.10	e.13	.75	3.2	4.0	.69
27	2.0	2.4	.96	.89	.52	.28	.10	e.13	.89	2.5	2.8	.69
28	6.1	4.3	.89	.89	.47	.24	.10	e.13	1.0	2.1	5.6	.63
29	1.6	2.5	.89	.96	---	.24	.13	.13	.89	1.8	14	.69
30	2.2	2.2	.82	1.0	---	.21	2.5	.28	.82	3.9	5.6	.98
31	1.6	---	.82	1.2	---	.21	---	.24	---	2.2	5.5	---
TOTAL	62.92	93.1	45.42	42.88	29.74	11.86	5.89	9.25	37.99	97.0	140.5	57.09
MEAN	2.03	3.10	1.47	1.36	1.06	.38	.20	.30	1.27	3.13	4.53	1.90
MAX	6.1	9.2	7.0	7.1	2.9	.57	2.5	1.9	6.8	9.7	24	8.0
MIN	.96	1.3	.82	.63	.47	.21	.10	.13	.15	1.3	1.4	.63
AC-FT	125	185	90	85	59	24	12	18	75	192	279	113

CAL YR 1986	TOTAL	781.01	MEAN	2.14	MAX	14	MIN	.42	AC-FT	1550
WTR YR 1987	TOTAL	633.74	MEAN	1.74	MAX	24	MIN	.10	AC-FT	1260

e Estimated

16893400 EYEB STREAM, GAGIL-TAMIL

LOCATION.--Lat 09°33'02" N., long 138°09'03" E., Hydrologic Unit 20100006, on left bank 0.6 mi southeast of the Tagireeng Canal bridge and 1.2 mi northwest of the Coast Guard LORAN Station.

DRAINAGE AREA.--0.32 mi^2.

PERIOD OF RECORD.--January 1982 to current year.

REVISED RECORDS.--WDR HI-85-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 15 ft, from topographic map.

AVERAGE DISCHARGE.--5 years, 1.66 ft^3/s (1,200 acre-ft/yr).

REMARKS.--Records fair. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 490 ft^3/s June 21, 1982, gage height, 6.22 ft, from rating curve extended above 14 ft^3/s; minimum, 0.01 ft^3/s for many days in May 1983 and Apr. 24-28, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 306 ft^3/s Aug. 12, gage height, 5.33 ft, no other peak greater than base discharge of 150 ft^3/s; minimum, 0.01 ft^3/s Apr. 24-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	1.3	1.2	.44	.59	.34	.09	1.0	.05	.54	e2.0	6.9
2	2.9	1.3	.97	.39	.49	.29	.07	.49	.07	.59	2.6	4.4
3	1.3	1.2	.90	.39	.34	.24	.07	.24	.09	1.4	1.5	4.0
4	1.1	8.8	.76	.39	.34	.29	.07	.13	.09	1.6	2.0	3.4
5	.90	3.3	.83	.34	.34	.24	.07	.11	.09	1.6	1.5	6.6
6	.83	5.1	.69	.44	.34	.24	.07	.07	.11	1.1	2.5	2.7
7	.76	1.9	.59	.39	.29	.19	.05	.05	.13	.83	1.0	2.2
8	.97	4.3	.44	1.7	.24	.16	.05	.05	.54	.69	.90	1.9
9	1.3	2.3	.44	.64	.24	.16	.05	.04	1.5	1.1	2.8	1.6
10	1.2	9.8	.44	.97	.19	.24	.05	.03	.69	2.4	2.9	1.3
11	.64	5.5	.34	2.1	.13	.19	.05	.03	.34	2.1	13	1.2
12	.49	6.4	.76	1.1	.77	.19	.05	.03	.29	1.2	46	1.1
13	.39	12	.44	1.3	1.4	.16	.07	.03	.69	.90	5.7	.97
14	.54	3.7	.44	8.0	.44	.16	.05	.02	7.5	1.3	4.6	.90
15	1.7	2.5	.39	1.7	.29	.13	.05	.02	1.6	3.2	4.8	.83
16	2.1	2.1	.44	1.3	.29	.11	.05	.02	1.4	17	3.9	.76
17	1.6	3.9	.39	1.5	.24	.16	.04	.02	1.3	6.8	2.5	.69
18	1.3	2.7	.34	.97	.24	.16	.05	.02	1.3	3.9	2.1	.69
19	.69	2.4	3.0	.78	3.2	.16	.04	.02	1.0	2.4	4.1	.76
20	.77	1.7	6.3	.69	1.0	.13	.03	.02	.69	5.4	3.0	.69
21	.76	1.4	1.2	.64	.59	.11	.03	.03	.49	4.0	1.9	.54
22	.76	1.3	.83	.59	.59	.11	.02	.03	.54	7.9	1.5	.49
23	.64	1.3	.83	.54	.44	.11	.02	.03	.49	8.8	1.4	.44
24	.76	1.3	.64	.59	.44	.11	.01	.03	.39	4.6	1.3	.39
25	5.0	1.2	.59	.54	.44	.11	.01	.03	.34	3.5	9.9	.39
26	2.1	1.0	.59	.49	.39	.09	.01	.03	.34	e2.3	3.4	.39
27	1.4	1.6	.54	.44	.34	.09	.01	.03	.39	e2.1	2.2	.34
28	6.6	3.3	.54	.44	.34	.09	.01	.04	.54	e1.7	8.2	.29
29	3.0	2.1	.49	.44	---	.09	.02	.04	.44	1.7	19	.34
30	2.2	1.5	.49	.44	---	.09	1.1	.05	.44	4.2	6.3	.44
31	1.5	---	.59	.54	---	.09	---	.05	---	e1.2	6.6	---
TOTAL	51.00	98.2	27.43	31.20	14.97	5.03	2.36	2.83	23.87	97.85	171.10	47.64
MEAN	1.65	3.27	.88	1.01	.53	.16	.08	.09	.80	3.16	5.52	1.59
MAX	6.6	12	6.3	8.0	3.2	.34	1.1	1.0	7.5	17	46	6.9
MIN	.39	1.0	.34	.34	.13	.09	.01	.02	.05	.54	.90	.29
AC-FT	101	195	54	62	30	10	4.7	5.6	47	194	339	94

CAL YR 1986	TOTAL	658.79	MEAN	1.80	MAX	22	MIN	.29	AC-FT	1310
WTR YR 1987	TOTAL	573.48	MEAN	1.57	MAX	46	MIN	.01	AC-FT	1140

e Estimated

16893800 WICHEN RIVER AT ALTITUDE 18 M, MOEN

LOCATION.--Lat 07°27'01" N., long 151°51'56" E., Hydrologic Unit 20100006, on left bank at Peniesence, 0.3 mi upstream from mouth, and 1.4 mi west of Saint Xaviers Academy.

DRAINAGE AREA.--0.57 mi^2.

PERIOD OF RECORD.--April 1955 to March 1956 (published as "at Peniesence"), June 1968 to January 1980, May 1980 to May 1983, February 1984 to current year. All figures of discharge above 3 ft^3/s prior to April 1956, published in WSP 1751, are unreliable and should not be used.

REVISED RECORDS.--WSP 2137, WDR HI-79-2: Drainage area.

GAGE.--Water-stage recorder and concrete control since Mar. 29, 1973. Elevation of gage is 60 ft, from topographic map. Prior to Apr. 1, 1956, nonrecording gage at site 100 ft downstream at different datum.

REMARKS.--Records poor. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--16 years, 3.14 ft^3/s (2,270 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 910 ft^3/s June 4, 1972, gage height, 6.80 ft, from rating curve extended above 28 ft^3/s; minimum, 0.01 ft^3/s Apr. 16-19, 1977, Apr. 8, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 3	0330	248	3.55	Jan. 8	0545	420	4.70
Dec. 29	1230	*424	*4.73				

Minimum discharge, 0.18 ft^3/s Feb. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	.95	e1.2	7.3	e.45	e.10	e1.1	3.8	e1.9	e4.6	e1.3	e2.6
2	1.8	1.2	e6.2	5.4	e.39	e.19	.66	2.4	e6.6	e8.2	e3.3	e3.1
3	1.5	27	e3.9	3.3	e.33	e.19	.35	1.8	e3.5	e18	e3.8	e2.2
4	1.5	6.3	e2.4	2.2	e.29	e.21	.26	1.9	e2.7	e7.4	e4.4	e1.4
5	1.3	6.3	e2.7	1.8	e.52	e.35	.75	1.8	e3.9	e3.9	e2.9	e3.0
6	1.2	7.0	e1.8	1.6	e.88	e.58	10	1.4	e2.7	e5.1	e1.8	e6.8
7	1.3	4.6	e1.3	1.2	e1.3	e1.2	20	.95	e3.2	e6.5	e8.2	e8.5
8	1.2	3.3	.95	48	e.86	e1.0	15	.95	e1.5	e5.1	e6.6	e5.7
9	1.2	e2.2	.95	10	e.62	e.65	8.4	.85	e.88	e7.8	e3.1	e4.0
10	.95	e1.3	1.2	9.4	e.42	e.44	6.3	.95	e.50	e5.2	e1.6	e2.7
11	.85	e1.1	.85	10	e.30	e2.8	3.8	1.4	e.31	e3.9	e.96	e1.9
12	1.3	e9.4	.75	6.3	e.41	e1.5	2.6	.85	e1.6	e6.6	e13	e1.3
13	2.1	e4.5	.57	6.0	e.58	e1.0	1.8	.66	e9.0	e5.2	e8.4	e.90
14	4.0	e4.8	.57	3.6	e.78	e2.5	1.4	.57	e4.8	e7.2	e3.8	e.61
15	2.9	e3.1	10	2.8	e.46	e5.6	1.1	.57	e4.1	e9.3	e3.3	e.44
16	1.8	e1.8	21	2.1	e.32	e2.0	1.1	3.2	e5.0	e12	e4.3	e4.2
17	1.8	e.92	4.8	1.6	e.34	e3.4	7.5	e8.0	e3.0	e5.0	e5.9	e2.2
18	1.3	e1.2	2.8	1.3	e.32	e4.2	13	e4.7	e1.3	e3.4	e4.5	e1.6
19	1.1	e1.0	1.9	1.2	e.30	e1.8	10	e2.9	e10	e7.2	e3.3	e2.1
20	1.3	e1.8	1.4	.95	e.28	e1.1	6.3	e1.9	e6.6	e14	e4.6	e.94
21	.95	e1.1	1.4	e1.7	e.26	e.85	5.7	e1.1	e7.3	e9.5	e3.6	e1.2
22	.95	e.92	1.1	e2.2	e.24	e.70	3.6	e.66	e9.0	e5.3	e8.8	e1.0
23	8.5	e1.5	.85	e1.8	e.22	e1.8	2.4	e.48	e3.9	e3.2	e10	e.80
24	3.0	e3.8	.75	e1.5	e.20	e4.7	1.8	e.36	e5.2	e2.1	e13	e.58
25	1.9	e3.0	.66	e1.2	e.19	e3.5	1.4	e.28	e3.7	e3.0	e7.6	e.43
26	1.4	e5.6	.75	e.95	e.18	e2.0	1.2	e2.6	e5.0	e2.1	e4.5	e.29
27	1.3	e4.9	.57	e.76	e.20	e4.0	1.2	e1.3	e7.2	e1.5	e2.5	e.70
28	1.1	e10	.57	e.82	e.21	e10	16	e.78	e9.6	e2.8	e1.8	e1.2
29	1.8	e3.3	40	e.72	---	e5.2	11	e.48	e5.2	e1.7	e2.1	e2.5
30	1.3	e1.3	9.2	e.62	---	e3.0	6.0	e.29	e2.9	e.99	e2.6	e4.6
31	1.2	---	13	e.53	---	e1.9	---	e.80	---	e1.9	e1.8	---
TOTAL	55.30	125.19	136.09	138.85	11.85	68.46	161.72	50.88	132.09	179.69	147.36	69.49
MEAN	1.78	4.17	4.39	4.48	.42	2.21	5.39	1.63	4.40	5.80	4.75	2.32
MAX	8.5	27	40	48	1.3	10	20	8.0	10	18	13	8.5
MIN	.85	.92	.57	.53	.18	.10	.26	.28	.31	.99	.96	.29
AC-FT	110	248	270	275	24	136	321	101	262	356	292	138

CAL YR 1986	TOTAL	1298.28	MEAN	3.56	MAX	40	MIN	.30	AC-FT	2580
WTR YR 1987	TOTAL	1276.77	MEAN	3.50	MAX	48	MIN	.10	AC-FT	2530

e Estimated

16897600 NANPIL RIVER

LOCATION.--Lat 06°55'09" N., long 158°11'59" E., Hydrologic Unit 20100006, on left bank 0.1 mi upstream from diversion dam and 1.3 mi upstream from Kiepw River.

DRAINAGE AREA.--3.00 mi^2.

PERIOD OF RECORD.--March 1970 to current year. Prior to October 1980, published as Nanepil River.

REVISED RECORDS.--WDR HI-76-1: 1970(M), 1971-72(P), 1973(M), 1974(P), 1975(M). WDR HI-81-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 370 ft, from topographic map.

REMARKS.--Records fair except for estimated daily dischargea, which are poor. No diveraion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--17 years, 44.8 ft^3/s (32,460 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,820 ft^3/s Aug. 4, 1976, gage height, 9.68 ft, from rating curve extended above 168 ft^3/s on basis of slops-srea measurement at gage height 9.68 ft; minimum, 0.54 ft^3/s Apr. 19, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,330 ft^3/s Oct. 15, gage height 7.48 ft, no other peak greater than base diacharge of 3,200 ft^3/s; minimum, 3.9 ft^3/s Dec. 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e50	e30	46	9.5	5.9	30	48	8.2	99	e42	24	99
2	e30	e30	28	9.5	7.4	12	143	12	207	22	21	183
3	e70	e17	18	8.3	45	7.8	249	9.3	79	164	13	103
4	e12	e45	16	5.6	33	6.3	236	7.2	42	54	12	37
5	e13	e48	19	8.5	49	119	100	6.8	28	34	17	30
6	e19	e35	39	6.2	21	174	53	5.7	21	159	13	153
7	e14	e80	23	259	37	49	403	7.8	113	63	15	39
8	18	e50	16	57	22	26	81	6.8	51	35	229	39
9	13	e35	11	137	14	18	34	5.3	26	44	41	38
10	12	e27	8.5	73	10	22	20	5.3	55	89	23	48
11	12	e35	7.2	34	8.2	43	14	25	76	37	17	30
12	33	e60	7.9	150	7.4	64	11	11	188	146	26	18
13	335	79	6.3	69	6.5	369	9.6	6.8	48	106	20	13
14	51	106	122	28	34	64	13	74	26	93	16	10
15	35	52	82	24	79	48	8.5	21	87	172	13	8.2
18	26	36	73	117	34	37	16	19	98	78	9.8	7.0
17	e140	26	20	157	73	21	56	18	38	59	15	10
18	e80	38	13	40	107	16	101	12	22	171	56	16
19	e40	46	10	22	26	16	52	9.8	133	44	58	26
20	e30	28	9.5	22	16	16	44	8.7	52	50	34	17
21	e30	17	8.1	18	12	11	22	7.6	36	135	180	10
22	e50	13	7.0	30	9.8	9.8	14	6.8	77	64	51	13
23	e25	27	6.3	39	8.2	29	16	6.3	90	35	28	9.3
24	e27	21	5.2	22	11	163	11	50	41	22	20	45
25	e20	31	4.6	14	8.2	77	9.6	22	e100	18	36	50
26	e45	34	4.6	11	6.8	64	17	11	e35	14	66	18
27	e30	24	4.2	8.9	7.2	38	46	23	e200	82	101	18
28	e20	29	6.1	7.8	17	31	28	19	e100	33	49	12
29	e17	24	25	7.4	---	198	14	297	e80	16	59	33
30	e14	107	11	6.3	---	295	9.8	66	e30	12	64	29
31	e50	---	7.4	5.4	---	58	---	25	---	24	221	---
TOTAL	1361	1230	664.9	1406.4	715.6	2131.9	1879.5	813.4	2258	2117	1547.8	1161.5
MEAN	43.9	41.0	21.4	45.4	25.6	68.8	62.6	26.2	75.3	68.3	49.9	38.7
MAX	335	107	122	259	107	369	403	297	207	172	229	183
MIN	12	13	4.2	5.4	5.9	6.3	8.5	5.3	21	12	9.8	7.0
AC-FT	2700	2440	1320	2790	1420	4230	3730	1610	4480	4200	3070	2300

CAL YR 1986	TOTAL	16186.8	MEAN	44.3	MAX	397	MIN	4.2	AC-FT	32110
WTR YR 1987	TOTAL	17287.0	MEAN	47.4	MAX	403	MIN	4.2	AC-FT	34290

e Estimated

16897900 LEWI RIVER

LOCATION.--Lat 06°55'32" N., long 158°12'18" E., Hydrologic Unit 20100006, on right bank at road and pipeline crossing, 300 ft upstream from right-bank tributary, and 2.4 mi upstream from mouth.

DRAINAGE AREA.--0.46 mi^2.

PERIOD OF RECORD.--March 1970 to current year. Prior to October 1980, published as Lui River.

REVISED RECORDS.--WDR HI-81-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 290 ft, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--17 years, 5.33 ft^3/s (3,860 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,320 ft^3/s July 24, 1986, gage height, 6.32 ft, from rating curve extended above 37 ft^3/s, on basis of slope-area measurement at gage height 5.92 ft; minimum, 0.02 ft^3/s Apr. 18, 19, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 870 ft^3/s Jan. 7, gage-height, 5.40 ft, no other peak above base discharge of 500 ft^3/s; minimum, 0.28 ft^3/s May 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	2.3	5.3	1.2	.56	1.0	4.1	.74	16	e4.0	e2.2	18
2	4.7	3.4	3.1	.95	.49	.53	23	.74	32	2.9	e1.7	13
3	2.6	1.5	2.3	.81	3.4	.42	23	.60	8.4	23	e1.3	16
4	1.8	5.4	2.0	.60	2.9	.38	25	.56	4.3	7.5	e1.4	4.3
5	2.4	7.2	2.0	1.0	7.9	11	13	.53	3.3	4.7	e1.8	3.1
6	2.7	4.3	1.9	.74	2.6	18	8.5	.46	2.3	14	e1.5	18
7	1.9	11	2.6	50	3.2	4.4	53	.77	21	6.4	2.6	5.6
8	4.7	7.3	1.8	6.2	1.9	2.2	11	.49	5.2	e3.6	18	5.3
9	2.3	3.7	1.2	27	1.2	1.6	5.1	.42	3.3	e4.0	3.6	5.6
10	1.9	2.6	.95	8.6	.95	1.7	3.2	.42	4.9	e8.0	1.9	6.8
11	1.5	4.6	.95	4.1	.74	2.8	2.2	2.5	15	e3.5	1.9	3.8
12	4.9	8.5	1.1	18	.60	24	1.7	.95	24	e12	2.7	2.3
13	30	7.8	.81	6.5	.56	56	1.5	.49	4.9	e9.6	1.7	1.7
14	6.5	10	14	3.1	1.7	10	1.3	11	3.6	e8.4	1.2	1.8
15	3.9	5.5	6.9	2.7	3.4	4.9	.95	2.6	16	e16	1.0	1.4
16	2.7	4.8	6.4	8.6	2.2	2.9	1.1	1.7	6.1	e7.0	.81	1.1
17	7.1	3.1	2.1	14	5.0	1.9	6.1	1.3	3.3	e5.0	1.2	1.4
18	12	4.5	1.7	3.9	7.3	1.4	8.3	.81	e2.6	e15	4.0	1.2
19	3.9	5.3	1.5	2.3	1.9	1.5	7.2	.81	e12	e4.0	5.2	1.2
20	2.2	2.9	1.5	2.3	1.3	1.5	4.4	.74	e4.5	e4.5	3.0	4.1
21	2.5	1.9	1.4	1.9	.95	1.0	2.7	.49	e3.2	e12	14	1.5
22	3.4	1.5	1.1	4.3	.67	.81	1.4	.42	e6.0	e5.0	e4.5	.95
23	1.9	2.5	.95	3.9	.56	7.3	1.4	.35	e8.0	e3.0	e2.5	.95
24	1.9	2.2	.81	1.9	.56	26	1.0	1.8	e3.5	e2.0	e1.8	1.5
25	1.9	3.9	.67	1.5	.49	21	1.0	.81	e10	e1.5	e3.5	3.0
26	2.3	5.3	.81	1.1	.46	e6.0	1.5	.49	e3.5	e1.3	e6.0	1.5
27	2.4	3.1	.60	.88	.56	e3.5	3.4	1.9	e20	e7.0	e9.0	1.2
28	1.9	4.2	.97	.81	1.5	e2.8	3.8	1.2	e10	e2.7	e4.0	.81
29	1.3	3.1	3.2	.67	---	e18	1.5	46	e6.8	e1.4	5.9	2.7
30	1.1	13	1.5	.56	---	e27	1.0	6.3	e2.9	e1.3	5.0	1.9
31	3.7	---	1.2	.53	---	e5.0	---	4.5	---	e2.2	20	---
TOTAL	132.9	146.2	73.32	180.85	55.55	266.54	222.35	92.89	266.6	202.5	134.91	129.71
MEAN	4.29	4.87	2.37	5.83	1.98	8.60	7.41	3.00	8.89	6.53	4.35	4.32
MAX	30	13	14	50	7.9	56	53	46	32	23	20	18
MIN	1.1	1.5	.60	.53	.46	.38	.95	.35	2.3	1.3	.81	.81
AC-FT	264	290	145	358	110	529	441	184	529	402	268	257

CAL YR 1986	TOTAL	1992.28	MEAN	5.46	MAX	81	MIN	.60	AC-FT	3950
WTR YR 1987	TOTAL	1904.12	MEAN	5.22	MAX	56	MIN	.35	AC-FT	3780

e Estimated

16898600 LUHPWOR RIVER

LOCATION.--Lat 06°54'09" N., long 158°09'07" E., Hydrologic Unit 20100006, on left bank about 300 ft upstream from 50-ft waterfall, 0.2 mi downstream from highway bridge, and 0.2 mi west of Pwakorokot Hill.

DRAINAGE AREA.--0.72 mi^2.

PERIOD OF RECORD.--September 1972 to current year. Prior to October 1980, published as Lupwor River.

REVISED RECORDS.--WDR HI-81-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 145 ft, from topographic map.

REMARKS.--Records fair. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years, 8.88 ft^3/s (6,430 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,090 ft^3/s Aug. 4, 1976, gage height, 8.26 ft, from rating curve extended above 47 ft^3/s, on basis of estimate of peak flow; minimum, 0.13 ft^3/s May 4, 5, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 790 ft^3/s Oct. 13, gage-height, 5.70 ft, no other peak above base discharge of 750 ft^3/s; minimum, 0.96 ft^3/s Mar. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	5.4	5.1	2.1	1.4	3.8	8.5	1.4	13	e8.0	11	25
2	5.1	5.7	4.0	2.0	1.4	1.5	27	e2.0	39	e6.0	10	32
3	3.4	3.4	3.2	1.5	4.2	1.2	48	e1.9	16	e15	7.1	28
4	2.7	9.1	3.2	1.2	3.4	1.0	48	e1.4	10	11	5.6	12
5	3.0	9.2	3.1	1.7	8.1	12	16	e1.3	7.6	8.8	8.4	9.6
6	3.7	7.4	4.8	1.2	4.3	26	10	e1.1	5.8	13	6.4	40
7	2.7	34	5.1	48	5.4	8.5	94	e1.6	12	11	8.6	9.6
8	2.3	12	4.0	7.8	3.8	5.8	16	e1.4	8.3	8.3	36	8.0
9	3.5	7.1	3.2	14	2.7	4.0	9.0	1.2	6.2	8.0	10	7.3
10	2.8	5.2	2.7	12	2.2	3.8	7.1	1.1	7.8	5.8	7.3	7.3
11	2.3	7.0	2.5	6.8	1.8	5.4	5.4	2.0	12	5.6	6.8	7.3
12	9.1	13	2.4	23	1.5	10	4.2	1.4	28	20	6.8	5.2
13	73	13	2.1	12	1.4	55	3.6	1.2	11	19	11	4.0
14	12	17	17	6.6	4.8	8.5	3.0	5.8	7.8	16	7.6	3.8
15	7.6	10	13	5.2	9.4	6.0	2.5	3.2	19	42	8.9	3.1
16	5.2	7.1	11	16	6.0	4.9	3.0	3.3	14	16	7.3	2.8
17	21	5.1	6.4	22	9.1	3.4	5.0	3.1	e8.4	15	5.4	2.7
18	16	8.4	5.4	8.8	16	2.7	8.9	2.5	e7.5	32	12	3.0
19	8.0	7.7	4.7	6.0	6.0	2.6	5.4	2.2	e20	12	10	2.5
20	5.2	4.9	4.5	5.4	4.5	2.3	4.3	e2.0	e10	13	7.3	3.3
21	5.3	3.4	3.7	4.2	3.7	1.9	3.2	e1.8	e7.0	20	26	2.2
22	9.4	2.8	3.4	6.1	3.0	1.5	2.7	e1.6	e15	14	12	2.2
23	4.7	2.6	3.1	7.3	2.3	2.8	2.3	1.5	e17	13	8.8	2.2
24	4.5	3.1	2.5	4.7	2.3	16	2.1	3.9	e8.0	8.8	6.8	2.9
25	4.2	4.7	2.2	3.4	1.8	5.9	1.8	2.5	e20	7.6	11	8.3
26	8.2	5.9	1.9	2.7	1.6	4.3	1.9	2.0	e7.0	7.1	14	3.2
27	5.9	4.0	1.8	2.2	1.7	3.2	3.6	4.0	e40	17	22	3.1
28	4.2	3.6	2.5	2.0	2.6	4.2	2.3	3.0	e25	11	11	2.3
29	3.4	3.2	3.8	1.9	---	49	1.7	37	e15	7.3	14	6.2
30	2.7	11	1.7	1.4	---	45	1.4	10	e6.0	5.8	14	15
31	11	---	1.3	1.2	---	11	---	6.0	---	16	47	---
TOTAL	263.1	236.0	135.3	240.4	116.4	313.2	351.9	114.4	423.4	413.1	380.1	264.1
MEAN	8.49	7.87	4.36	7.75	4.16	10.1	11.7	3.69	14.1	13.3	12.3	8.80
MAX	73	34	17	48	16	55	94	37	40	42	47	40
MIN	2.3	2.6	1.3	1.2	1.4	1.0	1.4	1.1	5.8	5.6	5.4	2.2
AC-FT	522	468	268	477	231	621	698	227	840	819	754	524

CAL YR 1986	TOTAL	3508.96	MEAN	9.61	MAX	121	MIN	.96	AC-FT	6960
WTR YR 1987	TOTAL	3251.4	MEAN	8.91	MAX	94	MIN	1.0	AC-FT	6450

e Estimated

16898690 LEHN MESI RIVER

LOCATION.--Lat 06°50'41" N., long 158°11'02" E., Hydrologic Unit 20100006, on left bank 3.2 mi upstream from mouth, 1.7 mi southwest of Mount Tolenpwoaipwoai, and 4.5 mi south of Mount Temwetemwensekir.

DRAINAGE AREA.--2.31 mi^2.

PERIOD OF RECORD.--November 1981 to current year.

REVISED RECORDS.--WDR HI-85-2: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 260 ft, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--5 years (water years 1983-87) 81.2 ft^3/s (58,830 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,740 ft^3/s, May 8, 1982, gage height, 10.14 ft, from rating curve extended above 126 ft^3/s; minimum, 4.5 ft^3/s for several days in April and May, 1983.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 13	0700	*5,460	*8.76	Aug. 8	0600	4,050	7.71
Apr. 7	1200	4,260	7.88				

Minimum discharge, 16.0 ft^3/s Feb. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e140	74	92	40	21	92	104	e25	185	96	121	201
2	e80	137	e70	41	21	31	220	e30	337	67	105	261
3	e52	e56	e52	38	119	22	366	29	110	247	73	244
4	e45	e75	e50	26	82	19	346	26	102	148	62	131
5	e48	85	e60	44	81	173	174	26	66	93	79	97
6	e62	e75	146	30	39	295	103	23	55	366	56	267
7	e46	e105	95	425	59	87	628	29	163	132	62	99
8	e37	100	e62	104	39	48	165	28	82	89	502	87
9	e56	66	e50	213	28	36	e86	22	64	110	96	142
10	e48	e56	e40	132	24	48	e62	22	90	150	79	104
11	e45	e70	28	80	21	100	e48	69	172	90	79	81
12	e140	90	26	362	18	173	e40	37	280	232	108	61
13	622	115	23	135	17	380	e35	24	93	170	92	48
14	151	202	288	68	85	94	e47	103	81	201	81	43
15	e60	125	222	76	173	67	e30	44	221	278	64	43
16	e60	95	161	344	58	56	e62	47	154	165	67	36
17	e400	78	67	317	88	40	144	44	84	126	78	34
18	e290	97	53	99	142	34	159	35	79	256	147	47
19	89	131	45	61	48	37	e100	30	190	103	161	55
20	e62	e84	41	56	34	41	e80	38	100	92	92	80
21	59	e60	36	60	34	28	e54	30	96	307	305	37
22	e118	e45	34	78	28	26	e40	23	111	133	118	31
23	e62	e41	30	99	23	35	e50	21	170	87	85	52
24	e56	e56	27	53	28	224	e36	91	127	68	81	62
25	e54	e80	24	38	24	213	e33	46	179	83	95	146
26	e140	e110	23	30	19	122	e150	28	94	60	132	61
27	e120	e64	24	27	19	80	79	60	337	138	102	75
28	e74	e58	e35	24	49	55	e60	e45	182	79	122	47
29	e54	52	84	23	---	220	e45	248	112	59	106	82
30	e45	146	40	21	---	494	e30	100	85	51	139	90
31	e100	---	30	19	---	112	---	55	---	65	236	---
TOTAL	3435	2628	2058	3163	1401	3462	3576	1476	4201	4321	3725	2844
MEAN	111	87.6	66.4	102	50.0	112	119	47.6	140	139	120	94.8
MAX	622	202	288	425	173	494	628	248	337	366	502	267
MIN	37	41	23	19	17	19	30	21	55	51	56	31
AC-FT	6810	5210	4080	6270	2780	6870	7090	2930	8330	8570	7390	5640

CAL YR 1986	TOTAL	37243	MEAN	102	MAX	969	MIN	17	AC-FT	73870
WTR YR 1987	TOTAL	36290	MEAN	99.4	MAX	628	MIN	17	AC-FT	71980

e Estimated

16899620 MELO RIVER

LOCATION.--Lat 05°20'30" N., long 162°58'33" E., Hydrologic Unit 20100006, on left bank 0.5 mi upstream from mouth and 1.3 mi southwest of Mount Mutunte.

DRAINAGE AREA.--0.68 mi^2.

PERIOD OF RECORD.--October 1974 to September 1979, June 1980 to current year.

REVISED RECORDS.--WRD HI-81-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 20 ft, from topographic map.

REMARKS.--Records fair except for astimated daily discharges, which are poor. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--12 years (water years 1975-79, 1981-87), 6.82 ft^3/s (4,940 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 784 ft^3/s Mar. 22, 1976, gage height, 5.78 ft, from rating curve extended above 17 ft^3/s; minimum, 0.11 ft^3/s for several days in April 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 473 ft^3/s Dec. 11, gage height, 4.31 ft, no other peak greater than base diacharge of 300 ft^3/s; minimum, 0.42 ft^3/s May 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.2	5.9	2.2	5.7	1.2	12	e2.5	e1.5	e6.8	2.8	13
2	2.0	7.1	4.5	1.3	3.6	1.1	10	e2.7	e12	e5.5	2.8	5.5
3	1.7	3.6	11	1.2	2.6	1.0	21	e2.2	e9.1	e9.1	2.8	7.5
4	2.6	3.8	8.4	7.7	11	1.2	10	e1.9	e10	e13	6.9	13
5	11	4.6	7.5	6.4	27	1.6	7.8	e1.7	e11	e9.0	11	11
6	4.1	11	4.5	9.4	11	1.1	6.5	e1.3	e5.3	e5.0	3.4	20
7	4.6	5.2	7.5	15	26	e1.3	8.5	e1.0	e5.3	e3.7	2.6	28
8	3.2	3.8	5.7	6.2	13	e1.6	5.2	e.96	e5.3	e2.9	2.1	11
9	2.5	3.9	3.8	8.7	7.5	e1.5	3.9	e1.4	e3.7	e3.3	1.9	e8.0
10	2.1	15	6.7	16	6.2	e2.2	3.2	e1.1	e3.4	e3.6	2.4	e8.4
11	10	8.6	29	7.4	4.7	e1.8	2.5	e1.9	e2.6	e2.9	1.7	e19
12	3.4	5.5	27	47	3.6	e1.4	2.1	e2.1	e2.1	e11	3.0	e7.4
13	2.8	7.3	10	16	3.8	e19	2.0	e1.1	e1.9	e17	2.5	e6.0
14	2.4	17	6.9	9.1	4.1	e13	5.5	e2.1	e1.8	e12	2.5	e5.0
15	1.9	6.9	7.2	6.4	4.3	e3.5	2.4	2.4	e5.1	e23	2.2	e4.1
16	2.1	5.2	4.1	5.9	9.5	e4.6	2.2	1.7	e2.8	e18	1.5	e3.5
17	1.7	4.1	9.0	6.2	5.2	e1.8	e8.2	1.2	e4.1	e11	1.8	e3.2
18	6.1	4.5	7.5	3.8	6.9	e1.0	e14	1.1	e4.8	e16	6.3	e2.9
19	3.6	4.1	21	3.0	4.3	e1.2	e4.1	1.0	e2.7	e8.8	6.0	e2.6
20	3.2	3.2	22	2.6	3.4	e1.6	e2.8	1.4	e2.2	e6.3	2.2	e2.6
21	2.8	3.0	11	7.9	5.2	e1.5	e2.2	.83	e3.4	e11	4.1	e3.5
22	1.9	12	6.4	6.4	3.0	e2.2	e1.9	.51	e2.6	e5.8	3.2	e2.2
23	1.5	6.7	4.7	13	2.5	e11	e1.7	.51	e6.8	e4.8	2.1	e2.9
24	1.5	19	4.0	6.4	2.2	e8.1	e1.6	.46	e8.6	e4.5	5.2	e4.0
25	2.8	17	3.4	4.7	1.8	9.4	e2.5	.46	e4.0	e4.2	5.0	e13
26	8.2	8.1	2.6	4.7	1.6	6.2	e12	.76	e3.1	e4.0	2.6	e12
27	12	7.2	3.8	13	1.6	4.3	e4.1	1.7	e7.9	e4.9	2.2	e3.2
28	4.4	8.1	2.5	13	1.5	3.2	e3.2	1.5	e7.6	e5.8	e1.9	e2.1
29	3.2	7.5	2.2	5.9	---	2.5	e2.5	1.8	e4.5	e4.4	e1.8	e2.1
30	2.5	13	2.0	4.5	---	2.5	e2.1	e1.6	e6.1	e5.5	e7.7	e2.8
31	2.6	---	1.8	3.8	---	35	---	e2.1	---	e3.2	e2.4	---
TOTAL	117.0	228.2	253.6	264.8	182.8	148.6	167.7	44.99	151.1	243.8	106.6	229.3
MEAN	3.77	7.61	8.18	8.54	6.53	4.79	5.59	1.45	5.04	7.86	3.44	7.64
MAX	12	19	29	47	27	35	21	2.7	12	23	11	28
MIN	1.5	2.2	1.8	1.2	1.5	1.0	1.6	.46	1.5	2.9	1.5	2.1
AC-FT	232	453	503	525	363	295	333	89	300	483	211	455

CAL YR 1986	TOTAL	3059.6	MEAN	8.38	MAX	48	MIN	1.5	AC-FT	6070
WTR YR 1987	TOTAL	2138.29	MEAN	5.86	MAX	47	MIN	.46	AC-FT	4240

e Estimated

16899750 MALEM RIVER

LOCATION.--Lat 05°17'35" N., long 163°00'54" E., Hydrologic Unit 20100006, on left bank 0.9 mi upstream from mouth and 2.0 mi southeast of Mount Finkol.

DRAINAGE AREA.--0.76 mi^2.

PERIOD OF RECORD.--July 1971 to March 1981, March 1982 to current year.

REVISED RECORDS.--WDR HI-81-2: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 95 ft, from stadia survey.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--14 years (1972-80, 1983-87), 6.74 ft^3/s (4,880 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,550 ft^3/s Mar. 22, 1976, gage height, 6.20 ft, from rating curve extended above 110 ft^3/s; minimum, 0.07 ft^3/s Apr. 30, May 1, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 460 ft^3/s Dec. 11, gage height, 4.82 ft, no other peak greater than base discharge of 350 ft^3/s; minimum, 0.24 ft^3/s Oct. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.1	8.5	e2.7	e3.7	e.98	14	2.7	1.6	7.7	2.2	18
2	1.5	9.4	5.9	e1.4	e2.8	e1.1	9.6	2.9	14	6.1	2.3	11
3	1.5	3.6	17	e1.3	e2.3	e1.5	28	2.6	9.2	10	2.1	12
4	1.9	2.2	14	e11	e17	e1.7	12	2.3	11	15	15	13
5	13	3.1	11	e5.7	e37	e1.5	8.5	2.1	12	10	13	21
6	4.1	6.1	7.9	e11	e12	e1.3	8.4	1.7	5.9	5.7	4.9	22
7	3.8	3.6	15	e19	e34	e1.4	10	1.3	5.9	4.1	5.4	17
8	2.6	2.9	7.7	e5.4	e19	e1.6	6.1	1.1	5.9	3.3	4.7	15
9	2.0	2.6	8.8	e12	e13	e1.5	4.3	1.5	4.1	3.8	5.1	8.8
10	1.5	21	13	e21	e8.0	e2.3	3.8	1.3	3.8	4.1	5.3	9.3
11	3.5	7.0	64	e8.2	e5.4	e1.9	3.2	2.0	2.9	3.2	3.3	21
12	1.8	4.3	46	e65	e4.2	e1.4	2.9	2.1	2.4	12	2.3	8.2
13	7.1	5.1	20	e23	e3.5	e22	2.4	1.8	2.2	20	2.4	6.8
14	6.2	21	14	e15	e6.4	e15	3.2	1.1	2.0	14	3.1	5.5
15	2.9	6.8	11	e11	e4.0	e3.7	2.0	9.4	5.7	26	5.1	4.5
16	1.9	4.1	9.6	e9.5	e11	e4.5	2.2	4.9	3.2	18	1.7	3.9
17	1.9	3.2	5.4	e8.4	e5.8	e2.0	9.6	2.2	4.5	12	2.7	3.5
18	6.7	2.6	e13	e6.4	e7.4	e.93	16	1.8	5.5	18	4.0	3.2
19	2.6	6.1	e28	e3.5	e5.2	e1.1	4.3	2.7	3.0	8.5	5.9	2.9
20	1.9	3.6	e30	e3.4	e3.3	e1.6	3.2	9.8	2.4	7.0	3.0	2.9
21	2.0	2.7	e14	e11	e5.2	e1.5	2.7	3.2	3.8	12	9.9	3.8
22	1.5	18	e8.0	e9.4	e2.9	e3.3	2.4	2.2	2.9	6.6	4.1	2.4
23	1.3	9.0	e6.6	e17	e2.2	e12	1.9	1.6	7.3	5.5	2.7	3.4
24	.97	4.9	e5.3	e10	e1.9	e4.3	1.8	1.5	9.6	4.9	5.7	4.5
25	.90	6.5	e4.4	e4.9	e1.8	11	2.7	1.3	4.5	4.5	8.0	15
26	13	13	e3.6	e4.7	e1.6	6.1	14	1.4	3.5	3.5	3.9	13
27	30	9.6	e4.2	e6.2	e1.3	9.6	4.3	2.9	8.8	3.8	4.3	3.8
28	6.4	11	e3.3	e18	e1.1	3.9	3.8	2.0	8.5	4.1	3.5	2.3
29	3.8	15	e2.9	e5.4	---	3.5	2.9	1.9	4.9	3.6	6.3	2.3
30	2.3	24	e2.4	e3.3	---	3.3	2.4	1.5	6.8	3.9	9.3	2.9
31	1.9	---	e2.1	e3.0	---	30	---	2.3	---	2.6	5.7	---
TOTAL	134.37	234.1	406.6	338.8	222.8	157.51	190.6	78.9	167.8	263.3	156.9	262.5
MEAN	4.33	7.80	13.1	10.9	7.96	5.08	6.35	2.55	5.59	8.49	5.06	8.75
MAX	30	24	64	65	37	30	28	9.8	14	26	15	22
MIN	.90	2.1	2.1	1.3	1.1	.93	1.8	1.1	1.6	2.8	1.7	2.3
AC-FT	267	464	806	672	442	312	378	156	333	522	311	521

CAL YR 1986	TOTAL	2875.97	MEAN	7.88	MAX	64	MIN	.90	AC-FT	5700
WTR YR 1987	TOTAL	2614.18	MEAN	7.16	MAX	65	MIN	.90	AC-FT	5190

e Estimated

16899800 TOFOL RIVER

LOCATION.--Lat 05°19'10" N., long 163°00'24" E., Hydrologic Unit 20100006, on left bank 25 ft downstream from right-bank tributary, 0.9 mi upstream from mouth, and 1.3 mi northeast of Mount Finkol.

DRAINAGE AREA.--0.53 mi^2.

PERIOD OF RECORD.--June 1971 to September 1979, March 1980 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 98 ft, from stadia survey.

REMARKS.--Recorda fair. Water is diverted through 8-in pipe from dam upstream for domestic use. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--15 years (1971-79, 1981-87), 5.51 ft^3/s (3,990 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,560 ft^3/s Nov. 10, 1981, gage height, 5.97 ft, from rating curve extended above 79 ft^3/s; minimum, 0.01 ft^3/s Apr. 1, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 369 ft^3/s July 15, gage height, 3.86 ft, no peak greater than base discharge of 450 ft^3/s; minimum, 0.12 ft^3/s May 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.3	5.2	.66	2.0	.38	8.6	1.1	.62	6.5	.88	9.6
2	1.3	3.3	4.0	.46	1.5	.46	6.2	.82	14	3.3	.88	7.0
3	1.2	1.7	9.5	.38	1.1	.58	16	.82	4.2	6.0	.88	8.6
4	1.3	1.7	7.8	6.6	3.0	.66	9.5	.76	9.2	8.6	3.3	7.7
5	7.9	2.9	7.1	3.8	18	.82	6.6	.46	6.8	5.9	7.3	11
6	2.2	5.2	4.0	5.7	6.1	.50	4.8	.42	3.6	3.8	2.1	14
7	9.0	2.6	6.2	7.6	22	.54	5.5	.34	5.3	2.8	1.9	22
8	2.8	1.5	3.3	2.5	10	.62	3.6	.26	4.7	2.6	.58	11
9	2.0	1.6	3.2	5.1	5.7	.58	2.7	.34	2.8	2.2	.66	7.3
10	1.2	13	5.7	15	4.3	.88	2.1	.34	2.5	2.7	1.0	9.1
11	3.2	5.0	34	5.2	3.1	.70	1.8	1.7	1.9	1.8	.62	19
12	1.5	2.2	25	53	2.5	.54	1.5	.82	1.5	8.4	.50	7.3
13	3.9	5.3	10	15	1.9	13	1.2	.42	1.1	13	.54	5.0
14	2.2	18	6.8	8.4	3.7	6.3	1.4	.20	1.0	8.1	.42	5.5
15	1.4	4.8	5.0	5.7	2.5	1.3	.94	3.2	6.1	22	.70	3.3
16	1.1	3.5	3.6	4.5	7.9	1.8	.70	.88	1.9	16	.30	2.6
17	1.1	2.8	8.6	5.0	5.0	.58	6.6	.26	1.6	10	.42	2.5
18	3.8	2.1	5.0	2.8	8.0	.38	8.4	.22	2.5	13	1.0	1.8
19	1.8	2.9	9.3	2.1	3.6	.46	2.1	1.4	1.1	7.8	1.9	1.5
20	1.2	1.9	15	1.8	2.5	.62	1.4	5.1	.82	5.9	.82	1.3
21	1.9	1.4	5.7	5.3	1.9	.58	1.2	1.0	1.1	11	3.1	1.7
22	1.1	12	4.0	4.3	1.7	.85	.82	.50	3.1	5.2	.94	1.1
23	.82	4.8	3.2	6.5	1.3	5.2	.86	.28	8.1	4.2	.62	4.0
24	.76	3.2	2.6	3.8	1.2	2.2	.58	.20	7.3	3.1	4.3	2.6
25	.58	4.7	2.1	2.7	1.1	4.8	3.1	.16	5.0	2.9	3.3	6.6
26	6.7	5.9	1.8	2.1	.94	2.6	15	.53	2.6	2.3	1.6	5.5
27	24	7.2	1.9	4.8	.66	2.8	3.6	1.9	3.2	1.8	.82	1.3
28	3.3	5.7	1.4	9.5	.50	1.3	2.2	.88	4.8	1.7	.66	1.2
29	2.1	8.8	1.2	2.6	---	1.0	1.5	.58	3.4	1.5	1.8	1.1
30	1.6	14	.88	1.9	---	.70	1.2	.30	4.5	2.9	2.6	1.2
31	1.3	---	.70	1.7	---	21	---	.88	---	1.4	1.8	---
TOTAL	95.76	150.8	203.78	196.50	123.70	74.53	123.50	27.07	116.34	190.4	48.24	183.4
MEAN	3.09	5.03	6.57	6.34	4.42	2.40	4.12	.87	3.88	6.14	1.56	6.11
MAX	24	18	34	53	22	21	18	5.1	14	22	7.3	22
MIN	.58	1.3	.70	.38	.50	.38	.58	.16	.82	1.4	.30	1.1
AC-FT	190	299	404	390	245	148	245	54	231	378	96	364

CAL YR 1986	TOTAL	1880.09	MEAN	5.15	MAX	34	MIN	.58	AC-FT	3730
WTR YR 1987	TOTAL	1534.02	MEAN	4.20	MAX	53	MIN	.16	AC-FT	3040

16912000 PAGO STREAM AT AFONO

LOCATION.--Lat 14°16'03" S., long 170°39'02" W., Hydrologic Unit 20100001, on left bank 0.2 mi south of Afono and 0.3 mi upstream from mouth.

DRAINAGE AREA.--0.60 mi^2.

PERIOD OF RECORD.--October 1958 to current year. Prior to July 1960, published as Afono Stream at Afono.

REVISED RECORDS.--WSP 1937: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 30 ft, from topographic map.

REMARKS.--Records good. About 0.06 ft^3/s is diverted upstream for domestic use in Afono. Periodic determinations of water temperature for the current year are publiahed elsewhere in this report.

AVERAGE DISCHARGE.--28 years (water years 1960-87), 3.44 ft^3/s (2,490 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,350 ft^3/s July 5, 1969, gage height, 5.49 ft, from rating curve extended above 61 ft^3/s; minimum, 0.11 ft^3/s Sept. 15, 16, 1983.

EXTREMES FOR CURRENT YEAR.--Peak dischargea greater than base discharge of 210 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 25	0700	*745	*4.67	Feb. 3	0330	324	3.68
Dec. 20	1030	295	3.59	Feb. 26	0700	255	3.45
Dec. 24	1100	220	3.32				

Minimum discharge, 0.13 ft^3/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	4.3	.96	1.8	11	21	6.4	.78	.37	.43	.25	.32
2	1.6	3.8	1.1	1.7	7.1	5.9	4.0	.78	.32	.43	.25	.32
3	35	2.5	.96	1.6	68	3.6	2.7	.87	.32	.49	.28	.28
4	7.7	3.7	1.0	1.3	12	3.4	9.8	.70	.32	.37	1.0	.23
5	3.6	2.4	.87	1.2	6.5	3.0	15	.62	.28	.37	.37	.23
6	2.5	2.2	.78	1.1	9.7	2.4	5.2	.62	.28	.62	.32	.22
7	2.1	1.7	.62	1.9	5.7	3.8	2.8	.62	.79	.96	.25	.22
8	1.7	1.2	.87	4.7	3.8	4.4	2.2	.55	12	.49	.25	.20
9	1.4	1.1	1.3	5.7	3.4	2.5	1.9	.62	6.9	.37	.23	.25
10	1.2	1.0	1.1	3.2	3.4	1.9	1.6	.55	22	.32	.23	.22
11	1.0	.87	1.6	3.9	2.8	1.6	1.6	.49	7.0	.32	.23	.20
12	.96	.70	2.5	4.9	6.4	1.4	1.3	.43	3.2	.28	.23	.20
13	.87	.62	1.6	4.0	8.2	1.3	1.1	.43	2.2	.32	.20	.19
14	.78	.55	2.8	3.0	4.6	1.2	.96	1.8	1.6	3.3	.31	.19
15	.62	.55	1.7	2.1	2.8	1.1	.87	3.4	1.2	1.0	1.2	.19
16	.62	6.2	1.0	1.8	2.4	1.0	.87	5.2	1.1	1.9	50	.19
17	1.0	13	4.0	2.1	2.6	1.0	.78	2.2	.96	6.2	5.4	.19
18	.87	3.6	2.7	2.4	1.9	4.9	.70	1.3	1.0	1.8	2.4	.19
19	2.3	7.0	1.3	1.8	1.7	1.9	.70	.98	.96	.87	1.6	.17
20	1.0	4.4	64	6.9	1.6	1.2	.62	.87	.87	.78	1.1	.17
21	.70	3.0	14	5.7	1.3	1.0	.55	.78	.78	.62	.96	.17
22	.62	6.5	9.1	3.6	1.2	1.0	1.2	.70	3.3	.49	.78	.17
23	1.3	5.2	34	2.5	1.0	.96	4.7	.55	1.7	.43	.70	.17
24	.87	2.5	32	1.9	.96	.78	2.2	.55	1.0	.37	.62	.20
25	56	1.8	9.5	1.7	1.3	1.0	3.5	.49	.87	.32	.55	.19
26	4.9	1.4	5.7	2.2	53	1.8	5.2	.49	.78	.28	.55	.17
27	2.8	1.2	6.1	2.1	6.5	1.4	3.8	.43	.62	.25	.49	.16
28	2.2	1.1	4.4	1.8	4.6	1.6	1.2	.43	.55	.25	.43	.16
29	1.8	1.4	3.0	1.4	---	5.6	1.0	.43	.49	.28	.43	.16
30	1.4	1.1	2.4	4.2	---	2.7	.87	.43	.49	.25	.37	.15
31	1.9	---	1.9	15	---	1.6	---	.55	---	.25	.37	---
TOTAL	143.51	86.59	214.86	99.2	235.46	87.94	85.32	29.62	74.25	25.21	72.35	6.07
MEAN	4.63	2.89	6.93	3.20	8.41	2.84	2.84	.96	2.47	.81	2.33	.20
MAX	56	13	64	15	68	21	15	5.2	22	6.2	50	.32
MIN	.62	.55	.62	1.1	.96	.78	.55	.43	.28	.25	.20	.15
AC-FT	285	172	426	197	467	174	169	59	147	50	144	12

CAL YR 1986	TOTAL	1490.50	MEAN	4.08	MAX	64	MIN	.22	AC-FT	2960
WTR YR 1987	TOTAL	1160.38	MEAN	3.18	MAX	68	MIN	.15	AC-FT	2300

16920500 AASU STREAM AT AASU

LOCATION.--Lat 14°17'51" S., long 170°45'30" W., Hydrologic Unit 20100001, on right bank at Aasu and 200 ft upstream from mouth.

DRAINAGE AREA.--1.03 mi^2.

PERIOD OF RECORD.--October 1958 to current year.

REVISED RECORDS.--WSP 1937: Drainage area. WSP 2137: 1959-60(P), 1961(M), 1962-65(P).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 5 ft, by hand levels from high-tide mark.

REMARKS.--Records good. Small diversion upstream for domestic use. Recording rain gage located at station. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--28 years (water years 1960-87), 6.12 ft^3/s (4,430 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 498 ft^3/s Sept. 7, 1972, gage height, 5.18 ft, from rating curve extended above 20 ft^3/s on basis of slope-area measurement at gage height 4.57 ft; minimum, 0.12 ft^3/s Oct. 21, 23, 24, 27, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 128 ft^3/s Mar. 1, gage height, 3.13 ft, no peak greater than base discharge of 180 ft^3/s; minimum, 0.74 ft^3/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	3.6	3.4	6.7	28	22	7.0	6.7	2.4	1.8	1.8	2.1
2	15	3.4	4.5	6.1	17	14	9.2	6.4	2.2	1.7	2.1	1.9
3	21	3.4	6.4	5.5	28	10	8.8	8.1	2.2	1.8	2.5	1.8
4	16	4.8	3.4	4.6	18	10	8.4	5.5	2.1	1.7	3.7	1.8
5	12	3.4	3.0	4.0	15	8.8	9.2	4.3	3.2	1.6	2.5	1.7
6	10	3.4	2.7	3.6	13	7.8	7.4	4.6	1.9	3.1	2.2	1.6
7	9.2	2.8	2.4	5.0	11	7.4	6.1	5.3	2.4	2.4	1.8	1.5
8	8.1	2.7	2.8	8.0	10	7.0	5.5	5.2	3.8	1.7	1.8	1.5
9	8.2	2.7	2.7	7.8	9.8	5.8	5.2	4.3	9.2	1.8	1.7	2.7
10	6.7	2.4	2.2	12	15	5.8	4.9	4.0	12	1.7	1.6	1.8
11	6.4	2.4	5.7	14	10	5.2	5.2	7.4	18	1.5	1.8	1.5
12	5.2	2.4	6.4	9.2	14	4.6	4.0	7.4	8.8	1.5	1.6	1.3
13	4.6	2.2	3.8	7.8	17	4.9	3.8	8.1	6.1	1.4	1.5	1.2
14	4.0	2.1	7.4	8.6	13	3.8	3.4	8.9	5.2	4.5	2.4	1.1
15	3.6	2.1	4.3	7.4	11	3.4	3.6	11	4.6	1.9	13	1.1
16	3.2	15	3.4	6.7	10	3.2	3.2	12	4.0	2.3	20	1.1
17	3.0	14	3.4	7.0	9.2	3.6	3.0	10	3.8	4.0	11	1.1
18	2.8	9.5	3.0	7.4	7.8	11	2.8	9.5	3.6	2.1	7.4	1.0
19	3.8	7.8	2.8	6.1	7.0	5.5	2.7	8.1	3.4	1.8	6.1	1.0
20	2.8	8.4	17	10	6.4	4.0	2.7	7.0	3.2	1.8	5.5	1.0
21	2.5	8.8	14	12	5.8	3.6	2.4	8.7	3.0	1.7	5.2	.95
22	2.4	9.2	21	9.5	5.2	3.4	4.4	5.8	5.5	1.6	4.8	.95
23	5.1	8.4	28	8.4	4.8	3.2	3.8	4.9	3.2	1.5	4.3	1.1
24	3.2	6.7	23	7.4	4.0	5.0	6.0	4.3	2.8	1.5	3.8	1.1
25	10	5.8	18	8.2	4.6	8.0	12	3.8	2.7	1.5	3.4	1.2
26	4.9	5.2	15	10	26	8.6	12	3.6	2.7	1.4	3.2	1.0
27	3.8	4.6	15	10	12	6.7	10	3.4	2.4	1.4	2.8	.81
28	3.4	4.3	11	8.4	10	7.2	8.4	3.0	2.2	1.4	2.7	.81
29	3.4	4.6	9.8	7.4	---	8.1	8.4	2.7	1.9	1.8	2.4	.81
30	3.0	3.8	8.4	9.1	---	7.9	5.8	2.5	1.9	1.6	2.4	.74
31	3.6	---	7.4	14	---	6.7	---	2.5	---	2.1	2.2	---
TOTAL	209.9	159.7	261.3	251.9	342.4	214.4	177.3	185.0	130.4	59.6	128.8	39.27
MEAN	6.77	5.32	8.43	8.13	12.2	6.92	5.91	5.97	4.35	1.92	4.15	1.31
MAX	21	15	28	14	28	22	12	12	18	4.5	20	2.7
MIN	2.4	2.1	2.2	3.6	4.0	3.2	2.4	2.5	1.9	1.4	1.5	.74
AC-FT	416	317	518	500	679	425	352	367	259	118	255	78

CAL YR 1986	TOTAL	2424.5	MEAN	6.64	MAX	40	MIN	1.4	AC-FT	4810
WTR YR 1987	TOTAL	2159.97	MEAN	5.92	MAX	28	MIN	.74	AC-FT	4280

16931000 ATAULOMA STREAM AT AFAO

LOCATION.--Lat 14°20'10" S., long 170°48'02" W., Hydrologic Unit 20100001, on left bank at Afao, 100 ft upstream from highway bridge, and 300 ft upstream from mouth.

DRAINAGE AREA.--0.24 mi^2.

PERIOD OF RECORD.--October 1958 to current year.

REVISED RECORDS.--WSP 1937: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 20 ft, by hand levels from high-tide mark.

REMARKS.--Records good. No diversion upstream. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--28 years (water years 1960-87), 1.46 ft^3/s (1,060 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 815 ft^3/s Oct. 28, 1979, gage height, 4.47 ft, from rating curve extended above 30 ft^3/s; minimum, 0.04 ft^3/s Oct. 24-26, 28-31, Nov. 1, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 25	1500	*362	*3.35	Feb. 1	0500	189	2.67

Minimum discharge, 0.09 ft^3/s Aug. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.40	.27	.54	14	1.6	.59	.36	.21	.17	.13	.11
2	1.0	.33	.45	.54	8.2	1.1	1.7	.36	.21	.17	.11	.11
3	7.7	.40	.74	.44	16	.94	.87	.36	.21	.19	.11	.11
4	2.1	.50	.36	.40	3.5	1.6	1.0	.33	.19	.19	.44	.11
5	1.1	1.2	.30	.40	7.2	.94	.94	.30	.24	.17	.11	.11
6	.87	.33	.27	.36	2.8	.87	.80	.33	.19	.30	.10	.13
7	.80	.27	.24	.75	1.9	.80	.64	.36	.24	.24	.10	.13
8	.87	.24	.40	2.2	1.4	.80	.59	.36	.44	.21	.10	.15
9	.87	.24	.36	1.5	1.5	1.2	.49	1.2	.74	.27	.10	.17
10	.74	.24	.27	1.6	1.5	2.6	.44	.49	.74	.24	.10	.15
11	.74	.24	.33	1.6	1.0	1.2	.56	.44	2.0	.24	.10	.15
12	.64	.21	.54	.74	1.2	.94	.44	.83	.44	.24	.10	.13
13	.59	.21	.36	.74	2.0	.87	.40	.54	.33	.24	.10	.11
14	.54	.21	2.0	.88	1.2	.74	.36	5.5	.27	.52	.10	.11
15	.44	.19	.59	1.1	1.8	.64	.44	2.4	.24	.17	.76	.11
16	.40	4.9	.40	.80	1.3	.54	.36	1.0	.21	.17	1.8	.11
17	.40	2.2	.36	.74	1.1	.81	.36	.69	.21	.15	.36	.10
18	.36	.80	.33	.69	.94	7.4	.36	.54	.21	.13	.17	.11
19	.61	.49	.30	.74	.80	1.0	.33	.44	.21	.13	.13	.11
20	.36	1.3	11	2.7	.69	.69	.33	.36	.19	.13	.13	.11
21	.33	.74	4.2	4.0	.64	.64	.30	.36	.21	.13	.11	.11
22	.33	.69	4.3	2.0	.59	.54	.51	.33	.54	.13	.11	.11
23	.50	.54	21	1.6	.59	.54	.44	.30	.24	.11	.11	.17
24	.36	.40	6.1	1.1	.54	1.7	1.3	.30	.21	.13	.11	.13
25	1.6	.33	2.2	13	5.7	.64	.80	.27	.19	.13	.11	.11
26	.44	.30	1.5	8.2	26	.64	.74	.27	.19	.11	.15	.15
27	.40	.27	1.2	2.2	2.6	.54	.99	.27	.17	.13	.13	.11
28	.44	.27	.87	1.3	1.4	.93	.59	.21	.15	.13	.11	.11
29	.40	.46	.74	1.1	---	.74	.44	.21	.15	.11	.11	.11
30	.33	.33	.64	6.4	---	.80	.40	.21	.15	.10	.11	.10
31	.33	---	.59	3.5	---	.64	---	.21	---	.10	.11	---
TOTAL	27.59	19.25	63.21	63.86	108.09	35.63	18.53	20.13	9.92	5.58	6.42	3.64
MEAN	.89	.64	2.04	2.06	3.86	1.15	.62	.65	.33	.18	.21	.12
MAX	7.7	4.9	21	13	26	7.4	1.7	5.5	2.0	.52	1.8	.17
MIN	.33	.19	.24	.36	.54	.54	.30	.21	.15	.10	.10	.10
AC-FT	55	38	125	127	214	71	37	40	20	11	13	7.2

CAL YR 1986	TOTAL	534.51	MEAN	1.46	MAX	27	MIN	.19	AC-FT	1060
WTR YR 1987	TOTAL	381.85	MEAN	1.05	MAX	26	MIN	.10	AC-FT	757

16948000 AFUELO STREAM AT MATUU

LOCATION.--Lat 14°18'07" S., long 170°41'07" W., Hydrologic Unit 20100001, on left bank 0.2 mi northwest of Matuu and 0.3 mi upstream from mouth.

DRAINAGE AREA.--0.25 mi^2.

PERIOD OF RECORD.--March 1958 to current year. Prior to July 1960, published as Matuu Stream at Matuu.

REVISED RECORDS.--WSP 1937: Drainage area. WSP 2137: 1958-65.

GAGE.--Water-stage recorder. Elevation of gage is 80 ft, from topographic map.

REMARKS.--Records good except for estimated daily discharge, which are are fair. Small diversion upstream for domestic use since September 1972. Periodic determinations of water temperature for the current year are published elsewhere in this report.

AVERAGE DISCHARGE.--29 years, 1.47 ft^3/s (1,070 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535 ft^3/s May 3, 1985, gage height, 4.70 ft, from rating curve extended above 26 ft^3/s on basis of slope-area measurement of peak flow; minimum, 0.01 ft^3/s Sapt. 16, 17, 20-26, 28, 29, 1975, Apr. 5-7, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base diacharge of 160 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 25	0600	*194	*3.12	Feb. 26	0600	191	3.10
Dec. 20	1015	185	3.06	Mar. 29	0815	163	2.92

Minimum discharge, 0.02 ft^3/s, many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	1.7	.14	.39	e3.5	7.0	2.2	.46	.07	.03	.06	.03
2	.50	2.0	.47	.33	e2.5	1.7	2.3	.42	.07	.05	.05	.03
3	12	.42	1.2	.25	e35	1.1	1.5	.28	.07	.06	.05	.02
4	2.9	.82	.25	.19	4.3	1.0	5.0	.17	.07	.05	.29	.02
5	.75	.39	.14	.19	2.3	.75	6.1	.17	.07	.04	.06	.02
6	.36	.86	.09	.17	3.2	.60	1.5	.17	.06	.13	.05	.02
7	.25	.33	.09	2.1	1.7	3.4	.65	.17	.31	.14	.03	.02
8	.25	.17	.19	11	1.0	.98	.34	.16	4.5	.06	.02	.02
9	.23	.11	1.3	3.9	.85	.50	.33	3.9	2.1	.08	.04	.03
10	.17	.09	.50	1.4	.55	.53	.33	.80	3.1	.05	.02	.04
11	.16	.08	.52	3.2	.46	.42	.33	.36	2.0	.05	.03	.02
12	.14	.07	2.0	2.0	.75	.39	.17	.49	1.0	.05	.03	.02
13	.13	.07	.46	5.7	.65	.25	.16	.33	.42	.06	.04	.02
14	.13	.08	2.1	2.4	.39	.21	.14	3.0	.19	.77	.07	.02
15	.13	.06	.48	1.4	.33	.17	.21	2.7	.13	.08	6.0	.02
16	.09	4.9	.21	.85	.46	.17	.17	2.9	.08	1.1	27	.02
17	.17	9.0	.85	1.2	.60	.21	.10	.95	.08	3.8	1.7	.02
18	.11	.98	.42	1.3	.30	6.7	.05	.50	.24	.36	.42	.02
19	1.1	1.6	.23	.70	.23	.91	.08	.23	.16	.33	.21	.02
20	.13	5.5	32	3.8	.28	.39	.10	.19	.06	.16	.14	.02
21	.09	1.6	5.3	1.7	.16	.23	.09	.17	.04	.13	.10	.02
22	.08	2.0	7.1	e1.3	.14	.16	.34	.14	2.4	.09	.09	.02
23	.29	1.4	20	e1.0	.16	.11	.92	.10	.39	.05	.07	.04
24	.13	.36	13	e.80	.19	.63	2.5	.09	.11	.05	.06	.03
25	17	.16	2.8	e.60	1.5	.54	1.8	.08	.06	.05	.05	.03
26	.80	.13	2.5	e1.0	32	.39	1.1	.10	.05	.04	.04	.03
27	.33	.17	7.0	e.90	2.2	.25	1.2	.08	.04	.05	.04	.03
28	.22	.17	1.5	e.70	2.9	.70	.80	.08	.03	.05	.04	.02
29	.19	.35	.85	e.50	---	8.7	.33	.08	.05	.06	.04	.02
30	.14	.26	.55	e2.0	---	1.1	.25	.06	.03	.04	.03	.02
31	.75	---	.46	e5.5	---	.46	---	.07	---	.07	.03	---
TOTAL	40.52	35.81	104.68	58.47	98.60	40.65	31.09	19.40	17.98	8.13	36.90	.71
MEAN	1.31	1.19	3.38	1.89	3.52	1.31	1.04	.63	.60	.26	1.19	.02
MAX	17	9.0	32	11	35	8.7	6.1	3.9	4.5	3.8	27	.04
MIN	.08	.06	.09	.17	.14	.11	.05	.06	.03	.03	.02	.02
AC-FT	80	71	208	116	196	81	62	38	36	16	73	1.4

CAL YR 1986	TOTAL	713.18	MEAN	1.95	MAX	36	MIN	.03	AC-FT	1410
WTR YR 1987	TOTAL	492.94	MEAN	1.35	MAX	35	MIN	.02	AC-FT	978

e Estimated

As the number of streams on which streamflow information is likely to be desired 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 low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of base flow 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 discharge measurements at low-flow partial-record stations, and the second 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 a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of the stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1987

Station No.	Station name	Location	Drainage area mi^2	Period of record	Measurements: Date	Measurements: Discharge (ft^3/s)
		Samoa Islands, Island of Tutuila				
16917500	Leele Stream at mouth, at Fagasa	Lat 14°17'28" S., long 170°43'09" W., at Fagasa and 200 ft upstream from mouth.	0.23	1966-76≠, 1977, 1981-87	7-01-87 9-04-87	0.14 .26
16919000	Leaveave Stream near Aasu	Lat 14°18'28" S., long 170°45'06" W., 0.6 mi upstream from mouth and 0.9 mi southeast of Aasu.	.60	1959-60, 1962-63, 1968, 1974-77, 1979, 1981, 1983, 1986-87	7-10-87 9-01-87	1.05 1.50
16920000	Aasu Stream near Aasu	Lat 14°18'16" S., long 170°45'29" W., 300 ft downstream from 100-ft waterfall, 0.5 mi south of Aasu, and 0.5 mi upstream from mouth.	.82	1959-63, 1968, 1974-76, 1978-79, 1981, 1983, 1985-87	7-10-87 9-01-87	.83 1.83
16931500	Asili Stream at alt. 330 ft, near Asili	Lat 14°19'34" S., long 170°47'38" W., 1.3 mi northwest of Leone, 1.5 mi southwest of Aoloaufou, and 0.8 mi upstream from mouth.	.32	1977-86≠, 1987	6-05-87 9-02-87	.44 .42
16932000	Asili Stream near Asili	Lat 14°19'46" S., long 170°47'42" W., 0.4 mi north of Asili and 0.5 mi upstream from mouth.	.55	1959-61, 1963-65, 1968, 1970, 1974-77, 1981-85, 1987	6-05-87	.32
16932500	Asili Stream at Asili	Lat 14°20'04" S., long 170°47'40" W., 100 ft upstream from highway bridge at Asili and 0.1 mi upstream from mouth.	.66	1958-59≠, 1960-61, 1963-65, 1967-69, 1974-77, 1981-85, 1987	6-05-87 9-02-87	.97 .68

≠ Operated as a continuous-record gaging station.

Discharge measurements made at low-flow partial-record stations during water year 1987--Continued

Station No.	Station name	Location	Drainage area mi^2	Period of record	Measurements Date	Measurements Discharge (ft^3/s)
		Samoa Ielands, Island of Tutuila--Continued				
16933500	Leafu Stream at alt. 370 ft, near Leone	Lat 14°19'31" S., long 170°46'50" W., 900 ft upstream from village stream intake, 1.0 mi southwest of Aoloaufou, and 1.1 mi north of Leone.	0.31	1977-86≠, 1987	8-02-87 9-02-87	1.44 .98
16934000	Leafu Stream near Leone	Lat 14°19'47" S., long 170°46'55" W., 30 ft upstream from reservoir, 0.9 mi upstream from mouth, and 1.0 mi north of Leone.	.69	1959-64, 1968-69, 1971-74, 1976-77, 1981-87	6-02-87 9-02-87	.53 1.13
16944000	Papa Stream near Nuuuli	Lat 14°18'31" S., long 170°42'29" W., 0.3 mi upstream from Tauese Stream and 0.9 mi northwest of Nuuuli.	.57	1959-61, 1963-64, 1967-88, 1974-78, 1981-87	6-02-87 9-17-87	.69 .70
16949800	Utumoa Stream near Pago Pago	Lat 14°17'35" S., long 170°42'20" W., 0.6 mi upstream from mouth and 1.1 mi aouth of Pago Pago above the Vaipito diversion intake syatem.	0.07	1980-81≠, 1963-65, 1987-71, 1974, 1983, 1986-87	7-01-87 9-04-87	.26 .22
16960000	Alega Stream at Alega	Lat 14°16'58" S., long 170°38'19" W., 300 ft upstream from left-bank tributary, 0.2 mi northwest of Alega, and 0.3 mi upstream from mouth.	.19	1958-76≠, 1977-78, 1981-87	5-21-87 9-15-87	.51 .24
16963900	Leafu Stream near Auasi	Lat 14°16'27" S., long 170°34'26" W., 35 ft upstream from upper village intake, 0.1 mi north of Auasi, and 0.2 mi upstream from mouth.	.11	1972-86≠, 1987	5-21-87 9-15-87	.05 .03

≠ Operated as a continuous-record gaging station.

Crest-stage partial-record stations

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which 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 or 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 water year is given. Information on some lower floods may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1987

Station no.	Station name	Location	Drainage area mi^2	Period of record	Annual maximum Date	Annual maximum Gage height (ft)	Annual maximum Discharge (ft^3/s)
		Mariana Islands, Island of Guam					
16807200	Agana River at Agana	Lat 13°28'23"N., long 144°45'13"E., upstream side of road bridge East Agana, 0.2 mi southeast of Leary Junction, and 0.5 mi northeast of Government House, Agana.	8.60	1973-87	12-27-86		e300
16806120	Namo River near Santa Rosa	Lat 13°23'44"N., long 144°39'57"E., upstream of weir, 0.75 mi south of Camp Roxas, and 0.75 mi northwest of Santa Rita.	1.56	1980-87	12-27-86		450

e Estimated.

Discharge measurements made at miscellaneous sites during water year 1987

Stream	Tributary to	Location	Drainage area mi^2	Measured previously (water years)	Measurements Date	Measurements Discharge (ft^3/s)
		Samoa Islands, Island of Tutuila				
Leefu Stream No. 3, near Leone	Pacfic Ocean	Lat 14°19'34" S., long 170°46'54" W., 1,100 ft above village catchment and 1.3 mi northeast of Leone.	-	1977, 1981-82	6-02-87 9-02-87	0.86 1.02
Unnamed tributary	Asili Stream	Lat 14°19'42" S., long 170°47'46" W., 200 ft above confluence with Asili Stream and 0.5 mi northwest of Asili.	-	1977	6-05-87 9-02-87	.03 .12

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

MARIANA ISLANDS, ISLAND OF GUAM

16847000 - IMONG RIVER NR AGAT, GUAM (LAT 13 20 17 N LONG 144 41 55 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
07...	1020	12	30.0	27.0

16848100 - ALMAGOSA RIVER NEAR AGAT, GUAM (LAT 13 20 43 N LONG 144 41 36 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
07...	1200	12	30.5	28.5
APR				
09...	1250	.50	--	28.0

16848500 - MAULAP RIVER NEAR AGAT, GUAM (LAT 13 21 14 N LONG 144 41 44 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
07...	1330	5.3	29.0	27.0
APR				
09...	1425	.81	--	28.5

16854500 - UGUM RIVER AB TALOFOFO FALLS, NR TALOFOFO, GUAM (LAT 13 19 16 N LONG 144 44 01 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
09...	1150	32	32.0	27.5

CAROLINE ISLANDS, PALAU ISLANDS

16890600 - DIONGRADID RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 36 04 N LONG 134 35 02 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
16...	1200	38	25.5	25.0
DEC				
16...	1230	17	26.5	25.0
APR				
03...	1155	7.9	--	25.0
MAY				
27...	1140	7.8	27.0	28.0

16890900 - TABECHEDING RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 27 03 N LONG 134 31 29 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
FEB				
17...	1250	23	28.0	26.0
26...	1225	17	--	26.0
APR				
14...	1235	3.9	28.0	26.0
MAY				
28...	1055	47	28.0	28.0

16891310 - KMEKUMEL RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 23 14 N LONG 134 32 42 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
31...	1140	4.8	29.0	26.0
DEC				
08...	1410	4.6	28.0	28.0
JAN				
14...	1140	2.4	--	25.0
FEB				
20...	1250	3.7	27.0	26.0
JUN				
02...	1045	2.1	28.0	26.0

18891400 - SF NGERDORCH RIVER, BABELTHUAP, PALAU ISLANDS (LAT 07 28 19 N LONG 134 34 28 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
22...	1140	13	--	26.0
DEC				
17...	1130	10	28.0	25.0
MAR				
18...	1140	5.2	--	26.0
JUN				
05...	1145	9.6	29.0	28.0
17...	1130	16	28.0	27.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CAROLINE ISLANDS, YAP ISLANDS

16892000 - QATLIW STREAM, YAP, YAP ISLANDS (LAT 09 32 58 N LONG 138 06 41 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
02...	1145	1.4	27.5	26.0
21...	1000	.11	--	25.5
NOV				
19...	1110	1.6	27.0	26.0
JAN				
08...	1055	.77	27.5	26.0
FEB				
17...	1145	.03	28.5	25.5
JUN				
30...	1315	.11	27.5	26.5
JUL				
22...	1040	.35	27.5	26.0
AUG				
10...	1130	1.7	27.0	25.5
SEP				
03...	1305	3.8	27.0	26.0

16892400 - QARINGEEL STREAM, YAP, YAP ISLANDS (LAT 09 31 02 N LONG 138 05 31 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
02...	1000	1.0	27.5	26.0
21...	1305	.79	28.5	27.5
NOV				
18...	1330	.54	28.5	27.0
JAN				
08...	0940	.73	27.5	26.0
FEB				
17...	1050	.03	27.5	25.0
JUN				
10...	1305	.14	28.0	26.0
30...	1115	.17	27.5	26.5
AUG				
09...	1240	.28	27.0	25.5
SEP				
03...	1105	2.5	--	25.5

16893100 - BURONG STREAM, YAP, YAP ISLANDS (LAT 09 32 05 N LONG 138 07 19 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
01...	1520	.03	28.0	27.0
20...	1335	.10	28.0	27.0
NOV				
16...	0940	.67	27.5	28.0
FEB				
16...	1345	.01	27.5	28.5
JUN				
30...	1200	.25	27.5	26.5
JUL				
21...	1340	1.3	28.0	26.5
AUG				
09...	1020	.16	28.0	26.0
SEP				
02...	1215	.91	28.0	26.0

18893200 - MUKONG STREAM, GAGIL-TAMIL, YAP ISLANDS (LAT 09 32 05 N LONG 138 10 18 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
01...	1305	2.0	28.0	28.5
20...	1225	1.2	30.5	27.0
NOV				
14...	1115	3.9	27.5	26.0
DEC				
09...	1055	.80	28.0	28.0
JAN				
06...	1210	.61	28.0	28.5
28...	1020	.88	27.0	25.5
FEB				
13...	1030	2.1	27.0	25.5
MAR				
02...	1150	.42	28.5	26.5
18...	1210	.40	28.0	26.5
APR				
09...	1105	.11	28.0	27.0
28...	1140	.08	26.0	27.5
MAY				
19...	1130	.13	28.5	27.5
JUN				
09...	1150	2.4	28.0	27.0
28...	1130	.69	27.5	28.5
JUL				
20...	1140	1.8	27.5	28.5
AUG				
08...	1250	1.2	28.0	26.5
SEP				
21...	1050	.98	28.5	27.0

18893400 - EYEB STREAM, GAGIL-TAMIL, YAP ISLANDS (LAT 09 33 02 N LONG 138 09 03 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
01...	1120	2.1	27.0	28.5
20...	0940	.71	27.5	26.0
NOV				
14...	1315	3.4	28.0	26.5
DEC				
10...	0935	.44	27.5	26.0
JAN				
06...	1050	.42	28.0	26.0
28...	1205	.39	28.0	28.0
FEB				
13...	1210	1.3	27.5	26.0
MAR				
02...	1050	.32	28.0	26.0
18...	1010	.20	27.5	28.0
APR				
09...	1010	.05	28.0	28.0
MAY				
20...	0955	.03	27.5	27.0
JUN				
09...	1330	1.7	28.0	27.0
26...	1330	.32	28.5	27.0
JUL				
21...	1210	4.0	27.5	26.5
AUG				
08...	1415	.94	28.0	27.0
SEP				
02...	1045	4.1	28.0	28.0
22...	1405	.45	28.5	27.5

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CAROLINE ISLANDS, TRUK ISLANDS

16893800 - WICHEN RIVER AT ALT 18M, MOEN, TRUK ISLANDS (LAT 07 27 01 N LONG 151 51 56 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
DEC				
08...	1120	1.2	30.0	27.0

CAROLINE ISLANDS, ISLAND OF POHNPEI

16897600 - NANPIL RIVER , POHNPEI (LAT 06 55 09 N LONG 158 11 59 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
07...	1010	18	28.0	24.0
DEC				
04...	1310	16	30.0	25.0
11...	1015	7.1	29.0	24.0
JAN				
08...	1235	54	29.0	25.0
FEB				
05...	1250	75	28.0	24.0
MAR				
11...	1200	50	28.0	24.0
31...	1045	49	--	24.0
APR				
22...	1235	13	29.0	25.0
MAY				
07...	1145	7.9	29.0	25.0
21...	1125	7.7	29.0	24.0
JUN				
04...	1205	40	28.0	24.0
JUL				
01...	1305	42	29.0	25.0
AUG				
08...	1140	13	29.0	24.0
28...	1205	38	30.0	25.0

18897900 - LEWI RIVER, POHNPEI (LAT 06 55 32 N LONG 158 12 18 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
07...	1210	1.8	29.0	25.0
DEC				
04...	1130	2.1	30.0	25.0
11...	1130	.65	29.0	25.0
JAN				
08...	1030	7.7	28.0	24.0
FEB				
05...	1430	7.2	29.0	25.0
MAR				
11...	1000	3.5	28.0	24.0
APR				
22...	1055	1.4	29.0	25.0
MAY				
07...	1325	2.0	29.0	25.0
JUN				
04...	1015	4.4	28.0	24.0
JUL				
01...	1400	4.1	29.0	25.0
AUG				
06...	1010	1.4	29.0	24.0
28...	1030	3.3	31.0	25.0

18898600 - LUHPWOR RIVER, POHNPEI (LAT 06 54 09 N LONG 158 09 07 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
DEC				
03...	1020	3.5	29.0	24.0
JAN				
06...	1130	1.4	29.0	25.0
FEB				
03...	1210	7.0	28.0	24.0
MAR				
10...	1150	3.8	29.0	25.0
28...	1220	5.4	--	25.5
APR				
24...	1200	2.1	29.0	25.0
MAY				
20...	1410	2.0	29.0	25.0
JUN				
05...	1050	7.9	28.0	24.0
AUG				
05...	1250	4.5	28.0	25.0
18...	1200	4.3	28.0	24.0
SEP				
24...	1230	1.8	29.0	25.0

16898690 - LEHN MESI RIVER, POHNPEI (LAT 06 50 41 N LONG 158 11 02 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
20...	1105	67	30.0	24.0
DEC				
10...	1215	32	30.0	25.0
JAN				
14...	1450	63	29.0	25.0
MAY				
16...	1450	29	30.0	25.0
SEP				
08...	0915	85	28.0	24.0

PERIODIC DETERMINATIONS OF TEMPERATURES

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

CAROLINE ISLANDS, ISLAND OF KOSRAE

16899620 - MELO RIVER, KOSRAE (LAT 05 20 30 N LONG 162 58 33 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
28...	1125	4.4	27.0	26.0
NOV				
28...	1240	7.9	27.5	25.0
DEC				
18...	1335	5.4	26.5	26.0
MAY				
14...	1145	2.0	27.0	26.5

16899750 - MALEM RIVER, KOSRAE (LAT 05 17 35 N LONG 163 00 54 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
16...	1015	1.9	29.0	27.0
30...	0930	2.3	30.5	27.0
NOV				
17...	1130	3.1	29.5	28.0
29...	1125	2.9	27.5	26.0
DEC				
17...	1040	4.6	28.0	26.0
JAN				
29...	1010	4.0	26.5	26.0
MAY				
27...	1015	2.2	26.5	26.0

16899800 - TOFOL RIVER, KOSRAE (LAT 05 19 10 N LONG 163 00 24 E)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
NOV				
17...	1425	2.1	28.5	27.0
29...	1125	5.5	27.5	26.0
DEC				
17...	1405	3.2	27.5	26.0
APR				
27...	1245	3.3	29.5	26.5

SAMOA ISLANDS, ISLAND OF TUTUILA

16912000 - PAGO STREAM AT AFONO, TUTUILA (LAT 14 16 03 S LONG 170 39 02 W)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
08...	1215	1.7	27.0	25.0
16...	0920	.63	26.0	24.0
NOV				
25...	1215	1.8	26.0	24.0
DEC				
30...	0935	2.3	26.0	24.0
JAN				
15...	0840	2.2	26.0	24.0
30...	0840	1.4	26.0	24.0
FEB				
18...	0940	2.0	26.0	24.0
MAR				
10...	0945	2.0	26.0	24.0
APR				
14...	0835	1.0	27.0	25.0
MAY				
14...	1020	.62	26.0	24.0
JUN				
04...	0920	.32	26.0	24.0
16...	1005	1.1	26.0	24.0
JUL				
01...	1050	.49	24.0	22.0
17...	0905	8.2	26.0	24.0
AUG				
18...	0900	2.5	23.0	22.0
SEP				
16...	0840	.22	25.0	24.0

16920500 - AASU STREAM AT AASU, TUTUILA (LAT 14 17 51 S LONG 170 45 30 W)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
24...	0840	3.2	26.0	24.0
DEC				
03...	0805	11	26.0	24.0
JAN				
07...	0755	3.8	27.0	25.0
27...	0855	8.8	26.0	24.0
FEB				
12...	0835	9.9	26.0	24.0
MAR				
17...	0905	3.0	26.0	24.0
APR				
22...	0900	2.3	26.0	24.0
MAY				
22...	0900	5.7	26.0	24.0
JUN				
23...	0910	3.4	27.0	26.0
JUL				
10...	1125	1.6	27.0	26.0
29...	0915	2.9	26.5	25.5

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

SAMOA ISLANDS, ISLAND OF TUTUILA--Continued

16931000 - ATAULOMA STREAM AT AFAO, TUTUILA (LAT 14 20 10 S LONG 170 48 02 W)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
15...	0855	.44	24.0	22.0
NOV				
18...	0845	.86	25.0	24.0
DEC				
18...	1025	.32	26.0	24.0
JAN				
20...	1130	.81	27.0	25.0
FEB				
27...	0850	2.6	26.0	24.0
MAR				
27...	0910	.55	24.0	22.0
APR				
28...	0905	.84	26.0	24.0
MAY				
28...	0910	.23	25.0	22.0
JUN				
30...	0925	.15	26.0	24.0
JUL				
30...	0925	.12	27.0	26.0

16948000 - AFUELO STREAM AT MATUU, TUTUILA (LAT 14 18 07 S LONG 170 41 07 W)

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)
OCT				
07...	1210	.23	26.0	24.0
22...	0920	.09	26.0	24.0
28...	1040	.24	26.0	24.0
DEC				
04...	0940	.29	24.0	22.0
JAN				
06...	0930	.18	26.0	24.0
14...	0850	2.9	27.0	25.0
FEB				
03...	1320	21	27.0	25.0
FEB				
20...	0840	.31	26.0	25.0
APR				
08...	0900	.40	27.0	25.0
MAY				
27...	0835	.14	25.0	24.0
JUN				
30...	1050	.03	26.0	24.0
JUL				
30...	1120	.08	27.0	28.0

MARIANA ISLANDS, ISLAND OF GUAM

132833144445371. Local number, 18-2844-04 Tide Gage of Agana.

LOCATION.--Lat 13°28'33" N., long 144°44'53" E., Hydrologic Unit 20100003, at Agana Boat Basin. Owner: Government of Guam.

WELL CHARACTERISTICS.--Twelve-inch PVC stilling well, 14 ft deep.

DATUM.--Altitude of land-surface datum is 6.40 ft. Measuring point: Top of PVC pipe, 8.19 ft above mean sea level.

PERIOD OF RECORD.--Water-level recorder, April 1, 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.44 ft above mean sea level, Aug. 27, 1984; lowest, -2.47 ft, Dec. 14, 1985.

TIDE STAGES, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-0.19	-0.36	-0.04	-0.25	-0.30	-0.43	-0.05	.14	.36	.54	.36	.51
2	-0.17	-0.17	.05	-0.24	-0.30	-0.30	-0.07	.18	.40	.56	.35	.48
3	-0.04	-0.25	.54	-0.32	-0.38	-0.37	-0.02	.19	.45	.59	.38	.47
4	.12	-0.25	.17	-0.33	-0.37	-0.30	-0.01	.21	.55	.62	.39	.53
5	-0.16	-0.33	-0.07	-0.33	-0.14	-0.41	-0.03	.25	.59	.70	.42	.58
6	-0.16	-0.39	-0.26	-0.42	-0.08	-0.41	-0.06	.34	.62	.75	.42	.50
7	-0.22	-0.49	-0.20	-0.46	-0.09	-0.47	-0.08	.39	.61	.80	.42	.68
8	-0.20	-0.40	-0.30	-0.40	-0.32	-0.47	-0.04	.43	.60	.82	.47	.77
9	-0.31	-0.34	-0.29	-0.29	-0.34	-0.42	.03	.42	.57	.75	.48	.70
10	-0.33	-0.34	-0.31	-0.30	-0.32	-0.30	.08	.40	.56	.68	.49	.77
11	-0.25	-0.33	-0.28	-0.43	-0.32	-0.33	.16	.39	.50	.61	.55	.83
12	-0.40	-0.35	-0.20	-0.42	-0.29	-0.27	.20	.42	.47	.63	.57	.81
13	-0.34	-0.29	-0.33	-0.43	-0.35	-0.21	.08	.34	.44	.85	.56	.74
14	-0.39	-0.22	-0.31	-0.38	-0.35	-0.14	.11	.33	.47	.72	.62	.60
15	-0.34	-0.24	-0.18	-0.18	-0.34	-0.20	.07	.28	.51	.71	.56	.46
16	-0.33	-0.29	-0.24	-0.37	-0.31	-0.13	.06	.29	.52	.75	.56	.36
17	-0.45	-0.41	-0.11	-0.43	-0.31	-0.12	-0.05	.30	.50	.68	.53	.28
18	-0.35	-0.47	-0.18	-0.38	-0.31	-0.13	-0.08	.30	.54	.65	.47	.49
19	-0.43	-0.44	-0.13	-0.38	-0.35	-0.12	-0.03	.37	.81	.56	.47	.39
20	-0.40	-0.42	-0.34	-0.36	-0.34	-0.15	.03	.41	.62	.55	.41	.32
21	-0.49	-0.45	-0.31	-0.40	-0.33	-0.12	.03	.51	.60	.52	.36	.35
22	-0.38	-0.50	-0.32	-0.44	-0.35	-0.17	.10	.57	.62	.48	.44	.38
23	-0.52	-0.46	-0.37	-0.37	-0.42	-0.15	.20	.55	.63	.39	.45	.37
24	-0.51	-0.42	-0.34	-0.32	-0.34	-0.10	.25	.53	.66	.28	.40	.38
25	-0.53	-0.35	-0.27	-0.30	-0.33	-0.03	.29	.49	.63	.34	.41	.33
26	-0.49	-0.28	-0.14	-0.30	-0.38	-0.04	.23	.45	.56	.38	.43	.38
27	-0.53	-0.25	-0.11	-0.29	-0.36	-0.04	.15	.48	.54	.31	.48	.31
28	-0.50	-0.19	-0.07	-0.23	-0.38	-0.09	.13	.40	.50	.29	.53	.31
29	-0.48	-0.11	-0.19	-0.17	---	-0.05	.10	.35	.50	.30	.52	.27
30	-0.43	-0.09	-0.03	-0.15	---	-0.08	.09	.29	.56	.28	.55	.20
31	-0.29	---	-0.20	-0.23	---	-0.04	---	.34	---	.31	.51	---
MEAN	-0.34	-0.33	-0.17	-0.33	-0.31	-0.21	.06	.37	.54	.55	.47	.48
MAX	.12	-0.09	.54	-0.15	-0.08	-0.03	.29	.57	.66	.82	.62	.83
MIN	-0.53	-0.50	-0.37	-0.46	-0.42	-0.47	-0.08	.14	.36	.28	.35	.20

MARIANA ISLANDS, ISLAND OF SAIPAN

151032145460370. Local number, 14-1045-09 Hakmang Well 78.

LOCATION.--Lat 15°10'22" N., long 145°45'51" E., Hydrologic Unit 20100006, 0.8 mi west-southwest of the Hakmang Communication station and 2.3 mi northeast of San Vicente Village. Owner: Government of the Northern Mariana Islands.

AQUIFER.--Tagpochau Limestone.

WELL CHARACTERISTICS.--Drilled artesisn well, depth 369 ft, diameter 12 in.

DATUM.--Elevation of land-surface datum is 229 ft. Measuring point: Top of casing, about 230 ft above mean sea level.

PERIOD OF RECORD.--Water-level recorder, March 1973 to May 1976, March 1977 to September 1978, December 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest daily water level, 22.00 ft (estimated) above mean sea level, Dec. 3, 1986; lowest daily, 17.95 ft above mean sea level, Sept. 25, 26, 1987.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e18.53	e18.55	18.59	18.57	18.67	18.55	18.43	18.22	18.11	18.20	18.12	18.08
2	e18.53	e18.58	18.61	18.63	18.68	18.54	18.43	18.22	18.12	18.22	18.10	18.12
3	e18.61	e18.55	e22.00	18.62	18.69	18.53	18.42	18.22	18.12	18.25	18.10	18.18
4	e18.57	e18.55	e19.30	18.71	18.67	18.58	18.40	18.21	18.13	18.23	18.13	16.18
5	e18.55	e18.54	e18.30	16.58	18.61	18.60	18.35	18.22	18.11	18.24	18.13	18.19
6	e18.54	e18.53	e18.45	18.60	18.60	18.60	18.35	18.22	18.12	18.24	18.13	18.18
7	e18.56	e18.55	e18.52	18.64	18.55	18.56	18.33	18.20	18.10	18.27	18.16	18.19
8	e18.58	e18.56	e18.51	18.65	e18.57	18.59	18.32	18.21	18.10	18.31	18.15	18.21
9	e18.57	e18.57	e18.50	18.64	e18.57	18.53	18.35	18.20	18.08	18.30	18.14	18.24
10	e18.53	e18.55	e18.53	18.65	e18.58	18.55	18.35	18.19	18.07	18.28	18.15	18.26
11	e18.56	e18.53	e18.54	18.66	e18.61	18.55	16.35	18.23	18.07	18.23	18.14	18.24
12	e18.53	e18.55	e18.53	18.66	e18.59	18.54	18.36	18.20	18.07	18.24	18.14	18.22
13	e18.59	e18.54	e18.52	18.66	e18.60	18.56	18.34	18.22	18.05	18.23	18.18	18.21
14	e18.58	18.53	18.52	18.65	18.59	18.56	18.31	18.22	18.05	18.24	18.24	18.19
15	e18.57	18.51	18.52	18.64	18.61	18.58	18.30	18.18	18.05	18.27	18.26	18.15
16	e18.54	18.50	18.52	18.60	18.62	18.58	18.30	18.18	18.04	18.27	18.23	18.12
17	e18.57	18.50	18.54	18.64	18.68	18.57	18.29	18.17	18.08	18.26	18.20	18.09
18	e18.56	18.51	18.50	18.65	18.68	18.54	18.28	18.13	18.11	18.25	18.22	18.11
19	e18.55	18.49	18.51	18.63	18.66	18.52	18.31	18.15	18.11	18.21	18.23	18.10
20	e18.51	18.47	18.56	18.63	18.64	18.49	18.28	18.15	18.10	18.23	18.23	18.10
21	e18.75	18.47	18.58	18.63	18.63	18.47	18.28	18.16	18.07	18.25	18.19	18.14
22	e18.60	18.48	18.62	18.62	18.56	18.44	18.26	18.20	18.09	18.24	18.18	18.15
23	e18.47	18.48	18.63	18.62	18.56	18.43	18.26	18.16	18.13	18.23	18.18	18.14
24	e18.55	18.48	18.59	18.62	18.57	18.48	18.26	18.13	18.15	18.21	18.19	18.40
25	e18.57	18.52	18.63	18.63	18.57	18.49	18.24	18.13	18.16	18.21	18.21	17.97
26	e18.57	18.57	18.65	18.61	18.58	18.51	18.25	18.21	18.20	18.20	18.23	17.99
27	e18.54	18.57	18.64	18.61	18.56	18.52	18.24	18.18	18.22	18.17	18.33	18.04
28	e18.56	18.56	18.65	18.60	18.58	18.49	18.25	18.18	18.21	18.16	18.20	18.06
29	e18.59	18.57	18.82	18.60	---	18.50	18.22	18.17	18.22	18.13	18.39	18.06
30	e18.60	18.57	18.60	18.61	---	18.49	18.21	18.14	18.23	18.14	18.11	18.05
31	e18.58	---	18.59	18.61	---	18.48	---	18.12	---	18.11	18.03	---
MEAN	18.56	18.53	18.69	18.63	18.61	18.53	18.31	18.18	18.11	18.23	18.18	18.15
MAX	18.75	18.58	22.00	18.71	18.69	18.80	18.43	18.23	18.23	18.31	18.39	18.40
MIN	18.47	18.47	18.30	18.57	18.55	18.43	18.21	18.12	18.04	18.11	18.03	17.97

e Estimated

MARIANA ISLANDS, ISLAND OF SAIPAN

151130145445970. Local number, 14-1144-07 Akgak Well 31.

LOCATION.--Lat 15°11'30" N., long 145°44'59" E., Hydrologic Unit 20100006, 1.2 mi south of Capitol Hill and 2.5 mi north of San Vicente Village. Owner: Government of the Northern Mariana Islands.

AQUIFER.--Tagpochau Limestone.

WELL CHARACTERISTICS.--Drilled perched water-table well, depth 290 ft, diameter 12 in.

DATUM.--Elevation of land-surface datum is 615 ft. Measuring point: Top of casing, 615.37 ft above mean sea level.

PERIOD OF RECORD.--Water-level recorder, July 1982 to current year.

REMARKS.--Records good except for estimated daily water levels, Oct. 1 to Jan. 15 and June 29 to Sept. 30, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 434.54 ft above mean sea level, Feb. 21, 1987; lowest, 371.34 ft above mean sea level, July 21, 1984.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	395.83	400.93	407.81	426.22	431.29	433.52	430.09	425.67	420.45	415.75	409.70	404.83
2	395.93	401.13	408.73	426.43	431.80	433.52	429.93	425.47	420.25	415.55	409.51	404.70
3	396.10	401.32	410.93	426.63	432.16	433.52	429.79	425.33	420.09	415.25	409.35	404.55
4	396.23	401.51	416.93	426.83	432.33	433.59	429.75	425.16	420.15	415.10	409.18	404.40
5	396.40	401.68	418.43	427.02	432.17	433.59	429.59	425.00	420.15	415.00	409.00	404.28
6	396.53	401.88	419.03	427.23	432.16	433.36	429.43	424.85	419.84	414.80	408.84	404.10
7	396.71	402.04	419.43	427.43	432.28	433.26	429.24	424.71	419.62	414.55	408.70	403.95
8	396.83	402.24	419.93	427.63	432.27	433.21	429.09	424.56	419.43	414.30	408.50	403.85
9	396.98	402.41	420.33	427.83	432.38	433.05	428.94	424.38	419.24	414.05	408.37	403.68
10	397.18	402.59	420.68	428.05	432.31	432.93	428.78	424.21	419.03	413.88	408.20	403.55
11	397.31	402.75	421.03	428.23	432.41	432.89	428.63	424.06	418.82	413.62	408.01	403.40
12	397.45	402.95	421.33	428.43	432.42	432.85	428.47	423.94	418.64	413.41	407.85	403.28
13	397.63	403.14	421.63	428.65	432.51	432.82	428.30	423.80	418.49	413.20	407.70	403.11
14	397.78	403.29	421.93	428.83	432.58	432.71	428.14	423.66	418.29	412.97	407.55	402.98
15	397.93	403.53	422.21	429.26	432.61	432.58	428.02	423.54	418.15	412.78	407.41	402.85
16	398.12	403.73	422.51	429.31	432.85	432.51	427.92	423.34	418.45	412.55	407.25	402.70
17	398.31	403.94	422.77	429.58	432.79	432.32	427.77	423.14	418.44	412.40	407.05	402.52
18	398.44	404.14	423.02	429.79	433.10	432.16	427.62	422.95	418.05	412.20	406.94	402.40
19	398.63	404.35	423.28	430.01	433.52	432.01	427.45	422.76	417.81	412.00	406.78	402.28
20	398.81	404.55	423.48	430.30	433.88	431.84	427.34	422.82	417.56	411.82	406.82	402.14
21	398.98	404.76	423.73	430.61	433.99	431.67	427.25	422.47	417.35	411.62	406.45	402.00
22	399.14	404.98	424.01	430.64	433.82	431.51	427.14	422.26	417.15	411.42	406.30	401.85
23	399.34	405.23	424.23	430.72	433.49	431.40	427.04	422.06	416.95	411.28	406.17	401.72
24	399.50	405.43	424.48	430.82	433.51	431.31	426.84	421.86	416.75	411.08	406.00	401.60
25	399.68	405.88	424.70	430.95	433.45	431.13	426.64	421.88	416.56	410.90	405.85	401.45
26	399.85	405.94	424.93	431.05	433.55	430.97	428.46	421.53	416.54	410.72	405.70	401.30
27	400.03	406.14	425.13	431.10	433.53	430.81	426.30	421.35	416.54	410.55	405.55	401.18
28	400.21	406.41	425.38	431.18	433.58	430.66	426.12	421.15	416.35	410.37	405.43	401.02
29	400.35	406.73	425.80	431.12	---	430.51	425.98	420.96	416.34	410.21	405.28	400.88
30	400.54	407.18	425.79	431.14	---	430.36	425.83	420.79	415.95	410.03	405.11	400.75
31	400.73	---	426.01	431.11	---	430.24	---	420.83	---	409.88	404.96	---
MEAN	398.18	403.75	421.27	429.17	432.80	432.22	428.00	423.22	418.25	412.68	407.27	402.78
MAX	400.73	407.18	426.01	431.18	433.99	433.59	430.09	425.67	420.45	415.75	409.70	404.83
MIN	395.83	400.93	407.81	428.22	431.29	430.24	425.83	420.63	415.95	409.88	404.96	400.75

MARIANA ISLANDS, ISLAND OF SAIPAN

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

STATION NUMBER	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	DATE OF SAMPLE	TIME	SPE-CIFIC CON-DUC-TANCE (US/CM)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
150737145431070	14-0742-07	15 07 37 N	145 43 10 E	01-16-87	1050	1190	27.5	220
150731145430870	14-0742-11	15 07 31 N	145 43 08 E	01-16-87	1055	1050	28.0	170
				06-30-87	0810	3330	28.5	800
150736145425370	14-0742-13	15 07 36 N	145 42 53 E	01-16-87	1045	2920	27.5	850
150732145432070	14-0743-09	15 07 32 N	145 43 20 E	01-16-87	1105	15700	27.5	5200
150728145431470	14-0743-10	15 07 28 N	145 43 14 E	01-16-87	1110	1120	27.5	200
150730145431370	14-0743-11	15 07 30 N	145 43 13 E	01-16-87	1100	1030	27.5	170
				04-05-87	1645	1540	28.0	320
150736145430070	14-0743-13	15 07 38 N	145 43 02 E	04-05-87	1710	892	28.0	130
150737145440870	14-0743-18	15 07 37 N	145 44 08 E	04-05-87	1555	2070	28.0	500
150749145434170	14-0743-19	15 07 49 N	145 43 41 E	04-05-87	1520	2980	28.5	800
				06-30-87	0845	3140	28.5	820
150731145440370	14-0743-22	15 07 31 N	145 44 03 E	01-16-87	1200	2450	28.0	620
				04-05-87	1540	2760	28.0	720
150738145435870	14-0743-23	15 07 38 N	145 43 58 E	04-05-87	1535	1770	28.0	400
				06-30-87	0905	1880	28.0	400
150743145435470	14-0743-24	15 07 43 N	145 43 54 E	04-05-87	1525	3040	28.5	800
				08-30-87	0855	3210	28.5	850
150733145435970	14-0743-26	15 07 27 N	145 43 44 E	01-16-87	1205	1450	28.0	300
				04-05-87	1545	1450	28.0	290
				06-30-87	0915	1270	28.5	220
150731145435270	14-0743-28	15 07 31 N	145 43 52 E	01-16-87	1210	3480	28.0	880
				04-05-87	1550	3320	28.0	900
				06-30-87	0920	3740	28.5	1000
150728145435570	14-0743-29	15 07 29 N	145 43 55 E	01-16-87	1220	2880	28.5	750
				04-05-87	1600	2830	28.5	750
				06-30-87	0930	3030	29.0	780
150905145435870	14-0843-02	15 08 59 N	145 43 41 E	01-16-87	1150	2810	28.5	700
				06-30-87	0840	2430	28.5	590
150843145434770	14-0843-04	15 08 43 N	145 43 47 E	04-05-87	1515	4480	29.0	1200
				06-30-87	0830	4600	29.0	1200
151026145454970	14-1045-08	15 10 26 N	145 45 49 E	08-29-87	1705	1520	28.0	290

MARIANA ISLANDS, ISLAND OF SAIPAN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

STATION NUMBER	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	DATE OF SAMPLE	TIME	SPE-CIFIC CON-DUC-TANCE (US/CM)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
151127145434270	14-1143-02	15 11 27 N	145 43 42 E	01-16-87	1015	1610	28.5	360
				04-06-87	0850	1740	29.0	390
151127145434070	14-1143-05	15 11 27 N	145 43 40 E	01-16-87	1020	4100	29.5	1200
				04-06-87	0855	5590	30.0	1600
151133145445770	14-1144-05	15 11 33 N	145 44 57 E	01-16-87	0900	530	26.5	24
				06-29-87	1830	530	27.0	24
151131145445770	14-1144-08	15 11 31 N	145 44 57 E	06-29-87	1640	530	27.0	24
151246145443770	14-1244-08	15 12 46 N	145 44 37 E	01-16-87	0935	1090	26.5	180
				04-06-87	1000	1260	27.0	220
151250145444170	14-1244-09	15 12 50 N	145 44 41 E	04-06-87	0950	4550	24.5	1200
151255145443770	14-1244-16	15 12 55 N	145 44 37 E	06-29-87	1605	2730	28.5	720
151312145441570	14-1344-14	15 13 12 N	145 44 15 E	01-16-87	0945	5510	27.5	1600
				04-06-87	0910	5640	28.0	1600
				06-29-87	1515	5390	28.5	1600
151314145441570	14-1344-15	15 13 14 N	145 44 15 E	01-16-87	0955	6460	27.5	1900
				04-06-87	0915	5440	28.0	1600
				06-29-87	1530	8560	28.5	2600
151312145443970	14-1344-17	15 13 12 N	145 44 39 E	06-29-87	1545	1360	28.5	250

MARIANA ISLANDS, ISLAND OF GUAM

132624144452771. Local number, 18-2645-07 Ordot Well A-20.

LOCATION.--Lat 13°26'24" N., long 144°45'27" E., Hydrologic Unit 20100003, at Ordot School, 1.4 mi west of junction of Routes 4 and 10, Ordot. Owner: Government of Guam.

AQUIFER.--Mariana Limestone and Alutom formation.

WELL CHARACTERISTICS.--Drilled parabasal water-table well, depth reported 120 ft, diameter 6 in.

DATUM.--Elevation of land-surface datum is 137 ft. Measuring point: Top of casing, 141.74 ft above mean sea level.

PERIOD OF RECORD.--Water-level recorder, January 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 54.03 ft above mean sea level, Oct. 21, 1980; lowest, 32.78 ft above maan sea level, June 21, 22, 1984.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51.45	52.95	49.70	46.69	44.48	41.89	39.30	37.03	35.34	34.21	35.88	37.31
2	51.37	52.91	49.58	46.74	44.36	41.79	39.23	36.95	35.30	34.18	36.09	37.42
3	51.34	52.86	49.48	46.76	44.27	41.70	39.14	36.91	35.22	34.16	36.20	37.58
4	51.32	52.79	49.31	46.76	44.19	41.59	39.09	38.85	35.18	34.14	36.27	37.66
5	51.42	52.70	49.16	46.76	44.14	41.50	39.01	36.80	35.15	34.10	36.44	37.73
6	51.67	52.64	49.04	46.73	44.10	41.44	38.93	38.72	35.09	34.08	36.52	37.82
7	51.95	52.61	48.94	46.71	44.06	41.35	38.84	36.68	35.03	34.06	38.85	37.98
8	52.22	52.56	48.82	46.70	43.95	41.25	38.81	38.65	34.98	34.05	36.67	38.22
9	52.42	52.49	48.71	46.65	43.84	41.14	38.72	36.55	34.93	34.00	36.71	38.60
10	52.62	52.42	48.58	46.80	43.77	41.06	38.60	36.50	34.89	33.98	36.74	39.10
11	52.78	52.32	48.46	46.53	43.68	40.97	38.53	36.44	34.84	33.94	36.75	39.55
12	52.86	52.21	48.32	46.46	43.60	40.87	38.43	36.36	34.80	33.91	36.75	39.86
13	53.02	52.10	48.20	48.41	43.52	40.78	38.34	36.33	37.76	33.91	36.74	40.12
14	53.12	51.97	48.06	46.34	43.42	40.69	38.25	36.25	34.72	33.90	36.72	40.32
15	53.21	51.85	47.95	46.25	43.31	40.82	38.18	36.21	34.69	33.90	36.68	40.50
16	53.28	51.74	47.83	48.18	43.22	40.53	38.10	36.15	34.68	33.92	36.65	40.83
17	53.30	51.62	47.73	46.11	43.13	40.43	38.04	36.09	34.66	33.95	36.62	40.74
18	53.28	51.49	47.58	48.00	43.03	40.35	37.95	36.08	34.63	34.00	36.58	40.82
19	53.23	51.37	47.43	45.91	42.94	40.28	37.85	36.03	34.59	34.08	36.57	40.88
20	53.18	51.23	47.31	45.81	42.87	40.21	37.77	35.98	34.55	34.12	38.54	40.97
21	53.12	51.11	47.22	45.70	42.75	40.12	37.72	35.91	34.52	34.22	36.53	41.07
22	53.07	50.97	47.14	45.60	42.64	40.06	37.67	35.84	34.47	34.27	36.52	41.12
23	52.97	50.82	47.06	45.56	42.54	39.98	37.61	35.78	34.43	34.35	38.51	41.13
24	52.90	50.66	46.96	45.40	42.43	39.91	37.49	35.73	34.39	34.50	36.49	41.11
25	52.91	50.56	48.86	45.28	42.32	39.89	37.43	35.68	34.35	34.85	36.50	41.11
26	52.98	50.39	46.76	45.17	42.22	39.79	37.36	35.65	34.32	34.90	36.53	41.12
27	52.99	50.25	46.64	45.06	42.12	39.89	37.28	35.58	34.30	35.02	36.80	41.14
28	53.01	50.11	46.54	44.94	42.00	39.58	37.24	35.53	34.27	35.21	36.73	41.16
29	53.02	49.96	46.54	44.83	---	39.52	37.15	35.48	34.24	35.50	36.88	41.15
30	53.03	49.82	46.57	44.72	---	39.44	37.09	35.43	34.22	35.69	37.04	41.11
31	52.98	---	46.62	44.60	---	39.39	---	35.37	---	35.80	37.17	---
MEAN	52.64	51.65	47.91	46.00	43.32	40.57	38.17	36.18	34.82	34.35	36.59	39.83
MAX	53.30	52.95	49.70	46.76	44.48	41.89	39.30	37.03	37.76	35.80	37.17	41.16
MIN	51.32	49.82	46.54	44.60	42.00	39.39	37.09	35.37	34.22	33.90	35.88	37.31

MARIANA ISLANDS, ISLAND OF GUAM

132644144480871. Local number, 18-2848-02 BPM Well 1.

LOCATION.--Lat 13°26'44" N., long 144°48'08" E., Hydrologic Unit 20100003, on lot number 2287, 0.2 mi southeast of junction of Routes 15 and 10, Mangilao. Owner: Ana P. Diaz.

AQUIFER.--Coralline Limestone, probably Miocene age.

WELL CHARACTERISTICS.--Drilled basal water-table well, depth reported 235 ft, casing diameter 12 in.

DATUM.--Elevation of land-surface datum is 210 ft. Measuring point: Top of casing, 209.88, revised, ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, February 1972 to December 1973.
Water level recorder, January 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.45 ft above mean sea level, May 22, 1976; lowest, 1.89 ft above mean sea level, Feb. 11, 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.58	2.49	2.67	2.62	2.52	2.33	2.45	2.66	2.82	2.95	2.81	2.91
2	2.55	2.49	2.73	2.60	2.53	2.33	2.47	2.70	2.83	2.94	2.81	2.91
3	2.53	2.55	2.78	2.60	2.52	2.35	2.47	2.72	2.82	2.94	2.82	2.92
4	2.73	2.56	2.77	2.59	2.50	2.38	2.49	2.74	2.87	2.94	2.84	2.92
5	2.97	2.59	2.77	2.57	2.48	2.38	2.49	2.77	2.90	2.96	2.86	2.97
6	3.08	2.59	2.77	2.55	2.50	2.36	2.48	2.78	2.92	2.99	2.87	3.00
7	3.09	2.56	2.74	2.53	2.58	2.32	2.45	2.79	2.95	3.04	2.88	3.02
8	3.10	2.55	2.71	2.51	2.52	2.28	2.43	2.80	2.97	3.08	2.87	3.05
9	3.08	2.55	2.65	2.52	2.49	2.28	2.43	2.80	2.99	3.11	2.88	3.13
10	3.00	2.57	2.61	2.54	2.48	2.27	2.44	2.81	3.01	3.11	2.90	3.19
11	2.92	2.55	2.56	2.51	2.44	2.29	2.46	2.82	3.00	3.12	2.92	3.22
12	2.88	2.53	2.54	2.50	2.44	2.29	2.50	2.79	2.99	3.13	2.94	3.22
13	2.81	2.52	2.54	2.49	2.42	2.31	2.52	2.84	3.00	3.16	2.92	3.21
14	2.77	2.52	2.53	2.49	2.40	2.34	2.52	2.79	3.01	3.17	2.93	3.18
15	2.74	2.54	2.52	2.51	2.39	2.37	2.52	2.87	3.03	3.17	2.94	3.14
16	2.70	2.53	2.52	2.56	2.39	2.37	2.53	2.82	3.03	3.18	2.94	3.08
17	2.67	2.51	2.53	2.53	2.39	2.39	2.55	2.85	3.01	3.17	2.93	3.00
18	2.84	2.49	2.57	2.52	2.41	2.40	2.58	2.86	3.02	3.13	2.92	2.92
19	2.60	2.47	2.61	2.50	2.40	2.41	2.60	2.86	3.02	3.12	2.91	2.86
20	2.54	2.46	2.59	2.48	2.40	2.41	2.61	2.83	3.01	3.09	2.89	2.83
21	2.51	2.47	2.55	2.46	2.40	2.43	2.81	2.85	3.00	3.07	2.86	2.82
22	2.47	2.46	2.52	2.43	2.40	2.43	2.58	2.86	3.01	3.05	2.87	2.82
23	2.47	2.46	2.53	2.46	2.38	2.42	2.59	2.88	3.02	3.01	2.90	2.81
24	2.48	2.46	2.51	2.47	2.36	2.41	2.81	2.89	3.03	2.96	2.87	2.80
25	2.48	2.48	2.49	2.47	2.35	2.41	2.64	2.90	3.03	2.94	2.85	2.78
26	2.48	2.50	2.53	2.50	2.33	2.43	2.65	2.91	3.05	2.95	2.82	2.76
27	2.47	2.51	2.63	2.48	2.33	2.43	2.64	2.90	3.03	2.94	2.83	2.75
28	2.47	2.54	2.72	2.47	2.33	2.43	2.63	2.90	3.01	2.91	2.84	2.74
29	2.46	2.59	2.72	2.46	---	2.42	2.63	2.89	2.98	2.87	2.86	2.73
30	2.46	2.63	2.70	2.49	---	2.43	2.66	2.86	2.96	2.84	2.88	2.72
31	2.46	---	2.65	2.50	---	2.45	---	2.83	---	2.82	2.90	---
MEAN	2.68	2.52	2.62	2.51	2.43	2.37	2.54	2.82	2.98	3.03	2.88	2.95
MAX	3.10	2.63	2.77	2.62	2.56	2.45	2.66	2.91	3.05	3.18	2.94	3.22
MIN	2.46	2.46	2.49	2.43	2.33	2.27	2.43	2.68	2.82	2.82	2.81	2.72

MARIANA ISLANDS, ISLAND OF GUAM

132824144464271. Local number, 18-2846-01 ACEORP Tunnel.

LOCATION.--Lat 13°28'24" N., long 144°46'42" E., Hydrologic Unit 20100003, behind Navy Telephone Exchange, 0.35 mi southwest of junction of Routes 1 and 14, Tamuning. Owner: U.S. Navy, Public Works Department.

AQUIFER.--Mariana Limestone.

WELL CHARACTERISTICS.--Dug basal water-table well consisting of an inclined shaft, three skimming tunnels, and a large pump room. Tunnels 1 and 2 are 150 ft each and tunnel 3 is 700 ft in length.

DATUM.--Elevation of land-surface datum is 180 ft. Measuring point: Top of wooden recorder shelf, 9.28 ft above mean sea level.

PERIOD OF RECORD.--Water-level recorder, October 1954 to May 1965, March 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.95 ft above mean sea level, May 22, 1976; lowest, 1.70 ft above mean sea level, Feb. 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.34	e2.18	2.39	2.45	2.32	2.07	2.29	e2.40	2.51	2.68	2.51	2.75
2	2.32	e2.21	2.44	2.43	2.29	2.09	2.25	e2.42	2.52	2.72	2.50	2.74
3	2.38	e2.26	2.56	2.44	2.25	2.17	2.27	e2.42	2.54	2.76	2.51	2.70
4	3.07	e2.29	2.73	2.32	2.19	2.17	2.29	e2.41	2.55	2.80	2.53	2.72
5	3.07	2.32	2.72	2.29	2.20	2.14	2.30	e2.42	2.58	2.83	2.54	2.86
6	2.89	2.31	2.82	2.24	2.34	2.09	2.26	e2.45	2.58	2.65	2.55	2.87
7	e2.80	2.27	2.53	2.17	2.37	2.04	2.25	e2.50	2.60	2.90	2.57	2.96
8	e2.70	2.21	2.46	2.16	2.30	2.01	e2.23	e2.51	2.59	2.96	2.58	3.16
9	e2.60	2.24	2.36	2.17	2.23	1.99	e2.24	e2.52	2.58	3.00	2.62	3.31
10	2.56	2.22	2.26	2.17	2.13	2.01	e2.26	e2.51	2.59	2.98	2.64	3.32
11	2.55	2.18	2.26	2.20	2.12	2.05	e2.29	2.52	2.59	3.01	2.65	3.35
12	2.50	2.16	2.24	2.21	2.16	2.04	e2.29	2.56	2.60	3.04	2.67	3.36
13	2.45	2.18	2.24	2.20	2.13	2.09	e2.27	2.56	2.59	3.06	2.88	3.34
14	2.41	2.21	2.19	2.17	2.12	e2.11	e2.26	2.58	2.60	3.06	2.68	3.28
15	2.36	2.26	2.21	2.18	2.10	e2.14	e2.26	2.57	2.61	3.08	2.68	3.11
16	2.34	2.24	2.23	2.27	2.12	2.15	e2.26	2.58	e2.59	3.06	2.67	2.97
17	e2.33	2.20	2.27	2.28	2.14	e2.18	e2.28	2.57	e2.65	3.00	2.67	2.83
18	e2.31	2.16	2.32	2.25	2.13	e2.20	e2.24	2.57	e2.65	2.91	2.65	2.77
19	e2.30	2.13	2.37	2.27	2.13	e2.22	e2.26	2.57	e2.67	2.85	2.65	2.76
20	e2.28	2.15	2.32	2.24	2.12	e2.22	e2.30	2.57	e2.69	2.83	2.60	2.69
21	e2.24	2.14	2.25	2.15	2.13	e2.24	e2.32	2.60	e2.63	2.86	2.58	2.66
22	e2.24	2.12	2.25	2.15	2.12	e2.25	e2.35	e2.61	e2.65	2.63	2.57	2.66
23	e2.28	2.12	2.23	2.15	2.12	2.25	e2.36	e2.64	e2.68	2.76	2.60	2.65
24	e2.27	2.11	2.19	2.19	2.10	2.23	e2.40	e2.62	e2.71	2.70	2.60	2.62
25	e2.24	2.14	2.17	2.22	2.09	2.23	e2.40	e2.62	e2.73	2.64	2.56	2.60
26	e2.21	2.17	2.17	2.22	2.07	2.23	e2.40	2.63	e2.75	2.66	2.58	2.57
27	e2.18	2.20	2.43	2.22	2.05	2.25	e2.39	2.62	e2.74	2.64	2.65	2.56
28	e2.14	2.23	2.59	2.24	2.08	2.24	e2.39	2.62	e2.72	2.60	2.72	2.57
29	e2.13	2.29	2.55	2.27	---	2.26	e2.36	2.56	e2.69	2.56	2.74	2.58
30	e2.14	2.33	2.52	2.29	---	2.25	e2.39	2.55	e2.71	2.54	2.76	2.58
31	e2.15	---	2.51	2.28	---	2.29	---	2.52	---	2.53	2.76	---
MEAN	2.41	2.21	2.37	2.24	2.17	2.16	2.31	2.54	2.63	2.63	2.62	2.86
MAX	3.07	2.33	2.73	2.45	2.37	2.29	2.40	2.64	2.75	3.08	2.76	3.36
MIN	2.13	2.11	2.17	2.15	2.05	1.99	2.23	2.40	2.51	2.53	2.50	2.56

e Estimated

MARIANA ISLANDS, ISLAND OF GUAM

132813144472771. Local number, 18-2847-12 Barrigada Well 2 (A-16).

LOCATION.--Lat 13°28'13" N., long 144°47'27" E., Hydrologic Unit 20100003, at Carbullido School, 0.6 mi west of junction of Routes 8 and 10, Barrigada. Owner: Public Utility Agency of Guam.

AQUIFER.--Mariana Limestone, probably Pliocene age.

WELL CHARACTERISTICS.--Drilled basal water-table well, depth reported 215 ft, diameter 12 in.

DATUM.--Elevation of land-surface datum is 207 ft. Measuring point: Top of casing, 208.00 ft above mean sea level.

PERIOD OF RECORD.--Water-level recorder, June 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.71 ft above mean sea level, May 22, 1976; lowest, 2.83 ft above mean sea level, Feb. 11, 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.66	3.48	3.59	3.71	3.43	3.21	3.34	3.49	3.72	3.78	3.64	3.76
2	3.64	3.47	3.64	3.65	3.45	3.21	3.35	3.50	3.72	3.76	3.64	3.78
3	3.63	3.49	3.71	3.61	3.44	3.27	3.36	3.51	3.74	3.75	3.64	3.75
4	4.57	3.50	3.82	3.57	3.40	3.28	3.38	3.52	3.76	3.74	3.64	3.74
5	4.86	3.53	3.87	3.54	3.39	3.26	3.39	3.53	3.78	3.76	3.64	3.91
6	4.56	3.55	3.84	3.49	3.44	3.26	3.37	3.55	3.80	3.79	3.65	3.95
7	4.35	3.54	3.77	3.43	3.49	3.21	3.34	3.58	3.80	3.87	3.67	3.98
8	4.22	3.52	3.72	3.40	3.46	3.17	3.32	3.63	3.82	3.90	3.71	4.10
9	4.11	3.50	3.64	3.40	3.41	3.14	3.32	3.66	3.83	3.94	3.73	4.28
10	4.01	3.49	3.56	3.43	3.36	3.13	3.33	3.86	3.84	3.98	3.73	4.32
11	3.95	3.46	3.52	3.42	3.33	3.15	3.36	3.86	3.85	4.02	3.73	4.33
12	3.93	3.44	3.50	3.39	3.33	3.15	3.40	3.68	3.84	4.07	3.71	4.33
13	3.90	3.43	3.47	3.36	3.32	3.17	3.40	3.69	3.85	4.05	3.71	4.32
14	3.90	3.42	3.45	3.35	3.30	3.20	3.40	3.71	3.85	4.05	3.71	4.31
15	3.77	3.41	3.45	3.38	3.28	3.23	3.40	3.71	3.87	4.06	3.71	4.21
16	3.71	3.40	3.46	3.44	3.26	3.24	3.40	3.72	3.86	4.06	3.71	4.09
17	3.70	3.39	3.46	3.42	3.28	3.26	3.42	3.73	3.80	4.04	3.71	3.97
18	3.68	3.38	3.52	3.38	3.30	3.27	3.43	3.72	3.81	3.98	3.72	3.88
19	3.63	3.37	3.58	3.35	3.29	3.28	3.43	3.68	3.83	3.94	3.70	3.84
20	3.63	3.36	3.55	3.32	3.29	3.32	3.43	3.69	3.83	3.93	3.68	3.80
21	3.63	3.35	3.50	3.31	3.29	3.33	3.43	3.70	3.81	3.90	3.66	3.78
22	3.64	3.35	3.47	3.29	3.29	3.34	3.41	3.70	3.82	3.88	3.65	3.74
23	3.71	3.34	3.48	3.31	3.27	3.33	3.42	3.73	3.80	3.83	3.67	3.72
24	3.70	3.34	3.44	3.34	3.25	3.32	3.44	3.75	3.81	3.85	3.67	3.68
25	3.66	3.38	3.42	3.36	3.24	3.35	3.46	3.75	3.82	3.80	3.66	3.86
26	3.63	3.39	3.44	3.38	3.23	3.32	3.47	3.75	3.83	3.78	3.64	3.84
27	3.59	3.42	3.56	3.38	3.21	3.32	3.47	3.76	3.82	3.76	3.66	3.61
28	3.57	3.44	3.81	3.40	3.21	3.32	3.47	3.76	3.80	3.73	3.71	3.59
29	3.58	3.50	3.82	3.41	---	3.33	3.47	3.76	3.78	3.72	3.73	3.80
30	3.55	3.54	3.77	3.42	---	3.32	3.48	3.75	3.77	3.67	3.75	3.59
31	3.48	---	3.75	3.44	---	3.33	---	3.72	---	3.63	3.78	---
MEAN	3.84	3.44	3.60	3.42	3.33	3.26	3.40	3.67	3.81	3.87	3.69	3.91
MAX	4.86	3.55	3.87	3.71	3.49	3.35	3.48	3.76	3.87	4.06	3.76	4.33
MIN	3.48	3.34	3.42	3.29	3.21	3.13	3.32	3.49	3.72	3.63	3.64	3.59

MARIANA ISLANDS, ISLAND OF GUAM

132806144481871. Local number, 18-2848-03 Barrigada Exploratory Well Ex-9.

LOCATION.--Lat 13°28'06" N., long 144°48'18" E., Hydrologic Unit 20100003, near P.C. Lujan Elementary School Radio Barrigada. Owner: Government of Guam.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 513 ft, borehole diameter 8 in.

DATUM.--Elevation of land-surface datum is 238 ft. Measuring point: Top of surface casing, 239.41 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, September 1981 to June 1985.
WATER LEVEL: Water-level recorder, July 1985 to current year.
WATER QUALITY: 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.93 ft above mean sea level, Aug. 26, 1986; lowest, measured, 2.29 ft above mean sea level, Feb. 18, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.83	2.88	2.85	e2.74	2.75	---	---	---	---	---	---	---
2	e2.82	2.70	2.90	e2.70	2.76	---	---	---	---	---	---	h3.15
3	e2.86	2.75	2.91	e2.71	2.76	---	---	---	---	---	---	---
4	e3.50	2.79	e2.96	e2.65	2.75	---	---	---	---	---	---	---
5	e3.55	2.82	e2.94	e2.62	2.72	---	---	---	---	---	---	---
6	e3.40	2.82	e2.91	e2.60	2.74	---	---	---	---	---	---	---
7	e3.30	2.78	e2.90	e2.60	2.77	---	---	---	---	---	---	---
8	e3.18	2.74	2.89	e2.61	2.75	---	---	---	---	---	---	---
9	e3.10	2.75	2.82	e2.61	e2.73	---	---	---	---	---	---	---
10	e3.07	2.74	2.77	e2.61	e2.71	---	---	---	---	---	---	---
11	e3.05	2.71	2.72	e2.83	e2.70	---	---	---	h3.28	---	---	---
12	e3.00	2.67	2.88	e2.65	e2.70	---	---	---	---	---	h3.29	---
13	e2.96	2.87	2.68	e2.84	2.71	---	---	---	---	h3.62	---	---
14	e2.92	2.68	2.64	e2.62	2.72	---	---	---	---	---	---	---
15	e2.88	2.73	2.63	e2.83	2.69	---	---	---	---	---	---	---
16	e2.86	2.73	e2.65	e2.87	2.68	---	---	---	h3.36	---	---	---
17	2.85	2.69	e2.68	e2.70	2.70	---	---	---	---	---	---	---
18	2.83	2.65	e2.73	e2.67	2.70	---	---	---	---	---	---	h3.55
19	2.80	2.62	e2.77	e2.68	2.66	---	---	h3.20	---	---	---	---
20	2.78	2.62	e2.72	e2.66	---	---	---	---	---	---	---	---
21	2.75	2.62	e2.71	e2.63	---	---	---	---	---	---	---	---
22	2.74	2.62	e2.70	e2.64	---	---	h2.90	---	---	---	---	---
23	2.80	2.60	e2.67	2.64	---	---	---	---	---	---	---	---
24	2.78	2.60	e2.64	2.67	---	h2.77	---	---	---	---	---	---
25	2.73	2.63	e2.82	2.69	---	---	---	---	---	---	---	---
26	2.71	2.64	e2.82	2.71	---	---	---	---	---	---	---	---
27	2.68	2.67	e2.78	2.69	---	---	---	---	---	---	---	---
28	2.65	2.71	e2.88	2.69	---	---	---	---	---	---	---	---
29	2.63	2.74	e2.85	2.89	---	---	---	---	---	---	---	---
30	2.63	2.79	e2.82	2.73	---	---	---	---	---	---	---	---
31	2.66	---	e2.80	2.75	---	---	---	---	---	---	---	---
MEAN	2.91	2.70	2.77	2.66	---	---	---	---	---	---	---	---
MAX	3.55	2.82	2.96	2.75	---	---	---	---	---	---	---	---
MIN	2.63	2.60	2.62	2.60	---	---	---	---	---	---	---	---

e Estimated
h Tape measurement.

132806144481871 - 18-2848-03 BARRIGADA EXP WELL EX-9, GUAM--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT					
14...	1010	260	2860	27.0	700
14...	1040	340	2210	27.0	530
14...	1125	345	3210	27.0	820
14...	1200	350	8410	27.0	2500
14...	1240	380	25300	27.0	8200
14...	1315	380	41700	27.0	14000
14...	1355	400	45900	27.0	18000
14...	1430	450	50900	27.0	19000
FEB					
20...	1015	260	2390	27.0	580
20...	1040	340	2080	27.0	470
20...	1120	345	2600	26.5	640
20...	1145	350	9530	28.5	2900
20...	1215	360	25700	26.5	8900
20...	1245	380	41800	26.5	15000
20...	1315	400	47100	26.5	18000
20...	1345	450	51200	26.5	19000
JUN					
18...	1040	260	1790	27.5	400
18...	1105	340	2000	27.5	470
16...	1130	345	5780	27.5	1800
18...	1150	350	11800	27.0	3800
16...	1215	360	30300	27.0	10000
16...	1240	380	41800	27.0	15000
16...	1300	400	47900	27.0	18000
18...	1330	450	51700	27.0	19000
SEP					
02...	0955	260	1880	27.5	430
02...	1025	340	2390	27.5	800
02...	1050	345	6140	27.5	1900
02...	1115	350	12200	27.0	3600
02...	1140	360	29000	27.0	9900
02...	1210	380	42000	27.0	15000
02...	1240	400	47500	27.0	18000
02...	1310	450	51600	27.0	20000

MARIANA ISLANDS, ISLAND OF GUAM

133032144491871. Local number, 18-3049-03 Harmon Loop School Well M-10A.

LOCATION.--Lat 13°30'32" N., long 144°49'18" E., Hydrologic Unit 20100003, at Harmon Loop School, Dededo. Owner: Public Utility Agency of Guam.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, depth reported 288 ft, casing diameter 6 in.

DATUM.--Elevation of land-surface datum is 227 ft. Measuring point: Top of casing, 228.62 ft above mean sea level.

REMARKS.--Well was abandoned in 1973 because of oil taste and high iron content.

PERIOD OF RECORD.--Water-level recorder, January 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.61 ft above mean sea level, May 23, 1976; lowest, 1.94 ft above mean sea level, Feb. 10-12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.66	e2.44	2.66	2.82	2.58	2.34	2.69	2.79	2.92	3.07	2.85	3.06
2	e2.65	e2.48	2.71	2.77	2.57	2.39	2.67	2.80	2.93	3.06	2.86	3.06
3	e2.63	e2.58	2.80	2.74	2.55	2.43	2.67	2.80	2.94	3.06	2.85	3.04
4	e2.82	e2.60	2.98	2.69	2.53	2.40	2.68	2.81	2.96	3.06	2.87	3.04
5	e2.90	e2.60	3.06	2.66	2.56	2.41	2.68	2.81	2.98	3.07	2.90	3.06
6	e2.86	e2.59	3.03	2.62	2.68	2.36	2.67	2.82	3.00	3.09	2.91	3.10
7	e2.78	e2.57	2.93	2.59	2.80	2.31	2.66	2.85	3.02	3.14	2.93	3.19
8	e2.78	2.59	2.86	2.58	2.71	2.26	2.65	2.90	3.02	3.19	2.97	3.36
9	e2.76	2.58	2.80	2.60	2.64	2.26	2.59	2.92	3.02	3.22	2.99	3.55
10	e2.70	2.58	2.76	2.61	2.57	2.25	2.62	2.91	3.02	3.23	3.00	3.59
11	e2.69	2.57	2.72	2.58	2.51	2.27	2.68	2.91	3.03	3.26	3.01	3.61
12	e2.65	2.54	2.68	2.54	2.45	2.27	2.73	2.94	3.03	3.31	3.01	3.61
13	e2.63	2.54	2.65	2.51	2.44	2.30	2.75	2.95	3.05	3.33	3.01	3.62
14	e2.60	2.55	2.61	2.52	2.44	2.34	2.74	2.95	3.07	3.36	3.01	3.62
15	e2.60	2.58	2.61	2.57	2.43	2.38	2.74	2.94	3.09	3.39	3.02	3.52
16	e2.59	2.58	2.61	2.65	2.43	2.43	2.75	2.95	3.10	3.36	3.01	3.33
17	e2.58	2.56	2.63	2.60	2.42	2.46	2.76	2.96	3.11	3.29	3.01	3.16
18	e2.57	2.50	2.67	2.56	2.43	2.48	2.74	2.95	3.11	3.24	3.00	3.09
19	e2.56	2.48	2.72	2.53	2.43	2.49	2.73	2.95	3.11	3.17	2.99	3.06
20	e2.56	2.46	2.70	2.50	2.44	2.51	2.73	2.95	3.11	3.15	2.97	2.99
21	e2.55	2.46	2.68	2.49	2.42	2.53	2.74	2.95	3.11	3.14	2.95	2.95
22	e2.57	2.45	2.67	2.45	2.41	2.54	2.74	2.97	3.11	3.13	2.94	2.92
23	e2.55	2.42	2.68	2.48	2.38	2.53	2.75	2.99	3.12	3.07	2.95	2.92
24	e2.50	2.41	2.63	2.51	2.36	2.52	2.76	2.99	3.13	3.03	2.95	2.88
25	e2.47	2.44	2.59	2.51	2.35	2.52	2.77	2.99	3.14	2.99	2.93	2.85
26	e2.44	2.46	2.61	2.52	2.34	2.54	2.78	2.99	3.15	2.98	2.94	2.81
27	e2.42	2.50	2.67	2.55	2.32	2.55	2.78	2.99	3.15	2.97	2.98	2.80
28	e2.41	2.51	2.77	2.57	2.32	2.58	2.77	3.00	3.13	2.94	3.05	2.81
29	e2.40	2.57	2.80	2.58	---	2.62	2.77	2.99	3.11	2.93	3.06	2.83
30	e2.40	2.62	2.81	2.59	---	2.63	2.78	2.96	3.09	2.91	3.07	2.85
31	e2.41	---	2.85	2.60	---	2.64	---	2.94	---	2.88	3.07	---
MEAN	2.60	2.53	2.74	2.58	2.48	2.44	2.72	2.92	3.06	3.13	2.97	3.14
MAX	2.90	2.62	3.06	2.82	2.80	2.64	2.78	3.00	3.15	3.39	3.07	3.62
MIN	2.40	2.41	2.59	2.45	2.32	2.25	2.59	2.79	2.92	2.88	2.85	2.80

e Estimated

MARIANA ISLANDS, ISLAND OF GUAM

133047144500171. Local number, 18-3048-05 Well M-11.

LOCATION.--Lat 13°30'49" N., long 144°49'58" E., Hydrologic Unit 20100003, at intersection of Harmon Loop School Road and Route 1 at Dededo. Owner: Public Utility Agency of Guam.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, depth reported 325 ft, casing diameter 8 in.

DATUM.--Elevation of land-surface datum is 294 ft. Measuring point: Top of casing, 295.82 ft above mean sea level.

PERIOD OF RECORD.--Water-level recorder, July 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.90 ft above mean sea level, Aug. 27, 1986; lowest, 2.46 ft above mean sea level, Feb. 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.42	3.20	3.30	3.91	3.27	3.11	3.27	3.37	3.53	3.66	3.71	3.75
2	3.36	3.22	3.35	3.79	3.26	3.11	3.28	3.39	3.53	3.65	3.64	3.74
3	3.32	3.25	3.44	3.71	3.24	3.19	3.28	3.40	3.54	3.65	3.62	3.71
4	3.74	3.28	3.58	3.63	3.21	3.20	3.30	3.41	3.55	3.64	3.61	3.70
5	5.10	3.29	3.68	3.57	3.27	3.20	3.30	3.42	3.57	3.65	3.62	3.72
6	5.07	3.28	3.69	3.51	3.43	3.16	3.29	3.43	3.59	3.70	3.63	3.82
7	4.66	3.26	3.60	3.45	3.49	3.10	3.26	3.44	3.61	e3.78	3.66	4.06
8	4.39	3.23	3.53	3.40	3.46	3.09	3.22	3.46	3.81	e3.86	3.68	4.26
9	4.21	3.24	3.46	3.35	3.38	3.07	3.21	3.47	3.81	e3.95	3.66	4.70
10	4.04	3.24	3.37	3.35	3.32	3.04	3.23	3.47	3.82	e4.03	3.69	4.97
11	3.91	3.22	3.33	3.33	3.28	3.06	3.26	3.47	3.83	e4.09	3.71	4.85
12	3.81	3.21	3.29	3.30	3.27	3.06	3.29	3.49	3.83	e4.14	3.71	4.77
13	3.72	3.21	3.27	3.26	3.26	3.08	3.32	3.51	3.84	e4.15	3.70	4.70
14	3.63	3.23	3.24	3.25	3.25	3.09	3.32	3.52	3.85	4.16	3.70	4.62
15	3.56	3.25	3.23	3.27	3.24	3.12	3.32	3.53	3.67	4.16	3.69	4.43
16	3.50	3.25	3.23	3.37	3.24	3.14	3.34	3.53	3.68	4.14	3.66	4.25
17	3.45	3.24	3.25	3.35	3.22	3.17	3.35	3.54	3.70	4.09	3.67	4.08
18	3.42	3.19	3.28	3.28	3.22	3.18	3.33	3.54	3.71	4.04	3.65	3.94
19	3.39	3.18	3.32	3.25	3.21	3.20	3.32	3.52	3.69	4.00	3.63	3.87
20	3.36	3.15	3.32	3.23	3.20	3.21	3.32	3.53	3.68	3.95	3.61	3.77
21	3.36	3.15	3.33	3.22	3.19	3.23	3.32	3.54	3.69	3.92	3.59	3.72
22	3.34	3.13	3.36	3.19	3.19	3.24	3.31	3.56	3.70	3.90	3.57	3.71
23	3.32	3.12	3.41	3.20	3.17	3.24	3.31	3.57	3.71	3.84	3.56	3.69
24	3.27	3.11	3.37	3.22	3.15	3.23	3.34	3.58	3.72	3.76	3.57	e3.64
25	3.23	3.13	3.32	3.23	3.13	3.23	3.36	3.56	3.73	3.76	3.56	e3.58
26	3.20	3.14	3.33	3.24	3.12	3.24	3.38	3.59	3.71	3.66	3.57	e3.53
27	3.20	3.17	3.36	3.24	3.10	3.24	3.37	3.59	3.70	3.92	3.62	e3.51
28	3.20	3.19	3.58	3.26	3.11	3.24	3.36	3.60	3.68	3.66	3.70	3.53
29	3.20	3.23	4.11	3.27	---	3.24	3.36	3.59	3.68	3.61	3.73	3.57
30	3.18	3.28	4.15	3.27	---	3.26	3.36	3.56	3.67	3.78	3.75	3.58
31	3.19	---	4.04	3.28	---	3.27	---	3.53	---	3.75	3.75	---
MEAN	3.64	3.21	3.46	3.36	3.25	3.17	3.31	3.51	3.65	3.69	3.65	3.99
MAX	5.10	3.29	4.15	3.91	3.49	3.27	3.38	3.60	3.73	4.16	3.75	4.97
MIN	3.18	3.11	3.23	3.19	3.10	3.04	3.21	3.37	3.53	3.84	3.56	3.51

e Estimated

MARIANA ISLANDS, ISLAND OF GUAM

133119144491771. Local number, 18-3149-05 Wettengel Exploratory Well Ex-7.

LOCATION.--Lat 13°31'19" N., long 144°49'17" E., Hydrologic Unit 20100003, 200 ft east of junction of Routes 1 and 3, Wettengel. Owner: Government of Guam.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 698 ft, borehole diameter 8 in., casing diameter 6 in., cased to 10 ft.

DATUM.--Elevation of land-surface datum ia 283 ft. Measuring point: Top of 6-inch diameter surfaca casing, 283.31 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measuraments, August 1981 to May 1983.
Water-level recorder, June 1983 to current year.
WATER QUALITY: 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.28 ft above mean aea level, Sept. 13, 1987; lowest, 2.78 ft above mean sea level, June 6, 7, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.16	2.95	3.23	e3.34	3.14	2.97	3.17	3.31	3.49	3.80	3.40	3.63
2	3.11	3.00	3.29	e3.31	3.13	3.00	3.17	3.34	3.50	3.59	3.40	3.64
3	3.09	3.05	3.39	3.30	3.11	3.06	3.17	3.35	3.51	3.57	3.41	3.82
4	3.40	3.07	3.58	3.24	3.08	3.02	3.20	3.37	3.52	3.58	3.41	3.62
5	3.47	3.08	3.63	3.21	3.09	3.03	3.19	3.38	3.53	3.60	3.44	3.85
6	3.42	3.07	3.58	3.19	3.24	2.98	3.17	3.39	3.55	3.82	3.46	3.69
7	3.36	3.05	3.48	3.14	3.32	2.92	3.16	3.40	3.56	3.88	3.47	3.81
8	3.36	3.03	3.42	3.12	3.25	2.68	3.14	3.43	3.58	3.72	3.50	4.00
9	3.34	3.06	3.35	3.14	3.15	2.87	3.15	3.45	3.55	3.75	3.52	4.10
10	3.26	3.06	3.28	3.15	3.10	2.87	3.18	3.46	3.58	3.75	3.54	4.13
11	3.27	3.07	3.24	3.12	3.06	2.90	3.22	3.47	3.58	3.86	3.54	4.18
12	3.24	3.04	3.19	3.10	3.05	2.90	3.26	3.51	3.56	3.92	3.55	4.24
13	3.18	3.04	3.15	3.07	3.05	2.98	3.27	3.52	3.57	3.98	3.55	4.28
14	3.14	3.07	3.11	3.08	3.05	2.98	3.26	3.53	3.58	3.97	3.57	4.22
15	3.10	3.11	3.12	3.15	3.03	3.02	3.27	3.54	3.59	3.95	3.57	4.08
16	3.08	3.09	3.12	3.24	3.03	3.04	3.27	3.55	3.60	3.94	3.57	3.91
17	3.07	3.06	3.15	3.19	3.04	3.08	3.27	3.57	3.65	3.87	3.57	3.78
18	3.05	3.00	3.19	3.12	3.05	3.08	3.25	3.56	3.65	3.80	3.58	3.88
19	3.04	2.99	3.23	3.09	3.05	3.11	3.25	3.54	3.62	3.74	3.53	3.63
20	3.08	3.00	3.21	3.05	3.06	3.12	3.25	3.53	3.83	3.71	3.50	3.57
21	3.05	3.00	3.18	3.03	3.05	3.15	3.24	3.53	3.81	3.73	3.50	3.54
22	3.06	3.00	3.17	3.00	3.04	3.15	3.23	3.55	3.62	3.70	3.48	3.53
23	3.05	2.98	e3.17	3.03	3.01	3.14	3.24	3.55	3.84	3.84	3.50	3.54
24	3.01	2.97	e3.14	3.06	3.00	3.14	3.25	3.58	3.66	3.59	3.49	3.52
25	2.98	3.00	e3.11	3.07	2.99	3.13	3.27	3.58	3.67	3.54	3.47	3.52
26	2.96	3.03	e3.11	3.07	2.97	3.14	3.29	3.58	3.69	3.53	3.48	3.50
27	2.94	3.06	e3.18	3.09	2.95	3.14	3.30	3.55	3.87	3.53	3.52	3.49
28	2.92	3.08	e3.22	3.11	2.97	3.13	3.29	3.57	3.88	3.50	3.61	3.49
29	2.91	3.14	e3.24	3.14	---	3.14	3.29	3.55	3.63	3.46	3.63	3.50
30	2.90	3.18	e3.28	3.15	---	3.15	3.30	3.53	3.60	3.42	3.63	3.51
31	2.93	---	e3.37	3.16	---	3.17	---	3.49	---	3.41	3.65	---
MEAN	3.13	3.04	3.26	3.14	3.07	3.04	3.23	3.49	3.59	3.69	3.52	3.75
MAX	3.47	3.18	3.63	3.34	3.32	3.17	3.30	3.57	3.69	3.98	3.65	4.26
MIN	2.90	2.95	3.11	3.00	2.95	2.87	3.14	3.31	3.49	3.41	3.40	3.49

e Estimated

MARIANA ISLANDS, ISLAND OF GUAM

133119144491771 - 18-3149-05 WETTENGEL EXP WELL EX-7, GUAM--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT					
08...	1005	290	4000	27.0	1000
08...	1050	390	3500	27.0	900
08...	1125	410	3530	27.0	900
08...	1205	415	3510	26.5	900
08...	1245	420	3520	26.5	920
08...	1355	430	44600	28.5	16000
08...	1350	450	47900	26.5	18000
MAR					
03...	0955	290	3560	27.0	950
03...	1025	390	3080	26.5	800
03...	1055	410	3100	26.5	800
03...	1125	415	3230	26.5	850
03...	1200	420	33400	26.5	12000
03...	1235	430	44000	26.5	16000
03...	1310	450	47500	26.5	16000
JUN					
18...	0955	290	3260	27.0	900
18...	1025	390	2670	27.0	700
18...	1055	410	2730	26.5	720
18...	1120	415	18900	26.5	6100
18...	1145	420	36200	26.5	13000
18...	1215	430	44700	26.5	16000
18...	1240	450	48600	26.5	18000
SEP					
09...	1020	290	2430	27.5	700
09...	1045	390	2490	27.5	830
09...	1115	410	4960	27.0	1500
09...	1140	415	30200	27.0	10000
09...	1205	420	37800	27.0	13000
09...	1230	430	45700	27.0	17000
09...	1300	450	49600	27.0	18000

MARIANA ISLANDS, ISLAND OF GUAM

133224144495271. Local number, 18-3249-02 Finegayan Exploratory Well Ex-10.

LOCATION.--Lat 13°32'24" N., long 144°49'52" E., Hydrologic Unit 20100003, near NAVCAMS Housing area.
Owner: Government of Guam.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 704.5 ft, uncased hole diameter 8 in.

DATUM.--Elevation of land-surface datum is 348 ft. Measuring point: Top of surface casing, 348.54 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measurements, September 1981 to May 1984.
Water-level recorder, June 1984 to current year.
WATER QUALITY: 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.78 ft above mean sea level, Sept. 12, 13, 1987; lowest measured, 1.97 ft above mean sea level, Feb. 24, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.58	2.32	2.61	2.71	2.64	2.52	2.74	e2.73	e3.09	3.23	3.07	3.23
2	2.55	2.35	2.67	2.66	2.61	2.54	2.74	e2.76	e3.09	3.22	3.09	3.23
3	2.54	2.40	2.60	2.65	2.59	2.64	2.74	e2.79	e3.09	3.22	3.09	3.18
4	2.81	2.41	3.02	2.60	2.55	2.60	2.71	e2.85	3.10	3.25	3.11	3.16
5	2.83	2.42	3.07	2.57	2.60	2.56	2.72	e2.90	3.13	3.28	3.13	3.21
6	2.77	2.40	3.01	2.54	2.77	2.51	2.74	e2.93	3.17	3.30	3.16	3.29
7	2.70	2.39	2.66	2.62	2.82	2.47	2.60	e2.95	3.18	3.37	3.19	3.44
8	2.70	2.37	2.60	2.56	2.71	2.43	2.85	e2.98	3.15	3.41	3.22	3.64
9	2.68	2.40	2.76	2.61	2.84	2.42	2.65	e3.01	3.18	3.46	3.22	3.74
10	2.62	2.36	2.70	2.81	2.56	2.42	2.82	e3.03	3.26	3.45	3.25	3.76
11	2.62	2.37	2.88	2.58	2.55	2.48	2.76	e3.04	3.27	3.48	3.24	3.75
12	2.60	2.37	2.61	2.55	2.55	2.47	2.70	e3.09	3.29	3.54	3.20	3.78
13	2.55	2.37	2.57	2.53	2.55	2.53	2.69	e3.11	3.30	3.59	3.22	3.78
14	2.52	2.41	2.53	2.54	2.54	2.56	2.70	e3.12	3.32	3.57	3.23	3.75
15	2.50	2.45	2.55	2.65	2.53	2.60	2.71	e3.13	3.34	3.58	3.23	3.87
16	2.49	2.43	2.56	2.75	2.54	2.82	2.68	e3.16	3.27	3.55	3.22	3.58
17	2.48	2.39	2.60	2.65	2.56	2.66	2.69	e3.17	3.23	3.48	3.21	3.40
18	2.46	2.35	2.62	2.60	2.58	2.67	2.74	e3.17	3.24	3.42	3.20	3.23
19	2.44	2.34	2.68	2.55	2.57	2.69	2.74	3.11	3.25	3.33	3.17	3.13
20	2.46	2.35	2.65	2.52	2.57	2.69	2.74	3.10	3.29	3.31	3.14	3.04
21	2.45	2.35	2.63	2.51	2.56	2.73	2.73	3.11	3.27	3.35	3.13	3.00
22	2.45	2.35	2.63	2.49	2.56	2.72	2.73	3.16	3.29	3.33	3.11	2.99
23	2.43	2.31	2.82	2.52	2.54	2.73	2.70	3.16	3.28	3.26	3.14	2.98
24	2.37	2.32	2.56	2.55	2.52	2.70	2.67	3.18	3.32	3.18	3.13	2.99
25	2.32	2.37	2.54	2.59	2.51	2.80	2.64	e3.18	3.33	3.15	3.11	3.01
26	2.32	2.40	2.54	2.59	2.49	2.79	2.64	e3.16	3.34	3.18	3.08	2.97
27	2.30	2.42	2.57	2.60	2.49	2.76	2.65	e3.17	3.31	3.17	3.13	2.98
28	2.27	2.45	2.68	2.62	2.52	2.78	2.66	e3.20	3.30	3.16	3.23	2.98
29	2.24	2.53	2.67	2.65	---	2.76	e2.65	e3.17	3.27	3.10	3.23	3.00
30	2.25	2.58	2.70	2.66	---	2.78	e2.68	e3.14	3.26	3.05	3.24	3.01
31	2.27	---	2.77	2.66	---	2.73	---	e3.08	---	3.06	3.25	---
MEAN	2.50	2.39	2.69	2.60	2.58	2.62	2.72	3.06	3.24	3.32	3.17	3.30
MAX	2.83	2.58	3.07	2.75	2.82	2.60	2.85	3.20	3.34	3.59	3.25	3.76
MIN	2.24	2.31	2.53	2.49	2.49	2.42	2.84	2.73	3.09	3.05	3.07	2.96

e Estimated

133224144495271 - 18-3249-02 FINEGAYAN EXP WELL EX-10, GUAM--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT					
15...	0945	365	652	27.0	58
15...	1020	400	915	27.0	140
15...	1100	430	986	27.0	160
15...	1140	450	4260	27.0	1200
15...	1230	460	13900	27.0	4200
15...	1015	470	33300	27.0	12000
15...	1105	480	44300	27.0	16000
MAR					
04...	1020	365	866	26.5	120
04...	1050	400	835	26.5	130
04...	1125	430	697	26.5	140
04...	1200	450	3740	26.5	1000
04...	1230	460	11900	26.5	3800
04...	1300	470	30500	26.5	11000
04...	1335	480	41500	26.5	15000
JUN					
23...	0900	365	664	27.0	88
23...	0930	400	733	26.5	100
23...	0955	430	793	26.5	130
23...	1025	450	3430	26.5	980
23...	1055	460	10000	26.5	3000
23...	1120	470	28300	26.5	9600
23...	1150	480	41100	26.5	15000
SEP					
11...	1005	365	415	27.5	17
11...	1030	400	529	27.5	49
11...	1100	430	543	27.0	51
11...	1130	450	3600	27.0	1000
11...	1200	460	11200	27.0	3500
11...	1225	470	29900	27.0	10000
11...	1250	480	41500	27.0	15000

132615144470571. Local number, 18-2647-01 Father Duenas Well.

LOCATION.--Lat 13°26'15" N., long 144°47'05" E., Hydrologic Unit 20100003, at Father Duenas Memorial School, Chalan Pago-Ordot. Owner: Government of Guam.

AQUIFER.--Mariana Limestone.

WELL CHARACTERISTICS.--Drilled parabasal water-table well, casing diameter 8 in.

DATUM.--Elevation of land-surface datum is 179 ft. Measuring point: Top of casing, 179.86 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, March 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.37 ft above mean sea level, Oct. 24, 1960; lowest measured, 6.08 ft above mean sea level, Aug. 5, 1980.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	8.57	DEC 3	8.26	FEB 13	7.36	APR 22	7.27	JUN 11	7.35	AUG 12	7.55
OCT 30	8.83	JAN 13	7.71	MAR 12	6.65	MAY 19	7.49	JUL 13	7.71	SEP 8	7.70

MARIANA ISLANDS, ISLAND OF GUAM

132626144471771. Local number, 16-2647-12 Exploratory Well Ex-4.

LOCATION.--Lat 13°26'26" N., long 144°47'17" E., Hydrologic Unit 20100003, in Tai Mangilao near Father Duenas Memorial High School. Owner: Government of Guam.

AQUIFER.--Argillaceous member of the Marianas Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 400 ft, borehole diameter 8 in., casing diameter 6 in., cased to 400 ft.

DATUM.--Elevation of land-surface datum is 152 ft. Measuring point: Top of casing, 153.71 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measurements, March 1981 to April 1982, February 1983 to current year.
Water-level recorder, May to November 1982.
WATER QUALITY: 1981, 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.86 ft above mean sea level, Sept. 2, 1986; lowest, measured, 4.82 ft above mean sea level, Aug. 23, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	6.93	JAN 13	5.84	APR 22	5.28	JUN 10	5.47	JUL 13	5.71	AUG 17	5.56
OCT 30	7.11	FEB 13	5.46	MAY 19	6.45	JUN 11	5.50	AUG 12	5.63	SEP 8	5.97
DEC 5	6.26	MAR 12	5.17								

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
FEB					
10...	0940	170	740	27.0	50
10...	1000	340	1220	26.5	200
10...	1030	350	1310	26.5	220
10...	1120	360	1390	26.5	240
10...	1145	370	1500	26.5	280
10...	1205	380	13900	26.5	4500
10...	1230	390	30000	26.5	10000
JUN					
10...	0955	170	700	27.5	90
10...	1040	340	3060	27.0	800
10...	1105	350	3390	26.0	900
10...	1130	360	3930	26.0	1100
JUN					
10...	1155	370	8480	26.0	2700
10...	1220	380	20300	26.0	6500
10...	1245	390	37300	26.0	13000
AUG					
17...	1010	170	825	27.0	82
17...	1030	340	2590	26.5	650
17...	1100	350	2760	26.5	700
17...	1120	360	3270	26.5	880
17...	1145	370	5440	26.5	1600
17...	1210	380	21500	26.5	7200
17...	1235	390	38400	26.5	14000

MARIANA ISLANDS, ISLAND OF GUAM

132758144450571. Local number, 18-2745-03 Agana Well 147.

LOCATION.--Lat 13°27'58" N., long 144°45'05" E., Hydrologic Unit 20100003, on Route 4, 0.8 mi south of junction of Routes 1 and 4 in Agana. Owner: Government of Guam.

AQUIFER.--Mariana Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, depth when drilled, 186 ft, when measured in May 1973, 29 ft, casing diameter 6 in.

DATUM.--Elevation of land-surface datum is 33 ft. Measuring point: Top of casing, 33.22 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, August 1955 to May 1960, January 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 31.42 ft above mean sea level, Oct. 14, 1955; lowest measured, 8.83 ft above mean sea level, June 20, 1978.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	12.44	DEC 5	13.20	FEB 13	12.54	APR 22	11.05	JUN 11	10.27	AUG 12	10.64
OCT 30	14.22	JAN 13	12.82	MAR 12	12.22	MAY 19	10.61	JUL 13	10.97	SEP 8	11.01

132742144452971. Local number, 18-2745-07 Agana Springs.

LOCATION.--Lat 13°27'42" N., long 144°45'29" E., Hydrologic Unit 20100003, near Sinajana on the edge of Agana Swamp.

AQUIFER.--Mariana Limestone.

WELL CHARACTERISTICS.--Basal ground water issues from an opening in the Mariana Limestone. The water level is measured in a pool with a concrete spillway.

DATUM.--Elevation of land-surface datum is 10 ft. Measuring point: Edge of concrete spillway, 8.80 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, April 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Lowest water level measured, 6.04 ft above mean sea level, June 8, 1984.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	f	DEC 3	f	FEB 13	f	APR 22	8.28	JUN 11	7.52	AUG 12	7.65
OCT 30	f	JAN 13	f	MAR 12	8.80	MAY 19	7.90	JUL 13	7.92	SEP 8	f

f Water overflowing spillway.

MARIANA ISLANDS, ISLAND OF GUAM

132736144461671. Local number, 18-2746-06 Chochogo Well Ex-1.

LOCATION.--Lat 13°27'36" N., long 144°46'18" E., Hydrologic Unit 20100003, near San Miguel School, Chochogo.

AQUIFER.--Mariana Limestone: Agana argillaceous member.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 597 ft, casing diameter 6 in, cased to 300 ft.

DATUM.--Elevation of land-surface datum is 94 ft. Measuring point: Top of PVC casing, 96.50 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measurements, November 1980 to current year.
WATER QUALITY: 1981, 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.24 ft above mean sea level, Sept. 2, 1986; lowest measured, 6.14 ft above mean sea level, June 22, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	8.63	JAN 13	7.69	MAR 12	6.73	MAY 19	6.84	JUL 13	7.20	SEP 1	7.10
OCT 30	8.82	FEB 13	7.26	APR 22	6.63	JUN 11	6.84	AUG 12	6.86	SEP 8	8.22
DEC 5	8.03										

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
FEB					
11...	0900	110	771	27.0	65
11...	0925	250	1360	28.0	240
11...	0945	270	1390	26.0	240
11...	1010	300	8710	28.0	2700
11...	1035	330	15100	26.0	4800
11...	1100	340	19100	26.0	6200
11...	1120	350	24300	26.0	8100
11...	1145	375	33300	26.0	12000
11...	1210	400	38000	26.0	14000
11...	1235	450	47700	26.0	18000
11...	1300	550	48000	26.0	18000
JUN					
11...	0845	110	838	28.5	90
11...	0900	250	3650	26.5	1000
11...	0920	270	4200	26.5	1200
11...	0940	300	15200	26.0	4800
11...	1005	330	19800	26.0	6500
11...	1030	340	24000	26.0	7800
JUN					
11...	1055	350	30300	26.0	10000
11...	1120	375	39800	26.0	14000
11...	1145	400	49400	26.0	18000
11...	1210	450	49200	26.0	18000
11...	1245	550	50200	26.0	18000
SEP					
01...	0815	110	801	27.0	82
01...	0835	250	2260	26.5	560
01...	0855	270	2980	26.5	800
01...	0915	300	15000	26.5	4900
01...	0940	330	21700	26.5	7200
01...	1000	340	25100	26.5	8200
01...	1025	350	28600	26.5	9800
01...	1050	375	34900	26.5	12000
01...	1115	400	33500	26.5	12000
01...	1145	450	49800	26.5	18000
01...	1215	550	50100	26.5	19000

MARIANA ISLANDS, ISLAND OF GUAM

133034144500871. Local number, 18-3050-05 Macheche Rd. Well Ex-6.

LOCATION.--Lat 13°30'34" N., long 144°50'08" E., Hydrologic Unit 20100003, in Macheche area, Dededo.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 407 ft, uncased hole diameter 12 in. Well deepened to 462 ft on Aug. 7, 1981.

DATUM.--Elevation of land-surface datum is 309 ft. Measuring point: Top of surface casing, 309.41 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measurements, February 1978 to current year.
WATER QUALITY: 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.09 ft above mean sea level, Aug. 16, 1978; lowest measured, 2.61 ft above mean sea level, Feb. 2, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	3.25	JAN 13	3.05	MAR 12	2.96	JUN 11	3.81	JUL 13	4.06	SEP 3	3.69
OCT 30	2.93	FEB 13	3.04	MAY 22	3.62	JUN 12	3.78	AUG 12	3.69	SEP 8	4.01
DEC 3	3.27										

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	SAMPLING DEPTH (FEET)	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE (DEG C)	CHLORIDE, DISSOLVED (MG/L AS CL)
FEB					
18...	1120	330	662	26.5	92
18...	1225	430	397	26.5	16
18...	1255	440	445	26.0	29
18...	1325	445	700	26.0	110
18...	1400	450	44300	26.0	16000
18...	1430	455	47100	26.0	17000
JUN					
12...	0925	330	946	26.5	160
12...	0955	430	410	26.0	22
12...	1025	440	397	26.0	18
JUN					
12...	1050	445	533	26.0	59
12...	1120	450	38600	26.0	14000
12...	1145	455	46900	26.0	17000
SEP					
03...	1000	330	645	27.0	110
03...	1025	430	394	26.5	17
03...	1055	440	386	26.5	17
03...	1125	445	547	26.5	64
03...	1155	450	41500	26.5	15000
03...	1220	455	47600	26.5	18000

MARIANA ISLANDS, ISLAND OF GUAM

133115144484971. Local number, 18-3148-02 Harmon Well 1 (107).

LOCATION.--Lat 13°31'15" N., long 144°48'49" E., Hydrologic Unit 20100003, 500 ft north of junction of Routes 1 and 18, Dededo. Owner: Government of Guam.

AQUIFER.--Mariana Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 289 ft, diameter 10 in.

DATUM.--Elevation of land-surface datum is 288 ft. Measuring point: Top of casing, 267.96 ft above mean sea level.

PERIOD OF RECORD.--Water-level recorder: March 1973 to May 1983.
Occasional measurements: June 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.34 ft above mean sea level, May 22, 1976; lowest, 1.84 ft above mean sea level, Feb. 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	2.88	DEC 3	2.86	FEB 13	2.44	APR 22	2.66	JUN 11	3.19	AUG 12	3.01
OCT 30	2.28	JAN 13	2.45	MAR 12	2.29	MAY 19	2.97	JUL 13	3.47	SEP 8	3.59

MARIANA ISLANDS, ISLAND OF GUAM

133120144505471. Local number, 18-3150-10 Ghura-Dededo Monitoring Well.

LOCATION.--Lat 13°31'20" N., long 144°50'54" E., Hydrologic Unit 20100003, in the Dededo Well Field, PUAG, Dededo. Owner: Government of Guam.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 785 ft, uncased hole diameter 12 in.

DATUM.--Elevation of land-surface datum is 393 ft. Measuring point: Top of surface casing, 393.90 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Water-level recorder, November 1982 to February 1983.
Occasional measurements, March 1980 to August 1982, March 1983 to current year.
WATER QUALITY: 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.85 ft above mean sea level, July 13, 1987; lowest measured, 1.40 ft above mean sea level, Dec. 17, 1982.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	2.01	DEC 3	2.05	FEB 13	1.85	MAY 22	2.38	JUL 13	2.85	SEP 18	2.81
OCT 30	1.69	JAN 13	1.83	MAR 12	1.73	JUN 11	2.59	AUG 12	2.48		

MARIANA ISLANDS, ISLAND OF GUAM

133628144513271. Local number, 18-3651-05 Northwest Field Exploratory Well Ex-8.

LOCATION.--Lat 13°36'28" N., long 144°51'32" E., Hydrologic Unit 20100003, in old Air Force Housing area in Northwest Field.

AQUIFER.--Barrigada Limestone.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 658 ft, diameter 8 in.

DATUM.--Elevation of land-surface datum is 461 ft. Measuring point: Top of surface casing 462.49 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measurements, Septembsr 1981 to current year.
WATER QUALITY: 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.34 ft above mean sea level, July 13, 1987; lowsst, 1.88 ft above mean sea level, Feb. 28, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1	2.21	DEC 3	2.33	FEB 13	2.25	MAY 22	2.89	JUL 13	3.34	SEP 8	3.26
OCT 30	1.98	JAN 13	2.17	MAR 12	2.12	JUN 11	3.10	AUG 12	3.04		

CAROLINE ISLANDS, YAP ISLANDS

093204138095970. Local number, 25-3209-01 Dorfay 6-in Well, Gagil-Tamil.

LOCATION.--Lat 09°32'04" N., long 138°09'59" E., Hydrologic Unit 20100006, 0.8 mi northeast of the Tamilang Elementary School and 0.8 mi south of the Coast Guard LORAN Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, depth reported 170 ft, diameter 6 in.

DATUM.--Elevation of land-surface datum is 29 ft. Measuring point: Top of casing, 30.92 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, July 1982 to April 1983.
Water level recorder, May 1983 to current.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.03 ft above mean sea level, Aug. 12, 1987; lowest, 15.67 ft above mean sea level, June 10, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.87	19.46	19.19	19.07	19.27	18.35	18.78	19.28	18.66	19.60	19.83	19.80
2	18.93	19.48	19.15	19.23	19.32	18.48	18.79	19.29	19.11	19.53	19.83	19.79
3	18.99	19.83	19.14	19.53	19.30	18.71	18.77	19.17	19.29	19.58	19.67	19.88
4	19.03	19.83	19.13	19.57	19.25	18.80	18.76	19.17	19.48	19.53	19.84	19.89
5	18.98	19.69	19.28	19.50	19.21	18.81	18.81	19.12	19.48	19.53	19.80	19.94
6	18.97	19.56	19.80	19.43	19.17	18.70	19.01	18.98	19.44	19.63	19.90	19.94
7	19.01	19.49	19.52	19.43	19.14	18.43	19.12	19.01	19.67	19.70	19.74	19.81
8	19.13	19.44	19.35	19.70	19.10	18.44	19.09	19.02	19.88	19.77	19.62	19.80
9	19.07	19.37	19.23	19.80	19.06	18.56	19.05	18.97	19.53	19.64	19.58	19.82
10	19.23	19.32	19.25	19.90	19.21	18.58	19.03	18.99	19.48	19.57	19.58	19.76
11	19.30	19.36	19.23	19.98	19.44	18.69	18.98	18.94	19.38	19.55	19.58	19.73
12	19.28	19.42	19.18	19.95	19.39	18.94	18.93	18.93	19.48	19.59	19.28	19.72
13	19.28	19.36	19.13	19.87	19.33	18.98	18.90	18.97	19.66	19.53	19.31	19.71
14	19.28	19.28	19.09	19.77	19.26	18.97	18.84	19.03	19.83	19.58	19.82	19.84
15	19.46	19.20	19.08	19.60	19.21	18.98	18.71	19.03	19.84	19.48	19.75	19.80
16	19.84	19.17	19.13	19.58	19.18	19.03	18.59	19.12	19.85	18.97	20.02	19.99
17	19.73	19.50	19.14	19.49	19.12	19.05	18.55	19.30	19.85	19.57	20.15	19.99
18	19.65	19.96	19.07	19.46	19.08	19.02	18.64	19.24	20.38	19.39	20.03	19.91
19	19.56	19.83	19.07	19.57	19.06	18.97	18.77	19.45	20.22	19.40	19.89	19.79
20	19.60	19.61	19.07	19.55	18.89	18.94	18.37	19.43	20.14	19.40	19.80	19.89
21	19.80	19.49	19.04	19.44	18.79	18.94	18.52	19.31	19.95	19.37	19.77	19.70
22	20.10	19.40	18.99	19.21	18.89	18.92	18.58	19.24	19.89	19.35	19.63	19.70
23	20.14	19.36	18.98	19.13	18.92	18.89	18.57	19.24	19.78	19.07	19.57	19.75
24	19.96	19.38	18.94	19.48	18.93	18.83	18.76	19.21	20.15	19.01	19.51	19.70
25	20.00	19.52	18.91	19.95	18.97	18.48	19.01	19.33	20.35	19.13	19.49	19.83
26	19.96	19.52	18.84	19.96	18.97	18.32	18.88	19.36	20.14	19.42	19.61	19.80
27	19.96	19.43	18.71	19.83	18.96	18.53	18.88	19.33	20.03	19.55	19.61	19.21
28	19.91	19.35	18.75	19.75	18.75	18.74	18.94	19.23	19.87	19.84	19.59	19.48
29	19.25	19.27	18.76	19.54	---	18.81	18.88	19.24	19.78	19.77	19.77	19.63
30	19.62	19.13	18.74	19.31	---	18.83	19.10	19.25	19.65	19.76	19.87	19.70
31	19.52	---	18.73	19.11	---	18.74	---	18.90	---	19.84	19.80	---
MEAN	19.46	19.47	19.08	19.57	19.11	18.76	18.82	19.16	19.73	19.50	19.71	19.76
MAX	20.14	19.96	19.60	19.98	19.44	19.05	19.12	19.45	20.38	19.84	20.15	19.99
MIN	18.87	19.13	18.71	19.07	18.75	18.32	18.37	18.90	18.66	18.97	19.26	19.21

CAROLINE ISLANDS, YAP ISLANDS

093204138095970. Local number, 25-3209-01 Dorfay 6-in Well, Gagil-Tamil--Continued.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.96	19.03	19.11	19.42	19.17	19.52	19.24	19.07	18.89	20.08	20.03	19.22
2	19.84	19.24	19.09	19.45	19.37	19.34	19.22	19.50	18.90	19.98	20.00	19.50
3	19.88	19.35	19.11	19.28	19.10	19.32	19.39	19.51	18.90	19.87	19.94	19.76
4	19.87	19.43	19.06	19.26	18.87	19.32	19.62	19.42	19.08	19.82	20.05	19.71
5	19.80	19.29	19.13	19.32	19.07	19.62	19.58	19.37	19.32	19.90	19.89	19.73
6	19.71	19.25	18.88	19.15	19.31	19.91	19.57	19.43	19.45	20.05	19.84	19.70
7	19.70	19.24	18.95	19.17	19.04	19.96	19.52	19.46	19.51	20.12	19.74	19.28
8	19.82	19.32	19.00	19.21	18.81	19.88	19.43	19.45	19.46	20.07	19.68	19.37
9	19.76	19.05	18.75	19.17	19.16	19.78	19.40	19.08	19.41	19.62	19.45	19.48
10	19.71	19.05	18.83	19.19	18.96	19.50	19.35	18.91	19.37	19.92	16.89	19.42
11	19.77	19.07	18.81	19.17	18.82	19.50	19.33	19.19	19.28	20.28	16.36	19.83
12	19.71	19.15	19.03	19.15	18.84	19.60	19.27	19.24	19.33	20.39	18.30	19.89
13	19.60	19.35	16.80	19.20	19.02	19.72	19.21	19.28	19.37	20.20	19.33	19.97
14	19.62	19.29	18.35	19.15	19.22	19.72	19.22	19.24	19.40	19.90	19.48	20.05
15	19.80	19.11	18.68	18.93	19.56	19.50	19.22	19.16	19.44	19.80	19.23	20.04
16	19.86	19.41	19.24	19.35	19.70	19.58	19.21	19.15	19.42	19.52	19.06	20.03
17	19.88	19.45	19.70	19.67	19.56	19.30	19.22	19.12	19.40	19.18	19.42	20.07
18	19.80	19.00	20.18	19.63	19.48	18.72	19.09	19.09	19.42	19.43	19.40	20.32
19	19.85	19.10	20.19	19.57	19.55	19.12	19.07	19.08	19.46	19.20	19.43	20.43
20	19.80	19.10	20.00	19.43	19.68	18.55	19.01	19.03	19.80	18.89	19.42	20.28
21	20.02	19.16	19.88	19.42	19.96	19.07	19.01	18.91	20.05	18.62	19.33	19.83
22	19.95	19.11	19.81	19.57	19.93	19.19	18.98	18.95	19.86	18.29	19.37	19.92
23	19.81	19.27	19.76	19.51	19.82	19.16	18.97	18.79	19.78	17.53	19.46	19.99
24	19.81	19.30	19.64	19.55	19.58	19.16	18.93	18.68	19.74	18.93	19.34	20.11
25	19.55	19.31	19.55	19.57	19.30	19.11	18.85	18.69	19.82	19.55	19.44	19.79
26	19.73	19.28	19.53	19.32	19.37	19.13	19.02	18.95	19.73	19.64	19.49	19.78
27	19.89	19.27	19.52	19.27	19.34	19.43	19.08	17.89	19.87	19.73	19.22	19.85
28	19.76	19.27	19.50	19.39	19.39	19.51	18.72	18.48	19.88	19.93	19.39	19.62
29	19.76	19.27	19.50	19.13	---	19.41	18.76	18.70	20.02	19.96	19.49	19.57
30	19.71	19.17	19.54	18.78	---	19.38	18.78	18.88	20.09	20.13	19.41	19.53
31	19.50	---	19.42	18.96	---	19.34	---	18.87	---	20.25	19.03	---
MEAN	19.77	19.22	19.30	19.30	19.31	19.40	19.18	19.05	19.51	19.64	19.42	19.80
MAX	20.02	19.45	20.19	19.67	19.96	19.96	19.62	19.51	20.09	20.39	20.05	20.43
MIN	19.50	19.00	18.35	18.78	18.62	18.55	18.72	17.89	18.89	17.53	18.30	19.22

093204138095970. Local number, 25-3209-01 Dorfay 6-in Well, Gagil-Tamil--Continued.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.57	19.83	19.68	19.17	19.06	19.19	18.31	18.39	17.20	19.38	19.97	20.82
2	19.77	19.51	19.74	19.25	19.05	19.22	18.24	18.52	17.37	19.77	20.28	20.76
3	19.83	19.47	19.70	19.12	19.24	18.78	18.24	18.11	17.55	19.94	20.22	20.33
4	19.79	19.76	19.70	19.31	19.20	18.80	18.32	18.36	17.19	19.66	19.88	20.55
5	19.38	20.03	19.78	19.34	19.09	19.08	18.41	18.52	17.53	20.07	19.93	20.50
6	19.49	19.99	19.62	19.08	19.18	19.12	18.08	18.29	17.30	19.74	20.03	20.32
7	19.58	19.85	19.56	18.98	19.12	18.71	17.96	18.16	17.35	19.75	19.72	20.37
8	19.58	19.97	19.65	19.32	19.23	18.81	18.21	18.28	17.91	19.87	19.94	19.97
9	19.78	20.14	19.61	19.41	19.43	18.84	18.27	18.08	18.45	19.54	19.86	20.00
10	19.52	19.97	19.35	19.48	19.38	18.99	17.86	17.71	18.53	20.09	19.92	20.04
11	19.59	20.23	19.27	19.54	19.48	19.08	17.88	18.11	18.90	20.25	20.17	19.59
12	19.55	20.27	19.46	19.46	19.63	19.14	17.91	18.04	18.74	20.17	e20.80	19.83
13	19.49	20.44	19.41	19.64	19.41	18.70	17.95	17.86	19.00	19.88	e20.70	19.82
14	19.51	20.45	19.46	19.95	19.13	18.81	17.81	17.83	19.50	19.74	e20.60	19.40
15	19.66	20.38	19.54	19.68	19.35	18.98	17.69	17.58	19.82	20.02	e20.50	19.61
16	19.45	20.22	19.35	19.81	19.23	18.79	17.84	17.80	19.86	20.43	e20.30	19.34
17	19.62	19.94	19.47	19.88	19.12	18.55	17.65	18.87	19.73	20.49	e20.40	19.27
18	19.82	19.97	19.50	19.56	19.27	18.88	17.73	18.88	20.05	20.32	e20.35	19.52
19	19.34	20.15	19.52	19.82	19.44	18.98	17.82	17.70	19.84	20.30	e20.50	19.39
20	19.49	19.94	19.36	19.70	19.50	18.92	17.55	17.34	19.72	20.14	e20.45	19.27
21	19.65	19.86	19.74	19.55	19.27	18.67	17.40	17.71	19.79	20.11	e20.30	19.51
22	19.69	19.80	19.79	19.31	19.40	18.84	17.49	17.73	19.36	20.37	e20.20	19.24
23	19.32	19.96	19.78	19.34	19.46	18.88	17.42	17.42	19.66	20.76	e20.35	19.31
24	19.45	20.07	19.40	19.48	19.17	18.56	17.24	17.60	19.33	20.40	e20.40	19.45
25	19.88	19.74	19.38	19.20	19.36	18.53	17.41	17.23	19.60	20.47	e20.70	19.04
26	19.78	19.76	19.48	19.05	19.22	18.56	17.10	17.36	19.46	20.42	20.47	19.30
27	19.69	19.69	19.51	19.35	18.96	18.62	17.27	17.50	19.38	20.38	20.13	19.00
28	19.68	20.15	19.55	19.08	19.08	18.32	17.27	17.09	19.65	19.88	20.10	19.00
29	19.92	19.86	19.55	19.25	---	18.25	17.07	17.12	19.18	20.07	20.62	19.13
30	19.83	19.94	19.34	19.34	---	18.48	17.54	17.34	19.57	20.30	20.70	18.92
31	19.86	---	19.12	19.33	---	18.58	---	17.18	---	19.82	20.57	---
MEAN	19.62	19.96	19.53	19.41	19.27	18.79	17.76	17.86	18.86	20.08	20.29	19.69
MAX	19.92	20.45	19.79	19.95	19.63	19.22	18.41	18.87	20.05	20.76	20.80	20.82
MIN	19.32	19.47	19.12	18.98	18.96	18.25	17.07	17.09	17.19	19.38	19.66	18.92

e Estimated

CAROLINE ISLANDS, YAP ISLANDS

092919138045670. Local number, 25-2904-01 Yugamanman Well 1 (Fraq-Lamaer), Yap.

LOCATION.--Lat 09°29'19" N., long 138°04'57" E., Hydrologic Unit 20100008, 800 ft southwest of the Communication Station, and 800 ft northwest of the U.S. Weather Bureau station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, depth reported 92 ft, diameter 6 in.

DATUM.--Elevation of land-surface datum is 42 ft. Measuring point: Top of casing, 42.68 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measurements, July 1982 to current year.
WATER QUALITY: 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.09 ft above mean sea level, Sept. 23, 1983; lowest measured, 12.24 ft above mean sea level, May 13, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	27.93	JAN 22	27.16	MAR 30	20.93	MAY 26	17.91	JUL 30	28.17	SEP 30	26.72
NOV 24	28.09	FEB 26	25.70	APR 23	13.98	JUN 25	27.05	AUG 31	29.19		

092918138045470. Local number, 25-2904-02 Yugamanman Well 2 (Faraq-Lamaer), Yap.

LOCATION.--Lat 09°29'18" N., long 138°04'54" E., Hydrologic Unit 20100008, 1,000 ft southwest of the Communication Station, and 1,000 ft northwest of the U.S. Weather Bureau Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, depth reported 84 ft, diameter 6 in.

DATUM.--Elevation of land-surface datum is 37 ft. Measuring point: Top of casing, 38.83 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measurements, July 1982 to current year.
WATER QUALITY: 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.75 ft above mean sea level, Aug. 8, 1983; lowest measured, 12.04 ft above mean sea level, May 13, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23	25.56	JAN 22	26.00	MAR 30	21.05	MAY 26	17.69	JUL 30	26.82	SEP 30	25.52
NOV 24	26.76	FEB 26	24.91	APR 23	16.43	JUN 25	25.80	AUG 31	27.08		

CAROLINE ISLANDS, YAP ISLANDS

092915138050270. Local number, 25-2905-01 Timlang Well 1, Yap.

LOCATION.--Lat 09°29'15" N., long 138°05'02" E., Hydrologlic Unit 20100006, 900 ft south of the Communication Station, and 300 ft southwest of the U.S. Weather Bureau Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, depth reported 70 ft, diameter 6 in.

DATUM.--Elevation of land-surface datum is 41 ft. Measuring point: Top of casing, 42.65 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, July 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.50 ft above mean sea level, Aug. 31, 1987; lowest measured, 11.19 ft above mean sea level, May 13, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	32.95	JAN 22	32.50	MAR 30	26.81	MAY 26	20.36	JUL 30	35.95	SEP 30	32.13
NOV 24	35.09	FEB 26	30.48	APR 23	22.23	JUN 25	31.86	AUG 31	39.50		

092920138050270. Local number, 25-2905-02 Timlang Well 2, Yap.

LOCATION.--Lat 09°29'16" N., long 138°05'01" E., Hydrologic Unit 20100006, 600 ft south of the Communication Station, and 300 ft west of the U.S. Weather Bureau Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, depth reported 60 ft, diameter 6 in.

DATUM.--Elevation of land-surface datum is 39 ft. Measuring point: Top of casing, 40.43 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measurements, July 1982 to current year.
WATER QUALITY: 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.38 ft above mean sea level, Aug. 31, 1987; lowest measured, 11.38 ft above mean sea level, May 13, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	31.30	FEB 26	27.80	MAR 30	22.97	APR 23	19.48	JUN 25	30.74	AUG 31	37.38
NOV 24	33.60	MAR 1	27.24	APR 13	20.99	MAY 28	18.72	JUL 30	34.54	SEP 30	29.56
JAN 22	30.56										

CAROLINE ISLANDS, YAP ISLANDS

092618138050870. Local number 25-2905-03 Timlang Well 3, Yap

LOCATION.--Lat 09°29'16" N., long 138°05'05" E., Hydrologic Unit 20100006, 800 ft south-southeast of the Communication Station, and 100 ft southeast of the U.S. Weather Bureau Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, dspth reported 88 ft, diameter 6 in.

DATUM.--Elevation of land-aurface datum ie 43 ft. Measuring point: Top of casing, 44.22 ft above mean sea level.

REMARKS.--Water level affected by pumping of nearby well.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measurements, September 1982 to current year.
WATER QUALITY: 1982, 1984.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 39.12 ft above mean sea level, Aug. 31, 1987; lowest measured, 12.78 ft above mean sea level, May 13, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	32.18	JAN 22	31.88	MAR 30	26.17	MAY 26	20.32	JUL 30	32.40	SEP 30	30.58
NOV 24	32.45	FEB 26	30.25	APR 23	21.93	JUN 25	31.70	AUG 31	39.12		

092926138050470. Local number, 25-2905-06 Communication Well 2, Yap.

LOCATION.--Lat 09°29'25" N., long 138°05'03" E., Hydrologic Unit 20100006, 75 ft north of the Communication Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, depth reported 81 ft, diameter 2 in.

DATUM.--Elevation of land-surface datum is 39 ft. Measuring point: Top of casing, 39.40 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, December 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 33.40 ft above mean sea level, June 8, 1982; lowest measured, 9.90 ft above mean sea level, May 27, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22	27.70	JAN 22	27.66	MAR 30	21.91	MAY 26	18.08	JUL 30	30.47	SEP 30	26.78
NOV 24	30.59	FEB 26	25.78	APR 23	18.68	JUN 25	28.67	AUG 31	31.66		

093158138095770. Local number 25-3109-01 Monguch Well 1, Gagil-Tamil.

LOCATION.--Lat 09°31'59" N., long 138°09'58" E., Hydrologic Unit 20100006, 0.6 mi northeast of the Tamilang Elementary School, and 1.0 mi south of the Coast Guard LORAN Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled observation well, depth reported 85 ft, diameter 6 in.

DATUM.--Elevation of land-surface datum is 19.5 ft. Measuring point: Top of casing, 21.38 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, July 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, overflowing casing for many days each year; lowest measured, 17.12 ft above mean sea level, May 25, 1987.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	21.04	JAN 23	20.39	MAR 31	22.45	MAY 25	17.12	JUL 30	f	SEP 30	17.61
NOV 25	20.62	FEB 27	19.99	APR 22	19.57	JUN 26	21.31	AUG 26	f		

f Water overflowing casing.

093159138095870. Local number, 25-3109-02 Monguch Well 2, Gagil-Tamil.

LOCATION.--Lat 09°31'59" N., long 138°09'58" E., Hydrologic Unit 20100006, 0.6 mi north of the Tamilang Elementary School, and 1.0 mi south of the Coast Guard LORAN Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, depth reported 95 ft, diameter 6 in.

DATUM.--Elevation of land-surface datum is 24 ft. Measuring point: Top of casing, 26.47 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, July 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 24.88 ft above mean sea level, Jul. 30, 1987; lowest measured, 18.15 ft above mean sea level, May 25, 1987.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	23.62	JAN 23	22.56	MAR 31	22.63	MAY 25	18.15	JUL 30	24.88	SEP 30	19.42
NOV 25	23.61	FEB 27	22.10	APR 22	22.69	JUN 26	24.07	AUG 26	24.83		

CAROLINE ISLANDS, YAP ISLANDS

093157138095670. Local number, 25-3109-03 Thilung Well 1 (Monguch 3), Gagil-Tamil.

LOCATION.--Lat 09°31'57" N., long 138°09'56" E., Hydrologic Unit 20100006, 0.6 mi north of the Tamilang Elementary School, and 1.1 mi south of the Coast Guard LORAN Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, depth reported 115 ft, diameter 6 in.

DATUM.--Elevation of land-aurface datum is 26 ft. Measuring point: Top of casing, 28.16 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, July 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Higheat water level measured, 28.87 ft above mean sea level, Dec. 28, 1985; lowest measured, 19.36 ft above mean sea level, May 25, 1987.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	25.43	JAN 23	24.25	MAR 31	24.33	MAY 25	19.38	JUL 30	26.93	SEP 30	21.15
NOV 25	25.52	FEB 27	23.69	APR 22	23.25	JUN 26	25.99	AUG 26	26.89		

093154138095370. Local number, 25-3109-04 Thilung Well 2 (Monguch 4), Gagil-Tamil.

LOCATION.--Lat 09°31'54" N., long 138°09'53" E., Hydrologic Unit 20100006, 0.5 mi north of the Tamilang Elementary School, and 1.1 mi south of the Coast Guard LORAN Station.

AQUIFER.--Tamil Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, depth reported 105 ft, diameter 6 in.

DATUM.--Elevation of land-surface datum is 33 ft. Measuring point: Top of casing, 34.82 ft above mean sea level.

PERIOD OF RECORD.--Occasional measurements, July 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.58 ft above mean sea level, Aug. 20, 1985; lowest measured, 21.19 ft above mean sea level, May 25, 1987.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	27.70	JAN 23	26.59	MAR 31	26.35	MAY 25	21.19	JUL 30	29.52	SEP 30	23.81
NOV 25	28.16	FEB 27	25.77	APR 23	25.13	JUN 26	28.37				

CAROLINE ISLANDS, YAP ISLANDS

093217138101270. Local number, 25-3210-01 Mukong Well, Gagil-Tamil.

LOCATION.--Lat 09°32'17" N., long 138°10'12" E., Hydrologic Unit 20100006, 0.6 mi south of the Coast Guard LORAN Station, and 1.1 mi north-northeast of the Tamilang Elementary School.

AQUIFER.--Coral formation in the Tamil-Volcanics.

WELL CHARACTERISTICS.--Drilled water-table well, depth reported 120 ft, diameter 6 in.

DATUM.--Elevation of land-surface datum is 24 ft. Measuring point: Top of casing, 25.83 ft above mean sea level.

PERIOD OF RECORD.--
WATER LEVEL: Occasional measurements, July 1962 to current year.
WATER QUALITY: 1984.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.51 ft above mean sea level, Aug. 26, 1987; lowest measured, 12.68 ft above mean sea level, May 12, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20	15.30	JAN 23	15.24	MAR 31	14.25	MAY 25	13.68	JUL 30	15.85	SEP 30	14.96
NOV 25	14.10	FEB 26	14.88	APR 22	13.69	JUN 26	15.07	AUG 26	16.51		

CAROLINE ISLANDS, TRUK ISLANDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

STATION NUMBER	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	DATE OF SAMPLE	TIME	SPE-CIFIC CON-DUC-TANCE (US/CM)	TEMPER-ATURE (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
072454151503870	30-2450-01 W83-10 MOEN	07 24 54 N	151 50 38 E	04-03-87	1015	263	28.0	22
072504151503370	30-2550-02 W18 MOEN	07 25 04 N	151 50 33 E	12-09-86	0950	291	27.5	8.0
072658151511970	30-2650-01 W1 MOEN	07 26 46 N	151 50 56 E	12-08-86	1445	185	28.0	14
				04-03-87	0840	186	28.0	14
				09-02-87	0820	143	27.0	12
072654151511870	30-2650-02 W2 MOEN	07 26 50 N	151 50 55 E	12-08-86	1450	158	28.0	12
				04-03-87	0845	150	27.5	12
				09-02-87	0825	171	27.5	12
072704151511070	30-2650-05 W10 MOEN	07 26 57 N	151 50 46 E	12-08-86	1515	226	28.0	26
				09-02-87	0915	199	28.0	18
072702151512570	30-2651-01 W7 MOEN	07 26 54 N	151 51 01 E	12-08-86	1420	308	28.0	24
				09-02-87	0855	317	28.0	25
072706151512470	30-2651-03 W12 MOEN	07 26 58 N	151 51 00 E	12-08-86	1400	341	29.0	37
				09-02-87	0850	338	28.5	33
072708151512170	30-2750-03 W13 MOEN	07 27 01 N	151 50 56 E	12-08-86	1425	280	28.0	26
				04-03-87	0900	256	28.0	22
				09-02-87	0840	237	28.0	17
072723151502870	30-2750-07 TH-2 MOEN	07 27 23 N	151 50 28 E	12-09-86	0930	217	28.0	7.0
072710151512570	30-2751-01 W15 MOEN	07 27 03 N	151 51 01 E	12-08-86	1335	189	28.0	15
				09-02-86	0900	216	28.8	15

SAMOA ISLANDS, ISLAND OF TUTUILA

141945170435401. Local number, 90-1943-24 Tafunafou Observation Well 1.

LOCATION.--Lat 14°19'45" S., long 170°43'54" W., Hydrologic Unit 20100001, 120 ft northwest of Tafunafou village cross road intersection, and 0.7 mi southeast of High School in Mapusaga. Owner: Government of American Samoa.

AQUIFER.--Basalt lava flows of the Leone Volcanics.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 78 ft, casing diameter 4 inch.

DATUM.--Elevation of land-surface datum is 73 ft. Measuring point: Top of 4-inch casing, 75.18 ft above mean sea level.

REMARKS.--Water level affected by pumping of nearby well.

PERIOD OF RECORD.--Occasional measurements, October 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level 20.38 ft above mean sea level, may be caused by cescading water in the well following heavy rain, May 13, 1977; lowest 7.37 ft below mean sea level, July 13, 1978.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	5.18	DEC 1	2.96	FEB 9	4.42	APR 6	4.01	JUN 15	1.27	AUG 10	0.90
20	2.07	15	2.53	25	2.45	27	1.49	22	1.75	24	1.82
NOV 3	3.59	JAN 5	3.26	MAR 9	2.89	MAY 11	2.29	JUL 6	1.72	SEP 8	1.15
24	3.04	21	3.68	23	2.35	26	1.55	27	1.26	28	.30

141948170435701. Local number, 90-1943-28 Tafunafou Observation Well 5.

LOCATION.--Lat 14°19'48" S., long 170°43'57" W., Hydrologic Unit 20100001, 1,000 ft southeast of Tafunafou village, and 1.5 mi northwest of Pago Pago International Airport. Owner: Government of American Samoa.

AQUIFER.--Basalt lava flows of the Leone Volcanics.

WELL CHARACTERISTICS.--Drilled basal water-table well, sounded depth 106 ft, casing diameter 4 in.

DATUM.--Elevation of land-surface datum is 83 ft. Measuring point: Top of 4-inch casing, 85.32 ft above mean sea level.

REMARKS.--Water level affected by pumping of nearby well.

PERIOD OF RECORD.--Occasional measurements, October 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.32 ft above mean sea level, may be caused by cascading water in the well following heavy rain, July 28, 1981; lowest 4.23 ft below mean sea level, Aug. 15, 1977.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	1.03	DEC 1	-0.37	FEB 9	1.12	APR 6	-0.40	JUN 15	-1.14	AUG 10	-1.06
20	-.48	15	-.55	25	-.15	27	.07	22	-.53	24	-.40
NOV 3	-.18	JAN 5	1.77	MAR 9	-.18	MAY 11	-.93	JUL 08	-.13	SEP 8	.89
24	-.42	21	-.05	23	-.79	26	-1.05	27	-1.30	28	.40

SAMOA ISLANDS, ISLAND OF TUTUILA

142055170455801. Local number, 90-2045-03 Malaeloa Well 92.

LOCATION.--Lat 14°20'55" S., long 170°45'58" W., Hydrologic Unit 20100001, 0.4 mi southeast of Malaeloa School, adn 0.6 west of Olovalu Crater. Owner: Government of American Samoa.

AQUIFER.--Lava flows and cinders of the Leone Volcanics underlain by beach sand.

WELL CHARACTERISTICS.--Drilled basal water-table well, depth 191 ft, casing diameter 8 in.

DATUM.--Elevation of land surface datum is 163 ft. Measuring point: Top of 8-inch casing, 163.74 ft above mean sea level.

REMARKS.--Water level affected by pumping of nearby well.

PERIOD OF RECORD.--Occasional measurements, September 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.77 ft above mean sea level, January 28, 1985; lowest 0.97 ft above mean sea level, September 28, 1987.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	5.48	DEC 1	3.05	FEB 9	6.07	APR 6	2.24	JUN 15	1.40	AUG 10	1.10
20	3.32	15	2.56	25	3.76	27	2.46	22	2.01	24	1.29
NOV 3	3.02	JAN 5	4.55	MAR 9	4.29	MAY 11	1.57	JUL 6	1.33	SEP 8	1.19
24	3.24	21	3.94	23	3.44	26	1.93	27	1.12	28	.97

142102170445601. Local number, 90-2144-12 Iliili test well 115.

LOCATION.--Lat 14°21'02" S., long 170°44'56" W., Hydrologic Unit 20100001, 800 ft northwest of Iliili village church, and 0.5 mi northeast of Futiga village school.

AQUIFER.--Basalt lava flows of the Leone Volcanics underlain by calcareous coastal deposits.

WELL CHARACTERISTICS.--Drilled basal water-table well, well depth 243 ft, casing diameter 4 inch.

DATUM.--Elevation of land-surface datum is 216 ft. Measuring point: Top of 4-inch casing, 216.94 ft above mean sea level.

REMARKS.--Water level affected by pumping of nearby well.

PERIOD OF RECORD.--Occasional measurements, February 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.89 ft above mean sea level, June 15, 1982; lowest 2.56 ft above mean sea level, May 31, 1983.

WATER LEVEL, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 6	6.69	DEC 1	5.81	FEB 9	5.52	APR 27	4.71	JUN 22	5.01	AUG 24	4.94
20	4.96	15	4.87	MAR 9	5.21	MAY 11	4.35	JUL 6	4.94	SEP 8	4.75
NOV 3	5.13	JAN 5	5.34	23	5.07	26	4.57	27	4.96	28	4.72
24	5.21	21	5.25	APR 6	5.12	JUN 15	4.92	AUG 10	5.21		

SAMOA ISLANDS, ISLAND OF TUTUILA

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

STATION NUMBER	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
141528170340101	90-1534-01 TULA 40	14 15 28 S	170 34 01 W	09-08-87	0855	700	26.5	160
141546170354601	90-1535-01 SAILELE 130	14 15 46 S	170 35 46 W	09-08-87	0940	1790	27.0	470
141623170393801	90-1639-08 AUA W97	14 16 23 S	170 39 38 W	10-20-86	0835	960	27.5	280
				11-03-86	1255	1180	27.5	300
				12-01-86	1235	1240	26.0	330
				01-05-87	0830	1270	27.0	340
				02-25-87	1350	1560	27.5	430
				04-27-87	0850	1700	27.0	480
				05-11-87	0835	2000	27.0	540
141625170393801	90-1639-09 AUA W98	14 16 25 S	170 39 38 W	03-23-87	0805	1310	27.0	360
141624170393201	90-1639-11 AUA W99	14 16 24 S	170 39 32 W	06-15-87	0810	900	28.0	230
				09-08-87	0805	1300	27.5	360
141643170420301	90-1642-09 PLZ CRADDICK 1	14 16 43 S	170 42 03 W	02-25-87	1430	707	--	150
141703170405301	90-1740-01 UTULEI DW3 TUTU	14 17 03 S	170 40 53 W	10-20-86	0930	370	27.0	60
				11-03-86	1150	340	27.5	47
				12-01-86	1145	340	26.0	50
				01-05-87	0920	290	27.5	39
				03-23-87	0905	310	26.0	45
				04-27-87	1405	380	27.5	52
				05-11-87	1350	390	27.0	54
				06-15-87	1315	420	26.0	68
				09-08-87	1100	605	26.5	120
141628170411101	90-1741-07 FAGATOGO W101	14 16 28 S	170 41 11 W	10-20-86	0910	135	25.5	8.5
				11-03-86	1330	130	27.0	9.5
				12-01-86	1315	130	26.0	9.5
				01-05-86	0900	130	26.5	10
				02-25-87	1445	130	26.0	10
				03-23-87	0845	130	26.0	10
				04-27-87	1415	120	26.0	10
				05-11-87	0905	132	25.5	10
				06-15-87	1330	140	26.0	9.5
				09-08-87	1040	140	25.5	9.5

GROUND-WATER RECORDS

SAMOA ISLANDS, ISLAND OF TUTUILA

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

STATION NUMBER	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
141945170435301	90-1943-06 TAFUNAFOU W33 T	14 19 45 S	170 43 53 W	10-20-86	1000	420	26.5	94
				11-03-86	0735	240	26.0	36
				12-01-86	0745	270	26.5	45
				01-05-87	1000	167	27.0	19
				02-25-87	1130	330	26.0	70
				03-23-87	0935	320	26.0	66
				04-27-87	0945	470	26.0	99
				05-11-87	0955	350	26.0	67
				06-15-87	0900	560	26.0	120
				08-10-87	0755	900	26.0	220
				09-08-87	1130	800	26.0	190
141926170435201	90-1943-20 TAFUNAFOU W81 T	14 19 28 S	170 43 52 W	10-20-86	1100	130	26.5	10
				11-03-86	0835	125	26.0	9.0
				12-01-86	0845	120	26.5	9.0
				01-05-87	1100	125	27.0	9.0
				02-25-87	0915	120	26.5	9.0
				03-23-87	1035	120	26.5	9.0
				04-27-87	1045	140	26.5	12
				05-11-87	1050	125	26.0	9.0
				06-15-87	1005	157	28.5	13
				08-10-87	0855	380	26.0	73
				09-08-87	1245	260	26.0	44
141952170440201	90-1944-11 TAFUNAFOU W61 T	14 19 52 S	170 44 02 W	10-20-86	1025	520	26.5	120
				11-03-86	0800	564	26.5	120
				12-01-86	0820	563	28.0	120
				01-05-87	1025	350	27.0	68
				03-23-87	1000	378	26.0	68
				04-27-87	1010	400	26.0	83
				05-11-87	1015	440	26.0	90
				06-15-87	0930	450	26.0	98
				08-10-87	0820	725	26.0	170
				09-08-87	1205	700	26.0	160

SAMOA ISLANDS, ISLAND OF TUTUILA

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

STATION NUMBER	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
141951170440101	90-1944-12 TAFUNAFOU W60 T	14 19 51 S	170 44 01 W	10-20-86	1015	850	26.5	160
				11-08-88	--	714	26.0	160
				12-01-86	0825	720	28.0	160
				01-05-87	1015	502	27.0	100
				02-25-87	0830	460	26.0	100
				03-23-87	0950	470	26.0	100
				04-27-87	1000	580	26.0	120
				05-11-87	1010	610	26.0	130
				06-15-87	0920	710	26.0	160
				08-10-87	0815	1000	26.0	240
				09-08-87	1155	1050	26.0	250
141929170441401	90-1944-13 MALAEIMI W67 TU	14 19 29 S	170 44 14 W	10-20-86	1115	180	26.0	9.5
				11-03-86	0845	189	28.5	10
				12-01-86	0900	165	26.0	10
				01-05-87	1115	170	26.5	10
				03-23-87	1045	180	26.5	12
				04-27-87	1100	178	26.0	10
				05-11-87	1100	178	26.0	10
				06-15-87	1015	180	26.0	10
				08-10-87	0910	145	26.0	12
				09-08-87	1300	185	25.5	11
141952170444201	90-1944-15 MASEPA 85	14 19 52 S	170 44 42 W	02-25-87	1000	155	26.0	11
141918170441001	90-1944-19 MALAEIMI 89	14 19 18 S	170 44 10 W	02-25-87	0950	155	25.5	9.0
142002170444201	90-2044-02 ILIILI W84 TUTU	14 20 02 S	170 44 42 W	10-20-86	1310	1000	27.0	280
				11-03-86	1055	1140	27.0	280
				12-01-88	1100	950	27.0	220
				01-05-87	1310	910	--	180
				02-25-87	1200	1000	30.0	220
				03-23-87	1245	1040	28.0	220
				04-27-87	1300	1200	27.0	280
				05-11-87	1305	1200	26.5	270
				06-15-87	1225	1100	27.0	240
				08-10-87	1110	1100	27.0	240
				09-08-87	1500	1300	26.5	290

GROUND-WATER RECORDS

SAMOA ISLANDS, ISLAND OF TUTUILA

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

STATION NUMBER	LOCAL IDENT-I-FIER	LAT-I-TUDE	LONG-I-TUDE	DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
142042170463001 90-2046-03	MALAELOA W70 TU	14 20 42 S	170 46 30 W	10-20-86	1240	290	27.0	17
				11-03-86	1025	300	26.5	30
				12-01-88	1030	300	26.0	15
				01-05-87	1240	290	27.5	13
				03-23-87	1215	270	27.0	17
				04-27-87	1230	292	27.0	18
				05-11-87	1240	305	25.5	18
				06-15-87	1200	310	27.0	18
				08-10-87	1045	330	26.5	25
				09-08-87	1430	340	26.5	28
142040170462201 90-2046-05	MALAELOA 80	14 20 40 S	170 46 22 W	02-25-87	1230	190	26.0	17
142102170445401 90-2144-08	ILIILI W79	14 21 02 S	170 44 54 W	10-20-86	1255	540	27.0	74
				11-03-86	1040	535	27.0	78
				12-01-86	1045	520	27.0	70
				01-05-87	1300	532	27.0	64
				02-25-87	1125	460	27.0	54
				03-23-87	1235	460	27.0	54
				04-27-87	1245	520	27.0	56
				05-11-87	1255	520	27.0	56
				06-15-87	1210	540	27.0	61
				08-10-87	1100	560	27.0	70
				09-06-87	1445	800	28.5	78
142102170455801 90-2145-03	PUAPUA W119 TUT	14 21 02 S	170 45 58 W	02-25-87	1035	520	27.5	71
				03-23-87	1150	520	26.5	75
				04-27-87	1200	700	28.5	120
				05-11-87	1210	850	28.0	180
				06-15-87	1125	1200	26.0	280
				08-10-87	1015	1600	26.0	400
				09-08-87	1405	1750	28.5	440

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October 1, 1978

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
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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